DSK

COMMONWEALTH OF MASSACHUSETTS

CONTRACT DOCUMENTS AND SPECIAL PROVISIONS

PROPOSAL NO.	610670-133876
P.V. =	$2,676,000.00
PLANS	YES

FOR

Federal Aid Project No. TAP-SRS5(002)X
Harwich Elementary School Improvements (SRTS)

in the Town of

HARWICH

In accordance with the STANDARD SPECIFICATIONS
for HIGHWAYS and BRIDGES dated 2026

This Proposal to be opened and read: **WEDNESDAY, APRIL 22, 2026 at 2:00 P.M.**

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*** END OF DOCUMENT ***

DOCUMENT 00104

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.

WEDNESDAY, APRIL 22, 2026 at 2:00 P.M. **
HARWICH
Federal Aid Project No. TAP-SRS5(002)X
Harwich Elementary School Improvements (SRTS)
****Date Subject to Change**

PROJECT VALUE = $2,676,000.00

Bidders must be pre-qualified by the Department in the HIGHWAY - 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, and the United States Department of Labor.

The Massachusetts Department of Transportation, in accordance with Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby affirmatively ensures that for any contract entered into pursuant to this advertisement, all bidders, including disadvantaged business enterprises, will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin in consideration for an Award.

This Proposal contains the "STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)". The goals and timetables applicable to this proposal for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all work, are contained in Appendices A and B-80 of the above specifications.

The Contractor (hereinafter includes consultants) will comply with the Acts and Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this Contract as contained in Appendices C and D of the above specifications.

NOTICE TO CONTRACTORS (Continued)

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 $640.00 per ton, Portland cement $425.13 per ton, diesel fuel $3.141 per gallon, and gasoline $2.270 per gallon, and Steel Base Price Index 368.9 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: Phillip Eng, Interim MassDOT Secretary
Jonathan L. Gulliver, Undersecretary and Highway Administrator
SATURDAY, MARCH 21, 2026

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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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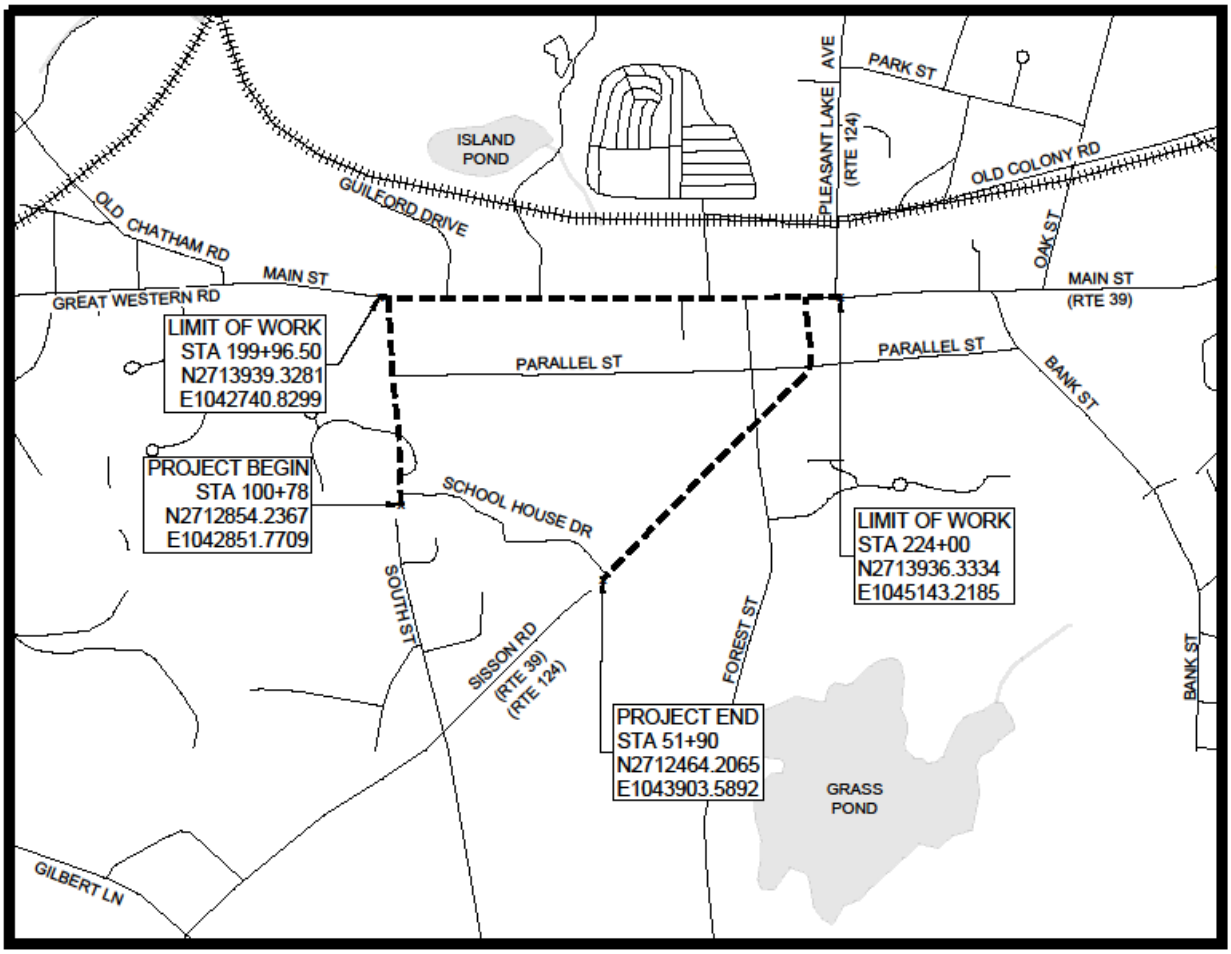
DOCUMENT 00331

LOCUS MAP

HARWICH
Federal Aid Project No. TAP-SRS5(002)X
Harwich Elementary School Improvements (SRTS)



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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: _____

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WORK NOT COMPLETED WITHIN SPECIFIED TIME: _____

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Revised: 04/28/17

*** END OF DOCUMENT ***

DOCUMENT 00710
GENERAL CONTRACT PROVISIONS
Revised: 02-11-26

NOTICE OF AVAILABILITY

The STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES dated 2026, 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 00760

FHWA-1273 – Revised October 23, 2023

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Non-segregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
XI. Certification Regarding Use of Contract Funds for Lobbying
XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (*see* 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:
(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than $10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH–1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH–347 or in any other format desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division website at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a “Statement of Compliance,” signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH–347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 will satisfy the requirement for submission of the “Statement of Compliance” required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* $31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1**. Instructions for Certification – First Tier Participants:**

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

b. 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 first tier 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 department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first 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 department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier 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 Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. 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. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

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

j. Except for transactions authorized under paragraph (f) 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 to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier 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 participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment 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, 2 CFR 180.800;

(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 (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

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

b. 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 to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. 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. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. 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 department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. 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 exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. 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 is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. 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.

i. Except for transactions authorized under paragraph e 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 to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

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

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XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B) This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

