CJD

COMMONWEALTH OF MASSACHUSETTS

massDOT
Massachusetts Department of Transportation
Highway Division

CONTRACT DOCUMENTS AND SPECIAL PROVISIONS

PROPOSAL NO.	613790-132476
P.V. =	$2,671,000.00
PLANS	NO

FOR

Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad

in the City of

WORCESTER

In accordance with the STANDARD SPECIFICATIONS
for HIGHWAYS and BRIDGES dated 2025

This Proposal to be opened and read: **TUESDAY, NOVEMBER 4, 2025 at 2:00 P.M.**

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DOCUMENT 00102

NOTICE TO CONTRACTORS

Electronic proposals for the following project will be received through the internet using www.bidx.com until the date and time stated below and will be posted on www.bidx.com forthwith after the bid submission deadline. No paper copies of bids will be accepted. All Bidders must have a valid vendor code issued by MassDOT in order to bid on projects. Bidders need to apply for a Digital ID at least 14 days prior to a scheduled bid opening date with www.bidx.com.

TUESDAY, NOVEMBER 4, 2025 at 2:00 P.M. **
WORCESTER
Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB)
and W-44-029 (23B) Millbrook Street over Railroad
****Date Subject to Change**

PROJECT VALUE = $2,671,000.00

Bidders must be pre-qualified by the Department in the BRIDGE - CONSTRUCTION category to bid on the above project. An award will not be made to a Contractor who is not pre-qualified by the Department prior to the opening of Proposals.

All prospective Bidders who intend to bid on this project must obtain "Request Proposal Form (R109)". The blank "Request Proposal Form (R109)" can be obtained at: https://www.mass.gov/prequalification-of-horizontal-construction-firms.

All prospective Bidders must complete and e-mail an electronic copy of "Request Proposal Form (R109)" to the MassDOT Director of Prequalification for approval: prequal.r109@dot.state.ma.us.

Proposal documents for official bidders are posted on www.bidx.com. Other interested parties may receive informational Contract Documents containing the Plans and Special Provisions, free of charge.

Bids will be considered, and the contract awarded in accordance with statutes governing such contracts in accordance with Massachusetts General Laws Chapter 30 § 39M.

The Project Bids File Attachments folder for proposals at www.bidx.com shall be used for submitting at the time of bid required information such as the Bid Bond required document, and other documents that may be requested in the proposal.

NOTICE TO CONTRACTORS (Continued)

All parties who wish to have access to information plans and specification must send a "Request for Informational Documents" to MassDOTBidDocuments@dot.state.ma.us.

A Proposal Guaranty in the amount of 5% of the value of the bid is required.

This project is subject to the schedule of prevailing wage rates as determined by the Commissioner of the Massachusetts Department of Labor and Workforce Development, and the Division of Occupational Safety.

PRICE ADJUSTMENTS

This Contract contains price adjustments for hot mix asphalt and Portland cement mixtures, diesel fuel, and gasoline. For reference the base prices are as follows: liquid asphalt $625.00 per ton, Portland cement $425.13 per ton, diesel fuel $2.793 per gallon, and gasoline $2.471 per gallon, and Steel Base Price Index 374.7. MassDOT posts the **Price Adjustments** on their Highway Division's website at:
https://www.mass.gov/massdot-contract-price-adjustments

This Contract contains Price Adjustments for steel. See Document 00813 - PRICE ADJUSTMENT FOR STRUCTURAL STEEL AND REINFORCING STEEL for their application and base prices.

MassDOT projects are subject to the rules and regulations of the Architectural Access Board (521 CMR 1.00 et seq.)

Prospective bidders and interested parties can access this information and more via the internet at: WWW.COMMBUYS.COM.

BY: Monica G. Tibbits-Nutt, Secretary and CEO, MassDOT
Jonathan L. Gulliver, Administrator, MassDOT Highway Division
SATURDAY, SEPTEMBER 20, 2025

DOCUMENT 00210

REQUIREMENTS OF MASSACHUSETTS GENERAL LAWS
CHAPTER 30, SECTION 39R;
CHAPTER 30, SECTION 39O

July 1, 1981, updated October 2016

M.G.L. c. 30, § 39R. Award of Contracts; Accounting Statements; Annual Financial Statements; Definitions.

(a) The words defined herein shall have the meaning stated below whenever they appear in this section:

(1) “Contractor" means any person, corporation, partnership, joint venture, sole proprietorship, or other entity awarded a contract pursuant to sections thirty-eight A1/2 to thirty-eight O, inclusive, of chapter seven and any contract awarded or executed pursuant to section eleven C of chapter twenty-five A, section thirty-nine M of chapter thirty, or sections forty-four A to forty-four H, inclusive, of chapter one hundred and forty-nine, which is for an amount or estimated amount greater than one hundred thousand dollars.

(2) "Contract" means any contract awarded or executed pursuant to sections thirty-eight A1/2 to thirty-eight O, inclusive, of chapter seven and any contract awarded or executed pursuant to section eleven C of chapter twenty-five A, section thirty-nine M of chapter thirty, or sections forty-four A through forty-four H, inclusive, of chapter one hundred and forty-nine, which is for amount or estimated amount greater than one hundred thousand dollars.

(3) “Records" means books of original entry, accounts, checks, bank statements and all other banking documents, correspondence, memoranda, invoices, computer printouts, tapes, discs, papers and other documents or transcribed information of any type, whether expressed in ordinary or machine language.

(4) “Independent Certified Public Accountant" means a person duly registered in good standing and entitled to practice as a certified public accountant under the laws of the place of his residence or principal office and who is in fact independent. In determining whether an accountant is independent with respect to a particular person, appropriate consideration should be given to all relationships between the accountant and that person or any affiliate thereof. Determination of an accountant's independence shall not be confined to the relationships existing in connection with the filing of reports with the awarding authority.

(5) “Audit", when used in regard to financial statements, means an examination of records by an independent certified public accountant in accordance with generally accepted accounting principles and auditing standards for the purpose of expressing a certified opinion thereon, or, in the alternative, a qualified opinion or a declination to express an opinion for stated reasons.

(6) "Accountant's Report", when used in regard to financial statements, means a document in which an independent certified public accountant indicates the scope of the audit which he has made and sets forth his opinion regarding the financial statements taken as a whole with a listing of noted exceptions and qualifications, or an assertion to the effect that an overall opinion cannot be expressed. When an overall opinion cannot be expressed the reason therefor shall be stated. An accountant's report shall include as a part thereof a signed statement by the responsible corporate officer attesting that management has fully disclosed all material facts to the independent certified public accountant, and that the audited financial statement is a true and complete statement of the financial condition of the contractor.

(7) “Management", when used herein, means the chief executive officers, partners, principals or other person or persons primarily responsible for the financial and operational policies and practices of the contractor.

(8) Accounting terms, unless otherwise defined herein, shall have a meaning in accordance with generally accepted accounting principles and auditing standards.

(b) Subsection (a)(2) hereof notwithstanding, every agreement or contract awarded or executed pursuant to sections thirty-eight A 1/2 to thirty-eight O, inclusive, of chapter seven, or eleven C of chapter twenty-five A, and pursuant to section thirty-nine M of chapter thirty or to section forty-four A through H, inclusive, of chapter one hundred and forty-nine, shall provide that:

(1) The contractor shall make, and keep for at least six years after final payment, books, records, and accounts which in reasonable detail accurately and fairly reflect the transactions and dispositions of the contractor, and

(2) Until the expiration of six years after final payment, the office of inspector general, and the commissioner of capital asset management and maintenance shall have the right to examine any books, documents, papers or records of the contractor or of his subcontractors that directly pertain to, and involve transactions relating to, the contractor or his subcontractors, and

(3) If the agreement is a contract as defined herein, the contractor shall describe any change in the method of maintaining records or recording transactions which materially affect any statements filed with the awarding authority, including in his description the date of the change and reasons therefor, and shall accompany said description with a letter from the contractor's independent certified public accountant approving or otherwise commenting on the changes, and

(4) If the agreement is a contract as defined herein, the contractor has filed a statement of management on internal accounting controls as set forth in paragraph (c) below prior to the execution of the contract, and

(5) If the agreement is a contract as defined herein, the contractor has filed prior to the execution of the contracts and will continue to file annually, an audited financial statement for the most recent completed fiscal year as set forth in paragraph (d) below.

(c) Every contractor awarded a contract shall file with the awarding authority a statement of management as to whether the system of internal accounting controls of the contractor and its subsidiaries reasonably assures that:

(1) transactions are executed in accordance with management's general and specific authorization;

(2) transactions are recorded as necessary

i. to permit preparation of financial statements in conformity with generally accepted accounting principles, and

ii. to maintain accountability for assets;

(3) access to assets is permitted only in accordance with management's general or specific authorization; and

(4) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.

Every contractor awarded a contract shall also file with the awarding authority a statement prepared and signed by an independent certified public accountant, stating that he has examined the statement of management on internal accounting controls, and expressing an opinion as to:

(1) whether the representations of management in response to this paragraph and paragraph (b) above are consistent with the result of management's evaluation of the system of internal accounting controls; and

(2) whether such representations of management are, in addition, reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial statements.

(d) Every contractor awarded a contract by the commonwealth or by any political subdivision thereof shall annually file with the commissioner of capital asset management and maintenance during the term of the contract a financial statement prepared by an independent certified public accountant on the basis of an audit by such accountant. The final statement filed shall include the date of final payment. All statements shall be accompanied by an accountant's report. Such statements shall be made available to the awarding authority upon request.

(e) The office of inspector general, the commissioner of capital asset management and maintenance and any other awarding authority shall enforce the provisions of this section. The commissioner of capital asset management and maintenance may after providing an opportunity for the inspector general and other interested parties to comment, promulgate pursuant to the provisions of chapter thirty A such rules, regulations and guidelines as are necessary to effectuate the purposes of this section. Such rules, regulations and guidelines may be applicable to all awarding authorities. A contractor's failure to satisfy any of the requirements of this section may be grounds for debarment pursuant to section forty-four C of chapter one hundred and forty-nine.

(f) Records and statements required to be made, kept or filed under the provisions of this section shall not be public records as defined in section seven of chapter four and shall not be open to public inspection; provided, however, that such records and statements shall be made available pursuant to the provisions of clause (2) of paragraph (b).

M.G.L. c. 30, § 39O: Suspension, Delay, or Interruption or Failure to Act by Awarding Authority; Adjustment in Contract Price; Submission of Claims.

Section 39O. Every contract subject to the provisions of section thirty-nine M of this chapter or subject to section forty-four A of chapter one hundred forty-nine shall contain the following provisions (a) and (b) in their entirety and, in the event a suspension, delay, interruption or failure to act of the awarding authority increases the cost of performance to any subcontractor, that subcontractor shall have the same rights against the general contractor for payment for an increase in the cost of his performance as provisions (a) and (b) give the general contractor against the awarding authority, but nothing in provisions (a) and (b) shall in any way change, modify or alter any other rights which the general contractor or the subcontractor may have against each other.

(a) The awarding authority may order the general contractor in writing to suspend, delay, or interrupt all or any part of the work for such period of time as it may determine to be appropriate for the convenience of the awarding authority; provided however, that if there is a suspension, delay or interruption for fifteen days or more or due to a failure of the awarding authority to act within the time specified in this contract, the awarding authority shall make an adjustment in the contract price for any increase in the cost of performance of this contract but shall not include any profit to the general contractor on such increase; and provided further, that the awarding authority shall not make any adjustment in the contract price under this provision for any suspension, delay, interruption or failure to act to the extent that such is due to any cause for which this contract provides for an equitable adjustment of the contract price under any other contract provisions.

(b) The general contractor must submit the amount of a claim under provision (a) to the awarding authority in writing as soon as practicable after the end of the suspension, delay, interruption or failure to act and, in any event, not later than the date of final payment under this contract and, except for costs due to a suspension order, the awarding authority shall not approve any costs in the claim incurred more than twenty days before the general contractor notified the awarding authority in writing of the act or failure to act involved in the claim.

<<<<<<<<<<>>>>>>>>>>

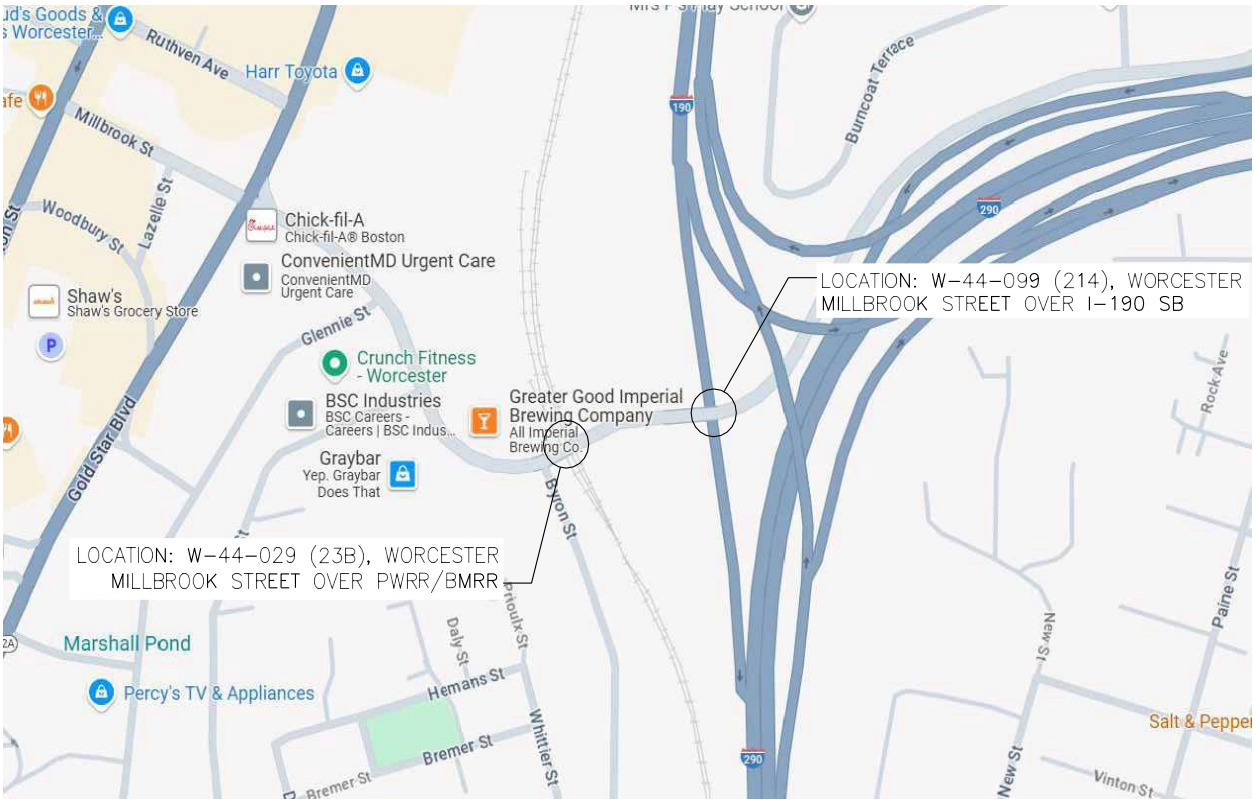
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DOCUMENT 00331

LOCUS MAP

WORCESTER
Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB)
and W-44-029 (23B) Millbrook Street over Railroad



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DOCUMENT 00439

Final Report ☐

Interim Report ☐

CONTRACTOR PROJECT EVALUATION FORM

For instructions on using this form, see Engineering Directive E-10-002, Dated 4/20/2010

Date: _____

City/Town: _____ Contractor: _____

Project: _____ Address: _____

F.A. No. _____ Contract Number: _____

Bid Price: _____ Notice to Proceed: _____

Funds: State: _____ Fed Aid: _____ Current Contract Completion Date: _____

Date Work Started: _____ Date Work Completed*: _____

Contractor's Superintendent: _____

Division: (indicates class of work) Highway: _____ Bridge: _____ Maintenance: _____

*If work was NOT completed within specified time (including extensions) give reasons on following page.

	Excellent 10	Very Good 9	Average 8	7	Fair 6	5	Poor 4	% Rating
1. Workmanship								x 2=
2. Safety								x 2=
3. Schedule								x 1.5=
4. Home Office Support								x 1=
5. Subcontractors Performance								x 1=
6. Field Supervision/ Superintendent								x 1=
7. Contract Compliance								x 0.5=
8. Equipment								x 0.5=
9. Payment of Accounts								x 0.5=
(use back for additional comments)						**Overall Rating:**		

(Give explanation of items 1 through 9 on the following page in numerical order if overall rating is below 80%. Use additional sheets if necessary.)

_____ _____

District Construction Engineer's Signature/Date Resident Engineer's Signature/Date

_____

Contractor's Signature Acknowledging Report/Date

Contractor Requests Meeting with the District: No ☐ Yes ☐ Date Meeting Held: _____

Contractor's Comments/Meeting Notes (extra sheets may be added to this form and noted here if needed): _____

_____

_____

CONTRACTOR PROJECT EVALUATION FORM (Continued)

Date: _____ Contract Number:_____

INFORMATION FOR DISTRICT HIGHWAY DIRECTORS RELATING TO PREQUALIFICATION

A deduction shall be recommended for unsatisfactory performance if computed overall rating is under 80%.
A deduction may be recommended for this project being completed late due to the Contractor's fault.

RECOMMENDATIONS FOR DEDUCTIONS FROM CONTRACTORS' ASSIGNED FACTOR
(*Write Yes or No in space provided*)

I recommend a deduction for Contractor's unsatisfactory performance: _____

I recommend a deduction for project completed late:_____

Signed: _____
District Highway Director

EXPLANATION OF RATINGS 1 – 9:_____

WORK NOT COMPLETED WITHIN SPECIFIED TIME: _____

Revised: 04/28/17

*** END OF DOCUMENT ***

DOCUMENT 00440

Final Report ☐

Interim Report ☐

SUBCONTRACTOR PROJECT EVALUATION FORM

For instructions on using this form, see Engineering Directive E-10-002, Dated 4/20/2010

Date: _____

City/Town: _____ Subcontractor: _____

Project: _____ Address: _____

F.A. No.: _____ Contract Number: _____

Prime Contractor _____ Current Contract Completion Date: _____

Date Work Started: _____ Date Work Completed*: _____

Subcontractor's Superintendent: _____

Type of Work Performed by Subcontractor: _____

*If work was NOT completed within specified time (including extensions) give reasons on following page.

	Excellent 10	Very Good 9	Average 8	7	Fair 6	5	Poor 4	% Rating
1. Workmanship								x 2=
2. Safety								x 2=
3. Schedule								x 1.5=
4. Home Office Support								x 1.5=
5. Field Supervision/ Superintendent								x 1=
6. Contract Compliance								x 1=
7. Equipment								x 0.5=
8. Payment of Accounts								x 0.5=
(use back for additional comments)							**Overall Rating:**	

(Give explanation of items 1 through 8 on the following page in numerical order if overall rating is below 80%. Use additional sheets if necessary.)

_____ _____

District Construction Engineer's Signature/Date Resident Engineer's Signature/Date

_____ _____

Contractor Signature Acknowledging Report/Date Subcontractor Signature Acknowledging Report/Date

Subcontractor Requests Meeting with the District: No ☐ Yes ☐ Date Meeting Held: _____

Subcontractor's Comments / Meeting Notes (extra sheets may be added to this form and noted here if needed):

_____

_____

Contractor's Comments: _____

_____

SUBCONTRACTOR PROJECT EVALUATION FORM (Continued)

Date: _____ Contract Number:_____

INFORMATION FOR DISTRICT HIGHWAY DIRECTORS RELATING TO PREQUALIFICATION

A deduction shall be recommended for unsatisfactory performance if computed overall rating is under 80%.
A deduction may be recommended for this project being completed late due to the Contractor's fault.

RECOMMENDATIONS FOR DEDUCTIONS FROM CONTRACTORS' ASSIGNED FACTOR
(*Write Yes or No in space provided*)

I recommend a deduction for Contractor's unsatisfactory performance: _____

I recommend a deduction for project completed late:_____

Signed: _____
District Highway Director

EXPLANATION OF RATINGS 1 – 8: _____

WORK NOT COMPLETED WITHIN SPECIFIED TIME: _____

Revised: 04/28/17

*** END OF DOCUMENT ***

DOCUMENT 00710
GENERAL CONTRACT PROVISIONS
Revised: 04-16-25

NOTICE OF AVAILABILITY

The STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES dated 2025, the SUPPLEMENTAL SPECIFICATIONS, the 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS; the 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING and the CONSTRUCTION STANDARD DETAILS are available online at https://www.mass.gov/massdot-highway-division-manuals-and-publications

SPECIAL PROVISIONS FOR RIGHT-TO-KNOW ACT REQUIREMENTS

The Contractor's attention is directed to Massachusetts General Laws, Chapter 111F, commonly known as the Right-To-Know Act, and to the regulations promulgated pursuant thereto. Among the provisions of the Right-To-Know Act is a requirement that employers make available to employees Materials Safety Data Sheets (MSDS) for any substance on the Massachusetts Substance List (MSL) to which employees are, have been, or may be exposed.

To ensure prompt compliance with these regulations and legislation, the Contractor shall:

1. Deliver to the Department, prior to the start of any work under this contract, copies of MSDS for all MSL substances to be used, stored, processed or manufactured at the worksite by the Contractor.

2. Train employees of the Department, who may be exposed to MSL substances as a result of the Contractor's work under this contract, with regard to those specific substances in accordance with requirements of the Right-To-Know Act.

3. Observe all safety precautions recommended on the MSDS for any MSL substance to be used, stored, processed, or manufactured at the worksite by the Contractor.

4. Inform the Department in writing regarding specific protective equipment recommended in the MSDS for MSL substances to which employees of the Department may be exposed as a result of the Contractor's work under this contract.

The Department shall not be liable for any delay or suspension of work caused by the refusal of its employees to perform any work due to the Contractor's failure to comply with the Right-To-Know Act. The Contractor agrees to hold the Department or the Commissioner of the Department harmless and fully indemnified for any and all claims, demands, fines, actions, complaints, and causes of action resulting from or arising out of the Contractor's failure to comply with the requirements of the Right-To-Know Act.

ALTERNATIVE DISPUTE RESOLUTION
Forum, Choice of Law and Mediations:

Any actions arising out of a contract shall be governed by the laws of Massachusetts and shall be brought and maintained in a State or federal court in Massachusetts which shall have exclusive jurisdiction thereof. MassDOT and the Contractor may both agree to mediation of any claim and will share the costs of such mediation pro rata based on the number of parties involved.

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DOCUMENT 00715

SUPPLEMENTAL SPECIFICATIONS

SEPTEMBER 30, 2025

The 2025 *Standard Specifications for Highways and Bridges* are amended by the following modifications, additions and deletions. These Supplemental Specifications prevail over those published in the Standard Specifications.

The Specifications Committee has issued these Supplemental Specifications for inclusion into each proposal until such time as they are updated or incorporated into the next Standard Specifications.

Contractors are cautioned that these Supplemental Specifications are dated and will change as they are updated.

DIVISION I

GENERAL REQUIREMENTS AND COVENANTS

SECTION 2.00: PROPOSAL REQUIREMENTS AND CONDITIONS

Subsection 2.09: Rejection of Proposals
Replace the first bullet in the third paragraph with the following:

- award of the contract would result in the Bidder exceeding the Aggregate Bonding Capacity or the Single Bonding Capacity established by its Surety Company, or the Bidder's Proposal exceeds its Single Contract Limit, or the Bidder was not prequalified in the specified class of work on or before the time of bid opening; or

SECTION 3.00: AWARD AND EXECUTION OF THE CONTRACT

Subsection 3.02: Award of Contract
Replace the third paragraph with the following:

The successful bidder will be notified by mail or otherwise that their bid has been accepted and that they have been awarded the Contract.

SECTION 7.00: LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

Subsection 7.01: Laws to be Observed
In paragraph 701.G Buy America Provisions change Federally-aid to Federal-aid.

Subsection 7.05: Insurance Requirements
Change the title of paragraph A to Workers' Compensation Insurance

Subsection 7.22: Labor, Lodging, Board, Maximum Hours of Employment, Weekly Payment, Keeping of Payroll Records.
Replace this subsection with the following;

Subsection 7.22: Labor, Lodging, Board; Maximum Hours of Employment; Minimum Wage Rates; Payment of Wages; Keeping of Payroll Records

Every employee in public work shall lodge, board and trade where and with whom he elects; and no person or their agents or employees under contract with the commonwealth, a county, city or town, or with a department, board, commission or officer acting therefor, for the doing of public work shall directly or indirectly require, as a condition of employment therein, that the employee shall lodge, board or trade at a particular place or with a particular person. This section shall be made a part of the contract for such employment. (M.G.L. c. 149, § 25).

Every contract, except for the purchase of material or supplies, involving the employment of laborers, workers, mechanics, foremen or inspectors, to which the commonwealth or any county or any town, subject to section thirty, is a party, shall contain a stipulation that no laborer, worker, mechanic, foreman or inspector working within the commonwealth, in the employ of the contractor, sub-contractor or other person doing or contracting to do the whole or a part of the work contemplated by the contract, shall be required or permitted to work more than eight hours in any one day or more than forty-eight hours in any one week, or more than six days in any one week, except in cases of emergency, or, in case any town subject to section thirty-one is a party to such a contract, more than eight hours in any one day, except as aforesaid; provided, that in contracts entered into by the department of highways [a predecessor agency to MassDOT] for the construction or reconstruction of highways there may be inserted in said stipulation a provision that said department, or any contractor or sub-contractor for said department, may employ laborers, workers, mechanics, foreman and inspectors for more than eight hours in any one day in such construction or reconstruction when, in the opinion of the commissioner [currently defined in M.G.L. c. 149, § 1 as the director of the Department of Labor Standards], public necessity so requires. Every such contract not containing the aforesaid stipulation shall be null and void. (M.G.L. c. 149, § 34).

Attention of Bidders is called to M.G.L. c. 149, § 26-27H (the Prevailing Wage Law), requiring that the rate per hour of the wages paid to mechanics and apprentices, teamsters, chauffeurs and laborers in the construction of public works shall not be less than the rate or rates of wages to be determined by the director of the department of labor standards, and M.G.L. c. 149, § 148 requiring the weekly or bi-weekly payment of employees.

The Contractor shall furnish certified copies of any or all payrolls for the Contract, showing the name, address, and occupational classification of each employee on said works, and the hours worked by, and the wages paid to each such employee. Such payroll shall also include the rates paid for rented trucks or rental equipment of any kind used on the work. This requirement shall also apply to the work of any Subcontractor, having a Subcontract for any of the work performed on the project. Such records shall be kept in such manner as the Director of Labor Standards shall prescribe, and shall be open to inspection by the Engineer or any authorized representative of the Department of Labor Standards at any reasonable time and as often as may be necessary.

SECTION 8.00: PROSECUTION AND PROGRESS

Subsection 8.01: Subletting or Assignment of Contract

In the first bullet of the third paragraph replace the title of Subsection 7.22 Labor, Lodging, Board; Maximum Hours of Employment; Minimum Wage Rates; Payment of Wages; Keeping of Payroll Records

SECTION 9.00: MEASUREMENT AND PAYMENT

Subsection 9.03: Payment for Extra Work

Replace 903.B, first paragraph, numbers (2) and (3) with the following.

(2) Plus 13 percent of direct labor, for the estimated costs of Federal Insurance Contribution Act (FICA) including Medicare; Federal Unemployment Tax Act (FUTA); State Unemployment Tax Act (SUTA), which includes Unemployment Insurance, the Workforce Training Fund Program,-Employer Medical Assistance Contribution, and COVID-19 Recovery Assessment; Earned Sick Time (EST) Law (940 CMR 33.00); and Paid Family and Medical Leave (PFML) Act (458 CMR 2.00); or, as an alternative to the above 13 percent, the Contractor may elect to use actual rates for FICA, FUTA, SUTA, EST and PFML provided the actual rates are supported with verifiable documentation and shall be subject to review by MassDOT Audit Operations.

(3) Plus the estimated cost of Workers' Compensation and Liability Insurance, Health, Welfare and Pension benefits, and such additional fringe benefits which the Contractor is required to pay as a result of Union Labor Agreements and/or is required by authorized governmental agencies;

In 903.B, second paragraph, number (3), replace the word "Workmen's" with "Workers'" .

DIVISION II

CONSTRUCTION DETAILS

SECTION 300: WATER SYSTEMS

SUBSECTION 301: WATER SYSTEMS

Subsection 301.60G: Laying Pipe
Revise the third paragraph to read as follows:

Pipe sections shall be laid with the bell on the upgrade end. Before laying the pipe, the outside of the spigot and the inside of the bell shall be wire brushed and wiped clean and dry.

Subsection 301.80: Method of Measurement
Delete the words cast iron in the first paragraph.

Replace the second paragraph with the following;

Fittings, consisting of bends, tees, caps, wyes, sleeves, reducers, increasers, blow-off fittings and other special fittings, apply only when new materials are necessary and which are not specifically provided for under other items in the Proposal. Fittings other than new will not be paid separately but only under the applicable pipe items. When new fittings are measured separately for payment, the length of pipe occupied by the fittings will not be measured for payment.

SECTION 700: INCIDENTAL WORK

SUBSECTION 715: RURAL MAIL BOXES REMOVED AND RESET

Subsection 715: Rural Mail Boxes Removed and Reset
Change the words mail box and mail boxes to the word mailbox or mailboxes where encountered in the title, and all subsections.

SECTION 800: TRAFFIC CONTROL DEVICES

SUBSECTION 850: TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE OPERATIONS

Subsection 850.29: Temporary Barrier and Temporary Barrier Removed and Reset
Delete this subsection.

Subsection 850.49: Temporary Barrier
Delete this subsection.

Subsection 850.69: Temporary Barrier and Temporary Barrier Removed and Reset
Delete this subsection.

Subsection 850.80: Method of Measurement
Delete the fifth paragraph from the end of this subsection.

Subsection 850.81: Basis of Payment
Delete the sixth and seventh paragraphs from the end of this subsection.

SUBSECTION 853: TEMPORARY BARRIER

Subsection 853.: Temporary Barrier
Add this new subsection:

DESCRIPTION

853.20: General

Work under this Subsection consists of furnishing, placing, adjusting, resetting, maintaining, and removing temporary barrier.

MATERIALS

853.40: General

Materials shall meet the requirements specified in the following Subsections of Division III, Materials:

Material	Section
Precast, Prestressed, and Prefabricated Concrete Products	M4.09.0
Temporary Barrier	M10.16.0
Limited Deflection Temporary Barrier	M10.16.1
Delineators for Temporary Barrier	M10.16.2

The Contractor shall supply a temporary barrier system that meets or exceeds the Test Level (TL) designated in the description of the bid item.

If the Contractor uses a proprietary temporary barrier system, it shall be listed on the QTCE.

Temporary barrier segments that appear to be damaged or in otherwise unsuitable condition may be rejected or ordered to be replaced by the Engineer at no additional cost.

853.41: Deflection

The deflection of a temporary barrier system is defined as the measured deflection, permanent and/or dynamic, during MASH Test Designation 2-11 (for TL-2) or Test Designation 3-11 (for TL-3).

The Contractor shall supply a temporary barrier system that is equal to or less than the maximum allowable deflection (permanent and/or dynamic) for each run of temporary barrier, as shown in the Plans or stated in the Special Provisions. If no distinction between permanent and temporary deflection is shown in the plans or Special Provisions, then dynamic deflection shall govern.

853.42: Precast Concrete Barriers

Precast Concrete Barriers used as temporary barriers shall be fabricated in accordance with M4.09.0: Precast, Prestressed, and Prefabricated Concrete Products. The Contractor shall submit a Certificate of Compliance (CoC) attesting to meeting this requirement.

853.43: Delineation

Delineators installed at 20-ft intervals throughout the entire barrier run shall be included. The delineators shall conform to M10.16.2: Delineators for Temporary Barrier. Delineators that may act as a washer on a bolted connection shall not be used unless specifically allowed by the barrier manufacturer. Delineators that are damaged, are no longer reflective, or go missing while temporary barrier is deployed shall be replaced in kind by the Contractor.

Delineators may be top or side-mounted to the barrier and oriented in a manner to maximize reflectivity to approaching traffic.

Temporary barrier placed on the right side of the travel way, or top-mounted and separating two or more lanes traveling in the same direction, shall use white delineators. Temporary barrier placed on the left side of the travel way shall use amber or yellow delineators; if separating two-way traffic and top-mounted, the delineator shall be double-sided.

853.44: Anchored Barrier

Temporary barrier systems that include an anchor system in order to meet performance requirements of the contract and/or meet MASH testing requirements may be accepted for use at the discretion of the Department.

Barrier that utilizes an anchor system shall use the same pattern, placement, and material of anchors that was used in MASH crash testing.

853.45: Shop Drawings

Within 30 days of the Notice to Proceed, the Contractor shall provide Shop Drawings showing the proposed temporary barrier system and confirming that it conforms to 853.40: General and will meet the allowable deflection requirements as described in 853.41: Deflection.

If anchors are proposed, the means, methods, pattern, placement, and materials for anchoring and subsequent pavement and/or deck repairs following removal of the temporary barrier system shall be included in the Shop Drawing submittal. If the use of an anchor system is rejected by the Department, the Contractor shall select an unanchored system that meets or exceeds the contract specified performance requirements, at no additional cost.

Shop Drawings for proprietary barrier systems shall include manufacturer's instructions for installation.

CONSTRUCTION METHODS

853.60: General

A Traffic Management Plan approved by the Department is required prior to the installation of the temporary barrier system.

The Contractor shall install temporary barrier systems in accordance with the Plans.

Barrier ends shall not be exposed to approaching traffic during installation. Crashworthy shielding or attenuation shall be provided at all times.

Proprietary temporary barrier systems shall be installed per the manufacturer's instructions.

The Contractor shall not place any breaks in the temporary barrier system that will result in sections that are shorter than the tested minimum length-of-need (LON) under MASH Test 2-11 (for TL-2) or 3-11 (for TL-3). Exceptions shall be allowed for gate systems or changeable length segments placed over expansion joints, if those barrier segment types have been determined to be crashworthy per MASH.

Temporary barrier shall not be placed on unpaved surfaces, unless otherwise shown in the Plans.

The Contractor shall not store materials, vehicles, or other equipment within the measured dynamic deflection envelope, as defined in 853.41: Deflection.

853.61: Temporary Barrier Removed and Reset

Temporary Barrier Removed and Reset consists of relocating a string of temporary barrier from one alignment to another to support the sequence and phasing of construction, as shown in the Plans.

Temporary Barrier Removed and Reset does not include moving all or a portion of the temporary barrier system to gain access to a work area, for the convenience of the Contractor, or to realign units that have moved due to construction activities or a traffic incident.

853.62: Quality Control Inspection

After temporary barrier installation is completed, the Contractor shall perform a Quality Control (QC) Inspection in the presence of the Engineer. QC Inspection activities shall include, but are not limited to the following reviews:

- Installation location per the approved Plans.
- Alignment and connection mechanism between adjacent barrier segments.
- Alignment and connection mechanism between barrier segment and attenuator, if present.
- Anchor system installation, if present.

For proprietary barrier systems, the QC Inspection shall also include any manufacturer-specific inspection details or criteria found in the installation instructions.

Work behind the barrier shall not commence until the QC Inspection has been accepted by the Engineer.

COMPENSATION

853.80: Method of Measurement

Temporary Barrier will be measured by the foot installed, in place.

Temporary Barrier Removed and Reset will be measured by the foot removed and reset.

853.81: Basis of Payment

Temporary Barrier will be paid for at the contract unit price per foot which shall provide full compensation for fabrication, storage, transport, furnishment, installation, delineation, alignment, maintenance, repair, and final removal of the temporary barrier.

Temporary Barrier Removed and Reset will be paid for at the contract unit price per foot which shall provide full compensation for removing, relocating, transporting, and installing new anchorage (if used). If more than one accepted temporary barrier system is approved for use in a single contract, the unit cost for Temporary Barrier Removed and Reset shall not differ among systems.

All costs associated with fabrication, installation, and maintenance of temporary barrier delineators shall be considered incidental to the cost of the item.

All costs associated with Shop Drawings and COCs shall be considered incidental to the item.

All costs associated with patching or repairing the road surface or bridge deck due to the installation and removal of temporary barrier and/or anchors for a temporary barrier system shall be considered incidental to the cost of the item.

853.82: Payment Items

Item number	Description	Unit
853.2	Temporary Barrier (TL-2)	Foot
853.21	Temporary Barrier Removed and Reset	Foot
853.23	Temporary Barrier (TL-3)	Foot
853.33	Temporary Barrier – Limited Deflection (TL-3)	Foot

SECTION 900: STRUCTURES

SUBSECTION 902: ULTRA HIGH PERFORMANCE CONCRETE

Subsection 902.32: Mockup
In Table 902.32-1 change the Link Slab width to 2 ft – 0 in. and change the Joint Header width to 0 ft – 6 in. .

Subsection 902.32: - 902.38
Renumber section 902.32 Surface Preparation to 902.33 Surface Preparation and renumber section 902.33 through 902.38 to 902.34 through 902.39.

DIVISION III

MATERIALS SPECIFICATIONS

SECTION M2: AGGREGATES AND RELATED MATERIALS

Subsection M2.01.0 Crushed Stone
Replace the fourth paragraph and the associated asterisk notes with the following;

The crushed stone shall have a maximum 45% wear as determined by the Los Angeles Abrasion Test (AASHTO T 96)

SECTION M5: PIPE, CULVERT SECTIONS AND CONDUIT

Subsection M5.01.0 Joint Materials for Pipe
Replace this subsection with the following;

- Jute or oakum furnished for use in pipe joints shall be of an accepted grade approved for common usage.
- Mortar shall conform to the requirements of M4.04.0: Cementitious Grout, Mortar and Concrete Products
- Standard couplers as approved by the manufacturer shall be used to join corrugated metal pipe
- Rubber ring or plastic gaskets for concrete pipe joints, or manholes section joints shall be of tough, flexible, chemical-resistant material, and of such size and shape as to ensure satisfactory pipe joints when incorporated in the work and shall conform to AWWA C153.
- Rubber gasket joints for ductile iron pipe shall be Styrene-Butadiene Rubber (SBR), Ethylene Propylene Diene Monomer (EPDM) or Nitrile and conform to AWWA C111

Subsection M5.05.03.B Gate Valves
Replace this subsection with the following;

Gate valves shall conform to the requirements of AWWA Standard C500 and/or to the type used by the municipality as specified in the Special Provisions.

SECTION M7: PAINTS, PROTECTIVE COATINGS AND PAVEMENT MARKINGS

Subsection M7.01.04 Fast Drying White and Yellow Waterborne Traffic Paint
Replace the subsection with the following;

Approved waterborne traffic paint shall be tested in accordance with AASHTO M 348 and be listed on the QCML The dry paint film shall be under the Toxicity Characteristic Leaching Procedure (TCLP) limits for all contaminants listed in 40 CFR 261.24. The markings shall be installed using reflective glass beads meeting the requirements of M7.01.07. For waterborne yellow paint use Organic Yellow No. 65 or No. 75 pigment.

SECTION M9: MISCELLANEOUS MATERIALS

Subsection M9.12.0 Reflectors for Barriers
Delete this subsection.

SECTION M10: TRAFFIC CONTROL DEVICES

Subsection M10.16.0: Temporary Barrier
Subsection M10.16.1: Limited Deflection Temporary Barrier
Subsection M10.16.2: Delineators for Temporary Barrier
Add these new subsections.

M10.16.0: Temporary Barrier

All Temporary Barrier shall be tested to MASH crash testing standards and the results of the following crash test designations must fall within the acceptable impact tolerances and evaluation criteria shown in Table 2-2A of MASH:

- Test Level 2: 2-10, 2-11
- Test Level 3: 3-10, 3-11

M10.16.1: Limited Deflection Temporary Barrier

To be classified as a Limited Deflection Temporary Barrier, the results of MASH Test Designation 3-11 must result in a measured dynamic deflection of 24 in. or less.

M10.16.2: Delineators for Temporary Barrier

Delineators for Temporary Barrier shall consist of a housing, retroreflective material, and an adhesive or mechanical fastener.

Housings for Delineators for Temporary Barrier shall be fabricated from a lightweight polymer material. Metal housings shall not be permitted.

Retroreflection shall be achieved using an acrylic reflector or retroreflective sheeting directly applied to the housing. If used, retroreflective sheeting shall be factory applied and conform to ASTM D4956 Type IV, Type V, or Type IX. A minimum of 8 $in.^2$ of reflective material shall be visible on any traffic-facing portion of the delineator.

Delineators shall be attached to temporary barriers using a manufacturer-approved adhesive or mechanical fastener.

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END OF SUPPLEMENTAL SPECIFICATIONS

DOCUMENT 00718

SPECIAL PROVISION FOR PARTICIPATION BY MINORITY OR WOMEN'S BUSINESS ENTERPRISES AND SERVICE- DISABLED VETERAN- OWNED BUSINESS ENTERPRISES
(Implementing Chapter 102, Section 24 and
Chapter 273, Section 124, of the Acts of 1994 and Chapter 56, Sections 1 to 5 of the Acts of 2010
and subsequent Acts)
Revised: September 27, 2021

I. PARTICIPATION

M/WBE PARTICIPATION GOAL
On this Contract, the Massachusetts Department of Transportation (MassDOT) has established a goal for participation by Minority or Women Business Enterprise(s) (M/WBE). One half of the goal shall be met in the form of contractor activity. This goal shall remain in effect throughout the life of the Contract.

☒ Design-Bid-Build Projects: M/WBE Participation Goal **__0__%**
(*One half of this goal shall be met in the form of Subcontractor construction activity*)

☐ Design-Build Projects: M/WBE Design Participation Goal **___%** and M/WBE Construction Participation Goal **___%**
(One half of the Construction Goal shall be met in the form of Subcontractor construction activity)

SDVOBE PARTICIPATION BENCHMARK
On this Contract, the Massachusetts Department of Transportation (MassDOT) has established a goal for participation by Service- Disabled Veteran- Owned Business Enterprise(s) (SDVOBE). This goal shall remain in effect throughout the life of the Contract.

☐ Design-Bid-Build Projects: SDVOBE Participation Goal **____%**

☐ Design-Build Projects: SDVOBE Design Participation Goal **___%** and SDVOBE Construction Participation Goal **___%**

II. POLICY

It is the policy of the MassDOT that Minority, Women Business Enterprises (M/WBEs) and Service- Disabled Veteran- Owned Business Enterprises (SDVOBEs) have equal opportunity to receive and participate in the performance of its state funded Contracts.

III. M/WBE and SDVOBE OBLIGATION

The Contractor agrees to take all necessary and reasonable steps to ensure that MBE, WBE, and SDVOBEs have the maximum opportunity to compete for, and to perform, Department Contracts.

IV. FAILURE TO COMPLY WITH M/WBE OR SDVOBE REQUIREMENTS

All Contractors and Subcontractors are hereby advised that failure to carry out the requirements of these Provisions constitutes a breach of Contract which may result in termination of the Contract, a determination that the Contractor or Subcontractor be barred from bidding on Department Contracts for up to three (3) years, or any other remedy as the Department may impose under Section XIV of these Special Provisions.

V. REQUIRED SUBCONTRACT PROVISIONS

The Prime Contractor shall include the Provisions of Sections II, III, and IV above in every subcontract making those provisions binding on each subcontractor, supplier, manufacturer, consultant or service provider.

VI. DEFINITIONS

For the purpose of these Special Provisions, the terms listed below are defined as follows:

Minority Business Enterprise or MBE means any individual, business organization, or non-profit corporation certified as a MBE by the Supplier Diversity Office (SDO), formerly known as the State Office of Minority and Women Business Assistance (SOMWBA), or by the Department for the purposes of a particular bid or proposal to be submitted to the Department.

Women Business Enterprise or WBE means any individual, business or organization, or non-profit corporation certified as a WBE by SDO, or by the Department for the purposes of a particular bid or proposal to be submitted to the Department.

Service- Disabled Veterans- Owned Businesses or SDVOBE means a business not less than 51 percent of which is owned by one or more service- disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and the management and daily business operations of which are controlled by one or more service- disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

"Contractor activity" means any work, including but not limited to, construction, demolition, renovation, survey, test boring services, or maintenance work performed under the Contract.

"Approved Joint Venture" means a joint venture between M/WBEs and non-M/WBEs, or SDVOBEs and non-SDVOBEs, which has been established for the purpose of participation on a particular contract, where:

1. The M/WBE or SDVOBE partner(s) shares in the ownership, control, management responsibilities, risks and profits of the joint venture; and

2. The Joint Venture has been approved by the Department for M/WBE or SDVOBE participation on the particular contract.

"Equipment Rental Firm" means a firm that owns equipment and assumes actual and contractual responsibility to rent said equipment to perform a useful function of the work of the contract consistent with normal industry practice.

"Material Supplier" means a vendor engaged in sales to the highway construction industry from an established place of business or source of supply, which:

(a) Manufactures goods from raw materials or substantially alters them before resale, or

(b) Provides and maintains a storage facility for materials used in the work, consistent with normal industry practice.

“Department” means the Massachusetts Department of Transportation (MassDOT).

"SDO" means the Massachusetts Supplier Diversity Office.

VII. ELIGIBILITY of M/WBEs

Only firms, *OTHER THAN THE PRIME CONTRACTOR*, which have been certified by SDO and/or the Department as eligible to participate on state funded contracts as MBEs or WBEs may be used on this contract for credit toward the toward the M/WBE participation goal.

1. SDO Directory of Certified M/WBEs: The Supplier Diversity Office publishes a Directory of certified MBE and WBEs. This Directory can be obtained from SDO at https://www.sdo.osd.state.ma.us/. This site lists those firms which have been certified as minority owned (MBEs) or women owned (WBEs) in accordance with the criteria of 425 CMR 2.00 et seq to participate as M/WBEs on state funded contracts. It also lists the kinds of work in which each firm engages but does not constitute an endorsement of the quality or performance of any business and does not represent Department subcontractor approval.

2. Application for Certification by the Department for a Particular Project: A firm which has (1) submitted a fully completed M/WBE application to SDO at least 30 days previously, (2) has provided in a timely manner, any additional information which may have been requested by SDO, and (3) can provide evidence, satisfactory to the Department, of a bidder's conditional commitment to subcontract with the firm, if certified, may apply directly to the MassDOT Office of Civil Rights to be certified for participation on the particular contract.

3. Joint Venture Approval: To obtain recognition as an approved joint venture between M/WBEs and non-/M/WBEs, the Joint Venture must provide to the MassDOT Office of Civil Rights, at least 14 business days before the bid opening date, the Joint Venture Affidavit Document B00847, and a copy of the Joint Venture Agreement, which shall include a detailed breakdown of the following:

   (a) Capital participation by the M/WBE,

   (b) Specific equipment to be provided to the Joint Venture by the M/WBE,

   (c) Specific responsibilities of the M/WBE in the management of the Joint Venture,

   (d) Workforce and specific skills to be provided to the Joint Venture by the M/WBE, and

   (e) Percentage distribution to the M/WBE of the projected profit or loss incurred by the Joint Venture.

   (f) The Joint Venture shall provide all such additional information as may be requested by the Department for the purpose of determining joint venture eligibility.

VIII. ELIGIBILITY of SDVOBEs

Only firms, *OTHER THAN THE PRIME CONTRACTOR*, which have demonstrated that they are listed as a service-disabled veteran- owned small businesses within the VetBiz database may be used on this contract for credit toward the SDVOBE participation goal.

1. VetBiz Database: The website, located at www.VetBiz.gov, listing verified service- disabled veteran- owned businesses.

2. Joint Venture Approval: To obtain recognition as an approved joint venture between SDVOBEs and non-/SDVOBEs, the joint venture must provide to the MassDOT Office of Civil Rights, at least 14 business days before the bid opening date, an application for joint venture participation approval, and a copy of the Joint Venture Agreement, which shall include a detailed breakdown of the following:

   (a) Capital participation by the SDVOBE,

   (b) Specific equipment to be provided to the joint venture by the SDVOBE,

   (c) Specific responsibilities of the SDVOBE in the management of the Joint Venture,

   (d) Workforce and specific skills to be provided to the joint venture by the SDVOBE, and

(e) Percentage distribution to the SDVOBE of the projected profit or loss incurred by the Joint Venture.

(f) The Joint Venture shall provide all such additional information as may be requested by the Department for the purpose of determining joint venture eligibility.

IX. COUNTING M/WBE PARTICIPATION AND SDVOBE BENCHMARKS TOWARDS M/WBE AND SDVOBE GOALS

In order for M/WBE participation and SDVOBE benchmarks to count toward the Contract goal, the M/WBE and SDVOBE must have independently managed, supervised and performed the Contract work with its own workforce, equipment and resources. M/WBE and SDVOBE participation which fulfills these requirements shall be counted toward meeting the M/WBE and SDVOBE goals in accordance with the following rules:

1 If a firm has been determined to be an eligible MBE, WBE or SDVOBE, the total dollar value of the contract performed by the M/WBE or SDVOBE is counted toward the applicable goal as follows:

a. Except as provided below, in Section IX (1)(g), work performed by a M/WBE or a SDVOBE Prime Contractor shall not be counted toward the M/WBE or SDVOBE goal, and all Prime Contractors, including M/WBE or SDVOBE Prime Contractors, must comply with the M/WBE and SDVOBE requirements of this Contract.

b. For a M/WBE or SDVOBE material supplier, sixty percent (60%) of the amount to be paid for materials and supplies required under this Contract shall be credited toward the goal.

c. For a M/WBE or SDVOBE who provides a bonafide service such as professional, technical, consultant or managerial services and assistance in the procurement of essential personnel, facilities, equipment, materials, or supplies required for performance of the contract, reasonable fees or commissions charged for the service shall be listed, but the cost of items themselves shall not be credited.

d. For a M/WBE or SDVOBE hauler, trucker, or delivery service, which is not also the manufacturer of or a regular dealer in the materials and supplies, reasonable fees charged for delivery of materials and supplies required on the job site shall be credited; the cost of the materials and supplies themselves shall not be credited.

e. For a M/WBE or SDVOBE who provides any bonds or insurance specifically required for the performance of the contract, reasonable fees or commissions charged for such service shall be listed, but the face amount or actual premium paid for the bond or insurance shall not be credited.

f. The Department shall determine if the fees or commissions listed in accordance with paragraphs (c), (d), and (e) are not excessive as compared with fees or commissions customarily allowed for similar services.

g. That portion of the contract total dollar value equal to the percentage of ownership and control of the M/WBE partner(s) or SDVOBE partner(s) in an approved Joint Venture shall be counted toward the Contract goal, except that credit for M/WBE and SDVOBE participation in an approved Prime Joint Venture shall not exceed one half of the Contract goal.

X. JOINT CHECK POLICY

1. MassDOT recognizes that the use of joint checks may be a business practice required by material suppliers and vendors in the construction industry. A joint check is a two-party check issued by a/the Prime Contractor to a M/WBE or SDVOBE third party such as a regular dealer of material or supplies. The Prime Contractor issues the check as payor to the M/WBE or SDVOBE and the third party jointly as payees to guarantee payment to the third party for materials or supplies obtained or to be used by the M/WBE or SDVOBE. MassDOT has established criteria to ensure that M/WBEs or SDVOBEs are in fact performing a commercially useful function ("CUF") while using a joint check arrangement. Contractors and M/WBEs or SDVOBEs must meet and conform to these conditions and criteria governing the use of joint checks.

2. In the event that a Contractor, M/WBE or SDVOBE Subcontractor desires to a use joint check, MassDOT will require prior notice and will closely monitor the arrangement for compliance. MassDOT may allow a joint check arrangement and give credit to a Contractor for use of the M/WBE or SDVOBE where one or more of the following conditions exist:

   - The use of a joint check is in fact required by this type of vendor or supplier as a standard industry practice that applies to all Contractors (M/WBEs, SDVOBE and non-M/WBEs or non-SDVOBEs); or is required by a specific vendor or supplier;

   - Payment for supplies or materials would be delayed for an unreasonably extended period without the joint check arrangement;

   - The M/WBE or SDVOBE (or any of its Subcontractors) has a pattern or history of not paying a vendor or supplier within a reasonable time or has not established enough of a credit history with the supplier or vendor; and/or

   - The presence of severe adverse economic conditions, where credit resources may be limited and such practices may be necessary or required to effect timely payments.

3. Other factors MassDOT may consider:

   - Whether there is a requirement by the Prime Contractor that a M/WBE or SDVOBE should use a specific vendor or supplier to meet their Subcontractor specifications;

   - Whether there is a requirement that a M/WBE or SDVOBE use the Prime Contractor's negotiated price;

   - The independence of the M/WBE or SDVOBE;

   - Whether approval has been sought prior to use of a joint check arrangement; and

   - Whether any approved joint check arrangement has exceeded a reasonable period of use;

   - The operation of the joint check arrangement; and

   - Whether the M/WBE or SDVOBE has made an effort to establish alternate arrangements for following periods (i.e., the M/WBE or SDVOBE must show it can, or has, or why it has not, established or increased a credit line with the vendor or supplier).

Even with the use of a Joint Check, both the Contractor and M/WBE or SDVOBE remain responsible for compliance with all other elements of the Special Provisions, and must still be able to prove that a commercially useful function is being performed for the Contractor.

XI. JOINT CHECK PROCEDURES

- The M/WBE or SDVOBE advises its General or Prime Contractor that it will have to use a Joint Check and provide proof of such requirement.
- The General or the Prime Contractor submits a request for approval to MassDOT, using MassDOT's approved Joint Check Request form (Document B00846) and by notification on the M/WBE Letter of Intent (Document B00843) or SDVOBE Letter of Intent (Document B00845), and any other relevant documents. Requests that are not initiated during the bid process should be made in writing and comply with the procedure.
- The Contractor and M/WBE or SDVOBE must have:
  (a) a written agreement with the material supplier/vendor;
  (b) applied for credit with the subject material supplier and has supplied the vendor's response;

(c) shown that it will place all orders to the subject material supplier/vendor;
(d) made and retains all decision-making responsibilities concerning the materials; and
(e) provided a Joint Check Agreement that is acceptable to MassDOT;

- The MassDOT Office of Civil Rights will review the request and render a decision as part of the approval process for M/WBE or SDVOBE Schedules and Letters of Intent.
- Review and Approval will be project specific and relevant documents will be made part of the Project Contract file.
- Payments should be made in the name of both the M/WBE or SDVOBE and vendor or supplier. Payments should be issued and signed by the Contractor as only the guarantor for prompt payment of purchases to the vendor or supplier. The payment to the vendor or supplier should be handled by the M/WBE or SDVOBE (i.e. if possible, funds or the joint check should be processed by the M/WBE or SDVOBE and sent by the M/WBE or SDVOBE to the vendor or supplier).
- MassDOT may request copies of cancelled checks (front and back) and transmittal information to verify any payments made to the M/WBE or SDVOBE and vendor or supplier.
- MassDOT may request other information and documents, and may ask questions of the Contractor, Subcontractor and vendor or supplier prior to, during, and after the project performance to ascertain whether the Subcontractor is performing a commercially useful function and all parties are complying with M/WBE or SDVOBE Program policies and procedures as part of the Subcontractor approval process.

XII. AWARD DOCUMENTATION AND PROCEDURES

1. The two lowest bidders/the two bidders with the lowest price per quality score point, including any M/WBE bidder or SDVOBE bidder, shall submit, by the close of business on the third business day after the bid opening, a completed Schedule of M/WBE and SDVOBE participation, in the form attached, which shall list:

   a. The full company name, address and telephone number of each M/WBE or SDVOBE with whom the bidder intends to make a commitment;

   b. The Contract item(s), by number(s) and quantity(ies), if applicable, or specific description of other business activity to be performed by each M/WBE or SDVOBE as set forth in the Letters of Intent. The bidder shall list only firms which have the capacity to perform, manage and supervise the work proposed in accordance with the requirements of Section XII of these Special Provisions.

   c. The total dollar amount to be paid to each M/WBE or SDVOBE. (Bidders are cautioned that at least one half of the participation goal must be met with Contract work.)

   d. The total dollar amount to be paid to each M/WBE or SDVOBE which is eligible for credit toward the M/WBE or SDVOBE goal under the crediting rules set out in Section IX.

   e. The total creditable M/WBE or SDVOBE participation as a percentage of the total bid price.

2. All firms listed on the Schedule must be currently certified.

3. The two lowest bidders/the two bidders with the lowest price per quality score point shall submit with their Schedules of Participation, fully completed, signed Letters of Intent from each of the M/WBEs or SDVOBEs listed on the Schedule. The Letters of Intent shall be in the form attached and shall identify specifically the contract activity the M/WBE or SDVOBE proposes to perform, expressed as contract item number, if applicable, description of the activity, quantity, unit price and total price. In the event of discrepancy between the Schedule and the Letter of Intent, the Letter of Intent shall govern.

4. Evidence of good faith efforts will be evaluated by the Department in the selection of the lowest responsible bidder/best value bidder. All information requested by the Department for the purpose of evaluating the bidder's efforts to achieve the goal must be provided within three calendar days and must be accurate and complete in every detail. The apparent low bidder's/best value bidder's attainment of the M/WBE or SDVOBE goal or a satisfactory demonstration of good faith efforts is a prerequisite for Award of the Contract.

5. Failure to meet, or to demonstrate good faith efforts to meet, the requirements of these Special Provisions shall render a bid non-responsive. Therefore, in order to be eligible for award, the bidder (1) must list on the Schedule of Participation, and provide the required Letters of Intent for, M/WBE or SDVOBE participation which meets or exceeds the Contract goal in accordance with the terms of these Special Provisions or (2) must demonstrate, to the satisfaction of the Department, that good faith efforts were made to achieve the goal.

6. If the Department finds that the percentage of M/WBE or SDVOBE participation submitted by the bidder on its Schedule does not meet the Contract goal, or that the Letters of Intent were not timely filed, and that the bidder has not demonstrated good faith efforts to comply with these requirements, it shall propose that the bidder be declared ineligible for Award. In that case, the bidder may request administrative reconsideration. Such requests must be sent in writing within three calendar days of receiving notice of proposed ineligibility to: The Office of the General Counsel, Massachusetts Department of Transportation, 10 Park Plaza, Boston, MA, 02116.

7. If, after administrative reconsideration, the Department finds that the bidder has not shown that sufficient good faith efforts were made to comply with the requirements of these Special Provisions it shall reject the bidder's proposal and may retain the proposal guaranty.

8. Actions which constitute evidence of good faith efforts to meet the M/WBE or SDVOBE goals include, but are not limited to, all of the following examples:

    a. Efforts made to select portions of the work proposed to be performed by M/WBEs or SDVOBEs in order to increase the likelihood of achieving the stated goal, including, where appropriate, but not limited to, breaking down contracts into economically feasible units to facilitate M/WBE and SDVOBE participation. The value of such work is required to at least equal the M/WBE and SDVOBE goal.

    b. Reasonable written notification prior to the opening of bids soliciting individual M/WBEs or SDVOBEs interested in participation in the contract as subcontractors, regular dealers, manufacturers, consultants, or service providers and identifying the specific items or type of work being solicited.

    c. Written notification to M/WBE or SDVOBE economic development assistance agencies and organizations which provide assistance in recruitment and placement of M/WBEs and SDVOBEs, describing the type of work, supplies or services being considered for M/WBE or SDVOBE subcontracting on this contract.

    d. Efforts made to negotiate with M/WBEs or SDVOBEs for specific items of work including evidence of:
        (1) The names, addresses, telephone numbers of M/WBEs or SDVOBEs who were contacted, the dates of initial contact and whether initial solicitations of interest were followed up by contacts with M/WBEs or SDVOBEs to determine with certainty whether the M/WBEs or SDVOBEs were interested. Personal or phone contacts are expected.

        (2) A description of the information provided by the M/WBEs or SDVOBEs regarding the plans and specifications and estimated quantities for portions of the work to be performed.

        (3) A statement of why additional agreements with M/WBEs or SDVOBEs were not reached.

        (4) Documentation of each M/WBE or SDVOBE contacted but rejected and the reasons for the rejection.

    e. Absence of any agreements between the Contractor and the M/WBE or SDVOBE in which M/WBE or SDVOBE promises not to provide subcontracting quotations to other bidders.

    f. Efforts made to assist the M/WBEs or SDVOBEs that need assistance in obtaining bonding, insurance, or lines of credit required by the Contractor.

g. Documentation that qualified M/WBEs or SDVOBEs are not available, or are not interested.

h. Attendance at any meeting scheduled by the Department to encourage better Contractor-M/WBE or Contractor- SDVOBE relationships and/or to inform M/WBEs or SDVOBEs of forthcoming M/WBE or SDVOBE utilization opportunities.

i. Advertisement, in general circulation media, in trade association publications and in disadvantaged business enterprise-focused media, of interest in utilizing M/WBEs or SDVOBEs and the area of interest.

j. Efforts to effectively use the services of available minority community organizations; women organizations, veteran organizations, minority, women disadvantaged and veteran contractor's groups; local, state and federal disadvantaged business assistance offices; and other organizations that provide assistance in recruitment and placement of M/WBEs or SDVOBEs.

9. The demonstration of good faith efforts must establish that the Contractor has actively and aggressively sought out M/WBEs or SDVOBEs to participate in the project and has taken all actions which could be reasonably expected to achieve the goal. Examples of circumstances or actions not acceptable as reasons for failure to meet the M/WBE or SDVOBE goal, include, but are not limited to:

a. The M/WBE or SDVOBE was unable to provide performance and/or payment bonds.

b. The M/WBEs or SDVOBEs commercially reasonable bid was rejected based on price.

c. The M/WBE or SDVOBE would not agree to perform items of work at the unit bid price.

d The Contractor does not want to subcontract a percentage of the work sufficient to meet the goal.

e. Solicitation by mail or fax only.

XIII. COMPLIANCE

1. All activity performed by a M/WBE or SDVOBE for credit toward the Contract goal must be performed, managed and supervised by the M/WBE or SDVOBE. Prime Contractor shall not enter into, or condone, any other arrangement.

2. The Prime Contractor shall not perform with its own organization, or assign to any other business, any activity designated for the M/WBEs or SDVOBEs named on the Schedule submitted by the Prime Contractor under Section IX, or under Section XII(6), without the approval of the Department in accordance with the requirements of Sections XIII(6) and XIII(10).

3. The Department may suspend payment for any activity which was not performed by the M/WBE or SDVOBE to whom the activity was committed on the approved Schedule of Participation, or which was not performed in accordance with the requirements of Section XIII(1).

4. The Department retains the right to approve or disapprove all subcontractors. Requests by the Prime Contractor for approval of participation by a M/WBE or SDVOBE subcontractor for credit toward the Contract goal must include, in addition to any other requirements for subcontractor approval, the following:

a. A copy of the proposed subcontract. The subcontract must be for at least the dollar amount, and for the work described, in the Prime Contractor's Schedule of Participation.

b. A resume stating the qualifications and experience of the M/WBE or SDVOBE superintendent and/or foreperson who will supervise the on-site work. A new resume will be required for any change in supervisory personnel during the progress of the work.

c. A Schedule of Operations indicating when the M/WBE or SDVOBE is expected to perform the work.

d. A list of (1) equipment owned by the M/WBE or SDVOBE to be used on the Project, and (2) equipment to be leased by the M/WBE or SDVOBE for use on the Project.

e. A list of: (1) all projects (public and private) which the M/WBE or SDVOBE is currently performing, (2) all projects (public and private) to which the M/WBE or SDVOBE is committed, (3) all projects (public and private) to which the M/WBE or SDVOBE intends to make a commitment. For each contract, list the contracting organization, the name and telephone number of a contact person for the contracting organization, the dollar value of the work, a description of the work, and the M/WBEs or SDVOBEs work schedule for each project.

5. If, pursuant to the subcontractor approval process, the Department finds that a M/WBE or SDVOBE subcontractor does not have sufficient experience or resources to perform, manage and supervise work of the kind proposed in accordance with the requirements of Section XIII(1), approval of the M/WBE or SDVOBE subcontractor may be denied. In the event of such denial, the Prime Contractor shall proceed in accordance with the requirements of Sections XIII(6) and XIII(10).

6. If, for reasons beyond its control, the Prime Contractor cannot comply with its M/WBE or SDVOBE commitment in accordance with the Schedule of participation submitted under Section IX and the terms of these Special Provisions, the Prime Contractor shall submit to the Department the reasons for its inability to comply with its obligations under Section I and shall submit, and request approval for, a revised Schedule of Participation. If approved by the Department, the revised Schedule shall govern the Prime Contractor's performance in meeting its obligations under these special provisions.

7. A Prime Contractor's compliance with the participation goal in Section I shall be determined by reference to the required percentage of the total Contract price, including any additions and modifications thereto, provided, however, that no decrease in the dollar amount of a bidder's commitment to any M/WBE or SDVOBE shall be allowed without the approval of the Department.

8. If the Contract amount is increased, the Prime Contractor shall submit a revised Schedule of Participation in accordance with Sections XIII(6) and XIII(10).

9. In the event of the decertification of a M/WBE or SDVOBE participating or scheduled to participate on the contract for credit toward the goal, the Contractor shall proceed in accordance with Sections XIII(6) and XIII(10).

10. The Prime Contractor shall notify the Department immediately of any facts which come to its attention indicating that it may or will be unable to comply with any aspect of its M/WBE or SDVOBE obligation under this Contract.

11. Any notice required by these Special Provisions shall be given in writing to the Resident Engineer and the district designated Compliance Officer with a copy to the Director of Compliance, Office of Diversity and Civil Rights, 10 Park Plaza, Room 3170, Boston MA 02116.

12. The Prime Contractor and its subcontractors shall comply with the Department’s Electronic Reporting System Requirements (Contract Document 00821) and submit all information required by the Department related to the M/WBE Special Provisions and SDVOBE Special Provisions through the Equitable Business Opportunity Solution (EBO). The Department reserves the right to request reports in the format it deems necessary anytime during the performance of the Contract.

13. The Contractor shall pay each M/WBE or SDVOBE for satisfactory performance of its Contract no later than 10 days from receipt of payment for the work from the Department. Any delay or postponement of payment to the M/WBEs or SDVOBEs must be for good cause and only with the prior approval of the Department.

14. The Department may withhold the Contractor's next periodic payment if each M/WBE or SDVOBE is not paid in accordance with Section XIII(13).

15. The Department may require specific performance of the Prime Contractor's commitment under the Contract by requiring the Prime Contractor to subcontract with a M/WBE or SDVOBE for any contract or specialty item.

XIV. SANCTIONS

If the Prime Contractor does not comply with the terms of these Special Provisions and cannot demonstrate to the satisfaction of the Department that good faith efforts were made to achieve such compliance, the Department may, in addition to any other remedy provided for in the Contract, and notwithstanding any other provision in the Contract:

1. Retain, in connection with final acceptance and final payment, an amount determined by multiplying the total contract amount by the percentage in Section I, less the amount paid to approved M/WBEs or SDVOBEs for work performed under the Contract in accordance with the provisions of Section X. The Prime Contractor shall have the right to appeal such retention of funds in accordance with the provisions of M.G.L. c. 30A s.10.

2. Suspend, terminate or cancel this Contract, in whole or in part, and call upon the Prime Contractor's surety to perform all terms and conditions in the Contract.

3. In accordance with 720 CMR 5.05(1)(f), modify or revoke the Prime Contractor's Prequalification status or recommend that the Prime Contractor not receive award of a pending Contract. The Prime Contractor may appeal the determination of the Prequalification Committee in accordance with the provisions of 720 CMR 5.07.

4. Initiate debarment proceedings under M.G.L. c.29 §29F.

XV. FURTHER INFORMATION

Any proposed M/WBE, SDVOBE, bidder, Contractor or subcontractor shall provide such information as is necessary in the judgement of the Department to ascertain its compliance with the terms of this Special Provision.

XVI. LIST OF ADDITIONAL DOCUMENTS

1. The following documents shall be completed and signed by the bidder and designated M/WBEs or SDVOBEs in accordance with Section XII - Award Documentation and Procedures. These documents must be returned by the bidder to MassDOT's Bid Document Distribution Center:

   □ Schedule of M/WBEs (Document B00842) or SDVOBE Participation (Document B00844)
   □ Letter of Intent: M/WBEs (Document B00843) or SDVOBE (Document B00845)
   □ M/WBEs or SDVOBE Joint Check Arrangement Approval Form (Document B00846), if Contractor and M/WBE or SDVOBE plan, or if M/WBE or SDVOBE is required to use a Joint Check (when applicable)

2. The following document shall be signed and returned by Contractor and Subcontractors/M/WBEs or SDVOBEs to the MassDOT District Office overseeing the Project, as applicable:

   □ Contractor/Subcontractor Certification Form (Document No. 00859) (a checklist of other documents to be included with every subcontract (M/WBEs or SDVOBEs and non-M/WBEs or SDVOBEs alike)).

3. The following document shall be provided to MassDOT's Office of Civil Rights and Prequalification Office at least fourteen (14) business days before the bid opening date:

   □ Joint Venture Affidavit of M/WBE or SDVOBE/Non-M/WBE or Non-SDVOBE (Document B00847)

4. The following document shall be provided to MassDOT's District Office of Civil Rights within 30 calendar days after the work of the M/WBE is completed, or no later than 30 calendar days after the work of the M/WBE is on a completed and processed CQE. This document shall be completed and submitted by the Prime Contractor:

   □ Certificate of Completion by a Minority/Women or Disadvantaged Business Enterprise (M/WBE) (Form No. CSD-100)

** END OF DOCUMENT ***

DOCUMENT 00761

SPECIAL PROVISIONS FOR CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

Revised: 02/09/16

I. Instructions for Certification - Primary Covered Transactions:

By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

1. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the MassDOT's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

2. The certification in this clause is a material representation of fact upon which reliance was placed when the MassDOT determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available, the MassDOT may terminate this transaction for cause of default.

3. The prospective primary participant shall provide immediate written notice to the MassDOT if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the MassDOT for assistance in obtaining a copy of those regulations.

5. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the MassDOT.

6. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the MassDOT, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration and the Debarment Lists compiled by both the Massachusetts Office of the Attorney General and the Department of Capital Asset Management and Maintenance (DCAMM) and published separately in the Central Register.

8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available, the MassDOT may terminate this transaction for cause or default.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion -- Primary Covered Transactions

The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal, State or local department or agency;

2. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 2 of this certification; and

4. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

II. Instructions for Certification - Lower Tier Covered Transactions:

By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

1. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available the MassDOT may pursue available remedies, including suspension and/or debarment.

2. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

3. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the MassDOT for assistance in obtaining a copy of those regulations.

4. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the MassDOT.

5. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

6. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List and the Debarment Lists.

7. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

8. Except for transactions authorized under paragraph 4 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, the MassDOT may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions

The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal, State or local department or agency.

Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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DOCUMENT 00811

SPECIAL PROVISIONS
MONTHLY PRICE ADJUSTMENT FOR HOT MIX ASPHALT (HMA) MIXTURES
Revised: 02/03/2023

This provision applies to all projects using greater than 100 tons of hot mix asphalt (HMA) mixtures containing liquid asphalt cement as stipulated in the Notice to Contractors section of the bid documents.

Price Adjustments will be based on the variance in price, for the liquid asphalt component only, between the Base Price and the Period Price. They shall not include transportation or other charges. Price Adjustments will occur on a monthly basis.

Base Price
The Base Price of liquid asphalt on a project as listed in the Notice to Contractors section of the bid documents is a fixed price determined by the Department at the time of the bid using the same method as the determination of the Period Price detailed below. The Base Price shall be used in all bids.

Period Price
The Period Price is the price of liquid asphalt for each monthly period as determined by the Department using the average selling price per standard ton of PG64-28 paving grade (primary binder classification) asphalt, FOB manufacturer's terminal, as listed under the "East Coast Market - New England, Boston, Massachusetts area" section of the Poten & Partners, Inc. "Asphalt Weekly Monitor". This average selling price is listed in the issue having a publication date of the second Friday of the month and will be posted as the Period Price for that month. The Department will post this Period Price on its website at https://www.mass.gov/service-details/massdot-current-contract-price-adjustments following its receipt of the relevant issue of the "Asphalt Weekly Monitor". Poten and Partners has granted the Department the right to publish this specific asphalt price information sourced from the Asphalt Weekly Monitor.

Price Adjustment Determination, Calculation and Payment
The Contract Price of the HMA mixture will be paid under the respective item in the Contract. Price Adjustments, as herein provided, either upwards or downwards, will be made after the work has been performed using the monthly period price for the month during which the work was performed.

Price Adjustments will be paid only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

The Price Adjustment applies only to the actual virgin liquid asphalt content in the mixture placed on the job in accordance with the approved Job Mix Formula.

Price Adjustments will be separate payment items. The pay item numbers are 999.401 for a positive price adjustment (a payment) and 999.402 for a negative price adjustment (a deduction). Price Adjustments will be calculated using the following equation:

Price Adjustment = Tons of HMA Placed X Liquid Asphalt Content % X RAP Factor X (Period Price - Base Price)

No Price Adjustment will be allowed beyond the Completion Date of this Contract, unless there is a Department-approved extension of time.

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DOCUMENT 00812

SPECIAL PROVISIONS
MONTHLY PRICE ADJUSTMENT FOR DIESEL FUEL AND GASOLINE –
ENGLISH UNITS
Revised: 02/01/2021

This monthly fuel price adjustment is inserted in this contract because the national and worldwide energy situation has made the future cost of fuel unpredictable. This adjustment will provide for either additional compensation to the Contractor or repayment to the Commonwealth, depending on an increase or decrease in the average price of diesel fuel or gasoline.

This adjustment will be based on fuel usage factors for various items of work developed by the Highway Research Board in Circular 158, dated July 1974. These factors will be multiplied by the quantities of work done in each item during each monthly period and further multiplied by the variance in price from the Base Price to the Period Price.

The Base Price of Diesel Fuel and Gasoline will be the price as indicated in the Department's web site https://www.mass.gov/service-details/massdot-current-contract-price-adjustments for the month in which the contract was bid, which includes State Tax.

The Period Price will be the average of prices charged to the State, including State Tax for the bulk purchases made during each month.

This adjustment will be effected only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

No adjustment will be paid for work done beyond the extended completion date of any contract.

Any adjustment (increase or decrease) to estimated quantities made to each item at the time of final payment will have the fuel price adjustment figured at the average period price for the entire term of the project for the difference of quantity.

The fuel price adjustment will apply only to the following items of work at the fuel factors shown:

ITEMS COVERED	FUEL FACTORS	
	Diesel	Gasoline
Excavation: and Borrow Work: Items 120, 120.1, 121, 123, 124, 125, 127, 129.3, 140, 140.1, 141, 142, 143, 144, 150, 150.1, 151 and 151.1 (Both Factors used)	0.29 Gallons / CY.	0.15 Gallons / CY
Surfacing Work: All Items containing Hot Mix Asphalt	2.90 Gallons / Ton	Does Not Apply

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DOCUMENT 00813

SPECIAL PROVISIONS

PRICE ADJUSTMENTS FOR STRUCTURAL STEEL AND REINFORCING STEEL

September 17, 2025

This special provision applies to all projects containing the use of structural steel and/or reinforcing steel as specified elsewhere in the Contract work. It applies to all structural steel and all reinforcing steel, as defined below, on the project. Compliance with this provision is mandatory, i.e., there are no "opt-in" or "opt-out" clauses. Price adjustments will be handled as described below and shall only apply to unfabricated reinforcing steel bars and unfabricated structural steel material, consisting of rolled shapes, plate steel, sheet piling, pipe piles, steel castings and steel forgings.

Price adjustments will be variances between Base Prices and Period Prices. Base Prices and Period Prices are defined below.

Price adjustments will only be made if the variances between Base Prices and Period Prices are 5% or more. A variance can result in the Period Price being either higher or lower than the Base Price. Once the 5% threshold has been achieved, the adjustment will apply to the full variance between the Base Price and the Period Price.

Price adjustments will be calculated by multiplying the number of pounds of unfabricated structural steel material or unfabricated reinforcing steel bars on a project by the index factor calculated as shown below under Example of a Period Price Calculation.

Price adjustments will ***not*** include guardrail panels or the costs of shop drawing preparation, handling, fabrication, coatings, transportation, storage, installation, profit, overhead, fuel costs, fuel surcharges, or other such charges not related to the cost of the unfabricated structural steel and unfabricated reinforcing steel.

The weight of steel subject to a price adjustment shall not exceed the final shipping weight of the fabricated part by more than 10%.

Base Prices and Period Prices are defined as follows:

Base Prices of unfabricated structural steel and unfabricated reinforcing steel on a project are fixed prices determined by the Department and found in the table below. While it is the intention of the Department to make this table comprehensive, some of a project's unfabricated structural steel and/or unfabricated reinforcing steel may be inadvertently omitted. Should this occur, the Contractor shall bring the omission to the Department's attention so that a contract alteration may be processed that adds the missing steel to the table and its price adjustments to the Contract.

The Base Price Date is the month and year of the most recent finalized period price index at the time that MassDOT opened bids for the project. The Base Price Index for this contract is the Steel PPI listed in the Notice to Contractors.

Period Prices of unfabricated structural steel and unfabricated reinforcing steel on a project are variable prices that have been calculated using the Period Price Date and an index of steel prices to adjust the Base Price.

The Period Price Date is the date the steel was delivered to the fabricator as evidenced by an official bill of lading submitted to the Department containing a description of the shipped materials, weights of the shipped materials and the date of shipment. This date is used to select the Period Price Index.

The index used for the calculation of Period Prices is the U.S. Department of Labor Bureau of Labor Statistics Producer Price Index (PPI) Series ID WPU101702 (Not Seasonally Adjusted, Group: Metals and Metal Products, Item: Semi-finished Steel Mill Products.) As this index is subject to revision for a period of up to four (4) months after its original publication, no price adjustments will be made until the index for the period is finalized, i.e., the index is no longer suffixed with a "(P)".

Period Prices are determined as follows:

Period Price = Base Price X Index Factor
Index Factor = Period Price Index / Base Price Index

Example of a Period Price Calculation:

Calculate the Period Price for December 2009 using a Base Price from March 2009 of $0.82/Pound for 1,000 Pounds of ASTM A709 (AASHTO M270) Grade A36 Structural Steel Plate.

The Period Price Date is December 2009. From the PPI website*, the Period Price Index = 218.0.

The Base Price Date is March 2009. From the PPI website*, the Base Price Index = 229.4.

Index Factor = Period Price Index / Base Price Index = 218.0 / 229.4 = 0.950
Period Price = Base Price X Index Factor = $0.82/Pound X 0.950 = $0.78/Pound

Since $0.82 - $0.78 = $0.04 is less than 5% of $0.82, no price adjustment is required.

If the $0.04 difference shown above was greater than 5% of the Base Price, then the price adjustment would be 1,000 Pounds X $0.04/Pound = $40.00. Since the Period Price of $0.78/Pound is less than the Base Price of $0.82/Pound, indicating a drop in the price of steel between the bid and the delivery of material, a credit of $40.00 would be owed to MassDOT. When the Period Price is higher than the Base Price, the price adjustment is owed to the Contractor.

* To access the PPI website and obtain a Base Price Index or a Period Price Index, go to http://data.bls.gov/cgi-bin/srgate

End of example.

The Contractor will be paid for unfabricated structural steel and unfabricated reinforcing steel under the respective contract pay items for all components constructed of either structural steel or reinforced Portland cement concrete under their respective Contract Pay Items.

Price adjustments, as herein provided for, will be paid separately as follows:

Structural Steel
Pay Item Number 999.449 for positive (+) pay adjustments (payments to the Contractor)

Pay Item Number 999.457 for negative (-) pay adjustments (credits to MassDOT Highway Division)

Reinforcing Steel
Pay Item Number 999.466 for positive (+) pay adjustments (payments to the Contractor)

Pay Item Number 999.467 for negative (-) pay adjustments (credits to MassDOT Highway Division)

No price adjustment will be made for price changes after the Contract Completion Date, unless the MassDOT Highway Division has approved an extension of Contract Time for the Contract.

TABLE

Steel Type		Price per Pound
1	ASTM A615/A615M Grade 60 (AASHTO M31 Grade 60 or 420) Reinforcing Steel	$0.58
2	ASTM A27 (AASHTO M103) Steel Castings, H-Pile Points & Pipe Pile Shoes (See Note below.)	$0.81
3	ASTM A668 / A668M (AASHTO M102) Steel Forgings	$0.81
4	ASTM A108 (AASHTO M169) Steel Forgings for Shear Studs	$0.83
5	ASTM A709/A709M Grade 36 / AASHTO M270M/M270 Grade 36 or 250 Structural Steel Plate	$0.87
6	ASTM A709/A709M Grade 36 / AASHTO M270M/M270 Grade 36 or 250 Structural Steel Shapes	$0.82
7	ASTM A709/A709M Grade 50 / AASHTO M270M/M270 Grade 50 or 345 Structural Steel Plate	$0.87
8	ASTM A709/A709M Grade 50 / AASHTO M270M/M270 Grade 50 or 345 Structural Steel Shapes	$0.82
9	ASTM A709/A709M Grade 50WT / AASHTO M270M/M270 Grade 50WT or 345WT Structural Steel Plate	$0.90
10	ASTM A709/A709M Grade 50WT / AASHTO M270M/M270 Grade 50WT or 345WT Structural Steel Shapes	$0.83
11	ASTM A709/A709M Grade 50W / AASHTO M270M/M270 Grade 50W 345W Structural Steel Plate	$0.90
12	ASTM A709/A709M Grade 50W / AASHTO M270M/M270 Grade 50W or 345W Structural Steel Shapes	$0.83
13	ASTM A709/A709M Grade HPS 50W / AASHTO M270M/M270 Grade HPS 50W or 345W Structural Steel Plate	$0.94
14	ASTM A709/A709M Grade HPS 70W / AASHTO M270M/M270 Grade HPS 70W or 485W Structural Steel Plate	$1.02
15	ASTM A514/A514M-05 Grade HPS 100W / AASHTO M270M/M270 Grade HPS 100W or 690W Structural Steel Plate	$1.55
16	ASTM A992/A992M Grade 50S / AASHTO M270M/M270 Grade 50S or 345S Structural Steel Plate	$0.90
17	ASTM A992/A992M Grade 50S / AASHTO M270M/M270 Grade 50S or 345S Structural Steel Shapes	$0.83
18	ASTM A276 Type 316 Stainless Steel	$4.67
19	ASTM A240 Type 316 Stainless Steel	$4.67
20	ASTM A148 Grade 80/50 Steel Castings (See Note below.)	$1.60
21	ASTM A53 Grade B Structural Steel Pipe	$1.02
22	ASTM A500 Grades A, B, 36 & 50 Structural Steel Pipe	$1.02
23	ASTM A252, Grades 240 (36 KSI) & 414 (60 KSI) Pipe Pile	$0.81
24	ASTM 252, Grade 2 Permanent Steel Casing	$0.81
25	ASTM A36 (AASHTO M183) for H-piles, steel supports and sign supports	$0.85
26	ASTM A328 / A328M, Grade 50 (AASHTO M202) Steel Sheetpiling	$1.53
27	ASTM A572 / A572M, Grade 50 Sheetpiling	$1.53
28	ASTM A36/36M, Grade 50	$0.87
29	ASTM A570, Grade 50	$0.85
30	ASTM A572 (AASHTO M223), Grade 50 H-Piles	$0.87
31	ASTM A1085 Grade A (50 KSI) Steel Hollow Structural Sections (HSS), heat-treated per ASTM A1085 Supplement S1	$1.02
32	AREA 140 LB Rail and Track Accessories	$0.52

NOTE: Steel Castings are generally used only on moveable bridges. Cast iron frames, grates and pipe are not “steel” castings and will not be considered for price adjustments.

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DOCUMENT 00814

SPECIAL PROVISIONS
PRICE ADJUSTMENT FOR PORTLAND CEMENT CONCRETE MIXES

January 12, 2009

This provision applies to all projects using greater than 100 Cubic Yards (76 Cubic Meters) of Portland cement concrete containing Portland cement as stipulated in the Notice to Contractors section of the Bid Documents. This Price Adjustment will occur on a monthly basis.

The Price Adjustment will be based on the variance in price for the Portland cement component only from the Base Price to the Period Price. It shall not include transportation or other charges.

The Base Price of Portland cement on a project is a fixed price determined at the time of bid by the Department by using the same method as for the determination of the Period Price (see below) and found in the Notice to Contractors.

The Period Price of Portland cement will be determined by using the latest published price, in dollars per ton (U.S.), for Portland cement (Type I) quoted for Boston, U.S.A. in the **Construction Economics** section of *ENR Engineering News-Record* magazine or at the ENR website http://www.enr.com under **Construction Economics**. The Period Price will be posted on the MassDOT website the Wednesday immediately following the publishing of the monthly price in ENR, which is normally the first week of the month.

The Contract Price of the Portland cement concrete mix will be paid under the respective item in the Contract. The price adjustment, as herein provided, upwards or downwards, will be made after the work has been performed, using the monthly period price for the month during which the work was performed.

The price adjustment applies only to the actual Portland cement content in the mix placed on the job in accordance with the Standard Specifications for Highways and Bridges, Division III, Section M4.02.01. No adjustments will be made for any cement replacement materials such as fly ash or ground granulated blast furnace slag.

The Price Adjustment will be a separate payment item. It will be determined by multiplying the number of cubic yards of Portland cement concrete placed during each monthly period times the Portland cement content percentage times the variance in price between the Base Price and Period Price of Portland cement.

This Price Adjustment will be paid only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

No Price Adjustment will be allowed beyond the Completion Date of this Contract, unless there is a Department-approved extension of time.