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

March 4, 2026

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	$0.57
2	ASTM A27 (AASHTO M103) Steel Castings, H-Pile Points & Pipe Pile Shoes (See Note below.)	$0.79
3	ASTM A668 / A668M (AASHTO M102) Steel Forgings	$0.79
4	ASTM A108 (AASHTO M169) Steel Forgings for Shear Studs	$0.82
5	ASTM A709/A709M Grade 36 / AASHTO M270M/M270 Grade 36 or 250 Structural Steel Plate	$0.86
6	ASTM A709/A709M Grade 36 / AASHTO M270M/M270 Grade 36 or 250 Structural Steel Shapes	$0.81
7	ASTM A709/A709M Grade 50 / AASHTO M270M/M270 Grade 50 or 345 Structural Steel Plate	$0.86
8	ASTM A709/A709M Grade 50 / AASHTO M270M/M270 Grade 50 or 345 Structural Steel Shapes	$0.81
9	ASTM A709/A709M Grade 50WT / AASHTO M270M/M270 Grade 50WT or 345WT Structural Steel Plate	$0.89
10	ASTM A709/A709M Grade 50WT / AASHTO M270M/M270 Grade 50WT or 345WT Structural Steel Shapes	$0.82
11	ASTM A709/A709M Grade 50W / AASHTO M270M/M270 Grade 50W 345W Structural Steel Plate	$0.89
12	ASTM A709/A709M Grade 50W / AASHTO M270M/M270 Grade 50W or 345W Structural Steel Shapes	$0.82
13	ASTM A709/A709M Grade HPS 50W / AASHTO M270M/M270 Grade HPS 50W or 345W Structural Steel Plate	$0.93
14	ASTM A709/A709M Grade HPS 70W / AASHTO M270M/M270 Grade HPS 70W or 485W Structural Steel Plate	$1.00
15	ASTM A514/A514M-05 Grade HPS 100W / AASHTO M270M/M270 Grade HPS 100W or 690W Structural Steel Plate	$1.53
16	ASTM A992/A992M Grade 50S / AASHTO M270M/M270 Grade 50S or 345S Structural Steel Plate	$0.89
17	ASTM A992/A992M Grade 50S / AASHTO M270M/M270 Grade 50S or 345S Structural Steel Shapes	$0.82
18	ASTM A276 Type 316 Stainless Steel	$4.59
19	ASTM A240 Type 316 Stainless Steel	$4.59
20	ASTM A148 Grade 80/50 Steel Castings (See Note below.)	$1.58
21	ASTM A53 Grade B Structural Steel Pipe	$1.00
22	ASTM A500 Grades A, B, 36 & 50 Structural Steel Pipe	$1.00
23	ASTM A252, Grades 240 (36 KSI) & 414 (60 KSI) Pipe Pile	$0.79
24	ASTM 252, Grade 2 Permanent Steel Casing	$0.79
25	ASTM A36 (AASHTO M183) for H-piles, steel supports and sign supports	$0.84
26	ASTM A328 / A328M, Grade 50 (AASHTO M202) Steel Sheetpiling	$1.51
27	ASTM A572 / A572M, Grade 50 Sheetpiling	$1.51
28	ASTM A36/36M, Grade 50	$0.86
29	ASTM A570, Grade 50	$0.84
30	ASTM A572 (AASHTO M223), Grade 50 H-Piles	$0.86
31	ASTM A1085 Grade A (50 KSI) Steel Hollow Structural Sections (HSS), heat-treated per ASTM A1085 Supplement S1	$1.00
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

*** END OF DOCUMENT ***

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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.

*** END OF DOCUMENT ***

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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: 133876 **Project No.** 610670 **Federal Aid No.:** TAP-SRS5(002)X

Location: HARWICH

Project Description: Harwich Elementary School Improvements (SRTS)

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.

*** END OF DOCUMENT ***

DOCUMENT 00861

STATE PREVAILING WAGE RATES

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

MAURA HEALEY
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:	Massachusetts Highway	**City/Town:**	HARWICH
Contract Number:	133876		
Description of Work:	HARWICH - Federal Aid Project No. TAP-SRS5(002)X Harwich Elementary School Improvements (SRTS)		
Job Location:	Along Route 39 Main Streeet		

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	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	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	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 For apprentice rates see "Apprentice- LABORER"	12/1/2025	$41.22	$10.65	$9.75	$9.11	$0.00	$70.73
	6/1/2026	$42.66	$10.65	$9.75	$9.11	$0.00	$72.17
	12/1/2026	$44.10	$10.65	$9.75	$9.11	$0.00	$73.61
	6/1/2027	$45.55	$10.65	$9.75	$9.11	$0.00	$75.06
	12/1/2027	$47.00	$10.65	$9.75	$9.11	$0.00	$76.51
	6/1/2028	$48.50	$10.65	$9.75	$9.11	$0.00	$78.01
	12/1/2028	$50.00	$10.65	$9.75	$9.11	$0.00	$79.51
AIR TRACK OPERATOR (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY) For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"	12/1/2025	$41.22	$10.65	$9.75	$9.21	$0.00	$70.83
	6/1/2026	$42.66	$10.65	$9.75	$9.21	$0.00	$72.27
	12/1/2026	$44.10	$10.65	$9.75	$9.21	$0.00	$73.71
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. HEAT & FROST INSULATORS LOCAL 6 HEAT & FROST INSULATORS LOCAL 6 (BOSTON)	12/1/2025	$44.80	$14.50	$4.30	$6.75	$0.00	$70.35
ASPHALT RAKER LABORERS LABORERS - ZONE 2 For apprentice rates see "Apprentice- LABORER"	12/1/2025	$40.72	$10.65	$9.75	$9.11	$0.00	$70.23
	6/1/2026	$42.16	$10.65	$9.75	$9.11	$0.00	$71.67
	12/1/2026	$43.60	$10.65	$9.75	$9.11	$0.00	$73.11
	6/1/2027	$45.05	$10.65	$9.75	$9.11	$0.00	$74.56
	12/1/2027	$46.50	$10.65	$9.75	$9.11	$0.00	$76.01
	6/1/2028	$48.00	$10.65	$9.75	$9.11	$0.00	$77.51
	12/1/2028	$49.50	$10.65	$9.75	$9.11	$0.00	$79.01
ASPHALT RAKER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2025	$40.72	$10.65	$9.75	$9.21	$0.00	$70.33
	6/1/2026	$42.16	$10.65	$9.75	$9.21	$0.00	$71.77
	12/1/2026	$43.60	$10.65	$9.75	$9.21	$0.00	$73.21

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE	12/1/2025	$58.68	$16.55	$13.35	$3.25	$0.00	$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	$59.98	$16.55	$13.35	$3.25	$0.00	$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	$61.43	$16.55	$13.35	$3.25	$0.00	$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BACKHOE/FRONT-END LOADER	12/1/2025	$58.68	$16.55	$13.35	$3.25	$0.00	$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	$59.98	$16.55	$13.35	$3.25	$0.00	$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	$61.43	$16.55	$13.35	$3.25	$0.00	$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BARCO-TYPE JUMPING TAMPER	12/1/2025	$40.72	$10.65	$9.75	$9.11	$0.00	$70.23
LABORERS	6/1/2026	$42.16	$10.65	$9.75	$9.11	$0.00	$71.67
LABORERS - ZONE 2	12/1/2026	$43.60	$10.65	$9.75	$9.11	$0.00	$73.11
	6/1/2027	$45.05	$10.65	$9.75	$9.11	$0.00	$74.56
	12/1/2027	$46.50	$10.65	$9.75	$9.11	$0.00	$76.01
	6/1/2028	$48.00	$10.65	$9.75	$9.11	$0.00	$77.51
	12/1/2028	$49.50	$10.65	$9.75	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER	12/1/2025	$41.22	$10.65	$9.75	$9.11	$0.00	$70.73
LABORERS	6/1/2026	$42.66	$10.65	$9.75	$9.11	$0.00	$72.17
LABORERS - ZONE 2	12/1/2026	$44.10	$10.65	$9.75	$9.11	$0.00	$73.61
	6/1/2027	$45.55	$10.65	$9.75	$9.11	$0.00	$75.06
	12/1/2027	$47.00	$10.65	$9.75	$9.11	$0.00	$76.51
	6/1/2028	$48.50	$10.65	$9.75	$9.11	$0.00	$78.01
	12/1/2028	$50.00	$10.65	$9.75	$9.11	$0.00	$79.51
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY)	12/1/2025	$41.22	$10.65	$9.75	$9.21	$0.00	$70.83
LABORERS	6/1/2026	$42.66	$10.65	$9.75	$9.21	$0.00	$72.27
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	$44.10	$10.65	$9.75	$9.21	$0.00	$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
BOILER MAKER	1/1/2024	$48.12	$7.07	$14.60	$6.00	$0.00	$75.79
BOILERMAKERS LOCAL 29							
BOILERMAKERS LOCAL 29							