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DOCUMENT 00820

THE COMMONWEALTH OF MASSACHUSETTS
SUPPLEMENTAL EQUAL EMPLOYMENT OPPORTUNITY, NON-DISCRIMINATION AND AFFIRMATIVE ACTION PROGRAM

I. Definitions

For purposes of this contract,

"Minority" means a person who meets one or more of the following definitions:

(a) American Indian or Native American means: all persons having origins in any of the original peoples of North America and who are recognized as an Indian by a tribe or tribal organization.
(b) Asian means: All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian sub-continent, or the Pacific Islands, including, but Not limited to China, Japan, Korea, Samoa, India, and the Philippine Islands.
(c) Black means: All persons having origins in any of the Black racial groups of Africa, including, but not limited to, African-Americans, and all persons having origins in any of the original peoples of the Cape Verdean Islands.
(d) Eskimo or Aleut means: All persons having origins in any of the peoples of Northern Canada, Greenland, Alaska, and Eastern Siberia.
(e) Hispanic means: All persons having their origins in any of the Spanish-speaking peoples of Mexico, Puerto Rico, Cuba, Central or South America, or the Caribbean Islands.

"State construction contract" means a contract for the construction, reconstruction, installation, demolition, maintenance or repair of a building or capital facility, or a contract for the construction, reconstruction, alteration, remodeling or repair of a public work undertaken by a department, agency, board, or commission of the commonwealth.

"State assisted construction contract" means a contract for the construction, reconstruction, installation, demolition, maintenance or repair of a building or capital facility undertaken by a political subdivision of the commonwealth, or two or more political subdivisions thereof, an authority, or other instrumentality and whose costs of the contract are paid for, reimbursed, grant funded, or otherwise supported, in whole or in part, by the commonwealth.

II. Equal Opportunity, Non-Discrimination and Affirmative Action

During the performance of this Contract, the Contractor and all subcontractors (hereinafter collectively referred to as "the Contractor") for a state construction contract or a state assisted construction contract, for him/herself, his/her assignees and successors in interest, agree to comply with all applicable equal employment opportunity, non-discrimination and affirmative action requirements, including but not limited to the following:

In connection with the performance of work under this contract, the Contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, sex, sexual orientation, genetic information, military service, age, ancestry or disability, shall not discriminate in the selection or retention of subcontractors, and shall not discriminate in the procurement of materials and rentals of equipment.

The aforesaid provision shall include, but not be limited to, the following: employment upgrading, demotion, or transfer; recruitment advertising, layoff or termination; rates of pay or other forms of compensation; conditions or privileges of employment; and selection for apprenticeship or on-the-job training opportunity. The Contractor shall comply with the provisions of chapter 151B of the Massachusetts General Laws, as amended, and all other applicable anti-discrimination and equal opportunity laws, all of which are herein incorporated by reference and made a part of this Contract.

The Contractor shall post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the Massachusetts Commission Against Discrimination setting forth the provisions of the Fair Employment Practices Law of the Commonwealth (Massachusetts General Laws Chapter l51 B).

In connection with the performance of work under this contract, the Contractor shall undertake, in good faith, affirmative action measures to eliminate any discriminatory barriers in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, sex, sexual orientation, genetic information, military service, age, ancestry or disability. Such affirmative action measures shall entail positive and aggressive measures to ensure nondiscrimination and to promote equal opportunity in the areas of hiring, upgrading, demotion or transfer, recruitment, layoff or termination, rate of compensation, apprenticeship and on-the-job training programs. A list of positive and aggressive measures shall include, but not be limited to, advertising employment opportunities in minority and other community news media; notifying minority, women and other community-based organizations of employment opportunities; validating all job specifications, selection requirements, and tests; maintaining a file of names and addresses of each worker referred to the Contractor and what action was taken concerning such worker; and notifying the administering agency in writing when a union with whom the Contractor has a collective bargaining agreement has failed to refer a minority or woman worker. These and other affirmative action measures shall include all actions required to guarantee equal employment opportunity for all persons, regardless of race, color, religious creed, national origin, sex, sexual orientation, genetic information, military service, age, ancestry or disability. One purpose of this provision is to ensure to the fullest extent possible an adequate supply of skilled tradesmen for this and future Commonwealth public construction projects.

III. Minority and Women Workforce Participation

Pursuant to his/her obligations under the preceding section, the Contractor shall strive to achieve on this project the labor participation goals contained herein. Said participation goals shall apply in each job category on this project including but not limited to bricklayers, carpenters, cement masons, electricians, ironworkers, operating engineers and those classes of work enumerated in Section 44F of Chapter 149 of the Massachusetts General Laws. The participation goals for this project shall be 15.3% for minorities and 6.9% for women. The participation goals, as set forth herein, shall not be construed as quotas or set-asides; rather, such participation goals will be used to measure the progress of the Commonwealth's equal opportunity, non-discrimination and affirmative action program. Additionally, the participation goals contained herein should not be seen or treated as a floor or as a ceiling for the employment of particular individuals or group of individuals.

IV. Liaison Committee

At the discretion of the agency that administers the contract for the construction project there may be established for the life of the contract a body to be known as the Liaison Committee. The Liaison Committee shall be composed of one representative each from the agency or agencies administering the contract for the construction project, hereinafter called the administering agency, a representative from the Office of Affirmative action, and such other representatives as may be designated by the administering agency. The Contractor (or his/her agent, if any, designated by him/her as the on-site equal employment opportunity officer) shall recognize the Liaison Committee as an affirmative action body, and shall establish a continuing working relationship with the Liaison Committee, consulting with the Liaison Committee on all matters related to minority recruitment, referral, employment and training.

V. Reports and Records

The Contractor shall prepare projected workforce tables on a quarterly basis when required by the administering agency. These shall be broken down into projections, by week, of workers required in each trade. Copies shall be furnished one week in advance of the commencement of the period covered, and also, when updated, to the administering agency and the Liaison Committee when required.

The Contractor shall prepare weekly reports in a form approved by the administering agency, unless information required is required to be reported electronically by the administering agency, the number of hours worked in each trade by each employee, identified as woman, minority, or non-minority. Copies of these shall be provided at the end of each such week to the administering agency and the Liaison Committee.

Records of employment referral orders, prepared by the Contractor, shall be made available to the administering agency on request.

The Contractor will provide all information and reports required by the administering agency on instructions issued by the administering agency and will permit access to its facilities and any books, records, accounts and other sources of information which may be determined by the administering agency to effect the employment of personnel. This provision shall apply only to information pertinent to the Commonwealth's supplementary non-discrimination, equal opportunity and access and opportunity contract requirements. Where information required is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the administering agency and shall set forth what efforts he has made to obtain the information.

VI. Access to Work Site

A designee of the administering agency and a designee of the Liaison Committee shall each have a right to access the work site.

VII. Solicitations for Subcontracts, and for the Procurement of Materials and Equipment

In all solicitations either by competitive bidding or negotiation made by the Contractor either for work to be performed under a subcontract or for the procurement of materials or equipment, each potential subcontractor or supplier shall be notified in writing by the Contractor of the Contractor's obligations under this contract relative to non-discrimination and equal opportunity.

VIII. Sanctions

Whenever the administering agency believes the General or Prime Contractor or any subcontractor may not be operating in compliance with the provisions of the Fair Employment Practices Law of the Commonwealth (Massachusetts General Laws Chapter 151B), the administering agency may refer the matter to the Massachusetts Commission Against Discrimination ("Commission") for investigation.

Following the referral of a matter by the administering agency to the Massachusetts Commission Against Discrimination, and while the matter is pending before the MCAD, the administering agency may withhold payments from contractors and subcontractors when it has documentation that the contractor or subcontractor has violated the Fair Employment Practices Law with respect to its activities on the Project, or if the administering agency determines that the contractor has materially failed to comply with its obligations and the requirements of this Section. The amount withheld shall not exceed a withhold of payment to the General or Prime Contractor of 1/100 or 1% of the contract award price or $5,000, whichever sum is greater, or, if a subcontractor is in non-compliance, a withhold by the administering agency from the General Contractor, to be assessed by the General Contractor as a charge against the subcontractor, of 1/100 or 1% of the subcontractor price, or $1,000 whichever sum is greater, for each violation of the applicable law or contract requirements. The total withheld from anyone General or Prime Contractor or subcontractor on a Project shall not exceed $20,000 overall. No withhold of payments or investigation by the Commission or its agent shall be initiated without the administering agency providing prior notice to the Contractor.

If, after investigation, the Massachusetts Commission Against Discrimination finds that a General or Prime Contractor or subcontractor, in commission of a state construction contract or state-assisted construction contract, violated the provisions of the Fair Employment Practices Law, the administering agency may convert the amount withheld as set forth above into a permanent sanction, as a permanent deduct from payments to the General or Prime Contractor or subcontractor, which sanction will be in addition to any such sanctions, fines or penalties imposed by the Massachusetts Commission Against Discrimination.

No sanction enumerated under this Section shall be imposed by the administering agency except after notice to the General or Prime Contractor or subcontractor and an adjudicatory proceeding, as that term is used, under Massachusetts General Laws Chapter 30A, has been conducted.

IX. Severability

The provisions of this section are severable, and if any of these provisions shall be held unconstitutional by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the remaining provisions.

X. Contractor's Certification

After award and prior to the execution of any contract for a state construction contract or a state assisted construction contract, the Prime or General Contractor shall certify that it will comply with all provisions of this Document 00820 Supplemental Equal Employment Opportunity, Non-Discrimination and Affirmative Action Program, by executing Document 00859 Contractor/Subcontractor Certification Form.

XI. Subcontractor Requirements

Prior to the award of any subcontract for a state construction contract or a state assisted construction contract, the Prime or General Contractor shall provide all prospective subcontractors with a complete copy of this Document 00820 entitled "Supplemental Equal Employment Opportunity, Non-Discrimination and Affirmative Action Program" and will incorporate the provisions of this Document 00820 into any and all contracts or work orders for all subcontractors providing work on the Project. In order to ensure that the said subcontractor's certification becomes a part of all subcontracts under the prime contract, the Prime or General Contractor shall certify in writing to the administering agency that it has complied with the requirements as set forth in the preceeding paragraph by executing Document 00859 Contractor/Subcontractor Certification Form.

Rev'd 03/07/14

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DOCUMENT 00821

ELECTRONIC REPORTING REQUIREMENTS
CIVIL RIGHTS PROGRAMS AND CERTIFIED PAYROLL

Implemented on March 2, 2009 Revised June 04, 2019

The Massachusetts Department Of Transportation (MassDOT) has replaced the CHAMP reporting system with Equitable Business Opportunity Solution (EBO), a new web-based civil rights reporting software system. This system is capable of handling both civil rights reporting requirements and certified payrolls. The program's functions include the administration of Equal Employment Opportunity (EEO) requirements, On-The-Job Training requirements (OJT), Disadvantage Business Enterprise (DBE) and/or Minority / Women's Business Enterprise (M/WBE) subcontracting requirements, and the electronic collection of certified payrolls associated with MassDOT projects. In addition, this system is used to generate various data required as part of the American Recovery and Reinvestment Act (ARRA). Contractors are responsible for all coordination with all sub-contractors to ensure timely and accurate electronic submission of all required data.

Contractor and Sub-Contractor EBO User Certification

All contractors and sub-contractors must use the EBO software system. The software vendor, Internet Government Solutions (IGS), has developed an online EBO Training Module that is available to contractors and sub-contractors. This module is a self-tutorial which allows all users in the company to access the training, complete the tutorial, and become certified as EBO users for a one time fee of $75.00. This is the only cost to contractors and sub-contractors associated with the EBO software system. The online EBO Training Module can be accessed at www.ebotraining.com. Click the "Register My Company" button on the login page to begin your training registration. Questions regarding EBO online training should be directed to Gerry Anguilano, IGS at (440) 238-1684.

MassDOT will track contractors and sub-contractors who have successfully completed the on-line training module. All persons performing civil rights program and/or certified payroll functions should be EBO certified.

Vetting of Firms and Designated Firm Individuals

Contractors must authorize a Primary Log-In ID Holder who has completed EBO on-line training to have access to the EBO system by completing and submitting the "Request For EBO System Log-In/Password Form" located on the MassDOT website at: https://www.mass.gov/how-to/how-to-get-an-ebo-login
Contractors must also agree to comply with the EBO system user agreement located on the MassDOT website.

All subcontracts entered into on a project must include language that identifies the submission and training requirements that the sub-contractor must perform. Sub-contractors will be approved by the respective District Office of MassDOT through the existing approval process. When new sub-contractors, who have not previously worked for MassDOT, are initially selected by a general contractor, the new sub-contractor must be approved by the District before taking the EBO on-line training module.

Interim Reporting Requirements

Until MassDOT is satisfied that the EBO system is fully operational and functioning as designed, contractors and sub-contractors will be required to submit certified payrolls manually. There will be a transition period where dual reporting, through manual and electronic submission, will be required. MassDOT, however, will notify contractors and sub-contractors when they may cease manual submission of certified payrolls.

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DOCUMENT 00859

CONTRACTOR/SUBCONTRACTOR CERTIFICATION FORM ‡

The contractor shall submit this completed document 00859 to MassDOT for each subcontract.

_____ **(Contractor)** **Date:**_____

_____**(Subcontractor)** ☐ District Approved Subcontractor

Contract No: 132476 **Project No.** 613790 **Federal Aid No.:** NFA

Location: WORCESTER

Project Description: Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad

PART 1 CONTRACTOR CERTIFICATION: I hereby certify, as an authorized official of this company, that to the best of my knowledge, information and belief, the company is in compliance with all applicable federal and state laws, rules, and regulations governing fair labor and employment practices, that the company will not discriminate in their employment practices, that the company will make good faith efforts to comply with the minority employee and women employee workforce participation ratio goals and specific affirmative action steps contained in Contract Document 00820 The Commonwealth of Massachusetts Supplemental Equal Employment Opportunity, Non-Discrimination and Affirmative Action Program, and that the company will comply with the special provisions and documentation indicated below (as checked).

I further hereby certify, as an authorized official of this company, that the special provisions and documentation indicated below (as checked) have been or are included in, and made part of, the Subcontractor Agreement entered into with the firm named above.

☐ **This is not a Federally-aided construction project**

Document #

☐ 00718 –Participation By Minority Or Women's Business Enterprises and SDVOBE†
☐ 00761 –Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion
☐ 00820 – MA Supplemental Equal Employment Opportunity, Non-Discrimination, and Affirmative Action Program
☐ 00821 – Electronic Reporting Requirements, Civil Rights Programs, and Certified Payroll
☐ 00859 – Contractor/Subcontractor Certification Form (this document)
☐ 00860 – MA Employment Laws
☐ 00861 – Applicable State Wage Rates in the Contract Proposal**
☐ B00842 – MA Schedule of Participation By Minority or Women Business Enterprises (M/WBEs)†
☐ B00843 – MA Letter of Intent – M/WBEs†

** Does not apply to Material Suppliers, unless performing work on-site
† Applies only if Subcontractor is a M/WBE; only include these forms for the particular M/WBE Entity

☐ B00844 - Schedule of Participation By SDVOBE
☐ B00845 - Letter of Intent – SDVOBE
☐ B00846 – M/WBE or SDVOBE Joint Check Arrangement Approval Form
☐ B00847 – Joint Venture Affidavit

☐ **This is a Federally-aided construction project (Federal Aid Number is present)**

Document #

☐ 00719 – Special Provisions for Participation by Disadvantaged Business Enterprises†
☐ 00760 - Form FHWA 1273 - Required Contract Provisions for Federal-Aid Construction Contracts
☐ 00820 – MA Supplemental Equal Employment Opportunity, Non-Discrimination and Affirmative Action Program
☐ 00821 – Electronic Reporting Requirements, Civil Rights Programs and Certified Payroll
☐ 00859 – Contractor/Subcontractor Certification Form (this document)
☐ 00860 – MA Employment Laws
☐ 00870 – Standard Federal Equal Employment Opportunity Construction Contract Specifications Executive Order 11246, (41 CFR Parts 60-4.2 and 60-4.3 (Solicitations and Equal Opportunity Clauses)*
☐ 00875 – Federal Trainee Special Provisions

☐ B00853 – Schedule of Participation by Disadvantaged Business Enterprise†
☐ B00854 – Letter of Intent – DBEs†
☐ B00855 – DBE Joint Check Arrangement Approval Form
☐ B00856 – Joint Venture Affidavit
☐ 00861/00880 - Applicable state and federal wage rates from Contract Proposal**

*Applicable only to Contracts or Subcontracts in excess of $10,000
**Does not apply to Material Suppliers, unless performing work on-site
† Applies only if Subcontractor is a DBE; only include these forms for the particular DBE Entity

Signed this _____ Day of _____, 20_____ Under The Pains And Penalties Of Perjury.

_____ _____
(Print Name and Title) (Authorized Signature)

PART 2

PART 2 SUBCONTRACTOR CERTIFICATION: I hereby certify, as an authorized official of this company, that the required documents in Part 1 above were physically incorporated in our Agreement/Subcontract with the Contractor and give assurance that this company will fully comply or make every good faith effort to comply with the same. I further certify that:

1. This company recognizes that if this is a Federal-Aid Project, then this Contract is covered by the equal employment opportunity laws administered and enforced by the United States Department of Labor ("USDOL"), Office of Federal Contract Compliance Programs ('OFCCP"). By signing below, we acknowledge that this company has certain reporting obligations to the OFCCP, as specified by 41 CFR Part 60-4.2.
2. This company further acknowledges that any contractor with fifty (50) or more employees on a Federal-aid Contract with a value of fifty-thousand ($50,000) dollars or more must annually file an EEO-1 Report (SF 100) to the EEOC, Joint Reporting Committee, on or before September 30th, each year, as specified by 41 CFR Part 60-1.7a.
3. For more information regarding the federal reporting requirements, please contact the USDOL, OFCCP Regional Office, at 1-646-264-3170 or EEO-1, Joint Reporting Committee at 1-866-286-6440.
4. This company ☐ has, ☐ has not, participated in a previous contract or subcontract subject to the Equal Opportunity clauses set forth in 41 CFR Part 60-4 and Executive Order 11246, and where required, has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance Programs or the EEO Commission all reports due under the applicable filing requirements.
5. This company is in full compliance with applicable Federal and Commonwealth of Massachusetts laws, rules, and regulations and is not currently debarred or disqualified from bidding on or participating in construction contracts in any jurisdiction of the United States. See : https://www.mass.gov/service-details/contractors-and-vendors-suspended-or-debarred-by-massdot
6. This company is properly registered and in good standing with the Office of the Secretary of the Commonwealth.

Signed this _____ Day of _____, 20_____, Under The Pains And Penalties Of Perjury.

Firm: _____
Address: _____
_____
_____
Telephone Number:_____
Federal I.D. Number:_____
Estimated Start Date:_____
Estimated Completion Date:_____
Estimated Dollar Amount:_____

_____
(Print Name and Title)

_____
(Authorized Signature)

_____
(Date)

Rev'd 09/02/22

*** END OF DOCUMENT ***

DOCUMENT 00860

COMMONWEALTH OF MASSACHUSETTS PUBLIC EMPLOYMENT LAWS

Revised February 20, 2019

The Contractor's attention is directed to Massachusetts General Laws, Chapter 149, Sections 26 through 27H, and 150A. This contract is considered to fall within the ambit of that law, which provides that in general, the Prevailing Rate or Total Rate must be paid to employees working on projects funded by the Commonwealth of Massachusetts or any political subdivision including Massachusetts Department of Transportation (MassDOT).

A Federal Aid project is also subject to the Federal Minimum Wage Rate law for construction. When comparing a state minimum wage rate, monitored by the Massachusetts Attorney General, versus federal minimum wage rate, monitored by the U.S. Department of Labor Wage and Hour Division, for a particular job classification the higher wage is at all times to be paid to the affected employee.

Every contractor or subcontractor engaged in this contract to which sections twenty-seven and twenty-seven A apply will keep a true and accurate record of all mechanics and apprentices, teamsters, chauffeurs and laborers employed thereon, showing the name, address and occupational classification of each such employee on this contract, and the hours worked by, and the wages paid to, each such employee, and shall furnish to the MassDOT's Resident Engineer, on a weekly basis, a copy of said record, in a form approved by MassDOT and in accordance with M.G.L. c. 149, § 27B, signed by the employer or his/her authorized agent under the penalties of perjury.

Each such contractor or subcontractor shall preserve its payroll records for a period of three years from the date of completion of the contract.

The Prevailing Wage Rate generally includes the following:

Minimum Hourly Wage + Employer Contributions to Benefit Plans = Prevailing Wage Rate or Total Rate

Any employer who does not make contributions to Benefit Plans must pay the total Prevailing Wage Rate directly to the employee.

Any deduction from the Prevailing Wage Rate or Total Rate for contributions to benefit plans can only be for a Health & Welfare, Pension, or Supplementary Unemployment plan meeting the requirements of the Employee Retirement Income Security Act (ERISA) of 1974. The maximum allowable deduction for these benefits from the prevailing wage rate cannot be greater than the amount allowed by Executive Office of Labor (EOL) for the specified benefits. Any additional expense of providing benefits to the employees is to be borne by the employer and cannot be deducted from the Minimum Hourly Wage. If the employer's benefit expense is less than that so provided by EOL the difference will be paid directly to the employee. The rate established must be paid to all employees who perform work on the project.

When an employer makes deductions from the Minimum Hourly Wage for an employee's contribution to social security, state taxes, federal taxes, and/or other contribution programs, allowed by law, the employer shall furnish each employee a suitable pay slip, check stub or envelope notifying the employee of the amount of the deductions.

No contractor or subcontractor contracting for any part of the contract week shall require or permit any laborer or mechanic to be employed on such work in excess of forty hours in any workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in excess of forty hours in such workweek, whichever is the greater number of overtime hours.

Apprentice Rates are permitted only when there is an Apprentice Agreement registered with the Massachusetts Division of Apprentice Training in accordance with M.G.L. c. 23, § 11E-11L.

The Prevailing Wage Rates issued for each project shall be the rates paid for the entire project. The Prevailing Wage Rates must be posted on the job site at all times and be visible from a public way.

In addition, each such contractor and subcontractor shall furnish to the MassDOT's Resident Engineer, within fifteen days after completion of its portion of the work, a statement, executed by the contractor or subcontractor or by any authorized officer or employee of the contractor or subcontractor who supervises the payment of wages, in the following form:

STATEMENT OF COMPLIANCE

Date: _____

I , _____do hereby state:
(Name of signatory party) (Title)

That I pay or supervise the payment of the persons employed by:

_____
(Contractor or Subcontractor)

on the _____
(MassDOT Project Location and Contract Number)

and that all mechanics and apprentices, teamsters, chauffeurs and laborers employed on said project have been paid in accordance with wages determined under the provisions of sections twenty-six and twenty-seven of chapter one hundred and forty-nine of the General Laws.

Signature _____

Title _____

The above-mentioned copies of payroll records and statements of compliance shall be available for inspection by any interested party filing a written request to the MassDOT's Resident Engineer for such inspection and copying.

Massachusetts General Laws c. 149, §27, requires annual updates to prevailing wage schedules for all public construction contracts lasting longer than one year. MassDOT will request the required updates and furnish them to the Contractor. The Contractor is required to pay no less than the wage rates indicated on the annual updated wage schedules.

MassDOT will request the updates no later that two week before the anniversary of the Notice to Proceed date of the contract to allow for adequate processing by the Department of Labor Standards (DLS). The effective date for the new rates will be the anniversary date of the contract (i.e. the notice to proceed date), regardless of the date of issuance on the schedule from DLS.

All bidders are cautioned that the aforementioned laws require that employers pay to covered employees no less than the applicable minimum wages. In addition, the same laws require that the applicable prevailing wages become incorporated as part of this contract. The prevailing minimum wage law establishes serious civil and criminal penalties for violations, including imprisonment and exclusion from future public contracts. Bidders are cautioned to carefully read the relevant sections of the Massachusetts General Laws.

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DOCUMENT 00861

STATE PREVAILING WAGE RATES

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

MAURA HEALY
Governor
KIM DRISCOLL
Lt. Governor

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:	MassDOT Highway	**City/Town:**	WORCESTER
Contract Number:	132476		
Description of Work:	WORCESTER – Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad		
Job Location:	Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad		

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.

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
(2 AXLE) DRIVER - EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	6/1/2025	$40.95	$15.57	$20.17	$0.00	$0.00	$76.69
	12/1/2025	$40.95	$15.57	$21.78	$0.00	$0.00	$78.30
	1/1/2026	$40.95	$16.17	$21.78	$0.00	$0.00	$78.90
	6/1/2026	$41.95	$16.17	$21.78	$0.00	$0.00	$79.90
	12/1/2026	$41.95	$16.17	$23.52	$0.00	$0.00	$81.64
	1/1/2027	$41.95	$16.77	$23.52	$0.00	$0.00	$82.24
(3 AXLE) DRIVER - EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	6/1/2025	$41.02	$15.57	$20.17	$0.00	$0.00	$76.76
	12/1/2025	$41.02	$15.57	$21.78	$0.00	$0.00	$78.37
	1/1/2026	$41.02	$16.17	$21.78	$0.00	$0.00	$78.97
	6/1/2026	$42.02	$16.17	$21.78	$0.00	$0.00	$79.97
	12/1/2026	$42.02	$16.17	$23.52	$0.00	$0.00	$81.71
	1/1/2027	$42.02	$16.77	$23.52	$0.00	$0.00	$82.31
(4 & 5 AXLE) DRIVER - EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	6/1/2025	$41.14	$15.57	$20.17	$0.00	$0.00	$76.88
	12/1/2025	$41.14	$15.57	$21.78	$0.00	$0.00	$78.49
	1/1/2026	$41.14	$16.17	$21.78	$0.00	$0.00	$79.09
	6/1/2026	$42.14	$16.17	$21.78	$0.00	$0.00	$80.09
	12/1/2026	$42.14	$16.17	$23.52	$0.00	$0.00	$81.83
	1/1/2027	$42.14	$16.77	$23.52	$0.00	$0.00	$82.43
ADS/SUBMERSIBLE PILOT PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 2) For apprentice rates see "Apprentice- PILE DRIVER"	8/1/2024	$117.16	$10.08	$11.62	$12.67	$0.00	$151.53
AIR TRACK OPERATOR LABORERS LABORERS - ZONE 2	6/1/2025	$41.09	$9.90	$9.25	$9.11	$0.00	$69.35
	12/1/2025	$42.47	$9.90	$9.25	$9.11	$0.00	$70.73
	6/1/2026	$43.91	$9.90	$9.25	$9.11	$0.00	$72.17
	12/1/2026	$45.35	$9.90	$9.25	$9.11	$0.00	$73.61
	6/1/2027	$46.80	$9.90	$9.25	$9.11	$0.00	$75.06
	12/1/2027	$48.25	$9.90	$9.25	$9.11	$0.00	$76.51
	6/1/2028	$49.75	$9.90	$9.25	$9.11	$0.00	$78.01
	12/1/2028	$51.25	$9.90	$9.25	$9.11	$0.00	$79.51
For apprentice rates see "Apprentice- LABORER"							
AIR TRACK OPERATOR (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2025	$41.09	$9.90	$9.25	$9.21	$0.00	$69.45
	12/1/2025	$42.47	$9.90	$9.25	$9.21	$0.00	$70.83
	6/1/2026	$43.91	$9.90	$9.25	$9.21	$0.00	$72.27
	12/1/2026	$45.35	$9.90	$9.25	$9.21	$0.00	$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
ASBESTOS WORKER (PIPES & TANKS) HEAT & FROST INSULATORS LOCAL 6 HEAT & FROST INSULATORS LOCAL 6 (WORCESTER)	6/1/2025	$43.80	$14.50	$4.30	$6.75	$0.00	$69.35
	12/1/2025	$44.80	$14.50	$4.30	$6.75	$0.00	$70.35
ASPHALT RAKER LABORERS LABORERS - ZONE 2	6/1/2025	$40.59	$9.90	$9.25	$9.11	$0.00	$68.85
	12/1/2025	$41.97	$9.90	$9.25	$9.11	$0.00	$70.23
	6/1/2026	$43.41	$9.90	$9.25	$9.11	$0.00	$71.67
	12/1/2026	$44.85	$9.90	$9.25	$9.11	$0.00	$73.11

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	6/1/2027	$46.30	$9.90	$9.25	$9.11	$0.00	$74.56
	12/1/2027	$47.75	$9.90	$9.25	$9.11	$0.00	$76.01
	6/1/2028	$49.25	$9.90	$9.25	$9.11	$0.00	$77.51
	12/1/2028	$50.75	$9.90	$9.25	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
ASPHALT RAKER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2025	$40.59	$9.90	$9.25	$9.21	$0.00	$68.95
	12/1/2025	$41.97	$9.90	$9.25	$9.21	$0.00	$70.33
	6/1/2026	$43.41	$9.90	$9.25	$9.21	$0.00	$71.77
	12/1/2026	$44.85	$9.90	$9.25	$9.21	$0.00	$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	6/1/2025	$58.33	$15.55	$13.25	$3.25	$0.00	$90.38
	12/1/2025	$59.78	$15.55	$13.25	$3.25	$0.00	$91.83
	6/1/2026	$61.08	$15.55	$13.25	$3.25	$0.00	$93.13
	12/1/2026	$62.53	$15.55	$13.25	$3.25	$0.00	$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BACKHOE/FRONT-END LOADER OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	6/1/2025	$58.33	$15.55	$13.25	$3.25	$0.00	$90.38
	12/1/2025	$59.78	$15.55	$13.25	$3.25	$0.00	$91.83
	6/1/2026	$61.08	$15.55	$13.25	$3.25	$0.00	$93.13
	12/1/2026	$62.53	$15.55	$13.25	$3.25	$0.00	$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BARCO-TYPE JUMPING TAMPER LABORERS LABORERS - ZONE 2	6/1/2025	$40.59	$9.90	$9.25	$9.11	$0.00	$68.85
	12/1/2025	$41.97	$9.90	$9.25	$9.11	$0.00	$70.23
	6/1/2026	$43.41	$9.90	$9.25	$9.11	$0.00	$71.67
	12/1/2026	$44.85	$9.90	$9.25	$9.11	$0.00	$73.11
	6/1/2027	$46.30	$9.90	$9.25	$9.11	$0.00	$74.56
	12/1/2027	$47.75	$9.90	$9.25	$9.11	$0.00	$76.01
	6/1/2028	$49.25	$9.90	$9.25	$9.11	$0.00	$77.51
	12/1/2028	$50.75	$9.90	$9.25	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER LABORERS LABORERS - ZONE 2	6/1/2025	$41.09	$9.90	$9.25	$9.11	$0.00	$69.35
	12/1/2025	$42.47	$9.90	$9.25	$9.11	$0.00	$70.73
	6/1/2026	$43.91	$9.90	$9.25	$9.11	$0.00	$72.17
	12/1/2026	$45.35	$9.90	$9.25	$9.11	$0.00	$73.61
	6/1/2027	$46.80	$9.90	$9.25	$9.11	$0.00	$75.06
	12/1/2027	$48.25	$9.90	$9.25	$9.11	$0.00	$76.51
	6/1/2028	$49.75	$9.90	$9.25	$9.11	$0.00	$78.01
	12/1/2028	$51.25	$9.90	$9.25	$9.11	$0.00	$79.51
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2025	$41.09	$9.90	$9.25	$9.21	$0.00	$69.45
	12/1/2025	$42.47	$9.90	$9.25	$9.21	$0.00	$70.83
	6/1/2026	$43.91	$9.90	$9.25	$9.21	$0.00	$72.27
	12/1/2026	$45.35	$9.90	$9.25	$9.21	$0.00	$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
BOILER MAKER BOILERMAKERS LOCAL 29 BOILERMAKERS LOCAL 29	1/1/2024	$48.12	$7.07	$14.60	$6.00	$0.00	$75.79

Apprentice: BOILER MAKER

Effective Date: 1/1/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	65.00	$31.28	$7.07	$9.32	$3.90	$0.00	$51.57
2	65.00	$31.28	$7.07	$9.32	$3.90	$0.00	$51.57
3	70.00	$33.68	$7.07	$10.03	$4.20	$0.00	$54.98
4	75.00	$36.09	$7.07	$10.74	$4.50	$0.00	$58.40
5	80.00	$38.50	$7.07	$11.45	$4.80	$0.00	$61.82
6	85.00	$40.90	$7.07	$12.18	$5.10	$0.00	$65.25
7	90.00	$43.31	$7.07	$12.88	$5.40	$0.00	$68.66
8	95.00	$45.71	$7.07	$13.62	$5.70	$0.00	$72.10

Apprentice to Journeyworker Ratio: 1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) BRICKLAYERS LOCAL 3 BRICKLAYERS LOCAL 3 (WORCESTER)	8/1/2025	$65.81	$11.49	$15.57	$7.33	$0.00	$100.20
	2/1/2026	$67.16	$11.49	$15.57	$7.33	$0.00	$101.55
	8/1/2026	$69.36	$11.49	$15.57	$7.33	$0.00	$103.75
	2/1/2027	$70.76	$11.49	$15.57	$7.33	$0.00	$105.15

Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)

Effective Date: 8/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$32.91	$11.49	$15.57	$7.33	$0.00	$67.30
2	60.00	$39.49	$11.49	$15.57	$7.33	$0.00	$73.88
3	70.00	$46.07	$11.49	$15.57	$7.33	$0.00	$80.46
4	80.00	$52.65	$11.49	$15.57	$7.33	$0.00	$87.04
5	90.00	$59.23	$11.49	$15.57	$7.33	$0.00	$93.62

Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)

Effective Date: 2/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$33.58	$11.49	$15.57	$7.33	$0.00	$67.97
2	60.00	$40.30	$11.49	$15.57	$7.33	$0.00	$74.69
3	70.00	$47.01	$11.49	$15.57	$7.33	$0.00	$81.40
4	80.00	$53.73	$11.49	$15.57	$7.33	$0.00	$88.12
5	90.00	$60.44	$11.49	$15.57	$7.33	$0.00	$94.83

Apprentice to Journeyworker Ratio: 1:5

BULLDOZER/GRADER/SCRAPER OPERATING ENGINEERS LOCAL 4	6/1/2025	$57.68	$15.55	$13.25	$3.25	$0.00	$89.73
	12/1/2025	$59.12	$15.55	$13.25	$3.25	$0.00	$91.17

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
OPERATING ENGINEERS LOCAL 4	6/1/2026	$60.40	$15.55	$13.25	$3.25	$0.00	$92.45
	12/1/2026	$61.84	$15.55	$13.25	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
CAISSON & UNDERPINNING BOTTOM MAN LABORERS LABORERS - FOUNDATION AND MARINE	6/1/2025	$48.85	$9.90	$9.25	$9.80	$0.00	$77.80
	12/1/2025	$50.35	$9.90	$9.25	$9.80	$0.00	$79.30
	6/1/2026	$51.90	$9.90	$9.25	$9.80	$0.00	$80.85
	12/1/2026	$53.40	$9.90	$9.25	$9.80	$0.00	$82.35
For apprentice rates see "Apprentice- LABORER"							
CAISSON & UNDERPINNING LABORER LABORERS LABORERS - FOUNDATION AND MARINE	6/1/2025	$47.70	$9.90	$9.25	$9.80	$0.00	$76.65
	12/1/2025	$49.20	$9.90	$9.25	$9.80	$0.00	$78.15
	6/1/2026	$50.75	$9.90	$9.25	$9.80	$0.00	$79.70
	12/1/2026	$52.25	$9.90	$9.25	$9.80	$0.00	$81.20
For apprentice rates see "Apprentice- LABORER"							
CAISSON & UNDERPINNING TOP MAN LABORERS LABORERS - FOUNDATION AND MARINE	6/1/2025	$48.03	$9.90	$9.25	$9.80	$0.00	$76.98
	12/1/2025	$49.53	$9.90	$9.25	$9.80	$0.00	$78.48
	6/1/2026	$51.08	$9.90	$9.25	$9.80	$0.00	$80.03
	12/1/2026	$52.58	$9.90	$9.25	$9.80	$0.00	$81.53
For apprentice rates see "Apprentice- LABORER"							
CARBIDE CORE DRILL OPERATOR LABORERS LABORERS - ZONE 2	6/1/2025	$40.59	$9.90	$9.25	$9.11	$0.00	$68.85
	12/1/2025	$41.97	$9.90	$9.25	$9.11	$0.00	$70.23
	6/1/2026	$43.41	$9.90	$9.25	$9.11	$0.00	$71.67
	12/1/2026	$44.85	$9.90	$9.25	$9.11	$0.00	$73.11
	6/1/2027	$46.30	$9.90	$9.25	$9.11	$0.00	$74.56
	12/1/2027	$47.75	$9.90	$9.25	$9.11	$0.00	$76.01
	6/1/2028	$49.25	$9.90	$9.25	$9.11	$0.00	$77.51
	12/1/2028	$50.75	$9.90	$9.25	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
CARPENTER CARPENTERS CARPENTERS -ZONE 2 (Eastern Massachusetts)	9/1/2025	$50.35	$10.33	$11.47	$8.50	$0.00	$80.65
	3/1/2026	$51.60	$10.33	$11.47	$8.50	$0.00	$81.90
	9/1/2026	$52.85	$10.33	$11.47	$8.50	$0.00	$83.15
	3/1/2027	$54.10	$10.33	$11.47	$8.50	$0.00	$84.40

Apprentice: CARPENTER

Effective Date: 9/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$22.66	$10.33	$0.00	$1.73	$0.00	$34.72
2	45.00	$22.66	$10.33	$0.00	$1.73	$0.00	$34.72
3	55.00	$27.69	$10.33	$0.00	$3.40	$0.00	$41.42
4	55.00	$27.69	$10.33	$0.00	$3.40	$0.00	$41.42
5	70.00	$35.25	$10.33	$11.41	$5.10	$0.00	$62.09
6	70.00	$35.25	$10.33	$11.41	$5.10	$0.00	$62.09
7	80.00	$40.28	$10.33	$11.44	$6.80	$0.00	$68.85
8	80.00	$40.28	$10.33	$11.44	$6.80	$0.00	$68.85

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
CARPENTER WOOD FRAME CARPENTERS CARPENTERS-ZONE 3 (Wood Frame)	10/1/2024	$26.65	$7.02	$3.80	$1.00	$0.00	$38.47
	10/1/2025	$27.75	$7.02	$3.80	$1.00	$0.00	$39.57
	10/1/2026	$28.85	$7.02	$3.80	$1.00	$0.00	$40.67

All Aspects of New Wood Frame Work

Apprentice: CARPENTER

Effective Date: 3/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$23.22	$10.33	$0.00	$1.73	$0.00	$35.28
2	45.00	$23.22	$10.33	$0.00	$1.73	$0.00	$35.28
3	55.00	$28.38	$10.33	$0.00	$3.40	$0.00	$42.11
4	55.00	$28.38	$10.33	$0.00	$3.40	$0.00	$42.11
5	70.00	$36.12	$10.33	$11.41	$5.10	$0.00	$62.96
6	70.00	$36.12	$10.33	$11.41	$5.10	$0.00	$62.96
7	80.00	$41.28	$10.33	$11.44	$6.80	$0.00	$69.85
8	80.00	$41.28	$10.33	$11.44	$6.80	$0.00	$69.85

Apprentice to Journeyworker Ratio: 1:5

Apprentice: CARPENTER WOOD FRAME

Effective Date: 10/1/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$15.99	$7.02	$0.00	$0.00	$0.00	$23.01
2	60.00	$15.99	$7.02	$0.00	$0.00	$0.00	$23.01
3	65.00	$17.32	$7.02	$0.00	$1.00	$0.00	$25.34
4	70.00	$18.66	$7.02	$0.00	$1.00	$0.00	$26.68
5	75.00	$19.99	$7.02	$3.80	$1.00	$0.00	$31.81
6	80.00	$21.32	$7.02	$3.80	$1.00	$0.00	$33.14
7	85.00	$22.65	$7.02	$3.80	$1.00	$0.00	$34.47
8	90.00	$23.99	$7.02	$3.80	$1.00	$0.00	$35.81

Apprentice: CARPENTER WOOD FRAME

Effective Date: 10/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$16.65	$7.02	$0.00	$0.00	$0.00	$23.67
2	60.00	$16.65	$7.02	$0.00	$0.00	$0.00	$23.67
3	65.00	$18.04	$7.02	$0.00	$1.00	$0.00	$26.06
4	70.00	$19.43	$7.02	$0.00	$1.00	$0.00	$27.45
5	75.00	$20.81	$7.02	$3.80	$1.00	$0.00	$32.63
6	80.00	$22.20	$7.02	$3.80	$1.00	$0.00	$34.02
7	85.00	$23.59	$7.02	$3.80	$1.00	$0.00	$35.41
8	90.00	$24.98	$7.02	$3.80	$1.00	$0.00	$36.80

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice to Journeyworker Ratio: 1:5							
CEMENT MASONRY/PLASTERING BRICKLAYERS LOCAL 3 BRICKLAYERS LOCAL 3 (WORCESTER)	7/1/2024	$49.19	$13.35	$16.43	$7.78	$1.80	$88.55

Apprentice: CEMENT MASONRY/PLASTERING

Effective Date: 7/1/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$24.60	$13.35	$16.43	$0.00	$0.00	$54.38
2	60.00	$29.51	$13.35	$16.43	$2.78	$1.80	$63.87
3	65.00	$31.97	$13.35	$16.43	$3.78	$1.80	$67.33
4	70.00	$34.43	$13.35	$16.43	$4.78	$1.80	$70.79
5	75.00	$36.89	$13.35	$16.43	$5.78	$1.80	$74.25
6	80.00	$39.35	$13.35	$16.43	$6.78	$1.80	$77.71
7	90.00	$44.27	$13.35	$16.43	$7.78	$1.80	$83.63

Apprentice to Journeyworker Ratio: 1:3							
CHAIN SAW OPERATOR LABORERS LABORERS - ZONE 2	6/1/2025	$40.59	$9.90	$9.25	$9.11	$0.00	$68.85
	12/1/2025	$41.97	$9.90	$9.25	$9.11	$0.00	$70.23
	6/1/2026	$43.41	$9.90	$9.25	$9.11	$0.00	$71.67
	12/1/2026	$44.85	$9.90	$9.25	$9.11	$0.00	$73.11
	6/1/2027	$46.30	$9.90	$9.25	$9.11	$0.00	$74.56
	12/1/2027	$47.75	$9.90	$9.25	$9.11	$0.00	$76.01
	6/1/2028	$49.25	$9.90	$9.25	$9.11	$0.00	$77.51
	12/1/2028	$50.75	$9.90	$9.25	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	6/1/2025	$59.51	$15.55	$13.25	$3.25	$0.00	$91.56
	12/1/2025	$60.98	$15.55	$13.25	$3.25	$0.00	$93.03
	6/1/2026	$62.31	$15.55	$13.25	$3.25	$0.00	$94.36
	12/1/2026	$63.79	$15.55	$13.25	$3.25	$0.00	$95.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
COMPRESSOR OPERATOR OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	6/1/2025	$37.52	$15.55	$13.25	$3.25	$0.00	$69.57
	12/1/2025	$38.47	$15.55	$13.25	$3.25	$0.00	$70.52
	6/1/2026	$39.33	$15.55	$13.25	$3.25	$0.00	$71.38
	12/1/2026	$40.28	$15.55	$13.25	$3.25	$0.00	$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DELEADER (BRIDGE) PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 2	7/1/2025	$58.51	$10.30	$11.95	$12.50	$0.00	$93.26
	1/1/2026	$59.56	$10.35	$12.00	$12.60	$0.00	$94.51

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: DELEADER (BRIDGE)

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$29.26	$10.30	$0.00	$0.00	$0.00	$39.56
2	55.00	$32.18	$10.30	$0.00	$6.88	$0.00	$49.36
3	60.00	$35.11	$10.30	$0.00	$7.50	$0.00	$52.91
4	65.00	$38.03	$10.30	$0.00	$8.13	$0.00	$56.46
5	70.00	$40.96	$10.30	$11.95	$8.75	$0.00	$71.96
6	75.00	$43.88	$10.30	$11.95	$9.38	$0.00	$75.51
7	80.00	$46.81	$10.30	$11.95	$10.00	$0.00	$79.06
8	90.00	$52.66	$10.30	$11.95	$11.25	$0.00	$86.16

Apprentice: DELEADER (BRIDGE)

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$29.78	$10.35	$0.00	$0.00	$0.00	$40.13
2	55.00	$32.76	$10.35	$0.00	$6.93	$0.00	$50.04
3	60.00	$35.74	$10.35	$0.00	$7.56	$0.00	$53.65
4	65.00	$38.71	$10.35	$0.00	$8.19	$0.00	$57.25
5	70.00	$41.69	$10.35	$12.00	$8.82	$0.00	$72.86
6	75.00	$44.67	$10.35	$12.00	$9.45	$0.00	$76.47
7	80.00	$47.65	$10.35	$12.00	$10.08	$0.00	$80.08
8	90.00	$53.60	$10.35	$12.00	$11.34	$0.00	$87.29

Apprentice to Journeyworker Ratio: 1:1

DEMO: ADZEMAN LABORERS LABORERS - ZONE 2	6/2/2025	$47.75	$9.90	$9.25	$9.65	$0.00	$76.55
	12/1/2025	$49.25	$9.90	$9.25	$9.65	$0.00	$78.05
	6/1/2026	$50.80	$9.90	$9.25	$9.65	$0.00	$79.60
	12/7/2026	$52.30	$9.90	$9.25	$9.65	$0.00	$81.10
	6/7/2027	$53.90	$9.90	$9.25	$9.65	$0.00	$82.70
	12/6/2027	$55.50	$9.90	$9.25	$9.65	$0.00	$84.30
	6/5/2028	$57.18	$9.90	$9.25	$9.65	$0.00	$85.98
	12/4/2028	$58.85	$9.90	$9.25	$9.65	$0.00	$87.65

For apprentice rates see "Apprentice- LABORER"

DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS LABORERS - ZONE 2	6/2/2025	$48.75	$9.90	$9.25	$9.65	$0.00	$77.55
	12/1/2025	$50.25	$9.90	$9.25	$9.65	$0.00	$79.05
	6/1/2026	$51.80	$9.90	$9.25	$9.65	$0.00	$80.60
	12/7/2026	$53.30	$9.90	$9.25	$9.65	$0.00	$82.10
	6/7/2027	$54.90	$9.90	$9.25	$9.65	$0.00	$83.70
	12/6/2027	$56.50	$9.90	$9.25	$9.65	$0.00	$85.30
	6/5/2028	$58.18	$9.90	$9.25	$9.65	$0.00	$86.98
	12/4/2028	$59.85	$9.90	$9.25	$9.65	$0.00	$88.65

For apprentice rates see "Apprentice- LABORER"

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
DEMO: BURNERS	6/2/2025	$48.50	$9.90	$9.25	$9.65	$0.00	$77.30
LABORERS	12/1/2025	$50.00	$9.90	$9.25	$9.65	$0.00	$78.80
LABORERS - ZONE 2	6/1/2026	$51.55	$9.90	$9.25	$9.65	$0.00	$80.35
	12/7/2026	$53.05	$9.90	$9.25	$9.65	$0.00	$81.85
	6/7/2027	$54.65	$9.90	$9.25	$9.65	$0.00	$83.45
	12/6/2027	$56.25	$9.90	$9.25	$9.65	$0.00	$85.05
	6/5/2028	$57.93	$9.90	$9.25	$9.65	$0.00	$86.73
	12/4/2028	$59.60	$9.90	$9.25	$9.65	$0.00	$88.40
For apprentice rates see "Apprentice- LABORER"							
DEMO: CONCRETE CUTTER/SAWYER	6/2/2025	$48.75	$9.90	$9.25	$9.65	$0.00	$77.55
LABORERS	12/1/2025	$50.25	$9.90	$9.25	$9.65	$0.00	$79.05
LABORERS - ZONE 2	6/1/2026	$51.80	$9.90	$9.25	$9.65	$0.00	$80.60
	12/7/2026	$53.30	$9.90	$9.25	$9.65	$0.00	$82.10
	6/7/2027	$54.90	$9.90	$9.25	$9.65	$0.00	$83.70
	12/6/2027	$56.50	$9.90	$9.25	$9.65	$0.00	$85.30
	6/5/2028	$58.18	$9.90	$9.25	$9.65	$0.00	$86.98
	12/4/2028	$59.85	$9.90	$9.25	$9.65	$0.00	$88.65
For apprentice rates see "Apprentice- LABORER"							
DEMO: JACKHAMMER OPERATOR	6/2/2025	$48.50	$9.90	$9.25	$9.65	$0.00	$77.30
LABORERS	12/1/2025	$50.00	$9.90	$9.25	$9.65	$0.00	$78.80
LABORERS - ZONE 2	6/1/2026	$51.55	$9.90	$9.25	$9.65	$0.00	$80.35
	12/7/2026	$53.05	$9.90	$9.25	$9.65	$0.00	$81.85
	6/7/2027	$54.65	$9.90	$9.25	$9.65	$0.00	$83.45
	12/6/2027	$56.25	$9.90	$9.25	$9.65	$0.00	$85.05
	6/5/2028	$57.93	$9.90	$9.25	$9.65	$0.00	$86.73
	12/4/2028	$59.60	$9.90	$9.25	$9.65	$0.00	$88.40
For apprentice rates see "Apprentice- LABORER"							
DEMO: WRECKING LABORER	6/2/2025	$47.75	$9.90	$9.25	$9.65	$0.00	$76.55
LABORERS	12/1/2025	$49.25	$9.90	$9.25	$9.65	$0.00	$78.05
LABORERS - ZONE 2	6/1/2026	$50.80	$9.90	$9.25	$9.65	$0.00	$79.60
	12/7/2026	$52.30	$9.90	$9.25	$9.65	$0.00	$81.10
	6/7/2027	$53.90	$9.90	$9.25	$9.65	$0.00	$82.70
	12/6/2027	$55.50	$9.90	$9.25	$9.65	$0.00	$84.30
	6/5/2028	$57.18	$9.90	$9.25	$9.65	$0.00	$85.98
	12/4/2028	$58.85	$9.90	$9.25	$9.65	$0.00	$87.65
For apprentice rates see "Apprentice- LABORER"							
DIRECTIONAL DRILL MACHINE OPERATOR	6/1/2025	$57.68	$15.55	$13.25	$3.25	$0.00	$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	$59.12	$15.55	$13.25	$3.25	$0.00	$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	$60.40	$15.55	$13.25	$3.25	$0.00	$92.45
	12/1/2026	$61.84	$15.55	$13.25	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DIVER	8/1/2024	$78.11	$10.08	$11.62	$12.67	$0.00	$112.48
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 2)							
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Diver wage 70/80/90 2A $69.83, 3A $91.79,4A $102.14 Total Rate							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
DIVER TENDER PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 2)	8/1/2024	$51.97	$10.08	$11.62	$12.67	$0.00	$86.34
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Piledriver wage 70/80/90 2A $54.20, 3A $73.93,4A $82.05 Total Rate							
DIVER TENDER (EFFLUENT) PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 2)	8/1/2024	$83.69	$10.08	$11.62	$12.67	$0.00	$118.06
For apprentice rates see "Apprentice- PILE DRIVER"							
DIVER/SLURRY (EFFLUENT) PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 2)	8/1/2024	$117.16	$10.08	$11.62	$12.67	$0.00	$151.53
For apprentice rates see "Apprentice- PILE DRIVER"							
DRAWBRIDGE OPERATOR (Construction) DRAWBRIDGE - SEIU LOCAL 888 DRAWBRIDGE - SEIU LOCAL 888	7/1/2020	$26.77	$6.67	$3.93	$0.00	$0.16	$37.53
ELECTRICIAN ELECTRICIANS LOCAL 96 ELECTRICIANS LOCAL 96	9/7/2025	$48.16	$14.98	$14.30	$5.30	$0.00	$82.74
	9/6/2026	$49.38	$15.96	$14.57	$5.43	$0.00	$85.34

Apprentice: ELECTRICIAN

Effective Date: 9/7/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$19.26	$14.98	$0.58	$0.00	$0.00	$34.82
2	45.00	$21.67	$14.98	$0.65	$0.00	$0.00	$37.30
3	48.00	$23.12	$14.98	$13.55	$2.54	$0.00	$54.19
4	55.00	$26.49	$14.98	$13.65	$2.92	$0.00	$58.04
5	65.00	$31.30	$14.98	$13.80	$3.45	$0.00	$63.53
6	80.00	$38.53	$14.98	$14.02	$4.24	$0.00	$71.77

Apprentice: ELECTRICIAN

Effective Date: 9/6/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$19.75	$15.96	$0.59	$0.00	$0.00	$36.30
2	45.00	$22.22	$15.96	$0.67	$0.00	$0.00	$38.85
3	48.00	$23.70	$15.96	$13.80	$2.61	$0.00	$56.07
4	55.00	$27.16	$15.96	$13.90	$2.99	$0.00	$60.01
5	65.00	$32.10	$15.96	$14.05	$3.53	$0.00	$65.64
6	80.00	$39.50	$15.96	$14.28	$4.35	$0.00	$74.09

Apprentice to Journeyworker Ratio: 2:3

ELEVATOR CONSTRUCTOR ELEVATOR CONSTRUCTORS LOCAL 41 ELEVATOR CONSTRUCTORS LOCAL 41	1/1/2025	$62.83	$16.28	$10.96	$10.40	$0.00	$100.47
	1/1/2026	$63.68	$16.38	$11.06	$10.70	$0.00	$101.82
	1/1/2027	$64.53	$16.48	$11.16	$11.00	$0.00	$103.17

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: ELEVATOR CONSTRUCTOR

Effective Date: 1/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$31.42	$16.28	$0.00	$0.00	$0.00	$47.70
2	55.00	$34.56	$16.28	$10.96	$10.40	$0.00	$72.20
3	65.00	$40.84	$16.28	$10.96	$10.40	$0.00	$78.48
4	70.00	$43.98	$16.28	$10.96	$10.40	$0.00	$81.62
5	80.00	$50.26	$16.28	$10.96	$10.40	$0.00	$87.90

Apprentice: ELEVATOR CONSTRUCTOR

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$31.84	$16.38	$0.00	$0.00	$0.00	$48.22
2	55.00	$35.02	$16.38	$11.06	$10.70	$0.00	$73.16
3	65.00	$41.39	$16.38	$11.06	$10.70	$0.00	$79.53
4	70.00	$44.58	$16.38	$11.06	$10.70	$0.00	$82.72
5	80.00	$50.94	$16.38	$11.06	$10.70	$0.00	$89.08

Apprentice to Journeyworker Ratio: 1:1

ELEVATOR CONSTRUCTOR HELPER	1/1/2025	$43.98	$16.28	$10.96	$10.40	$0.00	$81.62
ELEVATOR CONSTRUCTORS LOCAL 41	1/1/2026	$44.58	$16.38	$11.06	$10.70	$0.00	$82.72
ELEVATOR CONSTRUCTORS LOCAL 41	1/1/2027	$45.17	$16.48	$11.16	$11.00	$0.00	$83.81
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"							
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY)	6/1/2025	$40.59	$9.90	$9.25	$9.21	$0.00	$68.95
LABORERS	12/1/2025	$41.97	$9.90	$9.25	$9.21	$0.00	$70.33
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	$43.41	$9.90	$9.25	$9.21	$0.00	$71.77
	12/1/2026	$44.85	$9.90	$9.25	$9.21	$0.00	$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY	5/1/2025	$53.22	$15.30	$13.15	$3.25	$0.00	$84.92
OPERATING ENGINEERS LOCAL 4	11/1/2025	$54.51	$15.30	$13.15	$3.25	$0.00	$86.21
OPERATING ENGINEERS LOCAL 4	5/1/2026	$55.95	$15.30	$13.15	$3.25	$0.00	$87.65
	11/1/2026	$57.24	$15.30	$13.15	$3.25	$0.00	$88.94
	5/1/2027	$58.67	$15.30	$13.15	$3.25	$0.00	$90.37
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY	5/1/2025	$54.82	$15.30	$13.15	$3.25	$0.00	$86.52
OPERATING ENGINEERS LOCAL 4	11/1/2025	$56.12	$15.30	$13.15	$3.25	$0.00	$87.82
OPERATING ENGINEERS LOCAL 4	5/1/2026	$57.57	$15.30	$13.15	$3.25	$0.00	$89.27
	11/1/2026	$58.87	$15.30	$13.15	$3.25	$0.00	$90.57
	5/1/2027	$60.32	$15.30	$13.15	$3.25	$0.00	$92.02
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY	5/1/2025	$26.22	$15.30	$13.15	$3.25	$0.00	$57.92
OPERATING ENGINEERS LOCAL 4	11/1/2025	$26.98	$15.30	$13.15	$3.25	$0.00	$58.68
OPERATING ENGINEERS LOCAL 4	5/1/2026	$27.83	$15.30	$13.15	$3.25	$0.00	$59.53
	11/1/2026	$28.59	$15.30	$13.15	$3.25	$0.00	$60.29
	5/1/2027	$29.44	$15.30	$13.15	$3.25	$0.00	$61.14
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIRE ALARM INSTALLER	9/7/2025	$48.16	$14.98	$14.30	$5.30	$0.00	$82.74
ELECTRICIANS LOCAL 96	9/6/2026	$49.38	$15.96	$14.57	$5.43	$0.00	$85.34
ELECTRICIANS LOCAL 96							
For apprentice rates see "Apprentice- ELECTRICIAN"							
FIRE ALARM REPAIR / MAINT/COMMISSIONING	9/7/2025	$48.16	$14.98	$14.30	$5.30	$0.00	$82.74
ELECTRICIANS LOCAL 96	9/6/2026	$49.38	$15.96	$14.57	$5.43	$0.00	$85.34
ELECTRICIANS LOCAL 96							
For apprentice rates see "Apprentice- ELECTRICIAN"							
FIREMAN (ASST. ENGINEER)	6/1/2025	$47.02	$15.55	$13.25	$3.25	$0.00	$79.07
OPERATING ENGINEERS LOCAL 4	12/1/2025	$48.19	$15.55	$13.25	$3.25	$0.00	$80.24
OPERATING ENGINEERS LOCAL 4	6/1/2026	$49.25	$15.55	$13.25	$3.25	$0.00	$81.30
	12/1/2026	$50.43	$15.55	$13.25	$3.25	$0.00	$82.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FLAGGER & SIGNALER (HEAVY & HIGHWAY)	6/1/2025	$28.09	$9.90	$9.25	$9.21	$0.00	$56.45
LABORERS	12/1/2025	$28.09	$9.90	$9.25	$9.21	$0.00	$56.45
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	$29.21	$9.90	$9.25	$9.21	$0.00	$57.57
	12/1/2026	$29.21	$9.90	$9.25	$9.21	$0.00	$57.57
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
FLOORCOVERER	3/1/2024	$48.93	$10.33	$11.47	$8.80	$0.00	$79.53
FLOORCOVERERS LOCAL 2168							
FLOORCOVERERS LOCAL 2168 ZONE II							

Apprentice: FLOORCOVERER

Effective Date: 3/1/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$24.47	$10.33	$0.00	$1.76	$0.00	$36.56
2	55.00	$26.91	$10.33	$0.00	$1.76	$0.00	$39.00
3	60.00	$29.36	$10.33	$0.00	$3.52	$0.00	$43.21
4	65.00	$31.80	$10.33	$0.00	$3.52	$0.00	$45.65
5	70.00	$34.25	$10.33	$11.47	$5.28	$0.00	$61.33
6	75.00	$36.70	$10.33	$11.47	$5.28	$0.00	$63.78
7	80.00	$39.14	$10.33	$11.47	$7.04	$0.00	$67.98
8	85.00	$41.59	$10.33	$11.47	$7.04	$0.00	$70.43

Apprentice Notes

Steps are 750 hrs.

Apprentice to Journeyworker Ratio: 1:1

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
FORK LIFT/CHERRY PICKER	6/1/2025	$58.33	$15.55	$13.25	$3.25	$0.00	$90.38
OPERATING ENGINEERS LOCAL 4	12/1/2025	$59.78	$15.55	$13.25	$3.25	$0.00	$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	$61.08	$15.55	$13.25	$3.25	$0.00	$93.13
	12/1/2026	$62.53	$15.55	$13.25	$3.25	$0.00	$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
GENERATOR/LIGHTING PLANT/HEATERS	6/1/2025	$37.52	$15.55	$13.25	$3.25	$0.00	$69.57
OPERATING ENGINEERS LOCAL 4	12/1/2025	$38.47	$15.55	$13.25	$3.25	$0.00	$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	$39.33	$15.55	$13.25	$3.25	$0.00	$71.38
	12/1/2026	$40.28	$15.55	$13.25	$3.25	$0.00	$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)	7/1/2025	$48.01	$10.30	$11.95	$12.50	$0.00	$82.76
GLAZIERS LOCAL 35	1/1/2026	$49.06	$10.35	$12.00	$12.60	$0.00	$84.01
GLAZIERS LOCAL 35 (ZONE 2)							

Apprentice: GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$24.01	$10.30	$0.00	$0.00	$0.00	$34.31
2	55.00	$26.41	$10.30	$0.00	$6.88	$0.00	$43.59
3	60.00	$28.81	$10.30	$0.00	$7.50	$0.00	$46.61
4	65.00	$31.21	$10.30	$0.00	$8.13	$0.00	$49.64
5	70.00	$33.61	$10.30	$11.95	$8.75	$0.00	$64.61
6	75.00	$36.01	$10.30	$11.95	$9.38	$0.00	$67.64
7	80.00	$38.41	$10.30	$11.95	$10.00	$0.00	$70.66
8	90.00	$43.21	$10.30	$11.95	$11.25	$0.00	$76.71

Apprentice: GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$24.53	$10.30	$0.00	$0.00	$0.00	$34.83
2	55.00	$26.98	$10.30	$0.00	$6.88	$0.00	$44.16
3	60.00	$29.44	$10.30	$0.00	$7.50	$0.00	$47.24
4	65.00	$31.89	$10.30	$0.00	$8.13	$0.00	$50.32
5	70.00	$34.34	$10.30	$11.95	$8.75	$0.00	$65.34
6	75.00	$36.80	$10.30	$11.95	$9.38	$0.00	$68.43
7	80.00	$39.25	$10.30	$11.95	$10.00	$0.00	$71.50
8	90.00	$44.15	$10.30	$11.95	$11.25	$0.00	$77.65

Apprentice to Journeyworker Ratio: 1:1

HOISTING ENGINEER/CRANES/GRADALLS	6/1/2025	$58.33	$15.55	$13.25	$3.25	$0.00	$90.38
OPERATING ENGINEERS LOCAL 4	12/1/2025	$59.78	$15.55	$13.25	$3.25	$0.00	$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	$61.08	$15.55	$13.25	$3.25	$0.00	$93.13
	12/1/2026	$62.53	$15.55	$13.25	$3.25	$0.00	$94.58

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: HOISTING ENGINEER/CRANES/GRADALLS

Effective Date: 6/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	$32.08	$0.00	$0.00	$0.00	$0.00	$32.08
2	60.00	$35.00	$15.55	$13.25	$3.25	$0.00	$67.05
3	65.00	$37.91	$15.55	$13.25	$3.25	$0.00	$69.96
4	70.00	$40.83	$15.55	$13.25	$3.25	$0.00	$72.88
5	75.00	$43.75	$15.55	$13.25	$3.25	$0.00	$75.80
6	80.00	$46.66	$15.55	$13.25	$3.25	$0.00	$78.71
7	85.00	$49.58	$15.55	$13.25	$3.25	$0.00	$81.63
8	90.00	$52.50	$15.55	$13.25	$3.25	$0.00	$84.55

Apprentice: HOISTING ENGINEER/CRANES/GRADALLS

Effective Date: 12/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	$32.88	$0.00	$0.00	$0.00	$0.00	$32.88
2	60.00	$35.87	$15.55	$13.25	$3.25	$0.00	$67.92
3	65.00	$38.86	$15.55	$13.25	$3.25	$0.00	$70.91
4	70.00	$41.85	$15.55	$13.25	$3.25	$0.00	$73.90
5	75.00	$44.84	$15.55	$13.25	$3.25	$0.00	$76.89
6	80.00	$47.82	$15.55	$13.25	$3.25	$0.00	$79.87
7	85.00	$50.81	$15.55	$13.25	$3.25	$0.00	$82.86
8	90.00	$53.80	$15.55	$13.25	$3.25	$0.00	$85.85

Apprentice to Journeyworker Ratio: 1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 63 SHEETMETAL WORKERS LOCAL 63	7/1/2025	$43.48	$12.94	$11.01	$8.72	$2.13	$78.28
	7/1/2026	$43.48	$13.24	$11.01	$9.92	$2.13	$79.78
	1/1/2027	$43.48	$13.54	$11.01	$11.12	$2.13	$81.28
	7/1/2027	$44.98	$13.54	$11.01	$11.12	$2.13	$82.78
	1/1/2028	$46.48	$13.54	$11.01	$11.12	$2.13	$84.28
For apprentice rates see "Apprentice- SHEET METAL WORKER"							
HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 96 ELECTRICIANS LOCAL 96	9/7/2025	$48.16	$14.98	$14.30	$5.30	$0.00	$82.74
	9/6/2026	$49.38	$15.96	$14.57	$5.43	$0.00	$85.34
For apprentice rates see "Apprentice- ELECTRICIAN"							
HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 63 SHEETMETAL WORKERS LOCAL 63	7/1/2025	$43.48	$12.94	$11.01	$8.72	$2.13	$78.28
	7/1/2026	$43.48	$13.24	$11.01	$9.92	$2.13	$79.78
	1/1/2027	$43.48	$13.54	$11.01	$11.12	$2.13	$81.28
	7/1/2027	$44.98	$13.54	$11.01	$11.12	$2.13	$82.78
	1/1/2028	$46.48	$13.54	$11.01	$11.12	$2.13	$84.28
For apprentice rates see "Apprentice- SHEET METAL WORKER"							
HVAC (TESTING AND BALANCING -WATER)	9/1/2025	$55.00	$12.70	$9.71	$8.06	$0.00	$85.47

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
PLUMBERS LOCAL 4 PLUMBERS LOCAL 4	3/1/2026	$57.80	$11.30	$9.71	$8.06	$0.00	$86.87
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HVAC MECHANIC	9/1/2025	$55.00	$12.70	$9.71	$8.06	$0.00	$85.47
PLUMBERS LOCAL 4 PLUMBERS LOCAL 4	3/1/2026	$57.80	$11.30	$9.71	$8.06	$0.00	$86.87
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HYDRAULIC DRILLS	6/1/2025	$41.09	$9.90	$9.25	$9.11	$0.00	$69.35
LABORERS LABORERS - ZONE 2	12/1/2025	$42.47	$9.90	$9.25	$9.11	$0.00	$70.73
	6/1/2026	$43.91	$9.90	$9.25	$9.11	$0.00	$72.17
	12/1/2026	$45.35	$9.90	$9.25	$9.11	$0.00	$73.61
	6/1/2027	$46.80	$9.90	$9.25	$9.11	$0.00	$75.06
	12/1/2027	$48.25	$9.90	$9.25	$9.11	$0.00	$76.51
	6/1/2028	$49.75	$9.90	$9.25	$9.11	$0.00	$78.01
	12/1/2028	$51.25	$9.90	$9.25	$9.11	$0.00	$79.51
For apprentice rates see "Apprentice- LABORER"							
HYDRAULIC DRILLS (HEAVY & HIGHWAY)	6/1/2025	$41.09	$9.90	$9.25	$9.21	$0.00	$69.45
LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2025	$42.47	$9.90	$9.25	$9.21	$0.00	$70.83
	6/1/2026	$43.91	$9.90	$9.25	$9.21	$0.00	$72.27
	12/1/2026	$45.35	$9.90	$9.25	$9.21	$0.00	$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
INSULATOR (PIPES & TANKS)	9/1/2025	$54.31	$14.75	$9.52	$10.09	$0.00	$88.67
HEAT & FROST INSULATORS LOCAL 6 HEAT & FROST INSULATORS LOCAL 6 (WORCESTER)	9/1/2026	$57.38	$14.75	$9.52	$10.09	$0.00	$91.74

Apprentice: INSULATOR (PIPES & TANKS)

Effective Date: 9/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$27.16	$14.75	$9.27	$5.05	$0.00	$56.23
2	60.00	$32.59	$14.75	$9.32	$6.05	$0.00	$62.71
3	70.00	$38.02	$14.75	$9.37	$7.06	$0.00	$69.20
4	80.00	$43.45	$14.75	$9.42	$8.07	$0.00	$75.69

Apprentice: INSULATOR (PIPES & TANKS)

Effective Date: 9/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$28.69	$14.75	$9.27	$5.05	$0.00	$57.76
2	60.00	$34.43	$14.75	$9.32	$6.05	$0.00	$64.55
3	70.00	$40.17	$14.75	$9.37	$7.06	$0.00	$71.35
4	80.00	$45.90	$14.75	$9.42	$8.07	$0.00	$78.14

Apprentice to Journeyworker Ratio: 1:4

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
IRONWORKER/WELDER IRONWORKERS LOCAL 7 IRONWORKERS LOCAL 7 (WORCESTER AREA)	9/16/2025	$57.57	$9.05	$12.75	$14.50	$0.00	$93.87

Apprentice: IRONWORKER/WELDER

Effective Date: 9/16/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$34.54	$9.05	$12.75	$4.50	$0.00	$60.84
2	75.00	$43.18	$9.05	$12.75	$4.50	$0.00	$69.48
3	85.00	$48.93	$9.05	$12.75	$4.50	$0.00	$75.23

Apprentice to Journeyworker Ratio: 1:4

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS LABORERS - ZONE 2	6/1/2025	$40.59	$9.90	$9.25	$9.11	$0.00	$68.85
	12/1/2025	$41.97	$9.90	$9.25	$9.11	$0.00	$70.23
	6/1/2026	$43.41	$9.90	$9.25	$9.11	$0.00	$71.67
	12/1/2026	$44.85	$9.90	$9.25	$9.11	$0.00	$73.11
	6/1/2027	$46.30	$9.90	$9.25	$9.11	$0.00	$74.56
	12/1/2027	$47.75	$9.90	$9.25	$9.11	$0.00	$76.01
	6/1/2028	$49.25	$9.90	$9.25	$9.11	$0.00	$77.51
	12/1/2028	$50.75	$9.90	$9.25	$9.11	$0.00	$79.01

For apprentice rates see "Apprentice- LABORER"

LABORER LABORERS LABORERS - ZONE 2	6/1/2025	$40.34	$9.90	$9.25	$9.11	$0.00	$68.60
	12/1/2025	$41.72	$9.90	$9.25	$9.11	$0.00	$69.98
	6/1/2026	$43.16	$9.90	$9.25	$9.11	$0.00	$71.42
	12/1/2026	$44.60	$9.90	$9.25	$9.11	$0.00	$72.86
	6/1/2027	$46.05	$9.90	$9.25	$9.11	$0.00	$74.31
	12/1/2027	$47.50	$9.90	$9.25	$9.11	$0.00	$75.76
	6/1/2028	$49.00	$9.90	$9.25	$9.11	$0.00	$77.26
	12/1/2028	$50.50	$9.90	$9.25	$9.11	$0.00	$78.76

Apprentice: LABORER

Effective Date: 6/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$24.20	$9.90	$9.25	$9.11	$0.00	$52.46
2	70.00	$28.24	$9.90	$9.25	$9.11	$0.00	$56.50
3	80.00	$32.27	$9.90	$9.25	$9.11	$0.00	$60.53
4	90.00	$36.31	$9.90	$9.25	$9.11	$0.00	$64.57

Apprentice: LABORER

Effective Date: 12/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$25.03	$9.90	$9.25	$9.11	$0.00	$53.29

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: LABORER

Effective Date: 12/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
2	70.00	$29.20	$9.90	$9.25	$9.11	$0.00	$57.46
3	80.00	$33.38	$9.90	$9.25	$9.11	$0.00	$61.64
4	90.00	$37.55	$9.90	$9.25	$9.11	$0.00	$65.81

Apprentice to Journeyworker Ratio: 1:5

LABORER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2025	$40.34	$9.90	$9.25	$9.21	$0.00	$68.70
	12/1/2025	$41.72	$9.90	$9.25	$9.21	$0.00	$70.08
	6/1/2026	$43.16	$9.90	$9.25	$9.21	$0.00	$71.52
	12/1/2026	$44.60	$9.90	$9.25	$9.21	$0.00	$72.96

Apprentice: LABORER (HEAVY & HIGHWAY)

Effective Date: 6/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$24.20	$9.90	$9.25	$9.21	$0.00	$52.56
2	70.00	$28.24	$9.90	$9.25	$9.21	$0.00	$56.60
3	80.00	$32.27	$9.90	$9.25	$9.21	$0.00	$60.63
4	90.00	$36.31	$9.90	$9.25	$9.21	$0.00	$64.67

Apprentice: LABORER (HEAVY & HIGHWAY)

Effective Date: 12/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$25.03	$9.90	$9.25	$9.21	$0.00	$53.39
2	70.00	$29.20	$9.90	$9.25	$9.21	$0.00	$57.56
3	80.00	$33.38	$9.90	$9.25	$9.21	$0.00	$61.74
4	90.00	$37.55	$9.90	$9.25	$9.21	$0.00	$65.91

Apprentice to Journeyworker Ratio: 1:5

LABORER: CARPENTER TENDER LABORERS LABORERS - ZONE 2	6/1/2025	$40.34	$9.90	$9.25	$9.11	$0.00	$68.60
	12/1/2025	$41.72	$9.90	$9.25	$9.11	$0.00	$69.98
	6/1/2026	$43.16	$9.90	$9.25	$9.11	$0.00	$71.42
	12/1/2026	$44.60	$9.90	$9.25	$9.11	$0.00	$72.86
	6/1/2027	$46.05	$9.90	$9.25	$9.11	$0.00	$74.31
	12/1/2027	$47.50	$9.90	$9.25	$9.11	$0.00	$75.76
	6/1/2028	$49.00	$9.90	$9.25	$9.11	$0.00	$77.26
	12/1/2028	$50.50	$9.90	$9.25	$9.11	$0.00	$78.76

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER LABORERS	6/1/2025	$40.34	$9.90	$9.25	$9.11	$0.00	$68.60
	12/1/2025	$41.72	$9.90	$9.25	$9.11	$0.00	$69.98

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS - ZONE 2	6/1/2026	$43.16	$9.90	$9.25	$9.11	$0.00	$71.42
	12/1/2026	$44.60	$9.90	$9.25	$9.11	$0.00	$72.86
	6/1/2027	$46.05	$9.90	$9.25	$9.11	$0.00	$74.31
	12/1/2027	$47.50	$9.90	$9.25	$9.11	$0.00	$75.76
	6/1/2028	$49.00	$9.90	$9.25	$9.11	$0.00	$77.26
	12/1/2028	$50.50	$9.90	$9.25	$9.11	$0.00	$78.76
For apprentice rates see "Apprentice- LABORER"							
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER	6/2/2025	$40.43	$9.90	$9.25	$9.17	$0.00	$68.75
LABORERS LABORERS - ZONE 2	12/1/2025	$41.81	$9.90	$9.25	$9.17	$0.00	$70.13
	6/1/2026	$43.25	$9.90	$9.25	$9.17	$0.00	$71.57
	12/7/2026	$44.69	$9.90	$9.25	$9.17	$0.00	$73.01
	6/7/2027	$46.14	$9.90	$9.25	$9.17	$0.00	$74.46
	12/6/2027	$47.59	$9.90	$9.25	$9.17	$0.00	$75.91
	6/5/2028	$49.09	$9.90	$9.25	$9.17	$0.00	$77.41
	12/4/2028	$50.59	$9.90	$9.25	$9.17	$0.00	$78.91
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER	6/1/2025	$40.59	$9.90	$9.25	$9.11	$0.00	$68.85
LABORERS LABORERS - ZONE 2	12/1/2025	$41.97	$9.90	$9.25	$9.11	$0.00	$70.23
	6/1/2026	$43.41	$9.90	$9.25	$9.11	$0.00	$71.67
	12/1/2026	$44.85	$9.90	$9.25	$9.11	$0.00	$73.11
	6/1/2027	$46.30	$9.90	$9.25	$9.11	$0.00	$74.56
	12/1/2027	$47.75	$9.90	$9.25	$9.11	$0.00	$76.01
	6/1/2028	$49.25	$9.90	$9.25	$9.11	$0.00	$77.51
	12/1/2028	$50.75	$9.90	$9.25	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER (HEAVY & HIGHWAY)	6/1/2025	$40.59	$9.90	$9.25	$9.21	$0.00	$68.95
LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2025	$41.97	$9.90	$9.25	$9.21	$0.00	$70.33
	6/1/2026	$43.41	$9.90	$9.25	$9.21	$0.00	$71.77
	12/1/2026	$44.85	$9.90	$9.25	$9.21	$0.00	$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
LABORER: MULTI-TRADE TENDER	6/1/2025	$40.34	$9.90	$9.25	$9.11	$0.00	$68.60
LABORERS LABORERS - ZONE 2	12/1/2025	$41.72	$9.90	$9.25	$9.11	$0.00	$69.98
	6/1/2026	$43.16	$9.90	$9.25	$9.11	$0.00	$71.42
	12/1/2026	$44.60	$9.90	$9.25	$9.11	$0.00	$72.86
	6/1/2027	$46.05	$9.90	$9.25	$9.11	$0.00	$74.31
	12/1/2027	$47.50	$9.90	$9.25	$9.11	$0.00	$75.76
	6/1/2028	$49.00	$9.90	$9.25	$9.11	$0.00	$77.26
	12/1/2028	$50.50	$9.90	$9.25	$9.11	$0.00	$78.76
For apprentice rates see "Apprentice- LABORER"							
LABORER: TREE REMOVER	6/1/2025	$40.34	$9.90	$9.25	$9.11	$0.00	$68.60
LABORERS LABORERS - ZONE 2	12/1/2025	$41.72	$9.90	$9.25	$9.11	$0.00	$69.98
	6/1/2026	$43.16	$9.90	$9.25	$9.11	$0.00	$71.42
	12/1/2026	$44.60	$9.90	$9.25	$9.11	$0.00	$72.86
	6/1/2027	$46.05	$9.90	$9.25	$9.11	$0.00	$74.31
	12/1/2027	$47.50	$9.90	$9.25	$9.11	$0.00	$75.76
	6/1/2028	$49.00	$9.90	$9.25	$9.11	$0.00	$77.26

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2028	$50.50	$9.90	$9.25	$9.11	$0.00	$78.76

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	6/1/2025	$40.59	$9.90	$9.25	$9.11	$0.00	$68.85
LABORERS LABORERS - ZONE 2	12/1/2025	$41.97	$9.90	$9.25	$9.11	$0.00	$70.23
	6/1/2026	$43.41	$9.90	$9.25	$9.11	$0.00	$71.67
	12/1/2026	$44.85	$9.90	$9.25	$9.11	$0.00	$73.11
	6/1/2027	$46.30	$9.90	$9.25	$9.11	$0.00	$74.56
	12/1/2027	$47.75	$9.90	$9.25	$9.11	$0.00	$76.01
	6/1/2028	$49.25	$9.90	$9.25	$9.11	$0.00	$77.51
	12/1/2028	$50.75	$9.90	$9.25	$9.11	$0.00	$79.01

For apprentice rates see "Apprentice- LABORER"

LASER BEAM OPERATOR (HEAVY & HIGHWAY)	6/1/2025	$40.59	$9.90	$9.25	$9.21	$0.00	$68.95
LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2025	$41.97	$9.90	$9.25	$9.21	$0.00	$70.33
	6/1/2026	$43.41	$9.90	$9.25	$9.21	$0.00	$71.77
	12/1/2026	$44.85	$9.90	$9.25	$9.21	$0.00	$73.21

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)

MARBLE & TILE FINISHERS	8/1/2025	$52.08	$11.49	$15.57	$6.05	$0.00	$85.19
BRICKLAYERS LOCAL 3 BRICKLAYERS LOCAL 3 - MARBLE & TILE	2/1/2026	$53.16	$11.49	$15.57	$6.05	$0.00	$86.27
	8/1/2026	$54.92	$11.49	$15.57	$6.05	$0.00	$88.03
	2/1/2027	$56.04	$11.49	$15.57	$6.05	$0.00	$89.15

Apprentice: MARBLE & TILE FINISHERS

Effective Date: 8/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$26.04	$11.49	$15.57	$6.05	$0.00	$59.15
2	60.00	$31.25	$11.49	$15.57	$6.05	$0.00	$64.36
3	70.00	$36.46	$11.49	$15.57	$6.05	$0.00	$69.57
4	80.00	$41.66	$11.49	$15.57	$6.05	$0.00	$74.77
5	90.00	$46.87	$11.49	$15.57	$6.05	$0.00	$79.98

Apprentice: MARBLE & TILE FINISHERS

Effective Date: 2/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$26.58	$11.49	$15.57	$6.05	$0.00	$59.69
2	60.00	$31.90	$11.49	$15.57	$6.05	$0.00	$65.01
3	70.00	$37.21	$11.49	$15.57	$6.05	$0.00	$70.32
4	80.00	$42.53	$11.49	$15.57	$6.05	$0.00	$75.64
5	90.00	$47.84	$11.49	$15.57	$6.05	$0.00	$80.95

Apprentice to Journeyworker Ratio: 1:5

MARBLE MASONS,TILELAYERS & TERRAZZO MECH	8/1/2025	$67.97	$11.49	$15.57	$7.99	$0.00	$103.02

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
BRICKLAYERS LOCAL 3	2/1/2026	$69.32	$11.49	$15.57	$7.99	$0.00	$104.37
BRICKLAYERS LOCAL 3 - MARBLE & TILE	8/1/2026	$71.52	$11.49	$15.57	$7.99	$0.00	$106.57
	2/1/2027	$72.92	$11.49	$15.57	$7.99	$0.00	$107.97

Apprentice: MARBLE MASONS,TILELAYERS & TERRAZZO MECH

Effective Date: 8/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$33.99	$11.49	$15.57	$7.99	$0.00	$69.04
2	60.00	$40.78	$11.49	$15.57	$7.99	$0.00	$75.83
3	70.00	$47.58	$11.49	$15.57	$7.99	$0.00	$82.63
4	80.00	$54.38	$11.49	$15.57	$7.99	$0.00	$89.43
5	90.00	$61.17	$11.49	$15.57	$7.99	$0.00	$96.22

Apprentice: MARBLE MASONS,TILELAYERS & TERRAZZO MECH

Effective Date: 2/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$34.66	$11.49	$15.57	$7.99	$0.00	$69.71
2	60.00	$41.59	$11.49	$15.57	$7.99	$0.00	$76.64
3	70.00	$48.52	$11.49	$15.57	$7.99	$0.00	$83.57
4	80.00	$55.46	$11.49	$15.57	$7.99	$0.00	$90.51
5	90.00	$62.39	$11.49	$15.57	$7.99	$0.00	$97.44

Apprentice to Journeyworker Ratio: 1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES)	6/1/2025	$57.68	$15.55	$13.25	$3.25	$0.00	$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	$59.12	$15.55	$13.25	$3.25	$0.00	$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	$60.40	$15.55	$13.25	$3.25	$0.00	$92.45
	12/1/2026	$61.84	$15.55	$13.25	$3.25	$0.00	$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE	6/1/2025	$57.68	$15.55	$13.25	$3.25	$0.00	$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	$59.12	$15.55	$13.25	$3.25	$0.00	$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	$60.40	$15.55	$13.25	$3.25	$0.00	$92.45
	12/1/2026	$61.84	$15.55	$13.25	$3.25	$0.00	$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 3)	1/6/2025	$43.42	$10.08	$11.47	$9.75	$0.00	$74.72
MILLWRIGHTS LOCAL 1121	1/5/2026	$45.70	$10.08	$11.47	$9.75	$0.00	$77.00
MILLWRIGHTS LOCAL 1121 - Zone 3							

Apprentice: MILLWRIGHT (Zone 3)

Effective Date: 1/6/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	$23.88	$10.08	$0.00	$5.36	$0.00	$39.32

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: MILLWRIGHT (Zone 3)

Effective Date: 1/6/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
2	65.00	$28.22	$10.08	$0.00	$6.34	$0.00	$44.64
3	75.00	$32.57	$10.08	$11.47	$7.31	$0.00	$61.43
4	85.00	$36.91	$10.08	$11.47	$8.29	$0.00	$66.75

Apprentice: MILLWRIGHT (Zone 3)

Effective Date: 1/5/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	$25.14	$10.08	$0.00	$5.36	$0.00	$40.58
2	65.00	$29.71	$10.08	$0.00	$6.34	$0.00	$46.13
3	75.00	$34.28	$10.08	$11.47	$7.31	$0.00	$63.14
4	85.00	$38.85	$10.08	$11.47	$8.29	$0.00	$68.69

Apprentice Notes

Step 1&2 Appr. indentured after 1/6/2020 receive no pension,

Apprentice to Journeyworker Ratio: 1:4

MORTAR MIXER LABORERS LABORERS - ZONE 2	6/1/2025	$40.59	$9.90	$9.25	$9.11	$0.00	$68.85
	12/1/2025	$41.97	$9.90	$9.25	$9.11	$0.00	$70.23
	6/1/2026	$43.41	$9.90	$9.25	$9.11	$0.00	$71.67
	12/1/2026	$44.85	$9.90	$9.25	$9.11	$0.00	$73.11
	6/1/2027	$46.30	$9.90	$9.25	$9.11	$0.00	$74.56
	12/1/2027	$47.75	$9.90	$9.25	$9.11	$0.00	$76.01
	6/1/2028	$49.25	$9.90	$9.25	$9.11	$0.00	$77.51
	12/1/2028	$50.75	$9.90	$9.25	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
OILER (OTHER THAN TRUCK CRANES,GRADALLS) OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	6/1/2025	$25.97	$15.30	$13.15	$3.25	$0.00	$57.67
	12/1/2025	$26.63	$15.30	$13.15	$3.25	$0.00	$58.33
	6/1/2026	$27.22	$15.30	$13.15	$3.25	$0.00	$58.92
	12/1/2026	$27.89	$15.30	$13.15	$3.25	$0.00	$59.59
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
OILER (TRUCK CRANES, GRADALLS) OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	6/1/2025	$31.80	$15.30	$13.15	$3.25	$0.00	$63.50
	12/1/2025	$32.60	$15.30	$13.15	$3.25	$0.00	$64.30
	6/1/2026	$33.32	$15.30	$13.15	$3.25	$0.00	$65.02
	12/1/2026	$34.12	$15.30	$13.15	$3.25	$0.00	$65.82
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
OTHER POWER DRIVEN EQUIPMENT - CLASS II OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	6/1/2025	$57.68	$15.55	$13.25	$3.25	$0.00	$89.73
	12/1/2025	$59.12	$15.55	$13.25	$3.25	$0.00	$91.17
	6/1/2026	$60.40	$15.55	$13.25	$3.25	$0.00	$92.45

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2026	$61.84	$15.55	$13.25	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PAINTER (BRIDGES/TANKS) PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 2	7/1/2025	$58.51	$10.30	$11.95	$12.50	$0.00	$93.26
	1/1/2026	$59.56	$10.35	$12.00	$12.50	$0.00	$94.41

Apprentice: PAINTER (BRIDGES/TANKS)

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$29.26	$10.30	$0.00	$0.00	$0.00	$39.56
2	55.00	$32.18	$10.30	$0.00	$6.88	$0.00	$49.36
3	60.00	$35.11	$10.30	$0.00	$7.50	$0.00	$52.91
4	65.00	$38.03	$10.30	$0.00	$8.13	$0.00	$56.46
5	70.00	$40.96	$10.30	$11.95	$8.75	$0.00	$71.96
6	75.00	$43.88	$10.30	$11.95	$9.38	$0.00	$75.51
7	80.00	$46.81	$10.30	$11.95	$10.00	$0.00	$79.06
8	90.00	$52.66	$10.30	$11.95	$11.25	$0.00	$86.16

Apprentice: PAINTER (BRIDGES/TANKS)

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$29.78	$10.35	$0.00	$0.00	$0.00	$40.13
2	55.00	$32.76	$10.35	$0.00	$6.93	$0.00	$50.04
3	60.00	$35.74	$10.35	$0.00	$7.56	$0.00	$53.65
4	65.00	$38.71	$10.35	$0.00	$8.19	$0.00	$57.25
5	70.00	$41.69	$10.35	$12.00	$8.82	$0.00	$72.86
6	75.00	$44.67	$10.35	$12.00	$9.45	$0.00	$76.47
7	80.00	$47.65	$10.35	$12.00	$10.08	$0.00	$80.08
8	90.00	$53.60	$10.35	$12.00	$11.34	$0.00	$87.29

Apprentice to Journeyworker Ratio: 1:1

PAINTER (SPRAY OR SANDBLAST, NEW) * * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 2	7/1/2025	$49.41	$10.30	$11.95	$12.50	$0.00	$84.16
	1/1/2026	$50.46	$10.35	$12.00	$12.60	$0.00	$85.41

Apprentice: PAINTER (SPRAY OR SANDBLAST, NEW) *

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$24.71	$10.30	$0.00	$0.00	$0.00	$35.01
2	55.00	$27.18	$10.30	$0.00	$6.88	$0.00	$44.36
3	60.00	$29.65	$10.30	$0.00	$7.50	$0.00	$47.45

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
PAINTER (SPRAY OR SANDBLAST, REPAINT) PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 2	7/1/2025	$47.47	$10.30	$11.95	$12.50	$0.00	$82.22
	1/1/2026	$48.52	$10.35	$12.00	$12.60	$0.00	$83.47

Apprentice: PAINTER (SPRAY OR SANDBLAST, NEW) *

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
4	65.00	$32.12	$10.30	$0.00	$8.13	$0.00	$50.55
5	70.00	$34.59	$10.30	$11.95	$8.75	$0.00	$65.59
6	75.00	$37.06	$10.30	$11.95	$9.38	$0.00	$68.69
7	80.00	$39.53	$10.30	$11.95	$10.00	$0.00	$71.78
8	90.00	$44.47	$10.30	$11.95	$11.25	$0.00	$77.97

Apprentice: PAINTER (SPRAY OR SANDBLAST, NEW) *

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$25.23	$10.35	$0.00	$0.00	$0.00	$35.58
2	55.00	$27.75	$10.35	$0.00	$6.93	$0.00	$45.03
3	60.00	$30.28	$10.35	$0.00	$7.56	$0.00	$48.19
4	65.00	$32.80	$10.35	$0.00	$8.19	$0.00	$51.34
5	70.00	$35.32	$10.35	$12.00	$8.82	$0.00	$66.49
6	75.00	$37.85	$10.35	$12.00	$9.45	$0.00	$69.65
7	80.00	$40.37	$10.35	$12.00	$10.08	$0.00	$72.80
8	90.00	$45.41	$10.35	$12.00	$11.34	$0.00	$79.10

Apprentice to Journeyworker Ratio: 1:1

Apprentice: PAINTER (SPRAY OR SANDBLAST, REPAINT)

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$23.74	$10.30	$0.00	$0.00	$0.00	$34.04
2	55.00	$26.11	$10.30	$0.00	$6.88	$0.00	$43.29
3	60.00	$28.48	$10.30	$0.00	$7.50	$0.00	$46.28
4	65.00	$30.86	$10.30	$0.00	$8.13	$0.00	$49.29
5	70.00	$33.23	$10.30	$11.95	$8.75	$0.00	$64.23
6	75.00	$35.60	$10.30	$11.95	$9.38	$0.00	$67.23
7	80.00	$37.98	$10.30	$11.95	$10.00	$0.00	$70.23
8	90.00	$42.72	$10.30	$11.95	$11.25	$0.00	$76.22

Apprentice: PAINTER (SPRAY OR SANDBLAST, REPAINT)

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
PAINTER / TAPER (BRUSH, NEW) *	7/1/2025	$48.01	$10.30	$11.95	$12.50	$0.00	$82.76
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.	1/1/2026	$49.06	$10.35	$12.00	$12.60	$0.00	$84.01
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 2							

Apprentice: PAINTER (SPRAY OR SANDBLAST, REPAINT)

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$24.26	$10.35	$0.00	$0.00	$0.00	$34.61
2	55.00	$26.69	$10.35	$0.00	$6.93	$0.00	$43.97
3	60.00	$29.11	$10.35	$0.00	$7.56	$0.00	$47.02
4	65.00	$31.54	$10.35	$0.00	$8.19	$0.00	$50.08
5	70.00	$33.96	$10.35	$12.00	$8.82	$0.00	$65.13
6	75.00	$36.39	$10.35	$12.00	$9.45	$0.00	$68.19
7	80.00	$38.82	$10.35	$12.00	$10.08	$0.00	$71.25
8	90.00	$43.67	$10.35	$12.00	$11.34	$0.00	$77.36

Apprentice to Journeyworker Ratio: 1:1

Apprentice: PAINTER / TAPER (BRUSH, NEW) *

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$24.01	$10.30	$0.00	$0.00	$0.00	$34.31
2	55.00	$26.41	$10.30	$0.00	$6.88	$0.00	$43.59
3	60.00	$28.81	$10.30	$0.00	$7.50	$0.00	$46.61
4	65.00	$31.21	$10.30	$0.00	$8.13	$0.00	$49.64
5	70.00	$33.61	$10.30	$11.95	$8.75	$0.00	$64.61
6	75.00	$36.01	$10.30	$11.95	$9.38	$0.00	$67.64
7	80.00	$38.41	$10.30	$11.95	$10.00	$0.00	$70.66
8	90.00	$43.21	$10.30	$11.95	$11.25	$0.00	$76.71

Apprentice: PAINTER / TAPER (BRUSH, NEW) *

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$24.53	$10.35	$0.00	$0.00	$0.00	$34.88
2	55.00	$26.98	$10.35	$0.00	$6.93	$0.00	$44.26
3	60.00	$29.44	$10.35	$0.00	$7.56	$0.00	$47.35
4	65.00	$31.89	$10.35	$0.00	$8.19	$0.00	$50.43
5	70.00	$34.34	$10.35	$12.00	$8.82	$0.00	$65.51
6	75.00	$36.80	$10.35	$12.00	$9.45	$0.00	$68.60
7	80.00	$39.25	$10.35	$12.00	$10.08	$0.00	$71.68
8	90.00	$44.15	$10.35	$12.00	$11.34	$0.00	$77.84

Apprentice to Journeyworker Ratio: 1:1

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
PAINTER / TAPER (BRUSH, REPAINT) PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 2	7/1/2025	$46.07	$10.30	$11.95	$12.50	$0.00	$80.82
	1/1/2026	$47.12	$10.35	$12.00	$12.60	$0.00	$82.07

Apprentice: PAINTER / TAPER (BRUSH, REPAINT)

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$23.04	$10.30	$0.00	$0.00	$0.00	$33.34
2	55.00	$25.34	$10.30	$0.00	$6.88	$0.00	$42.52
3	60.00	$27.64	$10.30	$0.00	$7.50	$0.00	$45.44
4	65.00	$29.95	$10.30	$0.00	$8.13	$0.00	$48.38
5	70.00	$32.25	$10.30	$11.95	$8.75	$0.00	$63.25
6	75.00	$34.55	$10.30	$11.95	$9.38	$0.00	$66.18
7	80.00	$36.86	$10.30	$11.95	$10.00	$0.00	$69.11
8	90.00	$41.46	$10.30	$11.95	$11.25	$0.00	$74.96

Apprentice: PAINTER / TAPER (BRUSH, REPAINT)

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$23.56	$10.35	$0.00	$0.00	$0.00	$33.91
2	55.00	$25.92	$10.35	$0.00	$6.93	$0.00	$43.20
3	60.00	$28.27	$10.35	$0.00	$7.56	$0.00	$46.18
4	65.00	$30.63	$10.35	$0.00	$8.19	$0.00	$49.17
5	70.00	$32.98	$10.35	$12.00	$8.82	$0.00	$64.15
6	75.00	$35.34	$10.35	$12.00	$9.45	$0.00	$67.14
7	80.00	$37.70	$10.35	$12.00	$10.08	$0.00	$70.13
8	90.00	$42.41	$10.35	$12.00	$11.34	$0.00	$76.10

Apprentice to Journeyworker Ratio: 1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2025	$40.34	$9.90	$9.25	$9.21	$0.00	$68.70
	12/1/2025	$41.72	$9.90	$9.25	$9.21	$0.00	$70.08
	6/1/2026	$43.16	$9.90	$9.25	$9.21	$0.00	$71.52
	12/1/2026	$44.60	$9.90	$9.25	$9.21	$0.00	$72.96
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
PANEL & PICKUP TRUCKS DRIVER TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	6/1/2025	$40.78	$15.57	$20.17	$0.00	$0.00	$76.52
	12/1/2025	$40.78	$15.57	$21.78	$0.00	$0.00	$78.13
	1/1/2026	$40.78	$16.17	$21.78	$0.00	$0.00	$78.73
	6/1/2026	$41.78	$16.17	$21.78	$0.00	$0.00	$79.73
	12/1/2026	$41.78	$16.17	$23.52	$0.00	$0.00	$81.47
	1/1/2027	$41.78	$16.77	$23.52	$0.00	$0.00	$82.07
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 2)	8/1/2024	$51.97	$10.08	$11.62	$12.67	$0.00	$86.34

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- PILE DRIVER"							
PILE DRIVER PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 2)	8/1/2024	$51.97	$10.08	$11.62	$12.67	$0.00	$86.34

Apprentice: PILE DRIVER

Effective Date: 8/1/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$23.39	$10.08	$0.00	$2.53	$0.00	$36.00
2	55.00	$28.58	$10.08	$0.00	$5.07	$0.00	$43.73
3	70.00	$36.38	$10.08	$11.62	$7.60	$0.00	$65.68
4	80.00	$41.58	$10.08	$11.62	$10.14	$0.00	$73.42

Apprentice to Journeyworker Ratio: 1:5

PIPELAYER LABORERS LABORERS - ZONE 2	6/1/2025	$40.59	$9.90	$9.25	$9.11	$0.00	$68.85
	12/1/2025	$41.97	$9.90	$9.25	$9.11	$0.00	$70.23
	6/1/2026	$43.41	$9.90	$9.25	$9.11	$0.00	$71.67
	12/1/2026	$44.85	$9.90	$9.25	$9.11	$0.00	$73.11
	6/1/2027	$46.30	$9.90	$9.25	$9.11	$0.00	$74.56
	12/1/2027	$47.75	$9.90	$9.25	$9.11	$0.00	$76.01
	6/1/2028	$49.25	$9.90	$9.25	$9.11	$0.00	$77.51
	12/1/2028	$50.75	$9.90	$9.25	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
PIPELAYER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2025	$40.59	$9.90	$9.25	$9.21	$0.00	$68.95
	12/1/2025	$41.97	$9.90	$9.25	$9.21	$0.00	$70.33
	6/1/2026	$43.41	$9.90	$9.25	$9.21	$0.00	$71.77
	12/1/2026	$44.85	$9.90	$9.25	$9.21	$0.00	$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
PLUMBER & PIPEFITTER PLUMBERS LOCAL 4 PLUMBERS LOCAL 4	9/1/2025	$55.00	$12.70	$9.71	$8.06	$0.00	$85.47
	3/1/2026	$57.80	$11.30	$9.71	$8.06	$0.00	$86.87

Apprentice: PLUMBER & PIPEFITTER

Effective Date: 9/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$22.00	$12.70	$0.00	$0.00	$0.00	$34.70
2	50.00	$27.50	$12.70	$0.00	$0.00	$0.00	$40.20
3	60.00	$33.00	$12.70	$0.00	$0.00	$0.00	$45.70
4	70.00	$38.50	$12.70	$0.00	$8.06	$0.00	$59.26
5	80.00	$44.00	$12.70	$0.00	$8.06	$0.00	$64.76

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: PLUMBER & PIPEFITTER

Effective Date: 3/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$23.12	$11.30	$0.00	$0.00	$0.00	$34.42
2	50.00	$28.90	$11.30	$0.00	$0.00	$0.00	$40.20
3	60.00	$34.68	$11.30	$0.00	$0.00	$0.00	$45.98
4	70.00	$40.46	$11.30	$0.00	$8.06	$0.00	$59.82
5	80.00	$46.24	$11.30	$0.00	$8.06	$0.00	$65.60

Apprentice to Journeyworker Ratio: 1:3

PNEUMATIC CONTROLS (TEMP.)	9/1/2025	$55.00	$12.70	$9.71	$8.06	$0.00	$85.47
PLUMBERS LOCAL 4	3/1/2026	$57.80	$11.30	$9.71	$8.06	$0.00	$86.87
PLUMBERS LOCAL 4							
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
PNEUMATIC DRILL/TOOL OPERATOR	6/1/2025	$41.09	$9.90	$9.25	$8.29	$0.00	$68.53
LABORERS	12/1/2025	$42.47	$9.90	$9.25	$8.29	$0.00	$69.91
LABORERS - ZONE 2	6/1/2026	$43.91	$9.90	$9.25	$8.29	$0.00	$71.35
	12/1/2026	$45.35	$9.90	$9.25	$8.29	$0.00	$72.79
	6/1/2027	$46.80	$9.90	$9.25	$8.29	$0.00	$74.24
	12/1/2027	$48.25	$9.90	$9.25	$8.29	$0.00	$75.69
	6/1/2028	$49.75	$9.90	$9.25	$8.29	$0.00	$77.19
	12/1/2028	$51.25	$9.90	$9.25	$8.29	$0.00	$78.69
For apprentice rates see "Apprentice- LABORER"							
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY)	6/1/2025	$40.59	$9.90	$9.25	$9.21	$0.00	$68.95
LABORERS	12/1/2025	$41.97	$9.90	$9.25	$9.21	$0.00	$70.33
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	$43.41	$9.90	$9.25	$9.21	$0.00	$71.77
	12/1/2026	$44.85	$9.90	$9.25	$9.21	$0.00	$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
POWDERMAN & BLASTER	6/1/2025	$41.34	$9.90	$9.25	$9.11	$0.00	$69.60
LABORERS	12/1/2025	$42.72	$9.90	$9.25	$9.11	$0.00	$70.98
LABORERS - ZONE 2	6/1/2026	$44.16	$9.90	$9.25	$9.11	$0.00	$72.42
	12/1/2026	$45.60	$9.90	$9.25	$9.11	$0.00	$73.86
	6/1/2027	$47.05	$9.90	$9.25	$9.11	$0.00	$75.31
	12/1/2027	$48.50	$9.90	$9.25	$9.11	$0.00	$76.76
	6/1/2028	$50.00	$9.90	$9.25	$9.11	$0.00	$78.26
	12/1/2028	$51.50	$9.90	$9.25	$9.11	$0.00	$79.76
For apprentice rates see "Apprentice- LABORER"							
POWDERMAN & BLASTER (HEAVY & HIGHWAY)	6/1/2025	$41.34	$9.65	$9.25	$9.21	$0.00	$69.45
LABORERS	12/1/2025	$42.72	$9.65	$9.25	$9.21	$0.00	$70.83
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	$44.16	$9.65	$9.25	$9.21	$0.00	$72.27
	12/1/2026	$45.60	$9.65	$9.25	$9.21	$0.00	$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
POWER SHOVEL/DERRICK/TRENCHING MACHINE	6/1/2025	$58.33	$15.55	$13.25	$3.25	$0.00	$90.38
OPERATING ENGINEERS LOCAL 4	12/1/2025	$59.78	$15.55	$13.25	$3.25	$0.00	$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	$61.08	$15.55	$13.25	$3.25	$0.00	$93.13
	12/1/2026	$62.53	$15.55	$13.25	$3.25	$0.00	$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (CONCRETE)	6/1/2025	$57.68	$15.55	$13.25	$3.25	$0.00	$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	$59.12	$15.55	$13.25	$3.25	$0.00	$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	$60.40	$15.55	$13.25	$3.25	$0.00	$92.45
	12/1/2026	$61.84	$15.55	$13.25	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (DEWATERING, OTHER)	6/1/2025	$37.52	$15.55	$13.25	$3.25	$0.00	$69.57
OPERATING ENGINEERS LOCAL 4	12/1/2025	$38.47	$15.55	$13.25	$3.25	$0.00	$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	$39.33	$15.55	$13.25	$3.25	$0.00	$71.38
	12/1/2026	$40.28	$15.55	$13.25	$3.25	$0.00	$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
READY-MIX CONCRETE DRIVER	1/1/2025	$27.60	$11.26	$6.15	$0.00	$0.00	$45.01
TEAMSTERS 170							
TEAMSTERS 170 - Dauphinais (Bellingham)							
RECLAIMERS	6/1/2025	$57.68	$15.55	$13.25	$3.25	$0.00	$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	$59.12	$15.55	$13.25	$3.25	$0.00	$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	$60.40	$15.55	$13.25	$3.25	$0.00	$92.45
	12/1/2026	$61.84	$15.55	$13.25	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
RIDE-ON MOTORIZED BUGGY OPERATOR	6/1/2025	$40.59	$9.90	$9.25	$9.11	$0.00	$68.85
LABORERS	12/1/2025	$41.97	$9.90	$9.25	$9.11	$0.00	$70.23
LABORERS - ZONE 2	6/1/2026	$43.41	$9.90	$9.25	$9.11	$0.00	$71.67
	12/1/2026	$44.85	$9.90	$9.25	$9.11	$0.00	$73.11
	6/1/2027	$46.30	$9.90	$9.25	$9.11	$0.00	$74.56
	12/1/2027	$47.75	$9.90	$9.25	$9.11	$0.00	$76.01
	6/1/2028	$49.25	$9.90	$9.25	$9.11	$0.00	$77.51
	12/1/2028	$50.75	$9.90	$9.25	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
ROLLER/SPREADER/MULCHING MACHINE	6/1/2025	$57.68	$15.55	$13.25	$3.25	$0.00	$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	$59.12	$15.55	$13.25	$3.25	$0.00	$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	$60.40	$15.55	$13.25	$3.25	$0.00	$92.45
	12/1/2026	$61.84	$15.55	$13.25	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg)	8/1/2025	$53.53	$13.28	$12.67	$9.03	$0.00	$88.51
ROOFERS LOCAL 33	2/1/2026	$54.78	$13.28	$12.67	$9.03	$0.00	$89.76
ROOFERS LOCAL 33							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ROOFER SLATE / TILE / PRECAST CONCRETE ROOFERS LOCAL 33 ROOFERS LOCAL 33	8/1/2025	$53.78	$13.28	$12.67	$9.03	$0.00	$88.76
	2/1/2026	$55.03	$13.28	$12.67	$9.03	$0.00	$90.01
For apprentice rates see "Apprentice- ROOFER"							
SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 63 SHEETMETAL WORKERS LOCAL 63	7/1/2025	$43.48	$12.94	$11.01	$8.72	$2.13	$78.28
	7/1/2026	$43.48	$13.24	$11.01	$9.92	$2.13	$79.78
	1/1/2027	$43.48	$13.54	$11.01	$11.12	$2.13	$81.28
	7/1/2027	$44.98	$13.54	$11.01	$11.12	$2.13	$82.78
	1/1/2028	$46.48	$13.54	$11.01	$11.12	$2.13	$84.28

Apprentice: ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg)

Effective Date: 8/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$26.77	$13.28	$6.52	$9.03	$0.00	$55.60
2	60.00	$32.12	$13.28	$12.67	$9.03	$0.00	$67.10
3	65.00	$34.79	$13.28	$12.67	$9.03	$0.00	$69.77
4	75.00	$40.15	$13.28	$12.67	$9.03	$0.00	$75.13
5	85.00	$45.50	$13.28	$12.67	$9.03	$0.00	$80.48

Apprentice: ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg)

Effective Date: 2/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$27.39	$13.28	$6.52	$9.03	$0.00	$56.22
2	60.00	$32.87	$13.28	$12.67	$9.03	$0.00	$67.85
3	65.00	$35.61	$13.28	$12.67	$9.03	$0.00	$70.59
4	75.00	$41.09	$13.28	$12.67	$9.03	$0.00	$76.07
5	85.00	$46.56	$13.28	$12.67	$9.03	$0.00	$81.54

Apprentice Notes

** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1

Apprentice to Journeyworker Ratio: 1:5

Apprentice: SHEETMETAL WORKER

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$19.57	$5.82	$4.95	$0.00	$0.85	$31.19
2	50.00	$21.74	$6.47	$5.51	$0.00	$0.94	$34.66
3	55.00	$23.91	$7.12	$9.91	$0.00	$1.15	$42.09
4	60.00	$26.09	$7.76	$9.91	$0.00	$1.23	$44.99
5	65.00	$28.26	$8.41	$9.91	$0.00	$1.31	$47.89

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: SHEETMETAL WORKER

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
6	70.00	$30.44	$9.06	$9.91	$0.00	$1.39	$50.80
7	75.00	$32.61	$9.71	$9.91	$0.00	$1.47	$53.70
8	80.00	$34.78	$10.35	$9.91	$8.72	$1.78	$65.54
9	85.00	$36.96	$11.00	$9.91	$8.72	$1.86	$68.45
10	90.00	$39.13	$11.65	$9.91	$8.72	$1.94	$71.35

Apprentice: SHEETMETAL WORKER

Effective Date: 7/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$19.57	$5.96	$4.95	$0.00	$0.85	$31.33
2	50.00	$21.74	$6.62	$5.51	$0.00	$0.94	$34.81
3	55.00	$23.91	$7.28	$9.91	$0.00	$1.15	$42.25
4	60.00	$26.09	$7.94	$9.91	$0.00	$1.23	$45.17
5	65.00	$28.26	$8.60	$9.91	$0.00	$1.31	$48.08
6	70.00	$30.44	$9.27	$9.91	$0.00	$1.39	$51.01
7	75.00	$32.61	$9.93	$9.91	$0.00	$1.47	$53.92
8	80.00	$34.78	$10.59	$9.91	$9.92	$1.78	$66.98
9	85.00	$36.96	$11.25	$9.91	$9.92	$1.86	$69.90
10	90.00	$39.13	$11.92	$9.91	$9.92	$1.94	$72.82

Apprentice to Journeyworker Ratio: 1:3

SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	6/1/2025	$41.24	$15.57	$20.17	$0.00	$0.00	$76.98
	12/1/2025	$41.24	$15.57	$21.78	$0.00	$0.00	$78.59
	1/1/2026	$41.24	$16.17	$21.78	$0.00	$0.00	$79.19
	6/1/2026	$42.24	$16.17	$21.78	$0.00	$0.00	$80.19
	12/1/2026	$42.24	$16.17	$23.52	$0.00	$0.00	$81.93
	1/1/2027	$42.24	$16.77	$23.52	$0.00	$0.00	$82.53
SPECIALIZED EARTH MOVING EQUIP > 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	6/1/2025	$41.53	$15.57	$20.17	$0.00	$0.00	$77.27
	12/1/2025	$41.53	$15.57	$21.78	$0.00	$0.00	$78.88
	1/1/2026	$41.53	$16.17	$21.78	$0.00	$0.00	$79.48
	6/1/2026	$42.53	$16.17	$21.78	$0.00	$0.00	$80.48
	12/1/2026	$42.53	$16.17	$23.52	$0.00	$0.00	$82.22
	1/1/2027	$42.53	$16.77	$23.52	$0.00	$0.00	$82.82
SPRINKLER FITTER SPRINKLER FITTERS LOCAL 669 SPRINKLER FITTERS LOCAL 669	7/1/2025	$53.25	$12.40	$7.40	$9.41	$0.00	$82.46
	10/1/2025	$53.25	$12.40	$7.40	$9.41	$0.00	$82.46
	1/1/2026	$53.25	$13.60	$7.45	$9.41	$0.00	$83.71
	4/1/2026	$56.54	$13.60	$7.45	$9.41	$0.00	$87.00
	7/1/2026	$56.54	$13.60	$7.45	$9.41	$0.00	$87.00
	10/1/2026	$56.54	$13.60	$7.45	$9.41	$0.00	$87.00
	1/1/2027	$56.54	$14.55	$7.50	$9.41	$0.00	$88.00

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	4/1/2027	$59.83	$14.55	$7.50	$9.41	$0.00	$91.29
	7/1/2027	$59.83	$14.55	$7.50	$9.41	$0.00	$91.29
	10/1/2027	$59.83	$14.55	$7.50	$9.41	$0.00	$91.29
	1/1/2028	$59.83	$15.50	$7.55	$9.41	$0.00	$92.29

Apprentice: SPRINKLER FITTER

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	43.00	$26.94	$0.00	$0.00	$0.00	$0.00	$26.94
2	48.00	$30.08	$0.00	$0.00	$0.00	$0.00	$30.08
3	52.00	$32.58	$0.00	$0.00	$1.15	$0.00	$33.73
4	56.00	$35.09	$0.00	$0.00	$1.15	$0.00	$36.24
5	59.00	$36.97	$0.00	$0.00	$1.40	$0.00	$38.37
6	64.00	$40.10	$0.00	$0.00	$1.40	$0.00	$41.50
7	68.00	$42.61	$0.00	$0.00	$1.40	$0.00	$44.01
8	72.00	$45.12	$0.00	$0.00	$1.40	$0.00	$46.52
9	76.00	$47.62	$0.00	$0.00	$1.40	$0.00	$49.02
10	80.00	$50.13	$0.00	$0.00	$1.40	$0.00	$51.53

Apprentice: SPRINKLER FITTER

Effective Date: 10/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	43.00	$26.94	$0.00	$0.00	$0.00	$0.00	$26.94
2	48.00	$30.08	$0.00	$0.00	$0.00	$0.00	$30.08
3	52.00	$32.58	$0.00	$0.00	$1.15	$0.00	$33.73
4	56.00	$35.09	$0.00	$0.00	$1.15	$0.00	$36.24
5	59.00	$36.97	$0.00	$0.00	$1.40	$0.00	$38.37
6	64.00	$40.10	$0.00	$0.00	$1.40	$0.00	$41.50
7	68.00	$42.61	$0.00	$0.00	$1.40	$0.00	$44.01
8	72.00	$45.12	$0.00	$0.00	$1.40	$0.00	$46.52
9	76.00	$47.62	$0.00	$0.00	$1.40	$0.00	$49.02
10	80.00	$50.13	$0.00	$0.00	$1.40	$0.00	$51.53

Apprentice to Journeyworker Ratio: 1:1

STEAM BOILER OPERATOR OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	6/1/2025	$57.68	$15.55	$13.25	$3.25	$0.00	$89.73
	12/1/2025	$59.12	$15.55	$13.25	$3.25	$0.00	$91.17
	6/1/2026	$60.40	$15.55	$13.25	$3.25	$0.00	$92.45
	12/1/2026	$61.84	$15.55	$13.25	$3.25	$0.00	$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	6/1/2025	$57.68	$15.55	$13.25	$3.25	$0.00	$89.73
	12/1/2025	$59.12	$15.55	$13.25	$3.25	$0.00	$91.17
	6/1/2026	$60.40	$15.55	$13.25	$3.25	$0.00	$92.45
	12/1/2026	$61.84	$15.55	$13.25	$3.25	$0.00	$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
TERRAZZO FINISHERS BRICKLAYERS LOCAL 3 BRICKLAYERS LOCAL 3 - MARBLE & TILE	8/1/2025	$66.89	$11.49	$15.57	$8.02	$0.00	$101.97
	2/1/2026	$68.24	$11.49	$15.57	$8.02	$0.00	$103.32
	8/1/2026	$70.44	$11.49	$15.57	$8.02	$0.00	$105.52
	2/1/2027	$71.84	$11.49	$15.57	$8.02	$0.00	$106.92

Apprentice: TERRAZZO FINISHERS

Effective Date: 8/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$33.45	$11.49	$15.57	$8.02	$0.00	$68.53
2	60.00	$40.13	$11.49	$15.57	$8.02	$0.00	$75.21
3	70.00	$46.82	$11.49	$15.57	$8.02	$0.00	$81.90
4	80.00	$53.51	$11.49	$15.57	$8.02	$0.00	$88.59
5	90.00	$60.20	$11.49	$15.57	$8.02	$0.00	$95.28

Apprentice: TERRAZZO FINISHERS

Effective Date: 2/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$34.12	$11.49	$15.57	$8.02	$0.00	$69.20
2	60.00	$40.94	$11.49	$15.57	$8.02	$0.00	$76.02
3	70.00	$47.77	$11.49	$15.57	$8.02	$0.00	$82.85
4	80.00	$54.59	$11.49	$15.57	$8.02	$0.00	$89.67
5	90.00	$61.42	$11.49	$15.57	$8.02	$0.00	$96.50

Apprentice to Journeyworker Ratio: 1:5

TEST BORING DRILLER LABORERS LABORERS - FOUNDATION AND MARINE	6/1/2025	$51.70	$9.90	$9.25	$9.80	$0.00	$80.65
	12/1/2025	$53.20	$9.90	$9.25	$9.80	$0.00	$82.15
	6/1/2026	$54.75	$9.90	$9.25	$9.80	$0.00	$83.70
	12/1/2026	$56.25	$9.90	$9.25	$9.80	$0.00	$85.20

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER LABORERS LABORERS - FOUNDATION AND MARINE	6/1/2025	$47.82	$9.90	$9.25	$9.80	$0.00	$76.77
	12/1/2025	$49.32	$9.90	$9.25	$9.80	$0.00	$78.27
	6/1/2026	$50.87	$9.90	$9.25	$9.80	$0.00	$79.82
	12/1/2026	$52.37	$9.90	$9.25	$9.80	$0.00	$81.32

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER LABORERS LABORERS - FOUNDATION AND MARINE	6/1/2025	$47.70	$9.90	$9.25	$9.80	$0.00	$76.65
	12/1/2025	$49.20	$9.90	$9.25	$9.80	$0.00	$78.15
	6/1/2026	$50.75	$9.90	$9.25	$9.80	$0.00	$79.70
	12/1/2026	$52.25	$9.90	$9.25	$9.80	$0.00	$81.20

For apprentice rates see "Apprentice- LABORER"

TRACTORS/PORTABLE STEAM GENERATORS OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	6/1/2025	$57.68	$15.55	$13.25	$3.25	$0.00	$89.73
	12/1/2025	$59.12	$15.55	$13.25	$3.25	$0.00	$91.17
	6/1/2026	$60.40	$15.55	$13.25	$3.25	$0.00	$92.45

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2026	$61.84	$15.55	$13.25	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
TRAILERS FOR EARTH MOVING EQUIPMENT	6/1/2025	$41.82	$15.57	$20.17	$0.00	$0.00	$77.56
TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	$41.82	$15.57	$21.78	$0.00	$0.00	$79.17
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	1/1/2026	$41.82	$16.17	$21.78	$0.00	$0.00	$79.77
	6/1/2026	$42.82	$16.17	$21.78	$0.00	$0.00	$80.77
	12/1/2026	$42.82	$16.17	$23.52	$0.00	$0.00	$82.51
	1/1/2027	$42.82	$16.77	$23.52	$0.00	$0.00	$83.11
TUNNEL WORK - COMPRESSED AIR	6/1/2025	$59.93	$9.90	$9.25	$10.25	$0.00	$89.33
LABORERS	12/1/2025	$61.43	$9.90	$9.25	$10.25	$0.00	$90.83
LABORERS (COMPRESSED AIR)	6/1/2026	$62.98	$9.90	$9.25	$10.25	$0.00	$92.38
	12/1/2026	$64.48	$9.90	$9.25	$10.25	$0.00	$93.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE)	6/1/2025	$61.93	$9.90	$9.25	$10.25	$0.00	$91.33
LABORERS	12/1/2025	$63.43	$9.90	$9.25	$10.25	$0.00	$92.83
LABORERS (COMPRESSED AIR)	6/1/2026	$64.98	$9.90	$9.25	$10.25	$0.00	$94.38
	12/1/2026	$66.48	$9.90	$9.25	$10.25	$0.00	$95.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR	6/1/2025	$52.00	$9.90	$9.25	$10.25	$0.00	$81.40
LABORERS	12/1/2025	$53.50	$9.90	$9.25	$10.25	$0.00	$82.90
LABORERS (FREE AIR TUNNEL)	6/1/2026	$55.05	$9.90	$9.25	$10.25	$0.00	$84.45
	12/1/2026	$56.55	$9.90	$9.25	$10.25	$0.00	$85.95
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR (HAZ. WASTE)	6/1/2025	$54.00	$9.90	$9.25	$10.25	$0.00	$83.40
LABORERS	12/1/2025	$55.50	$9.90	$9.25	$10.25	$0.00	$84.90
LABORERS (FREE AIR TUNNEL)	6/1/2026	$57.05	$9.90	$9.25	$10.25	$0.00	$86.45
	12/1/2026	$58.55	$9.90	$9.25	$10.25	$0.00	$87.95
For apprentice rates see "Apprentice- LABORER"							
VAC-HAUL	6/1/2025	$41.24	$15.57	$20.17	$0.00	$0.00	$76.98
TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	$41.24	$15.57	$21.78	$0.00	$0.00	$78.59
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	1/1/2026	$41.24	$16.17	$21.78	$0.00	$0.00	$79.19
	6/1/2026	$42.24	$16.17	$21.78	$0.00	$0.00	$80.19
	12/1/2026	$42.24	$16.17	$23.52	$0.00	$0.00	$81.93
	1/1/2027	$42.24	$16.77	$23.52	$0.00	$0.00	$82.53
VOICE-DATA-VIDEO TECHNICIAN	9/7/2025	$36.12	$14.98	$13.94	$3.97	$0.00	$69.01
ELECTRICIANS LOCAL 96	9/6/2026	$37.04	$15.96	$14.20	$4.07	$0.00	$71.27
ELECTRICIANS LOCAL 96							

Apprentice: VOICE-DATA-VIDEO TECHNICIAN

Effective Date: 9/7/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: VOICE-DATA-VIDEO TECHNICIAN

Effective Date: 9/7/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$18.06	$14.98	$0.54	$3.97	$0.00	$37.55
2	55.00	$19.87	$14.98	$0.60	$3.97	$0.00	$39.42
3	60.00	$21.67	$14.98	$13.51	$3.97	$0.00	$54.13
4	65.00	$23.48	$14.98	$13.56	$3.97	$0.00	$55.99
5	70.00	$25.28	$14.98	$13.62	$3.97	$0.00	$57.85
6	75.00	$27.09	$14.98	$13.67	$3.97	$0.00	$59.71
7	80.00	$28.90	$14.98	$13.73	$3.97	$0.00	$61.58
8	85.00	$30.70	$14.98	$13.78	$3.97	$0.00	$63.43

Apprentice: VOICE-DATA-VIDEO TECHNICIAN

Effective Date: 9/6/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$18.52	$15.96	$0.56	$4.07	$0.00	$39.11
2	55.00	$20.37	$15.96	$0.61	$4.07	$0.00	$41.01
3	60.00	$22.22	$15.96	$13.76	$4.07	$0.00	$56.01
4	65.00	$24.08	$15.96	$13.81	$4.07	$0.00	$57.92
5	70.00	$25.93	$15.96	$13.87	$4.07	$0.00	$59.83
6	75.00	$27.78	$15.96	$13.92	$4.07	$0.00	$61.73
7	80.00	$29.63	$15.96	$13.98	$4.07	$0.00	$63.64
8	85.00	$31.48	$15.96	$14.03	$4.07	$0.00	$65.54

Apprentice to Journeyworker Ratio: 1:1

WAGON DRILL OPERATOR LABORERS LABORERS - ZONE 2	6/1/2025	$42.00	$9.65	$9.00	$8.70	$0.00	$69.35
	12/1/2025	$43.38	$9.65	$9.00	$8.70	$0.00	$70.73
	6/1/2026	$44.82	$9.65	$9.00	$8.70	$0.00	$72.17
	12/1/2026	$46.26	$9.65	$9.00	$8.70	$0.00	$73.61
	6/1/2027	$47.71	$9.65	$9.00	$8.70	$0.00	$75.06
	12/1/2027	$49.16	$9.65	$9.00	$8.70	$0.00	$76.51
	6/1/2028	$50.66	$9.65	$9.00	$8.70	$0.00	$78.01
	12/1/2028	$52.16	$9.65	$9.00	$8.70	$0.00	$79.51
For apprentice rates see "Apprentice- LABORER"							
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2025	$40.59	$9.90	$9.25	$9.21	$0.00	$68.95
	12/1/2025	$41.97	$9.90	$9.25	$9.21	$0.00	$70.33
	6/1/2026	$43.41	$9.90	$9.25	$9.21	$0.00	$71.77
	12/1/2026	$44.85	$9.90	$9.25	$9.21	$0.00	$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
WASTE WATER PUMP OPERATOR OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	6/1/2025	$58.33	$15.55	$13.25	$3.25	$0.00	$90.38
	12/1/2025	$59.78	$15.55	$13.25	$3.25	$0.00	$91.83
	6/1/2026	$61.08	$15.55	$13.25	$3.25	$0.00	$93.13
	12/1/2026	$62.53	$15.55	$13.25	$3.25	$0.00	$94.58

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
WATER METER INSTALLER	9/1/2025	$55.00	$12.70	$9.71	$8.06	$0.00	$85.47
PLUMBERS LOCAL 4	3/1/2026	$57.80	$11.30	$9.71	$8.06	$0.00	$86.87
PLUMBERS LOCAL 4							
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"							

Marine Drilling

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
BLASTER MARINE DRILLING MARINE DRILLING	1/1/2018	$41.82	$7.63	$2.35	$1.25	$0.00	$53.05
BOAT CAPTAIN MARINE DRILLING MARINE DRILLING	1/1/2018	$33.87	$7.63	$2.35	$0.95	$0.00	$44.80
BOAT CAPTAIN / Over 1,000 hp MARINE DRILLING MARINE DRILLING	1/1/2018	$38.06	$7.63	$2.35	$1.25	$0.00	$49.29
CORE DRILLER MARINE DRILLING MARINE DRILLING	1/1/2018	$31.43	$7.63	$2.25	$0.65	$0.00	$41.96
CORE DRILLER HELPER MARINE DRILLING MARINE DRILLING	1/1/2018	$28.47	$7.63	$2.35	$0.65	$0.00	$39.10
DRILLER MARINE DRILLING MARINE DRILLING	1/1/2018	$39.70	$7.63	$2.35	$1.25	$0.00	$50.93
ENGINEER MARINE DRILLING MARINE DRILLING	1/1/2018	$39.69	$7.63	$2.25	$1.25	$0.00	$50.82
HELPER MARINE DRILLING MARINE DRILLING	1/1/2018	$34.24	$7.63	$2.35	$0.65	$0.00	$44.87
MACHINIST MARINE DRILLING MARINE DRILLING	1/1/2018	$38.88	$7.63	$2.35	$0.95	$0.00	$49.81
OILER - MARINE DRILLING MARINE DRILLING MARINE DRILLING	1/1/2018	$34.24	$7.63	$2.35	$0.65	$0.00	$44.87
TUG DECKHAND MARINE DRILLING MARINE DRILLING	1/1/2018	$27.61	$7.63	$2.35	$0.65	$0.00	$38.24
WELDER MARINE DRILLING MARINE DRILLING	1/1/2018	$38.88	$7.63	$2.35	$0.95	$0.00	$49.81

Op Eng Marine (Dredging Work)

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
BOAT OPERATOR OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS - MARINE DIVISION	10/1/2017	$29.26	$7.63	$2.35	$0.95	$0.00	$40.19
CERTIFIED WELDER OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS - MARINE DIVISION	10/1/2017	$31.09	$7.63	$2.35	$1.25	$0.00	$42.32
CHIEF WELDER/ CHIEF MATE OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS - MARINE DIVISION	10/1/2017	$33.02	$7.63	$2.35	$1.25	$0.00	$44.25
DERRICK / SPIDER / SPILLBARGE OPERATOR OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS - MARINE DIVISION	10/1/2017	$33.02	$7.63	$2.35	$1.25	$0.00	$44.25
DRAG BARGE OPERATOR / WELDER / MATE OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS - MARINE DIVISION	10/1/2017	$30.24	$7.63	$2.35	$0.95	$0.00	$41.17
ENGINEER / ELECTRICIAN OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS - MARINE DIVISION	10/1/2017	$33.02	$7.63	$2.35	$1.25	$0.00	$44.25
LICENSED BOAT OPERATOR OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS - MARINE DIVISION	10/1/2017	$33.02	$7.63	$2.35	$1.25	$0.00	$44.25
LICENSED TUG OPERATOR OVER 1000HP OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS - MARINE DIVISION	10/1/2017	$38.18	$7.63	$2.35	$1.25	$0.00	$49.41
MAINTENANCE ENGINEER OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS - MARINE DIVISION	10/1/2017	$33.03	$7.63	$2.35	$1.25	$0.00	$44.26
OILER - MARINE DIVISION OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS - MARINE DIVISION	10/1/2017	$24.30	$7.63	$2.35	$0.65	$0.00	$34.93
OPERATOR / LEVERMAN OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS - MARINE DIVISION	10/1/2017	$38.18	$7.63	$2.35	$1.25	$0.00	$49.41
RODMAN / SCOWMAN OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS - MARINE DIVISION	10/1/2017	$24.30	$7.63	$2.35	$0.65	$0.00	$34.93
SHOREMAN / DECKHAND OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS - MARINE DIVISION	10/1/2017	$24.30	$7.63	$2.35	$0.65	$0.00	$34.93

Additional Apprentice Information

All apprentices must be registered with the Division of Apprenticeship Training(DAS) in accordance with M.G.L.c. 23, §§ 11E-11L. Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the hourly prevailing wage rate established by the Commissioner under the provisions of M.G.L.c. 149, §§ 26-27D.

Apprentice ratios are established by DAS pursuant to M.G.L.c. 23, §§ 11E-11L. Ratios are expressed as the allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified. The ratios listed herein have been taken from relevant private collective bargaining agreements(CBAs) and are provided for illustrative purposes only. They have not been independently verified as being accurate or continuing to be accurate.

Parties having questions regarding what ratio to use should contact DAS.

DOCUMENT A00801

SPECIAL PROVISIONS

WORCESTER
Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad

Labor participation goals for this Project shall be 15.3% for minorities and 6.9% for women for each job category. The goals are applicable to both Contractor's and Subcontractor's on-site construction workforce. Refer to Document 00820 for details.

SCOPE OF WORK

All work under this Contract shall be done in conformance with the *2025 Standard Specifications for Highways and Bridges, the Supplemental Specifications* contained in this book, the *Construction Standard Details* in effect as of June, 2025, 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 Revisions 1, 2, and 3 and the November 2022 Massachusetts Amendments to the MUTCD, the 1968 Standard Drawings for Traffic Signals and Highway Lighting*, the latest edition of The *American Standard for Nursery Stock*, the Plans and these Special Provisions.

This contract includes the reconstruction of bridge joints, replacement of the existing bridge wearing surface, milling and repaving of the roadway and approaches, sidewalk repairs, addressing structural and safety concerns, and performing other related work. The project will include two (2) bridges located in the City of Worcester on Millbrook Street over the Railroad – Bridge No. W-44-029 (23B) and Millbrook Street over I-190 Southbound – Bridge No. W-44-099 (214).

The work also includes setting up detours, coordinating, and implementing the Temporary Traffic Control Plan (TTCP) for each phase of work and milling of the pavement to a depth of 1 1/2" on the roadway between the bridges, the approaches, and extending to the limits specified in the drawings or as directed by the Engineer.

In addition, the scope of work includes the following:

Millbrook Street over the Railroad – Bridge No. W-44-029 (23B)

1. Removal of the HMA wearing surface and concrete patches from the existing concrete deck using mechanical scarification, micro milling, or other approved mechanical methods.
2. Full or partial-depth excavation and concrete repair of the deck, as directed and approved by the Engineer.
3. Reconstruction of concrete at the ends of bridge slabs and abutment backwalls.
4. Replacement of existing deck drains and placement of a 1 ¼-inch Hot Mix Asphalt (HMA) layer (Base Course) over a waterproofing membrane.

SCOPE OF WORK (Continued)

5. Paving of the roadway section between the two bridges, including installation of HMA on the bridge and approaches, extending to the limits shown on the drawings, replacing 1 ½ inches of the existing pavement with Superpave Surface Course - 9.5 Polymer (SSC - 9.5 – P).
6. Sawing and sealing of the joints at the abutments and replacement of compression joint seals over the pier.

Millbrook Street over I-190 Southbound – Bridge No. W-44-099 (214)

1. Removal of the top 1 3/8" of the existing concrete deck using mechanical scarification, micro milling, or other approved mechanical means.
2. Reconstructing joints and backwalls and replacing the concrete diaphragms.
3. Full/partial depth excavation and concrete repair of the concrete deck, as directed and approved by the Engineer.
4. Removal of an additional ½" (minimum) of the existing concrete deck through hydro excavation to produce a rough, bondable surface for the installation of the new overlay.
5. Installing a new concrete overlay and repaving of roadway. The overlay will be 2 inches thick, made of polymer-modified concrete, applied and finished to closely match the existing grade and specified thickness, as directed by the Engineer. Paving of the roadway section between the two bridges and approaches will extend to the limits shown on the drawings, replacing 1 ½ inches of the existing pavement with Superpave Surface Course - 9.5 Polymer (SSC - 9.5 - P).
   and installing new bridge joint seals.
6. Paving of the roadway section between the two bridges and approaches will extend to the limits shown on the drawings, replacing 1 ½ inches of the existing pavement with Superpave Surface Course - 9.5 Polymer (SSC - 9.5 - P).
7. Sawing and sealing of the joints at the abutments and install of joint seals over the piers.

This bridge also shall be clean and painted under Item 961.201. The Engineer may also direct steel repairs if deemed necessary following the cleaning and priming of the structural.

Work to be done under this Contract also includes furnishing various artisans (cement masons, iron workers, welders, carpenters, laborers, and equipment operators) as specified in Item 100.1 "Base Labor Rate", and Non-Bid Items include materials, equipment, and engineering services.

Related Work:

1. Resetting or replacing granite curbing/edging on bridge approaches and repairing or replacing bridge and approach sidewalks.
2. Rebuilding catch basins and adjusting existing drainage structures.
3. Replacing damaged guardrail and repairing or replacing right-of-way fencing as needed.
4. Performing any other related work described herein, shown on the drawings, or as directed by the Engineer.

SCOPE OF WORK (Continued)

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.

All materials and equipment shall be approved by the Engineer prior to work commencing.

Where work directed by the Engineer is not in the list of bid items, the work will be paid for as Non-Bid Items and Item 100.1 Base Labor Rate (Time and Materials).

SUBSECTION 7.05 INSURANCE REQUIREMENTS

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

7.05.B: Public Liability Insurance 1. and
7.05.B: Public Liability Insurance 2.

The Massachusetts Department of Transportation and applicable railroads shall be named as additional insureds.

Paragraph 3

Railroad Protective Liability Insurance and Protective Property Damage Liability Insurance shall be obtained in the amounts of $2,000,000 per occurrence and $6,000,000 aggregate on behalf of the Providence and Worcester Railroad and operator of the subject railroad.

Railroads' Protective Liability and Property Damage Liability Insurance is amended with the following:

The Contractor shall submit the railroad insurance information to the Department in accordance with Subsection 7.05 of the Standard Specifications.

The railroad protective insurance shall be as follows:

1. The Contractor shall furnish, with respect to the operations of the Contractor or any of the Contractor's subcontractors performing within the Railroad right-of-way, broad form Railroad Protective Liability Insurance covering all work performed under this contract in the amounts required by each of the appropriate railroad owners. Said insurance to be carried out one year after all work required to be performed under the terms of the contract is satisfactorily completed.
2. The insurance shall be written on an occurrence basis.
3. All applicable railroads shall be named insured on the insurance.
4. The Contractor shall furnish to the named railroad companies a signed original of the policy for Railroad Protective Liability prior to entry upon the railroad right-of-way.

SUBSECTION 7.05 INSURANCE REQUIREMENTS (Continued)

5. All certificates shall be enclosed to provide 30-day notice to each named insured by the insurance company before any change or cancellation of the policies.
6. The required Railroad Protective Insurance provided herein must be in the form commonly referred to as the AAR-AASHTO or ISO-RIMA form (not Oregon).
7. Coverage shall include Railroad workers employed by the named Railroads injured by the contractor's negligence while employed in their work, on the project site.
8. Original policies and certificates shall be made out to all applicable railroads.
9. The above railroad protective insurance specification satisfies all contract requirements.

The Contractor shall begin the application process for Right of Entry/License Agreements with railroad upon receiving the Notice to Proceed. The Contractor will be reimbursed from contract contingency actual cost (no allowance for mark ups including administrative fees will be permitted) for Railroad's Engineering associated with review and approval of construction submittals.

B. Public Liability Insurance

Submittals that are subject for reviews and approval by the railroad include but not limited to: Tracks protection plan; Plans and procedures for installation of work platforms; and any other required Shielding procedures.

The Contractor will also be required to enter into a Preliminary Engineering agreement (PEA) with the railroad so they can be paid for their engineering reviews of Contractor's submittals. The charges incurred under this agreement by the Contractor will be fully reimbursed under this Contract. The Contractor will be reimbursed his actual cost without any allowance for markups.

The time required to execute the PEA and durations associated with the railroad engineering reviews shall be reflected in the contractor's construction schedule.

The Contractor will not be reimbursed for costs associated with obtaining a Right of Entry/License from the Railroad.

WORK SCHEDULE

All proposed work hours shall conform to Subsection 7.09 and be subject to the written approval of the Engineer.

Work schedule during the day shall be based on a normal 8-hour day (7:00 AM to 3:00 PM), 5-day week (Monday to Friday). Work schedules deviating from the normal work schedule above will be subject to prior approval by the Engineer. Approval shall be in writing.

WORK SCHEDULE (Continued)

Nighttime Work
All work locations requiring night hours, as approved by the Engineer, are restricted as follows:

Sunday	9:00 PM to 5:00 AM Monday
Monday	9:00 PM to 5:00 AM Tuesday
Tuesday	9:00 PM to 5:00 AM Wednesday
Wednesday	9:00 PM to 5:00 AM Thursday
Thursday	9:00 PM to 5:00 AM Friday

Work may not proceed beyond the normal 8-hour day unless prior approval is obtained from the Engineer for that day or for a given schedule.

Approval to work beyond the scheduled work will only be given when special conditions exist that warrant working beyond the scheduled work, as determined by the Engineer.

For operations where the Contractor plans to close lanes on Interstate 290 beyond what has been approved as part of the TTCP, the work may be restricted with lane closures on I-290 are generally permitted only during nighttime hours. Any lane closures outside of nighttime hours must be properly justified, and the proposed work hours must be coordinated and approved by the District Operations/Traffic Section.

The Contractor may schedule shifts longer than 8-hours with prior approval by the Engineer. No additional compensation will be made for work scheduled during nighttime or longer work hours.

These time periods include the "set-up" and "breakdown" of any temporary traffic control pattern employed.

No operations, personnel, or equipment will be allowed on the roadways except during working hours. Work shall not be left overnight without safety precautions. All pertinent traffic warning devices shall be in place along with safety items, traffic barriers, etc.

MassDOT has decided that the Contractor must schedule work in a way that accelerates bridge construction to reduce disruption on the community and roadway users, while ensuring work zone safety. To further minimize the work impact on the public, the duration of this work will be limited as outlined below:

Phase 1, Stage 1 through Stage 3: No more than seventy-five (75) consecutive days will be allowed to complete this phase.

Phase 2, Stage 1 through Stage 3: No more than seventy-five (75) consecutive days will be allowed to complete this phase.

WORK SCHEDULE (Continued)

Public notification for starting both phases of work shall be coordinated with the MassDOT District 3 Bridge, Traffic, and Operations Sections through the Resident Engineer. Notifications shall be issued four (4) weeks, two (2) weeks, and one (1) week prior to the scheduled start of operations. These notifications shall be delivered through email, social media, strategically placed message boards, and any other effective means to inform local residents and businesses.

The contractor shall also notify the City of Worcester Police, Fire, and EMS, along with the City Manager's Office and School Department, through direct contact. A written record of these calls shall be provided to the Resident Engineer.

The contractor is further directed to coordinate a meeting with invitations to the listed City of Worcester Municipal Departments. The proposed detour plans and TTCP should be presented along with the proposed schedule for all phases of work. This meeting shall be held sixty (60) days before the scheduled work.

During construction (phase 1 and 2), the westbound traffic lane on the bridge will remain open. However, eastbound traffic will be detoured in accordance the approved detour plan.

The detour routes may require an evaluation of traffic signals along the detour path. This may involve reviewing and adjusting the existing signal timings to ensure an acceptable level of service is maintained. Since the detour route utilizes roadways under the jurisdiction of the City of Worcester, their review and approval of any signal timing changes will be required before the detour plan can be approved by District 3. Any changes to the signal timing will be permitted only while the detour is in place and must be reverted to normal operation once the detour is removed. The Contractor will be compensated for retiming the signals under Item 816.811.

Portable Changeable Message Signs are to be positioned as directed by Engineer for notification fourteen (14) days in advance of the work.

NOTICE TO CONTRACTORS

Unless otherwise approved in writing, work involving the Polymer Modified Concrete placements and Full/partial Patching of the decks shall be restricted between May 1st and October 31st.

The contractor will not be allowed to begin Phase 1 unless they can demonstrate the ability to complete the Phase 1 work and reopen the roadway to two-lane, two-way traffic within the specified the timeframe for the phase. Additionally, no concrete overlay placement will be allowed after October 31, 2026.

For any approved cold weather placement of the polymer overlay or concrete for deck patching, protection from adverse weather conditions shall be provided in accordance with Subsection 901.64 of the MassDOT Standard Specifications for Highways and Bridges. The Contractor shall be responsible for all costs associated with protecting the concrete during these operations.

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 massdotspecifications@dot.state.ma.us The MassDOT proposal number and municipality is to be placed in the subject line.

HOLIDAY WORK RESTRICTIONS

(Supplementing Subsection 7.09)

The District Highway Director (DHD) 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. DHD 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 DHD 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 DHD 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 DHD and local police chief.

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

Patriot's Day (State Holiday)
Work restrictions will be in place for Districts 3 and 6 along the entire Boston Marathon route and any other locations that the DHD in those districts determine are warranted so as to not to impact the marathon. All other districts work restrictions will be as per DHD.

Mother’s Day
No work on Western Turnpike and Metropolitan Highway System from 5:00 AM on the Friday before, until the normal start of business on the following day.

HOLIDAY WORK RESTRICTIONS (Continued)

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 DHD and local police chief.

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 DHD 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.

SOIL STOCKPILING DIRECTIVE P-22-001

Any stockpiling of soil must be performed in compliance with Policy Directive P-22-001, Off-Site Stockpiling of Soil from MassDOT Construction Projects. This directive limits the allowable locations for off-site stockpiling of soil generated during MassDOT projects and includes various requirements that must be satisfied by the contractor prior to off-site stockpiling. The Contractor is responsible for identifying a suitable stockpile location.

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.

TRUCK SAFETY DEVICES

(Supplementing Subsection 7.04: Motor Vehicles)

All motor vehicles subject to Section 7 of Chapter 90 to be operated under this Contract shall be equipped with safety devices as provided therein and in 540 CMR 4.00.

By December 31, 2025, the Contractor shall certify to the Registry of Motor Vehicles, in a manner prescribed by the Registrar, that all applicable vehicles are equipped with Lateral Protective Devices, Convex Mirrors, Cross Over Mirror(s) and Back Up Cameras in accordance with the requirements of 540 CMR 4.00.

The Contractor shall provide evidence satisfactory to the Department to demonstrate compliance with the above certification requirement for all applicable vehicles operated under this Contract by the Contractor and its subcontractors and vendors in a manner set forth by the Department. Thereafter, the Contractor shall have an affirmative obligation to continue to provide such evidence of compliance on an ongoing basis and no later than 7 days after certification with the Registry of Motor Vehicles of any additional vehicles operated under this Contract by the Contractor and its subcontractors and vendors.

Non-compliance with respect to a vehicle that is subject to 540 CMR 4.00 may subject the Contractor to statutory fines as established in M.G.L. c. 90, § 7 and/or contractual remedies up to and including termination of the Contract.

SUBSECTION 8.14 UTILITY COORDINATION, DOCUMENTATION, AND MONITORING RESPONSIBILITIES

A. GENERAL

In accordance with the provisions of Section 8.00 Prosecution and Progress, utility coordination is a critical aspect to this Contract. This section defines the responsibility of the Contractor and MassDOT, with regard to the initial utility relocation plan and changes that occur as the prosecution of the Work progresses. The Engineer, with assistance from the Contractor shall coordinate with Utility companies that are impacted by the Contractor's operations. To support this effort, the Contractor shall provide routine and accurate schedule updates, provide notification of delays, and provide documentation of the steps taken to resolve any conflicts for the temporary and/or permanent relocations of the impacted utilities. The Contractor shall provide copies to the Engineer of the Contractor communication with the Utility companies, including but not limited to:

- Providing advanced notice, for all utility-related meetings initiated by the Contractor.
- Providing meeting minutes for all utility-related meetings that the Contractor attends.
- Providing all test pit records.
- Request for Early Utility work requirements of this section (see below).
- Notification letters for any proposed changes to Utility start dates and/or sequencing.
- Written notification to the Engineer of all apparent utility delays within seven (7) Calendar Days after a recognized delay to actual work in the field – either caused by a Utility or the Contractor.
- Any communication, initiated by the Contractor, associated with additional Right-of-Way needs in support of utility work.
- Submission of completed Utility Completion Forms.

B. PROJECT UTILITY COORDINATION (PUC) FORM

The utility schedule and sequence information provided in the Project Utility Coordination Form (if applicable) is the best available information at the time of the bid and has been considered in setting the contract duration. The Contractor shall use all of this information in developing the bid price and the Baseline Schedule Submission, inclusive of the individual utility durations sequencing requirements, and any work that has been noted as potentially concurrent utility installations.

C. INITIATION OF UTILITY WORK

The Engineer will issue all initial notice-to-proceed dates to each Utility company based on either the:

1) Contractor's accepted Baseline Schedule
2) An approved Early Utility Request in the form of an Early Utility sub-net schedule (in accordance with the requirements of this Subsection)
3) An approved Proposal Schedule

C.1 - BASELINE SCHEDULE – UTILITY BASIS

The Contractor shall provide a Baseline Schedule submission in accordance with the requirements of Subsection 8.02 and inclusive of all of the information provided in the PUC Form that has been issued in the Contract documents. This is to include the utility durations, sequencing of work, allowable concurrent work, and all applicable considerations that have been depicted on the PUC Form.

SUBSECTION 8.14 (Continued)

C.2 – EARLY UTILITY REQUEST – (aka SUBNET SCHEDULE) PRIOR TO THE BASELINE

All early utility work is defined as any anticipated/required utility relocations that need to occur prior to the Baseline Schedule acceptance. In all cases of proposed early utility relocation, the Contractor shall present all known information at the pre-construction conference in the form of a 'sub-net' schedule showing when each early utility activity needs to be issued a notice-to-proceed. The Contractor shall provide advance notification of this intent to request early utility work in writing at or prior to the Pre-Construction meeting. Prior to officially requesting approval for early utility work, the Contractor shall also coordinate with MassDOT and all utility companies (private, state or municipal) which may be impacted by the Contract. If this request is acceptable to the Utilities and to MassDOT, the Engineer will issue a notice-to-proceed to the affected Utilities, based on these accepted dates.

C.3 – PROPOSAL SCHEDULE - CHANGES TO THE PUC FORM

If the Contractor intends to submit a schedule (in accordance with MassDOT Standard Specifications, Division I, Subsection 8.02) that contains durations or sequencing that vary from those provided in the Project Utility Coordination (PUC) Form, the Contactor must submit this as an intended change, in the form of a Proposal Schedule and in accordance with MassDOT Standard Specifications, Division I, Subsection 8.02. These proposed changes are subject to the approval of the Engineer and the impacted utilities, in the form of this Proposal Schedule and a proposed revision to the PUC form. The Contractor shall not proceed with any changes of this type without written authorization from the Engineer, that references the approved Proposal Schedule and PUC form changes. The submission of the Baseline Schedule should not include any of these types of proposed utility changes and should not delay the submission of the Baseline Schedule. As a prerequisite to the Proposal Schedule submission, and in advance of the utility notification(s) period, the Contractor shall coordinate the proposed utility changes with the Engineer and the utility companies, to develop a mutually agreed upon schedule, prior to the start of construction.

D. UTILITY DELAYS

The Contractor shall notify the Engineer upon becoming aware that a Utility owner is not advancing the work in accordance with the approved utility schedule. Such notice shall be provided to the Engineer no later than seven (7) calendar days after the occurrence of the event that the Contractor believes to be a utility delay. After such notice, the Engineer and the Contractor shall continue to diligently seek the Utility Owner's cooperation in performing their scope of Work.

In order to demonstrate that a critical path delay has been caused by a third-party Utility, the Contractor must demonstrate, through the requirements of the monthly Progress Schedule submissions and the supporting contract records associated with Subsection 8.02, 8.10 and 8.14, that the delays were beyond the control of the Contractor.

SUBSECTION 8.14 (Continued)

All documentation provided in this section is subject to the review and verification of the Engineer and, if required, the Utility Owner. In accordance with MassDOT Specifications, Division I, Subsection 8.10, a Time Extension will be granted for a delay caused by a Utility, only if the actual duration of the utility work is in excess of that shown on the Project Utility Coordination Form, and only if;

1) proper Notification of Delay was provided to MassDOT in accordance with the time requirements that are specified in this Section
2) the utility delay is a critical path impact to the Baseline Schedule (or most recently approved Progress Schedule)

E. LOCATION OF UTILITIES

The locations of existing utilities are shown on the Contract drawings as an approximation only. The Contractor shall perform a pre-construction utility survey, including any required test pits, to determine the location of all known utilities no later than thirty (30) calendar days before commencing physical site work in the affected area.

F. POST UTILITY SURVEY – NOTIFICATION

Following completion of a utility survey of existing locations, the Contractor will be responsible to notify the Engineer of any known conflicts associated with the actual location of utilities prior to the start of the work. The Engineer and the Contractor will coordinate with any utility whose assets are to be affected by the Work of this Contract. A partial list of utility contact information is provided in the Project Utility Coordination Form.

G. MEETINGS AND COOPERATION WITH UTILITY OWNERS

The Contractor shall notify the Engineer in advance of any meeting they initiate with a Utility Owner's representative to allow MassDOT to participate in the meeting if needed.

Prior to the Pre-Construction Meeting, the Contractor should meet with all Utility Owners who will be required to perform utility relocations within the first 6 months of the project, to update the affected utilities of the Project Utility Coordination Form and all other applicable Contract requirements that impact the Utilities. The Contractor shall copy the Engineer on any correspondence between the Utility Owner and the Contractor.

H. FORCE ACCOUNT / UTILITY MONITORING REQUIREMENTS

The Engineer will be responsible for recording daily Utility work force reports. The start, suspension, re-start, and completion dates of each of the Utilities, within each phase of the utility relocation work, will be monitored and agreed to by the Engineer and the Contractor as the work progresses.

I. ACCESS AND INSPECTION

The Contractor shall be responsible for allowing Utility owners access to their own utilities to perform the relocations and/or inspections. The Contractor shall schedule their work accordingly so as not to delay or prevent each utility from maintaining their relocation schedule.

COMPLIANCE WITH THE NATIONAL DEFENSE AUTHORIZATION ACT

(Supplementing Subsection 7.01)

On all projects, the "Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment" Regulation (2 CFR 200.216) prohibits the Contractor from using or furnishing the following telecommunications equipment or services:

- Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
- For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
- Telecommunications or video surveillance services provided by such entities or using such equipment.
- Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

This prohibition applies to all products manufactured by the aforementioned companies, including any individual components or parts.

By submitting a bid on a project, the Contractor certifies that all work will be in compliance with the terms of 2 CFR 200.216. The Contractor shall submit a COC indicating compliance with the above provisions for all telecommunications equipment or services included in the Contract.

Payment for the item in which the materials are incorporated may be withheld until these COCs are received. Any cost involved in furnishing the certificate(s) shall be borne by the Contractor.

NOTICE TO OWNERS OF UTILITIES

(Supplementing Subsection 7.13)

District 3 Utility/Constructability Engineer — Ross Goodale (508) 929-3938
Ross.A.Goodale@dot.state.ma.us

Existing bridge 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 their own investigation 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 the Contractor's 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
Select the City/Worcester, and then locate the utility
The utility contact list is for guidance only and is not guaranteed to be complete or up to date.

NATIONAL GRID EMERGENCY TELEPHONE NUMBERS

ELECTRIC:
Outage/ Emergency: 1-800-465-1212
New Service: 1-800-375-7405
Customer Support: 1-800-322-3223

EVERSOURCE EMERGENCY TELEPHONE NUMBERS

GAS:
Outage/ Emergency: 800-592-2000
New Service: 866-678-2744
Customer Support: 800-592-2000

NOTIFICATION OF PUBLIC OFFICIALS

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/info-details/massachusetts-state-police-troop-boundaries. Select the area of jurisdiction to find the local station.

The Contractor shall inform the following officials in each area that he is assigned to work in:

Superintendent, Department of Public Works, or Town Engineer. Superintendent, Water Department, Superintendent, Sewer Departments. Police Department, Fire Department, Electric Company, Railroads.

GENERAL REQUIREMENTS FOR DEMOLITION AND WORK INVOLVING PAINTED STEEL

(02/06/2020)

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.

GENERAL REQUIREMENTS FOR DEMOLITION AND WORK INVOLVING PAINTED STEEL (Continued)

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.

PIGEON WASTE

The Contractor shall remove and dispose of the pigeon waste and any other debris accumulated on the steel members and bridge seats in areas where work is being performed. Pigeon waste and debris material contaminants will require special handling and disposal in accordance with all Federal, state, and local requirements. No separate payment will be made for removal and disposal of pigeon waste. Cost shall be incidental to the contract pay items.

EQUIVALENT SINGLE AXLE LOADS (ESALS)

The estimated traffic level to be used for SUPERPAVE HMA mixture designs for this contract, expressed in Equivalent Single Axle Loads (ESALs) for the design travel lane over a 20-year period, is either a traffic level 2 (0.3-10.0) million 18-kip (80-kn) ESALs or a traffic level 3 (≥10.0) million 18 kip ESALS as directed by the Engineer

CONTAMINATED SOIL

Soil to be removed from the project area shall not be assumed to be uncontaminated and must be evaluated prior to off-site management for potential contamination with hazardous materials. No soil may be disposed of off-site without proper assessment by the contractor and approval from the Resident Engineer (RE), District Environmental Engineer (DEE), or the project designee.

2026 FIFA WORLD CUP – BOSTON, MASSACHUSETTS

The 2026 FIFA World Cup will be held at Gillette Stadium in Foxborough, related events, and significant tourist events such as Sail Boston and the 250th Anniversary of the United States will be held throughout the region. Matches and Fan Fest and other possible 250th Celebration activities are scheduled through June, July and August 2026. The District will be imposing work and/or traffic restrictions as necessary to minimize impacts during these periods when, as determined by MassDOT, the Contractor's operations could impact vehicular traffic, particularly on interstate highways and major arterials throughout the region and local roads near event sites. No additional compensation will be allowed for work restrictions except as determined under Subsection 8.10. nor will the Contractor have any claim for related costs, direct or indirect. The Contract time determinations have accounted for potential work restriction during this period and Contractor's should plan accordingly. Any necessary or emergency work required during this time will require District approval.

SUPPLEMENTAL REQUIREMENTS FOR NON-BID ITEMS

(Supplementing Subsection 3.04)

The Contractor will be paid for additional artisans, equipment rental, materials, engineering services and specialty services required to perform the work plus (10%) percent, plus actual increased bond premium.

The Contractor shall be required to furnish certified paid receipts for additional artisans, equipment rental, materials, engineering services and specialty services that are required to perform the work prior to payment by the Department. Increased bond premium for additional artisans, equipment rental, materials, engineering services and specialty services will be paid after a certified paid receipt is submitted showing payment of the increased bond.

NON-BID ITEMS:

For work not covered by the various bid items in this Contract, it is the intent to pay for such related work on a time and materials basis, as directed by the Engineer. The payment for such work is outlined in the following sections: Payment for Materials, Payment for Rental Equipment, Payment for Engineering Services, Payment for Specialty Services/Additional Artisans.

A. PAYMENT FOR MATERIALS

The Contractor will be paid the actual cost for materials that are required to maintain or repair a bridge but are not covered under the Contract bid Items plus ten (10) percent. Any arrangements for the purchase of materials will be considered incidental. Delivery charges will be incidental to the material charges. State and Federal taxes if billed will not be reimbursed by MassDOT. No materials shall be ordered until approved by the Engineer and competitive prices may be required if the Engineer directs.

The District may have surplus materials on hand that could be included into the work.
The transportation of materials and/or parts supplied by MassDOT will be included for payment under Item 100.1.

NON-BID ITEMS (Continued)

Payments for the installation of materials and/or parts will be made under Item 100.1
All materials which are necessary to perform the work under the various contract bid items shall be incidental to those Items at no additional compensation.

B. PAYMENT FOR RENTAL EQUIPMENT

The Contractor will be paid the actual rental cost for the equipment, which may be required to perform certain repair work that has not been included in the contract bid items, plus ten (10) percent. No equipment shall be rented until approved by the Engineer. The rental equipment shall not be part of the tradesman basic toolbox as specified under Item 100.1 Base Labor Rate.

Contractor-owned equipment required under this contract, (with the exception of equipment listed under the various artisans' descriptions in Item 100.1 Base Labor Rate will be reimbursed in the format outlined under Subsection 9.03 "Payment for extra Work" Section C of the Standard Specifications. Rental Equipment will not carry any overtime premium rate after being in full operation for more than 8 hours in a day.

Unless the rented equipment cost includes the operator, the Contractor will receive compensation for the operator of the "Rental Equipment" used for "Related Work" as specified in Item 100.1 Base Labor Rate.

The Contractor must get the authorization of the Resident Engineer before any equipment is rented and competitive prices may be required if the Engineer directs.

All rental equipment and tools shall be in excellent working condition. The Contractor shall not be paid for the time that the equipment is broken down.

The actual cost for rental equipment, including equipment that is required when working from water below (i.e., barge equipped with 60' or higher boom lift, boat, operator, and other safety equipment)

shall be judged in accordance with the rate specified in the Rental Blue Book and it is the Contractor's responsibility to provide a copy of this Blue Book to the Department. The rental compensation shall also include the cost of a boat captain/tender crew. The rental for equipment will be paid on an hourly basis and will not carry any overtime rate after eight hours of operation.

All rental equipment and tools which are necessary to prosecute the work under the various contract bid items shall be incidental to those Items at no additional compensation.

NON-BID ITEMS (Continued)

C. PAYMENT FOR ENGINEERING SERVICES

Each non-routine structural repair for which there is no Contract bid Item to cover the work, the Contractor shall submit a design by a Professional Engineer of the appropriate discipline registered in Massachusetts (who shall be from the Department's approved consultant list) within one week of notification (seven (7) calendar days after receipt of formal Work Order).

This design shall address all structural defects itemized in the Work Order. It shall be submitted to the Engineer and the proper railroad authority (i.e., Amtrak, MBTA. etc.) when applicable. The Contractor must get the proposed design approved by both the Engineer and proper railroad authority (when applicable) prior to commencing any work.

The Contractor will be paid the actual cost for the Engineering Services for the structural design by a Professional Engineer of the appropriate discipline registered in Massachusetts, plus ten (10) percent when any Engineering Services are required for work done on a time and materials basis for which there is no bid Item. The Engineer shall approve all engineering costs prior to any design work being undertaken.

All engineering services which are necessary to prosecute the work under the various Contract bid items shall be incidental to those Items at no additional compensation.

Engineering Services Cost Estimate

When engineering designs or other consulting services are deemed necessary by the Engineer, the design firm will submit a cost estimate of the proposed work. This estimate will include the classification, estimated hours needed, and actual hourly rate for each individual anticipated to be used in developing the finished product. The billable rates shall include overhead and profit. Overhead shall be as approved by MassDOT Audit Section or in absence of approved audited rates a maximum 155% shall apply for overhead. The profit fee is 10%. The billable rate shall be calculated using 1.10*(Base Hourly Rate + Base Hourly*Overhead Rate %).

D. PAYMENT FOR SPECIALTY SERVICES/ ADDITIONAL ARTISANS

The Contractor will be paid for any artisans that are not categorized under Item 100.1 “Base Labor Rate” (Regardless of whether the additional artisans are hired by the Contractor as a specialty sub-contractor crew, or as an individual artisan) required to repair or maintain the bridges or any work that has not been included as incidental to any Contract Bid Item plus ten (10) percent. However, no artisans shall be hired until approved by the Engineer and competitive prices may

be required if the Engineer so directs. The Contractor will not bid this item. If the Engineer has knowledge of source of additional artisans, which are competitive with the Contractor's choice, then the Contractor may be required to investigate and use an alternative choice.

NON-BID ITEMS (Continued)

COST ESTIMATES

Where the scope of a repair task can be adequately determined and described, the Contractor, when directed by the Engineer, shall be required to submit a Cost Estimate for the repair task.

Each Cost Estimate, submitted in writing, shall include an itemized scope of work, a working schedule (including the number of working days and hours worked each day by each category of artisan), work procedures and a NOT-TO-EXCEED cost breakdown itemized by the following: the number and type of workers, the number and type of equipment, barges, materials, specialty contractors, engineering services, traffic controls and police, etc. The Cost Estimate submittal must also state if roadway closures, and waterway and/or bridge closures will be required.

The Engineer will approve each Cost Estimate submittal in writing. A submittal does not guarantee the Contractor will be assigned the work. Payment will be based on actual hours worked at the contractual rates for various items as previously described up to the maximum task amount. Completion of the task is the sole responsibility of the Contractor once the not-to-exceed amount has been reached. Should unforeseen problems develop during the task completion, the Contractor will submit to the Engineer a revised scope of work with a comparison to the original scope of work along with a breakdown of the additional costs for approval by the Engineer. Approval for any increases to the agreed upon not-to-exceed cost will be dependent upon the justification of the additional work.

If the Contractor performs work which is not provided for in this Contract, or which was not authorized in writing by the Engineer, said Contractor shall receive no compensation for such work.

The management of the project and generating Cost Estimates, including such items as the planning of repair details, hiring of subcontractors, meetings with affected parties, scheduling of required artisans, purchasing of the necessary materials and the arrangement of equipment rentals, etc., will be considered incidental to the work and as such, no additional compensation will be provided.

RATES OF PAYMENT

Payment for Non-Bid Items and Item 100.1 Base Labor Rate will be made for time spent on the project doing actual work on the Department's bridges and shall NOT include travel time to and from the Contractor's place of business and it shall also not include time for investigative field trips to find out how much material, equipment, tools, etc., may be needed for the work.

NON-BID ITEMS (Continued)

All equipment, materials, engineering costs and artisans' compensation which are necessary to prosecute the work under the various contract bid items shall be incidental to those bid Items at no additional compensation.

Note: For work covered by bid items in this contract and those not covered, there may be situations where the Department has pertinent materials or equipment stockpiled. The Department reserves the right to utilize these materials or equipment as seen fit in the prosecution of the work.

The Contractor will be reimbursed for the total actual cost (plus a percentage markup as indicated) for materials, equipment rental, additional artisans and engineering services required for related work directed by the Engineer. Artisans will be compensated as specified in Item 100.1 "Base Labor Rate". The Contractor will not bid the materials, equipment rental, additional artisan, and engineering services Items.

Payment for Non-Bid Items will be based on bills submitted, covering all charges for labor, materials, and equipment according to the respective terms of the contract. Bills covering the total charges incurred in any given month are to be submitted by the fifteenth of the following month for processing.

The Contractor is encouraged to submit bills/invoices of all charges to the Engineer by the 15th of the following month. It shall be required that the Contractor furnish certified copies of any or all payrolls for the Contract, showing the name, address, and occupational classification of each employee on said works, the hours worked by, and the wages paid to such employee.

DRAINAGE

It shall be the Contractor's responsibility to maintain the function of drainage systems in areas within or adjacent to the limits of construction.

DRAINAGE SEDIMENTS

Drainage sediments should be handled as directed in Subsection 227, Drainage System Sediment of the Standard Specifications. This work is included for payment under Item 227.3.

NORTHERN LONG-EARED BAT AND TRICOLORED BAT PROTECTION

The northern long-eared bat (*Myotis septentrionalis*; NLEB) and tricolored bat (*Perimyotis subflavus*; TCB) are listed as federally endangered or proposed endangered, respectfully, under the Endangered Species Act (ESA). The U.S. Fish and Wildlife Service (USFWS) developed this guidance to address ESA compliance and promote conservation of NLEB and TCB. As there is no Federal nexus (Federal funding or permits) for this project, Section 7 consultation was not required or conducted. However, Section 9 of the ESA prohibits anyone from "taking" or harming an endangered species, and the below language shall be adhered to in order to maintain compliance with the ESA.

If any of the project locations require work within U.S. Army Corps of Engineers (ACOE) jurisdictional wetlands, the ACOE will be the lead federal agency for ESA consultation with the U.S. Fish & Wildlife Service (USFWS). Most consultations for the NLEB take 30 days.

The following Avoidance and Minimization Measures (AMMs) must be strictly adhered to in order to protect NLEB and TCB and to be in compliance with the ESA. Contact MassDOT Environmental Services - Wildlife & Endangered Species Unit Supervisor (David Paulson, david.j.paulson@dot.state.ma.us, 857-262-3378) for questions about project limits, restrictions, or conservation measures.

The Resident Engineer can check on the status of AMM applicability by sending a locus map of the proposed work to MassDOT Highway Division's Environmental Services Section - Wildlife & Endangered Species Unit Supervisor for review and a determination if some of the AMMs and TOY restriction can be waived.

Required AMM for all projects:

- The Contractor shall ensure all personnel working in on the project site are aware of all environmental commitments related to NLEB and TCB, including all applicable AMMs. NLEB Bat information (https://www.fws.gov/midwest/endangered/mammals/nleb/ and https://www.fws.gov/species/tricolored-bat-perimyotis-subflavus) shall be made available to all personnel.

If temporary lighting is proposed within the project scope, the following AMM is applicable:
Lighting AMM:

- Direct temporary lighting away from suitable habitat during the active season: **April 1 to October 31.**

NORTHERN LONG-EARED BAT AND TRICOLORED BAT PROTECTION (Continued)

If the Removal of Trees and/or Woody Vegetation >3-inch in diameter is proposed within the project scope, the following AMMs are applicable:
Tree AMMs:

- If additional cutting is proposed by the Contractor that is outside the scope of this contract, additional review is required by the MassDOT Highway Division's Environmental Services Section, and additional review and restrictions may be required by the USFWS.

- Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).

- In order to protect northern long-eared bats and their young during their active season, **no tree cutting shall be conducted during the Time of Year (TOY) restriction of April 1 to October 31**.

- Do not remove **documented** or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or **documented** foraging habitat any time of year (http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/rare-mammals/northern-long-eared-bat.html).

- The Contractor shall ensure all personnel working in on the project site are aware of all environmental commitments related to NLEB and TCB, including the **TOY** restriction.

If the Bridge Work is proposed within the project scope, the following AMMs are applicable:
Bridge AMMs:

- **Bridge AMM 1** - To completely avoid direct effects to roosting bats, perform any bridge removal, replacement, and/or maintenance work during the winter hibernation period unless a hibernating colony of bats is present (contact your local USFWS Field Office for exact dates). Also, follow Bridge AMM 4.

    - **Note**: Bridge AMM 1 is an avoidance measure for direct effects; the full implementation of which may

      not always be practicable. **If bridge removal, replacement, and/or maintenance work must be performed outside of the winter hibernation period, then follow Bridge AMMs 2-4.**

NORTHERN LONG-EARED BAT AND TRICOLORED BAT PROTECTION (Continued)

- **Bridge AMM 2 - Colony or Assuming Presence of Bats**
    - If assuming presence of bats or if bridge assessment or P/A surveys suggest presence of a colony of bats, and work is conducted during the active season, ensure activity will not disturb bats. The following types of bridge work can generally be conducted with the presence of bats:
        - above deck work where construction equipment or materials do not extend to the underside of deck where bats may be located (e.g., materials that may drip down to underside of deck), or does not include percussives (vibration) or noise levels above general traffic (e.g., road line painting, wing-wall work).
        - below deck work that is conducted away from roosting bats and does not involve percussives or noise level above general traffic (e.g., wing-wall work, some abutment, beam end, scour, or pier repair).
- **Bridge AMM 3 - Small Number of Bats**
    - If bridge assessment or P/A surveys suggest presence of a small number of bats (<5 – not a colony), and work is conducted during the active season, the following types of bridge work can generally be conducted with the presence of bats:
        - above deck work where construction equipment or materials do not extend to the underside of deck where bats may be located (e.g., materials that may drip down to underside of deck), or does not include percussives (vibration) or noise levels above general traffic (e.g., road line painting, wing-wall work).
        - below deck work that is conducted away from roosting bats and does not involve percussives or noise level above general traffic (e.g., wing-wall work, some abutment, beam end, scour, or pier repair).
        - any other bridge removal, replacement, and/or maintenance work (which may include activities with percussives) conducted in the evening while the bats are feeding, starting one hour after sunset, and ending one hour before daylight excluding the hours between 10 p.m. and midnight and keep the light localized.
- **Bridge AMM 4** - If assuming presence of bats, or if bridge assessment or P/A surveys suggest presence of bats, ensure suitable roosting habitat is maintained. Suitable roosting sites may be incorporated into the design of a new bridge.

SECTION 722
CONSTRUCTION SCHEDULING
DESCRIPTION

722.20 General

The Contractor's approach to prosecution of the Work shall be disclosed to the Department by submission of a Critical Path Method (CPM) schedule and a cost/resource loaded Construction Schedule as defined by the schedule type set forth below. These requirements are in addition to any requirements imposed in other sections.

This section establishes the requirement for scheduling submissions. There are four schedule types identified as types A, B, C and D.

All schedules shall be prepared and submitted in accordance with this specification and the instructions contained in the Construction Schedule Toolkit located on the MassDOT-Highway Division website at https://www.mass.gov/info-details/massdot-highway-contractors-schedule-toolkit.

Type A –

- Schedule Planning Session
- Baseline CPM Schedule
- Monthly Update CPM Schedule
- Short-term Construction Schedule
- Contract Schedule Update Meeting
- Cost-loaded & Resource Loaded CPM
- Resources Graphic Reporting
- Cash Flow Projections from the CPM
- Cash Flow Charts
- Monthly Projected Spending Report (PSR)
- Contractor-furnished CPM software and computer

Type B –

- Schedule Planning Session
- Baseline CPM Schedule
- Monthly Update CPM Schedule
- Short-term Construction Schedule
- Contract Schedule Update Meeting
- Cost-loaded & Resource Loaded CPM
- Monthly Projected Spending Report (PSR)
- Contractor-furnished CPM software and computer

Type C –

- Schedule Planning Session
- Baseline CPM Schedule
- Monthly Update CPM Schedule
- Short-term Construction Schedule
- Contract Schedule Update Meeting
- Monthly Projected Spending Report (PSR)
- Contractor-furnished CPM software and computer

SECTION 722 (Continued)

Type D -

- Bar chart schedule updated monthly or at the request of the Engineer
- Short-term Construction Schedule
- Monthly Projected Spending Report (PSR)

EQUIPMENT, PERSONNEL

722.40 General

A. **Software Requirements**

The Contractor shall use Primavera P6 computer scheduling software.

In addition to the requirements of Section 740 – Engineer's Field Office and Equipment, the Contractor shall provide to the Department one (1) copy of the scheduling software, one (1) software license and one (1) computer capable of running the scheduling software for the duration of the Contract. This computer and software shall be installed in the Engineer's Field Office. The computer and software shall be maintained and serviced at no additional cost to the Department.

B. Scheduler Requirements

The Scheduler shall be approved by the Engineer.

For Type A, B and C Schedules the name of the Contractor's Project Scheduler together with his/her qualifications shall be submitted to the Department for approval by the Engineer within seven (7) Calendar Days after NTP. The Project Scheduler shall have a minimum of five (5) years of project CPM scheduling experience, three (3) years of which shall be on projects of similar scope and value as the project for which the Project Scheduler is being proposed. References shall be provided from past projects that can attest to the capabilities of the Project Scheduler.