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

Construction

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

Apprentice: BOILER MAKER

Effective Date: 1/1/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
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 (NEW BEDFORD)	2/1/2026	$67.95	$12.84	$15.57	$8.02	$0.00	$104.38
	8/1/2026	$70.15	$12.84	$15.57	$8.02	$0.00	$106.58
	2/1/2027	$71.55	$12.84	$15.57	$8.02	$0.00	$107.98

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	$33.98	$12.84	$15.57	$8.02	$0.00	$70.41
2	60.00	$40.77	$12.84	$15.57	$8.02	$0.00	$77.20
3	70.00	$47.57	$12.84	$15.57	$8.02	$0.00	$84.00
4	80.00	$54.36	$12.84	$15.57	$8.02	$0.00	$90.79
5	90.00	$61.16	$12.84	$15.57	$8.02	$0.00	$97.59

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

Effective Date: 8/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$35.08	$12.84	$15.57	$8.02	$0.00	$71.51
2	60.00	$42.09	$12.84	$15.57	$8.02	$0.00	$78.52
3	70.00	$49.11	$12.84	$15.57	$8.02	$0.00	$85.54
4	80.00	$56.12	$12.84	$15.57	$8.02	$0.00	$92.55
5	90.00	$63.14	$12.84	$15.57	$8.02	$0.00	$99.57

Apprentice to Journeyworker Ratio: 1:5

BULLDOZER/GRADER/SCRAPER OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	12/1/2025	$58.02	$16.55	$13.35	$3.25	$0.00	$91.17
	6/1/2026	$59.30	$16.55	$13.35	$3.25	$0.00	$92.45
	12/1/2026	$60.74	$16.55	$13.35	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
CAISSON & UNDERPINNING BOTTOM MAN LABORERS LABORERS - FOUNDATION AND MARINE	12/1/2025	$49.10	$10.65	$9.75	$9.80	$0.00	$79.30
	6/1/2026	$50.65	$10.65	$9.75	$9.80	$0.00	$80.85
	12/1/2026	$52.15	$10.65	$9.75	$9.80	$0.00	$82.35
For apprentice rates see "Apprentice- LABORER"							
CAISSON & UNDERPINNING LABORER LABORERS	12/1/2025	$47.95	$10.65	$9.75	$9.80	$0.00	$78.15
	6/1/2026	$49.50	$10.65	$9.75	$9.80	$0.00	$79.70

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS - FOUNDATION AND MARINE	12/1/2026	$51.00	$10.65	$9.75	$9.80	$0.00	$81.20
For apprentice rates see "Apprentice- LABORER"							
CAISSON & UNDERPINNING TOP MAN	12/1/2025	$48.28	$10.65	$9.75	$9.80	$0.00	$78.48
LABORERS	6/1/2026	$49.83	$10.65	$9.75	$9.80	$0.00	$80.03
LABORERS - FOUNDATION AND MARINE	12/1/2026	$51.33	$10.65	$9.75	$9.80	$0.00	$81.53
For apprentice rates see "Apprentice- LABORER"							
CARBIDE CORE DRILL OPERATOR	12/1/2025	$40.72	$10.65	$9.75	$9.11	$0.00	$70.23
LABORERS	6/1/2026	$42.16	$10.65	$9.75	$9.11	$0.00	$71.67
LABORERS - ZONE 2	12/1/2026	$43.60	$10.65	$9.75	$9.11	$0.00	$73.11
	6/1/2027	$45.05	$10.65	$9.75	$9.11	$0.00	$74.56
	12/1/2027	$46.50	$10.65	$9.75	$9.11	$0.00	$76.01
	6/1/2028	$48.00	$10.65	$9.75	$9.11	$0.00	$77.51
	12/1/2028	$49.50	$10.65	$9.75	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
CARPENTER	3/1/2026	$51.35	$10.58	$11.47	$8.50	$0.00	$81.90
CARPENTERS	9/1/2026	$52.60	$10.58	$11.47	$8.50	$0.00	$83.15
CARPENTERS -ZONE 2 (Eastern Massachusetts)	3/1/2027	$53.85	$10.58	$11.47	$8.50	$0.00	$84.40

Apprentice: CARPENTER

Effective Date: 3/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$23.11	$10.58	$0.00	$1.73	$0.00	$35.42
2	45.00	$23.11	$10.58	$0.00	$1.73	$0.00	$35.42
3	55.00	$28.24	$10.58	$0.00	$3.40	$0.00	$42.22
4	55.00	$28.24	$10.58	$0.00	$3.40	$0.00	$42.22
5	70.00	$35.95	$10.58	$11.41	$5.10	$0.00	$63.04
6	70.00	$35.95	$10.58	$11.41	$5.10	$0.00	$63.04
7	80.00	$41.08	$10.58	$11.44	$6.80	$0.00	$69.90
8	80.00	$41.08	$10.58	$11.44	$6.80	$0.00	$69.90

Apprentice: CARPENTER

Effective Date: 9/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$23.67	$10.58	$0.00	$1.73	$0.00	$35.98
2	45.00	$23.67	$10.58	$0.00	$1.73	$0.00	$35.98
3	55.00	$28.93	$10.58	$0.00	$3.40	$0.00	$42.91
4	55.00	$28.93	$10.58	$0.00	$3.40	$0.00	$42.91
5	70.00	$36.82	$10.58	$11.41	$5.10	$0.00	$63.91
6	70.00	$36.82	$10.58	$11.41	$5.10	$0.00	$63.91
7	80.00	$42.08	$10.58	$11.44	$6.80	$0.00	$70.90
8	80.00	$42.08	$10.58	$11.44	$6.80	$0.00	$70.90

Apprentice to Journeyworker Ratio: 1:5

Construction

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

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

Apprentice: CARPENTER WOOD FRAME

Effective Date: 10/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$17.31	$7.02	$0.00	$0.00	$0.00	$24.33
2	60.00	$17.31	$7.02	$0.00	$0.00	$0.00	$24.33
3	65.00	$18.75	$7.02	$0.00	$1.00	$0.00	$26.77
4	70.00	$20.20	$7.02	$0.00	$1.00	$0.00	$28.22
5	75.00	$21.64	$7.02	$3.80	$1.00	$0.00	$33.46
6	80.00	$23.08	$7.02	$3.80	$1.00	$0.00	$34.90
7	85.00	$24.52	$7.02	$3.80	$1.00	$0.00	$36.34
8	90.00	$25.97	$7.02	$3.80	$1.00	$0.00	$37.79

Apprentice to Journeyworker Ratio: 1:5

CEMENT MASONRY/PLASTERING	1/1/2026	$53.24	$13.35	$16.43	$7.78	$1.80	$92.60
PLASTERERS AND CEMENT MASONS LOCAL 534	7/1/2026	$54.49	$13.35	$16.43	$7.78	$1.80	$93.85
Plasterers and Cement Masons - Zone 1	1/1/2027	$55.94	$13.35	$16.43	$7.78	$1.80	$95.30
	7/1/2027	$57.29	$13.35	$16.43	$7.78	$1.80	$96.65
	1/1/2028	$58.64	$13.35	$16.43	$7.78	$1.80	$98.00

Apprentice: CEMENT MASONRY/PLASTERING

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$26.62	$13.35	$16.43	$0.00	$0.00	$56.40
2	60.00	$31.94	$13.35	$16.43	$7.78	$1.80	$71.30
3	65.00	$34.61	$13.35	$16.43	$7.78	$1.80	$73.97
4	70.00	$37.27	$13.35	$16.43	$7.78	$1.80	$76.63

Construction

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

Apprentice: CEMENT MASONRY/PLASTERING

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
5	75.00	$39.93	$13.35	$16.43	$7.78	$1.80	$79.29
6	80.00	$42.59	$13.35	$16.43	$7.78	$1.80	$81.95
7	90.00	$47.92	$13.35	$16.43	$0.00	$0.00	$77.70

Apprentice: CEMENT MASONRY/PLASTERING

Effective Date: 7/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$27.25	$13.35	$16.43	$0.00	$0.00	$57.03
2	60.00	$32.69	$13.35	$16.43	$7.78	$1.80	$72.05
3	65.00	$35.42	$13.35	$16.43	$7.78	$1.80	$74.78
4	70.00	$38.14	$13.35	$16.43	$7.78	$1.80	$77.50
5	75.00	$40.87	$13.35	$16.43	$7.78	$1.80	$80.23
6	80.00	$43.59	$13.35	$16.43	$7.78	$1.80	$82.95
7	90.00	$49.04	$13.35	$0.00	$7.78	$0.00	$70.17

Apprentice to Journeyworker Ratio: 1:5

CHAIN SAW OPERATOR LABORERS LABORERS - ZONE 2	12/1/2025	$40.72	$10.65	$9.75	$9.11	$0.00	$70.23
	6/1/2026	$42.16	$10.65	$9.75	$9.11	$0.00	$71.67
	12/1/2026	$43.60	$10.65	$9.75	$9.11	$0.00	$73.11
	6/1/2027	$45.05	$10.65	$9.75	$9.11	$0.00	$74.56
	12/1/2027	$46.50	$10.65	$9.75	$9.11	$0.00	$76.01
	6/1/2028	$48.00	$10.65	$9.75	$9.11	$0.00	$77.51
	12/1/2028	$49.50	$10.65	$9.75	$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	12/1/2025	$59.88	$16.55	$13.35	$3.25	$0.00	$93.03
	6/1/2026	$61.21	$16.55	$13.35	$3.25	$0.00	$94.36
	12/1/2026	$62.69	$16.55	$13.35	$3.25	$0.00	$95.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
COMPRESSOR OPERATOR OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	12/1/2025	$37.37	$16.55	$13.35	$3.25	$0.00	$70.52
	6/1/2026	$38.23	$16.55	$13.35	$3.25	$0.00	$71.38
	12/1/2026	$39.18	$16.55	$13.35	$3.25	$0.00	$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DELEADER (BRIDGE) PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 2	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: 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	12/1/2025	$48.00	$10.65	$9.75	$9.65	$0.00	$78.05
	6/1/2026	$49.55	$10.65	$9.75	$9.65	$0.00	$79.60
	12/7/2026	$51.05	$10.65	$9.75	$9.65	$0.00	$81.10
	6/7/2027	$52.65	$10.65	$9.75	$9.65	$0.00	$82.70
	12/6/2027	$54.25	$10.65	$9.75	$9.65	$0.00	$84.30
	6/5/2028	$55.93	$10.65	$9.75	$9.65	$0.00	$85.98
	12/4/2028	$57.60	$10.65	$9.75	$9.65	$0.00	$87.65
For apprentice rates see "Apprentice- LABORER"							
DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS LABORERS - ZONE 2	12/1/2025	$49.00	$10.65	$9.75	$9.65	$0.00	$79.05
	6/1/2026	$50.55	$10.65	$9.75	$9.65	$0.00	$80.60
	12/7/2026	$52.05	$10.65	$9.75	$9.65	$0.00	$82.10
	6/7/2027	$53.65	$10.65	$9.75	$9.65	$0.00	$83.70
	12/6/2027	$55.25	$10.65	$9.75	$9.65	$0.00	$85.30
	6/5/2028	$56.93	$10.65	$9.75	$9.65	$0.00	$86.98
	12/4/2028	$58.60	$10.65	$9.75	$9.65	$0.00	$88.65
For apprentice rates see "Apprentice- LABORER"							
DEMO: BURNERS LABORERS LABORERS - ZONE 2	12/1/2025	$48.75	$10.65	$9.75	$9.65	$0.00	$78.80
	6/1/2026	$50.30	$10.65	$9.75	$9.65	$0.00	$80.35
	12/7/2026	$51.80	$10.65	$9.75	$9.65	$0.00	$81.85
	6/7/2027	$53.40	$10.65	$9.75	$9.65	$0.00	$83.45
	12/6/2027	$55.00	$10.65	$9.75	$9.65	$0.00	$85.05
	6/5/2028	$56.68	$10.65	$9.75	$9.65	$0.00	$86.73
	12/4/2028	$58.35	$10.65	$9.75	$9.65	$0.00	$88.40
For apprentice rates see "Apprentice- LABORER"							
DEMO: CONCRETE CUTTER/SAWYER LABORERS LABORERS - ZONE 2	12/1/2025	$49.00	$10.65	$9.75	$9.65	$0.00	$79.05
	6/1/2026	$50.55	$10.65	$9.75	$9.65	$0.00	$80.60
	12/7/2026	$52.05	$10.65	$9.75	$9.65	$0.00	$82.10
	6/7/2027	$53.65	$10.65	$9.75	$9.65	$0.00	$83.70
	12/6/2027	$55.25	$10.65	$9.75	$9.65	$0.00	$85.30
	6/5/2028	$56.93	$10.65	$9.75	$9.65	$0.00	$86.98
	12/4/2028	$58.60	$10.65	$9.75	$9.65	$0.00	$88.65