SCHEDULING METHODS

722.60 General

A. **Schedule Planning Session**

The Contractor shall conduct a schedule planning session prior to submission of the Baseline Schedule. This session will be attended by the Department and its consultants. During this session, the Contractor shall present its planned approach to the project including, but not limited to:

1. the Work to be performed by the Contractor and its subcontractors;
2. the planned construction sequence and phasing; planned crew sizes;
3. summary of equipment types, sizes, and numbers to be used for each work activity;
4. all early work related to third party utilities;
5. identification of the most critical submittals and projected submission timelines;
6. estimated durations of major work activities;
7. the anticipated Critical Path of the project and a summary of the activities on that Critical Path;
8. a summary of the most difficult schedule challenges the Contractor is anticipating and how it plans to manage and control those challenges;

SECTION 722 (Continued)

9. a summary of the anticipated quarterly cash flow over the life of the project.

This will be an interactive session and the Contractor shall answer all questions that the Department and its consultants may have. The Contractor shall provide a written summary of the information presented and discussed during the session to the Engineer. The Contractor's Baseline Schedule and accompanying Schedule Narrative shall incorporate the information discussed at this Schedule Planning Session.

B. **Schedule Reviews by the Department**

1. Baseline Schedule Reviews
   The Engineer will respond to the Baseline Schedule Submission within thirty (30) Calendar Days of receipt providing comments, questions and/or disposition that either accepts the schedule or requires revision and resubmittal. Rejected Baseline Schedules shall be resubmitted within fifteen (15) Calendar Days after receipt of the Engineer's comments.
2. Contract Progress Schedule / Monthly Update Reviews / Recovery Schedules
   The Engineer will respond to each submittal within twenty-one (21) Calendar Days. Rejected schedules shall be resubmitted by the Contractor within five (5) Calendar Days after receipt of the Engineer's comments.

The Engineer's review comments shall not be construed as direction to change the Contractor's means and methods. The review and acceptance of the CPM schedule does not relieve the Contractor of the responsibility for accomplishing the work within the contract required completion dates. Omissions and errors in the accepted CPM schedule shall not excuse performance less than that required by the Contract.

722.61 Schedule Content and Preparation Requirements

All schedules shall be prepared and submitted in accordance with the instructions contained in the Construction Schedule Toolkit located on the MassDOT-Highway Division website at:
https://www.mass.gov/info-details/massdot-highway-contractors-schedule-toolkit
and the following:

A. **LOGIC**

The schedules shall divide the Work into activities with appropriate logic ties to show:

1. conformance with the requirements of this Section and Division I, Subsection 8.02 - Schedule of Operations
2. the Contractor's overall approach to the planning, scheduling, and execution of the Work
3. conformance with any additional sequences of Work required by the Contract Documents, including, but not limited to, Subsection 8.03 - Prosecution of Work and Subsection 8.06 – Limitations of Operations.

SECTION 722 (Continued)

B. **ACTIVITIES**

The schedule shall clearly define the progression of the Work from the Notice to Proceed (NTP) to Contractor Field Completion (CFC) by using separate activities, or including attributes within appropriate activities, to address each of the following:

1. Notice to Proceed
2. Work Breakdown Structure
3. The Critical Path is clearly defined and organized.
4. Float shall be clearly identified.
5. Detailed activities to satisfy permit requirements.
6. Subcontractor approvals at fifteen (15) Calendar Days from submittal to response
7. The preparation and submission of shop drawings, procedures, and other required submittals, with a planned duration that is to be demonstrated to the Engineer as reasonable.
8. The review and return of shop drawings, procedures, and other required submittals, approved or with comments, the duration of which shall be thirty (30) Calendar Days, unless otherwise specified or as approved by the Engineer.
9. Procurement of fabricated materials and equipment with long lead times, including time for review and approval of submittals required before procuring and fabricating.
10. Each component of the Work defined by specific activities.
11. Right-of-Way (ROW) takings that have been identified in the Contract.
12. Early Utility Relocation (by others) that has been identified in the Contract.
13. Interfaces with adjacent work, utility companies, other public agencies, sensitive abutters, and/or any other third-party work affecting the Contract.
14. Utility work to be performed in accordance with the Project Utility Coordination (PUC) Form as provided in Section 8.14 - Utilities Coordination, Documentation and Monitoring Responsibilities
15. Access Restraints – restrictions on access to areas of the Work that are defined by the Department in the bid package, in Subsection 8.06 – Limitations of Operations or elsewhere in the Contract
16. Limitations of Work – time of year restrictions and any other limitations identified in the contract
17. Traffic work zone set-up and removal, night work and phasing
18. Material Certifications
19. Milestones listed in Subsection 8.03 - Prosecution of Work or elsewhere in the Contract Documents
20. For Type A and B Contracts only: All items to be paid for, including all Unit Price and Lump Sum pay items, shall be identified by activity. This shall include all non-construction activities such as engineering work; purchase of permanent materials and equipment, purchase of structural steel stock, equipment procurement, equipment delivery to the site or storage location and the representative amount of overhead/indirect costs that was included in the Contractor's Bid Prices.

SECTION 722 (Continued)

21. Contractor's request for validation of FBU (ready to open to traffic)
22. Full Beneficial Use (FBU) Contract Milestone per the following requirements: The majority of contract Work has been completed and the asset(s) has been opened for full multi-modal transportation use, except for limited contract work items that do not materially impair or hinder the intended public use of the transportation facility. All anticipated lane takings have been completed, except for minor, short term work items and as defined in Subsection 8.03 - Prosecution of Work
23. The Department's confirmation of completed work to allow for FBU.
24. Contractor's request for validation of Substantial Completion
25. Department generated punch list of twenty-one (21) Calendar Days
26. Substantial Completion Contract Milestone as defined in the standard specifications.
27. Punch list Completion Period of at least thirty (30) Calendar Days per the requirements of Subsections 5.11 - Final Acceptance, 7.15 - Claims Against Contractors for Payment of Labor, Materials and Other Purposes
28. Contractor confirmation that all punchlist work and documentation has been completed.
29. Physical Completion of the Work Contract Milestone per the requirements of Subsections 5.11 - Final Acceptance and 8.03 - Prosecution of Work
30. Documentation Completion per the requirements of Subsections 5.11 - Final Acceptance and 8.03 - Prosecution of Work
31. Contractor Field Completion Contract Milestone (which can also be considered the completion date) per the following requirements: All physical contract Work is complete including punchlist. The Contractor has fully de-mobilized from field operations and as defined in Subsection 5.11

C. **EARLY AND LATE DATES**

Early Dates shall be based on proceeding with the Work or a designated part of the Work exactly on the date when the corresponding Contract Time commences. Late Dates shall be based on completing the Work or a designated part of the Work exactly on the corresponding Contract Time, even if the Contractor anticipates early completion.

D. **DURATIONS**

Activity durations shall be in Work Days. Planned Original Durations shall be established with consideration of resources and production rates that correspond to the Contractor's Bid Price. Within all of the Department-required schedules, the Contractor shall plan the Work using durations for all physical construction activities of no less than one (1) Work Day and no greater than fourteen (14) Work Days, unless approved by the Engineer as part of the Baseline Schedule Review.

SECTION 722 (Continued)

Should there be an activity with a duration that is determined by the Engineer to be unreasonable, the Contractor will be asked to provide a basis of the duration using bid documents, historic production rates for similar work, or other form of validation that is acceptable to the Engineer. Should the Contractor and the Engineer be unable to agree on reasonable activity durations, the Engineer will, at a minimum, note the disagreement in the Baseline Schedule Review along with a duration the Engineer considers reasonable and the basis for that duration. A schedule that contains a substantial number of activities with durations that are deemed unreasonable by the Engineer will not be accepted.

E. **MATERIALS ON HAND**

The Contractor shall identify in the Baseline Schedule all items of permanent materials (Materials On Hand) for which the Contractor intends to request payment prior to the incorporation of such items into the Work.

F. **ACTIVITY DESCRIPTIONS**

The Contractor shall use activity descriptions in all schedules that clearly describe the work to be performed using a combination of words, structure numbers, station numbers, bid item numbers, work breakdown structure (WBS) and/or elevations in a concise and compact label.

G. **ACTIVITY IDENTIFICATION NUMBERS**

The Contractor shall use the activity identification numbering system specified in the MassDOT Highway Division Contractor Construction Schedule Toolkit.

H. **ACTIVITY CODES**

The Contractor shall use the activity codes specified in the MassDOT Highway Division Contractor Construction Schedule Toolkit.

I. **CALENDARS**

Different calendars may be created and assigned to all activities or to individual activities. Calendars define the available hours of work in each Calendar Day, holidays and general or project-specific non-Work Days such as Fish Migration Periods, time-of-year (TOY) restrictions and/or area roadway restrictions. All calendars shall extend two years beyond the current project completion date.

Project Special Provisions identify specific calendar restrictions some examples of special calendars include, but are not limited to:

- Winter Shutdown Period, specific work is required by separate special provision to be performed during the winter. See Special Provision 8.03 (if applicable)
- Peak traffic hours on heavily traveled roadways. This shall be from 6:30 am to 9:30 am and from 3:30 pm to 7:00 pm, unless specified differently elsewhere in the Contract.
- Special requirements by sensitive abutters, railroads, utilities and/or other state agencies as defined in the Contract.
- Planting seasons for trees, shrubs and grasses and wetlands mitigation work.

SECTION 722 (Continued)

- Cape Cod and the Islands Summer Roadway Work Restrictions: A general restriction against highway and bridge construction is enforced between Memorial Day and Labor Day, unless otherwise directed by the Engineer. Cape Ann Summer Roadway Work Restrictions: While there are no general restrictions for Cape Ann as there are for Cape Cod and the Islands, project-specific restrictions may be enforced.
- Turtle and/or Fish Migration Periods and/or other in-water work restrictions: Refer to the Project Special Provisions for specific restrictions.
- Working over Waterways Restricted Periods.
- Night-time paving and striping operations, traffic, and temperature restrictions.
- Utility Restrictions shall be as specified within the Contract.

J. **FLOAT**

For the calculation of float in the CPM schedule, the setting for *Retained Logic* is required for all schedule submissions, starting with the Baseline Schedule Submission. Should the Contractor have a reason to propose that an alternative calculation setting such as *Progress Override* be used, the Contractor shall obtain the Engineer's approval prior to modifying to this setting.

K. **COST AND RESOURCE LOADING (Types A and B only)**

For all Type A and B Schedules, the Contractor shall provide a cost and resource-loaded schedule with an accurate allocation of the costs and resources necessary to complete the Work. The costs and resources shall be assigned to all schedule activities in order to enable the Contractor to efficiently execute the Contract requirements and the Engineer to validate the original plan, monitor progress, provide cash flow projections, and analyze delays.

1. Each schedule activity shall have an assigned cost that accurately represents the value of the Work. Each schedule activity shall have its resources assigned to it by craft and the anticipated hours to accomplish the work. Each schedule activity's equipment resources shall be assigned to it by equipment type and hours operated. Front-loading or other unbalancing of the cost distribution will not be permitted.
2. The sum of the cost of all schedule activities shall be equal to the Contractor's Bid Price.
3. Indicating the labor hours per individual, per day, by craft and equipment hours/day will be acceptable.
4. The Engineer reserves the right to use the cost-loading as a means to resolve changes, disputes, time entitlement evaluations, increases or decreases in the scope of Work, unit price renegotiations and/or claims.
5. For all Type A and B Schedules, all subnets, fragnets, Proposal Schedules, and Recovery Schedules shall be cost and resource- loaded to help to quickly validate and monitor the duration of the Work to be performed.
6. For Type A Schedules, cost-loading of the schedule will also be used for cash flow projection purposes.
7. The cost-loading of each activity shall indicate the portion of the cost for that activity that is applicable to a specific bid item (cost account.) The total cost for each cost account must equal the bid item price.

SECTION 722 (Continued)

L. **NOT TO BE USED IN THE CONTRACTOR'S CPM SCHEDULE**

1. Milestones or constraint dates not specified in the Contract.
2. Scheduled work not required for the accomplishment of a Contract Milestone
3. Use of activity durations, logic ties and/or sequences deemed unreasonable by the Engineer.
4. Delayed starts of follow-on trades.
5. Float suppression techniques.
6. Leads such as leads, lags, SS, SF, & FF relationships without the expressed permission of the Department.

722.62 Submittal Requirements

All schedules shall be prepared and submitted in accordance with the requirements listed below.

Each monthly Contract Progress Schedule submittal shall be uniquely identified.

Each Submission shall, at a minimum, include the following:

a. Narrative
b. Schedule submittals shall be signed by the Scheduler
c. Schedule Printout - All Activities
d. Schedule Printout - Critical Path Layout
e. Schedule Printout - Remaining Work
f. Schedule Printout - Top 3 Float Path
g. Work Breakdown Structure (WBS) Summary
h. Project Spending Report (PSR) in Portable Document Format (.PDF)
i. Project Spending Report (PSR) in Microsoft Excel spreadsheet (.XLS)
j. Oracle Primavera P6 Schedule File (.XER)

All digital file submittals will be labeled with the following information.

- Contract Number
- Project Number
- Project locations (i.e., town(s))
- Brief description
- Submittal description (i.e., UP07)
- Data Date (MM-DD-YY)
- File Description (i.e., Critical Path)

Example: C110464 (P606309) - Orange Route 2 over 202 – UP23 (07-15-22) - Critical Path

A. **Narratives**

A written narrative shall be submitted with every schedule submittal. The narrative shall:

1. itemize and describe the flow of work for all activities on the Critical Path in a format that includes any changes made to the schedule since the previous Contract Progress Schedule / Monthly Update or the Baseline Schedule, whichever is most recent.
2. provide a description of any specification requirements that are not being followed. Identify those that are improvements and those that are not considered to be meeting the requirements.

SECTION 722 (Continued)

3. provide all references to any Notice of Delay that has been issued, within the time period of the Contract Progress Schedule Update, by letter to the Engineer. Note that any Notice of Delay that is not issued by letter will not be recognized by the Engineer. See Subsection 722.64.A – Notice of Delay.
4. provide a description of each third-party utility's planned vs. actual progress and note any that are trending late or are late per the durations and commitments as provided in the PUC Form; provide a description of the five (5) most important responses needed from the Department and the need date for the responses in order to maintain the current Schedule of Record.
5. provide a description of all critical issues that are not within the control of the Contractor or the Department (third party) and any impact they had or may have on the Critical Path.
6. provide a description of any possible considerations to improve the probability of completing the project early or on time.
7. compare Early and Late Dates for activities on the Critical Path and describe reasons for changes in the top three (3) most critical paths.
8. describe the Contractor's plan, approach, methodologies, and resources to be employed for completing the various operations and elements of the Work for the top three (3) most critical paths. For update schedules, describe and propose changes to those plans and verify that a Proposal Schedule is not required.
9. describe, in general, the need for shifts that are not 5 days/week, 8 hours/day, the holidays that are inserted into each calendar and a tabulation of each calendar that has been used in the schedule.
10. describe any out-of-sequence logic and provide an explanation of why each out-of-sequence activity does not require a correction, if one has not been provided, and an adequate demonstration that these changes represent the basis of how these activities will be built, including considerations for resources, dependencies, and previously approved production rates.
11. identify any possible duration increases resulting from actual or anticipated unit price item quantity overruns as compared to the baseline duration, with a corresponding suggestion to mitigate any possible delays to the Critical Path. If the delay is anticipated to impact the Critical Path, refer to Subsections 4.06 – Increased or Decreased Contract Quantities and 8.10 – Determination and Extension of Contract Time for Completion and submit a letter to the Engineer notifying of a potential delay.
12. include a schedule log consisting of the name of the schedule, the data date and the date submitted.
13. include and describe any notifications, communications and coordination meetings with third-parties such as utility companies that occurred from the last update including personnel names, job titles and contact information, date of meeting(s)/correspondence(s), topics discussed, and reasons the third party provided for deviations from the PUC form.

SECTION 722 (Continued)

B. **CPM Bar Charts**

One (1) timescaled bar chart containing all activities shall be prepared and submitted using a scale that yields readable plots and that meets the requirements of Subsection 722.61 – Schedule Content and Preparation Requirements Activities shall be linked by logic ties and shown on their Early Dates. Critical Paths shall be highlighted, and Total Float shall be shown for all activities.

A second timescaled bar chart shall also be prepared containing only the Critical Path or, if the Critical Path is not the longest path, the Longest Path using a scale that yields readable plots and that meets the requirements of Subsection 722.61 – Schedule Content and Preparation Requirements. Activities shall be linked by logic ties and shown on their Early Dates. Total Float shall be shown for all activities.

C. Detailed Activity Schedule Comparisons

A Detailed Activity Schedule Comparison (DASC) is a simple reporting tool in the format of a graphical report that will provide Resident Engineers with immediate, timely and up-to-date information. The DASC consists of an updated bar chart that overlays the current time period's bar chart onto the previous time period's bar chart for an easily read comparison of progress during the present and previous reporting periods.

D. Activity Cost Report and Monthly Cash Flow Projections (Type A only)

With each Contractor Quantity Estimate (CQE), the Contractor shall submit an Activity Cost Report and Cash Flow Projection that includes all activities grouped by Contract Bid Item.

The Activity Cost Report shall be generated from the Schedule of Record and shall be the basis of the Monthly Cash Flow Projection. Within each contract Bid Item, activities shall be sequenced by ascending activity identification number and shall show:

1. activity ID and description,
2. forecast start and finish dates for each activity and,
3. when submitted as a revised schedule, actual start, and finish dates for each completed activity.
4. any variance to the estimated contract quantity shall be shown.

E. Resource Graphs (Type A only)

Monthly and cumulative resource graphs for the remaining Contract period using the Early Dates and Late Dates in the Contract Progress Schedule shall be included as part of each schedule submittal.

SECTION 722 (Continued)

F. Projected Spending Reports

A Projected Spending Report (PSR) shall be prepared and submitted monthly. The PSR shall indicate the monthly spending (cash flow) projection for each month from NTP to Contractor Field Completion (CFC). Each month's actual spending shall be calculated using all CQEs paid during that month. The Projected Spending Report (PSR) shall be depicted in a tabular format and provided in both an .XLS and .PDF.

722.63. Progress Schedule Requirements

A. Baseline Schedule

The Baseline Schedule shall be due thirty (30) Calendar Days after Notice to Proceed (NTP). The Baseline Schedule shall only reflect the Work awarded to the Contractor and shall not include any additional work involving Extra Work Orders or any other type of alleged delay. The Baseline Schedule shall be prepared and submitted in accordance with Subsections 722.61 - Schedule Content and Preparation Requirements and 722.62 - Submittal Requirements. Once the Baseline Schedule has been accepted by the Engineer, with or without comments, it shall represent the as-planned schedule for the Work and become the Contract Progress Schedule of Record until such time as the schedule is updated or revised under Subsections 722.63.C - Contract Progress Schedules / Monthly Updates, 722.64.C - Recovery Schedules and 722.64.D - Proposal Schedules.

The Cost and Resource-Loading information (Types A and B only) shall be provided by the Contractor within forty-five (45) Calendar Days after NTP.

The Engineer's review comments on the Baseline Schedule and the Contractor's responses to them will be maintained for the duration of the Contract and will be used by the Engineer to monitor the Contractor's work progress by comparing it to the Contract Progress Schedule / Monthly Update.

B. Interim Progress-Only Schedule Submissions

The first monthly update of the Contract Progress Schedule/Monthly Update is due within seventy (70) Calendar Days after Notice to Proceed (NTP.) The Baseline Schedule review period ends at sixty (60) Calendar Days after NTP, see Subsection 722.60.B - Schedule Reviews by the Department. If the Baseline Schedule has not been accepted within sixty (60) Calendar Days after NTP, an Interim Progress-Only Schedule shall be due within seventy (70) Calendar Days after NTP. The purpose of the Interim Progress-Only Schedule is to document the actual progress of all activities, including non-construction activities, from NTP until the Baseline Schedule is accepted.

SECTION 722 (Continued)

C. Contract Progress Schedules / Monthly Updates

The first Contract Progress Schedule shall be submitted by the Contractor no later than seventy (70) Calendar Days after NTP. The data date for this first Progress Schedule shall be two months (approximately sixty (60) Calendar Days) after NTP. Subsequent Progress Schedules shall be submitted monthly.

Each Contract Progress Schedule shall reflect progress up to the data date. Updated progress shall be limited to asbuilt sequencing and asbuilt dates for completed and inprogress activities. Asbuilt data shall include actual start dates, remaining Work Days and actual finish dates for each activity, but shall not change any activity descriptions, the Original Durations, or the Original Resources (as planned at the time of bid), without the acceptance of the Engineer. If any activities have been completed out-of-sequence, the Contractor shall propose new logic ties for affected in-progress and future activities that accurately reflect the previously approved sequencing. Alternatively, the Contractor may submit to the Engineer for approval an explanation of why an out-of-sequence activity does not require a correction and an adequate demonstration that the changes accurately represent how the activities will be built, including considerations for resources, dependencies, and previously approved production rates. Once approved by the Engineer, the Contractor may incorporate the changes in the next Contract Progress Schedule/Monthly Update with the affected activities clearly identified and explained in the Schedule Narrative.

No revisions to logic ties, sequence, description, or duration of future activities; or planned resource costs shall be made without prior approval by the Engineer.

Any proposed logic changes for in-progress or future activities shall be submitted to the Engineer for approval before being incorporated into a Contract Progress Schedule. The logic changes must be submitted using a Proposal Schedule or a schedule fragnet submission. Once approved by the Engineer, the Contractor may incorporate the logic in the next Contract Progress Schedule/Monthly Update with the affected activities clearly identified and explained in the Schedule Narrative.

For any proposed changes to the original sequence, description or duration of future activities, the Contractor shall submit to the Engineer for approval an explanation of how the proposed description or duration change reflects how the activity will be progressed, including considerations for resources and previously approved production rates. Any description or duration change that does not accurately reflect how the activity will be progressed will not be approved by the Engineer. Once approved by the Engineer, the Contractor may incorporate the changes in the next Contract Progress Schedule/Monthly Update with the affected activities clearly identified and explained in the Schedule Narrative.

Contract Progress Schedules that extend performance beyond the Contract Time or beyond any Contract Milestone shall not be approved by the Engineer. The Contractor shall submit a Recovery Schedule, or a Time Entitlement Analysis, if any Contract Progress Schedule/Monthly Update indicates a failure to meet the Contract Dates.

SECTION 722 (Continued)

D. Short-Term Construction Schedule

The Contractor shall provide a Short-Term Construction Schedule that details daily work activities, including any multiple shift work that the Contractor intends to conduct, in a spreadsheet format. The daily activities shall directly correspond to the Contract Progress Schedule activities, with a matching reference to the activity identification number in the Contract Progress Schedule and may be at a greater level of detail. The Short-Term Construction Schedule shall be submitted every two weeks. It shall display all work for a thirty-five (35) Calendar Day period consisting of completed work for the two (2) week period prior and all planned work for the following three (3) week period. The initial submission shall be provided no later than thirty (30) Calendar Days after NTP or as required by the Engineer.

The Contractor shall be prepared to discuss the Short-Term Construction Schedule, in detail, with the Engineer in order to coordinate field inspection staff requirements, the schedule of work affecting abutters and any corresponding work with affected utilities. Short-Term Construction Schedules shall be prepared and submitted in accordance with Subsections 722.61 - Schedule Content and Preparation Requirements and 722.62 - Submittal Requirements.

722.64 Impacted Schedule Requirements

A. Notice of Delay

The Contractor shall notify the Engineer in writing, with copies to the District and State Construction Engineers, within fifteen (15) of the start of any delays to the Critical Path that are caused by actions or inactions that were not within the control of the Contractor. Delay notifications that are not provided in a letter to the Engineer, such as a delay notification in the schedule narrative, will not be recognized as contractual notice in the determination of any Time Extension related to the impacts to the work associated with this specific alleged delay. Should such a delay continue for more than one (1) week, the Contractor shall note it in the Schedule Narrative until the delay is no longer impacting the Critical Path for the completion of the Contract Milestones. The Engineer will evaluate the alleged delay and its impact and will respond to the Contractor within ten (10) Calendar Days after receipt of a notice of delay.

B. Time Entitlement Analysis

A Time Entitlement Analysis (TEA) shall consist of a descriptive narrative, prepared in accordance with Subsection 722.62.A - Narratives, and an as-built CPM schedule, which may be in the form of a schedule fragnet that has been developed from the project's Contract Progress Schedule of Record, and illustrates the impact of a delay to the Critical Path, Contract Milestones and/or Contract Completion Date as required in Subsection 8.10 - Determination and Extension of Contract Time for Completion. TEAs shall also be used to determine the schedule impact of proposed Extra Work Orders (EWO) as also required in Subsection 8.10.

TEAs shall be prepared and submitted in accordance with the requirements of Subsections 722.61 - Schedule Content and Preparation Requirements and 722.62 - Submittal Requirements and shall be based on the Contract Progress Schedule of Record applicable at the start of the delay or impact from an EWO. A TEA fragnet must start with a specific new activity describing the work contained in either a Notice of Delay previously submitted to the Department per Subsection 722.64.A - Notice of Delay or an EWO.

SECTION 722 (Continued)

TEAs shall be submitted:

1. as part of any Extra Work Order that may impact Contract Time,
2. with a request for a Time Extension,
3. within fifteen (15) Calendar Days after a request for a TEA by the Engineer for any other reason.

A TEA shall be submitted to the Engineer before any Time Extension is granted to the Contractor. Time Extensions will not be granted unless the TEA accurately reflects an evaluation of all past delays and the actual events that occurred that impacted the Critical Path. The TEA must also demonstrate a plan for the efficient completion of all of the remaining work through an optimized CPM Schedule. The analysis shall include all delays, including Contractor-caused delays, and shall be subdivided into timeframes and causes of delays.

TEAs shall incorporate any proposed activities, logic ties, resource considerations, and activity costs required to demonstrate the schedule impacts most efficiently in addition to detailing all impacts to existing activities, logic ties, the Critical Path, Contract Milestones, and the Contract Completion Date. In addition, TEAs shall accurately reflect any changes made to activities, logic ties, restraints, and activity costs, necessitated by an Extra Work Order or other schedule impact, for the completion of the remaining work. The Contractor shall provide TEAs that demonstrate that all delays have been mitigated to the fullest extent possible without requiring an Equitable Adjustment to the original bid basis.

All TEAs shall clearly indicate any overtime hours, additional shifts and the resources that are proposed to be incorporated in the schedule. The Engineer shall have final discretion over the use of overtime hours and additional shifts. The Engineer shall have the right to require that overtime hours and/or additional shifts be used to minimize the duration of Time Extensions if it is determined to be in the best interest of the Department to do so.

When accepted, the changes included in a TEA shall be incorporated into the next Contract Progress Schedule per the requirements of Subsection 722.63.C - Contract Progress Schedules / Monthly Updates. During the review of any TEA, all Contract Progress Schedules shall continue to be submitted as required.

The Engineer may request that the Contractor prepare a Proposal Schedule or a Recovery Schedule to further mitigate any delays that are shown in the accepted TEA or Contract Progress Schedule.

C. Recovery Schedules

The Contractor shall promptly report to the Engineer all schedule delays during the prosecution of the Work. Contract Progress Schedules that predict performance extended beyond the Contract Time or beyond any Contract Milestone shall not be approved as the schedule of record. This requirement is critical to the Department's ability to make informed decisions regarding Contract Time and costs.

The Contractor shall submit a Recovery Schedule within fifteen (15) Calendar Days of a Contract Progress Schedule submission that shows failure to meet the Contract Dates unless a recovery schedule is waived by the Department. Waiving the recovery schedule does not relieve the contractor of the responsibility for the delay. The Department may revoke the waiver of a Recovery Schedule, at which time a Recovery Schedule shall be submitted within fifteen (15) Calendar Days of the Contractor being notified.

Changes represented in accepted Recovery Schedules shall be incorporated into the next Contract Progress Schedule.

SECTION 722 (Continued)

D. Proposal Schedules

A Proposal Schedule is an alternative schedule used to evaluate proposed changes to the Contract scope or significant alternatives to previously approved approaches to complete the Work, which may include changes to activity durations, logic, and sequence. For Types A and B Schedules, the Proposal Schedule shall be cost and resource loaded.

A Proposal Schedule may be requested by the Department at any time or may be offered by the Contractor. The Engineer may request that the Contractor prepare a Proposal Schedule to further mitigate any delays that are shown in an accepted TEA or Contract Progress Schedule.

The Contractor shall submit the Proposal Schedule within thirty (30) Calendar Days of a request from the Department.

The Proposal Schedule shall not be considered a Schedule of Record until the logic, durations, narrative, and basis of the Proposal Schedule have been accepted by the Engineer. If the Proposal Schedule took the form of a fragnet, it must be incorporated into the Contract Progress Schedule of Record showing the current progress of all other activities and the impacts/results of the changes made by the Proposal Schedule before the Proposal Schedule is accepted by the Department.

Proposal Schedules shall clearly indicate any proposed acceleration including overtime hours, additional shifts, and the resources that are proposed to be incorporated in the schedule. The Engineer shall have final discretion over the use of overtime hours and additional shifts. Proposal Schedules that contain a cost element shall be submitted with a separate Cost Proposal.

Changes represented in the accepted Proposal Schedules shall be incorporated into the next Contract Progress Schedule. During the review of any Proposal Schedule, all Contract Progress Schedules shall continue to be required every month.

E. Disputes

All schedules shall be submitted, reviewed, dispositioned, and accepted in the timely manner specified herein so as to provide the greatest possible benefit to the execution of this Contract.

The Contractor may dispute a decision by the Engineer by filing a claim notice within seven (7) days after the Contractor's request for additional time has been denied or if the Contractor does not accept the number of days granted in a time extension. The Contractor's claim notice shall include a revised time entitlement analysis that sufficiently explains the basis of the time-related claim. Failure to submit the required time entitlement analysis with the claim notice shall result in denial of the Contractor's claim. A determination on the Contractor’s claim shall be in accordance with Subsection 7.16 Claims of Contractor for Compensation. Pending resolution of any dispute, the last schedule accepted by the Engineer will remain the Contract Schedule of Record.

SECTION 722 (Continued)

722.65 Schedule Type D Requirements

This section is to detail the requirements for Type D Schedules and is separate from the requirements listed above. These schedules are intended for a project in which a more formal schedule would not be practical.

Schedules for Type D projects shall be submitted for each work assignment. The Schedule Type D shall be submitted electronically in .XLS and .PDF format and meet the following requirements.

The schedule requirements for work assignments that are anticipated to last three weeks or less shall conform to the requirements for Short-term Construction Schedules below.

Work assignments that are anticipated to last longer than three weeks shall submit a bar chart baseline and provided update schedules upon request of the engineer as required under Bar Chart Schedule below in addition to meeting the Short-term Construction schedule requirements.

A. **Bar Chart Schedule**

A Bar Chart that shall include the following:

- Work Assignment start date.
- Activities to identify.
  - Major work operations broken down to be no longer than 14 days.
  - Procurement of fabricated materials and equipment with long lead times, including time for review and approval of submittals required before procuring and fabricating.
  - The preparation and submission of shop drawings, procedures, and other required submittals, with a planned duration that is to be demonstrated to the Engineer as reasonable.
  - The review and return of shop drawings, procedures, and other required submittals, approved or with comments, the duration of which shall be shown as thirty (30) Calendar Days,
  - Detailed activities to satisfy permit requirements.
  - Subcontractor approvals at fifteen (15) Calendar Days from submittal to response
  - Project Close out activities including a 21-calendar day creation of a punchlist activity and 30 calendar day minimum completion of punchlist activity.
- Interfaces with adjacent work, utility companies, other public agencies, sensitive abutters, and/or any other third-party work affecting the Contract.
- Access Restraints – restrictions on access to areas of the Work
- Traffic work zone set-up and removal, night work and phasing
- Contract Milestones including Full beneficial Use, Substantial Completion and Contractor Field Completion

The Bar Char Schedule shall be provided at the beginning of the project and updated with each work order created for the project.

SECTION 722 (Continued)

B. **Short-Term Construction Schedule**

The Contractor shall provide a Short-Term Construction Schedule that details daily work activities, including any multiple shift work that the Contractor intends to conduct, in a spreadsheet format. The daily activities shall directly correspond to the Contract Progress Schedule activities, with a matching reference to the activity identification number in the Contract Progress Schedule and may be at a greater level of detail. See schedule toolkit for suggested format.

The Short-Term Construction Schedule shall be submitted every two weeks. It shall display all work for a thirty-five (35) Calendar Day period consisting of completed work on the assignment for the two week period prior and all planned work for the following three week period. The initial submission shall be provided no later than thirty (30) Calendar Days after NTP or as required by the Engineer.

The Contractor shall be prepared to discuss the Short-Term Construction Schedule, in detail, with the Engineer in order to coordinate field inspection staff requirements, the schedule of work affecting abutters and any corresponding work with affected utilities.

C. **Project Spending Report (PSR)**

A Projected Spending Report (PSR) shall be prepared and submitted monthly. The PSR shall be for all active work assignments, broken down by work assignment. The PSR shall indicate the monthly spending (cash flow) projection for each month from NTP to Contractor Field Completion (CFC). Each month's actual spending shall be calculated using all CQEs paid during that month. The Projected Spending Report (PSR) shall be depicted in a tabular format and provided in both an .XLS and .PDF

SECTION 722 (Continued)

COMPENSATION

722.80 Method of Measurement

Schedule of Operations (Type A, B and C)

The project bid documents specify the fixed-price amounts to be paid to the Contractor for the Project Schedule requirements contained herein. Each bidder shall include this fixed price bid item amounts in their bid. Failure to do so may be grounds for the rejection of the bid.

This fixed price amount is for payment purposes only and is separate from what the Department considers to be the Contractor's General Condition costs. If the Contractor deems it necessary to include additional costs to provide all of the requirements of this section, these additional costs shall be included in the Contractor's overall bid price.

All required schedule-related work, including, but not limited to computers, computer software, the planning and coordination with utilities, training, schedule preparation and schedule submittals will be paid for under the fixed price amount.

Twenty percent (20%) of this pay item will be paid upon the Engineer's acceptance of the Contractor's Baseline Schedule, prepared and submitted in accordance with Subsection 722.63.A.

The remaining eighty percent (80%) of this pay item will be paid in equal monthly installments distributed across the Contract Duration from Notice to Proceed (NTP) to Contractor Field Completion (CFC), less the 2 months required for the submittal and review of the Baseline Schedule in accordance with the following formula:

$$\text{Monthly Payment} = \frac{\text{Remaining Fixed Price amount (80\% of the Item Cost.)}}{\text{Contract Duration in whole months} - 2 \text{ months}}$$

The Schedule of Operations pay item will be adjusted to pay for only the actual quantity of schedules that have been submitted in accordance with this section.

Should there be a Time Extension granted to the Contractor, the Engineer may provide an Equitable Adjustment for additional Contract Progress Schedule Updates at intervals directed by the Engineer. The monthly payment will be the basis for this Equitable Adjustment.

Schedule of Operations (Type D)

For projects assigned with Type D schedule requirements, all scheduling work shall be considered incidental to the project with no separate payment under this section.

SECTION 722 (Continued)

722.81 Basis of Payment

The timely and accurate submission of the Baseline Schedule is critical to the Contract and the Department's ability to make informed decisions. Only payments under Item 740 - Engineer's Field Office and Item 748 – Mobilization will be made until the Baseline Schedule is accepted by the Engineer.

All required schedule-related work, including, but not limited to computers, computer software, the planning and coordination with utilities, training, schedule preparation and schedule submittals (including monthly progress schedules, short-term schedules, project spending reports, TEAs, recovery schedules or impacted schedules) shall be included in this work.

No payment for any other pay item will be processed beyond seventy-five (75) Calendar Days from Notice to Proceed (NTP) until the Baseline Schedule is accepted by the Engineer. Until the Engineer's acceptance of the Baseline Schedule, the combined total of all payments made to the Contractor will be limited to an amount no greater than the total price for Item 748 - Mobilization or 3% of the contract price, whichever is less.

All Contract Progress Schedule Updates submitted later than ten (10) Calendar Days after the CQE (Contract Quantity Estimate) completion date, or greater than forty (40) Calendar Days from the Data Date of the previous submission, will be deemed to be no longer useful and will not qualify for payment. The late submission of Impacted schedules, including TEAs, recovery schedules and proposal schedules will result in the forfeiture of the monthly payment for the month in which they were due and subsequent months until the submission is made. Late submission of missed submittals will not result in recovery of the previously forfeited portion of the Schedule of Operations Fixed Price Payment Item.

Failure to submit schedules as and when required may result in the forfeiture of that portion of the Schedule of Operations Fixed Price Payment and/or the withholding of the full or partial CQE payments by the Engineer.

Failure to submit schedules that are acceptable to the Engineer may result in the forfeiture of that portion of the Schedule of Operations Fixed Price Payment and/or the withholding of the full or partial CQE payments by the Engineer.

The Schedule of Operations pay item will be adjusted to pay for only the actual quantity of schedules that have been submitted in accordance with this section.

The Contractor's failure or refusal to comply with the requirements of this Section shall be reasonable evidence that the Contractor is not prosecuting the Work with due diligence and may result in the Engineer withholding of full or partial payments of all work performed.

722.82 Payment Items

722.1	SCHEDULE OF OPERATIONS (TYPE A) - FIXED PRICE $_____	LUMP SUM
722.2	SCHEDULE OF OPERATIONS (TYPE B) - FIXED PRICE $_____	LUMP SUM
722.3	SCHEDULE OF OPERATIONS (TYPE C) - FIXED PRICE $_____	LUMP SUM

ITEM 100.1 BASE LABOR RATE HOUR

The Contractor shall provide competent artisans, possessing all pertinent licenses and/or certifications, as required by the Engineer, to maintain and repair various components of the bridges. As described more fully below, included in this Item will be a tool kit for each trade with incidental tools, special apparel and any required personal safety equipment, and a vehicle for each trade with no additional charge to the Department. The Contractor shall submit to the Engineer all pertinent licenses and/or certifications for each artisan prior to the commencement of any work. Failure to provide the pertinent licenses and/or certifications could result in the artisan being compensated at the laborer rate regardless of how the Contractor so compensated him/her.

The payment under this Item will be for the artisan and his/her toolkit only.

Payment will be based upon time spent on the project doing actual work assigned by the Engineer and shall NOT include travel time to and from the Contractor's place of business and it shall also not include time for investigative field trips.

Payment for equipment (other than the usual artisan toolbox) will be made under payment for equipment rental as stated elsewhere in these special provisions.

All tools and equipment contained in the artisan tool kit shall be in excellent working condition.

Equipment and tools that are part of the artisan’s toolbox are as follows:

LABORER

Small hand tools, handheld power tools, chipping hammer, eye shields, gloves, protective clothing, generators as necessary to run the equipment and equipment that is normally used in the trade.

CARPENTER

Hammer, framing square, tape measure, pouch, levels, hand saws, power saws, all electric power tools, air tools and generators and compressors as necessary to run the equipment. Saw blades and drill bits are also included.

CEMENT MASON

All trowels, floats, Chipping Hammers, Wire Brushes, Trowels, Floats, Reinforcing Tie Wires, Mortar Boards, Jointing Tools and Buckets, mortar board and mixing tub/buckets, and other hand tools as necessary to complete masonry patching work.

ITEM 100.1 (Continued)

IRON WORKER/WELDER

Spud wrench, dowels, alignment pins, tape measure, pouch, levels, eye shields, gloves, protective clothing, rivet buster, air hammer, jackhammer, reamers, chipping hammer, wire brushes AC/DC- 300 amp- 100% duty cycle (minimum size) welding machine, torches for cutting, burning, or preheating steel, including fuel tanks & fuel / oxygen, grinders, heating oven for all welding consumables and other equipment that is normally used in the trade.

OPERATOR

Operator shall have all licenses and certifications required by the Commonwealth of Massachusetts for the equipment they will be operating. Operators shall be in possession of their licenses at all times and show it to the Engineer when requested. Typical equipment includes a backhoe, skid-steer loader, and front-end loader.

Equipment which does not require a special license or certification for its operation shall be considered incidental to the artisan using it.

METHOD OF MEASUREMENT

Item 100.1 will be measured for payment by the Hour.

The Engineer will calculate total Base Labor Rate hours spent on the project by artisans.

Overtime hours will be paid for work exceeding eight (8) consecutive hours per day or forty (40) hours per week and shall be compensated as specified in this Item.

ITEM 100.1 (Continued)

To calculate the total Base Labor Rate hours, the Engineer will modify hours spent by various artisans on the project using adjustment factor(s) described below:

COMPENSATION FACTORS		
ARTISAN	**REGULAR**	**OVERTIME**
LABORER	1.00	1.30
CARPENTER	1.17	1.52
CEMENT MASON	1.29	1.68
IRON WORKER/WELDER	1.37	1.78
BACKHOE OPERATOR	1.32	1.72

The apprentice Laborer will be paid 80% of the Laborer compensation.

The Compensation Factors above will be used to adjust the number of hours a specific artisan will be paid for, per one (1) hour of work.

Example:

If the time spent on this project by various artisans is:

- Laborer 8 hrs
- Carpenter 4 hrs
- Cement Mason 6 hrs

Then the total hours for "Base Labor Rate" will be calculated as follows:

- "Artisan A(hrs)" x "Compensation Factor A"+
- "Artisan B(hrs)" x "Compensation Factor B" +
- "Artisan C(hrs)" x "Compensation Factor C"

8(hr) x 1.00 + 4(hr) x 1.17 + 6(hr) x 1.29 =
8.00(hr) + 4.68(hr) + 7.74(hr) = 20.42 (hr)

The total hours for "Base Labor Rate" = 20.42 (hr) (billable hours).

BASIS OF PAYMENT

Item 100.1, Base Labor Rate, will be paid for at the Contract unit price per Hour, which price shall include all equipment (usual artisan tool kit), tools required to perform the normal artisans work, all clothing, and safety equipment normally associated with the artisans work.

ITEM 100.9 **BRIDGE SURVEY** **LUMP SUM**

The work under this item consists of surveying the existing bridges Bridge No. W-44-029 (23B) and Bridge No. W-44-099 (214), along with their approaches extending up to the work limits, to create a comprehensive record of existing conditions. The survey shall include all roadway features within the right-of-way necessary to facilitate and support the replacement of the bridge wearing surfaces, curbs, sidewalks, guardrail, and fencing. The intent is to develop a detailed and accurate record of existing conditions to ensure the roadway approach profiles are precisely replicated.

The Surveyor shall establish a benchmark within the project limits and perform a detailed survey that includes roadway elevations at a minimum of fifty-foot intervals along the approaches, and at a minimum of twenty-five-foot intervals across the bridge decks. Additionally, the survey shall establish a working baseline within the roadway to support construction activities.

The Surveyor shall conduct the bridge survey in accordance with the "General Survey Guidelines" which can be found at:
General survey guidelines | Mass.gov

All elevations shall be referred to the North American Vertical Datum (NAVD) of 1988.

Deliverables and submittals

The submission of the bridge survey shall include baseline plans and cross sections as described above, along with curb tie locations and elevations necessary to maintain the alignment of the roadway. The plans shall also include a best-fit profile of the existing roadway.

This work shall be performed under the responsible charge of a Professional Land Surveyor (PLS) registered in the Commonwealth of Massachusetts. The PLS must be available, if necessary, to meet and discuss the survey data and submittals.

BASIS OF PAYMENT

Item 100.9 will be paid for at the Contract unit price per Lump Sum, which price shall include all labor, materials, equipment engineering services, submittals, and incidental costs required to complete the work.

ITEM 106.12 BRIDGE CURB REMOVED AND RESET FOOT

The work under this Item shall conform to the relevant provisions of Section 500 and Subsection 580 of the standard specification and shall consist of removing and resetting existing granite curb and edging on bridge decks, where the existing curbs and edgings are out of their original alignments, the anchors are rusted out, concrete securing the curb anchors is not sound, or the curb will come out of their alignments due to other work to be done under this contract.

Reinforcing bar anchors shall meet M8.01.0 and the Mortar bedding shall meet M4.05.05.

Non-shrink cementitious or epoxy grout shall be pre-approved by the Research and Materials Division.

The Contractor shall first remove the concrete behind the curb and/or edging to limits specified by the Engineer under Item 127.1 and the Contractor shall carefully remove the curb and/or edging and stack it temporarily in a safe place.

The contractor shall avoid damaging any curbing and shall, at his own expense, replace all curbs and edging that are rendered unsuitable due to his operations.

The Contractor shall remove the existing #5 L-shaped anchors by core drilling 3 inches into the granite. Each core hole shall be centered on the existing anchor location and slightly oversized to allow for grouting of the new anchors. The replacement anchors shall be #5 L-shaped reinforcing bars, embedded three inches (3") into the granite and six inches (6") into the concrete. These anchors shall be grouted into the granite using an approved grout. Upon completion of the concrete deck repairs, the Contractor shall reset the curb and edging in accordance with Subsection 501.66.

METHOD OF MEASUREMENT

Item 106.12 will be measured for payment by the Foot of bridge curbs or edgings removed and reset, complete in place.

BASIS OF PAYMENT

Item 106.12 will be paid for at the Contract unit price per Foot, which price shall include all labor, materials, equipment, and all incidental costs required to complete the work

ITEM 120.1 UNCLASSIFIED EXCAVATION CUBIC YARD

The work under this Item shall conform to the relevant provisions of Subsection 120 of the Standard Specification and shall consist of removal and satisfactory disposal of excavated material at the approaches. This work includes excavation required during reconstruction of backwalls and joints and, if required, the removal of the existing abutment joint protective course which could be made up of HMA or concrete.

Prior to excavation, the Contractor shall cover all drainage structures that may be affected by the work. The structures shall remain covered until the new concrete has set, and the area has been cleaned.

The edges of the limit of the excavation shall be cut to neat lines by saw cutting or by methods approved by the Engineer, to a minimum depth of 2 inches, and all costs in connection with such work shall be considered as incidental under this Item.

METHOD OF MEASUREMENT

Item 120.1 will be measured for payment at by the cubic yard.

BASIS OF PAYMENT

Item 120.1 will be paid at the Contract unit price per cubic yard and the quantity paid for will be the actual volume ordered to be removed by the Engineer.

Pavement removed within the excavated area shall be measured for payment under this Item.

The Contract price per cubic yard shall include all labor, tools, equipment, sawcutting and incidental costs necessary to complete the work as required by the Engineer.

ITEM 127.12 REINFORCED CONCRETE SUBSTRUCRE EXCAVATION CUBIC YARD

The work under this Item shall conform to the relevant Provisions of Subsections 120 and 482 of the Standard Specifications and the following:

The work under this Item consists of the removal and disposal of all deteriorated, spalled, and scaled concrete as required to repair the existing concrete substructure elements of the bridge that carries Millbrook Street over the Railroad (Bridge No. W-44-029) to the limits identified established by the Engineer.

During the prosecution of the Work, the Engineer may reject the use of any method or equipment, which causes undue vibration or possible damage to the structure or any part thereof. Pneumatic hammers heavier than the nominal 25 pounds mass shall not be used, unless approved by the Engineer.

Minimum depth of excavation to sound concrete shall be one inch (1") beyond the inner most layer of reinforcing steel but not less than four inches (4") from the original surface. The Contractor shall stop excavating deteriorated concrete when the depth of excavation reaches six inches (6") and shall notify the Engineer immediately. The edges of the patch shall be cut to neat lines by saw cutting or by methods approved by the Engineer, and the patch areas shall be made rectangular in shape, if possible, with horizontal and vertical edges and avoid overcutting square corners.

The Contractor shall take all precautions necessary so as not to damage those portions of the bridge including reinforcing steel that are to remain. This includes determining the concrete cover to the steel bars at the edge of each patch prior to excavating concrete. Any steel that is unsuitable for further use through no fault of the Contractor shall be replaced under Item 910.1 Steel Reinforcement for Structures – Epoxy Coated. All reinforcing steel that is loose shall be tied tightly together using epoxy coated wire ties.

Also included under this Item are all costs in connection with the cleaning, cutting, and bending of the existing reinforcing steel designated to be retained in the proposed repair.

METHOD OF MEASUREMENT

Item 127.12 will be measured for payment by the Cubic Yard of substructure concrete excavated, removed, and properly disposed of.

BASIS OF PAYMENT

Item 127.12 will be paid for at the Contract price per Cubic Yard, which price shall include all labor, tools, equipment, materials, sawcutting, cleaning, disposal of all debris and incidental costs required to complete the work.

New reinforcing steel will be paid under Item 910.1.

ITEM 127.1 REINFORCED CONCRETE EXCAVATION CUBIC YARD
ITEM 127.4 REINFORCED CONCRETE DECK EXCAVATION (FULL DEPTH) SQUARE YARD
ITEM 127.41 REINFORCED CONCRETE DECK EXCAVATION (PARTIAL DEPTH) CUBIC YARD

The work under these Items shall conform to the relevant Provisions of Subsections 120 and 482 of the Standard Specifications and the following:

The work under Items 127.4 and 127.41 shall consist of full and/or partial depth removal and disposal of all disintegrated or otherwise unsatisfactory reinforced concrete from the bridge deck.

The work under Item 127.1 shall consist of excavation, removal and disposal of reinforced concrete on sidewalks, parapets, and when deck excavation is within 3 feet from joint centerline, and as required by the Engineer.

Prior to excavation, the Contractor shall cover all drainage structures that may be affected by the work. The structures shall remain covered until the new concrete has set and the area has been cleaned.

The Contractor shall take all precautions necessary not to damage that portion of the deck, including reinforcing steel, which is to remain. This includes determining the concrete cover to the steel bars at the edge of each patch prior to excavating concrete.

The edges of all areas where concrete is removed under Items 127.1, 127.4 and 127.41 shall be cut to neat lines by saw cutting or by methods approved by the Engineer, to a minimum depth of 1 inch, and all costs in connection with such work shall be considered as incidental under these Items. Patch areas shall be made rectangular in shape, if possible, with horizontal and vertical edges and square corners.

Minimum depth of all cement concrete areas to be excavated shall be one (1) inch below the bottom of the top layer of longitudinal reinforcing steel throughout the entire excavated area. No concrete shall be placed until the approval of the Engineer is given.

The cost for the removal of hot mix asphalt and any membrane waterproofing above the area of reinforced concrete excavation shall be incidental to this Item.

Surface preparation and concrete removal equipment shall be of the following types:

- Pneumatic and Power-Driven Chipping Hammers: In no event shall any pneumatic or power hammer weighing in excess of twenty-five (25) pounds be used for the removal of concrete. The Contractor will be restricted to fifteen (15) pound chipping hammers when work involves repairs to slabs of prestressed concrete adjacent deck or box beams, or when removing concrete from below any reinforcing bar.
- Abrasive Blasting Equipment: Abrasive Blasting equipment shall be capable of removing rust and old concrete from exposed reinforcing steel when deemed necessary by the Engineer.

ITEMS 127.1, 127.4 and 127.41 (Continued)

During the prosecution of this work, the Engineer may reject the use of any method or equipment which causes undue vibration or possible damage to the structure or any part thereof.

Bobcats/Skid Steers will be allowed only to collect debris from the deck surface and will not be allowed to remove concrete from the patch area. All concrete debris shall be removed by hand or by using hand tools. The smaller pieces may be blown out using an air compressor after first being wetted with water to control airborne particulates.

Also, included under these Items are all costs in connection with the cleaning, cutting, and bending of the existing reinforcing steel designated to be retained in the proposed construction. Any existing reinforcing steel damaged or otherwise made unsatisfactory for continued use as a result of the Contractor's operations shall be replaced at the Contractor's expense. All reinforcing steel with active rusting encountered in the excavation shall be thoroughly cleaned by abrasive blasting and coated with a zinc-rich primer conforming to MassDOT Spec. No. M7.04.11 or as required by the Engineer. Any reinforcing steel that is unsuitable for further use through no fault of the Contractor shall be replaced under Item 910.1. All reinforcing steel that is loose shall be tied tightly together using wire ties. Ties are required at every other intersection of transverse and longitudinal reinforcing.

Temporary Protective Shielding must be used on bridges over the roadway during full depth excavation and when, in the opinion of the Engineer, there is the possibility of dislodging concrete from the bottom of the deck. Payment for temporary protective shielding shall be made under Item 994.1, "Temporary Protective Shielding**"** and Item 994.12, "Temporary Protective Shielding Removed and Reset".

The Contractor shall take all measures necessary to protect pedestrian and vehicular traffic from his construction operations. No debris, tools or incidental equipment of any kind will be permitted to fall into areas where vehicular or pedestrian traffic exists. Any material that accidentally falls into such areas shall be removed immediately.

All excavated materials shall become the property of the Contractor and shall be removed from the job site.

ITEMS 127.1, 127.4 and 127.41 (Continued)

METHOD OF MEASUREMENT

Items 127.1 and 127.41 will be measured for payment respectively by the cubic yard.

Item 127.4 will be measured for payment by the square yard.

BASIS OF PAYMENT

Items 127.1 and 127.41 will be paid at the respective contract unit price per Cubic Yard, which price shall include all labor, materials, equipment, sawcutting, removal of any bituminous concrete, waterproof membrane, cleaning, cutting, and bending of the existing reinforcing steel designated to be retained, and all incidental costs required to complete the work.

Item 127.4 will be paid for at the Contract unit price per Square Yard, which price shall include all labor, materials, equipment, sawcutting, removal of any bituminous concrete, waterproof membrane, cleaning, cutting, and bending of the existing reinforcing steel designated to be retained, and all incidental costs required to complete the work.

Item 127.1 will compensate the Contractor for excavation performed on sidewalks, parapets, and when deck excavation is within 3 feet from joint centerline.

Items 127.4 and 127.41 will compensate the contractor for excavation performed on the bridge deck (full depth or partial depth).

The Contractor will be paid under either Item 127.1, 127.4 or 127.41 for excavated concrete. In no case the Contractor shall be paid under more than one Item for the same excavated material.

New reinforcing steel will be paid under Item 910.1

Temporary protective shielding will be paid under Items 994.1 and 994.12.

ITEM 129.11 HYDRO-EXCAVATION OF BRIDGE DECK SQUARE YARD

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

The work shall consist of removal +1 3/8"of the existing concrete deck at Bridge No. W-44-099 (214) using mechanical scarification, micro milling or other approved mechanical means. This will be followed by a partial depth removal (additional ½" minimum) of the existing cement concrete deck through hydro-excavation to produce a rough, bondable surface for the installation of the new overlay.

The work shall also include the installation of a sidewalk protection barrier to shield and provide safe pedestrian access over the bridge, as shown on the drawings and approved by the Engineer.

Scarification or micro milling of the concrete cement deck is deemed necessary to efficiently perform the hydro-excavation.

The depth of hydro-excavation shall be a minimum ½" below the depth removed by concrete scarification, resulting in a total uniform depth for the partial removal for the deck equal to 1 7/8". In addition to this uniform depth, hydro-excavation is expected to remove any additional unsound concrete below the uniform depth. Any unsound deck concrete that remains after the first pass of the hydro-excavation is complete, shall also be removed using pneumatic chipping hammers (15 lbs.), all to produce a rough, bondable surface for the installation of the new overlay.

The overlay uniform thickness shall be 2" with up to 1/8" sacrificial to be removed during overlay adjustments and grooving as called for under Item 907.1.

This Item shall also include cleaning and removal of debris resulting from concrete milling, and control of runoff due to hydro-excavation.

Areas of the deck requiring partial/full depth repairs (including all areas patched with rapid set concrete) shall be identified, excavated, and repaired prior to starting the hydro–excavation. Compensation for these repairs will be made under appropriate contract Items, 127.4 and 127.41, 905.2 and 910.1.

CONSTRUCTION METHODS

Micro milling and preparing and replacing the existing deck surface shall be in accordance with the following construction sequence:

1. Scarify (micro mill) the top 1 3/8" of the existing deck.
2. Perform partial/full depth repairs (Items 127.4, 127.41, 905.2 and 910.1).
3. Hydro-excavate ½" (minimum) of the cement concrete deck below the surface cut by micro milling, as well as any remaining unsound concrete. The depth of removal will vary depending on the quality of the existing concrete.
4. Inspect the surface for loose, delamination, deterioration or otherwise unsound concrete that remains after the hydro-excavation operation is complete.

ITEM 129.11 (Continued)

5. Remove any remaining unsound concrete using small chipping hammers.
6. Use the hydro-excavator hand wand (or a chipping hammer) to remove the grout under the granite curbing and material where the robot cannot reach including from under the bridge granite curbing.
7. Clean, prepare and install the new overlay (Item 476.321).

Upon completion installing the polymer (latex) modified concrete:

8. Sawcut grooves in the concrete overlay (Item 907.1).
9. Seal the deck (Item 964.60)

The original bridge deck surface shall be scarified to a depth of 1 3/8" with a mechanical micro-milling machine capable of accurately and automatically establishing profile grades. Areas adjacent to the curb, scuppers, joints, or other locations inaccessible to the milling machine shall be hand chipped. If mechanical milling results in the snagging of reinforcing steel, the operation shall be stopped immediately, and the depth of removal adjusted. Damaged or dislodged reinforcing steel because of Contractor negligence during the operation shall be repaired or replaced at the Contractor's expense. All construction debris, wearing surface material or residual materials from the micro milling process shall be completely removed from the bridge deck prior to the commencement of deck hydro-excavation.

Hydro-excavation shall be performed over the entire surface of the reinforced concrete bridge deck to provide a highly roughened and clean bondable surface and to remove all unsound concrete. The Contractor shall clean the surface with a vacuum system capable of collecting loose and wet debris and water in the same pass leaving a clean surface prior to installing the new polymer (latex) modified concrete. The Contractor shall clean up the slurry and rubble from the hydro-excavation operation in a timely manner, and before it dries on the deck and reinforcing steel. Vacuums clean up shall follow as closely as possible behind the hydro-excavation process. The deck shall then be blown dry to remove excess water. Following the cleaning, the surface shall be free of all debris, loose material, slurry, or cement paste.

After the initial pass of hydro-excavation and appropriate cleaning, sounding will be done after the deck is clean, dry and frost free. Any unsound deck concrete that remains shall be removed at the Contractor's expense with the use of pneumatic hammers under the direction of the Engineer.

EQUIPMENT

The hydro-excavation equipment shall be a computerized, self-propelled robotic machine that utilizes a high-pressure water jet stream capable of removing concrete to the desired depths specified with a single pass of the unit, including the selective removal of all unsound concrete.

The equipment shall be capable of providing a highly roughened and clean bondable surface profile. The equipment shall also be capable of cleaning rust and concrete particles from all exposed reinforcing steel.

ITEM 129.11 (Continued)

Only individuals who have experience on jobs of similar size and type over the past three years shall operate the hydro-excavation equipment. This information shall be submitted to the Engineer to be approved before the Preconstruction Conference.

The Contractor shall take steps to prevent damage to existing reinforcing steel. All equipment shall be operated in a manner that does not damage the slab, reinforcing steel or superstructure components. Any damage caused by the Contractor's equipment or negligence shall be repaired at the Contractor's expense. Only vehicles directly required to perform the hydro-excavation work, clean up, or corresponding overlay construction shall be allowed on the bridge deck. Contamination of the deck by construction equipment or any other source shall be prevented. Any reinforcing steel damaged by the Contractor's operation shall be replaced at no additional cost.

Replacement may include the removal of additional concrete to adequately anchor reinforcing steel to the appropriate lap splice length. Where the bond between exposed reinforcing steel and sound concrete has not been compromised, the clearance requirement around existing reinforcing steel will be waived by the Engineer.

As directed by the Engineer, handheld high-pressure wands or 15 lb. maximum Pneumatic or power hammers operated at no more than a 45-degree angle from horizontal shall be used in areas that are inaccessible to the hydro-excavation equipment or in preparing deck repair areas or in areas that require minor trim work to remove.

The vacuum equipment shall be equipped with fugitive dust control devices and capable of removing wet and dry debris, along with standing water, in the same pass.

LIMITATIONS ON EQUIPMENT

The Contractor shall take steps to prevent damage to existing reinforcing steel.

The Contractor will not be permitted to place wheels from heavy equipment, such as vacuum trucks, on deck areas where top layer of slab reinforcement has been left unsupported by the hydro-excavation process without demonstrating to the satisfaction of the Engineer that such loading will not result in undue damage to the deck.

Equipment shall be operated at speeds and in a manner that will not cause damage to the slab or girders.

WATER CONTROL PLAN

Prior to the beginning of hydro-excavation, the Contractor must submit a plan to the Engineer for the control and filtering of all water discharged by the operation. All drains, joints, and other locations where discharge water could exit the deck must be blocked, in order to direct runoff to a central collection and filtering location, as designed by the Contractor. The Contractor shall be responsible for compliance with all environmental laws and regulations regarding the discharge of runoff water into the environment. Specific details shall be provided by the Contractor detailing the method of water and debris collection, filtering, treatment, and legal disposal.

ITEM 129.11 (Continued)

The contractor shall control all overspray and prevent spray, runoff, dust and any possible material from falling on traffic below the work zone or adjacent to the work zone. Timber plywood shall be placed against the bridge rail or edge of sidewalk (sidewalk to remain open during both phases of work) for protection. The installation of the plywood shall be considered incidental to the work under this item.

The Contractor is responsible for the disposal of all concrete and debris and securing any applicable permits which may be required.

TEST AREA

A test area will be required to establish the operating parameter and to demonstrate that equipment, personnel, and methods of operation are capable of producing satisfactory concrete removal results. Once satisfactory results are obtained, the quality and depth of removal will become the standard for the project. If hand lances are to be used to perform concrete removals, they should also be demonstrated to show satisfactory results.

The robotic hydro-excavation equipment shall be calibrated on a representative sample of sound deck concrete, as directed by the Engineer, in order to demonstrate the ability to cut to the desired depth, as indicated on the plans. The minimum allowable water pressure shall be 13,000 psi and the maximum water pressure shall not exceed 20,000 psi. The calibration must accomplish the desired surface roughness, profile, and cutting depth.

The equipment shall then be moved to an area of the deteriorated deck, as directed by the Engineer, in order to demonstrate the ability to remove all unsound material. The equipment shall selectively remove all unsound concrete, avoid the removal of unnecessary sound concrete, and provide a highly rough and bondable surface.

Upon approval by the Engineer that the equipment settings do selectively remove all unsound concrete and provide a highly rough and bondable surface, the calibration will be approved, and the settings recorded. If the equipment does not demonstrate the ability to produce the desired result, as determined by the Engineer, the equipment shall be removed from the project and the contractor shall provide other equipment for calibration. No additional contract time or compensation will be

allowed for the mobilization of different equipment to the work site. The operating parameters shall be recorded as follows:

Water Pressure Gauge	
Machine Staging Control (Step)	
Nozzle Size	
Nozzle Type	
Nozzle Travel Speed	

ITEM 129.11 (Continued)

Upon approval of the calibration, the Contractor shall perform total surface hydro-excavation over the entire top surface of the bridge deck with a single pass of the unit, unless otherwise directed by the Engineer.

The calibration and production settings shall be maintained and provided in writing to the Engineer. The settings shall be maintained throughout the operation, unless the desired results are not attained, in which case re-calibration shall be performed. Calibration shall be required prior to commencing hydro-excavation at the bridge and when different equipment is brought to the site for use. The Engineer shall also periodically verify the calibration settings, and the desired results are being attained.

SPECIAL CONDITIONS

If planning to access hydrants, it is the Contractor's responsibility to contact and make the appropriate arrangements with the proper city/town water departments. Submittals for approval shall include complete manufacturer's data for equipment proposed for use, equipment operator's qualifications to perform the work, placement of machinery, means of shielding, means of controlling runoff, source of water, and any other means and methods necessary for completing the work. No work shall begin until these are approved

METHOD OF MEASUREMENT

Item 129.11 will be measured for payment by the Square Yard.

BASIS OF PAYMENT

Item 129.11 will be paid at the at the Contract unit price per Square Yard which price shall include the cost for all equipment, labor and materials necessary to perform the work, including any testing to determine the cover over the concrete deck reinforcement, blocking drains, initial equipment calibration, any re-calibration, filtering of discharge water, equipment, shielding, hand chipping or hydro-excavation with the hand wand along curb areas and under the curbs.

Additionally, removal of remaining unsound concrete, deck washing, clean-up, collection and disposal of all debris, slurry, and water produced by the operation along with any other incidentals necessary to complete work shall be included for payment under this Item.

Payment under this Item shall also include full compensation for the excavation, removal, and satisfactory disposal of all excavated reinforced concrete, saw cutting, and the cleaning of all existing reinforcing steel and concrete surfaces prior to the placement of any new concrete.

Payment shall include removal and proper disposal of all excavated materials in accordance with all City, State and Federal rules, regulations, and contract requirements and as directed by the Engineer. Payment also shall include the micro-milling required to roughen the surface prior to hydro-excavation.

ITEM 129.2 OLD PAVEMENT EXCAVATION SQUARE YARD

The work under this Item shall conform to the relevant provisions of Subsection 120 of the Standard Specifications and shall consist of removal and satisfactory disposal of all disintegrated or otherwise unsatisfactory bituminous concrete/old pavement on bridge approaches and as directed by the Engineer.

The edges of all areas where the existing asphalt is removed under this Item shall be saw cut to a minimum depth of 1 inch, and all costs in connection with such work shall be considered as incidental to this Item.

METHOD OF MEASUREMENT

Item 129.2 will be measured for payment by the Square Yard for actual area of the existing bituminous pavement excavated, removed, and properly disposed.

BASIS OF PAYMENT

Item 129.2 shall be paid at the Contract unit price per Square Yard for the actual area of the existing bituminous pavement excavated, removed, and properly disposed as required by the Engineer. The Contract price shall include all labor, tools, equipment, and incidental costs required to complete the work as required by the Engineer.

Excavation for reconstruction of joints will be compensated under Item 120.1.

ITEM 129.6 BRIDGE PAVEMENT EXCAVATION SQUARE YARD

The under this Item shall conform to the relevant Provisions of Subsection 120 of the Standard Specifications and the following:

The work shall consist of removing and properly disposing of bituminous concrete, including any concrete patches and the waterproofing membrane, from the deck of Bridge No. W-44-029. Under this pay Item, the Contractor shall use a backhoe to strip and remove the asphalt wearing surface on concrete bridge decks.

It is the Contractor's responsibility to verify the existing pavement depth prior to submitting a bid. No additional compensation will be provided if the actual thickness exceeds the assumed thickness.

The Contractor may elect to scarify to remove the wearing surface. In such a case, removal of the wearing surface will be paid under Item 415.2; however, in no case compensation for this work shall be made under more than one item.

Saw cut, including the required longitudinal cut of wearing surface between the two construction phases, shall be made to a minimum depth of 1 inch. All associated costs shall be considered incidental to this Item.

METHOD OF MEASUREMENT

Item 129.6 will be measured for payment by Square Yard, for actual area of the existing bituminous pavement, concrete wearing surface patches and waterproofing membrane, removed and properly disposed.

BASIS OF PAYMENT

Item129.6 will be paid at the Contract unit price per Square Yard, which shall include all labor, tools, equipment, sawcutting and incidental costs required to complete the work.

ITEM 476.321 POLYMER MODIFIED CONCRETE OVERLAYMENT BRIDGE NO. W-44-099 (214) **SQUARE YARD**

ITEM 476.322 POLYMER MODIFIED CONCRETE OVERLAYMENT (OVERAGE) **CUBIC YARD**

The work under these Item shall conform to the relevant Provisions of Subsection 901 of the Standard Specifications and shall consist of furnishing and constructing a 2" (min.) single course protective wearing surface of polymer modified Portland cement concrete on the prepared surface of the concrete deck.

The Contractor shall obtain field survey of the existing roadway in the areas to receive the polymer (latex) modified concrete along the expansion joints and at other locations as required to ensure that the placement of the latex modified concrete overlayment maintains the existing roadway surface. Any field survey involved in establishing the finished grades for the polymer modified concrete overlayment is included for payment under this item.

MATERIALS

a) The material used in producing the latex modified concrete shall meet the applicable requirements of Section M4 of the Standard Specification for Highway and Bridges and as described or amended herein.
b) Portland cement shall be non-air entraining cement of recent manufacture, free of lumps and conform to the requirements of AASHTO M85, Type I or Type II.
c) Aggregates shall be sourced from a supplier approved by MassDOT for use of its projects.
d) Latex Emulsion Admixture – Use a formulated latex admixture that is a non-hazardous, film forming, polymeric emulsion in water and is homogeneous and uniform in composition. Add all stabilizers at the point of manufacture. Use a latex modifier conforming to the following requirements:

Polymer Type	Styrene Butadiene
	68 ±4% Styrene
	32 ±4% Butadiene
Average Polymer Particle Size	1500 to 2500 Angstroms
Emulsion Stabilizers	Anionic and non-ionic surfactants
Percent Solids	46.5 to 49.0
Weight per gallon (lbs at 75°F)	8.40 to 8.60
PH	9.5 to 11.0
Shelf Life	2 Years
Color	White

Provide a Supplier's Certification for each load of latex emulsion admixture in accordance with the Standard Specifications. Test admixture samples to verify compliance with the specification requirements before use.

ITEM 476.321 and 476.322 (Continued)

Allow 7 days for sampling and testing after delivery to the project.

The temperature of the latex emulsion admixture shall not fall below 35°F at any time or exceed 85°F after delivery to the project. For latex emulsion that has been in storage, use a transfer pump and lines to recirculate it before using.

Latex Modified Concrete – Use a workable mixture that meets the following requirements:

Cement Content (lbs/yd^3)	658
Latex Emulsion Admixture (gal/yd^3)	24.5
Air Content of Plastic Mix (%)	3.5 to 6.5
Slump (inches)	3 – 6
% Fine Aggregate as percent of total aggregate by weight	50 – 55
Slump (in)	4 to 6
Minimum 7-day compressive strength (psi)	3000
Minimum 28-day compressive strength (psi)	4000
Maximum Water-Cement Ratio by weight	0.40

Measure the slump 4 to 5 minutes after discharge from the mixer. Submit the latex modified concrete mix design, completed by the latex emulsion manufacturer, to the Engineer for review and approval.

SURFACE PREPARATION:

After completion of the hydro-excavation and associated clean-up of debris, but not more than 24 hours prior to the placement of the concrete, the entire deck surface shall be thoroughly cleaned by either abrasive blasting with oil-free compressed air or high-pressure water blasting (7500 psi minimum). After the surface preparation has been accepted, every effort should be made to thoroughly pre-wet the concrete surface, and all porous surfaces to be in contact with new concrete. This may be accomplished by continuous wetting with soaker hoses or the use of burlap/burlene, etc., where moisture can be maintained. If, in the opinion of the Engineer, conditions or the situation prohibits this, then the surfaces should be wetted for as long as possible. Surfaces must be wetted by a means acceptable to the Engineer using potable water. The Contractor shall remove any puddles of free-standing water with oil-free compressed air, and protect the surfaces from drying, so the existing concrete remains in a clean, saturated surface dry condition until the placement of the new concrete.

If the deck is allowed to dry out, as determined by the Engineer, it shall be re-wetted and re-blasted dry at the Contractor's expense. The Contractor shall take all steps necessary to ensure that pedestrian and vehicular traffic is protected from harm at all times.

EQUIPMENT

Prior to beginning any work, obtain approval for all equipment to be used for deck preparation, mixing, placing, finishing, and curing the latex modified concrete.

ITEM 476.321 and 476.322 (Continued)

Use abrasive blasting equipment capable of removing all clay, salt deposits, oil and grease deposits and all other foreign matter. Provide traps or separators to remove oil and water from the compressed air. Use traps or separators of adequate size and drain them periodically during operations.

For proportioning and mixing, use self-contained, mobile, and continuously mixing equipment that meets the following requirements:

1. Use a self-propelled mixer that is capable of carrying sufficient unmixed dry, bulk cement, sand, coarse aggregate, latex modifier, and water to produce at least 6 yd^3 of concrete on site.

2. Use a mixer that is capable of positive measurement of cement introduced into the mix. Use a recording meter that is visible at all times and equipped with a ticket printout to indicate the quantity of cement.

3. Calibrate the mixers to accurately proportion the specified mix. Prior to placing latex modified concrete, perform calibration and yield tests under the Engineer's supervision in accordance with the Department's written instructions. Copies of these written instructions are available from the Research and Materials Section. Perform the calibration and yield tests using the material to be used on the project. Recalibrate the mixer after any major maintenance operation, on the mixer, anytime the source of materials changes, or as directed. Furnish all materials and equipment necessary to perform the calibrations and yield tests.

4. Use a mixer that controls the flow of water and latex emulsion into the mix. Measure the flow rate of water and the latex emulsion with a calibrated flowmeter coordinated with both the cement and aggregate feeding mechanisms and the mixer. Adjust the flow rate, as necessary, to control the slump and ensure that the water-cement ratios are met. In addition to flowmeters, use mixers with accumulative water and latex meters capable of indicating the number of gallons, to the nearest 0.1 gallon, introduced into the mixer. Filter water and latex with a suitable mesh filter before it flows through the accumulative water and latex meters.

5. Calibrate the mixer to automatically proportion and blend all components of the indicated composition on a continuous or intermittent basis as the finishing operation requires. Provide a mixer that discharges mixed material through a conventional chute and is capable of spraying water over the placement width as it moves ahead to ensure that the surface to be overlaid is wet prior to receiving the modified material.

6. Mount a tachometer on the unit to indicate the drive shaft speed.

ITEM 476.321 and 476.322 (Continued)

An approved bridge deck finishing machine complying with the following requirements shall be used for consolidating, striking off, and finishing the concrete surface. The finishing machine shall have the necessary adjustments, built in by the manufacturer, to produce the required profile grade, cross-section, and surface smoothness. The supporting frame shall span the section being cast in a transverse direction without intermediate support. The finishing machine(s) shall be self-propelled and capable of forward and reverse movement under positive control. Provisions shall be made for raising all screeds to clear the screeded surface for traveling in reverse. The screed device shall be provided with positive control of the vertical position.

The finishing machine(s) shall be self-propelled with two or more rotating cylinder screeds. The rotating cylinder screeds shall rotate in a transverse direction while also traveling in the same direction and shall be operated transversely in overlapping strips in the longitudinal direction not to exceed 6 inches. One or more powered augers shall be operated in advance of the screed(s) and a drag (pan type) float shall follow the screed(s). The transversely operated rotating cylinders of the finishing machine(s) shall be rotated such that the direction of the rotation of the cylinders at the surface of the concrete is in accordance with the manufacturer's recommendations.

The finishing machine shall be operated over the full length of the bridge segment to be finished prior to beginning of concrete placement operations. The test run of the self-propelled finishing machine shall be performed in the presence of the Engineer at least 24 hours in advance of the concrete placement with the screed adjusted to its finishing position. During the test run, checks shall be made of the deflection due to the finishing machine, adjustment of guide rails and required thickness of the concrete overlay. Discrepancies found, which are in excess of tolerance, shall be rectified. All necessary corrections shall be made before concrete placement is begun.

The rate of concrete placement shall be coordinated with the initial strike-off so that the initial strike-off is never more than 10 feet behind the concrete placement.

Concrete immediately in front of the power auger(s) of bridge deck finishing machine shall be placed or cut to a depth no higher than the center of the rotating auger(s). The concrete shall be consolidated just prior to the auger strike off. The Contractor shall utilize approved high frequency internal vibrators (9000 – 13500 vibrations per minute in concrete) that shall be applied in a manner to secure maximum consolidation of the concrete. Consolidation shall leave the concrete free from voids but shall not be continued so long as to cause segregation or bleeding. The advance auger(s) shall strike off the concrete to approximately ¼ inch above the final grade and then the concrete shall be finished to final grade.

Improper adjustment or operation of the finishing machine that results in inadequate overlay thickness or smoothness shall be corrected immediately. Unsatisfactory performance, particularly with respect to the smoothness attained, shall be the cause for rejection of the equipment and cement concrete placed.

ITEM 476.321 and 476.322 (Continued)

Work bridges supported on the screed rails shall be provided by the Contractor to permit access to the surface of the deck for the purpose of finishing, straight-edging, making corrections, and setting curing materials. The Contractor shall furnish a minimum of two work bridges behind the bridge deck finishing machine, capable of spanning the entire width of the deck and supporting at least a 500-pound load without deflection to the concrete surface. One work bridge shall be used exclusively to facilitate the setting of curing materials. These work bridges shall be available to the Engineer for inspection purposes. Workmen will not be permitted to walk in the fresh concrete overlay after it has been screeded. All finishing work, including application of the fog spray and placement of curing mats, shall be performed from bridges supported above the deck surface.

PROPORTIONING AND MIXING OF MODIFIED COMPOSITIONS

Meet the following requirements when proportioning and mixing modified materials:

Use mobile continuous mixers that accurately proportion all materials for the specified mixture. Operate the proportioning equipment at the manufacturer's recommended speed verified with the tachometer during calibration and normal operations.

Yield checks and other checks are permitted.

PLACING AND FINISHING

Place and fasten screed rails in position to ensure finishing the new surface to the required profile.

Brush a latex cement mixture onto the wetted, prepared surface. Carefully give all vertical and horizontal surfaces a thorough, even coating and do not let the brushed material dry before it is covered with the additional material required for the final grade.

Construction joints other than those shown on the plans are not permitted.

Curing shall begin by fog spraying during the placing and finishing operations. Fogging shall continue and shall be applied continuously, rather than intermittently, after the finishing operation until wet covering material has been placed over the concrete surface. Deck finishing machine mounted fogging systems shall be augmented by hand-held fogging equipment as needed.

The Polymer Modified Concrete Overlayment shall be water cured only and shall be kept continuously wet for the entire curing period by covering with one layer of wet burlap and either a polyethylene sheet or a polyethylene coated burlap blanket.

ITEM 476.321 and 476.322 (Continued)

Curing protection shall be applied within 15 minutes after the concrete is deposited and before the surface of the concrete has lost its surface "wetness" or "sheen" appearance. The burlap shall be completely saturated over its entire area by being submerged in water for at least 8 hours before the scheduled start of the placement. The burlap shall be drained of excess water prior to application. The burlap shall be free from cuts, tears, uneven weaving and contaminants. The burlap shall be placed such that the edges are lapped a minimum of 6 inches. Continuous burlap wetting shall commence 10 minutes from the time it is placed and shall be kept continuously wet and protected from displacement for the entire curing period in a manner acceptable to the Engineer.

The covering of Polymer Modified Concrete Overlayment shall be kept continuously wet for the entire curing period using soaker hoses. The soaker hoses shall circulate water continuously and shall be located to ensure a completely wet surface for the entire curing period.

The Contractor shall make sure that adequate personnel are available at the site to carry out the placement, screeding, finishing, fogging and curing operations simultaneously. At least two workers shall continuously place wet burlap curing materials from a dedicated work bridge until the deck is completely covered with wet burlap.

The application of impervious liquid membrane curing compounds shall not be considered a substitute for achieving the curing of the concrete required by these Specifications. Only in the event of an unavoidable delay during concrete placement shall two coats of an approved curing compound be sprayed onto the concrete that has been deposited and not screeded. The curing compound shall conform to the requirements provided under Sub-Section M9.06.5, except that only AASHTO M 148, Type I shall be permitted. This curing compound shall later be mixed into the concrete by the finishing machine. Curing compounds shall not be applied to the screeded surfaces of bridge decks.

The Polymer Modified Concrete Overlayment shall be wet cured for a minimum of 48 hours, followed by 96 hours of air curing.

As soon as practical, after the concrete has hardened sufficiently, test the finished surface with an approved rolling straightedge that is designed, constructed, and adjusted so that it will accurately indicate or mark all areas which deviate from a plane surface by more than 1/8 inch in 10 feet. Remove all high areas in the hardened surface in excess of 1/8 inch in 10 feet with an approved grinding or cutting machine. Where variations are such that the corrections extend below the limits of the top layer, grout and seal the corrected surface with an approved sealing agent if required by the Engineer. If approved by the Engineer, correct low areas in an acceptable manner.

The Polymer Modified Concrete Overlayment shall be profiled and grooved as specified in Item 907.1.

ITEM 476.321 and 476.322 (Continued)

LIMITATIONS OF OPERATIONS

The mixer is not permitted on the bridge deck unless otherwise approved.

No traffic is permitted on the finished latex modified concrete surface until the total specified curing time is completed and until the concrete reaches the minimum compressive strength.

Do not place latex modified concrete if the temperature of the concrete surface on which the overlay is to be placed is below 40°F or above 85°F. Measure the surface temperature by placing a thermometer under the insulation against the surface.

Prior to placing latex modified concrete, the Engineer determines the air temperature and wind speed. Do not place latex modified concrete if the ambient air temperature is below 45°F or above 85°F, or if the wind velocity is in excess of 10 mph. If working at night, provide approved lighting. Provide aggregates, from an approved source, for use in the latex modified concrete that are free from ice, frost and frozen particles when introduced into the mixer.

Do not place latex modified concrete when the temperature of the latex modified concrete is below 45°F or above 85°F.

Do not place latex modified concrete if the National Weather Service predicts the air temperature at the site to be below 35°F during the next 72 hours. If this predicted air temperature is above 35°F but below 50°F, then use insulation to protect the latex modified concrete for a period of at least 48 hours.

When using insulation to protect latex modified concrete during the wet curing period, do not remove the insulation until the ambient air temperature is at least 40°F and rising. Leave the latex modified concrete uncovered for the 96-hour air curing period.

Stop all placement operations during periods of precipitation. Take adequate precautions to protect freshly placed latex modified concrete from sudden or unexpected precipitation. Keep an adequate

quantity of protective coverings at the worksite to protect the freshly placed pavement from precipitation.

ITEM 476.321 and 476.322 (Continued)

METHOD OF MEASUREMENT

Item 476.321 will be measured for payment by the Square Yard of the polymer modified concrete placed upon the deck, complete in place.

Item 476.322 will be measured for payment by the Cubic Yard of the additional polymer modified concrete placed upon the deck, complete in place.

BASIS OF PAYMENT

Item 476.321 will be paid for at the Contract unit price bid per Square Yard, which price will be full compensation for all labor, materials, tools, equipment, including both screed and pump truck, and incidentals required to furnish, place, finish, and cure all Polymer (Latex) Modified Concrete.

Item 476.322 will be paid for at the Contract unit price per Cubic yard, which price shall include all labor, materials, equipment, and all incidental costs required to complete the work.

For the total volume of the latex modified concrete placed, verified, and accepted by the Engineer exceeding the calculated volume for placing the proposed 2” uniform thickness overlay by five percent or more, the overage shall be compensated per cubic yards under Item 476.322 Polymer Modified Concrete Overlayment (Overage). Overage shall be defined herein as the calculated volume of placed polymer modified concrete in excess of one hundred and five percent (105%) of the calculated volume for the 2” uniform thickness overlays.

ITEM 482.31 SAWING AND SEALING JOINTS IN ASPHALT PAVEMENT AT BRIDGES FOOT

The work under this Item consists of saw cutting the existing pavement at the bridge to the depth, width and shape shown on DOCUMENT A00803, DRAWINGS AND SKETCHES.

Prior to the start of the asphalt pavement operation, the Contractor shall place a mark on each curb or barrier on either side of the paved roadway. These marks shall be aligned with the actual end of the bridge deck and shall be placed so that they will not be covered or otherwise obscured by the asphalt pavement.

After the completion of the paving operation, the Contractor shall snap a straight chalk line on the pavement between these two marks. The Contractor shall then saw cut the pavement along this line to the depth, width and shape shown on the Plans. The equipment shall be approved by the Engineer prior to commencing work.

After completing the saw cutting, the Contractor shall clean the saw groove of any dust and debris with an oil free air blast. If the groove was wet sawn, the groove shall be cleaned with a water blast to remove any remaining slurry and debris, vacuumed with a Wet-or-Dry vacuum to remove any standing water, and then dried with an air blast from a Hot-Air-Lance.

Once the groove is clean and dry, the Contractor shall fill it completely with a hot-applied bituminous crack sealer meeting the requirements of M3.05.0 in accordance with the manufacturer's application instructions and restrictions regarding ambient and material temperatures. The crack sealer shall be thoroughly cured prior to opening the road to traffic. To reduce tackiness, only boiler slag aggregate (black beauty) shall be scattered over the sealer when deemed necessary by the Engineer. Conventional sand shall not be used for this purpose.

METHOD OF MEASUREMENT

Item 482.31 will be measured for payment by the Foot of the actual number of feet along the center line of the joint.

BASIS OF PAYMENT

Item 482.31will be paid for at the contract unit price per Foot, which price shall include all labor, materials, equipment, and all incidental costs required to complete the work.

ITEM 740. ENGINEER'S FIELD OFFICE AND EQUIPMENT (TYPE A) MONTH

The work under this Item shall conform to the relevant provisions of Subsection 740 of the Standard Specifications and the following:

Two computer systems and printer system meeting minimum requirements set forth below including installation, maintenance, power, paper, disks, and other supplies shall be provided at the Resident Engineer's Office:

All equipment shall be UL approved and Energy Star compliant.

The Computer Systems shall meet the following minimum criteria or better:

Processor:	Intel, 3.5 GHz
System Memory (RAM):	12 GB
Hard Drive:	500 GB
Optical Drive:	DVD-RW/DVD+RW/CD-RW/CD+RW
Graphics Card:	8 GB
Network Adapter:	10/100 Mbit/s
USB Ports:	6 USB 3.0 ports
Keyboard:	Generic
Mouse:	Optical mouse with scroll, MS-Mouse compliant
Video/Audio	the computer system shall be capable of allow video calling and recording:
Video camera	shall be High Definition 1080p widescreen capable video calling and recording with built in microphone. The microphone system shall capture natural audio while filtering out background noise.
Audio	shall be stereo multimedia speaker system delivering premium sound.
OS:	Latest Windows Professional with all security updates
Web Browser:	Latest Internet Explorer with all security updates
Applications:	Latest MS Office Professional with all security updates Latest Adobe Acrobat Professional with all security updates Latest Autodesk AutoCAD LT Antivirus software with all current security updates maintained through the life of the contract.
Monitors:	Two 27" LED with Full HD resolution. Max. resolution 1920 x 1080
Flash drives:	2 (two) - 128GB USB 3.0
Internet access:	High Speed (min. 24 mbps) internet access with wireless router.