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"							
DEMO: JACKHAMMER OPERATOR LABORERS LABORERS - ZONE 2	12/1/2025	$48.75	$10.65	$9.75	$9.65	$0.00	$78.80
	6/1/2026	$50.30	$10.65	$9.75	$9.65	$0.00	$80.35
	12/7/2026	$51.80	$10.65	$9.75	$9.65	$0.00	$81.85
	6/7/2027	$53.40	$10.65	$9.75	$9.65	$0.00	$83.45
	12/6/2027	$55.00	$10.65	$9.75	$9.65	$0.00	$85.05
	6/5/2028	$56.68	$10.65	$9.75	$9.65	$0.00	$86.73
	12/4/2028	$58.35	$10.65	$9.75	$9.65	$0.00	$88.40
For apprentice rates see "Apprentice- LABORER"							
DEMO: WRECKING LABORER LABORERS LABORERS - ZONE 2	12/1/2025	$48.00	$10.65	$9.75	$9.65	$0.00	$78.05
	6/1/2026	$49.55	$10.65	$9.75	$9.65	$0.00	$79.60
	12/7/2026	$51.05	$10.65	$9.75	$9.65	$0.00	$81.10
	6/7/2027	$52.65	$10.65	$9.75	$9.65	$0.00	$82.70
	12/6/2027	$54.25	$10.65	$9.75	$9.65	$0.00	$84.30
	6/5/2028	$55.93	$10.65	$9.75	$9.65	$0.00	$85.98
	12/4/2028	$57.60	$10.65	$9.75	$9.65	$0.00	$87.65
For apprentice rates see "Apprentice- LABORER"							
DIRECTIONAL DRILL MACHINE OPERATOR OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	12/1/2025	$58.02	$16.55	$13.35	$3.25	$0.00	$91.17
	6/1/2026	$59.30	$16.55	$13.35	$3.25	$0.00	$92.45
	12/1/2026	$60.74	$16.55	$13.35	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DIVER PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 2)	8/1/2024	$78.11	$10.08	$11.62	$12.67	$0.00	$112.48
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							
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 223 ELECTRICIANS LOCAL 223	9/1/2025	$52.25	$12.25	$14.86	$3.75	$0.00	$83.11
	9/1/2026	$54.72	$12.50	$15.56	$4.00	$0.00	$86.78

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ELEVATOR CONSTRUCTOR ELEVATOR CONSTRUCTORS LOCAL 4 ELEVATOR CONSTRUCTORS LOCAL 4	1/1/2026	$77.26	$16.38	$11.06	$10.70	$0.00	$115.40
	1/1/2027	$80.55	$16.48	$11.16	$11.00	$0.00	$119.19

Apprentice: ELECTRICIAN

Effective Date: 9/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$20.90	$12.25	$0.63	$0.00	$0.00	$33.78
2	45.00	$23.51	$12.25	$0.71	$0.00	$0.00	$36.47
3	50.00	$26.13	$12.25	$0.78	$0.00	$0.00	$39.16
4	55.00	$28.74	$12.25	$6.61	$2.50	$0.00	$50.10
5	60.00	$31.35	$12.25	$7.21	$2.50	$0.00	$53.31
6	65.00	$33.96	$12.25	$7.82	$2.50	$0.00	$56.53
7	70.00	$36.58	$12.25	$8.41	$2.50	$0.00	$59.74
8	75.00	$39.19	$12.25	$9.02	$2.50	$0.00	$62.96

Apprentice: ELECTRICIAN

Effective Date: 9/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$21.89	$12.50	$0.66	$0.00	$0.00	$35.05
2	45.00	$24.62	$12.50	$0.74	$0.00	$0.00	$37.86
3	50.00	$27.36	$12.50	$0.82	$0.00	$0.00	$40.68
4	55.00	$30.10	$12.50	$6.92	$2.75	$0.00	$52.27
5	60.00	$32.83	$12.50	$7.54	$2.75	$0.00	$55.62
6	65.00	$35.57	$12.50	$8.18	$2.75	$0.00	$59.00
7	70.00	$38.30	$12.50	$8.81	$2.75	$0.00	$62.36
8	75.00	$41.04	$12.50	$9.43	$2.75	$0.00	$65.72

Apprentice to Journeyworker Ratio: 2:3

Apprentice: ELEVATOR CONSTRUCTOR

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$38.63	$0.00	$0.00	$0.00	$0.00	$38.63
2	55.00	$42.49	$16.38	$11.06	$10.70	$0.00	$80.63
3	65.00	$50.22	$16.38	$11.06	$10.70	$0.00	$88.36
4	70.00	$54.08	$16.38	$11.06	$10.70	$0.00	$92.22
5	80.00	$61.81	$16.38	$11.06	$10.70	$0.00	$99.95

Construction

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

Apprentice: ELEVATOR CONSTRUCTOR

Effective Date: 1/1/2027

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$40.28	$0.00	$0.00	$0.00	$0.00	$40.28
2	55.00	$44.30	$16.48	$11.16	$11.00	$0.00	$82.94
3	65.00	$52.36	$16.48	$11.16	$11.00	$0.00	$91.00
4	70.00	$56.39	$16.48	$11.16	$11.00	$0.00	$95.03
5	80.00	$64.44	$16.48	$11.16	$11.00	$0.00	$103.08

Apprentice to Journeyworker Ratio: 1:1

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ELEVATOR CONSTRUCTOR HELPER	1/1/2026	$54.08	$16.38	$11.06	$10.07	$0.00	$91.59
ELEVATOR CONSTRUCTORS LOCAL 4	1/1/2027	$56.39	$16.48	$11.16	$11.00	$0.00	$95.03
ELEVATOR CONSTRUCTORS LOCAL 4							
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"							
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY)	12/1/2025	$40.72	$10.65	$9.75	$9.21	$0.00	$70.33
LABORERS	6/1/2026	$42.16	$10.65	$9.75	$9.21	$0.00	$71.77
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	$43.60	$10.65	$9.75	$9.21	$0.00	$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY	11/1/2025	$53.56	$16.05	$13.25	$3.25	$0.00	$86.11
OPERATING ENGINEERS LOCAL 4	5/1/2026	$55.00	$16.05	$13.25	$3.25	$0.00	$87.55
OPERATING ENGINEERS LOCAL 4	11/1/2026	$56.29	$16.05	$13.25	$3.25	$0.00	$88.84
	5/1/2027	$57.72	$16.05	$13.25	$3.25	$0.00	$90.27
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY	11/1/2025	$55.17	$16.05	$13.25	$3.25	$0.00	$87.72
OPERATING ENGINEERS LOCAL 4	5/1/2026	$56.62	$16.05	$13.25	$3.25	$0.00	$89.17
OPERATING ENGINEERS LOCAL 4	11/1/2026	$57.92	$16.05	$13.25	$3.25	$0.00	$90.47
	5/1/2027	$59.37	$16.05	$13.25	$3.25	$0.00	$91.92
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY	11/1/2025	$26.03	$16.05	$13.25	$3.25	$0.00	$58.58
OPERATING ENGINEERS LOCAL 4	5/1/2026	$26.88	$16.05	$13.25	$3.25	$0.00	$59.43
OPERATING ENGINEERS LOCAL 4	11/1/2026	$27.64	$16.05	$13.25	$3.25	$0.00	$60.19
	5/1/2027	$28.49	$16.05	$13.25	$3.25	$0.00	$61.04
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIRE ALARM INSTALLER	9/1/2025	$52.25	$12.25	$14.86	$3.75	$0.00	$83.11
ELECTRICIANS LOCAL 223	9/1/2026	$54.72	$12.50	$15.56	$4.00	$0.00	$86.78
ELECTRICIANS LOCAL 223							
For apprentice rates see "Apprentice- ELECTRICIAN"							
FIRE ALARM REPAIR / MAINTENANCE	9/1/2025	$52.25	$12.25	$14.86	$3.75	$0.00	$83.11
/ COMMISSIONING	9/1/2026	$54.72	$12.50	$15.56	$4.00	$0.00	$86.78
ELECTRICIANS LOCAL 223							
ELECTRICIANS LOCAL 223							
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
FIREMAN (ASST. ENGINEER)	12/1/2025	$47.09	$16.55	$13.35	$3.25	$0.00	$80.24
OPERATING ENGINEERS LOCAL 4	6/1/2026	$48.15	$16.55	$13.35	$3.25	$0.00	$81.30
OPERATING ENGINEERS LOCAL 4	12/1/2026	$49.33	$16.55	$13.35	$3.25	$0.00	$82.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FLAGGER & SIGNALER (HEAVY & HIGHWAY)	12/1/2025	$28.09	$10.65	$9.75	$9.21	$0.00	$57.70
LABORERS	6/1/2026	$29.21	$10.65	$9.75	$9.21	$0.00	$58.82
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	$29.21	$10.65	$9.75	$9.21	$0.00	$58.82
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

FORK LIFT/CHERRY PICKER	12/1/2025	$58.68	$16.55	$13.35	$3.25	$0.00	$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	$59.98	$16.55	$13.35	$3.25	$0.00	$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	$61.43	$16.55	$13.35	$3.25	$0.00	$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
GENERATOR/LIGHTING PLANT/HEATERS	12/1/2025	$37.37	$16.55	$13.35	$3.25	$0.00	$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	$38.23	$16.55	$13.35	$3.25	$0.00	$71.38
OPERATING ENGINEERS LOCAL 4	12/1/2026	$39.18	$16.55	$13.35	$3.25	$0.00	$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)	6/1/2025	$43.13	$10.80	$8.25	$5.50	$0.00	$67.68
GLAZIERS LOCAL 1333	6/1/2026	$44.73	$11.20	$8.40	$6.05	$0.00	$70.38
GLAZIERS LOCAL 1333	6/1/2027	$46.73	$11.60	$8.55	$6.60	$0.00	$73.48
	6/1/2028	$48.73	$12.00	$8.70	$7.20	$0.00	$76.63

Construction

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

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

Effective Date: 6/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$21.57	$10.80	$8.25	$5.50	$0.00	$46.12
2	56.25	$24.26	$10.80	$8.25	$5.50	$0.00	$48.81
3	62.50	$26.96	$10.80	$8.25	$5.50	$0.00	$51.51
4	68.75	$29.65	$10.80	$8.25	$5.50	$0.00	$54.20
5	75.00	$32.35	$10.80	$8.25	$5.50	$0.00	$56.90
6	81.25	$35.04	$10.80	$8.25	$5.50	$0.00	$59.59
7	87.50	$37.74	$10.80	$8.25	$5.50	$0.00	$62.29
8	93.75	$40.43	$10.80	$8.25	$5.50	$0.00	$64.98

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

Effective Date: 6/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$22.37	$11.20	$8.40	$6.05	$0.00	$48.02
2	56.25	$25.16	$11.20	$8.40	$6.05	$0.00	$50.81
3	62.50	$27.96	$11.20	$8.40	$6.05	$0.00	$53.61
4	68.75	$30.75	$11.20	$8.40	$6.05	$0.00	$56.40
5	75.00	$33.55	$11.20	$8.40	$6.05	$0.00	$59.20
6	81.25	$36.34	$11.20	$8.40	$6.05	$0.00	$61.99
7	87.50	$39.14	$11.20	$8.40	$6.05	$0.00	$64.79
8	93.75	$41.93	$11.20	$8.40	$6.05	$0.00	$67.58

Apprentice to Journeyworker Ratio: 3:1

HOISTING ENGINEER/CRANES/GRADALLS	12/1/2025	$58.68	$16.55	$13.35	$3.25	$0.00	$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	$59.98	$16.55	$13.35	$3.25	$0.00	$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	$61.43	$16.55	$13.35	$3.25	$0.00	$94.58

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	$16.05	$13.25	$3.25	$0.00	$68.42
3	65.00	$38.86	$16.05	$13.25	$3.25	$0.00	$71.41
4	70.00	$41.85	$16.05	$13.25	$3.25	$0.00	$74.40
5	75.00	$44.84	$16.05	$13.25	$3.25	$0.00	$77.39
6	80.00	$47.82	$16.05	$13.25	$3.25	$0.00	$80.37
7	85.00	$50.81	$16.05	$13.25	$3.25	$0.00	$83.36
8	90.00	$53.80	$16.05	$13.25	$3.25	$0.00	$86.35

Construction

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

Apprentice: HOISTING ENGINEER/CRANES/GRADALLS

Effective Date: 6/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	$32.99	$0.00	$0.00	$0.00	$0.00	$32.99
2	60.00	$35.99	$16.55	$13.35	$3.25	$0.00	$69.14
3	65.00	$38.99	$16.55	$13.35	$3.25	$0.00	$72.14
4	70.00	$41.99	$16.55	$13.35	$3.25	$0.00	$75.14
5	75.00	$44.99	$16.55	$13.35	$3.25	$0.00	$78.14
6	80.00	$47.98	$16.55	$13.35	$3.25	$0.00	$81.13
7	85.00	$50.98	$16.55	$13.35	$3.25	$0.00	$84.13
8	90.00	$53.98	$16.55	$13.35	$3.25	$0.00	$87.13

Apprentice to Journeyworker Ratio: 1:6

HVAC (DUCTWORK)	10/1/2025	$44.05	$14.91	$13.35	$6.15	$2.24	$80.70
SHEETMETAL WORKERS LOCAL 17 SHEETMETAL WORKERS LOCAL 17 - B	4/1/2026	$45.55	$14.91	$13.35	$6.15	$2.24	$82.20
For apprentice rates see "Apprentice- SHEET METAL WORKER"							
HVAC (ELECTRICAL CONTROLS)	9/1/2025	$52.25	$12.25	$14.86	$3.75	$0.00	$83.11
ELECTRICIANS LOCAL 223 ELECTRICIANS LOCAL 223	9/1/2026	$54.72	$12.50	$15.56	$4.00	$0.00	$86.78
For apprentice rates see "Apprentice- ELECTRICIAN"							
HVAC (TESTING AND BALANCING - AIR)	10/1/2025	$44.05	$14.91	$13.35	$6.15	$2.24	$80.70
SHEETMETAL WORKERS LOCAL 17 SHEETMETAL WORKERS LOCAL 17 - B	4/1/2026	$45.55	$14.91	$13.35	$6.15	$2.24	$82.20
For apprentice rates see "Apprentice- SHEET METAL WORKER"							
HVAC (TESTING AND BALANCING -WATER)	8/25/2025	$55.24	$10.80	$16.80	$4.60	$0.00	$87.44
PLUMBERS & PIPEFITTERS LOCAL 51 PLUMBERS & PIPEFITTERS LOCAL 51							
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HVAC MECHANIC	8/25/2025	$55.24	$10.80	$16.80	$4.60	$0.00	$87.44
PLUMBERS & PIPEFITTERS LOCAL 51 PLUMBERS & PIPEFITTERS LOCAL 51							
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HYDRAULIC DRILLS	12/1/2025	$41.22	$10.65	$9.75	$9.11	$0.00	$70.73
LABORERS LABORERS - ZONE 2	6/1/2026	$42.66	$10.65	$9.75	$9.11	$0.00	$72.17
	12/1/2026	$44.10	$10.65	$9.75	$9.11	$0.00	$73.61
	6/1/2027	$45.55	$10.65	$9.75	$9.11	$0.00	$75.06
	12/1/2027	$47.00	$10.65	$9.75	$9.11	$0.00	$76.51
	6/1/2028	$48.50	$10.65	$9.75	$9.11	$0.00	$78.01
	12/1/2028	$50.00	$10.65	$9.75	$9.11	$0.00	$79.51
For apprentice rates see "Apprentice- LABORER"							
HYDRAULIC DRILLS (HEAVY & HIGHWAY)	12/1/2025	$41.22	$10.65	$9.75	$9.21	$0.00	$70.83
LABORERS	6/1/2026	$42.66	$10.65	$9.75	$9.21	$0.00	$72.27