ITEM 740. (Continued)

The Multifunction Printer System shall meet the following minimum criteria or better:

Color laser printer, fax, scanner, email and copier all in one with the following minimum capabilities:

- Estimated volume 8,000 pages per month
- LCD touch panel display
- 50 page reversing automatic document feeder (RADF) (not including the bypass tray)
- Reduction/enlargement capability
- Ability to copy and print 11” x 17” paper size
- email and network pc connectivity
- Microsoft and Apple compatibility
- ability to overwrite latent images on hard drive
- 600 x 600 dpi capability
- 30 pages per minute print speed (color),
- 4 Paper Trays Standard
- Automatic duplexing
- Finisher with staple functions
- Standard Ethernet. Print Controller
- Scan documents to PDF, PC and USB
- ability to print with authenticated access protection

The Contractor shall supply a maintenance contract for next day service, and all supplies (toner, staples, paper) necessary to meet estimated monthly usage.

The Engineer's Field Office and the equipment included herein including the computer system, and printer shall remain the property of the Contractor at the completion of the project. Disks, flash drives, and card readers with cards shall become the property of the Department.

Compensation for this work will be made at the contract unit price per month which price includes full compensation for all services and equipment, and incidentals necessary to provide equipment, maintenance, insurance as specified and as directed by the Engineer.

ITEM 816.811 TEMPORARY MODIFICATION TO TRAFFIC SIGNAL DAY

The work under this Item shall conform to the relevant provisions of Subsection 815 of the Standard Specifications, the *2009 Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)* as amended, and the following:

The work shall include the temporary modifications of traffic signal timing at existing traffic signal location to accommodate additional and/or reduced traffic volumes based on the one-way westbound flow of Millbrook Street and detour of Millbrook Street eastbound during the project duration. Programming modifications may be completed at various times during the temporary traffic control period to support the changing of work zone set-ups based on phases described in the plans.

INTERSECTION LOCATIONS

Location 1 = Goldstar Boulevard / Millbrook Street
Location 2 = Goldstar Boulevard / W. Boylston Terrace / Home Depot Driveway
Location 3 = Burncoat Street / Melrose Street / I-190 NB &290 EB Off-Ramp
Location 4 = Burncoat Street / N. Service Road / I-290 WB On-Ramp
Location 5 = Burncoat Street / Millbrook Street

TRAFFIC SIGNAL TIMING – FINE TUNING

Traffic Signal Programming – Fine Tuning

During and following completion of work at each of the intersections noted above, the Contractor, under the direction of the Engineer, City of Worcester, and with District Traffic approval, will make necessary timing adjustments and tests to ensure safe and efficient operation during periods where the various work zones are in place. For the purposes of this bid, the Contractor shall provide a bid price that includes the following assumed programming work with the various contracted or subcontracted traffic signal personnel:

- Programming traffic signal timing on at least one day within a week of commencing the work zone set-up for Phase 1. This day visit is generally envisioned to include “fine-tuning” of the signal timings based on the traffic demand for peak and off-peak hours as necessary which may be needed if the existing timings are insufficient to control demand.
- Programming traffic signal timing on at least one additional day during work zone set-up. This day visit is also generally envisioned to include “fine-tuning” of the signal timings based on the traffic demand for peak and off-peak hours as necessary which may be needed if the existing timings are insufficient to control demand.
- Programming of traffic signal timing on the day following the end of work zone set-up to return traffic signal programming to their existing settings.

ITEM 816.811 (Continued)

METHOD OF MEASUREMENT

Item 816.811 Temporary Modification to Traffic Signal will be measured for payment by the Day. Each period of 24 hours during which required modifications to the traffic signals are made as described above will be measured as 1 day regardless of the number of modifications made.

BASIS OF PAYMENT

Item 816.811 will be paid for at the Contract unit price per Day, which price shall include all labor, material, equipment, and incidental costs required to complete the work.

No separate payment will be made for readjusting timings over the course of a single day of visit; but all costs in connection therewith shall be incidental to Item 816.811.

ITEM 852.11 TEMPORARY PEDESTRIAN BARRICADE FOOT

The work under this item consists of furnishing, deploying, maintaining proper operating conditions, temporarily moving, and removing temporary pedestrian barricades at the existing sidewalk along the northerly side of Millbrook Street adjacent to the work zones during Phase 2 of the work on both project bridges. These devices are intended to prevent pedestrians from entering the work area by providing visual and physical separation between each space. Whereas the sidewalk along Millbrook Street is to remain open during work, the barricade does not need to include such amenities outlined for a typical pedestrian bypass route in terms of visual and audible accessibility.

The barricades will be atop portions of the bridge deck which are under active construction as part of this contract and any barricade provided by the Contractor shall be easily removable so that work can be completed beneath that barrier and replaced in place in a timely manner. During periods where the barricade is temporarily removed / relocated for such work, the Contractor will provide services from a police detail to actively assist pedestrians as needed.

CONSTRUCTION METHODS

The Temporary Pedestrian Barricade shall be placed in an area that will provide pedestrians with a TPAR on a smooth, continuous hard surface for its entirety. The geometry and alignment of the facility shall meet the applicable requirements of the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities" and the Massachusetts Architectural Access Board.

Temporary Pedestrian Barricades shall not obstruct drainage

METHOD OF MEASUREMENT

Item 852.11 will be measured for payment by the Foot, complete in place.

BASIS OF PAYMENT

Item 852.11 will be paid at the contract unit price per Foot, which price shall include all incidental items. This price shall include the cost of furnishing, installing, resetting, removal, maintaining in good working condition.

ITEM 853.8 TEMPORARY ILLUMINATION FOR WORK ZONE DAY

The work under this Item shall conform to the relevant provisions of Subsection 850 of the Standard Specification and the following:

The work under this Item shall include the deployment and maintaining in proper operating condition a LED balloon diffuser lighting system. These portable light towers shall be used throughout the project area for temporary work zone lighting. The use of unshielded high wattage flood lights shall not be permitted.

The Contractor shall illuminate the following work zone areas:

- Change in direction (i.e., work zone entrances and exits, crossovers, etc.)
- Tapered areas
- Actual area where the construction is being performed

Light measurement shall be based on the illuminance method and the lighting levels shall be based on the classification of construction activity that is taking place. At no time shall the light level be below 5 fc and the uniformity shall not exceed 6:1. Task Classifications and recommended illumination levels is shown in Table 1.

Task Classifications	Illumination Level	Average Minimum Maintained Illuminance
All work operations areas, setup of lane or road closures, lane closure tapers, and flagging stations, such as: Excavation (all types), Embankment Fill and Compaction, Reworking Shoulders, Asphalt Pavement Rolling, Subgrade, Stabilization and Construction, Base Course Rolling, Sweeping, Cleaning and Landscaping.	Level I	5 foot-candles
Areas on or around construction equipment; asphalt paving, milling, concrete placement and/or removal, such as, Milling, Removal of Pavement, Asphalt Paving and Resurfacing, Concrete Pavement, Waterproofing and Sealing, Sidewalk Construction, Base Course Grading and Shaping, Surface Treatment, Bridge Decks, Drainage Structures and Drainage Piping, Other Concrete Structures, Barrier Wall and Traffic Separators, Guardrails and Fencing, Striping and Pavement Markings, Repair of Concrete Pavement, Highway Signs, Hole Filling and Repair of Guardrails and Fencing.	Level II	10 foot-candles
Pavement or structural crack/ pothole filling; joint repair, pavement patching and/or repairs, installation of signal/electrical/mechanical equipment, such as, Traffic Signals, Highway Lighting Systems and Crack Filling.	Level III	20 foot-candles

TABLE 1
TASK CLASSIFICATIONS AND ILLUMINATION LEVELS

ITEM 853.8 (Continued)

Prior to commencement of work the Contractor shall submit to MassDOT for approval a description of illumination equipment that is proposed to be used on this project and shall include photometrics that detail the light levels that are to be provided for the particular operation for the type of equipment, level of luminance and height to be installed.

Any potential glare from the lighting system should be considered from each direction and on all approaching roadways and opposing lanes of traffic. Glare from the illumination system should be minimized as much as possible for both workers and motorists in adjacent active travel lanes. If necessary, the Contractor shall provide supplemental hardware, such as, visors, louvers, shields, glare screen and barrier to reduce glare in adjacent active travel lanes.

Equipment mounted lighting may be used to supplement light towers to achieve the required lighting levels for the activity involved per Table 1.

The Contractor shall allow MassDOT up to 30 calendar days for review and comment.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 853.8 will be measured and paid for at the contract unit price per DAY. The cost shall include all labor, materials, equipment, tools and all incidentals required for the design and installation of the work zone lighting system. This shall include, but not be limited to lighting plan preparation, wiring connections, equipment relocations, and include all material and labor incidental for a complete, functional and operational work zone illumination system.

The price of this item shall include the material and labor necessary to install any supplemental hardware required to reduce glare on all adjacent active travel lanes.

The per day price shall be full compensation for all “Temporary Illumination for Work Zone” regardless of the number of concurrent work areas, amount of equipment concurrently in use or the durations of or changes of the work shifts per day.

Installation and modifying the existing set-up shall be incidental to Item 853.8.

ITEM 859.1 REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS DAY

The work under this Item shall conform the relevant provisions of Subsection 850 of the Standard Specifications and the following:

Work under this item consists of furnishing, installing, maintaining in proper operating conditions, and removing reflectorized drums, and any necessary ballast, equipped with sequential flashing warning lights.

MATERIALS

Reflectorized drums shall be listed on the MassDOT Qualified Traffic Control Equipment List. Reflective sheeting on drums shall meet or exceed ASTM D4956 Type VIII. All drums shall be maintained in a satisfactory manner including the removal of oils, dirt, and debris that may cause reduced retroreflectivity.

The Contractor shall use one of the following sequential flashing warning light systems unless otherwise approved by the Engineer:

1. Empco-Lite LWCSD.
2. pi-Lit® Sequential Barricade-Style Lamp; or
3. Unipart Dorman SynchroGUIDE.

Sequential flashing warning lights shall be secured to reflectorized drums per the light manufacturer's specifications.

CONSTRUCTION METHODS

The first ten (10) drums in any merging or shifting taper as designated in the Temporary Traffic Control Plan shall be equipped with sequential flashing warning lights. These lights shall be operating, at a minimum, between dusk and dawn when the taper is deployed.

The successive flashing of the sequential warning lights shall occur from the upstream end of the merging or shifting taper to the downstream end of the taper in order to identify the desired vehicle path. Each warning light in the sequence shall be flashed at a rate of not less than 55, nor more than 75 times per minute.

Warning lights shall be powered off when drums are not deployed in a taper.

ITEM 859.1 (Continued)

METHOD OF MEASUREMENT

A group of ten (10) reflectorized drums with sequential flashing warning lights is considered one (1) unit and will be measured by the day. Each period of up to 24 hours during which this unit is in use will be measured as one day regardless of the number of times that the drums are positioned, repositioned, removed, or returned to service.

BASIS OF PAYMENT

Reflectorized Drums with Sequential Flashing Warning Lights will be paid for at the contract unit price per day, which shall include full compensation for furnishing, positioning, repositioning, and removing the group of ten (10) drums as directed by the Engineer.

ITEM 905.2 5000 PSI, 3/8 INCH, 710 HP CEMENT CONCRETE CUBIC YARD

The work under this Item shall conform to the relevant provisions of Subsection 901 of the Standard Specifications and the following:

The work under this item shall consist of forming and placing 5000 PSI, 3/8-inch HP Cement Concrete. This item shall be used for patching after all deteriorated and/or unsound concrete is removed under Item 127.1, 127.4, 127.41 and/or 127.12.

The Contractor's attention is directed towards the Repair Procedure as noted in Document A00803.

All existing concrete surfaces that will be in contract with the proposed concrete shall be prepared in accordance with PREPARATION OF CONCRETE SURFACES.

All formwork shall be approved by the Engineer prior to concrete placement.

The concrete shall be cured a minimum of seven (7) days for a partial depth repair and fourteen (14) days for a full depth repair, before traffic, placing the waterproofing membrane and/or hot mix asphalt or removal of formwork is allowed.

METHOD OF MEASUREMENT

Item 905.2 will be measured for payment by Cubic Yard of cement concrete furnished and placed, complete in place.

BASIS OF PAYMENT

Item 905.2 will be paid for at the Contract unit price per Cubic Yard, which price shall include all labor, materials, equipment, surface preparation, and all incidental costs required to complete the work.

No separate payment will be made for the installation of subsequent removal of any formwork, coating/patching of the steel reinforcing, but all costs in connection therewith shall be included in the Contract unit price bid.

Where formwork is installed for concrete placement, payment of seventy percent (70%) of the Cubic Yard price of this item will be made upon complete concrete installation. The remaining thirty percent (30%) of the Cubic Yard Price of this Item will be paid only after the complete formwork removal by the Contractor.

ITEM 907.1 BRIDGE DECK RIDEABILITY AND GROOVING SQUARE YARD

The work under this Item shall include testing, diamond grinding, grooving and all other related work associated with obtaining satisfactory rideability and surface texture of the bridge deck surface.

TESTING

Perform acceptance testing of the longitudinal profile of the finished bridge deck in each wheel path of each lane in the presence of the Engineer. It is the Contractor's responsibility to submit a proposed plan of action and schedule for profilograph testing using a certified independent provider, approved by the Engineer.

Joint locations should be temporarily bridged sufficiently to facilitate the operation of the profilograph and corrective equipment across the joint. Remove all obstructions from the bridge deck and sweep the surface clean of debris prior to testing. If automated profilograph equipment is used, there shall be no radio transmissions or other activities that might disrupt the automated profilograph equipment during the testing. Ensure that the profilograph is in good operating condition per the manufacturer's recommendations. Maintain tires free of debris and buildup during each test run. Operate the profilograph at a maximum speed of 2 miles per hour. If a propulsion vehicle is used, it shall be approved, and the gross vehicle weight shall not exceed 1,000 pounds.

Take profiles with the recording wheel in each wheel path of each lane. The wheel paths of a lane are considered parallel to and approximately 3.5 feet (1.1 m) inside both edges of the travel lane. Take profiles over the entire length of the travel lanes on the bridge deck.

Upon completion of testing, submit the profilograms for each wheel path with the calculated Profile Index for each wheel path. The maximum allowable Profile Index per lane shall not exceed 25" per mile as determined with a 0.0" blanking band over any 600-foot test section. The Contractor will correct individual deviations more than 0.3" over any 25-foot length on the line tested by diamond grinding.

The entire deck surface shall meet a 0.125" in 10 feet straightedge check made atop the deck either transversely or longitudinally as deemed necessary by the Engineer.

DIAMOND GRINDING

If the deck does not meet the testing requirements, diamond grinding is required to make corrections.

Diamond grind the full width of all lanes and shoulders in the direction of travel. When diamond grinding, use either a Boart Longyear PC 5000, a Target 3804 or an approved equal. Submit grinding equipment specifications to the Engineer for approval before any grinding is performed.

Use a grinding machine capable of removing a minimum of 3 feet of width with each pass.

ITEM 907.1 (Continued)

Multiple passes may be needed to achieve the required depth of removal. In addition, hand grinding may be required to remove vertical steps between passes.

The final concrete texture shall be uniform. Construct and operate the grinding machine such that it will not cause strain or damage to the deck surface, excessive ravels, aggregate fractures, spalls, or disturbance of transverse joints. Longitudinally grind the deck parallel to the roadway centerline. Continuously remove all slurry or other debris resulting from the grinding operations by vacuum pick-up or other approved methods. Prevent the slurry from flowing into drainage structures, onto the ground under the bridge. Dispose of all residues off the project. The surface of exposed concrete decks shall be left in a washed clean condition that is free from all slipperiness from the sawcutting slurry.

All corrective work on the deck surface shall be performed to satisfy the rideability criteria. In cases where this cannot be achieved, other corrective work may be required as directed by the Engineer. Provide additional profilograph testing as necessary following grinding until the rideability requirements above are satisfied.

SAWCUT GROOVES IN CONCRETE DECK

After the concrete surface profile has been accepted by the Engineer, the concrete blockouts poured, and the joints installed, groove the bridge deck.

The work under this Item shall be performed in accordance with this Special Provision and the applicable parts of the Specifications.

The Polymer Modified Concrete Overlayment shall be grooved using multi-bladed self-propelled sawcutting equipment. Transverse grooves shall be sawcut no sooner than completion of the 96-hour air curing operation. The grooves shall be rectangular in shape, ⅛ inch wide (plus 1/16 inch, minus 0 inches) and 3/16-inch-deep (plus or minus 1/16 inch). The grooves shall be cut at a variable spacing measured from the centerline of grooves as follows: ¾ inch, 1 1/8 inches, ⅝ inch, 1 inch, ⅝ inch, 1 ⅛ inches, and ¾ inch in 6-inch repetitions across the width to be grooved in one pass of the mechanical saw device. One 6-inch sequence may be adjusted by ¼ sequence increments to accommodate various cutting head widths provided the general pattern is carried out. The tolerance for the spacing of the grooves is plus or minus 1/16 inch.

The groove sawcutting equipment shall have a depth control device that will detect variations in the surface profile and adjust the cutting head height to maintain the depth of groove specified.

ITEM 907.1 (Continued)

The groove sawcutting equipment shall be provided with devices to control the alignment. Flailing type grooving that is uncontrolled and erratic shall not be permitted. Grooves shall be cut continuously across the roadway, perpendicular to the centerline of the roadway, and shall stop 1 foot from the curb line. Grooves shall be continuous across construction joints. At skewed metal bridge deck expansion joints and at the skewed ends of bridge deck, the groove cutting shall be adjusted by using narrow width cutting heads so that all grooves end within 6 inches of the edge of deck joint measured normal to the centerline of joint or end of deck. No un-grooved deck surface greater than 6 inches in width shall remain. A minimum clearance of 1 inch shall exist between the first groove and the end of deck or edge of metal bridge deck expansion joint. No overlapping or repeating of grooving in the same location by the grooving machine shall be permitted. The pattern of grooving shall be discussed and agreed upon with the Engineer before grooving begins.

METHOD OF MEASUREMENT

Item 907.1 will be measured for payment by the Square Yard of bridge deck rideability and surface texture, complete in place.

BASIS OF PAYMENT

Item 907.1 will be paid at the Contract unit price per Square Yard. The work under this Item consists of labor and equipment involved in testing, grinding, and grooving the proposed Polymer Modified Concrete Overlayment.

No separate payment will be made for profilograph testing or diamond grinding of the bridge deck.

The cost of the testing procedure, equipment, grinding operation, and removal and disposal of slurry resulting from the grinding operation is considered incidental to Item 907.1.

ITEM 909.2 CEMENTITIOUS MORTAR FOR PATCHING SQUARE FOOT

The work under this Item shall conform to the relevant provisions of Subsection 901 of the Standard Specifications and the following:

The work under this Item consists of furnishing and placing a polymer-modified, cementitious, fast setting, trowel grade patching mortar to patch vertical surfaces on the existing structures at areas of spalled, delaminated, or cracked concrete as directed by the Engineer.

This Item does not include the repair of any vertical patch that exceeds two (2) inches in depth. The repairs to those patches shall be made using Item 905.2.

Material

The cementitious mortar used for patching shall be selected from the MassDOT Qualified Construction Materials List (QCML) and approved by the Engineer for the intended application.

Surface Preparation

All concrete surfaces shall be prepared in accordance with PREPARATION OF CONCRETE SURFACES.

The contractor shall remove all deteriorated and spalled areas as designated by the Engineer. All costs to remove the deteriorated and spalled concrete shall be compensated for under Item 127.12.

The Contractor shall have the approval of the Engineer certifying that all spalled and deteriorated concrete has been removed prior to patching deteriorated areas. If the deterioration of the vertical surfaces is deeper than one (1) inch, then the repair will be made in maximum lifts of one (1) inch deep. The preceding lift shall be allowed to reach final set before applying fresh material. The fresh mortar must be scrubbed into the preceding lift.

Application Methods

Mortar must be worked into the substrate filling all pores and voids. Force the material against the edge of the repair, working towards the center. After filling, consolidate, then screed.

The maximum thickness of application in one pass shall be one (1) inch. If the depth of patch exceeds one (1) inch, the mortar shall be placed in two passes of approximate equal thickness, with a total thickness not to exceed two (2) inches. Before the first pass has achieved an initial set, the surface shall be prepared for the second pass by scratching with a trowel to form a grid of deformation on the surface.

Prime and work the mix into the substrate, filling all pores and voids. Avoid puddling of the primer on horizontal substrates.

ITEM 909.2 (Continued)

Curing

Use a fine mist spray of water, wet burlap, or a non-solvent approved curing compound if ambient conditions might cause premature surface drying (high temperature, low humidity, strong winds, etc.). If necessary, protect the newly applied mortar from rain. To prevent freezing, cover with insulating material.

Manufacturer's Field Representative

The Contractor shall arrange with the material's manufacturer or distributor to have the 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 manufacturer's field representative must be fully qualified to instruct artisans or perform the work and shall be subject to the approval of the Engineer.

The Contractor shall be completely responsible for the expense and services of the required field representative, and the bid contract price shall be full compensation for all cost in connection therewith.

METHOD OF MEASUREMENT

Item 909.2 will be measured for payment by the Square Foot of patch area, complete in place.

BASIS OF PAYMENT

Item 909.2 will be paid for at the Contract unit price per Square Foot, which price shall include all labor, materials, equipment, certification, samples, curing and all incidental costs required to complete the work.

ITEM 912. DRILLING AND GROUTING DOWELS EACH

The work under this Item shall conform to the relevant provisions of Subsection 901 of the Standard Specifications and the following:

The work shall consist of drilling holes, furnishing, installing, and grouting of steel dowel reinforcement at the locations shown on the drawings or as required by the Engineer.

The dowel embedment must be adequate to fully develop 125% of the yield strength of the bar. The embedment length, the method and equipment used to drill the dowel holes, and the diameter of the drilled hole shall at a minimum conform to the recommendations of the manufacturer and be submitted to the Engineer for approval.

MATERIALS

The grout to be used for these dowels shall be selected from the MassDOT Qualified Construction Materials List for its specific application. Reinforcing steel dowels shall meet the requirements of AASHTO M31 Grade 60. All reinforcing steel dowels shall be epoxy coated in accordance with ASTM A775. Reinforcing steel dowels shall be incidental to the work under this Item.. Reinforcing Steel Manufacturer shall be listed on the QCML

CONSTRUCTION METHODS

All dowel holes shall be air drilled provided that the minimum edge distance of 6 inches is observed. Should, in the Engineer's opinion, air drilling be inappropriate due to questionable strength of the existing /concrete or insufficient edge distance, the dowel holes shall be diamond core drilled. The inner surfaces of the diamond core drilled dowel hole's inner surfaces shall be subject to the approval of the Engineer. The diameter of the drilled dowel holes shall be in accordance with the recommendations of the grout manufacturer. The holes shall be blown clear of any debris and shall have the approval of the Engineer prior to the placement of any grout material. The drilling operation shall be performed without damage to any portion of the existing structure that is to remain in place. Any damage to any portion of the existing structure that is to remain in place shall be repaired to a condition equal to or better than that existing prior to the beginning of the Contractor's operations and shall be repaired at the Contractor's expense.

The Contractor shall strictly follow the recommendations of the manufacturer for mixing and placing the grout material prior to the placement of the dowel. The Contractor shall adhere to the recommendations of the manufacturer regarding minimum and maximum temperatures while placing the grout. Any excessive grout around the hole after placement of the dowel shall be struck off smooth while the grout is still fresh.

ITEM 912. (Continued)

The Contractor shall perform on site a minimum of two (2) tests of the dowels (one test for each side of stage construction) for capacity in tension in each location or component. The test shall be performed in the presence of and to the satisfaction of the Engineer. The testing, including the necessary material and equipment to perform the test, is incidental to the work under this Item. The pullout force shall correspond to 90% of the yield strength of the bar. If the test bar pulls out or if the concrete utilized in the test shows signs of fracture, the Contractor shall adjust the hole diameter, embedment length, and/or grout material to meet this requirement. The method of applying the tension load to the dowels shall conform to ASTM E488. Details of the test procedure, materials,

and equipment shall be submitted to the Engineer for review and approval prior to commencement of the test. Dowels shall not be ordered until the embedment lengths have been approved by the Engineer.

The Contractor shall arrange with the material's manufacturer or distributor to have the services of a competent field representative at the work site prior to any drilling of the proposed dowel holes to instruct the work crews in proper dowel installation procedures. The field representative shall remain at the job site after work commences and continue to instruct until the representative, the Contractor, and Engineer are satisfied that the crew has mastered the technique of installing the dowels 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 manufacture's field representative must be fully qualified to perform the work and shall be subject to the approval of the Engineer.

METHOD OF MEASUREMENT

Item 912. will be measured for payment by the Each dowel installed, complete in place.

BASIS OF PAYMENT

Item 912. will be paid for at the Contract unit price per Each, which price shall include all labor, materials, equipment, furnishing dowels, drilling holes, grouting the dowels regardless of the diameter or depth of the hole, and all incidental costs required to complete the work.

The Contractor shall be completely responsible for the expense of the service of the required field representative and the contract unit price shall be considered full compensation for all costs in connection therewith.

ITEM 961.201 CLEAN (FULL REMOVAL) AND PAINT STEEL BRIDGE NO. W-44-099 (214) LUMP SUM

The work under this Item shall conform to the relevant provisions of Subsection 961, of the Standard Specifications and the following:

This work shall consist of cleaning and painting exposed structural steel, which shall include but is not limited to girders, diaphragms, connection plates and bearings. This work shall also include any concrete encased end diaphragms which are not to be re-encased, as directed by the Engineer.

Work under Items 961.201 shall include the cleaning (full removal) and painting of all exposed steel at these bridges. All steel will be cleaned to SSPC SP-10 standards.

All steel surfaces to be painted will receive a three (3) coat system approved by MassDOT's Research & Materials Section. The finish coat shall be Federal Standard Color #14223 green, unless otherwise specified. The colors of the primer, intermediate and finish coats shall have a definite color contrast between them and be subject to the approval of the Engineer.

The Contractor shall provide access for inspection after the steel has been cleaned and primed. If the inspection reveals that repairs are necessary, the Contractor shall prepare detailed drawings for each required repair and submit them for the Engineer's review and approval. Upon acceptance, these drawings shall serve as the basis for preparing shop drawings. Payment for any steel repairs directed by the Engineer will be made under the Non-Bid provisions of the Contract, which include Base Labor and applicable 999.xxx items.

CONSTRUCTION METHODS

The Contractor shall clean all exposed surfaces of the abutment seats and pier caps by washing with high pressure water to the satisfaction of the Engineer. All costs of cleaning the abutments seats and pier caps including debris collection, removal & disposal and high-pressure washing shall be considered incidental to the pay items 961.201.

BASIS OF PAYMENT

Item 961.201 will be paid at the contract unit price Lump Sum, which shall include all labor, materials, equipment necessary to perform the work to the satisfaction of the Engineer.

Incidental to these items are all costs associated with the design and installation of the required containment system/work platform.

All costs associated with the safe removal and disposal of accumulated pigeon waste and other toxic contaminants are incidental to these items and no additional compensation will be made.

ITEM 964.60 PENETRATING SEALER FOR EXPOSED DECK SQUARE YARD

The work under this Item shall consist of providing all labor, materials, and equipment required to prepare, clean, and apply a penetrating polymer (epoxy or methyl methacrylate) sealer system with sand aggregate to entire surface of exposed concrete bridge deck as directed by the Engineer.

This application shall follow placement of the overlay and allowing a minimum of thirty (30) days for curing.

MATERIALS

The sealer system shall be one of the following or approved equivalent:

- Bridge Seal 75% by Dayton/Unitex
- Dural 335 or Dural 50 LM by Euclid Chemical
- Mark 127 or Mark-135 Safe-T-Seal by Poly-Carb
- SikaPronto 19 or SikaPronto 19 TF (Tack Free) by Sika Corporation

The sealer system shall be selected with cure time in mind and in consideration of the overall deck sealing operation schedule. The sealer system that requires long cure time and work that impacts the project's requirement that all lanes be re-opened to traffic during daily high-volume hours will be rejected by the Engineer.

The sand aggregate used in conjunction with the sealer system shall be pre-bagged dry silica and meet the requirements of Sand Borrow, M1.04.0 and be poorly graded with grain size between U.S. sieve size 20 and 40. The aggregate must be angular, with less than 0.2 percent moisture, and free of dirt, clay, asphalt, and other foreign or organic materials.

EQUIPMENT

For the sealer, the mixing and application systems must be capable of accurately blending the epoxy or methacrylate resin and hardening agent, and must uniformly and accurately apply the sealer materials at the specified rate to the bridge deck in such a manner as to cover 100 percent of the work area including 1 inch of the vertical face of the curb/barrier.

The fine aggregate spreader must be propelled in such a manner as to uniformly and accurately apply dry aggregate onto the applied sealer material. Self-propelled vacuum truck shall be used to remove excess debris and aggregate. For hand applications, equipment must consist of calibrated containers, a paddle type mixer, squeegees, and stiff bristle brooms suitable for mixing and applying the sealer and aggregate.

ITEM 964.60 (Continued)

SUBMITTALS

The Contractor shall submit for review and approval by the Engineer the Bridge Deck Penetrating Sealer Installation Plan, which shall include but not be limited to the following:

1. Material list and corresponding cut sheets.
2. Equipment list and corresponding cut sheets (for surface preparation, mixing, and aggregate boardcasting).
3. A copy of International Concrete Repair Institute Guideline No. 03732.
4. Application procedure, production rates, and sequence of application.
5. Method to protect bridge joint, and areas not to be sealed.
6. Method to protect existing lane markings.
7. Temporary Traffic Control and Management Plan
8. Work schedule (Including curing time for the sealer).

The Contractor shall not begin the work until written approval of the above submittals has been received from the Engineer.

CONSTRUCTION

SURFACE PREPARATION

Immediately prior to application of the healer sealer, clean the entire deck surface by shot blasting to remove asphaltic material, oils, dirt, rubber curing compounds, paint carbonation, laitance, weak surface mortar, and other materials that may interfere with the bonding or curing of the healer sealer. The prepared deck surface must conform to requirements described in the International Concrete Repair Institute Guideline No. 03732, Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays, concrete surface profile 3 (CSP 3). A vacuum cleaner or oil-free moisture-free air blast should be used to remove all dust and other loose material.

Patching and cleaning operations must be inspected and approved prior to placing the sealer. Any contamination of the deck, or to intermediate courses, after initial cleaning, must be removed.

There must be no visible moisture present on the surface of the concrete at the time the sealer is applied. Conduct moisture testing in accordance with ASTM D4263. A transparent polyethylene sheet (4 mil) must be taped to the deck. Seal all edges with tape that will stick to the concrete substrate, and leave the plastic sheet in place for a minimum of 16 hours to detect the presence of moisture in the deck concrete. There must be no moisture visible on the polyethylene sheet. Alternate methods to detect moisture must be approved by the Engineer. Compressed air may be used to dry the deck surface, providing it is moisture and oil free.

The bridge joints, drainage structures, and any other areas not to be sealed, shall be protected from damage during preparation of the surface. The protection shall be removed once the sealer and aggregate has been applied, but prior to initial set of the sealer material. The protection must meet the approval of the Engineer.

ITEM 964.60 (Continued)

APPLICATION

The representative of the sealer system manufacturer must be on site prior to and during the installation to ensure all preparation and application is performed according to their requirements. Unless otherwise recommended by the manufacturer, the mixed sealer product shall be applied by pouring or spraying on the deck surface. The sealer material shall be distributed evenly with a squeegee, roller or stiff bristle broom. A liquid head shall be maintained over cracks until refusal. This may need to be done several times with larger cracks to completely seal them. Any excess material shall be removed with squeegee or boom.

The fine aggregate shall be applied in such a manner as to cover the mixture completely within 5 minutes. The sealer system shall be applied to the entire bridge deck surface and the areas within 1 inch of the vertical face of the curb/barrier.

The fine aggregate (sand) shall be applied to excess and provide a dry appearance to the deck after placement, unless otherwise recommended by the manufacturers or its on site representative. No bleed through, or wet spots should be visible in the overlay. If the surface appears wet additional sand will need to be placed immediately. The sand should be spread at a rate of at least 0.5 pound per square foot. The Contractor should use an air compressor connected to a venturi system to effectively broadcast the aggregate.

All foot traffic on the uncured sealer material shall be minimized and shall only be done with steel spiked shoes approved by the Engineer.

The minimum curing periods must be according to the manufacturer's recommendations, or as directed by the Engineer. The sealer overlay shall also be cured until loose aggregate can be removed by vacuuming or brooming without tearing or damaging the surface. No traffic or equipment is allowed on the overlay surface during the curing period. Remove and replace any areas damaged or marred by the Contractor's operations in accordance with this special provision at no additional cost to the Department.

Provide the Engineer with all records including, but not limited to, the following for each batch provided:

- batch numbers and sizes
- location of batches as placed on deck, referenced by stations
- batch time
- temperature of air, deck surface, sealer system components, including aggregates
- loose aggregate removal time
- time open to traffic

The work shall be scheduled to be perfomed when the ambient temperature is expected to be not less than 73 and not greater than 95 degrees fahrenheit.

ITEM 964.60 (Continued)

MANUFACTURER'S FIELD REPRESENTATIVE

The Contractor shall arrange with the sealer system's manufacturer or distributor to have the services of a competent field representative at the work site prior to any installation to instruct the work crews in the proper installation 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 perform the work and shall be subject to the approval of the Engineer.

The Contractor shall be completely responsible for the expense of the service of the required field representative and the bid contract price shall be full compensation for all costs in connection therewith.

METHOD OF MEASUREMENT

Item 964.60 will be measured for payment by actual Square Yard of penetrating sealer system installed , complete in place.

BASIS OF PAYMENT

Item 964.60 will be paid at the contract unit price per Square Yard . which price shall include full compensation for all material, labor, equipment, and incidental work required for cleaning, preparing and applying a penetrating sealer system. The protection and/or removal of the pavement markings from the bridge deck, the manufacturer's field support, and miscellaneous clean-up shall be considered incidental to this item.

The full and/or partial depth concrete deck repair shall be performed and paid for under their respective Contract bid Items.

ITEM 968.3 BRIDGE DECK DRAIN EACH

The work to be performed under this Item shall conform to the relevant provisions of Subsections 227 and 955 of the Standard Specifications and the following:

This work shall consist of furnishing and installing new deck drain pipes, replacing deteriorated/clogged existing drain pipes, and/or extending existing deck drain pipes, as shown on the drawings, and as required by the Engineer.

The Polyvinyl Chloride (PVC) pipes for the deck drains and their fittings shall conform to ASTM D1785, Schedule 40. Rubber gaskets shall be provided at all PVC flange-to-concrete connections. Solvent Cement Fittings shall conform to ASTM D2468, Schedule 40. All support straps and hardware shall be hot dip galvanized and be of the same type as used with steel pipe. Support spacing shall be based on the pipe manufacturer's recommendations for the service conditions. Jointing the pipe shall be done by solvent welding process and be in accordance with Manufacturer's recommendations. All joints to be set with P.V.C. primer and P.V.C. cement.

All pipes shall be adequately fastened and secured to the girder bottom flange with conduit clamps. The drain pipes shall be bonded to the surrounding concrete with an approved epoxy resin grout. All coring shall be done with an approved coring machine.

The drain pipes shall be installed through the waterproof membrane, extended 12 inches below the bottom of the adjacent girder, and attached to the bottom flange with a metal clamp to the satisfaction of the Engineer. After completing the membrane waterproofing and before laying the asphalt protective course, the top end of the pipes shall be covered with galvanized wire screen.

The deteriorated/clogged existing drain pipes shall be removed by coring. The holes of the existing deck pipes shall be filled with epoxy resin grout or non-shrink cementitious grout. The removal of existing deck drain pipes and backfill shall be considered incidental to this Item.

METHOD OF MEASUREMENT

Item 968.3 will be measured, complete in place, per Each set of three deck drain pipes installed, replaced, or extended in place.

BASIS OF PAYMENT

Item 968.3 will be paid at the Contract Unit Price per Each set of three deck drain pipes shall include the cost of furnishing all labor, materials, and equipment necessary to complete this work. Payment shall be the same for installing the deck drain pipes in cored holes and for placing them in a new concrete pour, as well as extending them. The cost of connection and conduit clamps for securing of deck drain pipes is included in Item 968.3. The contract unit bid price shall include sawcutting, pavement excavation, and membrane waterproofing.

HMA pavement will be paid for under Item 450.221. Asphalt Emulsion for Tack Coat will be paid for under Item 452.

ITEM 972.61 NEOPRENE COMPRESSION SEAL FOOT

The work under this Item shall conform to the relevant requirements in Subsection 972. of the Standard Specifications and the following:

The work consists of removing existing neoprene strip seals from existing bridge joints in bridge, curbing, parapets and sidewalk areas, and installing new seals of an equivalent type. The intent of this specification is to retain the steel armoring and other components of the existing expansion joints and to replace only the neoprene strip seals.

A qualified representative of the strip seal manufacturer shall be present at the start of work to ensure proper handling and installation. The representative shall remain on the project until the Engineer is satisfied that the Contractor's staff is adequately trained.

MATERIALS:

The Contractor shall submit shop drawings, manufacturer catalog cuts and installation procedures for proposed Neoprene strip seals to be reviewed and approved by the District prior to use.

The seals shall match the size and configuration of existing seals at each of the specific bridge locations. The lubricant/adhesive used shall conform to the seal manufacturer's specifications.

INSTALLATION OF NEOPRENE STRIP SEALS:

Following the removal of the existing joint seal, all steel surfaces shall be abrasive blasted to SSPC SP6, inspected and approved by the engineer. The preparation of the surface shall also include any required scraping to remove any delaminated steel areas prior to abrasive blasting.

The Contractor shall install the new seal in accordance with the seal manufacturer's latest instructions and specifications.

WATERTIGHT INTEGRITY TEST:

A watertight integrity test shall be required at each joint, as specified in Subsection 972.67

METHOD OF MEASUREMENT

Item 972.61 will be measured for payment by the Foot, with the measurement following the skew of the joint between the curb lines, complete in place.

BASIS OF PAYMENT

Item 972.61 will be paid for at the Contract unit price per Foot seal replaced, which price shall include all labor, materials, equipment, and incidental costs required to complete the work. Incidental to the work shall be removal of the existing compression seal and any minor repairs to the existing armored joint to include grinding, bending, or welding of minor damage to the steel end dams. The unit bid price shall include all costs associated with providing the manufacturer's representatives

ITEM 973.2 PRE-COMPRESSED JOINT SEAL FOOT

The work under this item shall consist of furnishing and installing a bridge joint system consisting of a pre-compressed joint seal set in concrete block-out in accordance with this specification and as shown on the contract drawings or directed by the Engineer.

The reconstruction of the existing deck slab and backwalls and construction of the block-outs for the joint will be compensated for under pay Items 910.1, 127.1, and 905.2.

MATERIALS

The pre-compressed joint seal system assembly shall consist of a preformed (pre-compressed) seal made of silicone-and-impregnated-foam hybrid, installed into field applied highway-grade, low-modulus, fuel resistant silicone epoxy adhesive on the joint faces reinforced with **injection** of silicone sealant band, all combined in manner to form a continuous watertight seal.

The material of the pre-compressed seal joint system shall be capable of accommodating movements of +50%,-50% (Total 100%) of nominal material size. The foam shall have the following properties:

Property	**Value**	**Test Method**
Base Material	Cellular, high density, polyurethane foam	N/A
Temperature Service Range: High Low	 185°F -40°F	ASTM C711
UV Resistance	No changes – 2000 hours	ASTM G155-00A
Accelerated Weatherometer Resistance to Aging	No changes – 2000 hours	ASTM G155-00A
Bleeding: -40°F to 180°F	No bleeding when compressed to minimum of movement, i.e. -50% of nominal size when simultaneously heated to 180°F for 3 hours.	
Compression Set	Material recovers to +50% of nominal size within 24 hours of compression to -50% of nominal size and simultaneous heating to 180°F for 3 hours.	

ITEM 973.2 (Continued)

The silicone coating applied in the field to achieve joint continuity, and the factory applied silicone coating shall both have the following properties:

Property	**Value**
Color	Black
Percent Solids (min.)	96
Specific Gravity	1.26 – 1.34
Elongation at Break - Percent Elongation (min.)	Minimum 600%, tested in accordance with ASTM D412.
Joint Movement Capability, +100/-50 Percent, 10 Cycles	No Failure
UV Resistance:	No degradation or chalking after 2,000 hours exposure in a Weather-Ometer, per ASTM G155.
Flexibility- Shore A Hardness**:** 15–25, tested per ASTM C661.	15–25, tested per ASTM C661.

SUBMITTALS

At least 30 days prior to start of the work, the Contractor shall submit to the Engineer for review and approval a detailed plan for the installation of the pre-compressed joint seal. No work shall be performed until this submittal has been approved. The submittals shall include:

1. Sequence of construction, material and method to create joint block-outs. The sequence of constructing the backwall and concrete slab including methods and material for forming the joint block-out shall be submitted for the approval of the Engineer.
2. A list of all manufactured materials and their properties to be incorporated in the joint system, including, but not limited to the pre-compressed joint seal and method of packaging.
3. A detailed step by step installation procedure and a list of the specific equipment to be used for the installation. The plan must fully comply with the specifications and address all anticipated field conditions, including periods of inclement weather.

Materials Certificates and Certified Test Reports shall be submitted by the Contractor certifying that the pre-compressed joint seal satisfies the specification requirements.

CONSTRUCTION

The Contractor shall produce uniform and parallel surfaces in the forming within the reinforced concrete deck slabs and backwall as detailed on the plans. The construction of this joint requires producing joint block-outs in a way that eliminates waviness ensuring the joint is straight between the roadway curbs and in alignment with the joint through the sidewalk and safety curbs. The alignment of the joint must be carefully considered and accounted for when forming the backwalls and deck slabs.

ITEM 973.2 (Continued)

The joint opening shall be protected by the Contractor to prevent any edge damage by any site equipment throughout the on-going construction process. Grinding and cutting the decks shall be completed prior to installation of the deck seal which shall occur as a continuous operation.

The pre-compressed seal profile shall be shipped to the job site in nominal 6.5 feet standard lengths in the manufacturer's standard shipping cartons. The seals shall be cut to length on the jobsite where required for straight lengths. Seal for directional change transitions at curbs shall be prefabricated to fit existing conditions. The appropriate tools, saws and miter boxes shall be utilized. All cuts shall be accurately measured and completed in a neat and workmanlike manner to ensure quality work.

Any required deck and/or joint header repairs must be fully cured and reach its design compressive strength prior to beginning the installation. The Contractor shall produce a uniform and parallel surface in forming the joint within the reinforced concrete slabs as detailed on the drawings. The joint opening shall be protected by the Contractor to prevent any edge damage by any site equipment throughout the ongoing construction process.

Prior to installation of the pre-compressed seal, the joint opening shall be abrasive blast cleaned, blown clean using compressed air that is free of moisture and oil, and then solvent cleaned to remove any remaining dust or debris. The solvent used shall be either acetone or xylene. Water shall not be used as the solvent and only clean cloths shall be used. The surfaces shall be abrasive blast and solvent cleaned so that the surface profile meets ICRI CSP 2 (minimum) or CSP 3 (preferred). The depth of cleaning shall extend to the depth of the bottom of the pre-compressed seal material plus one inch (1") to remove any dust remaining. The joint gap shall be inspected for cleanliness by The Engineer. Should any contaminates remain, the joint must be re-cleaned to the depth of the bottom of the pre-compressed seal material plus one inch (1") to remove any dust remaining. The joint gap shall be inspected for cleanliness by The Engineer. Should any contaminates remain, the joint must be re-cleaned.

The pre-compressed seal, epoxy adhesive, and injected silicone sealant band shall be installed in accordance with the Contract's drawings. The pre-compressed seal joint system shall be continuous through sidewalks, curbs, medians, and parapets as appropriate to the conditions at hand. Continuity of seal shall be achieved through the use of factory-fabricated universal or custom transitions supplied by the pre-compressed joint seal manufacturer. Changes in plane and direction at locations, such as gutter line and face of barriers, shall be executed using factory-fabricated "universal 90" or custom transition assemblies supplied by the manufacturer of the pre-compressed seal. Transitions shall be warranted to be watertight at inside and outside corners through the full movement capabilities of the product.

Pre-compressed Seal Manufacturer's Field Representative

ITEM 973.2 (Continued)

The Contractor shall arrange with the pre-compressed seal joint system's manufacturer or distributor to have the services of a competent field representative at the work site prior to any installation to instruct the work crews in the proper installation 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 perform the work and shall be subject to the approval of the Engineer.

METHOD OF MEASUREMENT

Item 973.2 will be measured for payment by the Foot, as measured along the joint centerline and between curb lines complete in place.

BASIS OF PAYMENT

Item 973.2 will be paid at the contract unit bid price per Foot, which price shall be considered full compensation for the installation of the Pre-compressed Joint Seal including all labor, material equipment, manufacturer's representative and all incidental costs required to complete the work.

The joint preparation and installation of pre-compressed seal at the safety curb and sidewalk shall be considered incidental to the work to be done under this item.

Any reconstruction of the existing deck concrete including forming of the block-outs will be paid for under the applicable contract items.

The Contractor shall be completely responsible for the expense of the service of the required field representative and the bid contract price shall be full compensation for all costs in connection therewith.

ITEM 994.1 TEMPORARY PROTECTIVE SHIELDING SQUARE FOOT

The work under this item consists of furnishing, installing, maintaining, removing and disposing of existing shielding system on and under bridge(s), in locations required by the Engineer.

The work under this Item shall provide for the protection of traffic, persons, and facilities on the roadway beneath bridges from falling debris during the removal of the unsound concrete from bridge decks, parapets, copings and sidewalks.

Item 994.1 will be used to compensate the Contractor for the temporary shielding installed during the first phase of work (refer to contract drawings for the proposed construction staging).

No portion of the bridge deck shall be removed until the protective shielding is in place and complete.

Any equipment necessary to erect forms will be considered incidental to Items 994.1 and 994.12.

Any existing formwork or shielding on the bridge shall also be removed and disposed by the Contractor away from the job area, at no additional expense.

All shielding shall meet the following requirements:

1. Temporary Protective Shielding must be used on bridges over roadways, railroads, and waterways during full depth excavation and when, in the opinion of the Engineer, there is the possibility of dislodging concrete from the bottom of the deck, parapets or coping. In some cases, the Contractor may be able to utilize the bottom flanges of existing steel beams as support for the protective shielding. However, the Contractor will not be permitted to weld onto, drill into, or cut any existing structural steel beams.
2. The Contractor shall submit drawings and calculations stamped by a Professional Engineer of the appropriate discipline registered in Massachusetts of the proposed temporary shielding to the Engineer for approval prior to its installation. The drawings shall include details of all connections, brackets, and fasteners. However, when the spacing between existing steel beams is 70 inches or less, the Contractor may utilize a wood plank shielding scheme.
3. Shielding shall be designed to safely withstand all loads that it will be subjected to. The allowable design stresses shall be in accordance with AASHTO Standard Specifications for Highway Bridges, 17th Edition. The design shall also include a description of the equipment and construction methods proposed for the deck, parapet, or coping excavation and the maximum size of the area being excavated. The shielding shall also be designed to withstand the maximum size of the excavated area should it fall during excavation or removal. No debris shall be swung over traffic, on or below the bridge.
4. Shielding shall be designed such that impact on traffic during installation and removal shall be minimal.

ITEM 994.1 (Continued)

5. The shielding shall extend a sufficient distance above and beyond the deck overhang at the fascia where concrete excavation is required outside the fascia beams. The shielding shall extend the length of the damaged or distressed portion of the deck a length of sufficient distance to do the required deck demolition. Also, the width of shielding shall completely extend over the travel lanes and shoulders of the highway below and shall extend a minimum of one beam width in the transverse direction beyond the limits of the excavation.
6. The area for shielding shall be approved by the Engineer prior to any installation of any shielding. All spaces along the perimeter of the shielding and at the seams shall be sealed to prevent dust, water, and debris from escaping and falling onto traffic below the bridge.
7. The Engineer may request that the shielding be designed so that it may also serve as false work (forms) for all areas of full-depth concrete replacement/repair.
8. The shielding shall not decrease the minimum vertical bridge clearance to the roadway unless otherwise approved by the Engineer.
9. The shielding shall be maintained and remain in place until the strength of the concrete used to repair the deck has cured and reached the design strength requirement, except where shielding needs to be removed and reset to install formwork for the areas of full depth repair. The shielding shall remain the property of the Contractor and shall be removed by the Contractor from the site when no longer needed.

If the Contractor's operations damage any existing portions of the bridge that are to remain, such damage shall be repaired at the Contractor's own expense.

All materials used in the temporary shielding system shall become the property of the Contractor and shall be removed from the site upon the completion of the project.

METHOD OF MEASUREMENT

Item 994.1 will be measured for payment by the Square Foot of shielding installed, maintained, and removed upon completion of repair work as required by the Engineer.

BASIS OF PAYMENT

Item 994.1 will be paid for at the Contract unit price per Square Foot, which price shall include all labor, materials, equipment, removal and disposal all debris, shielding installation, maintenance, final removal upon completion of repair work, and all incidental costs required to complete the work.

Payment of 60% of the Square Foot of this item will be made upon complete installation.
The remaining 40% of the Square Foot of this Item will be paid following complete removal.

Compensation to provide Engineering Services, when required, will be separately reimbursed as a Non-Bid Item. Engineering services are incidental to the item.

ITEM 994.12 TEMPORARY PROTECTIVE SHIELDING REMOVED AND RESET SQUARE FOOT

The work under this Item consists of removing and resetting any previously installed protective shielding that may interfere with operations of the concrete deck repairs.

Note: Previously installed protective shielding may interfere with the Contractor's operations for full depth concrete deck repairs. Prior to commencing work, the Contractor shall submit to the Engineer for approval, proposed construction methods for removing and resetting the protective shielding.

Any debris that falls on the shielding shall be completely cleaned off from the protective shielding and disposed of offsite by the Contractor. Removal and disposal of materials will be subject to the regulations and requirements of local authorities governing the disposal of such materials. The disposal shall be done at no additional charge.

Any shielding damaged by the Contractor shall be replaced at the Contractor's expense. Any existing locations where protective netting has become damaged beyond the control of the Contractor, (in the opinion of the Engineer), may be replaced at the Engineer's discretion.

Compensation to provide new replacement protective netting will be made under Payment for Materials (Non-Bid Items).

METHOD OF MEASUREMENT

Item 994.12 will be measured for payment by the Square Foot of the temporary protective shielding removed and reset.

BASIS OF PAYMENT

Item 994.12 will be paid at the Contract unit price per Square Foot, which price shall include all labor, materials, tools, equipment, and all incidental costs required to complete the work.

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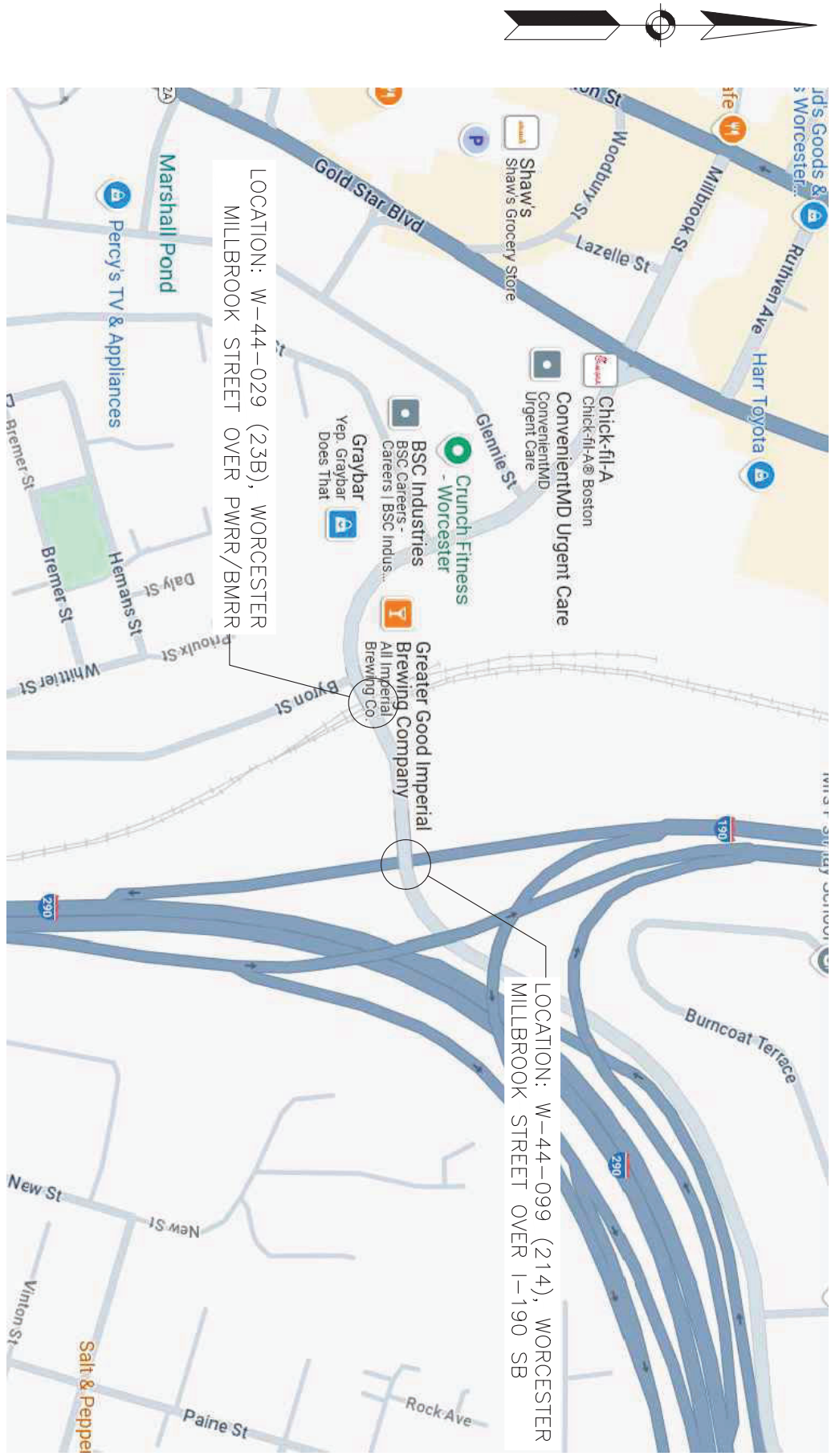
DRAWINGS AND SKETCHES

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LOCUS MAP

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MassDOT Highway Division	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W-44-099(214), MILLBROOK ST. OVER I-190 (SB) AND W-44-029(23B) MILLBROOK ST. OVER RAILROAD
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GENERAL NOTES:

1. THE WORK SHALL BE DONE IN ACCORDANCE WITH THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION "2025 STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES".

2. THE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER DOCUMENTATION AVAILABLE AT THE TIME OF DESIGN, INCLUDING ORIGINAL BRIDGE DESIGN PLANS. THE CONTRACTOR SHALL FIELD VERIFY ACTUAL FIELD CONDITIONS THAT MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH THESE DRAWINGS. ALL MODIFICATIONS TO ADDRESS FIELD CONDITIONS SHALL BE APPROVED BY THE ENGINEER.

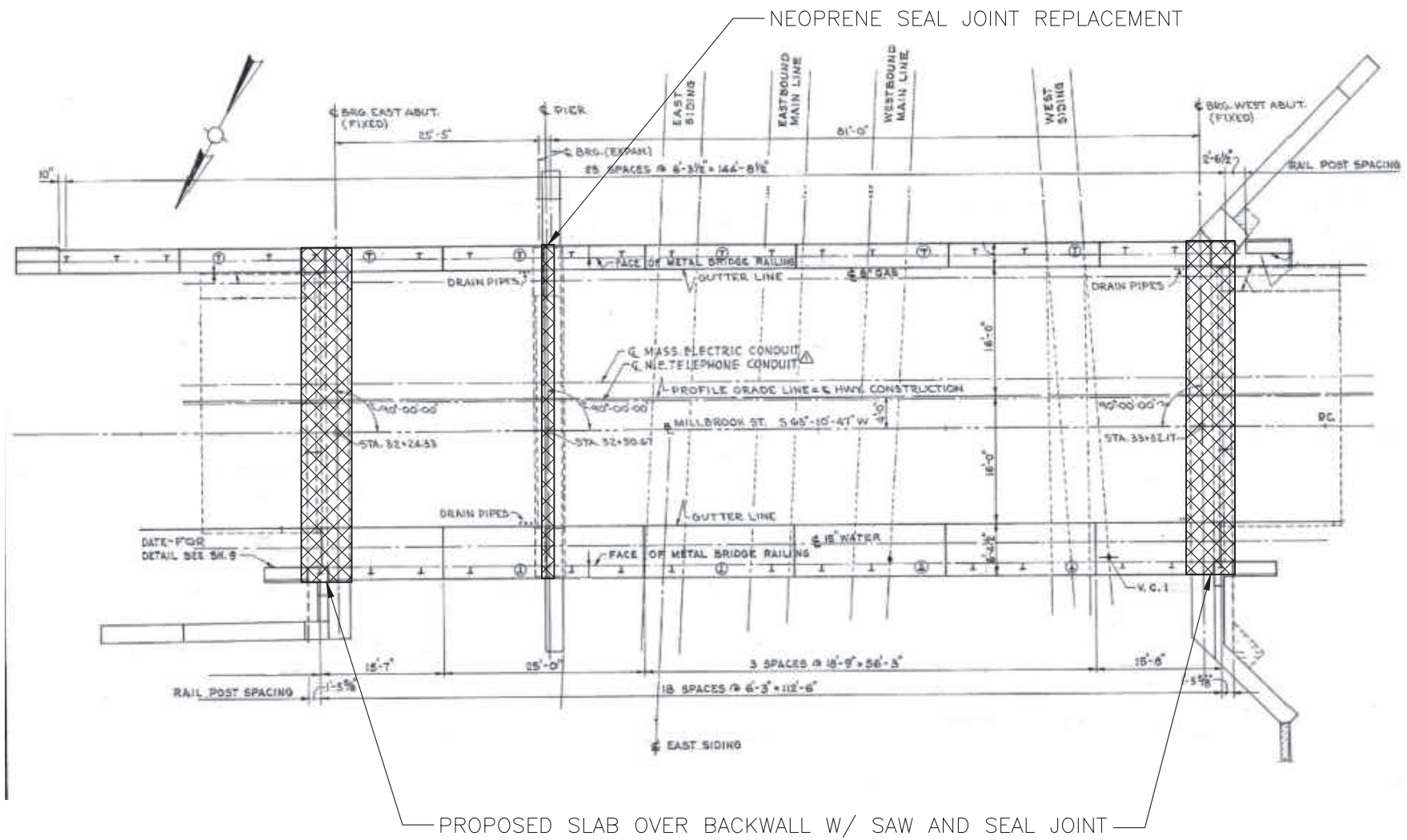
3. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE ACCURACY AND FIT OF THE WORK AND THUS SHALL DETERMINE WHAT MEASUREMENTS ARE REQUIRED. WHERE REQUIRED, THE CONTRACTOR SHALL DEVELOP SHOP DRAWINGS UTILIZING THE FIELD MEASUREMENTS OF THE REPLACEMENT AND REPAIR AREAS TO CONFORM THE BRIDGE COMPONENTS AND ALL OTHER REPAIR DIMENSIONS. THE CONTRACTOR SHALL NOT ORDER ANY MATERIALS OR BEGIN FABRICATIONS UNTIL THE SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED BY THE ENGINEER.

4. AREAS OUTSIDE THE LIMITS OF THE PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

5. THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPARING TEMPORARY TRAFFIC CONTROL PLAN (TTCP) FOR APPROVAL OF THE ENGINEER. NO WORK WILL BE ALLOWED UNTIL THE TTCP IS APPROVED BY THE ENGINEER. ALL LANE CLOSURES DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPROVED TEMPORARY TRAFFIC CONTROL AND PLANS. THE CONTRACTOR SHALL SUBMIT ANY MODIFICATIONS TO THE TRAFFIC CONTROL PLANS FOR REVIEW AND APPROVAL OF THE ENGINEER. ALL TTCPs SHALL BE PREPARED, SIGNED, AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS. ALL MAINTENANCE AND TRAFFIC PROCEDURES, DEVICES, SIGNS, AND SIGN MOUNTINGS SHALL CONFORM TO THE LATEST MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND THE COMMONWEALTH OF MASSACHUSETTS STANDARD DRAWINGS FOR SIGN SUPPORTS.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DISPOSAL OF ALL EXISTING MATERIALS TO BE REMOVED FROM THE STRUCTURE AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH THE SPECIFICATIONS.

7. THE EXISTING BRIDGE PLANS ARE AVAILABLE FOR REVIEW AT THE DISTRICT OFFICE OF THE BRIDGE DESIGN SECTION. PLANS SHOULD BE MADE AVAILABLE VIA BIDX OR THROUGH ELECTRONIC TRANSMISSION.



JOINT REPAIR LOCATIONS (W–44–029)

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DISTRICT 3
BRIDGE SECTION

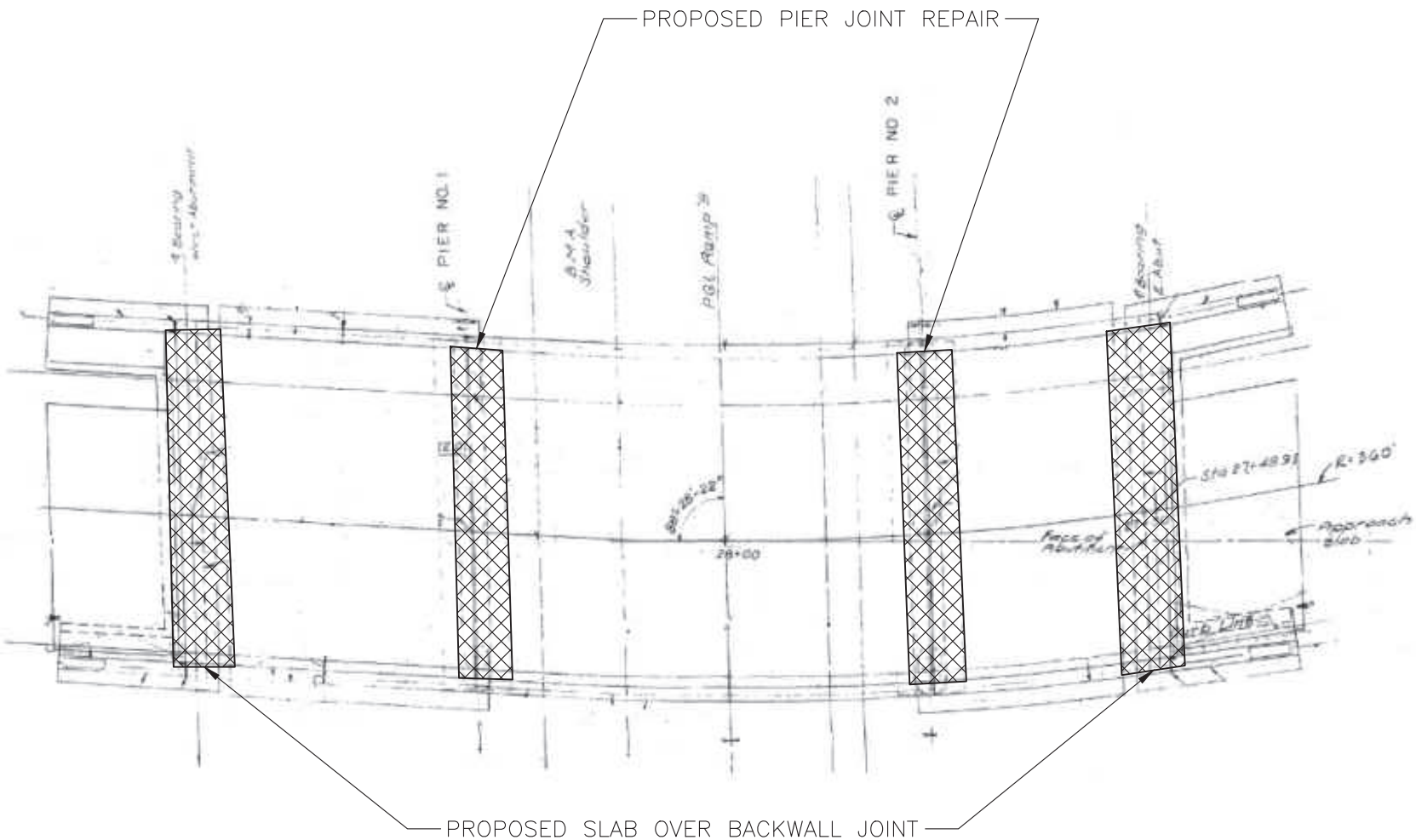
PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD

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JOINT REPAIR LOCATIONS (W-44-099)

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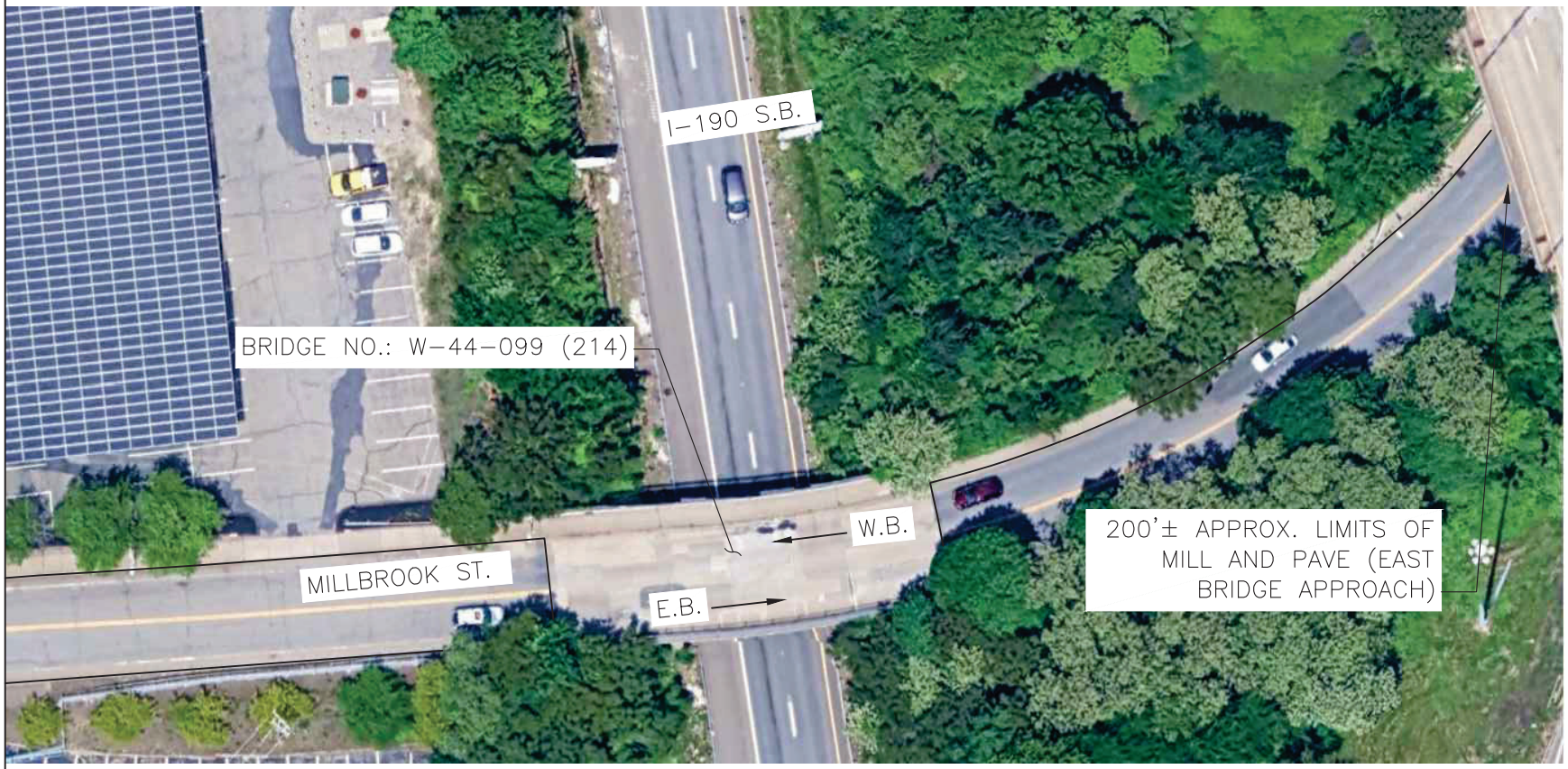
MassDOT Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER-BRIDGE PRESERVATION, W-44-099(214), MILLBROOK ST. OVER I-190 (SB) AND W-44-029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 5 OF 38
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N

MATCH LINE, SEE SHEET 7



NOTE:

THIS BRIDGE HAS AN EXPOSED DECK.

PROJECT LIMITS PLAN

SCALE: N.T.S.

massDOT Massachusetts Department of Transportation Highway Division

DISTRICT 3
BRIDGE SECTION

PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD

SUBJECT: PROJECT LIMITS PLAN – 1

SHEET: 6 OF 38

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MATCH LINE, SEE SHEET 6

PROJECT LIMITS PLAN

SCALE: N.T.S.

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DISTRICT 3
BRIDGE SECTION

PROJECT: 613790, WORCESTER-BRIDGE PRESERVATION, W-44-099(214), MILLBROOK ST. OVER I-190 (SB) AND W-44-029(23B) MILLBROOK ST. OVER RAILROAD

SUBJECT: PROJECT LIMITS PLAN – 2

SHEET: 7 OF 38

DRAWN BY: ME&JON
DATE: 7/24/2025

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DATE: 7/24/2025

JOINT REPAIR NOTES:

1. UNLESS NOTED OTHERWISE THE FINAL TRANSVERSE, LONGITUDINAL, AND DEPTH LIMITS OF JOINT REPAIRS TO BE DETERMINED BY THE ENGINEER IN THE FIELD ACCORDING TO THE DECK, BACKWALL, AND APPROACH SLAB CONDITIONS AFTER PAVEMENT AND WATERPROOFING MEMBRANE REMOVAL.

2. CONCRETE EXCAVATION ASSOCIATED WITH THE JOINT RECONSTRUCTION OR REPAIRS TO THE SIDEWALK, CURBS, PARAPET, AND/OR ENDPOSTS (WHERE INDICATED ON THE PLANS OR DIRECTED BY THE ENGINEER) SHALL BE PAID FOR UNDER ITEM 127.1 (MAX LIMITS 2'–6$\frac{1}{4}$" AT ABUTMENTS, 4'–6" AT PIERS), REINFORCED CONCRETE EXCAVATION.

3. CONCRETE EXCAVATION FOR TOP OF BACKWALL AND/OR APPROACH SLAB SHALL BE PAID UNDER ITEM 127.1. THE CONCRETE EXCAVATION FOR FULL OR PARTIAL DEPTH DECK REPAIRS SHALL BE PAID UNDER ITEM 127.4, OR 127.41, RESPECTIVELY. REMOVAL OF CONCRETE PATCHES IN THE ROADWAY APPROACH, WHETHER MILDLY REINFORCED OR NOT, SHALL NOT BE CONSIDERED REINFORCED CONCRETE EXCAVATION AND SHALL BE PAID UNDER ITEM 120.1.

4. ALL CONCRETE USED FOR JOINT RECONSTRUCTION EFFORTS AT ALL OTHER ABUTMENT BACKWALLS SHALL BE 5000 PSI, 3/8 INCH, 710 HP CEMENT CONCRETE (ITEM 905.2). WHERE SHALLOW REPAIRS (LESS THAN 2") TO BACKWALL AND/OR APPROACH SLAB IS REQUIRED PER THE ENGINEER, SMOOTHEN THE TOP SURFACE WITH CEMENTITIOUS MORTAR FOR PATCHING (ITEM 909.2).

5. ALL NEW REINFORCING STEEL SHALL BE EPOXY COATED AND CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60, UNLESS OTHERWISE NOTED ON THE PLANS. ALL BARS SHALL BE LAPPED AS FOLLOWS:

MODIFICATION CONDITION	#4 BARS	#5 BARS
1. NONE	21"	26"
2. 12" OF CONCRETE BELOW BAR	29"	36"
3. COATED BARS, COVER < 3db, OR CLEAR SPACING < 6db	31"	39"
4. COATED BARS, ALL OTHER CASES	24"	30"
5. CONDITION 2. AND 3.	35"	44"
6. CONDITION 2. AND 4.	34"	42"

IF THE ABOVE BARS ARE SPACED 6" OR MORE ON CENTER, THE LAP LENGTH SHALL BE 80% OF THE LAP LENGTH GIVEN ABOVE. ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ALL REINFORCING BARS AND SUPPORTING DEVICES SHALL BE COATED, UNLESS OTHERWISE NOTED.

6. THE CONCRETE CLEAR COVER FOR NEW REBAR SHALL BE 2", UNLESS OTHERWISE NOTED ON THE PLANS.

7. MECHANICAL BAR SPLICERS SHALL BE USED TO CONNECT NEW TRANSVERSE REINFORCEMENT BETWEEN DIFFERENT CONSTRUCTION STAGES. THE BAR SPLICERS WILL BE COMPENSATED PER POUND UNDER ITEM 910.1.

8. RETAIN EXISTING REINFORCEMENT UNLESS OTHERWISE NOTED. ALL EXISTING REINFORCEMENT TO BE REUSED SHALL BE CLEANED AND EPOXY COATED.

9. ANY DETERIORATED REINFORCEMENT WITH MORE THAN 25% SECTION LOSS SHALL BE REPLACED IN KIND.

JOINT REPAIR NOTES (CONT.):

10. THE LAP LENGTH FOR ANY NEW #5 TRANSVERSE DECK REINFORCEMENT SHALL BE 30". ALL OTHER REPLACEMENT BARS SHALL BE LAPPED TO EXISTING REINFORCEMENT WITH A MINIMUM LAP LENGTH OF 30 BAR DIAMETERS OR AS INDICATED IN THE TABLE ABOVE (WHICHEVER IS GREATER).

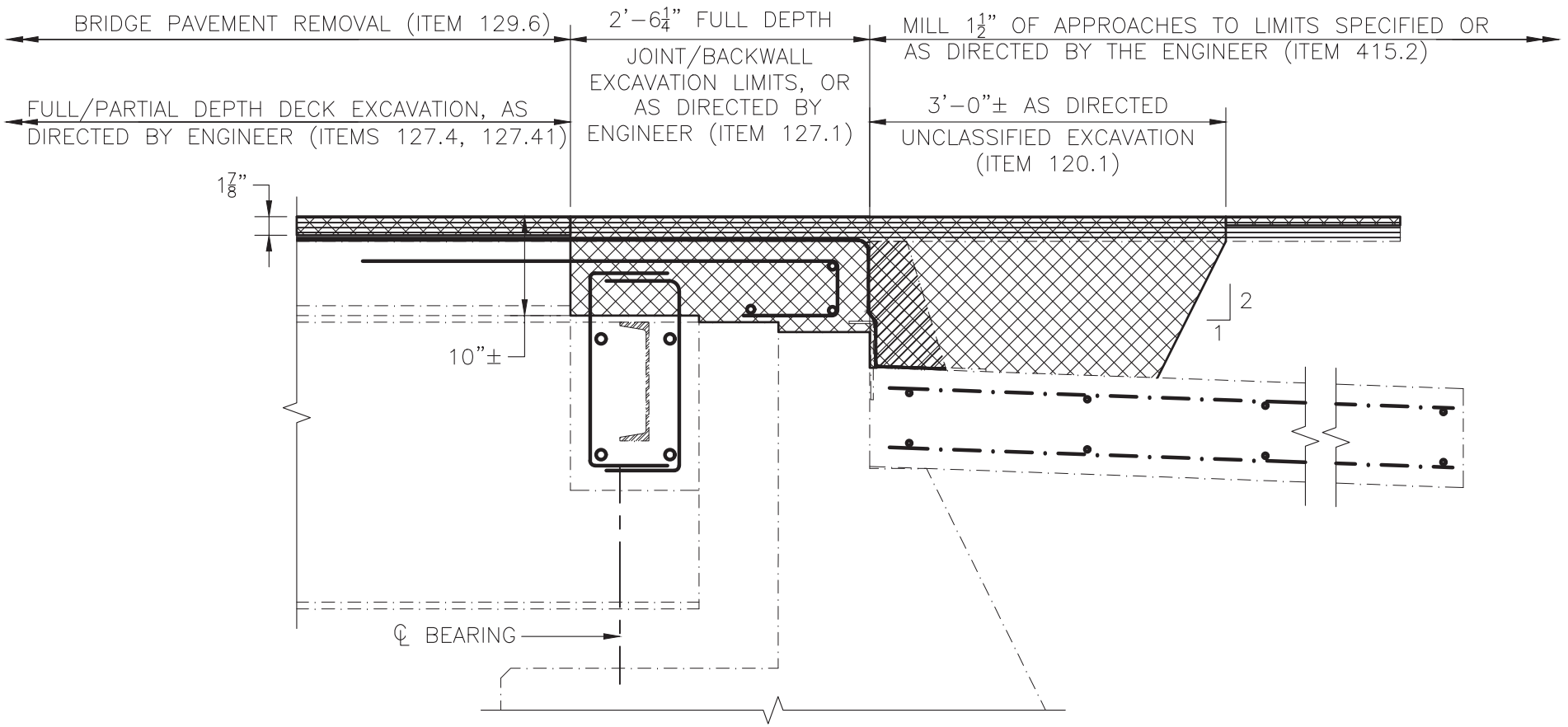
11. IF EXISTING REINFORCEMENT CANNOT BE REUSED OR LAPPED, DRILL AND GROUT NEW REINFORCEMENT INTO EXISTING CONCRETE (ITEM 912). EMBEDMENT LENGTH SHALL BE IN ACCORDANCE WITH THE GROUT MANUFACTURER'S SPECIFICATION IN ORDER TO ATTAIN EQUIVALENT MINIMUM LAP LENGTHS.

12. WHERE APPLICABLE INSTALL PAVEMENT SAWCUT (ITEM 482.31) AT JOINT AFTER PERMANENT PAVEMENT IS INSTALLED (DETAIL ON SHEET 31).

13. ALL MEMBRANE WATERPROOFING (ITEM 966.) SHALL BE IN ACCORDANCE WITH THE STANDARD AND SUPPLEMENTAL SPECIFICATIONS FOR BRIDGE DECK REPAIRS, UNLESS NOTED OTHERWISE OR DIRECTED BY THE ENGINEER.

14. PROTECTIVE COARSE TO BE HOT MIX BINDER COURSE FOR BRIDGES (ITEM 451.), PLACED IN 3" LAYERS AND COMPACTED WITH A MECHANICAL HAND–GUIDED TAMPER AFTER PLACING MEMBRANE WATERPROOFING.

MassDOT Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 9 OF 38 DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: JOINT REPAIR NOTES – 2	CHECKED BY: MN DATE: 7/24/2025



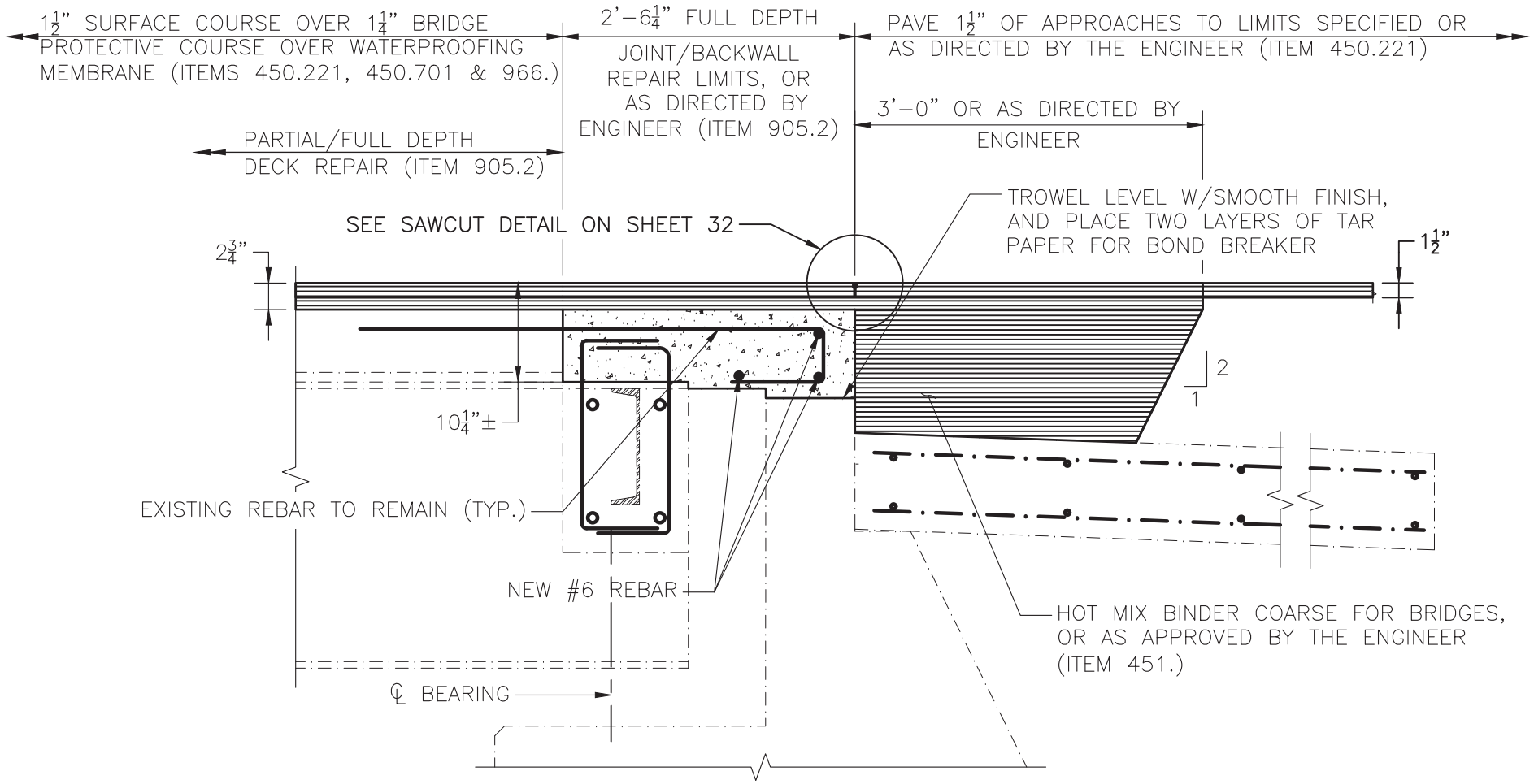
JOINT EXCAVATION LIMITS AT ABUTMENT (W–44–029)

SCALE: ¾" = 1'–0"

MassDOT Massachusetts Department of Transportation Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 10 OF 38
		DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: JOINT EXCAVATION LIMITS AT ABUTMENT (W–44–029)	CHECKED BY: MN DATE: 7/24/2025

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PROPOSED JOINT REPAIR DETAIL AT ABUTMENT (W–44–029)

SCALE: ¾" = 1'–0"

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		DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: PROPOSED JOINT REPAIR DETAIL AT ABUTMENT (W–44–029)	CHECKED BY: MN DATE: 7/24/2025

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NEOPRENE COMPRESSION SEAL REPLACEMENT PROCEDURE:

1. ESTABLISH TRAFFIC CONTROL OPERATIONS ON THE BRIDGE TO ENSURE WORKER SAFETY.

2. COMPLETELY REMOVE THE EXISTING COMPRESSION SEAL.

3. THE CONTRACTOR WILL BE DIRECTED TO INSTALL STOP BLOCKS OR LEDGES AT THE BASE OF THE JOINT TO PROVIDE A SEAT FOR THE BOTTOM OF THE COMPRESSION SEAL GLAND. THE INSTALLATION OF BLOCKS OR LEDGES WILL BE PAID AS T&M.

4. THOROUGHLY CLEAN EDGES OF THE JOINT BY ABRASIVE BLASTING (SSPC–SP6). VACUUM CLEAN AS NECESSARY.

5. CHECK THE LENGTH OF THE REPLACEMENT COMPRESSION SEAL FOR FIT; MITER CUT AND GLUE MITERED ENDS TOGETHER FOR BENDS AT CURBS OR RAISED MEDIANS.

6. APPLY LUBRICANT/ADHESIVE TO EDGES OF THE JOINT BULKHEAD; PRECOMPRESS THE COMPRESSION SEAL AND INSTALL IT WHILE LUBRICANT/ADHESIVE IS STILL WET.

7. INSTALL THE TOP OF THE COMPRESSION SEAL TO A DEPTH OF 0.5 TO 0.75 INCH BELOW THE TOP OF THE DECK SURFACE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

NEOPRENE COMPRESSION SEAL REPLACEMENT NOTES:

1. SHOP DRAWINGS ARE REQUIRED TO BE SUBMITTED FOR APPROVAL OF THE ENGINEER. THE SHOP DRAWING SHALL DETAIL TYPE AND SIZE OF SEAL AND OTHER DETAILED INFORMATION REQUIREMENTS FOR ITS INSTALLATION.

2. EACH JOINT OPENING SHOULD BE MEASURED SO THAT AN APPROPRIATELY SIZED GLAND SEAL IS ORDERED.

3. REPLACEMENT OF THE NEOPRENE SEALS SHOULD BE SCHEDULED DURING COOL (AMBIENT TEMPERATURE 45 – 70 DEGRESS FAHRENHEIT) WEATHER, WHEN BRIDGE ELEMENTS ARE IN A THERMALLY CONTRACTED CONDITION OR AN OPEN POSITION.