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	$44.10	$10.65	$9.75	$9.21	$0.00	$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
INSULATOR (PIPES & TANKS)	9/1/2025	$60.34	$14.75	$9.52	$10.09	$0.00	$94.70
HEAT & FROST INSULATORS LOCAL 6	9/1/2026	$63.76	$14.75	$9.52	$10.09	$0.00	$98.12
HEAT & FROST INSULATORS LOCAL 6 (BOSTON)							

Apprentice: INSULATOR (PIPES & TANKS)

Effective Date: 9/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$30.17	$14.75	$9.27	$5.05	$0.00	$59.24
2	60.00	$36.20	$14.75	$9.32	$6.05	$0.00	$66.32
3	70.00	$42.24	$14.75	$9.37	$7.06	$0.00	$73.42
4	80.00	$48.27	$14.75	$9.42	$8.07	$0.00	$80.51

Apprentice: INSULATOR (PIPES & TANKS)

Effective Date: 9/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$31.88	$14.75	$9.27	$5.05	$0.00	$60.95
2	60.00	$38.26	$14.75	$9.32	$6.05	$0.00	$68.38
3	70.00	$44.63	$14.75	$9.37	$7.06	$0.00	$75.81
4	80.00	$51.01	$14.75	$9.42	$8.07	$0.00	$83.25

Apprentice to Journeyworker Ratio: 1:4

IRONWORKER/WELDER	3/16/2021	$42.46	$7.70	$12.10	$5.00	$0.00	$67.26
IRONWORKERS LOCAL 37							
IRONWORKERS LOCAL 37							

Apprentice: IRONWORKER/WELDER

Effective Date: 3/16/2021

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	70.00	$29.72	$7.70	$12.10	$5.00	$0.00	$54.52
2	75.00	$31.85	$7.70	$12.10	$5.00	$0.00	$56.65
3	80.00	$33.97	$7.70	$12.10	$5.00	$0.00	$58.77
4	85.00	$36.09	$7.70	$12.10	$5.00	$0.00	$60.89
5	90.00	$38.21	$7.70	$12.10	$5.00	$0.00	$63.01
6	95.00	$40.34	$7.70	$12.10	$5.00	$0.00	$65.14

Apprentice to Journeyworker Ratio: 1:4

JACKHAMMER & PAVING BREAKER OPERATOR	12/1/2025	$40.72	$10.65	$9.75	$9.11	$0.00	$70.23
LABORERS	6/1/2026	$42.16	$10.65	$9.75	$9.11	$0.00	$71.67
LABORERS - ZONE 2	12/1/2026	$43.60	$10.65	$9.75	$9.11	$0.00	$73.11
	6/1/2027	$45.05	$10.65	$9.75	$9.11	$0.00	$74.56

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2027	$46.50	$10.65	$9.75	$9.11	$0.00	$76.01
	6/1/2028	$48.00	$10.65	$9.75	$9.11	$0.00	$77.51
	12/1/2028	$49.50	$10.65	$9.75	$9.11	$0.00	$79.01

For apprentice rates see "Apprentice- LABORER"

LABORER LABORERS LABORERS - ZONE 2	12/1/2025	$40.47	$10.65	$9.75	$9.11	$0.00	$69.98
	6/1/2026	$41.91	$10.65	$9.75	$9.11	$0.00	$71.42
	12/1/2026	$43.35	$10.65	$9.75	$9.11	$0.00	$72.86
	6/1/2027	$44.80	$10.65	$9.75	$9.11	$0.00	$74.31
	12/1/2027	$46.25	$10.65	$9.75	$9.11	$0.00	$75.76
	6/1/2028	$47.75	$10.65	$9.75	$9.11	$0.00	$77.26
	12/1/2028	$49.25	$10.65	$9.75	$9.11	$0.00	$78.76

Apprentice: LABORER

Effective Date: 12/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$25.03	$10.15	$9.50	$9.11	$0.00	$53.79
2	70.00	$29.20	$10.15	$9.50	$9.11	$0.00	$57.96
3	80.00	$33.38	$10.15	$9.50	$9.11	$0.00	$62.14
4	90.00	$37.55	$10.15	$9.50	$9.11	$0.00	$66.31

Apprentice: LABORER

Effective Date: 6/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$25.15	$10.65	$9.75	$9.11	$0.00	$54.66
2	70.00	$29.34	$10.65	$9.75	$9.11	$0.00	$58.85
3	80.00	$33.53	$10.65	$9.75	$9.11	$0.00	$63.04
4	90.00	$37.72	$10.65	$9.75	$9.11	$0.00	$67.23

Apprentice to Journeyworker Ratio: 1:5

LABORER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2025	$40.47	$10.65	$9.75	$9.21	$0.00	$70.08
	6/1/2026	$41.91	$10.65	$9.75	$9.21	$0.00	$71.52
	12/1/2026	$43.35	$10.65	$9.75	$9.21	$0.00	$72.96

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	$10.15	$9.50	$9.21	$0.00	$53.89
2	70.00	$29.20	$10.15	$9.50	$9.21	$0.00	$58.06
3	80.00	$33.38	$10.15	$9.50	$9.21	$0.00	$62.24
4	90.00	$37.55	$10.15	$9.50	$9.21	$0.00	$66.41

Construction

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

Apprentice: LABORER (HEAVY & HIGHWAY)

Effective Date: 6/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$25.15	$10.65	$9.75	$9.21	$0.00	$54.76
2	70.00	$29.34	$10.65	$9.75	$9.21	$0.00	$58.95
3	80.00	$33.53	$10.65	$9.75	$9.21	$0.00	$63.14
4	90.00	$37.72	$10.65	$9.75	$9.10	$0.00	$67.22