4. MANUFACTURER REPRESENTATIVE SHALL BE AVAILABLE DURING FIELD INSTALLATION. COST ASSOCIATED WITH HIS SERVICES SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE SEAL.

massDOT Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 12 OF 38 DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: NEOPRENE COMPRESSION SEAL REPLACEMENT PROCEDURE AND NOTES	CHECKED BY: MN DATE: 7/24/2025

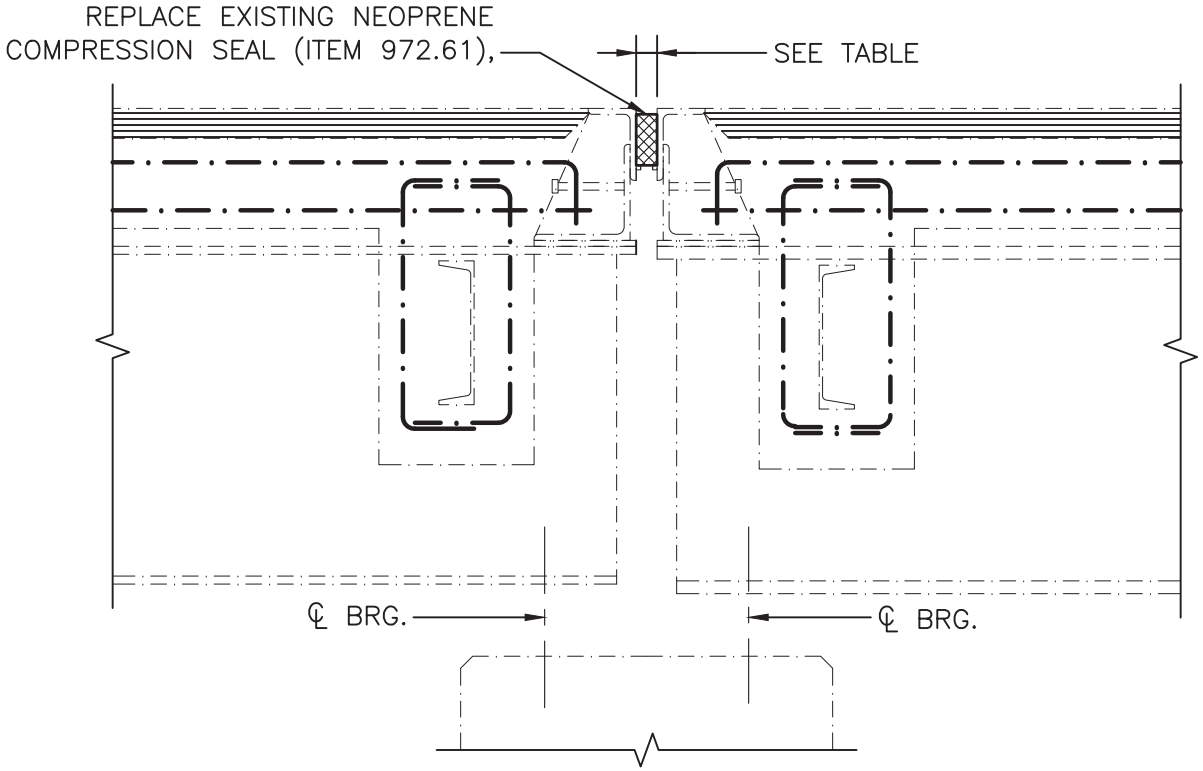


TABLE: JOINT OPENING

AMBIENT TEMPERATURE (DEG. F)	JOINT OPENING (INCH)
50	2"
70	$1\frac{3}{4}$"
90	$1\frac{1}{2}$"

PROPOSED NEOPRENE SEAL JOINT REPLACEMENT AT PIER (W-44-029)

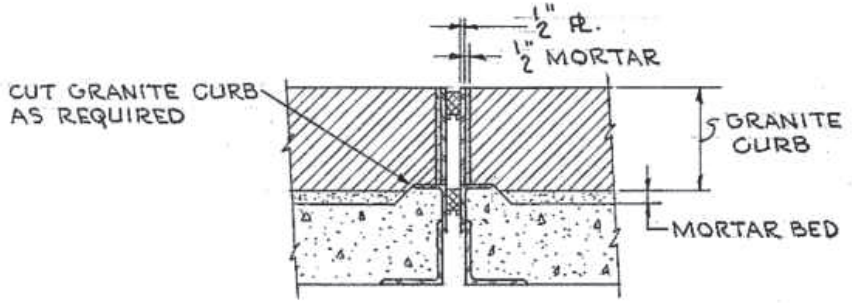
SCALE: $\frac{3}{4}$" = 1'-0"

massDOT Massachusetts Department of Transportation Highway Division
DISTRICT 3
BRIDGE SECTION

PROJECT: 613790, WORCESTER-BRIDGE PRESERVATION, W-44-099(214), MILLBROOK ST. OVER I-190 (SB) AND W-44-029(23B) MILLBROOK ST. OVER RAILROAD

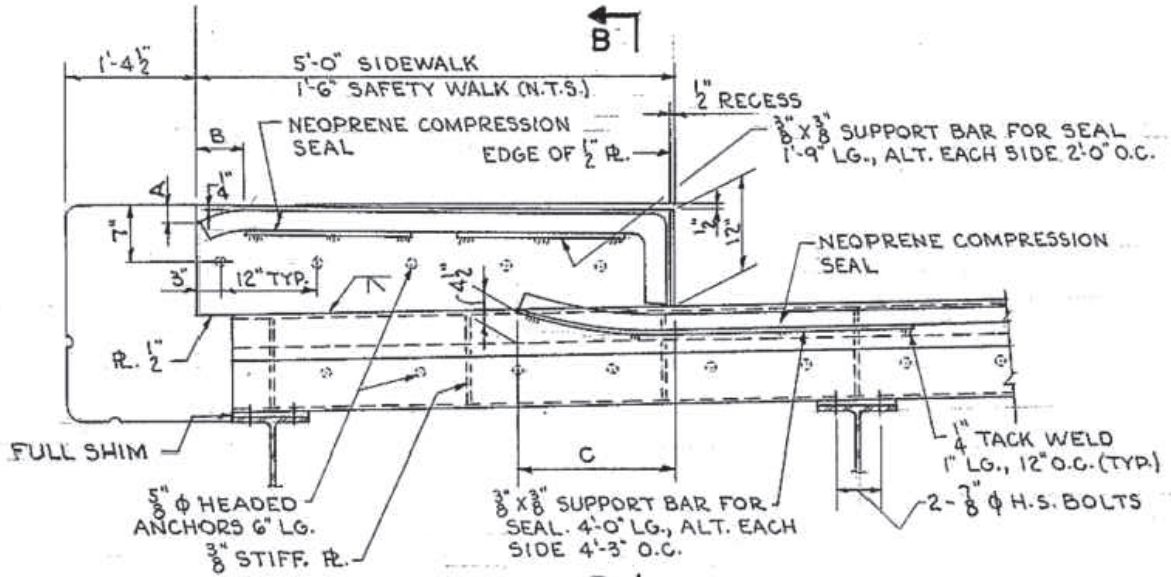
SUBJECT: PROPOSED NEOPRENE SEAL JOINT REPLACEMENT AT PIER (W-44-029)

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SECTION B-B

SCALE: 3/4"=1'-0"



	A	B	C
SIDEWALK	2"	5"	1'-8"
SAFETY WALK	1"	3"	1'-5"

SIDEWALK SECTION AT PIER

SAFETY WALK SIMILAR

SCALE: 3/4"=1'-0"

massDOT Massachusetts Department of Transportation Highway Division

DISTRICT 3
BRIDGE SECTION

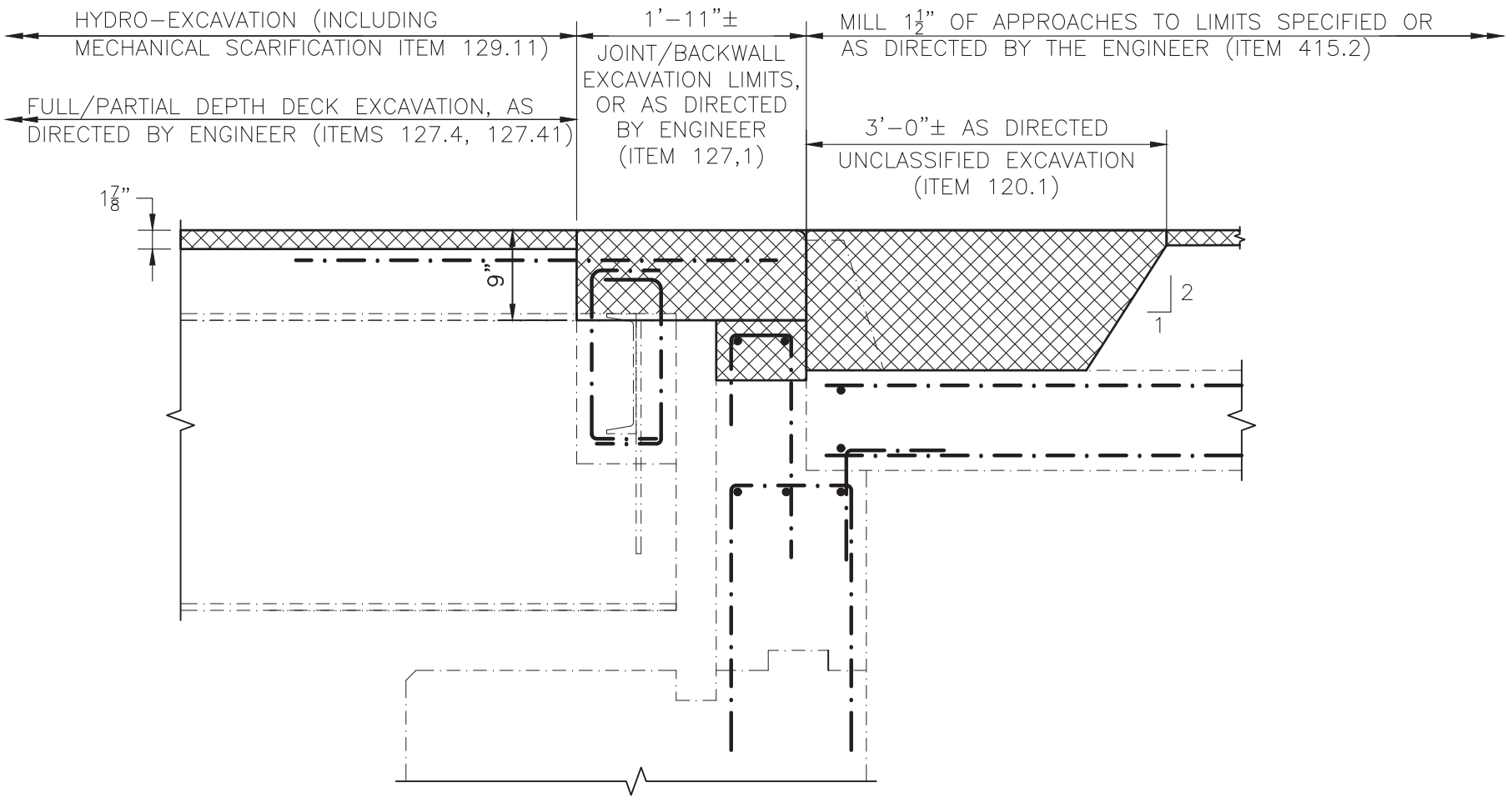
PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD

SUBJECT: NEOPRENE COMPRESSION SEAL DETAILS AT PIER (W–44–029)

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DRAWN BY: ME&JON
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CHECKED BY: MN
DATE: 7/24/2025

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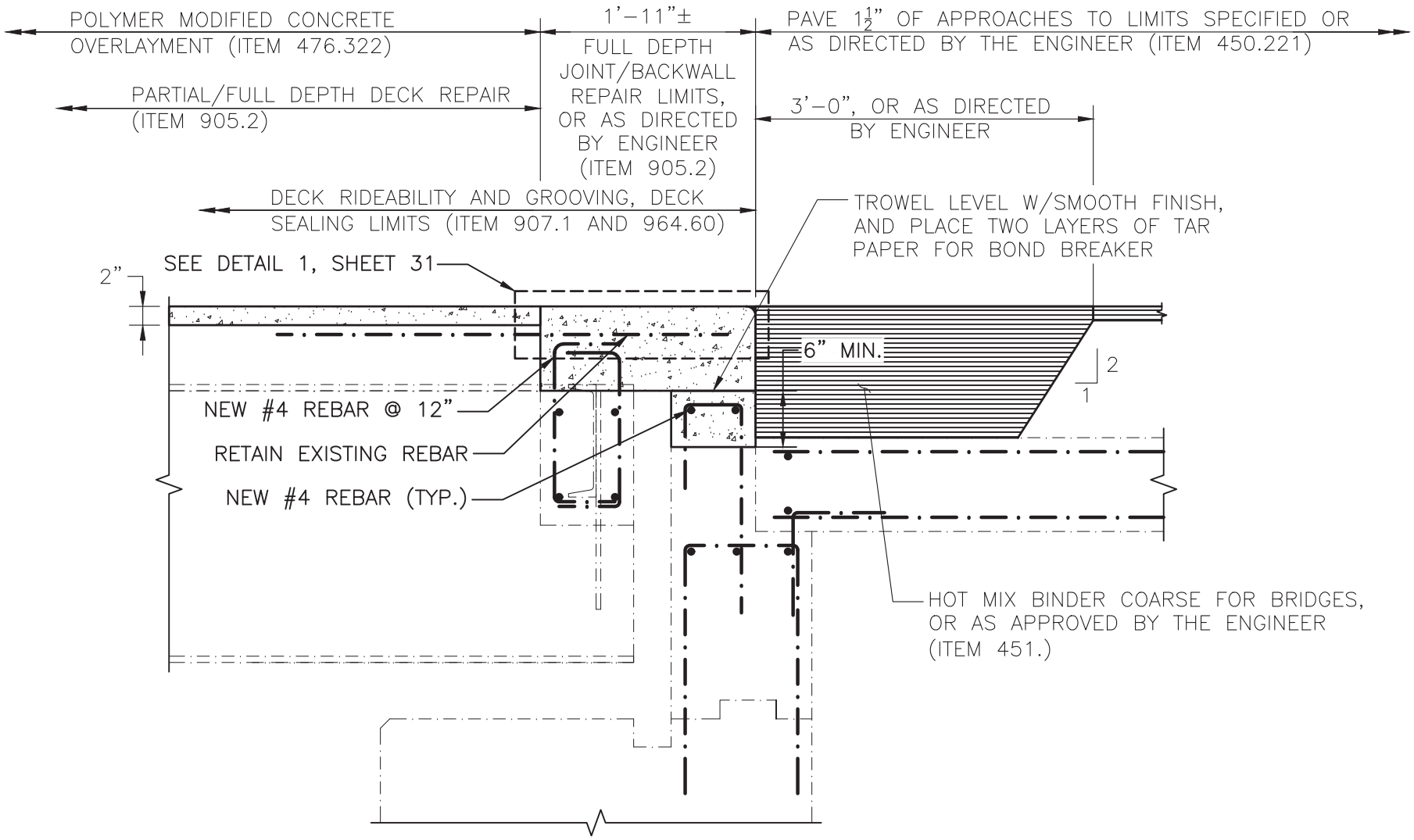
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JOINT EXCAVATION LIMITS AT ABUTMENT (W–44–099)

SCALE: ¾" = 1'–0"

MassDOT Massachusetts Department of Transportation Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 15 OF 38
		DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: JOINT EXCAVATION LIMITS AT ABUTMENT (W–44–099)	CHECKED BY: MN DATE: 7/24/2025



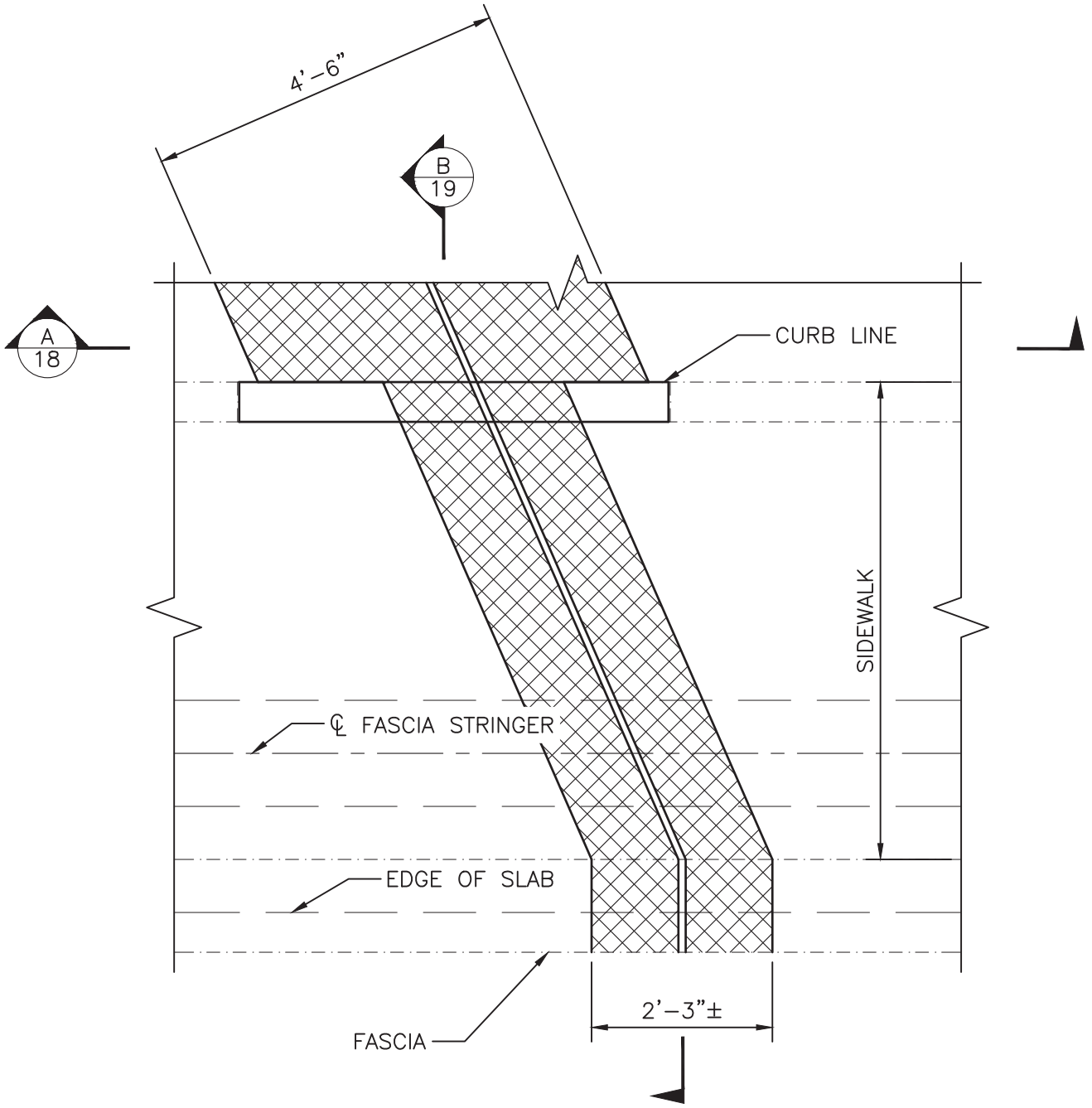
PROPOSED JOINT REPAIR DETAIL AT ABUTMENT (W–44–099)

SCALE: ¾" = 1'–0"

Proposal No. 613790-132476

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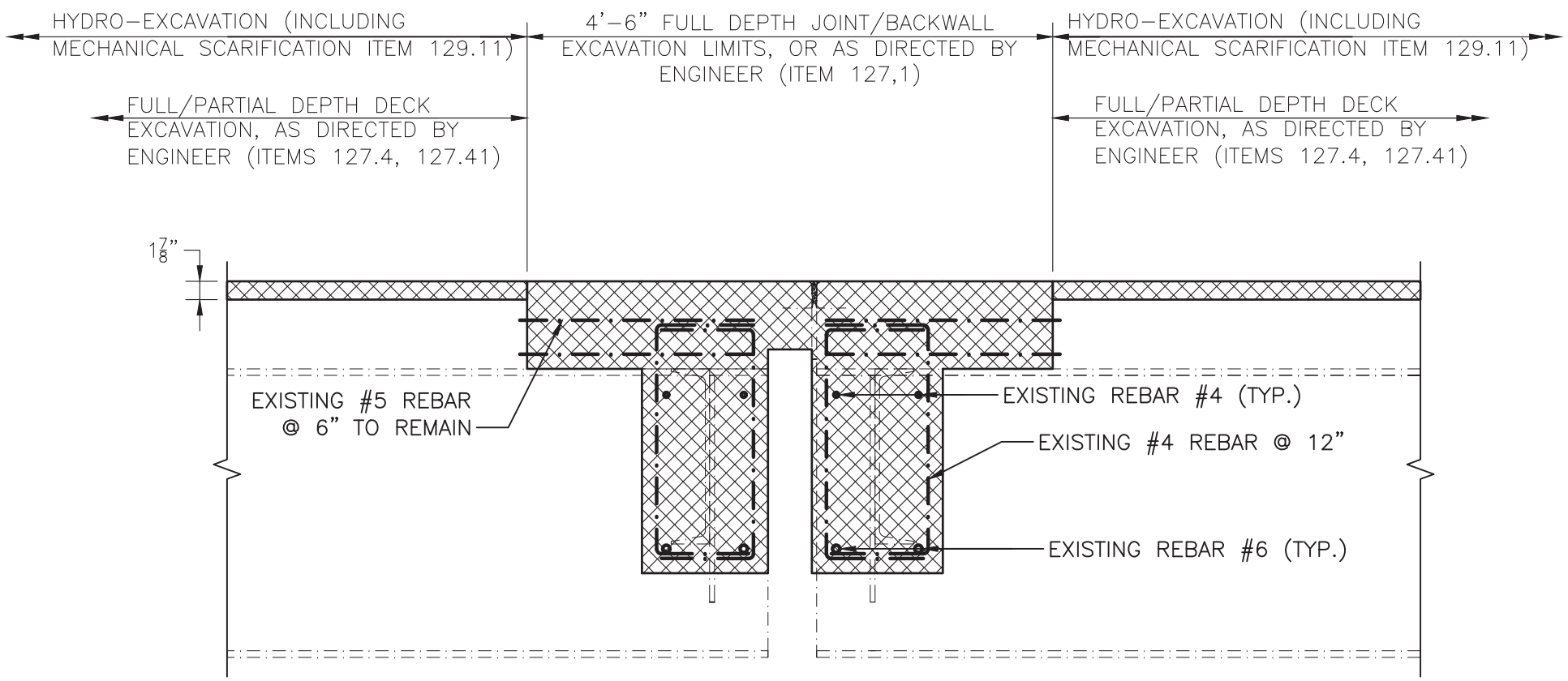
MassDOT Massachusetts Department of Transportation Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 16 OF 38
		DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: PROPOSED JOINT REPAIR DETAIL AT ABUTMENT (W–44–099)	CHECKED BY: MN DATE: 7/24/2025



JOINT EXCAVATION LIMITS AT PIER (W-44-099) - PLAN VIEW

SCALE: $\frac{1}{2}$" = 1'-0"

MassDOT Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER-BRIDGE PRESERVATION, W-44-099(214), MILLBROOK ST. OVER I-190 (SB) AND W-44-029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 17 OF 38 DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: JOINT EXCAVATION LIMITS AT PIER (W-44-099) - 1	CHECKED BY: MN DATE: 7/24/2025



JOINT EXCAVATION LIMITS AT PIER (W–44–099) – SECTION A

SCALE: 3/4" = 1'–0"

Proposal No. 613790-132476

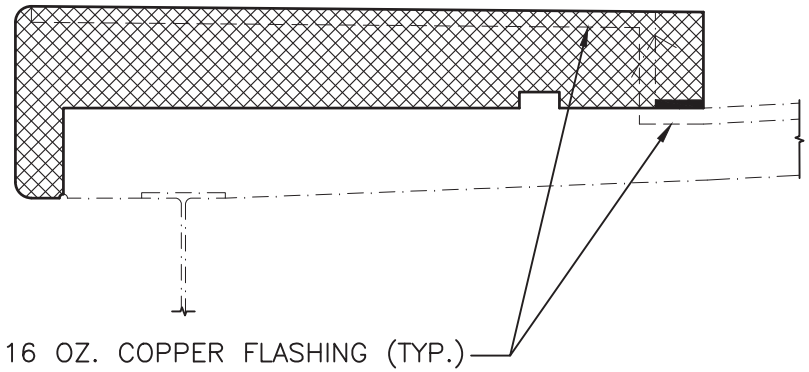
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massDOT Massachusetts Department of Transportation Highway Division
DISTRICT 3
BRIDGE SECTION

PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD

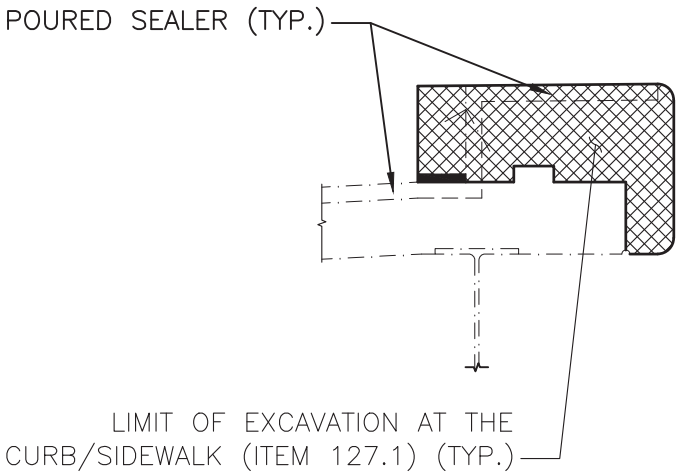
SUBJECT: JOINT EXCAVATION LIMITS AT PIER (W–44–099) – 2

SHEET: 18 OF 38
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CHECKED BY: MN
DATE: 7/24/2025



SIDEWALK – SECTION B

SCALE: $\frac{1}{2}$" = 1'–0"



SAFETY CURB – SECTION B

SCALE: $\frac{1}{2}$" = 1'–0"

JOINT EXCAVATION LIMITS AT PIER (W–44–099)

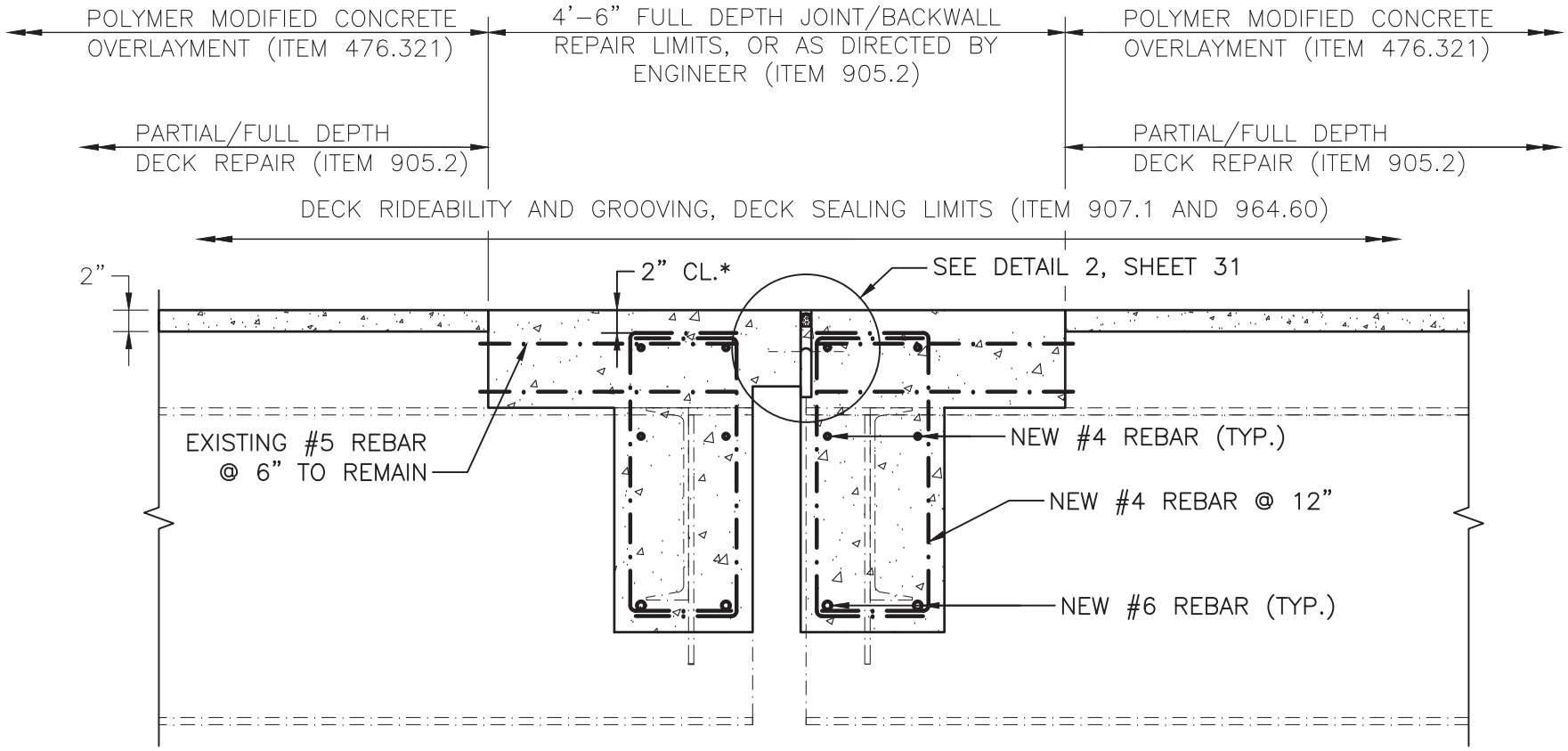
SCALE: $\frac{1}{2}$" = 1'–0"

massDOT Massachusetts Department of Transportation Highway Division
DISTRICT 3
BRIDGE SECTION

PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD

SUBJECT: JOINT EXCAVATION LIMITS AT PIER (W–44–099) – 3

SHEET: 19 OF 38
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CHECKED BY: MN
DATE: 7/24/2025



* ADJUST REBAR COVER FOR DETAIL 2 ALTERNATE (SEE SHEET 31)

PROPOSED JOINT REPAIR DETAIL AT PIER (W–44–099)

SCALE: $\frac{3}{4}$" = 1'–0"

massDOT Massachusetts Department of Transportation Highway Division
DISTRICT 3 BRIDGE SECTION

PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD

SUBJECT: PROPOSED JOINT REPAIR DETAIL AT PIER (W–44–099) – 1

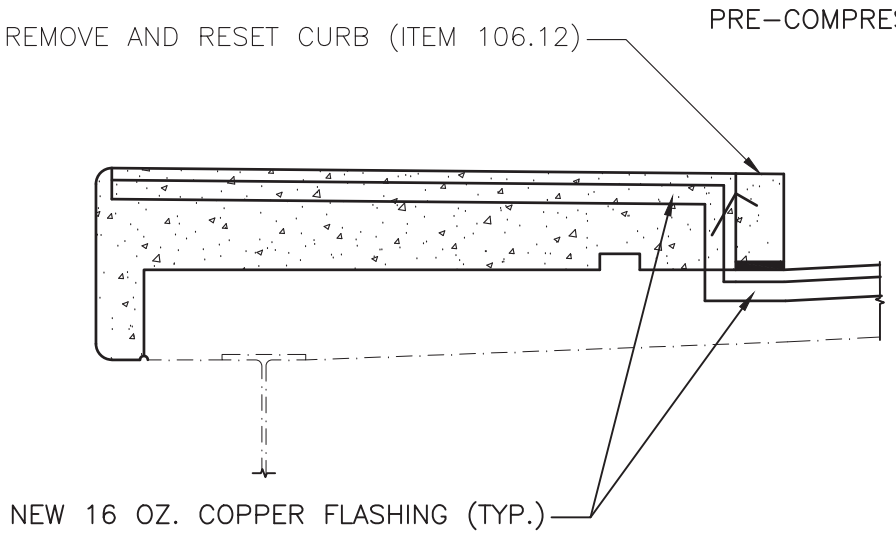
SHEET: 20 OF 38
DRAWN BY: ME&JON
DATE: 7/24/2025
CHECKED BY: MN
DATE: 7/24/2025

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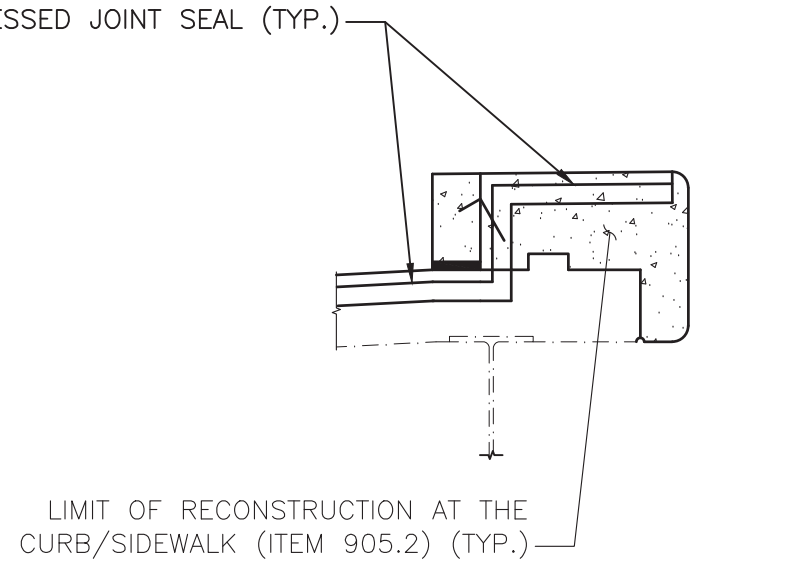
Proposal No. 613790-132476

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SIDEWALK – SECTION B

SCALE: ½" = 1'–0"



SAFETY CURB – SECTION B

SCALE: ½" = 1'–0"

PROPOSED JOINT REPAIR DETAILS AT PIER (W–44–099)

SCALE: ½" = 1'–0"

MassDOT Massachusetts Department of Transportation Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 21 OF 38
		DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: PROPOSED JOINT REPAIR DETAIL AT PIER (W–44–099) – 2	CHECKED BY: MN DATE: 7/24/2025

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POLYMER MODIFIED CONCRETE REPAIR – SEQUENCE OF CONSTRUCTION AND NOTES:

1. IMPLEMENT THE DETOUR AS PER APPROVED WORK ZONE SAFETY PLAN, TRAFFIC CONTROL PLAN AND CONTRACT REQUIREMENTS.

2. CLOSE APPROXIMATELY HALF OF THE BRIDGE.

3. SCARIFY TO REMOVE THE TOP $1\frac{3}{8}$" OF THE CEMENT CONCRETE DECK (ITEM 129.11). ALL CONSTRUCTION DEBRIS, AND RESIDUAL MATERIALS FROM THE SCARIFICATION PROCESS SHALL BE COMPLETELY REMOVED FROM THE BRIDGE DECK PRIOR TO THE COMMENCEMENT OF DECK HYDRO–EXCAVATION.

4. IDENTIFY AREAS OF THE DECK THAT WILL REQUIRE PARTIAL OR FULL DEPTH REPAIRS. PERFORM DECK REPAIRS AND WET CURE REPAIRED AREAS FOR A MINIMUM OF 7 DAYS (ITEM 127.4, 127.41, 905., AND 910.1). DECK REPAIRS ARE TO BE PERFORMED UNDER THE DIRECTION OF THE ENGINEER, SEE SHEET 23 FOR DECK REPAIR NOTES.

5. USE THE HYDRO–EXCAVATOR TO REMOVE AN ADDITIONAL $\frac{1}{2}$" (MINIMUM), AS WELL AS ALL REMAINING UNSOUND CONCRETE (129.11). THE EXISTING DECK SHALL BE REMOVED TO A UNIFORM DEPTH OF $1\frac{7}{8}$" ACROSS ITS ENTIRE SURFACE. THE UNIFORM REMOVAL DEPTH WILL BE EXCEEDED WHERE UNSOUND CONCRETE IS ENCOUNTERED. REMOVAL OF UNSOUND CONCRETE LEFT BEHIND AFTER THE HYDRO–EXCAVATION OPERATION IS CONSIDERED INCIDENTAL TO WORK PERFORMED UNDER ITEM 129.11.

6. AFTER THE INITIAL PASS OF THE HYDRO–EXCAVATION AND APPROPRIATE CLEANING, INSPECT AND SOUND THE CONCRETE DECK AFTER IT IS COMPLETELY DRY. ANY UNSOUND DECK CONCRETE THAT REMAINS SHALL BE REMOVED WITH THE USE OF PNEUMATIC CHIPPING (15 IBS) HAMMERS. THIS WORK IS CONSIDERED INCIDENTAL TO ITEM 129.11.

7. PREPARE THE SURFACE FOR THE NEW CONCRETE OVERLAY FOLLOWING REQUIREMENTS IN THE SPECIAL PROVISIONS.

8. INSTALL AND CURE THE 2" ($1\frac{7}{8}$" PLUS $\frac{1}{8}$" SACRIFICIAL) POLYMER MODIFIED OVERLAY (ITEM 476.321).

9. PERFORM BRIDGE DECK RIDEABILITY AND GROOVING (ITEM 907.1) AND SEAL THE DECK (ITEM 964.60).

10. REPEAT STEPS FOR REMAINING PORTION OF BRIDGE.

11. OPEN THE BRIDGE TO TRAFFIC.

MassDOT Massachusetts Department of Transportation Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD SUBJECT: POLYMER MODIFIED CONCRETE REPAIR SEQUENCE OF CONSTRUCTION AND NOTES	SHEET: 22 OF 38 DRAWN BY: ME&JON DATE: 7/24/2025 CHECKED BY: MN DATE: 7/24/2025

FULL/PARTIAL DEPTH DECK REPAIR NOTES (AFTER MECHANICAL SCARIFICATION):

1. STRIP THE EXISTING PAVEMENT AND WATERPROOFING MEMBRANE FROM THE DECK ON BRIDGE NO. W-44-029 & SCARIFY THE CONCRETE SURFACE OF THE DECK ON BRIDGE NO. W-44-099 TO A DEPTH OF $1\frac{7}{8}$".

2. INSPECT THE DECK TO IDENTIFY ADDITIONAL AREAS OF FULL AND PARTIAL DEPTH DECK REPAIRS. THE FINAL LIMITS OF JOINT AND DECK REPAIRS TO BE DETERMINED BY THE ENGINEER.

3. REPLACE DETERIORATED DECK CONCRETE AND EXISTING TEMPORARY CONCRETE PATCHES, SUCH AS DURACAL PATCHES, WITH NEW CONCRETE, AS DIRECTED BY ENGINEER.

4. CONCRETE EXCAVATION ASSOCIATED WITH THE BRIDGE DECK REPAIRS SHALL BE PAID FOR UNDER ITEM 127.4, REINFORCED CONCRETE DECK EXCAVATION (FULL DEPTH), AND/OR ITEM 127.41, REINFORCED CONCRETE DECK EXCAVATION (PARTIAL DEPTH).

5. ALL CONCRETE USED IN THE DECK REPAIRS SHALL BE 5000 PSI, 3/8 INCH, 710 HP CEMENT CONCRETE (ITEM 905.2).

6. ANY DETERIORATED REINFORCEMENT WITH MORE THAN 25% SECTION LOSS SHALL BE REPLACED IN KIND (ITEM 910.1).

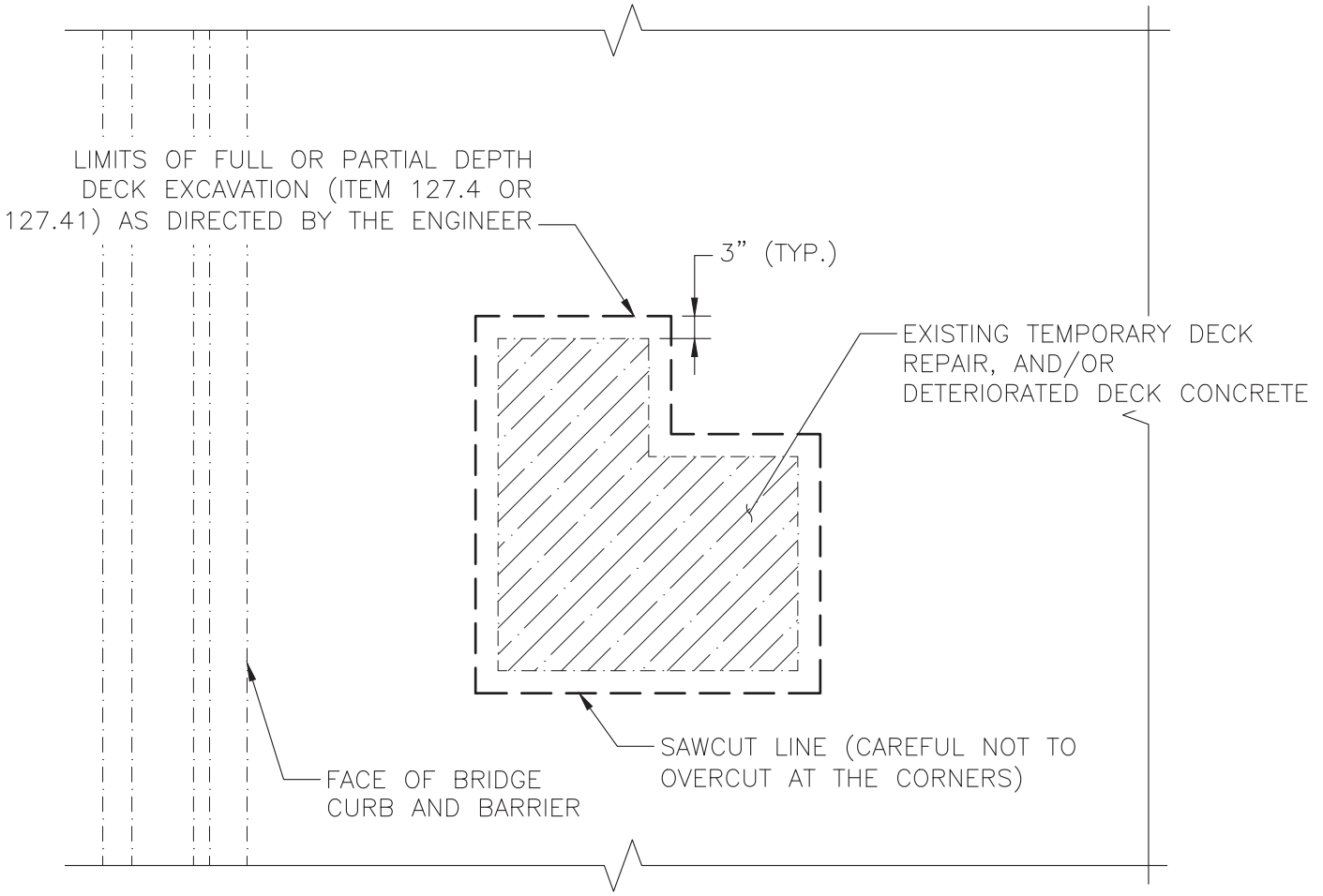
7. THE LAP LENGTH FOR THE NEW #5 TRANSVERSE DECK REINFORCEMENT SHALL BE 30". ALL OTHER REPLACEMENT BARS SHALL BE LAPPED TO EXISTING REINFORCEMENT WITH A MINIMUM LAP LENGTH OF 30 BAR DIAMETERS.

8. ALL NEW REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60, UNLESS OTHERWISE NOTED ON THE PLANS. ALL NEW REINFORCING STEEL SHALL BE EPOXY COATED.

9. ALL BRIDGE DECK REPAIRS SHALL BE COMPLETED PRIOR TO HYDRO-EXCAVATION UNDER ITEM 129.11.

Proposal No. 613790-132476

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TYPICAL DECK REPAIR – PLAN

SCALE: $\frac{1}{2}$" = 1'–0"

NOTE:

WORK

PAY ITEM

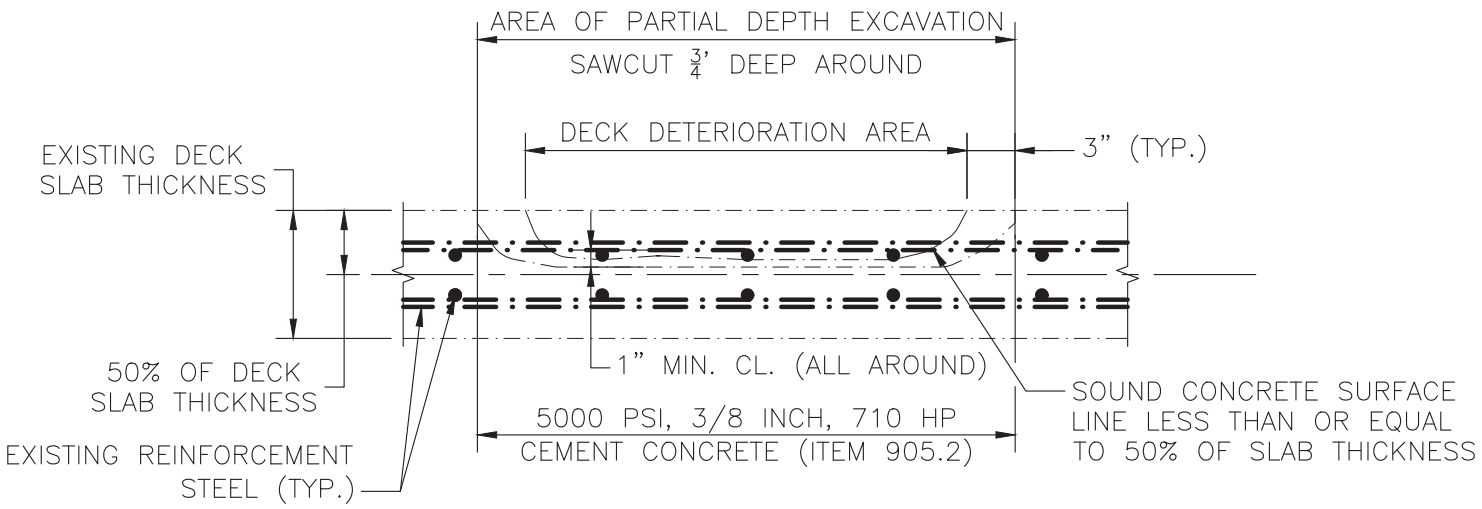
1. STRIP THE EXISTING PAVEMENT AND WATERPROOFING MEMBRANE FROM THE DECK ON BRIDGE NO. W–44–029 (ITEM 129.6) & SCARIFY THE CONCRETE SURFACE OF THE DECK ON BRIDGE NO. W–44–099 TO A DEPTH OF $1\frac{7}{8}$", ITEM 129.11. — ITEMS 129.6 OR 129.11

2. EXCAVATE CONCRETE AND/OR DECK REPAIR PATCHES FROM THE BRIDGE DECK AREAS TO THE LIMITS DIRECTED BY THE ENGINEER. THE PERIMETERS OF THE EXCAVATED AREAS SHALL BE SAWCUT. THE SHAPE OF THE EXCAVATED AREAS SHALL BE RECTANGULAR WITH SQUARE CORNERS. — ITEM 127.4 & 127.41

3. CLEAN AND RE–TIE THE EXPOSED STEEL REINFORCEMENT. INSTALL NEW STEEL REINFORCEMENT AS DIRECTED BY THE ENGINEER. — ITEM 910.1

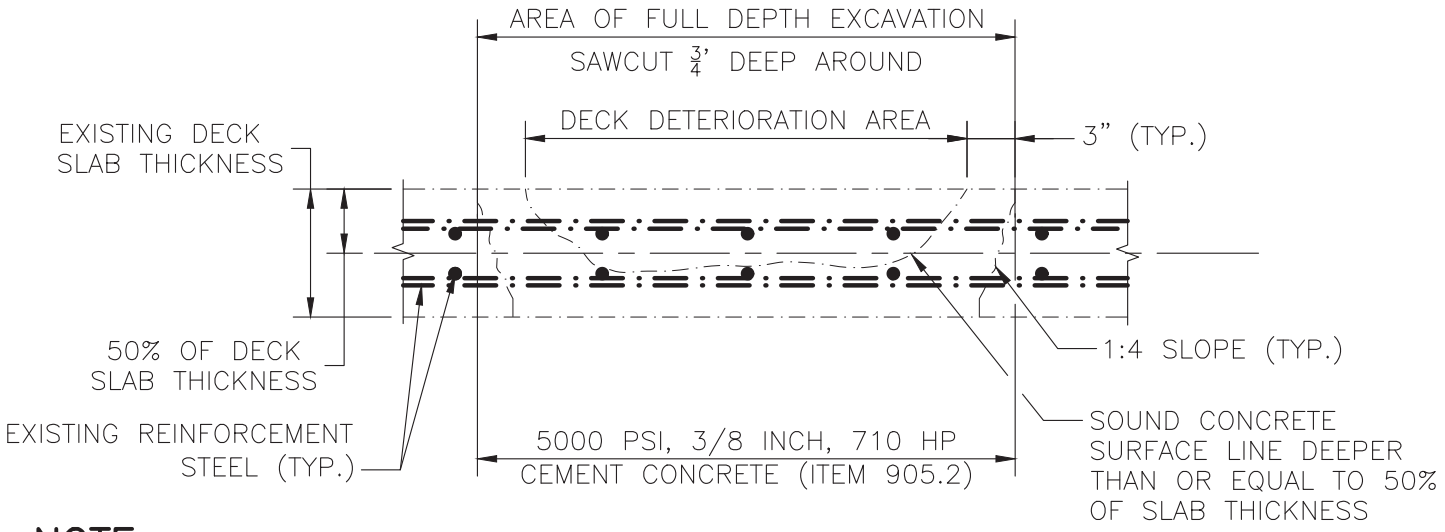
4. PLACE AND FINISH 5000 PSI, 3/8 INCH, 710 HP CEMENT CONCRETE IN THE EXCAVATED AREAS. THE TOP SURFACE OF THE CEMENT CONCRETE SHALL BE LEVEL AND FLUSH WITH THE SURROUNDING EXISTING CONCRETE DECK SURFACE. — ITEM 905.2

MassDOT Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 24 OF 38 DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: TYPICAL DECK REPAIR – PLAN	CHECKED BY: MN DATE: 7/24/2025



TYPICAL PARTIAL DEPTH DECK REPAIR DETAIL

SCALE: 1" = 1'–0"



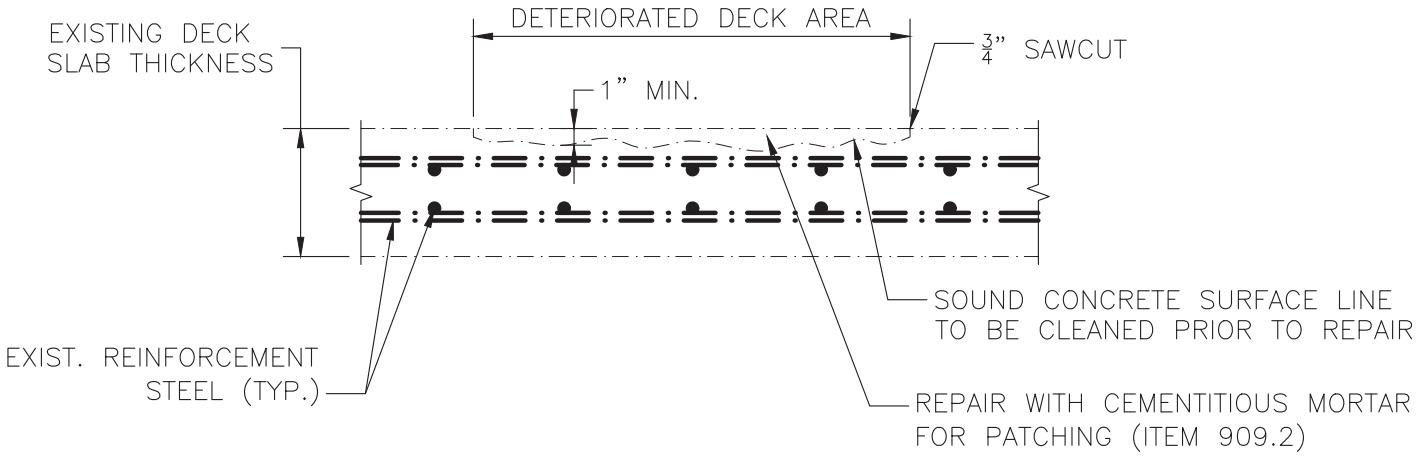
NOTE:

DECK FORMS SHALL BE FLUSH WITH EXISTING DECK UNDERSIDE AND SHALL BE REMOVED AFTER CURING IS COMPLETE.

TYPICAL FULL DEPTH DECK REPAIR DETAIL

SCALE: 1" = 1'–0"

massDOT Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 25 OF 38 DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: TYPICAL PARTIAL/FULL DEPTH DECK REPAIR DETAIL	CHECKED BY: MN DATE: 7/24/2025



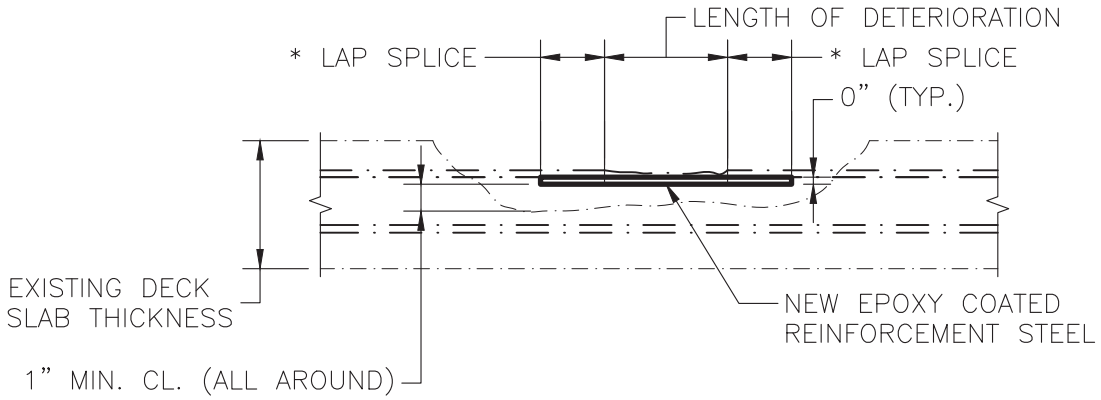
NOTE:

IF REINFORCING BARS ARE EXPOSED, THEN COMPLETE REPAIR AS A PARTIAL DEPTH REPAIR WITH 1" EXCAVATED BENEATH THE EXPOSED BARS.

TYPICAL MINOR SPALL REPAIR

SCALE: 1" = 1'–0"

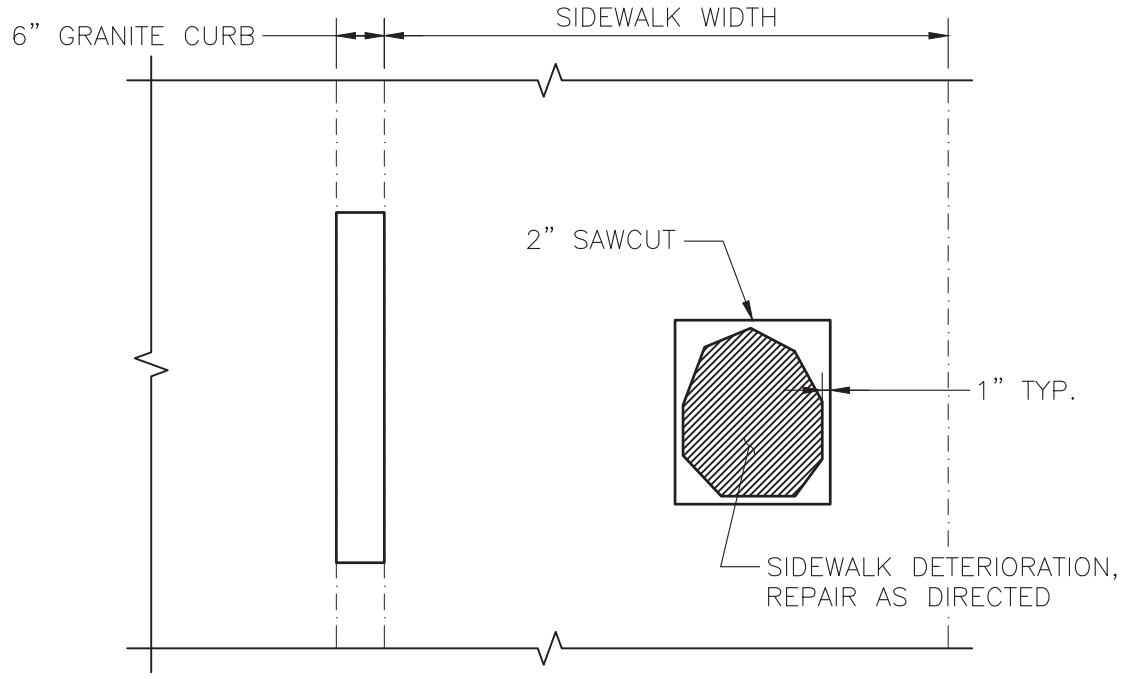
* SEE NOTE 7 FULL/PARTIAL DEPTH DECK REPAIR NOTES ON SHEET 23

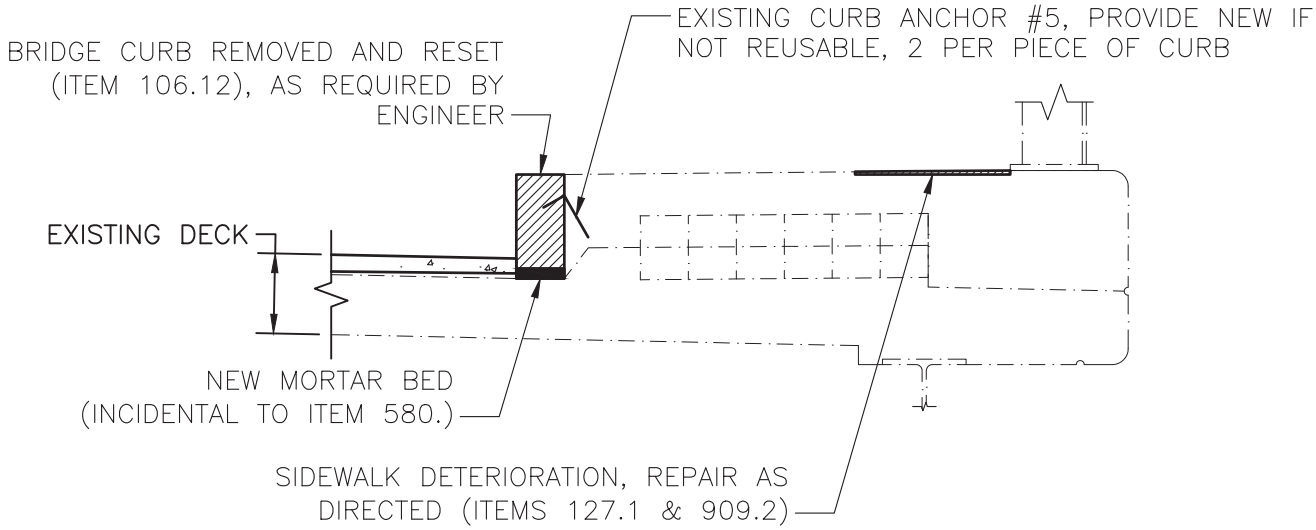


TYPICAL DETERIORATED REINFORCEMENT STEEL REPAIR

SCALE: 1" = 1'–0"

massDOT Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 26 OF 38 DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: TYPICAL MINOR SPALL AND DETERIORATED REINFORCEMENT STEEL REPAIR	CHECKED BY: MN DATE: 7/24/2025





NOTES:

1. IF DIRECTED BY ENGINEER, BRIDGE GRANITE CURB REMOVED AND RESET WILL BE PAID UNDER ITEM 106.12. THE COST OF CURB ANCHORS SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.

2. ANY CONCRETE REPAIR BEHIND THE CURB WILL BE PAID UNDER ITEM 127.1 (REINFORCED CONCRETE EXCAVATION) AND ITEM 909.2 (CEMENTITIOUS MORTAR FOR PATCHING).

3. CONCRETE DETERIORATION AT BRIDGE SIDEWALK SHALL BE PAID FOR UNDER ITEM 127.1 (REINFORCED CONCRETE EXCAVATION) AND ITEM 909.2 (CEMENTITIOUS MORTAR FOR PATCHING).

BRIDGE GRANITE CURB REMOVED AND RESET DETAIL

SCALE: $\frac{1}{2}$" = 1'–0"

massDOT Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 27 OF 38 DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: BRIDGE GRANITE CURB REMOVED AND RESET DETAIL – 1	CHECKED BY: MN DATE: 7/24/2025



EXAMPLE OF MISALIGNED BRIDGE CURB AT BRIDGE NO. W–44–099

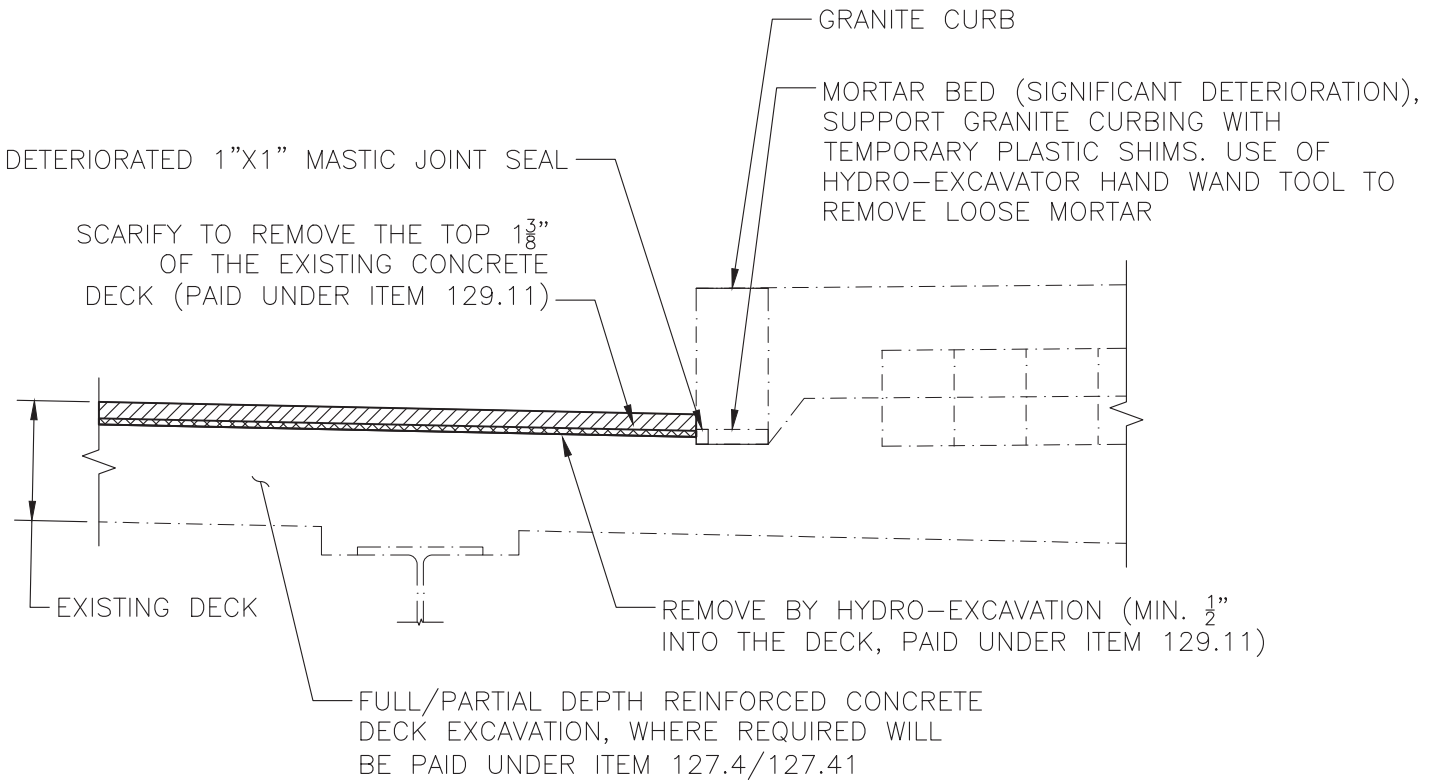
SCALE: N.T.S.



EXAMPLE OF SIDEWALK SPALL AT BRIDGE NO. W–44–099

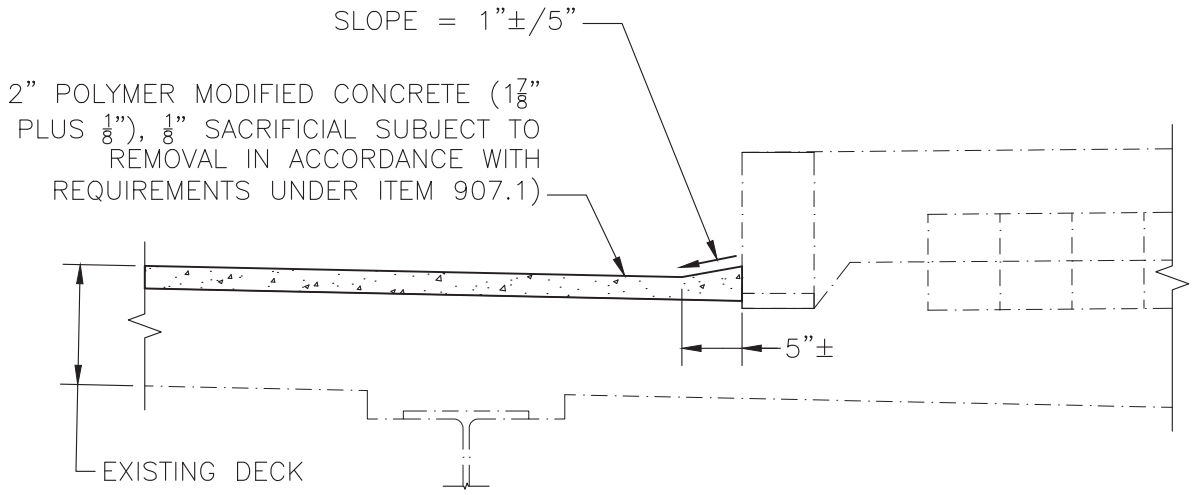
SCALE: N.T.S.

MassDOT Massachusetts Department of Transportation Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 28 OF 38 DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: BRIDGE GRANITE CURB REMOVED AND RESET DETAIL – 2	CHECKED BY: MN DATE: 7/24/2025



EXPOSED CONCRETE DECK REPAIR REMOVAL DETAIL

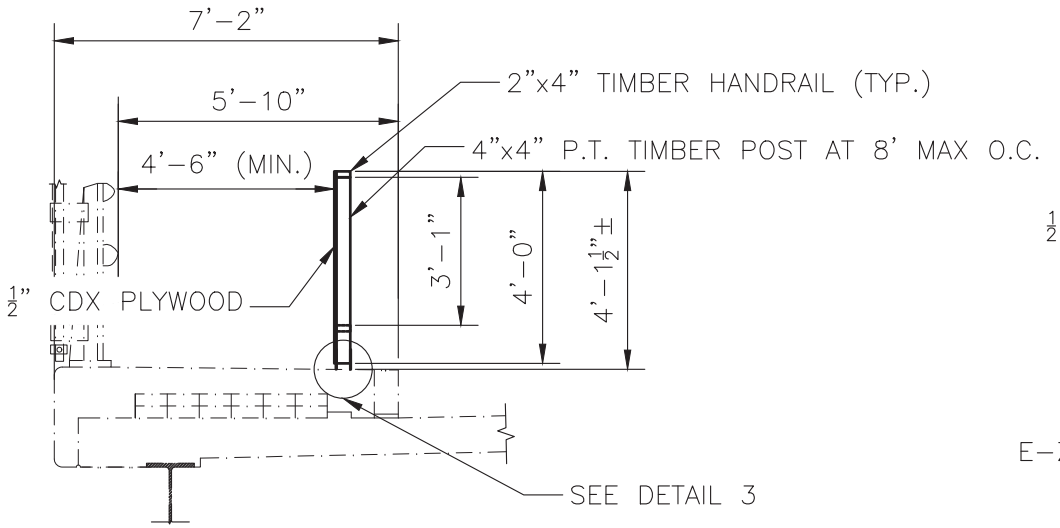
SCALE: 3/4" = 1'-0"

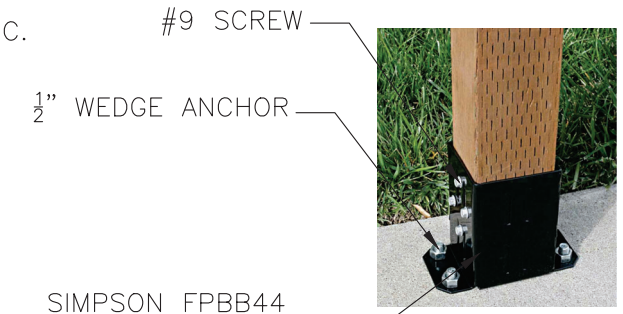


POLYMER MODIFIED CONCRETE PLACEMENT DETAIL

SCALE: 3/4" = 1'-0"

massDOT Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER-BRIDGE PRESERVATION, W-44-099(214), MILLBROOK ST. OVER I-190 (SB) AND W-44-029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 29 OF 38 DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: POLYMER MODIFIED CONCRETE REPAIR DETAILS (W-44-099)	CHECKED BY: MN DATE: 7/24/2025





DETAIL 3

SCALE: N.T.S.

NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL DESIGN AND DETAILING OF SIDEWALK PROTECTION BARRIER. A SUBMITTAL PREPARED BY MASSACHUSETTS REGISTERED PROFESSIONAL ENGINEER SHALL BE PROVIDED FOR THE APPROVAL OF THE ENGINEER.
2. ALL POST BASE ANCHORS SHALL BE REMOVED AND DRILL HOLES GROUTED UPON COMPLETION OF WORK.
3. DESIGN, INSTALLATION AND SUBSEQUENT REMOVAL OF SIDEWALK PROTECTION BARRIER IS INCIDENTAL TO ITEM 129.11.
4. SIDEWALK PROTECTION BARRIER SHALL BE IN PLACE PRIOR TO COMMENCING ANY WORK ON PHASE 2.

SIDEWALK PROTECTION BARRIER

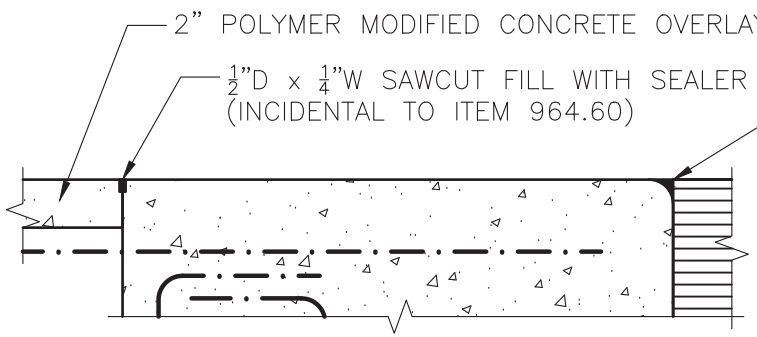
SCALE: ¼" = 1'–0"

massDOT Highway Division
DISTRICT 3
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PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD

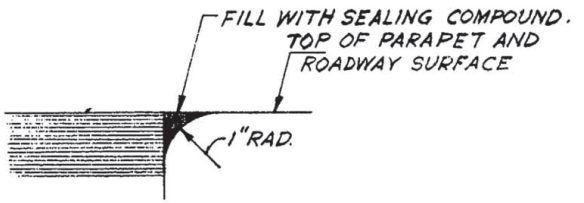
SUBJECT: SIDEWALK PROTECTION BARRIER – SUGGESTED CONCEPT

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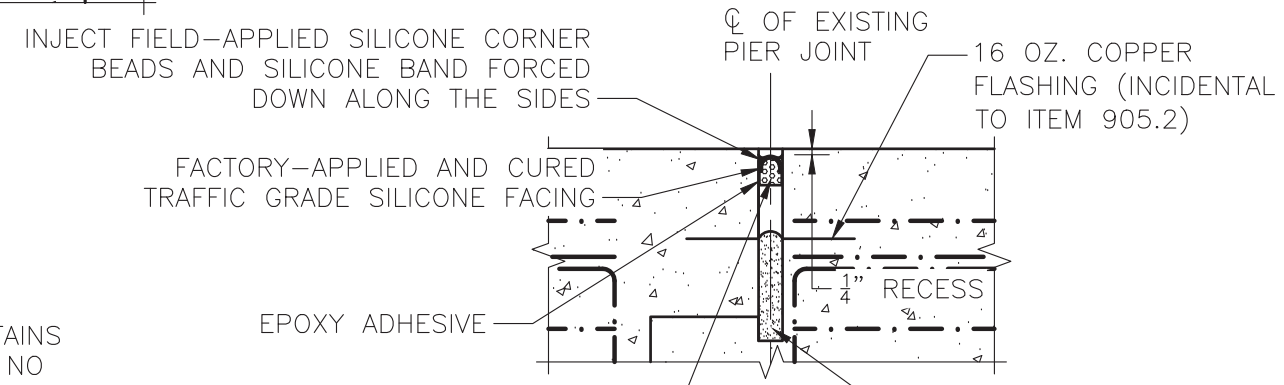
DETAIL 1

SCALE: N.T.S.



PAVEMENT JOINT DETAIL

SCALE: N.T.S.

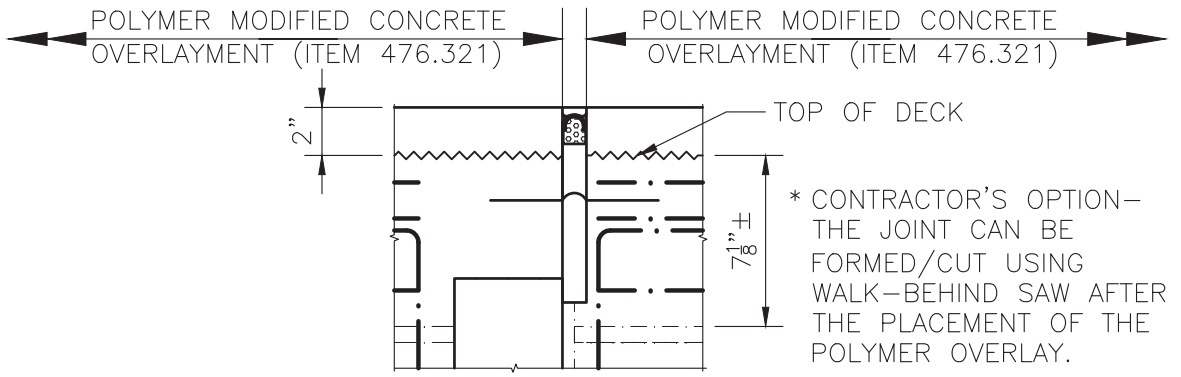


DETAIL 2

SCALE: N.T.S.

NOTES:

1. FORM THE PRE–COMPRESSED JOINT BLOCKOUT USING MATERIAL THAT MAINTAINS STRAIGHT JOINT ALIGNMENT, ENSURING NO WAVINESS OR DEVIATION BEYOND THE ACCEPTED TOLERANCE OF ± ½" FROM THE CENTERLINE OF THE JOINT.
2. GRIND THE BLOCKOUT SURFACE AND WIPE IT WITH SOLVENT PRIOR TO INSTALLING THE PRE–COMPRESSED SEAL. FOLLOW THE MANUFACTURER'S INSTALLATION PROCEDURE, AND ENSURE A MANUFACTURER REPRESENTATIVE IS PRESENT DURING INSTALLATION.
3. MAINTAIN THE CONTINUITY OF THE PRE–COMPRESSED SEAL THROUGH SIDEWALK AND CURB USING WATERTIGHT CUSTOM TRANSITIONS SUCH AS A PREFABRICATED UNIVERSAL 90'S.
4. SEALING COMPOUND AT END OF BRIDGE DECK SHALL BE CONSIDERED INCIDENTAL TO PAVING ITEMS.



DETAIL 2 (ALTERNATE*)

SCALE: N.T.S.

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DISTRICT 3 BRIDGE SECTION

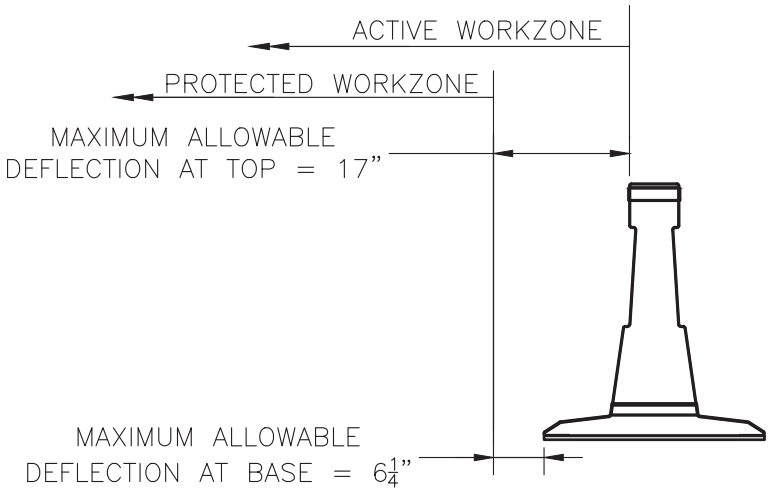
PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD

SUBJECT: MISCELLANEOUS DETAIL – 1

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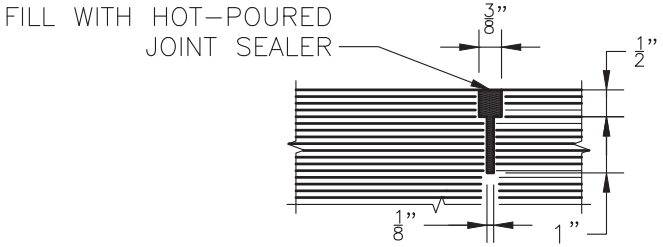


LIMITED DEFLECTION BARRIER MAXIMUM ALLOWABLE DEFLECTION

SCALE: ½" = 1'–0"

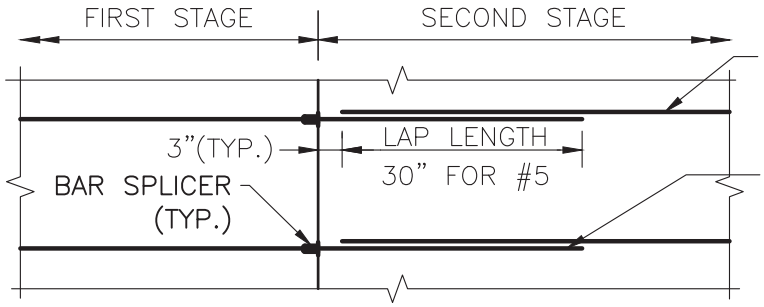
BARRIER NOTES:

1. FOR LIMITED DEFLECTION TEMPORARY SYSTEMS THAT REQUIRE ANCHORAGE, THE COST FOR FURNISHING AND INSTALLING THE ANCHORAGE AND HARDWARE AND RESTORATION OF PAVEMENT/CONCRETE SURFACES SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE ITEM.
2. LIMITED DEFLECTION TEMPORARY BARRIER SHALL HAVE A MAXIMUM ALLOWABLE DEFLECTION AT BASE OF 6¼".



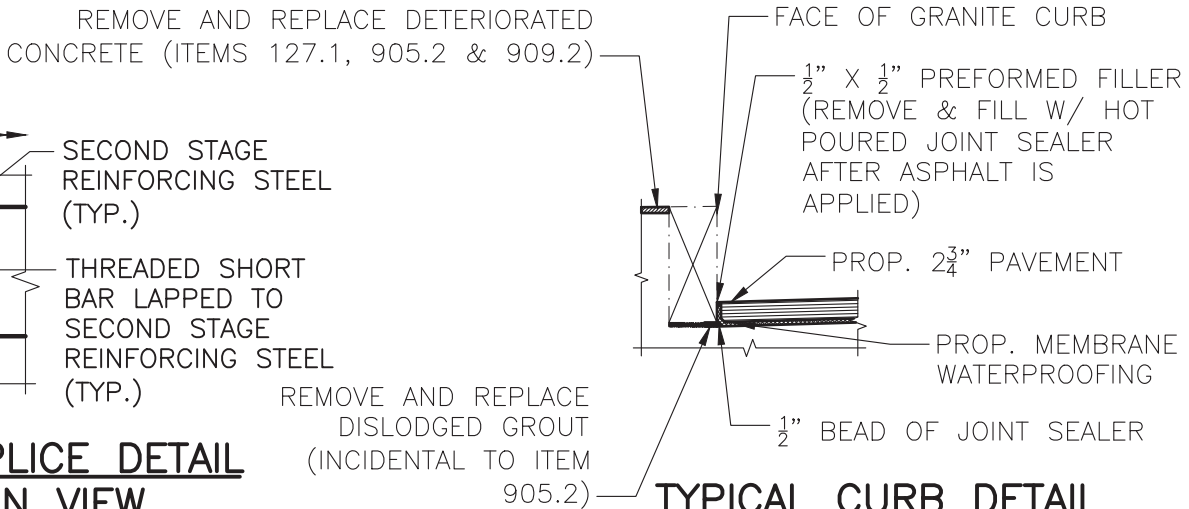
PAVEMENT SAWCUT DETAIL

SCALE: N.T.S.



TYPICAL MECHANICAL BAR SPLICE DETAIL FOR NEW REBAR – PLAN VIEW

SCALE: ½" = 1'–0"



TYPICAL CURB DETAIL

SCALE: N.T.S.

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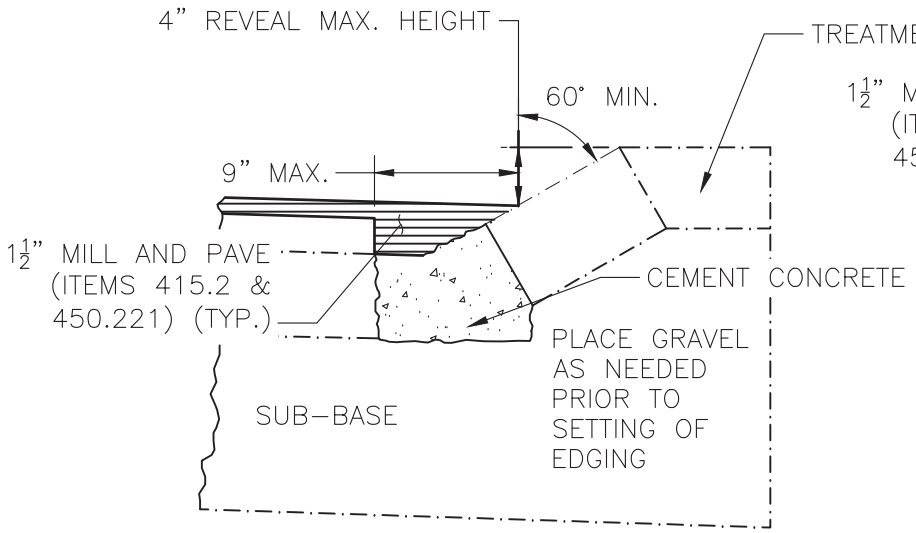
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massDOT Massachusetts Department of Transportation Highway Division
DISTRICT 3
BRIDGE SECTION

PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD

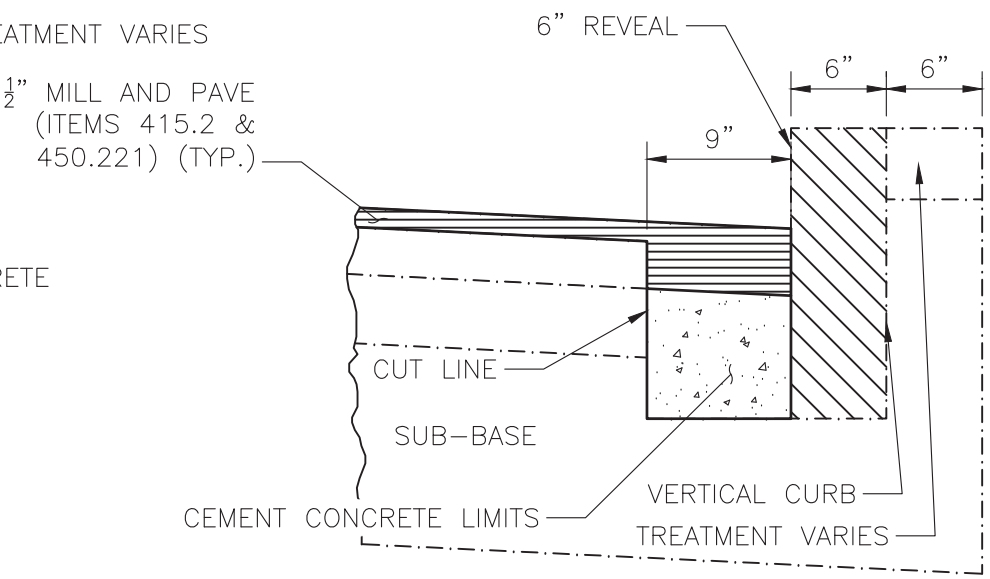
SUBJECT: MISCELLANEOUS DETAIL – 2

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DRAWN BY: ME&JON
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SLOPED EDGING R & R

SCALE: N.T.S.



VERTICAL CURB R & R

SCALE: N.T.S.

NOTES:

1. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE TO THE DEPARTMENT UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS; ALL TEST REQUIREMENT ARE WAIVED. HOT MIX ASPHALT SHALL NOT TO BE USED AS A SUBSTITUTE.

2. FOR SLOPPED EDGING, THE REVEAL IS TO BE A MAXIMUM OF 4" UNDER ALL CONDITIONS. THE ANGLE IS TO BE A MINIMUM OF 60° FROM VERTICAL UNDER ALL CONDITIONS.

3. CUT NEAT LINE 9" FROM CURB LINE AND REMOVE CONCRETE, BASE AND GRAVEL. REPLACE WITH CEMENT CONCRETE.

4. LIMITS OF CURB/EDGING TO BE REMOVED AND RESET SHALL BE AS APPROVED BY THE ENGINEER.

massDOT Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 33 OF 38
		DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: MISCELLANEOUS DETAIL – 3	CHECKED BY: MN DATE: 7/24/2025

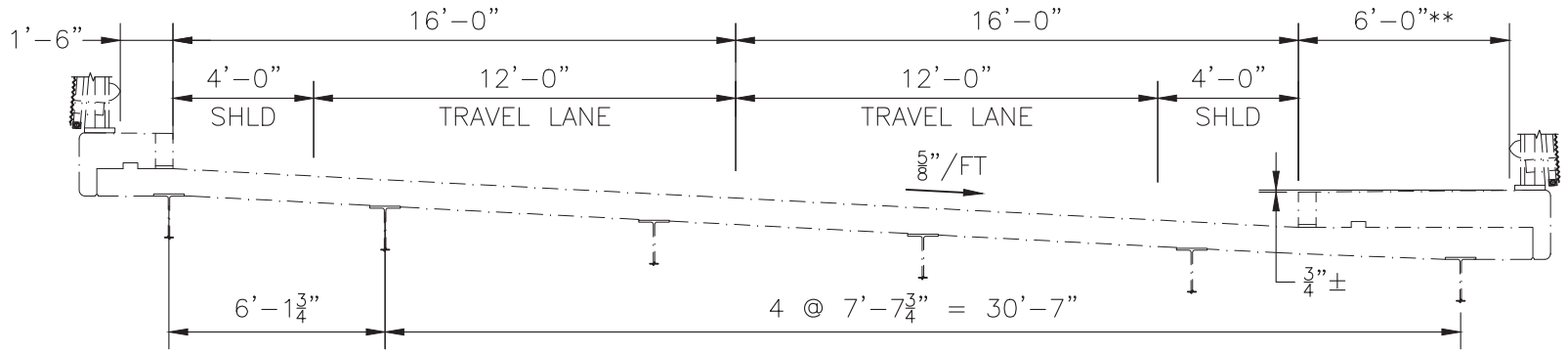
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NORTH EAST BRIDGE RAIL TRANSITION

SCALE: N.T.S.

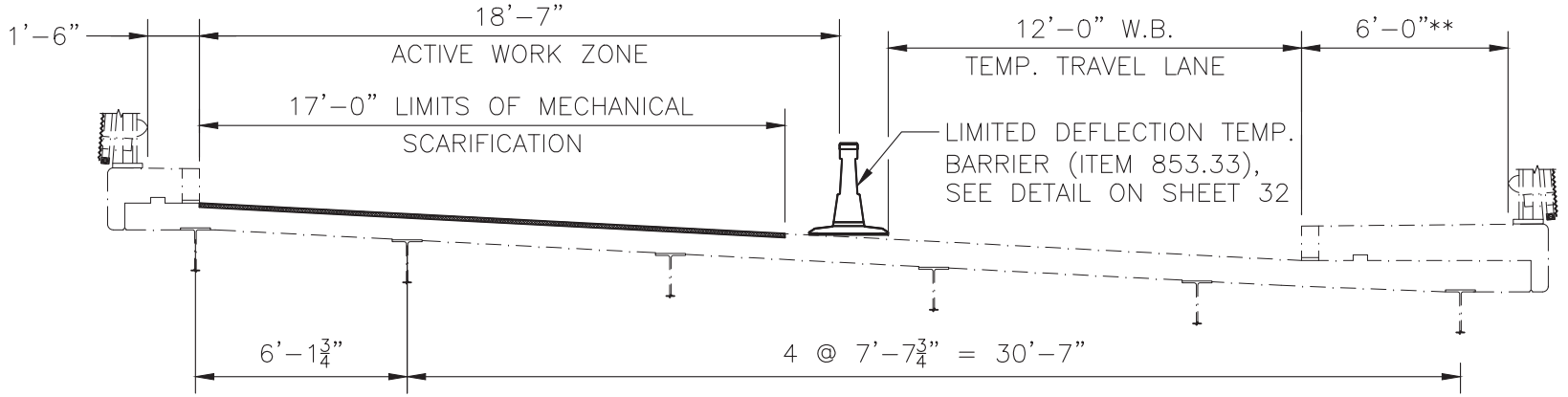
massDOT Massachusetts Department of Transportation Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 34 OF 38 DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: MISCELLANEOUS DETAIL – 4	CHECKED BY: MN DATE: 7/24/2025



EXISTING CROSS SECTION (W–44–099)

SCALE: 3/16" = 1'–0"

** FOR BRIDGE NO. W–44–029, THE SIDEWALK WIDTH = 5'–0"



PHASE 1 – STAGE 1 WORK ZONE

SCALE: 3/16" = 1'–0"

NOTES:

1. THE CONSTRUCTION PHASING AND SEQUENCE FOR THE POLYMER MODIFIED OVERLAY REPLACEMENT IS SHOWN FOR BRIDGE NO. W–44–099. THE CONSTRUCTION PHASING FOR BRIDGE NO. W–44–029 IS SIMILAR.
2. BOTH BRIDGES SHALL BE PHASED FOR CONSTRUCTION IN ACCORDANCE WITH THE ATTACHED TEMPORARY TRAFFIC CONTROL PLAN, WITH EACH PHASE INCLUDING CONCURRENT WORK ON BOTH BRIDGES.
3. THE SIDEWALK SHALL REMAIN OPEN DURING PHASES OF CONSTRUCTION, EXCEPT WHEN WORK IS BEING PERFORMED DIRECTLY ON THE SIDEWALK. DURING SUCH PERIODS, PEDESTRIAN ACCESS SHALL BE ACCOMMODATED IN ACCORDANCE WITH ITEM 852.11.
4. A MINIMUM SIDEWALK WIDTH OF 4'–0" SHALL BE MAINTAINED AT BRIDGE NO. W–44–029.
5. SIDEWALK IS TO REMAIN OPEN AT BOTH PHASES.

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DISTRICT 3
BRIDGE SECTION

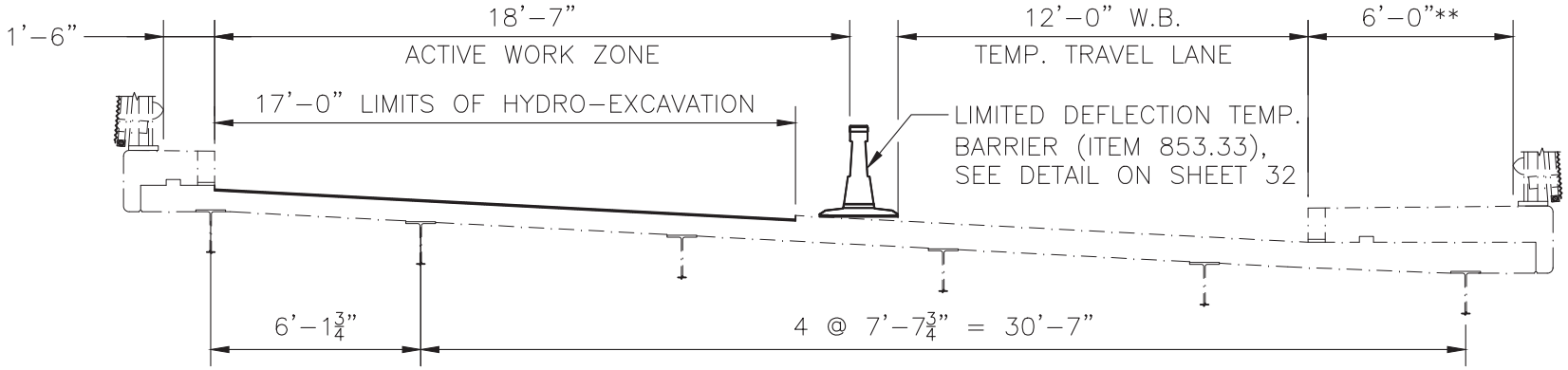
PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD

SUBJECT: SUGGESTED CONSTRUCTION SEQUENCE AND STAGING – 1

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DRAWN BY: ME&JON
DATE: 7/24/2025
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DATE: 7/24/2025

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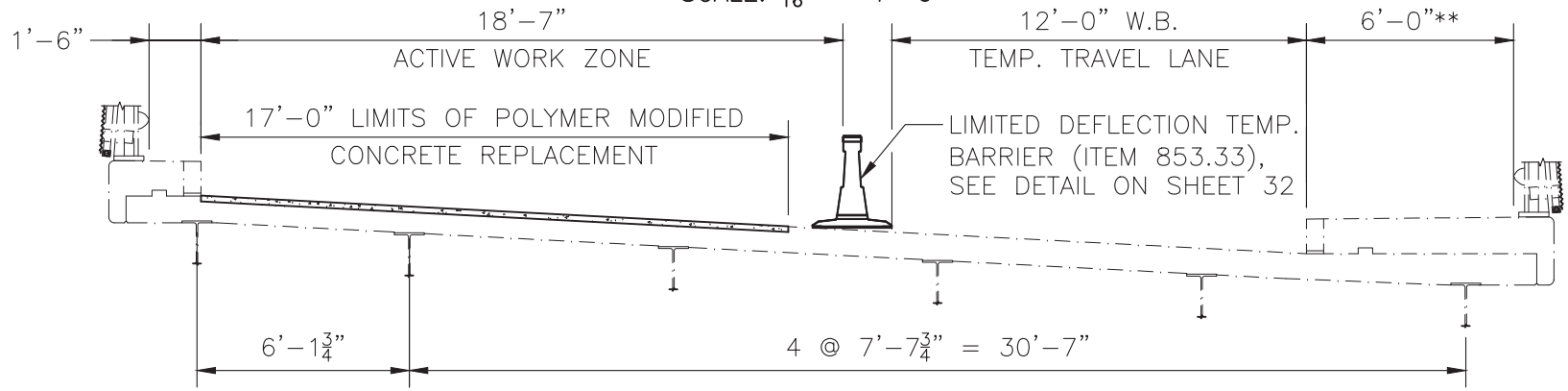
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PHASE 1 – STAGE 2 WORK ZONE

SCALE: $\frac{3}{16}$" = 1'–0"

** FOR BRIDGE NO. W–44–029, THE SIDEWALK WIDTH = 5'–0"



PHASE 1 – STAGE 3 WORK ZONE

SCALE: $\frac{3}{16}$" = 1'–0"

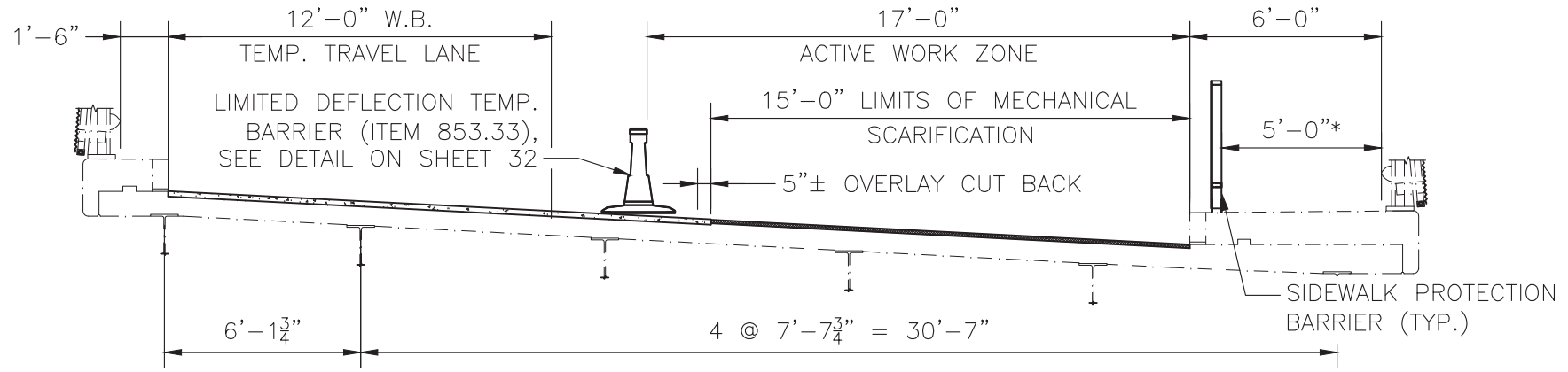
NOTES:

1. THE CONSTRUCTION PHASING AND SEQUENCE FOR THE POLYMER MODIFIED OVERLAY REPLACEMENT IS SHOWN FOR BRIDGE NO. W–44–099. THE CONSTRUCTION PHASING FOR BRIDGE NO. W–44–029 IS SIMILAR.
2. BOTH BRIDGES SHALL BE PHASED FOR CONSTRUCTION IN ACCORDANCE WITH THE ATTACHED TEMPORARY TRAFFIC CONTROL PLAN, WITH EACH PHASE INCLUDING CONCURRENT WORK ON BOTH BRIDGES.
3. THE SIDEWALK SHALL REMAIN OPEN DURING PHASES OF CONSTRUCTION, EXCEPT WHEN WORK IS BEING PERFORMED DIRECTLY ON THE SIDEWALK. DURING SUCH PERIODS, PEDESTRIAN ACCESS SHALL BE ACCOMMODATED IN ACCORDANCE WITH ITEM 852.11.
4. A MINIMUM SIDEWALK WIDTH OF 4'–0" SHALL BE MAINTAINED AT BRIDGE NO. W–44–029.
5. SIDEWALK IS TO REMAIN OPEN AT BOTH PHASES.

MassDOT Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD	SHEET: 36 OF 38
		DRAWN BY: ME&JON DATE: 7/24/2025
	SUBJECT: SUGGESTED CONSTRUCTION SEQUENCE AND STAGING – 2	CHECKED BY: MN DATE: 7/24/2025

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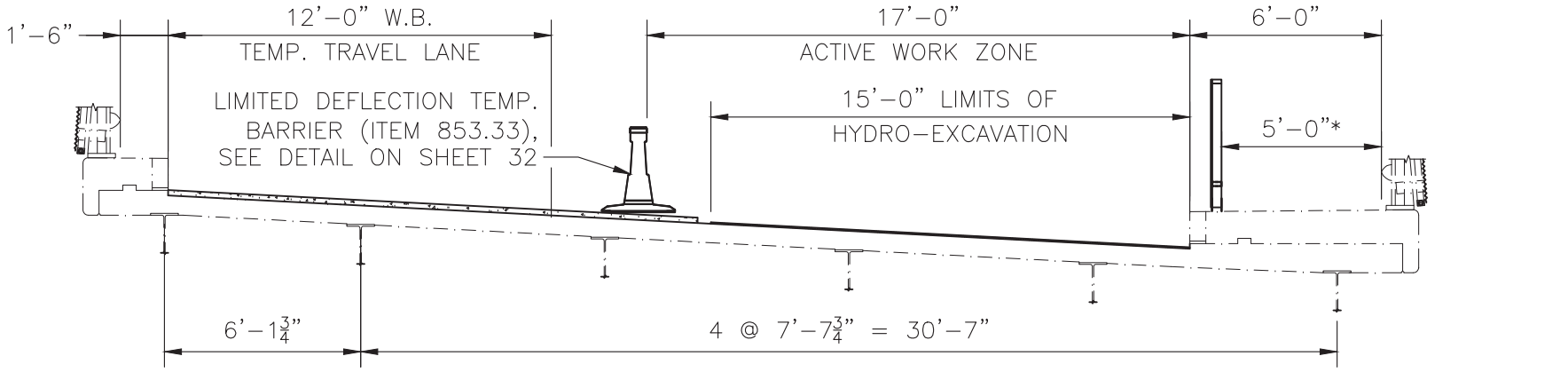
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PHASE 2 – STAGE 1 WORK ZONE

SCALE: $\frac{3}{16}$" = 1'–0"

* FOR BRIDGE NO. W–44–029, TEMP. SIDEWALK MIN. WIDTH = 4'–0"



PHASE 2 – STAGE 2 WORK ZONE

SCALE: $\frac{3}{16}$" = 1'–0"

NOTES:

1. THE CONSTRUCTION PHASING AND SEQUENCE FOR THE POLYMER MODIFIED OVERLAY REPLACEMENT IS SHOWN FOR BRIDGE NO. W–44–099. THE CONSTRUCTION PHASING FOR BRIDGE NO. W–44–029 IS SIMILAR.
2. BOTH BRIDGES SHALL BE PHASED FOR CONSTRUCTION IN ACCORDANCE WITH THE ATTACHED TEMPORARY TRAFFIC CONTROL PLAN, WITH EACH PHASE INCLUDING CONCURRENT WORK ON BOTH BRIDGES.
3. THE SIDEWALK SHALL REMAIN OPEN DURING PHASES OF CONSTRUCTION, EXCEPT WHEN WORK IS BEING PERFORMED DIRECTLY ON THE SIDEWALK. DURING SUCH PERIODS, PEDESTRIAN ACCESS SHALL BE ACCOMMODATED IN ACCORDANCE WITH ITEM 852.11.
4. A MINIMUM SIDEWALK WIDTH OF 4'–0" SHALL BE MAINTAINED AT BRIDGE NO. W–44–029.
5. SIDEWALK IS TO REMAIN OPEN AT BOTH PHASES, SEE SHEET 30 FOR SUGGESTED PEDESTRIAN PROTECTION DETAIL.

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BRIDGE SECTION

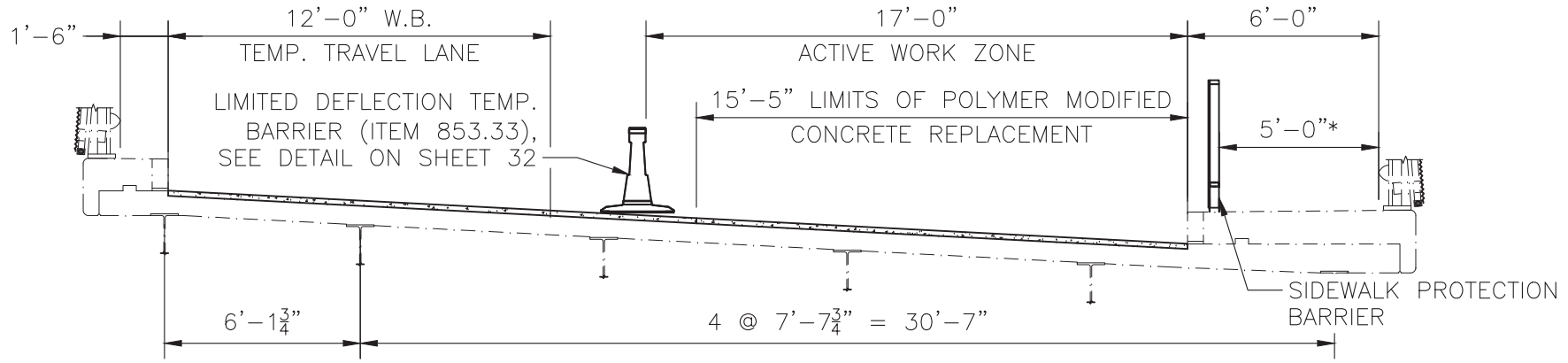
PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD

SUBJECT: SUGGESTED CONSTRUCTION SEQUENCE AND STAGING – 3

SHEET: 37 OF 38
DRAWN BY: ME&JON
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DATE: 7/24/2025

Proposal No. 613790-132476

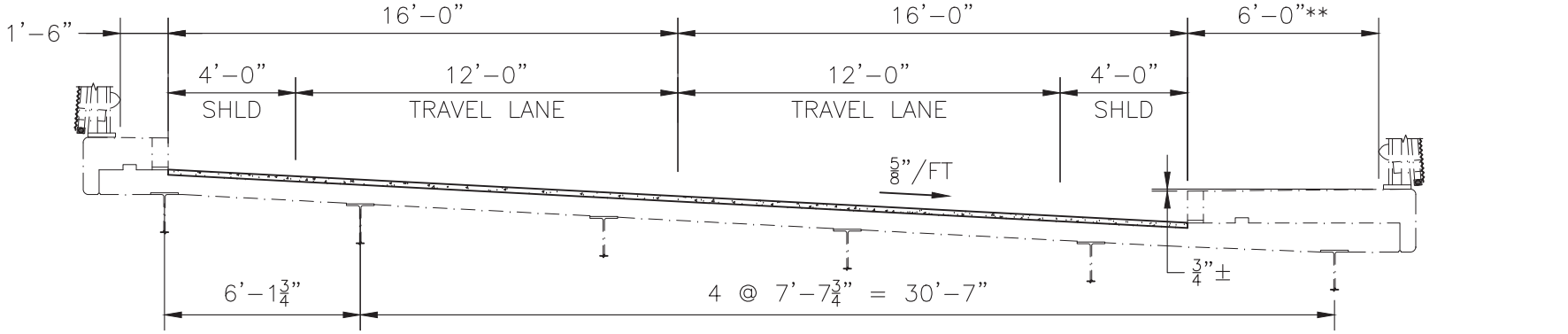
A00803 - 39



PHASE 2 – STAGE 3 WORK ZONE

SCALE: $\frac{3}{16}$" = 1'–0"

* FOR BRIDGE NO. W–44–029, TEMP. SIDEWALK MIN. WIDTH = 4'–0"



PROPOSED CROSS SECTION (W–44–099)

SCALE: $\frac{3}{16}$" = 1'–0"

** FOR BRIDGE NO. W–44–029, THE SIDEWALK WIDTH = 5'–0"

NOTES:

1. THE CONSTRUCTION PHASING AND SEQUENCE FOR THE POLYMER MODIFIED OVERLAY REPLACEMENT IS SHOWN FOR BRIDGE NO. W–44–099. THE CONSTRUCTION PHASING FOR BRIDGE NO. W–44–029 IS SIMILAR.
2. BOTH BRIDGES SHALL BE PHASED FOR CONSTRUCTION IN ACCORDANCE WITH THE ATTACHED TEMPORARY TRAFFIC CONTROL PLAN, WITH EACH PHASE INCLUDING CONCURRENT WORK ON BOTH BRIDGES.
3. THE SIDEWALK SHALL REMAIN OPEN DURING PHASES OF CONSTRUCTION, EXCEPT WHEN WORK IS BEING PERFORMED DIRECTLY ON THE SIDEWALK. DURING SUCH PERIODS, PEDESTRIAN ACCESS SHALL BE ACCOMMODATED IN ACCORDANCE WITH ITEM 852.11.
4. A MINIMUM SIDEWALK WIDTH OF 4'–0" SHALL BE MAINTAINED AT BRIDGE NO. W–44–029.
5. SIDEWALK IS TO REMAIN OPEN AT BOTH PHASES, SEE SHEET 30 FOR SUGGESTED PEDESTRIAN PROTECTION DETAIL.

massDOT Highway Division
DISTRICT 3
BRIDGE SECTION

PROJECT: 613790, WORCESTER–BRIDGE PRESERVATION, W–44–099(214), MILLBROOK ST. OVER I–190 (SB) AND W–44–029(23B) MILLBROOK ST. OVER RAILROAD

SUBJECT: SUGGESTED CONSTRUCTION SEQUENCE AND STAGING – 4

SHEET: 38 OF 38
DRAWN BY: ME&JON
DATE: 7/24/2025
CHECKED BY: MN
DATE: 7/24/2025

Proposal No. 613790-132476

A00803 - 40

DOCUMENT A00804

BRIDGE INSPECTION REPORTS

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MASSACHUSETTS DEPARTMENT OF TRANSPORTATION PAGE 1 OF 29

STRUCTURES INSPECTION FIELD REPORT

ROUTINE & SPECIAL MEMBER INSPECTION

2-DIST	B.I.N.	BR. DEPT. NO.
03	23B	W-44-029

CITY/TOWN	8.-STRUCTURE NO.	11-Kilo. POINT	41-STATUS	90-ROUTINE INSP. DATE
WORCESTER	W44029-23B-DOT-634	000.402	A:OPEN	FEB 27, 2025

07-FACILITY CARRIED	MEMORIAL NAME/LOCAL NAME	27-YR BUILT	106-YR REBUILT	YR REHAB'D (NON 106)
HWY MILLBROOK ST		1900	1973	0000

06-FEATURES INTERSECTED	26-FUNCTIONAL CLASS	DIST. BRIDGE INSPECTION ENGINEER	
RR PWRR/BMRR	Urban Minor Arterial	M. Azizi	

43-STRUCTURE TYPE	22-OWNER	21-MAINTAINER	TEAM LEADER	PROJ MGR
302 : Steel Stringer/Girder	State Highway Agency	State Highway Agency	R. C. McCormick	Jacobs Engineering Group

107-DECK TYPE	WEATHER	TEMP. (air)	TEAM MEMBERS
1 : Concrete Cast-in-Place	Cloudy	2°C	J. KERAS

ITEM 58 — DECK — 5

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

CURB REVEAL (In millimeters)	N	S
	275	275

APPROACHES

		DEF
a. Appr. Pavement Condition	5	S-P
b. Appr. Roadway Settlement	7	-
c. Appr. Sidewalk Settlement	5	S-A
d.	N	-

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

Year Painted	N

COLLISION DAMAGE: *Please explain*
None (X) Minor ( ) 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) N

Any Cracks: (Y/N) N

ITEM 60 — SUBSTRUCTURE — 4

	Dive	Cur		DEF
1. Abutments			7	
a. Pedestals	N	5		S-A
b. Bridge Seats	N	7		-
c. Backwalls	N	6		M-P
d. Breastwalls	N	7		M-P
e. Wingwalls	N	7		M-P
f. Slope Paving/Rip-Rap	N	N		-
g. Pointing	N	5		M-P
h. Footings	N	H		-
i. Piles	N	N		-
j. Scour	N	N		-
k. Settlement	N	8		-
l.	N	N		-
m.	N	N		-
2. Piers or Bents			4	
a. Pedestals	N	4		S-A
b. Caps	N	4		S-A
c. Columns	N	N		-
d. Stems/Webs/Pierwalls	N	4		S-A
e. Pointing	N	N		-
f. Footing	N	H		-
g. Piles	N	N		-
h. Scour	N	N		-
i. Settlement	N	8		-
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):* 4

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

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
WORCESTER	23B	W-44-029	W44029-23B-DOT-634	FEB 27, 2025

ITEM 61 — CHANNEL & CHANNEL PROTECTION

N

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

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

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

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

ITEM 36 — TRAFFIC SAFETY

	36	COND	DEF
A. Bridge Railing	0	7	-
B. Transitions	0	6	M-P
C. Approach Guardrail	1	4	S-A
D. Approach Guardrail Ends	0	3	S-A

WEIGHT POSTING

Not Applicable X

	H	3	3S2	Single
Actual Posting	N	N	N	N
Recommended Posting	N	N	N	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

CLEARANCE POSTING

Not Actual Field Measurement X

	N ft	N in	S ft	S in	meter
Posted Clearance	19	6	19	9	5.94
		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	N	N
Ladder	N	N
Boat	N	N
Waders	N	N
Inspector 50	Y	Y
Rigging	N	N
Staging	N	N
Traffic Control	Y	Y
RR Flagger	Y	Y
Police	Y	Y
Other:		
	N	N

TOTAL HOURS: 85

PLANS (Y/N): Y

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

TAPE#:

List of field tests performed: Hands-on

RATING

Rating Report (Y/N): Y

Date: 11/01/2006

Inspection data at time of existing rating

I 58: 7 I 59: 7 I 60: 7 Date: 01/27/2005

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

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

REASON: All component ratings have downgraded since the previous rating.

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].

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MASSACHUSETTS DEPARTMENT OF TRANSPORTATION

STRUCTURES INSPECTION FIELD REPORT

ROUTINE & SPECIAL MEMBER INSPECTION

2-DIST	B.I.N.	BR. DEPT. NO.
03	23B	W-44-029

CITY/TOWN	8.-STRUCTURE NO.	11-Kilo. POINT	90-ROUTINE INSP. DATE	93*-SPEC. MEMB. INSP. DATE
WORCESTER	W44029-23B-DOT-634	000.402	Feb 27, 2025	Feb 27, 2025

07-FACILITY CARRIED	MEMORIAL NAME/LOCAL NAME	27-YR BUILT	106-YR REBUILT	*YR REHAB'D (NON 106)
HWY MILLBROOK ST		1900	1973	0000

06-FEATURES INTERSECTED	26-FUNCTIONAL CLASS	DIST. BRIDGE INSPECTION ENGINEER	
RR PWRR/BMRR	Urban Minor Arterial	M. Azizi	

43-STRUCTURE TYPE	22-OWNER	21-MAINTAINER	TEAM LEADER	PROJ MGR
302 : Steel Stringer/Girder	State Highway Agency	State Highway Agency	R. C. McCormick	Jacobs Engineering Group

107-DECK TYPE	WEATHER	TEMP. (air)	TEAM MEMBERS
1 : Concrete Cast-in-Place	Cloudy	2°C	J. KERAS

WEIGHT POSTING — *Not Applicable* X

	H	3	3S2	Single
Actual Posting	N	N	N	N
Recommended Posting	N	N	N	N

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

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

At bridge E	At bridge W	Advance E	Advance W

PLANS (Y/N): Y

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

TAPE#:

RATING

Rating Report (Y/N): Y Date: 11/01/2006

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

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

REASON: All component ratings have downgraded since the previous rating.

Inspection data at time of existing rating

I 58: 7 I 59: 7 I 60: 7 I 62: - Date : 01/27/2005

SPECIAL MEMBER(S):

	MEMBER	CRACK (Y/N):	WELD'S CONDITION (0-9)	LOCATION OF CORROSION, SECTION LOSS (%), CRACKS, COLLISION DAMAGE, STRESS CONCENTRATION, ETC.	CONDITION PREVIOUS (0-9)	CONDITION PRESENT (0-9)	INV. RATING OF MEMBER FROM RATING ANALYSIS H-20	3	3S2	Deficiencies
A	Item 60.2 - Piers or Bents	N			5	4	Not Rated			S-A
B	Item 60.2.a - Pedestals	N		See remarks in comments section.	5	4	Not Rated			S-A
C	Item 60.2.b - Caps	N		See remarks in comments section.	5	4	Not Rated			S-A
D	Item 60.2.d - Stems/ Webs/Pierwalls	N		See remarks in comments section.	5	4	Not Rated			S-A
E										

List of field tests performed:
Hands-on

	I-58	I-59	I-60	I-62
(Overall Previous Condition)	5	6	5	-
(Overall Current Condition)	5	6	4	-

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.

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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].

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

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CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
WORCESTER	**23B**	**W-44-029**	**W44029-23B-DOT-634**	**FEB 27, 2025**

REMARKS

BRIDGE ORIENTATION

This bridge is a two (2) span structure oriented from East to West and South to North. There are fourteen (14) steel beams (seven (7) in each span) numbered from South to North. The spans, abutments and interior diaphragms are numbered from East to West, which is consistent with the previous inspection and bridge plans **(see Sketch 1)**.

GENERAL REMARKS

Bridge W-44-029 (23B) carries Millbrook Street over P&W railroad in the city of Worcester, MA **(see Sketch 2)**. The bridge consists of two (2) spans with a steel beam superstructure that supports a reinforced concrete deck and an asphalt wearing surface. The superstructure is supported by two (2) reinforced concrete abutments and one (1) reinforced concrete pier.

ACCESSIBILITY

The topside was inspected on foot from the sidewalk.

The underside was inspected utilizing a 62' UBIU within a single lane closure and a local police detail in accordance with a P&W Railroad right of entry permit. A P&W Railroad Flagman was available for the duration of the inspection.

INSPECTION FREQUENCY

This inspection was performed as a full hands-on inspection and the inspection frequency has been reset to continue from the date of this inspection. Future inspections are scheduled 12 months (Special Member) and 24 months (Routine) from the current inspection date.

ITEM 58 - DECK

Item 58.1 - Wearing Surface

The bituminous concrete wearing surface exhibits scattered transverse and longitudinal hairline cracking throughout with areas of potholes up to 1" wide x 2" deep along the gutterline throughout. There are asphalt and concrete repair patches in both spans **(see Photos 1 and 2)**.

Specific deficiencies are as follows:

Span 1:

- **DEF=S/A: Westbound lane, at East Abutment joint - 2'-0" long x 2'-6" wide x 2-1/2" deep pothole and two (2) potholes up to 1'-0" diameter x 1" deep (see Photo 1).**

Span 2:

- **DEF=S/A: Westbound lane, midspan - Two (2) potholes up to 1'-3" long x 1'-3" wide x 1" deep.**
- Westbound lane, at West end - Concrete patch with scaling up to 1" deep.
- **DEF=S/A: At West Abutment joint - Full length x up to 6" wide x 6" deep potholes (see Photo 2).**

Item 58.2 - Deck Condition

The deck underside exhibits several areas of map cracking with moisture and efflorescence staining, with transverse hairline cracks up to the full width of the bays.

Specific deficiencies are as follows:

Span 1:

- South fascia, at pier joint - 1'-0" long x full width x 3" deep spall with exposed rebar **(see Photo 3)**.

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CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
WORCESTER	**23B**	**W-44-029**	**W44029-23B-DOT-634**	**FEB 27, 2025**

REMARKS

- Bay 3, near pier - 2'-0" long x 2'-0" wide x 4" deep spall with exposed rebar.
- **DEF=S/A: Bay 4, near pier - 1'-5" long x 2'-1" wide x 4" deep spall with exposed rebar (see Photo 4).**
- Bay 5, near pier - Two (2) spalls with exposed rebar up to 1'-10" long x 1'-7" wide x 3" deep.
- North fascia, at pier joint - 1'-0" long x full width x 3" deep spall.

Span 2:

- South overhang, at Pier - 1'-6" long x 8" wide x 1-1/2" deep spall.
- South fascia, 15'-0" from West Abutment - 1'-6" long x 6" high x 2" deep spall surrounded by cracking and efflorescence.
- South overhang, at West Abutment - Up to 9" long x 3'-4" wide x 4" deep spall with exposed rebar **(see Photo 5)**.
- Bay 8, 4'-0" from West Abutment - 1'-4" long x 2'-8" wide x 1" deep.
- Bay 8, East end diaphragm haunch - Up to 2'-0" long x 4" deep spall.
- Bay 9, 5'-0" from West Abutment - 1'-6" long x 3'-8" wide x 2" deep spall with exposed rebar.
- Bay 9, at fourth interior diaphragm - 2'-0" long x 3'-6" wide x 2" deep spall.
- **DEF=S/A: Bay 9, between third and fourth interior diaphragms - Four (4) spalls with exposed rebar up to 3'-4" long x 2'-8" wide x up to 3" deep (see Photo 6).**
- Bay 10, between third and fourth interior diaphragms - 2'-0" long x 2'-0" wide x 2" deep spall with exposed and debonded rebar **(see Photo 7)**.
- Bay 10, at third interior diaphragm - 1'-0" wide x 2'-6" long x 4-1/2" deep spall with exposed rebar.
- Bay 10, between second and third interior diaphragm - 3'-0" long x 3'-6" wide x 4" deep spall with exposed rebar.
- Bay 10, at second interior diaphragm - 3'-0" long x 3'-0" wide x 3" deep spall with exposed rebar.
- Bay 12, between West Abutment and fourth interior diaphragm - Five (5) spalls with exposed rebar up to 2'-6" long x 1'-8" wide x 3-1/2" deep **(see Photo 8)**.
- Bay 12, between third and fourth interior diaphragms - Seven (7) spalls up to 1'-10" long x 1'-6" wide x 4-1/2" deep, some with exposed rebar and some covered by timber formwork **(see Photo 9)**.
- Bay 12, between second and third interior diaphragm - Two (2) spalls with exposed rebar up to 2'-0" long x 2'-0" wide x 2-1/2" deep **(see Photo 10)**.
- Bay 12, between first and second interior diaphragm - 2'-0" long x 1'-0" wide x 3" deep spall with exposed rebar.
- Bay 13, between third and fourth interior diaphragms - Three (3) spalls, one (1) with exposed rebar and covered by timber formwork, up to 2'-0" long x 2'-0" wide x 3" deep.
- Bay 13, East end diaphragm haunch - Up to 2'-0" long x 4" deep spall.
- North fascia, at West Abutment - 1'-6" long x 1'-6" wide x 3" high x 3" deep spall.

Item 58.4 - Curbs

The curb stones exhibit minor areas of missing pointing throughout. There is scattered chipping up to 1/2" deep throughout the curb stones.

Specific deficiencies are as follows:

North Curb:

- Span 1, East end - Three (3) sections of curb are leaning outward toward the roadway **(see Photo 11)**.

Item 58.6 - Sidewalks

Specific deficiencies are as follows:

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CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
WORCESTER	23B	W-44-029	W44029-23B-DOT-634	FEB 27, 2025

REMARKS

South Safetywalk:
- Span 2, midspan - 1'-0" long x 1'-4" wide x 1-1/2" deep spall **(see Photo 12)**.

North Sidewalk:
- Span 1, East end - Two (2) spalls up to 5" long x 1'-4" wide x 1" deep **(see Photo 11)**.

Item 58.8 - Railing
The railing posts exhibit scattered underthreaded anchor bolt nuts **(see Photo 13)**.

Specific deficiencies are as follows:

South Railing
- Southwest endpost - 1/2" wide diagonal crack.

North Railing:
- Span 2, West end - One (1) damaged chain link panel.

Item 58.12 - Utilities
Specific deficiencies are as follows:

Span 2:
- Bay 10, at pier - Utility support with 100% section loss to lower web, 3'-6" wide x up to full height and up to 100% section loss to connection bolt nuts **(see Photo 14)**.
- Bay 13, both ends - Sections of missing metal wrapping.

Item 58.13 - Deck Joints
The compression seal pier joint exhibits several plow gouges to the armor steel.

DEF=S/A: The compression seal has failed for the full width of the joint allowing water infiltration of the bridge elements below (see Photo 15).

Specific deficiencies are as follows:

Pier Joint:
- At North sidewalk - Joint is torn and filled with sand and debris **(see Photo 16)**.
- At South safetywalk - Joint is bulging.

APPROACHES

Approaches a - Appr. Pavement Condition
The approaches exhibit longitudinal and transverse cracking and areas of minor breakup.

Specific deficiencies are as follows:

East Approach:
- Asphalt repair patch extending into Span 1 wearing surface.

West Approach:
- Full width x up to 4'-0" long concrete repair patch with heavy scale and areas of crumbled concrete **(see Photo 2)**.

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CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
WORCESTER	**23B**	**W-44-029**	**W44029-23B-DOT-634**	**FEB 27, 2025**

REMARKS

Approaches c - Appr. Sidewalk Settlement
DEF=S/A: The North sidewalk at both abutment joints is settled up to 2" (see Photo 11).

ITEM 59 - SUPERSTRUCTURE

Item 59.4 - Girders or Beams
The beam ends exhibit minor rust flaking and steel delamination to the webs and bottom flanges, up to full height **(see Photo 17)**.

Item 59.9 - Bearing Devices
The bearing typically exhibit minor rust flaking. The bearings at the pier are partially covered by sand and debris **(see Photo 14).**

Specific deficiencies are as follows:

East Abutment:
- Beam 7 bearing - Missing North anchor bolt nut **(see Photo 18)**.

Pier:
- **DEF=S/A: Beam 2 bearing, East face - Undermined full width x up to 1/2" deep due to spall (see Photo 19).**
- **DEF=S/A: Beam 3 bearing, East face - Undermined full width x up to 1/2" deep due to spall (see Photo 19).**

West Abutment:
- **DEF=S/A: Beam 8 bearing, Southeast corner - Undermined 1" long x 2" wide due to spall (see Photo 5).**

Item 59.10 - Diaphragms/Cross Frames
The concrete end diaphragms at the pier typically exhibit moderate cracking and rust staining. The steel diaphragms typically exhibit minor to moderate rust flaking and steel delamination.

Specific deficiencies are as follows:

Bay 2:
- End diaphragm, at pier - Full width x up to full length x 3" deep spall with exposed, debonded and rusted rebar.

Bay 4:
- End diaphragm, at pier - Full width x up to full length x 3" deep spall with exposed, debonded and rusted rebar.

Bay 5:
- End diaphragm, at pier - Full width x up to full length x 3" deep spall with exposed, debonded and rusted rebar **(see Photo 20)**.

Bay 9:
- End diaphragm, at West Abutment - Area of heavy efflorescence **(see Photo 21)**.

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REMARKS

Bay 10:
- End diaphragm, at West Abutment - Formwork left in place.

Item 59.14 - Paint/Coating
Refer to **Item 59.4 - Girders or Beams**.

SuperStructure Load Deflection Notes
Minor under heavy live loads.

SuperStructure Load Vibration Notes
Minor under heavy live loads.

ITEM 60 - SUBSTRUCTURE

Item 60.1 - Abutments
Item 60.1.a - Pedestals
Specific deficiencies are as follows:

West Abutment:
- **DEF=S/A: Beam 8 pedestal, Southeast corner - 10" long x 10" wide x full height spall undermining the bearing 1" long x 2" wide (see Photo 5).**

Item 60.1.c - Backwalls
The backwalls exhibit minor efflorescence and moisture staining **(see Photo 5)**. There are typical scattered full height hairline cracks with and without efflorescence throughout **(see Photo 22)**.

Specific deficiencies are as follows:

East Backwall:
- Behind Beam 1 - Full height x 2" wide x 3" deep spall **(see Photo 22)**.
- Behind Bay 3, adjacent to utilities - Up to 3" deep spall, partially obscured by formwork.
- Behind Beam 7 - Full height x 1/4" wide crack.

West Backwall:
- South end - 2'-0" high x up to 2'-6" wide x up to 6" deep spall **(see Photo 5)**.

Item 60.1.d - Breastwalls
The abutments exhibit scattered areas of graffiti throughout **(see Photo 23)**.

Refer to **Item 60.1.g - Pointing**.

Item 60.1.e - Wingwalls
The concrete wingwall caps exhibit minor hairline cracking with efflorescence and minor vegetation growth (heavy growth at the Northeast wingwall) **(see Photo 24)**. The wingwalls exhibit scattered areas of graffiti throughout.

Refer to **Item 60.1.g - Pointing** for additional defects.

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REMARKS

Item 60.1.g - Pointing
The breastwalls and wingwalls exhibit several areas of missing or deteriorated pointing throughout **(see Photo 23)**.

Item 60.2 - Piers or Bents
Item 60.2.a - Pedestals
The pedestals at the pier typically exhibit full length horizontal delamination cracking up to 1/2" wide with rust staining.

Specific deficiencies are as follows:

Beam 2 pedestal:
- **DEF=S/A: East face - Up to full height x full width spall extending from the pier cap, undermining the bearing full width x up to 1/2" deep (see Photo 19).**

Beam 3 pedestal:
- **DEF=S/A: East face - Up to full height x full width spall extending from the pier cap, undermining the bearing full width x up to 1/2" deep (see Photo 19).**

Beam 9 pedestal:
- West face - Two (2) spalls with exposed rebar at the Northwest and Southwest corners, up to 1'-0" long x full height x 1'-7" wide.

Beam 10 pedestal:
- **DEF=S/A: West face - 1'-9" long x full height x full width spall with exposed rebar (see Photo 25).**

Beam 11 pedestal:
- West face - 1'-1" long x 1'-0" high x 1'-0" wide x 1" deep spall with exposed rebar **(see Photo 26)**.

Beam 12 pedestal:
- **DEF=S/A: West face - Up to 1'-0" long x full height x full width spall with exposed and debonded rebar.**

Item 60.2.b - Caps
Specific deficiencies are as follows:

East face:
- **DEF=S/A: Below Bays 1 and 2 - 10'-0" wide x 1'-8" high x 4" deep spall with exposed, rusted and debonded rebar that extends onto the pedestals (see Photo 19).**
- Below Beam 6 - 3" high x 3'-10" wide x 1-1/2" deep spall **(see Photo 27)**.
- Below Bays 5 and 6 - 12'-0" long x 1/2" wide horizontal crack **(see Photo 27)**.
- Intermittent along the top and bottom - Full length x up to 1'-4" high delaminatated areas with rust and efflorescence.

West face:
- Below Bays 8 and 9, at bottom - 8'-0" wide x 1'-0" high delamination.
- Below Bays 12 and 13 - 12'-0" long x 1/2" wide horizontal crack with minor efflorescence and adjacent delamination up to 1'-0" high **(see Photo 17)**.

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REMARKS

Item 60.2.d - Stems/Webs/Pierwalls
The pier exhibits scattered areas of graffiti throughout.

Specific deficiencies are as follows:

East face:
- **DEF=S/A: South end - Full height x 2'-0" wide x 3" deep spall/delamination with exposed and rusted rebar (see Photo 28).**
- South end, at bottom - 4'-0" high x 6'-0" wide delaminated area.
- **DEF=S/A: North end - 9'-0" high x 9'-0" wide x 4" deep spall with exposed, rusted and debonded rebar with and adjacent delamination (see Photo 29).**

West face:
- **DEF=S/A: South end - Delaminations and spalls throughout with a 10'-0" high x 4'-0" wide x up to 4" deep spall with exposed, rusted and debonded rebar (see Photo 30).**
- Below Bay 11, at top - 1'-4" high x 1'-4" wide x 1-1/2" deep spall with exposed rebar **(see Photo 31)**.
- North end - 3'-0" high x up to 4'-0" wide spall/delamination.

TRAFFIC SAFETY

Item 36a - Bridge Railing
Both bridge rails consist of AL-3 with concrete end posts.

Item 36b - Transitions
All the transitions are single panel W-beam guardrail with posts not properly spaced and exhibit minor surface rusting.

The Northwest transition exhibits a 1'-0" long x 1-1/2" wide tear.

Item 36c - Approach Guardrail
DEF=S/A: The approach guardrails exhibit minor intermittent collision dents and surface rust at all corners (see Photo 32).

Item 36d - Approach Guardrail Ends
Both East guardrail ends are boxing gloves not turned from traffic.

Specific deficiencies are as follows:

Southeast guardrail end:
- Minor collision damage.

Northeast guardrail end:
- **DEF=S/A: 18'-0" long area of collision damage with one (1) disconnected post and three (3) bent posts (see Photo 32).**

Northwest guardrail end:
- Minor collision damage.

Sketch / Photo Log
Sketch 1 : Framing plan.

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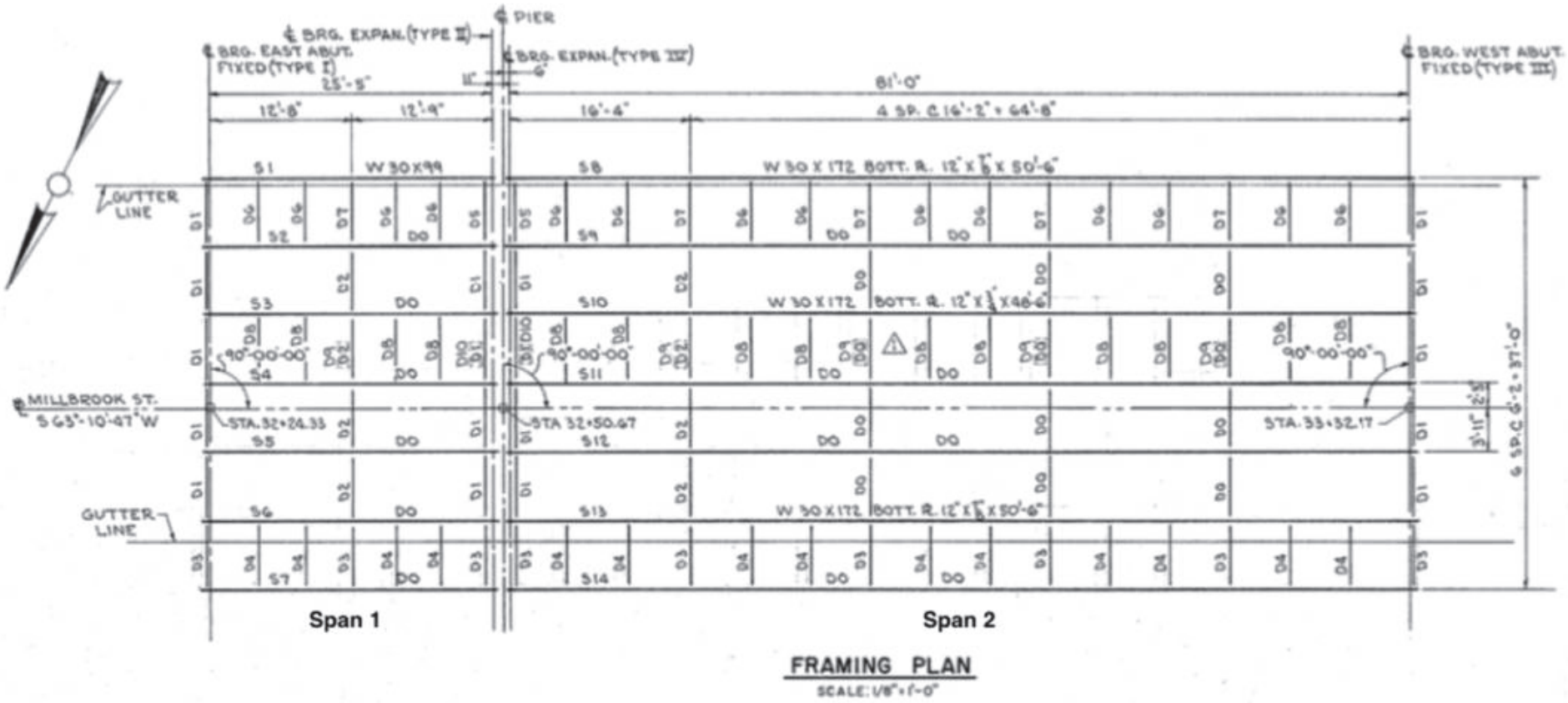
REMARKS

Sketch 2 : Location map.
Photo 1 : DEF=S/A: Span 1, Westbound lane, at East Abutment joint - Three (3) potholes. Note the repair patches.
Photo 2 : DEF=S/A: Span 2, at West Abutment joint - Potholes. Note the repair patches in the approach.
Photo 3 : Span 1, South fascia, at pier joint - Spall with exposed rebar.
Photo 4 : DEF=S/A: Span 1, Bay 4, near pier - Spall with exposed rebar.
Photo 5 : DEF=S/A: Span 2, South end, at West Abutment - Spalls to deck overhang, backwall and pedestal that undermines the bearing.
Photo 6 : DEF=S/A: Span 2, Bay 9, between third and fourth diaphragms - Four (4) spalls with exposed rebar.
Photo 7 : Span 2, Bay 10, between third and fourth diaphragms - Spall with exposed and debonded rebar.
Photo 8 : Span 2, Bay 12, near West Abutment - Spalls with exposed rebar.
Photo 9 : Span 2, Bay 12, near midspan - Seven (7) spalls, some with exposed rebar and some covered by timber formwork.
Photo 10 : Span 2, Bay 12, between second and third diaphragms - Two (2) spalls with exposed rebar.
Photo 11 : DEF=S/A: Span 1, East end, North Curb - Sections of curb leaning, spalls in sidewalk and sidewalk misalignment.
Photo 12 : Span 2, midspan, South Safetywalk - Spall.
Photo 13 : North Railing, at West end - Post with underthreaded anchor bolt nut.
Photo 14 : Span 2, Bay 10, at pier - Utility support with 100% section loss to lower web and connection bolts. Note sand and debris accumulation.
Photo 15 : DEF=S/A: Pier joint, looking South - Plow gouges to armor steel and missing compression seal.
Photo 16 : Pier joint, at North Sidewalk - Joint is torn and filled with sand and debris.
Photo 17 : Pier, below Bay 13, West face - Horizontal crack with efflorescence. Note the rust and delamination to beam ends and diaphragm.
Photo 18 : East Abutment, Beam 7 bearing - Missing North anchor bolt nut.
Photo 19 : DEF=S/A: Pier, East face, below Bays 1 and 2 - Spall with exposed, rusted and debonded rebar. Note the undermined bearings.
Photo 20 : Bay 5, end diaphragm, at pier - Spall with exposed, debonded and rusted rebar.
Photo 21 : Bay 9, end diaphragm, at West Abutment - Area of heavy efflorescence.
Photo 22 : East Backwall, behind Beam 1 - Spall. Note the hairline cracks.
Photo 23 : East Abutment - Missing or deteriorated pointing throughout. Note the areas of graffiti.
Photo 24 : Southwest wingwall - Minor hairline cracking with efflorescence and minor vegetation growth. Note the areas of graffiti.
Photo 25 : Pier, Beam 10 pedestal - Spall with exposed rebar.
Photo 26 : Pier, Beam 11 pedestal - Spall with exposed rebar.
Photo 27 : Pier, East face, below Beam 6 - Spall and horizontal crack.
Photo 28 : DEF=S/A: Pierwall, East face, South end - Spall/delamination with exposed and rusted rebar.
Photo 29 : DEF=S/A: Pierwall, East face, North end - Spall with exposed, rusted and debonded rebar and adjacent delamination.
Photo 30 : DEF=S/A: Pierwall, West face, South end - Spall with exposed, rusted and debonded rebar.
Photo 31 : Pierwall, West face, below Bay 11, at top - Spall with exposed rebar.
Photo 32 : DEF=S/A: Northeast guardrail end - Collision damage with disconnected and bent posts.

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SKETCHES



FRAMING PLAN
SCALE: 1/8" = 1'-0"

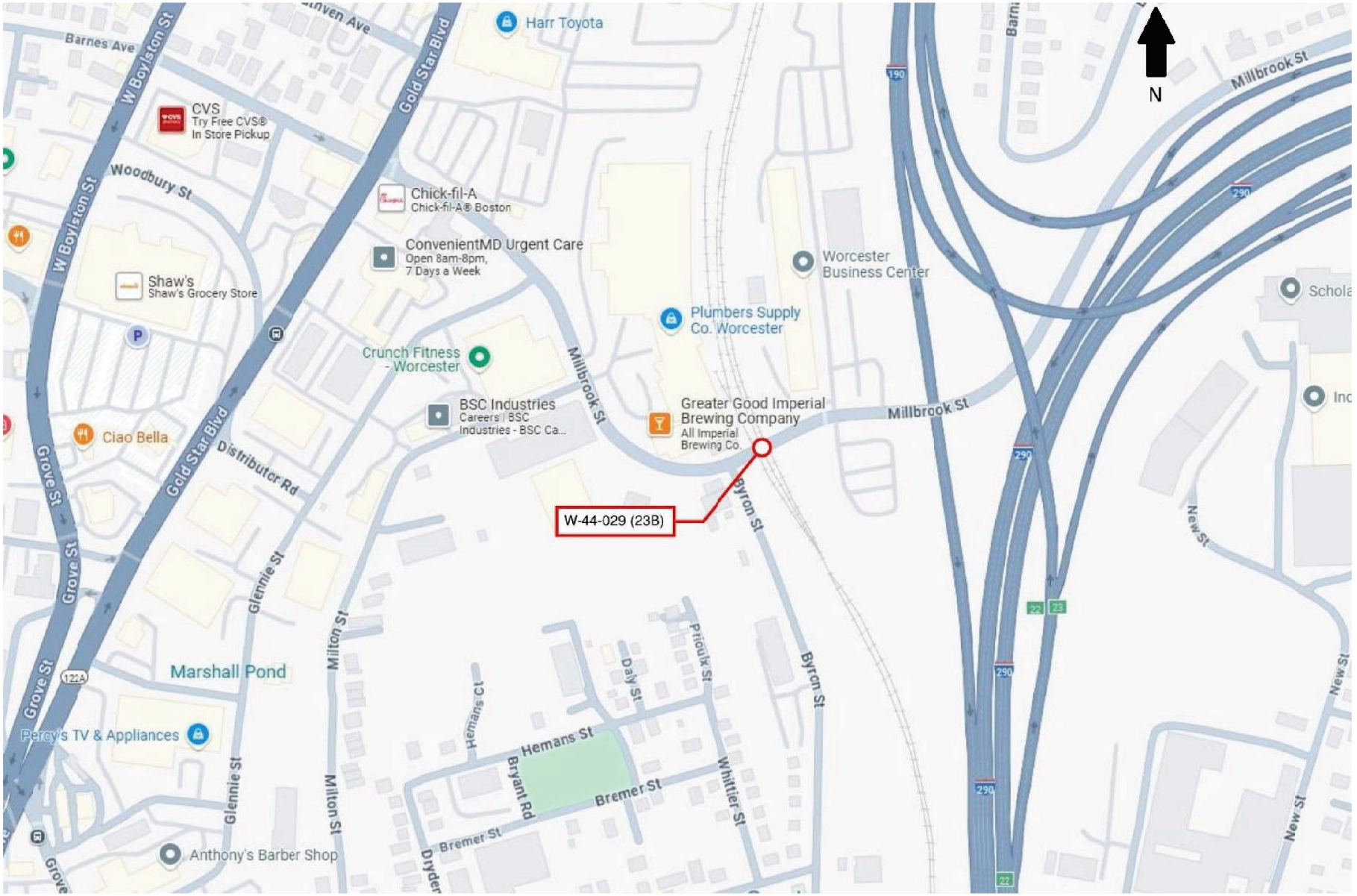
Sketch 1: **Framing plan.**

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Proposal No. 613790-132476

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SKETCHES



Sketch 2: Location map.

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PHOTOS



Photo 1: **DEF=S/A: Span 1, Westbound lane, at East Abutment joint - Three (3) potholes. Note the repair patches.**



Photo 2: **DEF=S/A: Span 2, at West Abutment joint - Potholes. Note the repair patches in the approach.**

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PHOTOS



Photo 3: Span 1, South fascia, at pier joint - Spall with exposed rebar.



Photo 4: DEF=S/A: Span 1, Bay 4, near pier - Spall with exposed rebar.

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PHOTOS



Photo 5: **DEF=S/A: Span 2, South end, at West Abutment - Spalls to deck overhang, backwall and pedestal that undermines the bearing.**

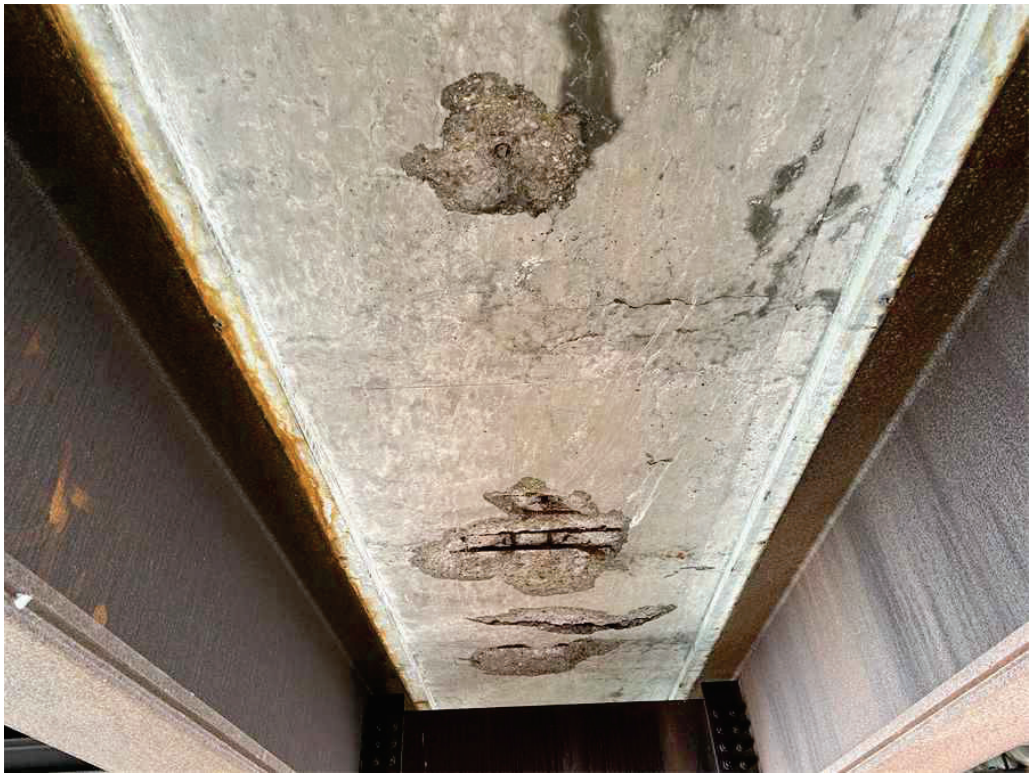


Photo 6: **DEF=S/A: Span 2, Bay 9, between third and fourth diaphragms - Four (4) spalls with exposed rebar.**

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PHOTOS



Photo 7: **Span 2, Bay 10, between third and fourth diaphragms - Spall with exposed and debonded rebar.**



Photo 8: **Span 2, Bay 12, near West Abutment - Spalls with exposed rebar.**

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PHOTOS



Photo 9: **Span 2, Bay 12, near midspan - Seven (7) spalls, some with exposed rebar and some covered by timber formwork.**



Photo 10: **Span 2, Bay 12, between second and third diaphragms - Two (2) spalls with exposed rebar.**

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PHOTOS



Photo 11: **DEF=S/A: Span 1, East end, North Curb - Sections of curb leaning, spalls in sidewalk and sidewalk misalignment.**



Photo 12: **Span 2, midspan, South Safetywalk - Spall.**

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PHOTOS



Photo 13: North Railing, at West end - Post with underthreaded anchor bolt nut.



Photo 14: Span 2, Bay 10, at pier - Utility support with 100% section loss to lower web and connection bolts. Note sand and debris accumulation.

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PHOTOS



Photo 15: **DEF=S/A: Pier joint, looking South - Plow gouges to armor steel and missing compression seal.**



Photo 16: **Pier joint, at North Sidewalk - Joint is torn and filled with sand and debris.**

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PHOTOS



Photo 17: Pier, below Bay 13, West face - Horizontal crack with efflorescence. Note the rust and delamination to beam ends and diaphragm.



Photo 18: East Abutment, Beam 7 bearing - Missing North anchor bolt nut.

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PHOTOS



Photo 19: **DEF=S/A: Pier, East face, below Bays 1 and 2 - Spall with exposed, rusted and debonded rebar. Note the undermined bearings.**



Photo 20: **Bay 5, end diaphragm, at pier - Spall with exposed, debonded and rusted rebar.**

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PHOTOS



Photo 21: Bay 9, end diaphragm, at West Abutment - Area of heavy efflorescence.



Photo 22: East Backwall, behind Beam 1 - Spall. Note the hairline cracks.

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PHOTOS



Photo 23: East Abutment - Missing or deteriorated pointing throughout. Note the areas of graffiti.



Photo 24: Southwest wingwall - Minor hairline cracking with efflorescence and minor vegetation growth. Note the areas of graffiti.

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PHOTOS



Photo 25: Pier, Beam 10 pedestal - Spall with exposed rebar.



Photo 26: Pier, Beam 11 pedestal - Spall with exposed rebar.

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PHOTOS



Photo 27: Pier, East face, below Beam 6 - Spall and horizontal crack.



Photo 28: DEF=S/A: Pierwall, East face, South end - Spall/delamination with exposed and rusted rebar.

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PHOTOS



Photo 29: DEF=S/A: Pierwall, East face, North end - Spall with exposed, rusted and debonded rebar and adjacent delamination.



Photo 30: DEF=S/A: Pierwall, West face, South end - Spall with exposed, rusted and debonded rebar.

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PHOTOS



Photo 31: Pierwall, West face, below Bay 11, at top - Spall with exposed rebar.



Photo 32: DEF=S/A: Northeast guardrail end - Collision damage with disconnected and bent posts.

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National Bridge Element Inspection

BDEPT# **W-44-029**
B.I.N. **23B**
Item 8 **W44029-23B-DOT-634**
Span Group **1**
Town **Worcester**
District **3**

Date **02/27/2025**
District Bridge Inspection Eng'r **Mahmood Azizi**
Inspecting Agency **Jacobs Engineering Group**
Team Leader **Ryan C. McCormick**
Team Member(s) **Jack Keras**

El #	Element Name	Units	Env.	Total Q.	% or Q	State 1	State 2	State 3	State 4
12	**Re Concrete Deck**	sq feet	2	4,620.000	☐ %	4,435.000	65.000	120.000	
Notes :									
> 1080	*Delamination/Spall/Patched Area*	sq feet	2	60.000	☐ %		60.000		
Notes :									
> 1090	*Exposed Rebar*	sq feet	2	120.000	☐ %			120.000	
Notes :									
> 1120	*Efflorescence/Rust Staining*	sq feet	2	5.000	☐ %		5.000		
Notes :									
> 510	Wearing Surfaces	sq feet	2	3,584.000	☐ %		1,050.000	2,524.000	10.000
Notes :									
> > 3210	*Del/Spall/Patch/Pot(Wear Surf)*	sq feet	2	1,220.000	☐ %		1,050.000	160.000	10.000
Notes :									
> > 3220	*Crack (Wearing Surface)*	sq feet	2	2,364.000	☐ %			2,364.000	
Notes :									
107	**Steel Opn Girder/Beam**	feet	2	694.000	☐ %	617.000	77.000		
Notes :									
> 1000	*Corrosion*	feet	2	77.000	☐ %		77.000		
Notes :									
> 515	Steel Protective Coating	sq feet	2	6,600.000	☐ %	5,930.000			670.000
Notes :									
> > 3440	*Eff (Stl Protect Coat)*	sq feet	2	670.000	☐ %				670.000
Notes :									
107	**Steel Opn Girder/Beam**	feet	3	70.000	☐ %	14.000	56.000		
Notes :									

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National Bridge Element Inspection

BDEPT#	**W-44-029**	Date	**02/27/2025**
B.I.N.	**23B**	District Bridge Inspection Eng'r	**Mahmood Azizi**
Item 8	**W44029-23B-DOT-634**	Inspecting Agency	**Jacobs Engineering Group**
Span Group	**1**	Team Leader	**Ryan C. McCormick**
Town	**Worcester**	Team Member(s)	**Jack Keras**
District	**3**		

El #	Element Name	Units	Env.	Total Q.	% or Q	State 1	State 2	State 3	State 4
> 1000	*Corrosion*	feet	3	56.000	☐ %		56.000		
Notes :									
> 515	Steel Protective Coating	sq feet	3	600.000	☐ %	100.000			500.000
Notes :									
> > 3440	*Eff (Stl Protect Coat)*	sq feet	3	500.000	☐ %				500.000
Notes :									
210	**Re Conc Pier Wall**	feet	3	29.000	☐ %	8.000	5.000	7.000	9.000
Notes :									
> 1080	*Delamination/Spall/Patched Area*	feet	3	5.000	☐ %		5.000		
Notes :									
> 1090	*Exposed Rebar*	feet	3	16.000	☐ %			7.000	9.000
Notes :									
218	**Other Abutments**	feet	2	98.000	☐ %	73.000	25.000		
Notes :									
> 1220	*Deterioration (Other)*	feet	2	25.000	☐ %		25.000		
Notes :									
234	**Re Conc Pier Cap**	feet	3	41.000	☐ %		29.000	12.000	
Notes :									
> 1080	*Delamination/Spall/Patched Area*	feet	3	41.000	☐ %		29.000	12.000	
Notes :									
302	**Compressn Joint Seal**	feet	2	32.000	☐ %		20.000	2.000	10.000
Notes :									
> 2310	*Leakage*	feet	2	32.000	☐ %		20.000	2.000	10.000
Notes :									

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National Bridge Element Inspection

BDEPT#	**W-44-029**	Date	**02/27/2025**
B.I.N.	**23B**	District Bridge Inspection Eng'r	**Mahmood Azizi**
Item 8	**W44029-23B-DOT-634**	Inspecting Agency	**Jacobs Engineering Group**
Span Group	**1**	Team Leader	**Ryan C. McCormick**
Town	**Worcester**	Team Member(s)	**Jack Keras**
District	**3**		

El #	Element Name	Units	Env.	Total Q.	% or Q	State 1	State 2	State 3	State 4
311	**Moveable Bearing**	each	3	14	☐ %		11	3	
Notes :									
> 1000	*Corrosion*	each	3	11	☐ %		11		
Notes :									
> 2240	*Loss of Bearing Area*	each	3	3	☐ %			3	
Notes :									
> 515	Steel Protective Coating	sq feet	3	28.000	☐ %			28.000	
Notes :									
> > 3440	*Eff (Stl Protect Coat)*	sq feet	3	28.000	☐ %			28.000	
Notes :									
313	**Fixed Bearing**	each	2	14	☐ %	13	1		
Notes :									
> 1020	*Connection*	each	2	1	☐ %		1		
Notes :									
> 515	Steel Protective Coating	sq feet	2	28.000	☐ %	28.000			
Notes :									
330	**Metal Bridge Railing**	feet	2	224.000	☐ %	224.000			
Notes :									

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MASSACHUSETTS DEPARTMENT OF TRANSPORTATION

STRUCTURES INSPECTION FIELD REPORT

ROUTINE INSPECTION

2-DIST	B.I.N.	BR. DEPT. NO.
03	214	W-44-099

CITY/TOWN	8.-STRUCTURE NO.	11-Kilo. POINT	41-STATUS	90-ROUTINE INSP. DATE
WORCESTER	W44099-214-DOT-NBI	000.000	A:OPEN	AUG 7, 2023

07-FACILITY CARRIED	MEMORIAL NAME/LOCAL NAME	27-YR BUILT	106-YR REBUILT	YR REHAB'D (NON 106)
HWY MILLBROOK ST		1962	0000	0000

06-FEATURES INTERSECTED	26-FUNCTIONAL CLASS	DIST. BRIDGE INSPECTION ENGINEER
I 190 SB	Urban Minor Arterial	M. Azizi

43-STRUCTURE TYPE	22-OWNER	21-MAINTAINER	TEAM LEADER
302 : Steel Stringer/Girder	State Highway Agency	State Highway Agency	T. Toloczko

107-DECK TYPE	WEATHER	TEMP. (air)	TEAM MEMBERS
1 : Concrete Cast-in-Place	Showers	23°C	V. SLACK

ITEM 58 — 5

DECK

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

CURB REVEAL (In millimeters)	N	S
	280	310

APPROACHES

		DEF
a. Appr. Pavement Condition	5	S-A
b. Appr. Roadway Settlement	5	S-A
c. Appr. Sidewalk Settlement	6	M-P
d.	N	-

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 — 5

SUPERSTRUCTURE

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

Year Painted	1995

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

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

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

Any Fracture Critical Member: (Y/N) N

Any Cracks: (Y/N) N

ITEM 60 — 5

SUBSTRUCTURE

	Dive	Cur		DEF
1. Abutments			6	
a. Pedestals	N	N		-
b. Bridge Seats	N	6		M-P
c. Backwalls	N	6		M-P
d. Breastwalls	N	6		M-P
e. Wingwalls	N	7		-
f. Slope Paving/Rip-Rap	N	7		-
g. Pointing	N	N		-
h. Footings	N	H		-
i. Piles	N	N		-
j. Scour	N	N		-
k. Settlement	N	7		-
l.	N	N		-
m.	N	N		-
2. Piers or Bents			5	
a. Pedestals	N	N		-
b. Caps	N	5		S-P
c. Columns	N	5		S-P
d. Stems/Webs/Pierwalls	N	N		-
e. Pointing	N	N		-
f. Footing	N	H		-
g. Piles	N	N		-
h. Scour	N	N		-
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

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CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
WORCESTER	214	W-44-099	W44099-214-DOT-NBI	AUG 7, 2023

ITEM 61 — CHANNEL & CHANNEL PROTECTION

N

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

STREAM FLOW VELOCITY:

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

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

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

ITEM 36 — *TRAFFIC SAFETY*

	36	COND	DEF
A. Bridge Railing	0	7	M-P
B. Transitions	0	4	S-A
C. Approach Guardrail	1	7	-
D. Approach Guardrail Ends	0	7	M-P

WEIGHT POSTING

Not Applicable X

	H	3	3S2	Single
Actual Posting	N	N	N	N
Recommended Posting	N	N	N	N

Waived Date: 02/22/2010 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

CLEARANCE POSTING

	N ft	N in	S ft	S in	meter
Not Actual Field Measurement	15	3	15	3	4.64
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	Y	Y
Boat	N	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:		
Overtime	Y	Y

TOTAL HOURS 8

PLANS (Y/N): Y

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

TAPE#: _____

List of field tests performed:

RATING

Rating Report (Y/N): Y

Date: 01/01/2010

Inspection data at time of existing rating

I 58: **5** I 59: **6** I 60: **7** Date : 08/05/2009

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

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

REASON: Rating over 10 years old.

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].

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REMARKS

BRIDGE ORIENTATION

According to the plans, the approaches are east and west and the elevations are north and south. **See Sketches 1 & 2.** This is a 3 span steel beam bridge with 6 beams and 5 bays per span numbered north to south 1 - 18 (S1 - S18). The spans and 2 piers are numbered west to east. Each pier has 3 columns numbered north to south.

GENERAL REMARKS

• Minimum underclearance was measured under beam 7 at left edge of road.

ITEM 58 - DECK

Item 58.1 - Wearing Surface

Concrete wearing surface (exposed deck top) has concrete repairs throughout with many hairline to 0.125" wide transverse cracks, minor to moderate scaling, delaminations, and minor to heavy edge deterioration at some repairs, up to 4' long x 1' wide x 3" deep at span 2 north edge. **See Photos 1 - 3.** See Approaches a.

Spans 1 & 2 have intermittent spalling along both curb bases up to 4' long x 3" wide x 3" deep.
Span 2 westbound lane northeast corner has several bituminous patches up to 4' long x 2' wide.

Item 58.2 - Deck Condition

Bay 1 underside in all spans is mostly hidden due to utilities.

Span 1
• Bays 2, 3, & 5 have several isolated hairline transverse cracks with efflorescence.
• Bay 2 near west end; 12' long x full width delamination and two spalls up to 1' long x 3' wide x 2" deep with exposed rebar.
• Bay 2 near midspan; 1' ø x 3" deep deck repair spall. **See Photo 4.**
• North soffit along beam 1; intermittent shallow delamination/spalls.
• North soffit east end; 1' ø x 2" deep spall with exposed rebar.

Span 2
• Several areas of hairline map cracking throughout, some with efflorescence and/or dampness.
• South soffit; several full width transverse cracks with efflorescence.
• Bay 5; 1' long x 30" wide repair near midspan and isolated scaling.
• Bay 4 west end; 16' long x full width form. **See Photo 5.**
• Bays 4 - 2 over travel lanes; up to 20' long x full width x full depth repairs.
• Bay 3 near west end at beam 10; 1' ø x 2" deep deck repair spall.
• Bays 3 & 2 east end; 12' long x full width repairs.
• Bay 2 near west end; two wood forms 2' x 2'.
• North soffit over right lane & east end; two up to 4' long x 6" wide x 1" deep delaminations/spalls.

Span 3
• Minor transverse and map cracking throughout, some with efflorescence.
• Bay 5; several isolated hairline transverse cracks with efflorescence.
• Bay 4 near west end; 1' long x 8" wide x 3" deep deck repair spall with exposed rebar.
• Bay 4 along beam 16; intermittent minor delamination and spalling. **See Photo 6.**
• Bay 3 midspan; hairline map cracking with efflorescence, dampness, and 18" long x 1' wide delamination.
• Bay 2 east half; hairline map cracking and 10" ø x 3" deep spall with exposed rebar at east end.
• Bay 2 midspan; 8" ø x 3" deep deck repair spall with exposed rebar.
• North soffit; minor shallow spalling throughout, up to 1' ø x 1" deep with exposed rebar.

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REMARKS

Item 58.4 - Curbs
North granite curb has several minor spalls throughout and a 2' long cracked section at pier 2 joint that is 1" out of alignment into the roadway. West end is 2" out of alignment into the roadway. **See Photo 7.**

Item 58.6 - Sidewalks
North sidewalk has many delaminations throughout all spans, and several spalls behind the curb up to 6" wide x 3" deep.

Span 2 near midspan has 12' long x 3' wide x 2" deep scaling/spalling with exposed rebar. **See Photo 8.**
Span 3 near midspan has 12' long x 1.5' wide x 2" deep scaling/spalling with exposed rebar.

Item 58.8 - Railing
Post anchor nuts have minor surface rust and the rails have minor scrapes throughout.

Item 58.9 - Anti Missile Fence
Fence at all four corners has moderate vegetation growing through.

Item 58.12 - Utilities
Bay 1 utility support diaphragms over both piers have up to 100% section loss. **See Photo 9.**

North soffit conduit has 6 failed supports - 4 at span 2 east end and 2 at span 3 west end. **See Photo 10.**

Span 2 bay 1 over right lane has 2 conduits with minor damage.

Item 58.13 - Deck Joints
Both pier joints are missing original copper flashing and hot poured sealer and have evidence of heavy leakage onto the elements below. Both joint openings are mostly filled with rigid foam (deck repairs), sand, and debris. **See Photos 2 & 3.**

APPROACHES

Approaches a - Appr. Pavement Condition
Both approach pavements have minor to moderate transverse and longitudinal cracking, heaviest at west.

West deck transition eastbound lane has 2' long x full width moderate breakup and settlement.
Westbound lane has a 30" long x full width bituminous patch. **See Photo 11.**

East deck transition has 2' long x full width moderate breakup with settlement and bituminous patches extending into the wearing surface. **See Photo 12.**

Approaches b - Appr. Roadway Settlement
See Approaches a.

Approaches c - Appr. Sidewalk Settlement
Both north approach sidewalks have up to 1" settlement. **See Photo 7.**

ITEM 59 - SUPERSTRUCTURE

Item 59.4 - Girders or Beams

Beam 1, 6, 7 - 14, 18:	W30 x 99	web section = 0.520"	flange section = 0.670"
Beam 2 - 5:	W30 x 108	web section = 0.545"	flange section = 0.760"

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REMARKS

Beam 15 - 17: W27 x 84 web section = 0.460" flange section = 0.640"

Span 1 beam 1 outside bottom flange has moderate surface rust with minor rust flaking throughout.
Span 2 webs, bottom flanges, and cover plates have minor to moderate surface rust and minor pitting/flaking.

Span 2
- Beam 7 web bottom 3"; as little as 0.18" throughout, heaviest over left lane and breakdown lane.
- Beam 7 bottom flange up to 3' west of cover plate west end; 0.44". **See Photo 13.**

Span 3 at pier 2 (ladder access only)
- Beam 13 bottom flange at bearing; 0.60". **See Photo 14.**
- Beam 13 web bottom 2"; 0.30" average.
- Beam 13 bottom flange & web; full section 5' from bearing.

- Beam 14 bottom flange 9" from bearing; 0.20". **See Photo 15.**
- Beam 14 web bottom 3"; 0.18" at bearing, 0.30" average 2' from bearing.
- Beam 14 bottom flange & web; full section 50" from bearing.

Item 59.7 - Conn Plt's, Gussets & Angles
See Items 59.4 & 59.14.

Item 59.8 - Cover Plates
See Item 59.4.

Item 59.9 - Bearing Devices
Bearings have minor to moderate surface rust throughout, heaviest at pier 1.
Pier 2 bearings have minor to moderate pack rust.

Item 59.10 - Diaphragms/Cross Frames
Most pier concrete end diaphragm bottom faces have heavy spalling with exposed rebar. **See Photo 16.**

Item 59.14 - Paint/Coating
Spans 1 & 3 have minor to moderate peel and surface rust. Span 2 has heavy peel and surface rust throughout. **See Photos 4 - 6.**

SuperStructure Load Deflection Notes
Minor under heavy live load.

SuperStructure Load Vibration Notes
Moderate under heavy live load.

ITEM 60 - SUBSTRUCTURE

Item 60.1 - Abutments
Item 60.1.b - Bridge Seats
See Item 60.1.d.

Item 60.1.c - Backwalls
West backwall has a full height vertical hairline crack in bays 1, 3, & 5. Bays 1 & 3 have rust staining.
East backwall has a full height vertical hairline crack in bay 2 and a 10" high x 2' wide x 1' deep void at the utility opening behind beam 13.

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REMARKS

Item 60.1.d - Breastwalls
Both breastwalls have one full height vertical hairline crack in bay 3.
East breastwall bay 1 has a 1' long horizontal hairline crack with bleeding rust and heavy seat debris (below utility). **See Photo 17.**

Item 60.2 - Piers or Bents
Item 60.2.b - Caps
Pier 1 cap
• Top has moderate debris throughout.
• West face top, bays 1 - 3; delamination with bleeding rust. **See Photo 18.**
• West face bottom, bays 3 & 4; delamination with bleeding rust.
• East face top, bays 1 - 3; delamination with bleeding rust. **See Photo 19.**
• East face bottom, bays 4 & 5; delamination with bleeding rust.
• East face north end bottom; 3' long horizontal hairline crack.

Pier 2 cap
• Top has heavy debris throughout.
• West face bays 1 & 2; 12' long delamination with 6' long x 1' high x 3" deep spall at bottom and 5' long x full height x 2" deep spall with exposed rebar. **See Photo 20.**
• East face bays 3 - 5 top & bottom; moderate horizontal cracking.
• Underside between columns 2 & 3; delamination.

Item 60.2.c - Columns
Pier 1
• Column 1 has delamination throughout and a 7' high x 14" wide x 2" deep spall with exposed rebar on west side. **See Photo 18.**
• Column 2 has delamination on both east and west faces, up to 5' high x 2' wide at west face.

Pier 2
• Column 1 has a 7' high x 2' wide x 2" deep spall on northwest face and a 4' high x 1' wide x 2" deep spall on east face, both with exposed rebar. **See Photo 20.**
• Column 2 has a 2' high x 6" wide x 1" deep spall with exposed rebar at top east face and several vertical cracks throughout up to 6' high x 0.125" wide.

TRAFFIC SAFETY

Item 36a - Bridge Railing
Both bridge rails are AL-3 with concrete end posts. See Item 58.8.

Item 36b - Transitions
All four transitions are single panel W-beam steel guardrail with posts improperly spaced.
Southeast transition is not attached to 3 posts and the panel splice is missing all 8 bolts. **See Photo 21.**
Northwest transition is missing 3 spacer blocks, is not attached to 4 posts, and the panel splice is missing 4 bolts. **See Photo 22.**

Item 36d - Approach Guardrail Ends
Southwest guardrail end is buried and not turned from traffic.
Northwest guardrail end is a boxing glove not turned from traffic with minor collision damage.

Sketch / Photo Log
Sketch 1 : Location map.

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WORCESTER	**214**	**W-44-099**	**W44099-214-DOT-NBI**	**AUG 7, 2023**

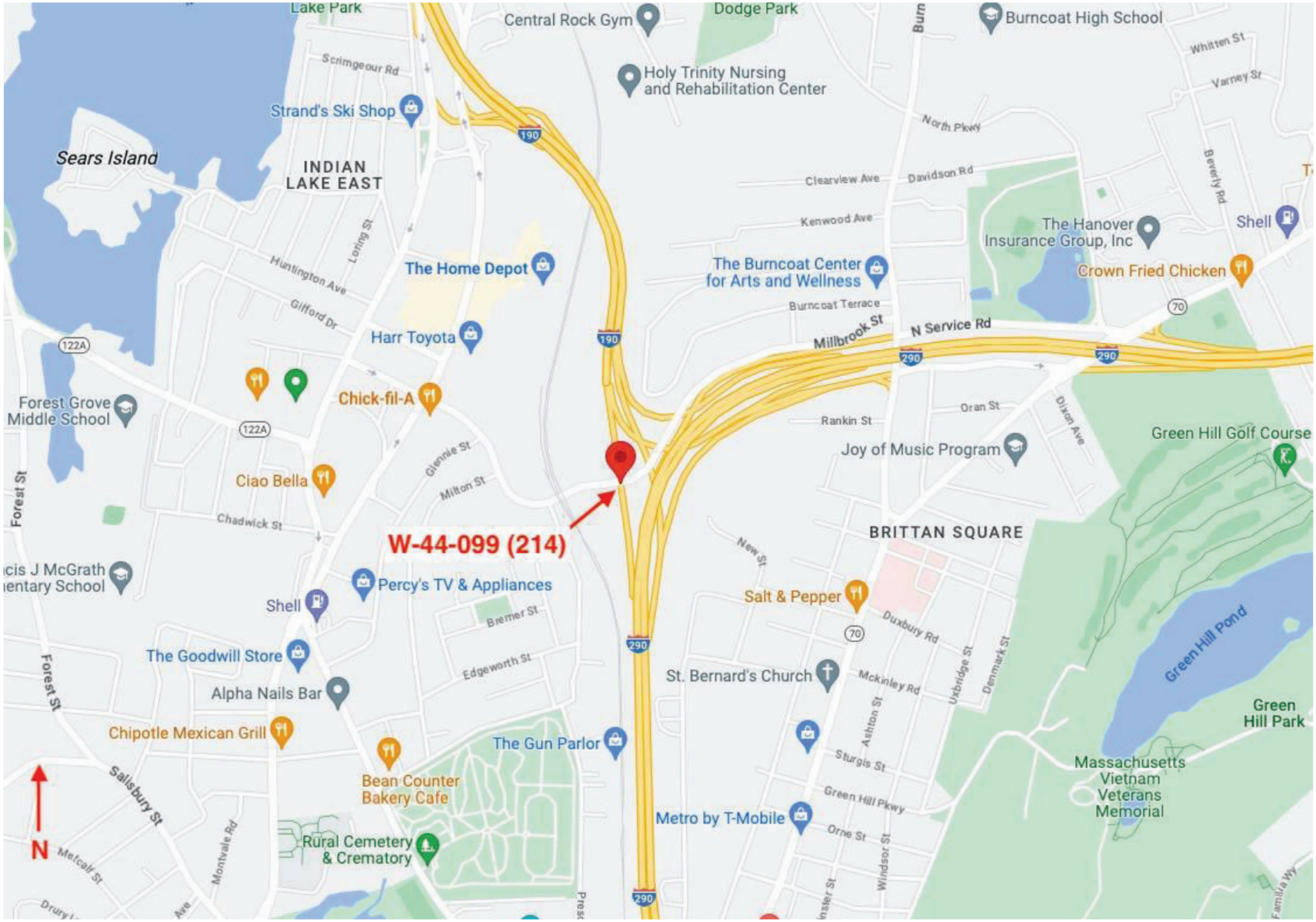
REMARKS

Sketch 2 : Framing plan.
Photo 1 : Wearing surface span 2, looking southeast.
Photo 2 : Wearing surface pier 1 joint, looking south.
Photo 3 : Wearing surface pier 2 joint, looking south.
Photo 4 : Span 1 bay 2, looking northeast.
Photo 5 : Span 2, looking east.
Photo 6 : Span 3, looking northeast.
Photo 7 : North sidewalk west end, looking east.
Photo 8 : North sidewalk span 2 midspan, looking east. Typical span 2/3 deterioration.
Photo 9 : Pier 2 bay 1 utility supports, looking west. Typical up to 100% section loss at piers.
Photo 10 : North soffit conduit from span 3, looking west.
Photo 11 : West approach to deck transition, looking south.
Photo 12 : East approach to deck transition, looking south.
Photo 13 : Beam 7 near east end north face (over left lane near pier 2).
Photo 14 : Beam 13 west end south face at pier 2.
Photo 15 : Beam 14 west end north face at pier 2.
Photo 16 : Pier 1 bays 2 - 4, looking southeast (bay 2 at left). Typical pier end diaphragms.
Photo 17 : East breastwall bay 1, looking east.
Photo 18 : Pier 1 west face, looking northeast.
Photo 19 : Pier 1 east face, looking west.
Photo 20 : Pier 2 west face, looking east.
Photo 21 : Southeast transition, looking southeast.
Photo 22 : Northwest transition, looking northwest.

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TY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
/ORCESTER	214	W-44-099	W44099-214-DOT-NBI	AUG 7, 2023

SKETCHES



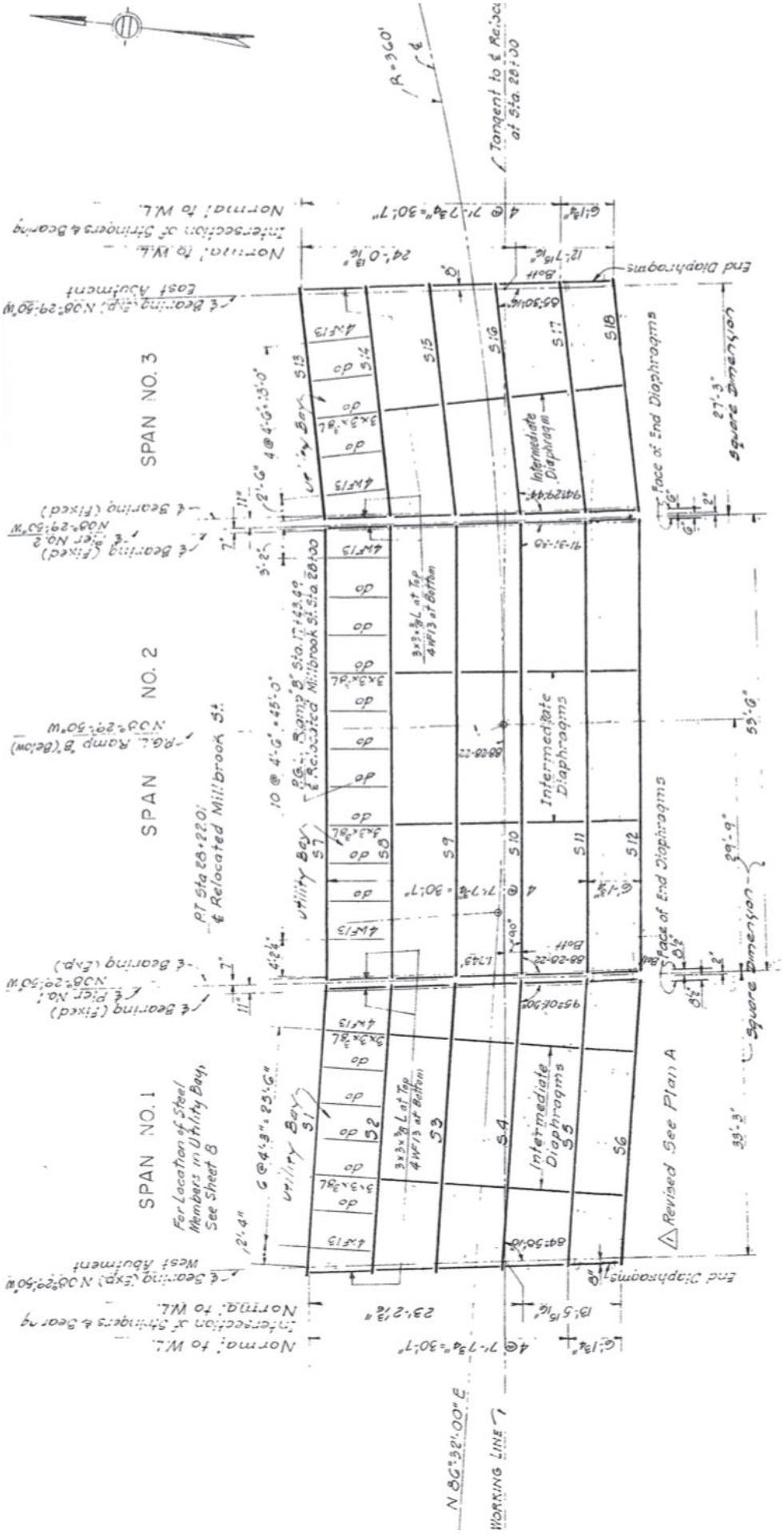
Sketch 1: Location map.

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Proposal No. 613790-132476

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
WORCESTER	214	W-44-099	W44099-214-DOT-NBI	AUG 7, 2023

SKETCHES



Sketch 2: Framing plan.

REM (2)2-21

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CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
WORCESTER	214	W-44-099	W44099-214-DOT-NBI	AUG 7, 2023

PHOTOS



Photo 1: Wearing surface span 2, looking southeast.



Photo 2: Wearing surface pier 1 joint, looking south.

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CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
WORCESTER	214	W-44-099	W44099-214-DOT-NBI	AUG 7, 2023

PHOTOS



Photo 3: **Wearing surface pier 2 joint, looking south.**



Photo 4: **Span 1 bay 2, looking northeast.**

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WORCESTER	214	W-44-099	W44099-214-DOT-NBI	AUG 7, 2023

PHOTOS



Photo 5: **Span 2, looking east.**



Photo 6: **Span 3, looking northeast.**

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WORCESTER	214	W-44-099	W44099-214-DOT-NBI	AUG 7, 2023

PHOTOS



Photo 7: **North sidewalk west end, looking east.**



Photo 8: **North sidewalk span 2 midspan, looking east. Typical span 2/3 deterioration.**

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WORCESTER	214	W-44-099	W44099-214-DOT-NBI	AUG 7, 2023

PHOTOS



Photo 9: **Pier 2 bay 1 utility supports, looking west. Typical up to 100% section loss at piers.**



Photo 10: **North soffit conduit from span 3, looking west.**

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CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
WORCESTER	**214**	**W-44-099**	**W44099-214-DOT-NBI**	**AUG 7, 2023**

PHOTOS



Photo 11: West approach to deck transition, looking south.



Photo 12: East approach to deck transition, looking south.

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CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
WORCESTER	**214**	**W-44-099**	**W44099-214-DOT-NBI**	**AUG 7, 2023**

PHOTOS



Photo 13: Beam 7 near east end north face (over left lane near pier 2).



Photo 14: Beam 13 west end south face at pier 2.

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CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
WORCESTER	**214**	**W-44-099**	**W44099-214-DOT-NBI**	**AUG 7, 2023**

PHOTOS



Photo 15: Beam 14 west end north face at pier 2.



Photo 16: Pier 1 bays 2 - 4, looking southeast (bay 2 at left). Typical pier end diaphragms.

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CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
WORCESTER	214	W-44-099	W44099-214-DOT-NBI	AUG 7, 2023

PHOTOS



Photo 17: East breastwall bay 1, looking east.



Photo 18: Pier 1 west face, looking northeast.

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WORCESTER	214	W-44-099	W44099-214-DOT-NBI	AUG 7, 2023

PHOTOS



Photo 19: Pier 1 east face, looking west.



Photo 20: Pier 2 west face, looking east.

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CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
WORCESTER	214	W-44-099	W44099-214-DOT-NBI	AUG 7, 2023

PHOTOS



Photo 21: Southeast transition, looking southeast.



Photo 22: Northwest transition, looking northwest.

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National Bridge Element Inspection

BDEPT# **W-44-099**
B.I.N. **214**
Item 8 **W44099-214-DOT-NBI**
Span Group **1**
Town **Worcester**
District **3**

Date **08/07/2023**
District Bridge Inspection Eng'r **Mahmood Azizi**
Inspecting Agency **Mass. Highway Dept.**
Team Leader **Tyson Toloczko**
Team Member(s) **Vaughn Slack**

El #	Element Name	Units	Env.	Total Q.	% or Q	State 1	State 2	State 3	State 4
12	**Re Concrete Deck**	sq feet	2	4,800.000	☐ %	500.000	3,900.000	400.000	
Notes :									
> 1080	*Delamination/Spall/Patched Area*	sq feet	2	4,100.000	☐ %		3,700.000	400.000	
Notes :									
> 1120	*Efflorescence/Rust Staining*	sq feet	2	200.000	☐ %		200.000		
Notes :									
107	**Steel Opn Girder/Beam**	feet	2	564.000	☐ %	529.000		35.000	
Notes :									
> 1000	*Corrosion*	feet	2	35.000	☐ %			35.000	
Notes :									
> 515	Steel Protective Coating	sq feet	2	4,500.000	☐ %		450.000	2,700.000	1,350.000
Notes :									
> > 3440	*Eff (Stl Protect Coat)*	sq feet	2	4,500.000	☐ %		450.000	2,700.000	1,350.000
Notes :									
107	**Steel Opn Girder/Beam**	feet	3	120.000	☐ %		106.000	10.000	4.000
Notes :									
> 1000	*Corrosion*	feet	3	120.000	☐ %		106.000	10.000	4.000
Notes :									
> 515	Steel Protective Coating	sq feet	3	120.000	☐ %			60.000	60.000
Notes :									
> > 3440	*Eff (Stl Protect Coat)*	sq feet	3	120.000	☐ %			60.000	60.000
Notes :									
205	**Re Conc Column**	each	3	6	☐ %	2	2	2	
Notes :									

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National Bridge Element Inspection

BDEPT#	**W-44-099**	Date	**08/07/2023**
B.I.N.	**214**	District Bridge Inspection Eng'r	**Mahmood Azizi**
Item 8	**W44099-214-DOT-NBI**	Inspecting Agency	**Mass. Highway Dept.**
Span Group	**1**	Team Leader	**Tyson Toloczko**
Town	**Worcester**	Team Member(s)	**Vaughn Slack**
District	**3**		

El #	Element Name	Units	Env.	Total Q.	% or Q	State 1	State 2	State 3	State 4
> 1080	*Delamination/Spall/Patched Area*	each	3	4	☐ %		2	2	
Notes :									
215	**Re Conc Abutment**	feet	2	120.000	☐ %	117.000		3.000	
Notes :									
> 1080	*Delamination/Spall/Patched Area*	feet	2	2.000	☐ %			2.000	
Notes :									
> 1120	*Efflorescence/Rust Staining*	feet	2	1.000	☐ %			1.000	
Notes :									
234	**Re Conc Pier Cap**	feet	3	82.000	☐ %	22.000	40.000	20.000	
Notes :									
> 1080	*Delamination/Spall/Patched Area*	feet	3	60.000	☐ %		40.000	20.000	
Notes :									
306	**Other Joint**	feet	2	74.000	☐ %			46.000	28.000
Notes :									
> 2310	*Leakage*	feet	2	74.000	☐ %			46.000	28.000
Notes :									
311	**Moveable Bearing**	each	3	6	☐ %		6		
Notes :									
> 1000	*Corrosion*	each	3	6	☐ %		6		
Notes :									
> 515	Steel Protective Coating	sq feet	3	12.000	☐ %			12.000	
Notes :									
> > 3440	*Eff (Stl Protect Coat)*	sq feet	3	12.000	☐ %			12.000	
Notes :									

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National Bridge Element Inspection

BDEPT#	**W-44-099**	Date	**08/07/2023**
B.I.N.	**214**	District Bridge Inspection Eng'r	**Mahmood Azizi**
Item 8	**W44099-214-DOT-NBI**	Inspecting Agency	**Mass. Highway Dept.**
Span Group	**1**	Team Leader	**Tyson Toloczko**
Town	**Worcester**	Team Member(s)	**Vaughn Slack**
District	**3**		

El #	Element Name	Units	Env.	Total Q.	% or Q	State 1	State 2	State 3	State 4
313	**Fixed Bearing**	each	3	18	☐ %		18		
Notes :									
> 1000	*Corrosion*	each	3	18	☐ %		18		
Notes :									
> 515	Steel Protective Coating	sq feet	3	36.000	☐ %			36.000	
Notes :									
330	**Metal Bridge Railing**	feet	2	230.000	☐ %		230.000		
Notes :									
> 1900	*Distortion*	feet	2	230.000	☐ %		230.000		
Notes :									

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DOCUMENT A00805

TRAFFIC MANAGEMENT PLANS

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Proposal No. 613790-132476

WORCESTER
MILLBROOK STREET OVER INTERSTATE 190 SB & B&M RAILROAD
TEMPORARY TRAFFIC CONTROL PLAN
GENERAL NOTES

1217.11-8 _TTCP.DWG Plotted on 26-Aug-2025 9:29 AM

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TEMPORARY TRAFFIC CONTROL NOTES:

1. TEMPORARY TRAFFIC CONTROL LAYOUTS ARE AN ASSUMPTION BASED ON THE NOTED SCOPE OF WORK BUT ADDITIONAL OR SLIGHTLY MODIFIED SET-UPS MAY BE USED BY THE CONTRACTOR WITH CONSULTATION FROM MASSDOT, THE CITY OF WORCESTER, AND THE ENGINEER.
2. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
3. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS AT THE DISCRETION OF THE CONTRACTOR.
4. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
5. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
6. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN NCHRP 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR THE "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
7. THE FIRST TEN (10) PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.
8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER IN CONSULTATION WITH MASSDOT.
9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
10. ALL DRUMS AND/OR CONES ALONG THE INTERSTATE ROADWAYS SHALL BE SET AT 20' O.C. MAXIMUM UNLESS OTHERWISE NOTED OR ADJUSTED BY THE ENGINEER.
11. MINIMUM LANE WIDTH IS TO BE ELEVEN (11) FEET UNLESS OTHERWISE SHOWN ON THE PLANS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE ALL PAVEMENT MARKINGS WITHIN THE OUTSIDE LIMITS OF EACH BRIDGE, FOLLOWING THE COMPLETION OF WORK.

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TAPER TYPE	TAPER LENGTH
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FEET MIN, 100 FEET MAX
DOWNSTREAM TAPER	50 FEET MIN., 100 FEET MAX (PER LANE)
TANGENT LENGTH	AT LEAST 2L

SPEED LIMIT	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L = WS^2/60$
45 MPH OR GREATER	$L = WS$

WHERE: L = TAPER LENGTH IN FEET

W = WIDTH OF OFFSET IN FEET

S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH

BUFFER SPACING

SPEED (MPH)	DISTANCE (FEET)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

BUFFER SPACING NOTES:

1. SPEED NOTED EQUALED TO POSTED SPEED, OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED.

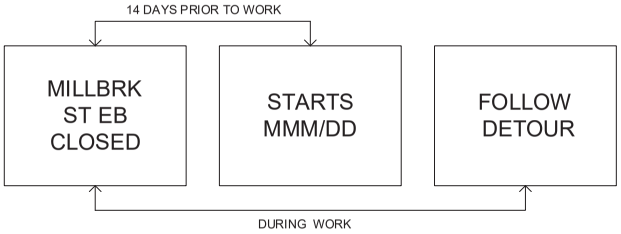
TEMPORARY TRAFFIC CONTROL PHASING:

BRIDGE NO. W-44-029
- PHASE 1: MILLBROOK ST WESTBOUND, LANE CLOSURE
- PHASE 2: MILLBROOK ST EASTBOUND, LANE CLOSURE

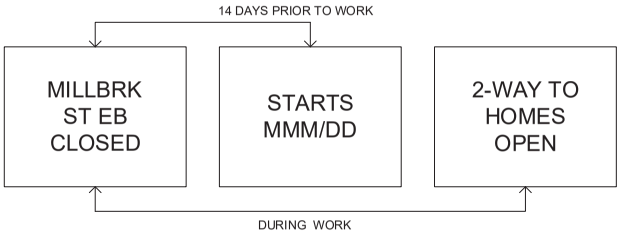
BRIDGE NO. W-44-099
- PHASE 1: MILLBROOK ST WESTBOUND, LANE CLOSURE
- PHASE 2: MILLBROOK ST EASTBOUND, LANE CLOSURE

TEMPORARY TRAFFIC CONTROL LEGEND

- WORK ZONE
- SIGN
- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- REFLECTORIZED DRUM W/ SEQUENTIAL FLASHING LIGHTS
- DIRECTION OF TRAVEL
- TYPE III BARRICADE
- IMPACT ATTENUATOR
- CONSTRUCTION BARRIER
- ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)



PORTABLE CHANGEABLE MESSAGE SIGNS #1 & #2



PORTABLE CHANGEABLE MESSAGE SIGNS #3

SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS			
	A	B	C	D
URBAN (30MPH OR LESS)	100 FEET	100 FEET	100 FEET	100 FEET
URBAN (35MPH OR GREATER)	350 FEET	350 FEET	350 FEET	350 FEET
RURAL	500 FEET	500 FEET	500 FEET	500 FEET
EXPRESSWAY/FREEWAY	1,000 FEET	1,500 FEET	2,640 FEET	500 FEET

SIGN SPACING NOTES:

1. ROAD TYPE TO BE DETERMINED BY MASSDOT OFFICE OF TRANSPORTATION PLANNING
2. THE "A" DIMENSION SHOULD BE MEASURED FROM THE START OF THE TRAVEL LANE RESTRICTION OR THE SHOULDER / BREAKDOWN LANE RESTRICTION, WHICHEVER IS APPLICABLE.
3. THE "D" DIMENSION SHOULD BE THE DISTANCE FOLLOWING THE TERMINATION OF THE WORK ZONE TO THE PLACEMENT OF THE MA-R2-10e "END WORK ZONE - DOUBLE FINES END" SIGN.
4. MA-R2-10a SIGNS SHALL BE PLACED HALFWAY BETWEEN THE SECOND AND THIRD SIGNS NOTED ABOVE.
5. SIGN SPACING MAY NEED TO BE INCREASED IF ADDITIONAL SIGNS ARE REQUIRED PER THE DETAIL / TYPICAL SETUP FIGURES.

DATE	DESCRIPTION	REV #
08/26/2025	PS&E2 DESIGN	3
07/25/2025	PS&E DESIGN	2
06/27/2025	100% DESIGN	1
04/09/2025	75% DESIGN	-

TEC The Engineering Corp
282 Merrimack St, 2nd Floor, Lawrence, MA 01843, 978-794-1792
311 Main Street, 2nd Floor, Worcester, MA 01608, 508-868-5104
2 Monument Square, Suite 301, Portland, ME 04101, 207-370-5838
www.TheEngineeringCorp.com

Proposal No. 613790-132476

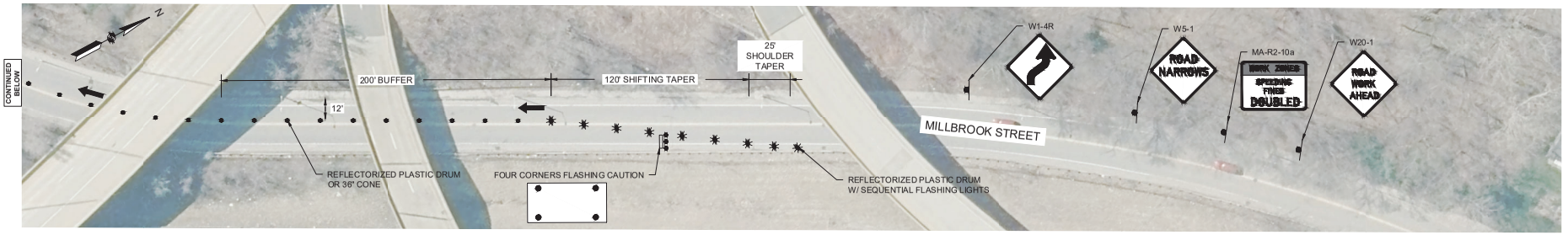
TEMPORARY TRAFFIC CONTROL LEGEND

- WORK ZONE
- SIGN
- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- REFLECTORIZED DRUM W/ SEQUENTIAL FLASHING LIGHTS
- DIRECTION OF TRAVEL
- TYPE III BARRICADE
- IMPACT ATTENUATOR
- CONSTRUCTION BARRIER
- ARROW BOARD

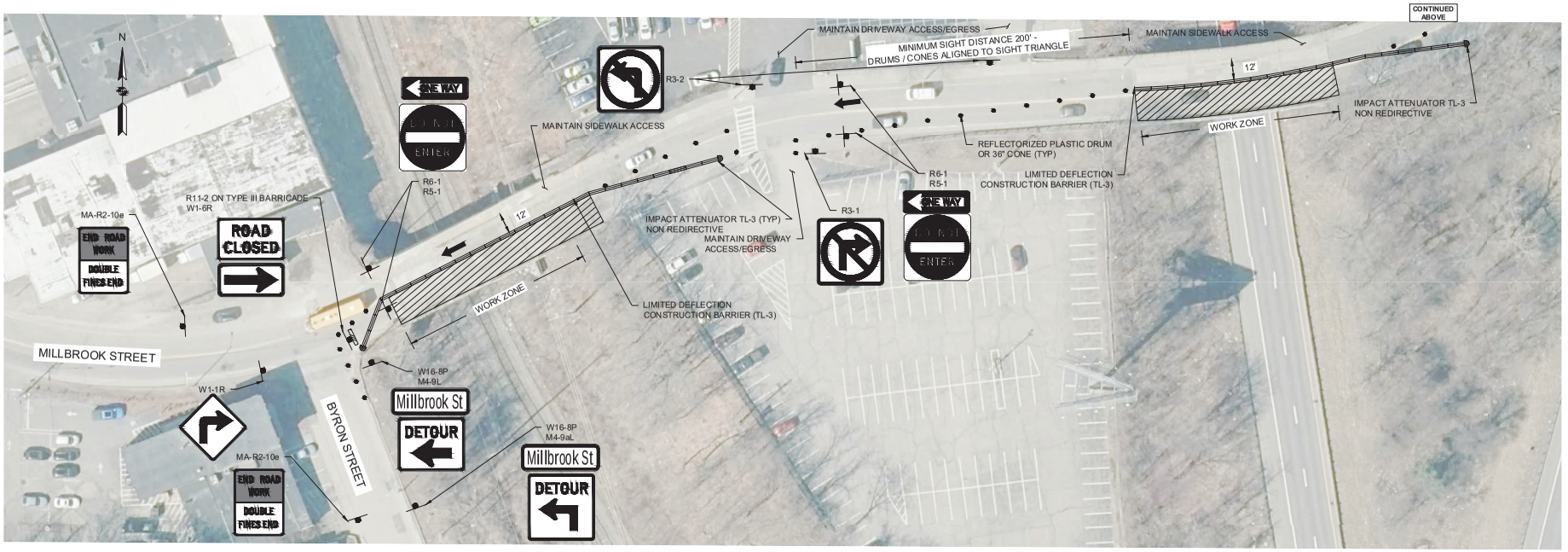
SHIFTING TAPER LENGTH (FT) = $L/2 = (W_L S^2)/120 = 113$ FT -> 120 FT
SHOULDER TAPER LENGTH (FT) = $L/3 = (W_S S^2)/180 = 25$ FT

W_L = WIDTH OF LANE OFFSET = 15 FT
W_S = WIDTH OF SHOULDER OFFSET = 5 FT
S = POSTED SPEED LIMIT = 30 MPH

WORCESTER
MILLBROOK STREET OVER INTERSTATE 190 SB & B&M RAILROAD
TEMPORARY TRAFFIC CONTROL PLAN
PHASE 1 - WORK ZONE LAYOUT



MILLBROOK STREET SOUTHERLY CLOSURE - LONG-TERM STATIONARY OPERATIONS
PHASE 1 - DIRECTION OF TRAVEL ONE-WAY WESTBOUND
SCALE: 1"=30'



MILLBROOK STREET SOUTHERLY CLOSURE - LONG-TERM STATIONARY OPERATIONS
PHASE 1 - DIRECTION OF TRAVEL ONE-WAY WESTBOUND
SCALE: 1"=30'

0 30 60 100
SCALE: 1" = 30'

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Proposal No. 613790-132476

TEMPORARY TRAFFIC CONTROL LEGEND

- WORK ZONE
- SIGN
- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- REFLECTORIZED DRUM W/ SEQUENTIAL FLASHING LIGHTS
- DIRECTION OF TRAVEL
- TYPE III BARRICADE
- IMPACT ATTENUATOR
- CONSTRUCTION BARRIER
- ARROW BOARD

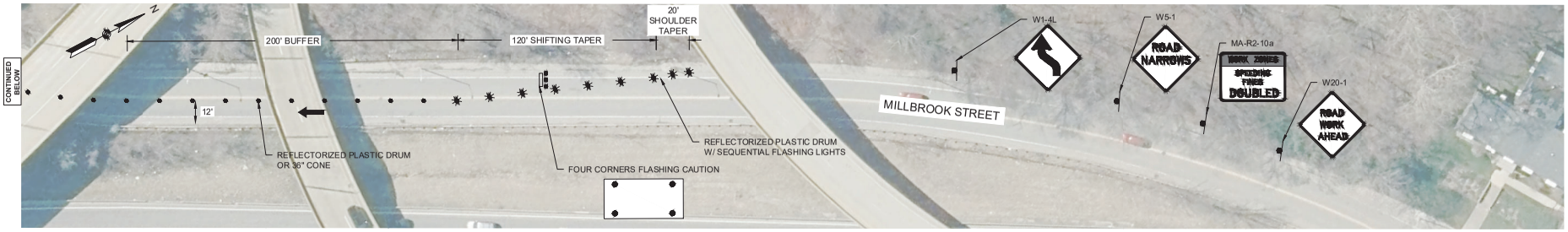
SHIFTING TAPER LENGTH (FT) = $L/2 = (W_L S^2)/120 = 113$ FT -> 120 FT
SHOULDER TAPER LENGTH (FT) = $L/3 = (W_S S^2)/180 = 20$ FT

W_L = WIDTH OF LANE OFFSET = 15 FT
W_S = WIDTH OF SHOULDER OFFSET = 4 FT
S = POSTED SPEED LIMIT = 30 MPH

PHASE 2 NOTE:

1. THE PEDESTRIAN BARRICADE PROTECTING THE SIDEWALK FROM THE WORK ZONE WILL BE EASILY REMOVABLE, ALLOWING THE CONTRACTOR TO WORK UNDER THAT SPACE WHEN NEEDED.

WORCESTER
MILLBROOK STREET OVER INTERSTATE 190 SB & B&M RAILROAD
TEMPORARY TRAFFIC CONTROL PLAN
PHASE 2 - WORK ZONE LAYOUT



MILLBROOK STREET NORTHERLY CLOSURE - LONG-TERM STATIONARY OPERATIONS
PHASE 2 - DIRECTION OF TRAVEL ONE-WAY WESTBOUND
SCALE: 1"=30'



MILLBROOK STREET NORTHERLY CLOSURE - LONG-TERM STATIONARY OPERATIONS
PHASE 2 - DIRECTION OF TRAVEL ONE-WAY WESTBOUND
SCALE: 1"=30'

0 30 60 100
SCALE: 1" = 30'

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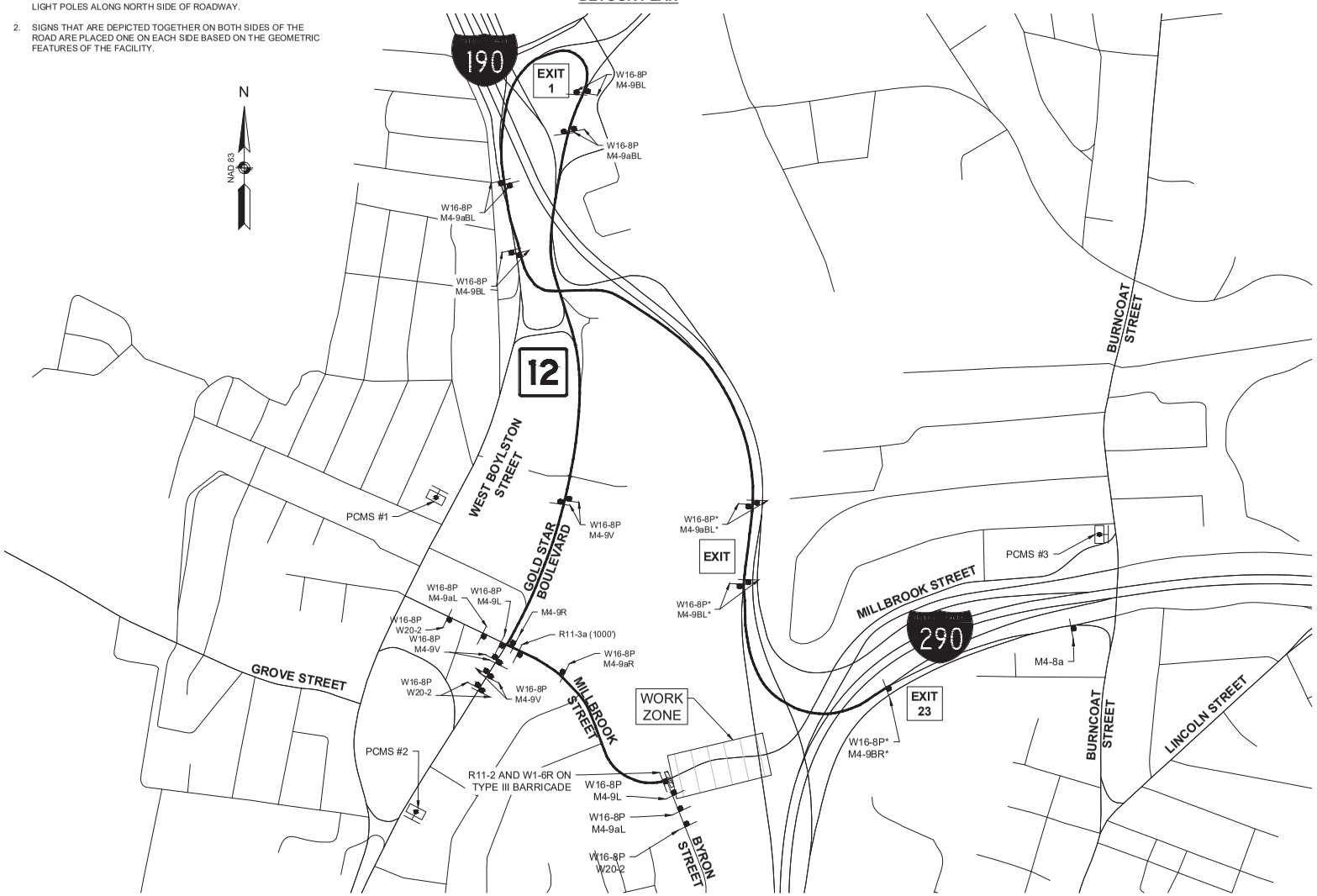
Proposal No. 613790-132476

DETOUR NOTE:

1. PCMS #3 WILL BE LOCATED ON MILLBROOK STREET ±100 FEET OFF OF THE INTERSECTION OF BURNCOAT STREET AND MILLBROOK STREET. CONTRACTOR SHALL ENSURE PCMS IS NOT BLOCKED BY LIGHT POLES ALONG NORTH SIDE OF ROADWAY.
2. SIGNS THAT ARE DEPICTED TOGETHER ON BOTH SIDES OF THE ROAD ARE PLACED ONE ON EACH SIDE BASED ON THE GEOMETRIC FEATURES OF THE FACILITY.

WORCESTER
MILLBROOK STREET OVER INTERSTATE 190 SB & B&M RAILROAD
TEMPORARY TRAFFIC CONTROL PLAN
DETOUR ROUTE & SIGN SCHEMATIC

DETOUR PLAN



MILLBROOK STREET - LONG-TERM STATIONARY OPERATIONS
DETOUR ROUTE AND SIGN SCHEMATIC
SCALE: 1"=300'

W16-8P



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Proposal No. 613790-132476

WORCESTER
MILLBROOK STREET OVER INTERSTATE 190 SB & B&M RAILROAD
TEMPORARY TRAFFIC CONTROL PLAN
SIGN SUMMARY

TEMPORARY TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES)		LEGEND	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACKGR OUND	LEGEND	BORDER		
MA-R2-10a	48	36	WORK ZONE SPEEDING FINES DOUBLED		(1.)		1	FL. ORANGE WHITE	BLACK BLACK	BLACK BLACK	12.00	12.00
MA-R2-10e	36	48	WORK ZONE SPEEDING FINES DOUBLED				2	FL. ORANGE WHITE	BLACK BLACK	BLACK BLACK	12.00	24.00
R3-1	36	36			(2.)		1	WHITE	RED BLACK	BLACK	9.00	9.00
R3-2	36	36					2	WHITE	RED BLACK	BLACK	9.00	18.00
R5-1	30	30					4	WHITE	RED	WHITE	6.25	25.00
R6-1 (PBS)	36	12	DETOUR				4	BLACK	WHITE / BLACK	WHITE	3.00	12.00
R11-2	48	30	ROAD CLOSED				1	WHITE	BLACK	BLACK	10.00	10.00
R11-3a (1000)	60	30	ROAD CLOSED TO THRU TRAFFIC LOCAL TRAFFIC ONLY				1	WHITE	BLACK	BLACK	12.50	12.50
W1-1R	36	36					1	FL. ORANGE	BLACK	BLACK	9.00	9.00
W1-4L	36	36					1	FL. ORANGE	BLACK	BLACK	9.00	9.00
W1-4R	36	36					1	FL. ORANGE	BLACK	BLACK	9.00	9.00
W1-6R	48	24					1	FL. ORANGE	BLACK	BLACK	8.00	8.00
W5-1	36	36	ROAD NARROWS				1	FL. ORANGE	BLACK	BLACK	9.00	9.00
W16-8P	48	18	Millbrook St				23	FL. ORANGE	BLACK	BLACK	6.00	138.00
W16-8P*	60	24	Millbrook St				5	FL. ORANGE	BLACK	BLACK	10.00	50.00
W20-1	36	36	ROAD WORK AHEAD				1	FL. ORANGE	BLACK	BLACK	9.00	9.00
W20-2	36	36	DETOUR AHEAD				4	FL. ORANGE	BLACK	BLACK	9.00	36.00

TEMPORARY TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES)		LEGEND	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACKGR OUND	LEGEND	BORDER		
M4-8a	24	18	END DETOUR		(2.)		1	FL. ORANGE	BLACK	BLACK	3.00	3.00
M4-9BL	30	24	DETOUR				4	FL. ORANGE	BLACK	BLACK	5.00	20.00
M4-9BL*	48	36	DETOUR				2	FL. ORANGE	BLACK	BLACK	12.00	24.00
M4-9BR*	48	36	DETOUR				1	FL. ORANGE	BLACK	BLACK	12.00	12.00
M4-9L	30	24	DETOUR				2	FL. ORANGE	BLACK	BLACK	5.00	10.00
M4-9R	30	24	DETOUR				1	FL. ORANGE	BLACK	BLACK	5.00	5.00
M4-9V	30	24	DETOUR				6	FL. ORANGE	BLACK	BLACK	5.00	30.00
M4-9aBL	30	24	DETOUR				4	FL. ORANGE	BLACK	BLACK	5.00	20.00
M4-9aBL*	48	36	DETOUR				2	FL. ORANGE	BLACK	BLACK	12.00	24.00
M4-9aL	30	24	DETOUR				2	FL. ORANGE	BLACK	BLACK	5.00	10.00
M4-9aR	30	24	DETOUR				1	FL. ORANGE	BLACK	BLACK	5.00	5.00

SIGN SUMMARY NOTES:

(1.) MASSDOT STANDARD SIGNS.

(2.) CONTRACTOR SHALL FURNISH SIGNS CONSISTENT WITH 2009 MANUAL ON UNIFORN TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (OR LATEST EDITION). SEE MANUAL FOR TEXT AND DIMENSIONS.

* DENOTES FREEWAY SIGN (LARGER SIZE)

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DOCUMENT A00806

RAILROAD SPECIAL PROVISIONS

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Insurance Requirements

Under state law the right of way of GWI and its subsidiary companies property is private property. Persons found on GWI's right of way without express written permission can be arrested and prosecuted.

Contractors

Contractors completing new installations or working on or around any of GWI's properties are required to obtain Railroad Protective Liability Insurance in the amounts of $2,000,000 per occurrence and $6,000,000 aggregate and it is required to name the specific railroad as the named insured. This coverage can now be purchased through GWI subsidiary railroads. A list of GWI subsidiary railroads can be found on the website.

In addition to providing Railroad Protective Liability insurance and Contractor is required to provide current proof of Commercial General Liability insurance naming the specific Railroad as additional insured. This coverage must meet minimum requirements of $2M per occurrence and $6M aggregate.

The General Liability certificate is also required to show proof of CG2417 or its equivalent as well as a waiver of subrogation in favor of the Railroad.

If you have questions or require additional information on how to obtain Railroad Protective Insurance coverage through a GWI subsidiary Railroad, please contact Donna Killingsworth at (904) 900-6286 or gwappseast@gwrr.com or Crystal Galbreath at (904) 596-7782 or gwappswest@gwrr.com

Applicants for Private Use Drive - Personal use only

For use of private (non-commercial use) grade crossings, individuals are required to maintain both personal and automobile liability coverage with minimum limits of $2,000,000 per occurrence and $6,000,000 aggregate as well as name the Railroad and GWI as additional insured. Evidence of this coverage is required and a current certificate is to be provided annually to the GWI Real Estate Department in Jacksonville, FL for its records.

With compliance of the required insurance per the terms of the agreement between the applicant and railroad, the property owner can maintain full use of the grade crossing over the railroad tracks. However, should there be any violation of the terms of the agreement between user and railroad (i.e. failure to maintain and provide evidence of valid liability coverage), the railroad has due cause to close or remove this access through the railroad right of way. An application can be completed by clicking on the link below. If you have any questions or require additional information please call or email the Regional Real Estate Manager for the specific GWI subsidiary railroad the proposed crossing involves.

Railroad Protective Liability Insurance Application:

https://www.gwrr.com/real_estate/insurance_requirements

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Right of Entry Application - 1.5.2021.xls

Genesee & Wyoming Railroad Services, Inc.

Real Estate Department, 13901 Sutton Park Dr., S, Suite 270, Jacksonville, FL 32224

Contractors Access/Occupancy on Railroad Property

☐ **Check box if Contractor unknown at this time** *(this form will need to be completed with contractor information and submitted prior to any work once bid process is complete)*

Incomplete or Inaccurate Information will delay application request

Section 1 - Applicant Data

Complete Legal Name of Applicant to appear on License Agreement: _____

Applicant Mailing Address: _____

_____

Applicant Overnight Address: _____

_____

Type of Entity: ☐ Corporation ☐ Partnership ☐ Sole Proprietor ☐ Individual ☐ Municipality ☐ Developer ☐ Other

If other please explain: _____

State of Incorporation or Partnership: _____

Contact during Application Process:

Name: _____

Contact Telephone _____ Email Address: _____

Section 2 - Location Data

Railroad Name: _____ Estimated Start Date _____

Specify the amount of time access is required: _____ Reason for extension of time beyond 60 days _____

Nearest City: _____ County: _____ State: _____

REQUIRED: Latitude/Longitude (Convert to Decimal Format) (ex 12.3456789/-64.101112): _____

Address of proposed worksite: _____

_____

Right of Entry Application - 1.5.2021.xls

Railroad Subdivision - if known _____ **US DOT/AAR Crossing Number - if available** _____

Section 3 - Existing Agreement Data

Is there an Existing Agreement at this Location which will be affected by this Request?

☐ Yes ☐ No If YES, List Agreement Number(s): _____

Will facility be exclusively used by Applicant? ☐ Yes ☐ No

If YES, List Name of Lessee: _____

Describe the complete scope of work on or around Railroad property (REQUIRED):

_____

_____

_____

_____

Section 4 - Department of Transportation (D.O.T.)

Is this installation associated with a Department of Transportation project? ☐ Yes ☐ No

If Yes, complete the following:

D.O.T. Contract Number: _____ **D.O.T. Project Number:** _____ **D.O.T. Project Name:** _____

D.O.T. Contact Information:

Name: _____

Address: _____

City: _____ **State:** _____ **Zip Code:** _____

Phone Number _____ **Email Address** _____

Some important items to note when completing the application:

Checklist prior to submittal

- ☐ Latitude & longitudinal information converted to digital decimal format with an aerial map of location
- ☐ Payment for fees included - check payable to specific railroad
- ☐ If paying fees by credit card a completed signed credit card release is included - only Visa, MasterCard or Discover can be accepted - US Roads only
- ☐ Applications can be emailed with a copy of the check in order to start the approval process. Only the check for the doc prep fees needs to be mailed or overnighted when the complete application packet is emailed. Include a copy of the application to make sure the payment is matched to the correct project.
- ☐ ***When returning the signed agreement and proof of insurance for final review and execution please allow 2-3 weeks prior to the start of work. Once all required fees are paid and documentation in place the agreement must go through an approval process before it can be finalized.***

Right of Entry Application - 1.5.2021.xls

Section 5 - Insurance Requirements - US Roads

Insurance Requirements prior to any construction project - Both the Utility Owner and the Contractor completing installation are required to provide proof of current Commercial General Liability Insurance. Prior to construction the Contractor is required to provide current proof of Railroad Protective Liability Insurance.

General Liability insurance must meet the minimum requirements of $2M per occurrence and $6M aggregate per the terms of the written contract.
Automobile Insurance must meet the minimum requirements of $1M bodily injury and property damage per occurrence.
The General Liability certificate is required to show proof of **CG2417 or its equivalent**. *(Contractual Liability Railroads)*
Evidence of **Workers Compensation** must be provided on certificate and meet the minimum requirements of $1M.
Certificate Holder naming *(specified Railroad)* **Specified Railroad names can be found at www.gwrr.com**

General Liability, Automobile Liability and Umbrella/Excess Liability provides additional insured status to the certificate holder and any other party(ies) specified in or required by written contract between the named insured and the certificate holder.

Where applicable and permitted by law, all policies include a blanket automatic waiver of subrogation endorsement that provides this feature in favor of the certificate holder and any other party(ies) specified in or required by written contract between the named insured and the certificate holder.

Prior to Construction or any access within 50' of Railroad a current **Certificate of Railroad Protective Liability insurance (RPL)** which shows the ***specific Railroad*** as named Insured. If the Contractor does not carry a policy of Railroad Protective Liability insurance, this coverage can be secured through the railroad. An application and current Fee structure for this coverage is available upon request.

Insurance Requirements for potentially hazardous pipelines such as natural gas, oil, petroleum, etc. to be amended as shown below

General Liability Insurance which names the ***specific Railroad*** as additional insured and must meet the limits of $**5M per occurrence and $10M aggregate**. Such policy shall be endorsed to provide Waiver of Subrogation in favor of the certificate holder per written contract.

Pollution Legal Liability Insurance with minimum limits of **Five Million Dollars ($5,000,000)** per occurrence naming the ***certificate holder*** as additional insured per written contract. Such policy shall be endorsed to provide Waiver of Subrogation in favor of the certificate holder per written contract.

Section 6 - Insurance requirements - Canadian Roads

Insurance Requirements prior to any construction project - Both the Utility Owner and the Contractor completing installation are required to provide proof of current Commercial General Liability Insurance.

General Liability insurance must meet the minimum requirements of $2M per occurrence and $2M aggregate per the terms of the written contract.
Automobile Insurance must meet the minimum requirements of $1M bodily injury and property damage per occurrence.
Where applicable, the General Liability certificate is required to show proof of **CG2417 or its equivalent.** (Contractual Liability Railroads)
Evidence of **Workers Compensation** must be provided on certificate and meet the minimum requirements of $1M.
Certificate Holder naming *(specified Railroad)* **Specified Railroad names can be found at www.gwrr.com**

General Liability, Automobile Liability and Umbrella/Excess Liability provides additional insured status to the certificate holder and any other party(ies) specified in or required by written contract between the named insured and the certificate holder.

Where applicable and permitted by law, all policies include a blanket automatic waiver of subrogation endorsement that provides this feature in favor of the certificate holder and any other party(ies) specified in or required by written contract between the named insured and the certificate holder.

IMPORTANT

Prior to application submittal, Questions can be answered and additional contact information obtained by visiting the website at www.gwrr.com - select the specific railroad and click on the link for Real Estate.

Plans for proposed installations shall be submitted to and approved by the Railroad, on behalf of itself, its subsidiaries, and affiliates, and designated engineer before work can begin! Applications submitted not meeting current specifications as outlined in the General Specifications for Sub-grade and Above grade Utility Crossings of Railway's Right-of-Way will be returned and may incur additional engineering review fees. For your convenience a copy of these specifications can be found on the website at www.gwrr.com.

Materials and installations are to be in strict accordance with specifications of National Electrical Safety Code, AREMA, current edition, and requirements of the Railroad.

Upon application approval, applicant agrees to reimburse Railroad for any cost incurred by Railroad incident to the installation, maintenance and/or supervision necessitated by the installation. Applicant further agrees to assume all liability for accidents or injuries that arise as a result of this installation.

This section must be completed in full, signed and dated prior to submittal to the Real Estate Department for processing. Unsigned applications, incomplete or inaccurate Information will delay application request and may incur additional fees.

Date: _____ **Signature:** _____

Phone Number _____ **Printed Name** _____

Fax Number: _____ **Title:** _____

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Please make check payable to the specific Railroad where proposed work is to occur. A list of Genesee & Wyoming, Inc. subsidiary railroads can be found at: www.gwrr.com . W-9 information available upon request.

Mail the application for proposed project, along with the applicable non-refundable fee(s) in U.S. Funds (Canadian Applicants please pay all fee in Canadian Funds plus HST) to:

Genesee & Wyoming Railroad Services, Inc.
Attn: Real Estate Department
13901 Sutton Park Dr. S., Suite 270
Jacksonville, FL 32224

In order for the application to be complete ALL required details pertinent to the proposed installation must be completed in full and submitted along with the following fees:

	# of Copies	Amount Due	Description
☐	1	$1,750	Engineer review fee, plans/drawings, no larger than 11 x 17. Larger drawings may incur additional engineering fees.
☐	1	$1,750	Completed Contractor's Access/Occupancy Application and Fee required with ALL application submittals. If the contractor is unknown at time of submittal just check the box under the heading on the form.
		$3,500	**Full amount due with submittal for new utility installations -** *Unless prior arrangements are made, applications received without payment will not be processed until receipt of payment. This could extend the time frame for the processing of your request.*

Standard Application processing takes approximately 6-8 weeks. PLEASE READ IN FULL - "Expedited processing" is available and will reduce the processing time to between 1-2 weeks at an additional cost of $2,500. *PLEASE READ BEFORE SUBMITTING EXPEDITE FEE:* For *all expedited requests* the application and plans submitted must meet engineering specifications and be approved in order for the applicable agreement(s) to be forwarded to the applicant for signature within 2 weeks *from receipt of all required information and full payment of required fees*. It is important to note that an incomplete application and plans submitted that do not meeting engineering specifications will cause a delay in the processing of expedited request and the two week guarantee no longer applies if revisions are required to be made by the applicant in order for them to meet engineering specs for engineering to approve the request.

The expedited processing of an application does not apply to the final review and execution phase of the agreement process. Once a signed agreement has been received and ALL required fees and insurance has been submitted the agreement(s) is(are) forwarded for final review by a VP of Real Estate, Legal and the signatory for the Railroad. This final review and execution process can take up to 2 weeks from receipt of all required documentation and fees. This part of the agreement process cannot be expedited.

Right of Entry Application - 1.5.2021.xls

At this time we are unable to expedite requests for the installation of new private grade crossings, industrial track agreements, and track leases. The process for these requests varies somewhat from the review and approval process for new utilities and takes a little longer to secure all required approvals.

Entering or working on the railroad right of way or any other railroad property without the permission of the railroad is trespassing and illegal. Violators risk the possibility of serious, even fatal injury and will be prosecuted.

August 30, 2006

WORK WITHIN, ADJACENT TO, AND ABOVE THE RAILROAD RIGHT-OF-WAY

PROVIDENCE AND WORCESTER RAILROAD COMPANY

1. Definitions:

Whenever in these specifications the following words are used, they shall mean unless otherwise noted:

"Railroad" or "Railroad Company" – the Providence and Worcester Railroad Company

"Contractor" – The person(s), party(s), partnership(s), company, corporation and their subcontractors who are under contract to perform work on the Railroad right-of-way.

"Hazard" – the Railroad has furnished the statements quoted below explaining when they consider a hazard to operations exists.

Protection services will be required whenever the Contractor is performing work over, under or adjacent to the Railroad tracks or right-of-way, such as excavating, sheeting, shoring, erection and removal of forms, handling material, using equipment which by swinging or by failure could foul the track, and when any other type of work being performed, in the opinion of the Railroad Company, requires such service.

2. General:

Railroad traffic shall be maintained at all times with safety and continuity, and the Contractor shall conduct all of his operations on or over the Railroad's right-of-way fully within these rules, regulations, and requirements of the Railroad.

The Railroad may provide the Contractor with a schedule of track occupancy, if available, before proceeding with any construction or demolition work over, under, within, or adjacent to the Railroad's right-of-way. The Contractor shall submit for the approval of the Director of Engineering for the Railroad, plans and a detailed description of the method of procedure which will be followed for work within these areas. The work in the field shall not proceed until the plans and method of procedure have been approved by the Director of Engineering or his authorized representative.

All work to be done under, upon, or over the Railroad's right-of-way shall be performed by the Contractor in a manner satisfactory to the Director of

Engineering or his authorized representatives, and shall be performed at such times and in such manner, as not to interfere with the safe movement of trains or traffic upon the tracks of the Railroad.

The Contractor will note that the proposed work involves construction operations on, over or adjacent to property owned by the Railroad. The Contractor must exercise great care in the vicinity of the Railroad's tracks, structures and other facilities and must strictly observe those clearances and other instructions when performing his construction operations near the Railroad's facilities, and he shall use all necessary care and precaution in order to avoid accidents, damage or interference with the Railroad's trains or other property. Any violation of these requirements may be considered cause for the Railroad to take action including stopping work by the Contractor or his subcontractors and preventing their access to the Railroad right-of-way.

3. Plan Approvals:

All applicable plans for demolition, erection, sheeting, shoring or other construction activities on Railroad property shall be submitted to the Railroad for review and approval no less than sixty (60) days prior to the performance of any work covered by those plans. The Railroad shall approve or reject with comment all plans submitted for review within thirty (30) days of receipt of submission and prior to any work on, over or under the Railroad right-of-way.

4. Clearances:

Minimum clearances of twenty-five (25) feet vertical (above top of rail) and fifteen (15) feet horizontal (from track centerline) shall be maintained at all times during construction. If the Contractor wishes a deviation from this requirement, he shall submit a written request for approval of such deviation to the Railroad's Director of Engineering at least twenty-one (21) days prior to the day(s) such deviation is required.

The Contractor shall give written notice to Bernard A. Cartier, Director of Engineering, Providence and Worcester Railroad Company, 75 Hammond Street, Worcester, MA, 01610, telephone number (508) 755-4000, at least twenty-one (21) days in advance of the time the contractor's operations necessitate the fouling of an operated track or that arrangements can be made for proper protection.

Equipment of the Contractor to be used adjacent to the tracks shall be in first-class condition as to fully prevent failures of defective equipment that might cause delay in the operations of trains or damage to the Railroad's facilities.

Cranes, excavators, and any other equipment shall be considered as fouling a track when located in such a position that failure of same, with or without load, would bring any part of the equipment or load within fifteen (15) feet of the

center line of the nearest track. A lesser distance may be allowed if approved in advance by the Railroad.

Critical construction operations must be contained to limited periods, determined by the Railroad, when such work can be accomplished without interference with train schedules. It may be necessary that this work or a portion thereof, be performed during evening hours, night-time hours, Saturdays or Sundays. The Contractor will not be allowed additional compensation for working during these evening, night-time, and early morning hours, Saturdays and Sundays.

5. Interruption of Traffic:

When work on the Project is to be within, adjacent to or above the Railroad's tracks, railroad traffic shall be maintained without interruption, except those approved by the Railroad's Director of Engineering and subject to the following requirements:

Any request for the interruption shall be submitted to the Railroad for review and approval no less than sixty (60) days prior to the start of traffic interruption. The Railroad shall review and approve or reject with comment all interruption and requires within thirty (30) days after the receipt of a request.

If track outages are required for some construction work, some delay may be encountered in obtaining those outages from the Railroad. The Railroad will not be responsible for any extra costs resulting from these delays.

6. Protection:

The Contractor shall notify the Railroad's Director of Engineering or his authorized representative at least 21 days before flagmen will be required; this applies at the initial start of work, and after any long term break in the work. With the exception of the aforementioned, a minimum of two full working days of notification will be required. The Railroad may employ a conductor or one or more flagmen, at the contractor's expense, to ensure safe train operations through the Project construction area.

The Railroad may furnish and assign an engineer and inspector to the Project, at the contractor's expense, for general inspection purposes or for general protection of the Railroad's property and operations during construction.

The providing of such watchmen, and other precautionary measures shall not, however, relieve the Contractor from liability for payment of damages caused by his operations.

7. Demolition:

Before proceeding with any construction or demolition work, on, over or adjacent to the Railroad's property, a pre-construction meeting shall be held at which time the Contractor shall submit for approval of the Railroad's Director of Engineering, plans, computations, and a detailed description of his method of procedure for accomplishing the construction work required, including methods of protecting the Railroad traffic; however, such approval shall not serve in any way to relieve the Contractor of his complete responsibility for the adequacy and safety of his methods of procedure.

Demolition plans shall be submitted to the Railroad for review and approval no less than thirty (30) days prior to the performance of any demolition work covered by those plans. The Railroad shall approve or reject with comments all demolition plans within sixty (60) days of receipt of submission and prior to any work on, over or under Railroad right-of-way.

During any demolition procedure, the Contractor must provide an approved shield to prohibit all debris from falling onto the Railroad right-of-way. A temporary protective barrier must be provided if the existing protective barrier is removed during the demolition procedure. In addition, any openings above or adjacent to the Railroad right-of-way must be adequately secured and protected to prohibit trespassers from falling or entering into the unprotected area of the tracks.

8. Storage:

Materials and equipment belonging to the Contractor shall not be stored on the Railroad property without first having obtained permission from the Railroad's Director of Engineering and such permission will be on the condition that the Railroad will not be liable for damage to such material and equipment from any cause. The Contractor shall keep the tracks adjacent to the site clear of all refuse and debris that may accumulate from his operations, and shall leave the Railroad property in the condition existing before the start of his operations.

9. Endangerments:

If any project work endangers the Railroad's tracks or facilities, the contractor shall immediately do such work as necessary to restore safety. If the Contractor fails to carry out such orders immediately, the Railroad may take whatever steps are necessary to restore safe conditions. The cost and expense to the Railroad of restoring safe conditions or correcting any damage to the Railroad tracks or other facilities caused by the Contractor's operations shall be billed to the Contractor.

Any maintenance work carried out by the Railroad which was caused by the Contractor's negligence shall be charged to the Contractor. The Contractor shall reimburse the Railroad for all such work.

10. Final Acceptance:

Upon completion of the work the Contractor shall remove from within the limits of the Railroad's right-of-way, all machinery, equipment, surplus materials, falsework, rubbish and temporary building, and other property of the Contractor or any subcontractor and shall leave the right-of-way in a condition equal to that prior to the start of construction.

11. Blasting:

No blasting will be permitted adjacent to or on the Railroad property without written consent from the Railroad's Director of Engineering.

12. Crossings:

The Contractor will not be allowed to construct or use any temporary grade crossings on the Railroad property without written consent from the Railroad's Director of Engineering. Where such consent has been given, only rubber tired equipment shall be allowed to cross over the railroad tracks at an approved crossing. If it is necessary to cross the tracks with non-rubber tired equipment (e.g.- excavators, bulldozers, etc.) it must be done under the supervision of a qualified Railroad employee and in such a way that the rails are protected by the use of wood planking or other approved means.

13. Coordination:

The Contractor shall be responsible for the coordination of the work of his various subcontractors who, in turn, shall cooperate with the Railroad in carrying out his work.

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DOCUMENT A00820

Massachusetts Department of Transportation
Conditions of Custody

REQUEST FOR RELEASE OF MASSDOT AUTOCAD FILES FORM
(Only to be used following award of contract)

City/Town: WORCESTER Project File Number: 613790

Contract Number: 132476

Project Description: Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad

All AutoCAD files are provided solely as a courtesy to facilitate public access to information. MassDOT attempts to provide current and accurate information but cannot guarantee so. MassDOT provides such documents, files or other data "as is" without any warranty of any kind, either expressed or implied, including but not limited to, accuracy, reliability, omissions, completeness and currentness. The Commonwealth of Massachusetts and its Consultants shall not be liable for any claim for damages, including lost profits or other consequential, exemplary, incidental, indirect or special damages, relating in any way to the documents, files or other data accessible from this file, including, but not limited to, claims arising out of or related to electronic access or transmission of data or viruses. Because data stored on electronic media can deteriorate undetected or be modified without our knowledge, MassDOT cannot be held liable for its completeness or correctness. MassDOT makes no representation as to the compatibility of these files beyond the version of the stated CAD software.

By signing this form, I agree that it shall be my responsibility to reconcile this electronic data with the conformed contract documents, and that only the conformed contract documents shall be regarded as legal documents for this Project. I understand that this authorization does not give me the right to distribute the files. I agree to the terms above and wish to receive the AutoCAD files.

This signed form shall be emailed to the Highway Design Engineer at the MassDOT -Highway Division at the following email address:

DOTHighwayDesign@dot.state.ma.us
Attn: AutoCAD Files

Name of person requesting AutoCAD files: _____

Affiliation/Company: _____

Address: _____

_____

Telephone number: _____

Email address: _____

Signature/Date: _____

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DOCUMENT A00875

POLICY DIRECTIVE P-22-001
AND
POLICY DIRECTIVE P-22-002

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massDOT Massachusetts Department of Transportation Highway Division

Number: P-22-001
Date: 9/23/22

POLICY DIRECTIVE

Jonathan Gulliver (signature on original)
HIGHWAY ADMINISTRATOR

Off-Site Stockpiling of Soil from MassDOT Construction Projects

Purpose

The purpose of this Policy Directive is to formally establish a policy and procedures for managing and stockpiling soil generated and transported from MassDOT construction projects. This Policy Directive does not supersede any Federal, State, or Local regulations.

Date of Effect

This Policy Directive is effective immediately for all projects, including active construction projects.

For active construction projects and for other projects advertised prior to October 15, 2022, changes to the contract documents needed to implement the requirements of this Policy Directive will be considered on a case-by-case basis and shall be approved by the District Highway Director, as necessary.

For projects advertised on or after October 15, 2022, MassDOT will include the requirements and implementation procedures of this Policy Directive in the construction contract documents.

Policy Requirements

This policy is intended to prevent the off-site relocation of excavated soil generated from MassDOT projects to areas near residential receptors and to control potential fugitive dusts and/or contaminants. To that end, excavated soil may not be moved from the project site without knowledge of the content of the material. Knowledge may include visual field observations for presence of staining, odor, and/or debris, screening with a photoionization detector (PID), laboratory analysis, and/or site history. Pavement millings and other non-soil materials are not subject to the requirements of this Policy Directive.

Moving soil from a MassDOT project site to a temporary off-site storage location must be approved in writing by the District Highway Director.

The Contractor must select a storage location that is at least 500 feet away from residential receptors, as defined herein to include, but not be limited to, residential dwellings, residentially

zoned property, schools, daycare facilities, playgrounds, parks, recreational areas, hospitals, elderly housing and convalescent facilities.

Temporary off-site storage of excavated soil from a MassDOT project is only permissible at a location approved and permitted by MassDOT. The temporary storage location should be located within the same municipality where the soil was excavated, where possible. Stockpiled soil must be securely covered, and appropriate measures must be taken to minimize fugitive dust and erosion.

Signs indicating the source of the soil, the date the soil was generated, and contact information must be erected and maintained until the stockpiled soils are transported to a disposal facility or reused on the project site.

Implementation Procedures

To ensure that off-site storage of excavated soils is managed properly on MassDOT projects, this policy requires the following:

1. **Off-Site Stockpile Storage Locations**
    a. The Contractor shall provide proposed off-site storage locations to the Engineer for approval at least 30 days prior to transporting soil off site. Off-site storage locations should be in the same municipality as the work site.
    b. The Contractor shall keep excavated soil on site until adequately characterized to the satisfaction of the Engineer.
    c. The Contractor shall provide notification of the approved off-site storage location to the local Board of Health and the Town Manager's/Mayor's Office at least 7-days prior to transporting soil off site.
    d. The Contractor shall provide the Engineer with at least 3-days' notice prior to transporting soil off site.
    e. For off-site storage locations on MassDOT property, the Contractor is required to obtain an Access Permit through the District Permits Office prior to storage of soil or other materials. MassDOT will issue these permits at no cost to the Contractor. Information to be submitted by the Contractor as part of the permit application shall include:
        i. A description of material to be stored off-site, including available analytical data;
        ii. A figure of the location with distances to residences and residential receptors; and
        iii. Anticipated duration of temporary storage.
    f. Stockpile locations should not be within 500 feet of residential receptors (e.g., residential dwellings, residentially zoned property, schools, daycare facilities, playgrounds, parks, recreational areas, hospitals, elderly housing and convalescent facilities).
        i. If the stockpile location must be within 500 feet of residential receptors, then soil must be less than RCS-1 (per 310 CMR 40.1600) and free of potentially hazardous or regulated items.

g. For off-site storage locations on non-MassDOT property, the Contractor must notify the property owner(s) at least 7 days prior to transporting material.
h. Exceptions to these rules will be reviewed by MassDOT and may be approved by the District Highway Director on a case-by-case basis.

2. Off-Site Stockpile Management

a. The Contractor shall keep soil stockpiles on impermeable surfaces (e.g., asphalt or concrete) or on 10-mil polyethylene sheeting.
b. The Contractor shall cover soil stockpiles with 10-mil polyethylene sheeting and surround with a berm made of hay bales, straw wattles, or similar.
    i. Piles that are actively being worked on must be covered and re-secured at the end of the work shift.
c. The Contractor shall label stockpiles with signs, including:
    i. Location of origin (including any Release Tracking Numbers)
    ii. Stockpile ID number (including MassDOT District office-assigned tracking ID, if different)
    iii. Date of initial accumulation
    iv. Applicable telephone numbers for the Contractor and MassDOT.
d. The Contractor shall mitigate fugitive dust at storage locations under the direction of an appropriately trained/certified environmental professional.
e. The Contractor shall remedy noncompliance with this policy within 48 hours.
f. The Contractor shall remedy noncompliance with this policy on the SAME DAY for potentially hazardous material, as determined by the Engineer.
g. The Contractor shall handle excavated soil according to federal, state, and local regulations.
h. The Contractor shall use appropriate shipping documents for all movements of excavated soil on public roadways (e.g., Bill of Lading, Material Shipping Record, Manifest, Asbestos Waste Shipment Record, etc.).

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massDOT Massachusetts Department of Transportation Highway Division

Number: P-22-002
Date: 9/23/22

POLICY DIRECTIVE

Jonathan Gulliver (signature on original)
HIGHWAY ADMINISTRATOR

Use of MassDOT Property for Staging and other Construction-Related Operations

Purpose

This Policy Directive is intended to address the use of MassDOT property by MassDOT Contractors for construction staging and other construction-related operations that are not specifically defined in the construction contract. Such use of MassDOT property will only be allowed if permitted by the District Office in accordance with 700 CMR 13.00, Approval of Access to MassDOT Highways and Other Property. This includes the use of MassDOT property for staging, laydown, and storage of equipment and materials, including soil excavated from a project site.

This Policy Directive requires the Contractor/applicant to obtain a Non-Vehicular Access Permit from MassDOT to use MassDOT property for these purposes.

This Policy Directive is effective immediately and applies to all MassDOT construction projects.

General Permit Considerations and Conditions

In addition to other normal MassDOT Access Permit procedures, MassDOT shall consider the following during the application, review, implementation and monitoring processes of Access Permits required by this Policy Directive:

- Storage and placement of the Contractor's equipment and materials should not be allowed within the clear zone of the roadway.
- Stockpiled soils should not be located within 500 feet of residential receptors, as defined herein to include, but not be limited to, residential dwellings, residentially zoned property, schools, daycare facilities, playgrounds, parks, recreational areas, hospitals, elderly housing and convalescent facilities.
- The Contractor/applicant shall identify the access/egress locations of the proposed storage areas. MassDOT will only approve locations determined to be safe for roadway users, construction workers and the general public.
- The Contractor may be required to submit a Traffic Management Plan and/or Lighting Plan for MassDOT review and approval as part of the permit application, depending on the proposed use of the area.

- The Contractor shall submit the permit application through MassDOT's online State Highway Access Permit System (SHAPS).
- MassDOT will waive the permit application fee for any application received from a MassDOT Contractor for any permit required by this Policy Directive and will waive any subsequent amendment and extension fees that may otherwise be required.
- MassDOT will review the permit application in accordance with applicable standard procedures and will apply standard permit terms and conditions, as necessary.
- The Resident Engineer will verify that the permit is approved before allowing the Contractor to use the affected area for the requested purpose.
- Areas permitted are for use by the approved applicant only and are not to be shared with or used by other vendors. Subcontractors specifically engaged with the applicant working on the specific MassDOT project will be allowed to use the area in accordance with the terms of the permit.
- Permits are issued on an annual basis and will require the Contractor to file for an extension each year to continue use.

Exemptions from Permit Requirements

Equipment and materials being used for active construction operations and located within the work zone of the construction contract are exempt from this permit requirement, provided they do not interfere with the safety or operation of the roadway or the work zone. Examples of these types of exempt uses are:

- Equipment and materials parked or stored within a protected (barriered) work zone.
- Materials placed in the work zone prior to same-day installation or use.
- Soils excavated temporarily and scheduled to be replaced, such as for trenching operations or for installation of drainage structures.

DOCUMENT B00420

PROPOSAL

WORCESTER

For: **WORCESTER – Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad**

COMMONWEALTH OF MASSACHUSETTS

LOCATION

The work referred to herein is in the City of WORCESTER in Worcester County, in the Commonwealth of Massachusetts, and is shown by the locus map (Document 00331) in the Proposal Pamphlet, the work locations extend as follows:

Bridge W-44-099 (214) **Millbrook Street over I-190 (SB)**

Bridge W-44-029 (23B) **Millbrook Street over Railroad**

The contract prices shall include the furnishing of all materials (except as otherwise herein specified), the performing of all the labor requisite or proper, the providing of all necessary machinery, tools, apparatus and other means of construction, the doing of all the abovementioned work in the manner set forth, described and shown in the specifications and on the drawings for the work, and in the form of contract, and the completion thereof within **550 CALENDAR DAYS** upon receipt of a Notice to Proceed, except that if the completion date falls between December 1 and March 15 then the same number of days beyond December 1st will be extended after March 15th.

The Work of this project is described by the following Items and quantities.

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Project # 613790	Contract # 132476			
Location : WORCESTER				
Description : Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
100.1	680	BASE LABOR RATE AT _____ PER HOUR		
100.9	1	BRIDGE SURVEY AT _____ LUMP SUM		
106.12	100	BRIDGE CURB REMOVED AND RESET AT _____ PER FOOT		
120.1	40	UNCLASSIFIED EXCAVATION AT _____ PER CUBIC YARD		
127.1	36	REINFORCED CONCRETE EXCAVATION AT _____ PER CUBIC YARD		
127.12	9	REINFORCED CONCRETE SUBSTRUCTURE EXCAVATION AT _____ PER CUBIC YARD		
127.4	80	REINFORCED CONCRETE DECK EXCAVATION (FULL DEPTH) AT _____ PER SQUARE YARD		
127.41	26	REINFORCED CONCRETE DECK EXCAVATION (PARTIAL DEPTH) AT _____ PER CUBIC YARD		
129.11	430	HYDRO-EXCAVATION OF BRIDGE DECK AT _____ PER SQUARE YARD		

Project # 613790 Contract # 132476				
Location : WORCESTER				
Description : Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
129.2	60	OLD PAVEMENT EXCAVATION AT _____ PER SQUARE YARD		
129.6	415	BRIDGE PAVEMENT EXCAVATION AT _____ PER SQUARE YARD		
151.	40	GRAVEL BORROW AT _____ PER CUBIC YARD		
220.	10	DRAINAGE STRUCTURE ADJUSTED AT _____ EACH		
220.2	2	DRAINAGE STRUCTURE REBUILT AT _____ PER FOOT		
227.3	4	REMOVAL OF DRAINAGE STRUCTURE SEDIMENT AT _____ PER CUBIC YARD		
415.2	3,800	PAVEMENT FINE MILLING AT _____ PER SQUARE YARD		
450.221	320	SUPERPAVE SURFACE COURSE - 9.5 POLYMER (SSC - 9.5 - P) AT _____ PER TON		
450.701	40	SUPERPAVE BRIDGE PROTECTIVE COURSE - 9.5 POLYMER (SPC-B - 9.5 - P) AT _____ PER TON		

Project # 613790	Contract # 132476			
Location : WORCESTER				
Description : Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
451.	80	HMA FOR PATCHING AT _____ PER TON		
452.	460	ASPHALT EMULSION FOR TACK COAT AT _____ PER GALLON		
453.	3,500	HMA JOINT ADHESIVE AT _____ PER FOOT		
476.321	430	POLYMER MODIFIED CONCRETE OVERLAYMENT BRIDGE NO. W-44-099 (214) AT _____ PER SQUARE YARD		
476.322	6	POLYMER MODIFIED CONCRETE OVERLAYMENT (OVERAGE) AT _____ PER CUBIC YARD		
482.31	70	SAWING AND SEALING JOINTS IN ASPHALT PAVEMENT AT BRIDGES AT _____ PER FOOT		
580.	740	CURB REMOVED AND RESET AT _____ PER FOOT		
620.13	580	GUARDRAIL, TL-3 (SINGLE FACED) AT _____ PER FOOT		
620.33	100	GUARDRAIL - CURVED, TL-3 (SINGLE FACED) AT _____ PER FOOT		

Project # 613790	Contract # 132476			
Location : WORCESTER				
Description : Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
627.83	4	GUARDRAIL TANGENT END TREATMENT, TL-3 AT _____ EACH		
628.24	1	TRANSITION TO BRIDGE RAIL AT _____ EACH		
628.315	3	TEMPORARY IMPACT ATTENUATOR, REDIRECTIVE, TL-3 AT _____ EACH		
628.4	3	TEMPORARY IMPACT ATTENUATOR, REMOVED AND RESET AT _____ EACH		
644.060	100	60 INCH CHAIN LINK FENCE (SPRING TENSION WIRE) (LINE POST OPTION) AT _____ PER FOOT		
701.	320	CEMENT CONCRETE SIDEWALK AT _____ PER SQUARE YARD		
702.	40	HOT MIX ASPHALT SIDEWALK OR DRIVEWAY AT _____ PER TON		
722.3	1	SCHEDULE OF OPERATIONS (TYPE C) - FIXED PRICE $13500 AT Thirteen Thousand Five Hundred Dollars LUMP SUM	$13,500.00	$13,500.00
740.	18	ENGINEER'S FIELD OFFICE AND EQUIPMENT (TYPE A) AT _____ PER MONTH		

Project # 613790 Contract # 132476				
Location : WORCESTER				
Description : Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
748.	1	MOBILIZATION AT _____ LUMP SUM		
816.811	15	TEMPORARY MODIFICATION TO TRAFFIC SIGNAL AT _____ PER DAY		
851.1	70	TRAFFIC CONES FOR TRAFFIC MANAGEMENT AT _____ PER DAY		
852.	790	SAFETY SIGNING FOR TRAFFIC MANAGEMENT AT _____ PER SQUARE FOOT		
852.11	180	TEMPORARY PEDESTRIAN BARRICADE AT _____ PER FOOT		
853.1	2	PORTABLE BREAKAWAY BARRICADE TYPE III AT _____ EACH		
853.21	450	TEMPORARY BARRIER REMOVED AND RESET AT _____ PER FOOT		
853.33	450	TEMPORARY BARRIER - LIMITED DEFLECTION (TL-3) AT _____ PER FOOT		
853.403	120	TRUCK MOUNTED ATTENUATOR AT _____ PER DAY		

Project # 613790	Contract # 132476			
Location : WORCESTER				
Description : Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
853.8	240	TEMPORARY ILLUMINATION FOR WORK ZONE AT _____ PER DAY		
854.016	1,800	TEMPORARY PAVING MARKINGS - 6 INCH (PAINTED) AT _____ PER FOOT		
854.1	1,800	PAVEMENT MARKING REMOVAL AT _____ PER SQUARE FOOT		
856.	200	ARROW BOARD AT _____ PER DAY		
856.12	450	PORTABLE CHANGEABLE MESSAGE SIGN AT _____ PER DAY		
859.	10,000	REFLECTORIZED DRUM AT _____ PER DAY		
859.1	170	REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS AT _____ PER DAY		
866.106	1,800	6 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) AT _____ PER FOOT		
866.112	170	12 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) AT _____ PER FOOT		

Project # 613790	Contract # 132476			
Location : WORCESTER				
Description : Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
867.106	1,800	6 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC) AT _____ PER FOOT		
905.2	83	5000 PSI, 3/8 INCH, 710 HP CEMENT CONCRETE AT _____ PER CUBIC YARD		
907.1	430	BRIDGE DECK RIDEABILITY AND GROOVING AT _____ PER SQUARE YARD		
909.2	40	CEMENTITIOUS MORTAR FOR PATCHING AT _____ PER SQUARE FOOT		
910.1	6,000	STEEL REINFORCEMENT FOR STRUCTURES - EPOXY COATED AT _____ PER POUND		
912.	40	DRILLING AND GROUTING DOWELS AT _____ EACH		
961.201	1	CLEAN (FULL REMOVAL) AND PAINT STEEL BRIDGE NO. W-44-099 (214) AT _____ LUMP SUM		
964.60	430	PENETRATING SEALER FOR EXPOSED DECK AT _____ PER SQUARE YARD		
966.	4,420	MEMBRANE WATERPROOFING FOR BRIDGE DECK REPAIRS AT _____ PER SQUARE FOOT		

Project # 613790	Contract # 132476			
Location : WORCESTER				
Description : Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
968.3	4	BRIDGE DECK DRAIN AT _____ EACH		
972.61	32	NEOPRENE COMPRESSION SEAL AT _____ PER FOOT		
973.2	84	PRE-COMPRESSED JOINT SEAL AT _____ PER FOOT		
994.1	4,500	TEMPORARY PROTECTIVE SHIELDING AT _____ PER SQUARE FOOT		
994.12	2,800	TEMPORARY PROTECTIVE SHIELDING REMOVED AND RESET AT _____ PER SQUARE FOOT		
Total Qty:	51,921			

DOCUMENT B00842

SCHEDULE OF PARTICIPATION
BY MINORITY OR WOMEN BUSINESS ENTERPRISES (M/WBE)

MASSDOT PROJECT NUMBER: 613790

PROJECT LOCATION: WORCESTER

DATE OF BID OPENING: _____

NAME OF PRIME BIDDER: _____

Name Address and Phone Number of M/WBE	Name of Activity	(a) M/WBE Contractor Activity Amount	(b) M/WBE Other Business Amount	(c) Total amount eligible for credit under rules in Section VIII of the Special Provisions
Total Bid Amount	TOTALS:	$		$
$	M/WBE Percentage of Total bid:	%		%

Column (a) must be at least one-half of the M/WBE percentage goal.

SIGNATURE: _____ Date: _____ Tel No: _____

NAME AND TITLE (PRINT):_____

BIDDERS ARE CAUTIONED TO REVIEW DOCUMENT 00718 -- SPECIAL PROVISION FOR PARTICIPATION BY MINORITY OR WOMEN BUSINESS ENTERPRISES AND SERVICE DISABLED VETERAN OWNED BUSINESS ENTERPRISES.

*** END OF DOCUMENT ***

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DOCUMENT B00843

MINORITY OR WOMEN'S BUSINESS ENTERPRISE PARTICIPATION LETTER OF INTENT
PAGE 1 OF 2

MASSDOT PROJECT NUMBER: 613790

PROJECT LOCATION: WORCESTER

DATE OF BID OPENING: _____

FROM _____
(Minority or Women's Business Enterprise Company)

TO: _____
(Name of Prime Contractor)

1. My company is currently certified as an MBE or WBE by the Massachusetts Supplier Diversity Office, formerly known as the State Office of Minority and Women Business Assistance (SOMWBA). There have been no changes affecting the ownership, control or independence of my company since my last certification review.

2. If any such change occurs prior to my company's completion of this proposed work, I will give written notification to your firm and to the Massachusetts Department of Transportation (MassDOT).

3. (For contractor activity only.) My firm will provide to you, upon request, for the purpose of obtaining subcontractor approval from MassDOT; (1) a resume stating the qualifications and experience of the superintendent or foreperson who will supervise on site-work; (2) a list of equipment owned or leased by my firm for use on the project; (3) a list of all projects (public or private) which my firm is currently performing, is committed to perform, or intends to make a commitment to perform. I shall include, for each project, the names and telephone number of a contact person for the contracting organization, the dollar value of the work, a description of the work, and my firm's work schedule for the Project.

4. If you are awarded the Contract, my company intends to enter into an agreement with your firm to perform the items of work or other activity described on the following sheet for the prices indicated.

5. My firm has the ability to manage, supervise and perform the activity described on the following page.

_____ _____
M/WBE Authorized Signature Date

MINORITY OR WOMEN'S BUSINESS ENTERPRISE PARTICIPATION LETTER OF INTENT
PAGE 2 OF 2

MASSDOT PROJECT NUMBER: 613790

PROJECT LOCATION: WORCESTER

DATE OF BID OPENING: _____

NAME OF PRIME BIDDER: _____

Item number if applicable	Description of Activity with notations such as Installation Only, Material Only, or Complete	Quantity	Unit Price	Amount
		TOTAL AMOUNT:		

M/WBE COMPANY NAME: _____

M/WBE AUTHORIZED SIGNATURE: _____

NAME AND TITLE (PRINT): _____

TELEPHONE NUMBER: _____ FAX NUMBER: _____

Rev'd 9/20/19

*** END OF DOCUMENT ***

DOCUMENT B00846

M/WBE OR SDVOBE JOINT CHECK ARRANGEMENT APPROVAL FORM

(to be submitted by Prime Contractor)

Contract No: 132476 **Project No.** 613790

Location: WORCESTER **Bid Opening Date:** _____

Project Description: Bridge Preservation, W-44-099 (214), Millbrook Street over I-190 (SB) and W-44-029 (23B) Millbrook Street over Railroad

We have received the attached request for the use of a joint check arrangement from _____ _____ , a M/WBE or SDVOBE on the above- referenced Contract and _____ _____, a Material Supplier/Vendor for the subject Contract. The M/WBE or SDVOBE has complied with the requirements of Special Provision Document 00718. In particular, the M/WBE or SDVOBE has:

- a written agreement with the material supplier/vendor;
- applied for credit with the subject material supplier and has supplied the vendor's response;
- shown that it will place all orders to the subject material supplier/vendor;
- made and retains all decision-making responsibilities concerning the materials; and
- provided a Joint Check Agreement that is acceptable to MassDOT;

As the Contractor for the Project, we agree to issue joint checks (made payable to the Material Supplier/Vendor and the M/WBE or SDVOBE) for payment of sums due pursuant to invoices from the Supplier/Vendor and M/WBE or SDVOBE.

Contractor:

_____ _____
Company Name Signature
Duly Authorized

_____
Printed Name

_____ _____
Date Title

SubContractor:

_____ _____
Company Name Signature –
Duly Authorized

_____
Printed Name

_____ _____
Date Title

*** END OF DOCUMENT ***

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DOCUMENT B00847

JOINT VENTURE AFFIDAVIT

(All Firms)

- All Information Requested By This Schedule Must Be Answered. Additional Sheets May Be Attached.
- If, there is any change in the information submitted, the Joint Venture parties must inform MassDOT Pre-Qualifications Office (and, if one of the companies is a M/WBE or SDVOBE, the Director of Contract Compliance, Office of Civil Rights) *prior* to such change, in writing, either directly or through the Prime Contractor if the Joint Venture is a subcontractor.
- If the Joint Venture Entity will be the bidder on a prime Contract, it must bid and submit all required documents (insurance, worker's compensation, bonds, etc.) in the name of the Joint Venture Entity.

I. Name of Joint Venture: _____

Type of Entity if applicable (Corp., LLC):_____Filing State _____

Address of joint venture: _____

_____

Phone No(s) for JV Entity: _____E-mail:_____

Contact Person(s) _____

Tax ID/EIN of Joint Venture: _____Vendor Code:_____

II. Identify each firm or party to the Joint Venture:

Name of Firm: _____

Address: _____

Phone : _____E-mail:_____

Contact person(s) _____

Name of Firm: _____

Address: _____

Phone: _____E-mail:_____

Contact Person(s)_____

III. Describe the role(s) of the each party to the Joint Venture:

_____

_____

IV. Attach a copy of the Joint Venture Agreement. The proposed Joint Venture Agreement should include specific details including, but not limited to: (1) the contributions of capital and equipment; (2) work items to be performed by each company's forces, (3) work items to be performed under the supervision of any M/WBE or SDVOBE Venturer; (4) the commitment of management, supervisory and operative personnel employed by the M/WBE or SDVOBE to be dedicated to the performance of the Project; and (5) warranty, guaranty, and indemnification clauses.

V. Attach any applicable Corporate or LLC Votes, Authorizations, etc.

VI. Ownership of the Joint Venture:

A. What is the percentage(s) of each company's ownership in the Joint Venture?

ownership percentage(s): _____

ownership percentage(s): _____

B. Specify percentages for each of the following (provide narrative descriptions and other detail as applicable):

1. Sharing of profit and loss: _____
2. Capital contributions:

(a) Dollar amounts of initial contribution: _____

(b) Dollar amounts of anticipated on-going contributions: _____

(c) Contributions of equipment (specify types, quality and quantities of equipment to be provided by each firm): _____

_____

4. Other applicable ownership interests, including ownership options or other agreements, which restrict or limit ownership and/or control:

_____

_____

5. Provide copies of all other written agreements between firms concerning bidding and operation of this Project or projects or contracts.

6. Identify all current contracts and contracts completed during the past two (2) years by either of the Joint Venture partners to this Joint Venture:

_____

_____

VII. Control of and Participation in the Joint Venture.

Identify by name and firm those individuals who are, or will be, responsible for and have the authority to engage in the following management functions and policy decisions. (Indicate any limitations to their authority such as dollar limits and co-signatory requirements.):

A. Joint Venture check signing:

_____

_____

B. Authority to enter Contracts on behalf of the Joint Venture:

_____

_____

C. Signing, co-signing and/or collateralizing loans:

_____

_____

D. Acquisition of lines of credit:

_____

_____

E. Acquisition and indemnification of payment and performance bonds:

_____

_____

F. Negotiating and signing labor agreements:

_____

_____

G. Management of contract performance. *(Identify by name and firm only)*:

1. Supervision of field operations: _____
2. Major purchases: _____
3. Estimating: _____
4. Engineering: _____

VIII. Financial Controls of Joint Venture:

A. Which firm and/or individual will be responsible for keeping the books of account?

_____

_____

B. Identify the "Managing Partner," if any, and describe the means and measure of their compensation:

_____

_____

C. What authority does each firm have to commit or obligate the other to insurance and bonding companies, financing institutions, suppliers, subcontractors, and/or other parties participating in the performance of this Contract or the work of this Project?

_____

IX. Personnel of Joint Venture: State the approximate number of personnel (by trade) needed to perform the Joint Venture's work under this Contract. Indicate whether they will be employees of the majority firm, M/WBE or SDVOBE firm, or the Joint Venture.

	Firm 1 (number)	Firm 2 (number)	Joint Venture (number)
Trade			
Professional			
Administrative/Clerical			
Unskilled Labor			

Will any personnel proposed for this Project be employees of the Joint Venture?: _____

If so, who: _____

A. Are any proposed Joint Venture employees currently employed by either firm?

Employed by Firm 1: _____ Employed by firm 2 _____

B. Identify by name and firm the individual who will be responsible for Joint Venture hiring: ____

_____

X. Additional Information. Please state any material facts and additional information pertinent to the control and structure of this Joint Venture.

_____

_____

XI. AFFIDAVIT OF JOINT VENTURE PARTIES. The undersigned affirm that the foregoing statements and attached documents are correct and include all material information necessary to identify and explain the terms and operations of our Joint Venture and the intended participation of each firm in the undertaking. Further, the undersigned covenant and agree to provide to MassDOT current, complete and accurate information regarding actual Joint Venture work, payments, and any proposed changes to any provisions of the Joint Venture, or the nature, character of each party to the Joint Venture. We understand that any material misrepresentation will be grounds for terminating any Contract awarded and for initiating action under Federal or State laws concerning false statements.

Firm 1	Firm 2
Signature Duly Authorized	Signature Duly Authorized
Printed Name and Title	Printed Name and Title
Date	Date

*** END OF DOCUMENT ***