Apprentice to Journeyworker Ratio: 1:5

LABORER: CARPENTER TENDER LABORERS LABORERS - ZONE 2	12/1/2025	$40.47	$10.65	$9.75	$9.11	$0.00	$69.98
	6/1/2026	$41.91	$10.65	$9.75	$9.11	$0.00	$71.42
	12/1/2026	$43.35	$10.65	$9.75	$9.11	$0.00	$72.86
	6/1/2027	$44.80	$10.65	$9.75	$9.11	$0.00	$74.31
	12/1/2027	$46.25	$10.65	$9.75	$9.11	$0.00	$75.76
	6/1/2028	$47.75	$10.65	$9.75	$9.11	$0.00	$77.26
	12/1/2028	$49.25	$10.65	$9.75	$9.11	$0.00	$78.76
For apprentice rates see "Apprentice- LABORER"							
LABORER: CEMENT FINISHER TENDER LABORERS LABORERS - ZONE 2	12/1/2025	$40.47	$10.65	$9.75	$9.11	$0.00	$69.98
	6/1/2026	$41.91	$10.65	$9.75	$9.11	$0.00	$71.42
	12/1/2026	$43.35	$10.65	$9.75	$9.11	$0.00	$72.86
	6/1/2027	$44.80	$10.65	$9.75	$9.11	$0.00	$74.31
	12/1/2027	$46.25	$10.65	$9.75	$9.11	$0.00	$75.76
	6/1/2028	$47.75	$10.65	$9.75	$9.11	$0.00	$77.26
	12/1/2028	$49.25	$10.65	$9.75	$9.11	$0.00	$78.76
For apprentice rates see "Apprentice- LABORER"							
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS LABORERS - ZONE 2	12/1/2025	$40.56	$10.65	$9.75	$9.65	$0.00	$70.61
	6/1/2026	$42.00	$10.65	$9.75	$9.65	$0.00	$72.05
	12/7/2026	$43.44	$10.65	$9.75	$9.65	$0.00	$73.49
	6/7/2027	$44.89	$10.65	$9.75	$9.65	$0.00	$74.94
	12/6/2027	$46.34	$10.65	$9.75	$9.65	$0.00	$76.39
	6/5/2028	$47.84	$10.65	$9.75	$9.65	$0.00	$77.89
	12/4/2028	$49.34	$10.65	$9.75	$9.65	$0.00	$79.39
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER LABORERS LABORERS - ZONE 2	12/1/2025	$40.72	$10.65	$9.75	$9.11	$0.00	$70.23
	6/1/2026	$42.16	$10.65	$9.75	$9.11	$0.00	$71.67
	12/1/2026	$43.60	$10.65	$9.75	$9.11	$0.00	$73.11
	6/1/2027	$45.05	$10.65	$9.75	$9.11	$0.00	$74.56
	12/1/2027	$46.50	$10.65	$9.75	$9.11	$0.00	$76.01
	6/1/2028	$48.00	$10.65	$9.75	$9.11	$0.00	$77.51
	12/1/2028	$49.50	$10.65	$9.75	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER (HEAVY & HIGHWAY) LABORERS	12/1/2025	$40.72	$10.65	$9.75	$9.21	$0.00	$70.33
	6/1/2026	$42.16	$10.65	$9.75	$9.21	$0.00	$71.77

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	$43.60	$10.65	$9.75	$9.21	$0.00	$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
LABORER: MULTI-TRADE TENDER	12/1/2025	$40.47	$10.65	$9.75	$9.11	$0.00	$69.98
LABORERS	6/1/2026	$41.91	$10.65	$9.75	$9.11	$0.00	$71.42
LABORERS - ZONE 2	12/1/2026	$43.35	$10.65	$9.75	$9.11	$0.00	$72.86
	6/1/2027	$44.80	$10.65	$9.75	$9.11	$0.00	$74.31
	12/1/2027	$46.25	$10.65	$9.75	$9.11	$0.00	$75.76
	6/1/2028	$47.75	$10.65	$9.75	$9.11	$0.00	$77.26
	12/1/2028	$49.25	$10.65	$9.75	$9.11	$0.00	$78.76
For apprentice rates see "Apprentice- LABORER"							
LABORER: TREE REMOVER	12/1/2025	$40.47	$10.65	$9.75	$9.11	$0.00	$69.98
LABORERS	6/1/2026	$41.91	$10.65	$9.75	$9.11	$0.00	$71.42
LABORERS - ZONE 2	12/1/2026	$43.35	$10.65	$9.75	$9.11	$0.00	$72.86
	6/1/2027	$44.80	$10.65	$9.75	$9.11	$0.00	$74.31
	12/1/2027	$46.25	$10.65	$9.75	$9.11	$0.00	$75.76
	6/1/2028	$47.75	$10.65	$9.75	$9.11	$0.00	$77.26
	12/1/2028	$49.25	$10.65	$9.75	$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	12/1/2025	$40.72	$10.65	$9.75	$9.11	$0.00	$70.23
LABORERS	6/1/2026	$42.16	$10.65	$9.75	$9.11	$0.00	$71.67
LABORERS - ZONE 2	12/1/2026	$43.60	$10.65	$9.75	$9.11	$0.00	$73.11
	6/1/2027	$45.05	$10.65	$9.75	$9.11	$0.00	$74.56
	12/1/2027	$46.50	$10.65	$9.75	$9.11	$0.00	$76.01
	6/1/2028	$48.00	$10.65	$9.75	$9.11	$0.00	$77.51
	12/1/2028	$49.50	$10.65	$9.75	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
LASER BEAM OPERATOR (HEAVY & HIGHWAY)	12/1/2025	$40.72	$10.65	$9.75	$9.21	$0.00	$70.33
LABORERS	6/1/2026	$42.16	$10.65	$9.75	$9.21	$0.00	$71.77
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	$43.60	$10.65	$9.75	$9.21	$0.00	$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
MARBLE & TILE FINISHERS	2/1/2026	$52.08	$12.84	$15.57	$5.78	$0.00	$86.27
BRICKLAYERS LOCAL 3	8/1/2026	$53.84	$12.84	$15.57	$5.78	$0.00	$88.03
BRICKLAYERS LOCAL 3 - MARBLE & TILE	2/1/2027	$54.96	$12.84	$15.57	$5.78	$0.00	$89.15

Apprentice: MARBLE & TILE FINISHERS

Effective Date: 2/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$26.04	$12.84	$15.57	$5.78	$0.00	$60.23
2	60.00	$31.25	$12.84	$15.57	$5.78	$0.00	$65.44
3	70.00	$36.46	$12.84	$15.57	$5.78	$0.00	$70.65
4	80.00	$41.66	$12.84	$15.57	$5.78	$0.00	$75.85
5	90.00	$46.87	$12.84	$15.57	$5.78	$0.00	$81.06

Construction

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

Apprentice: MARBLE & TILE FINISHERS

Effective Date: 8/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$26.92	$12.84	$15.57	$5.78	$0.00	$61.11
2	60.00	$32.30	$12.84	$15.57	$5.78	$0.00	$66.49
3	70.00	$37.69	$12.84	$15.57	$5.78	$0.00	$71.88
4	80.00	$43.07	$12.84	$15.57	$5.78	$0.00	$77.26
5	90.00	$48.46	$12.84	$15.57	$5.78	$0.00	$82.65

Apprentice to Journeyworker Ratio: 1:5

MARBLE MASONS,TILELAYERS & TERRAZZO MECH BRICKLAYERS LOCAL 3 BRICKLAYERS LOCAL 3 - MARBLE & TILE	2/1/2026	$67.97	$12.84	$15.57	$7.99	$0.00	$104.37
	8/1/2026	$70.17	$12.84	$15.57	$7.99	$0.00	$106.57
	2/1/2027	$71.57	$12.84	$15.57	$7.99	$0.00	$107.97

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	$33.99	$12.84	$15.57	$7.99	$0.00	$70.39
2	60.00	$40.78	$12.84	$15.57	$7.99	$0.00	$77.18
3	70.00	$47.58	$12.84	$15.57	$7.99	$0.00	$83.98
4	80.00	$54.38	$12.84	$15.57	$7.99	$0.00	$90.78
5	90.00	$61.17	$12.84	$15.57	$7.99	$0.00	$97.57

Apprentice: MARBLE MASONS,TILELAYERS & TERRAZZO MECH

Effective Date: 8/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$35.09	$12.84	$15.57	$7.99	$0.00	$71.49
2	60.00	$42.10	$12.84	$15.57	$7.99	$0.00	$78.50
3	70.00	$49.12	$12.84	$15.57	$7.99	$0.00	$85.52
4	80.00	$56.14	$12.84	$15.57	$7.99	$0.00	$92.54
5	90.00	$63.15	$12.84	$15.57	$7.99	$0.00	$99.55

Apprentice to Journeyworker Ratio: 1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	12/1/2025	$58.02	$16.55	$13.35	$3.25	$0.00	$91.17
	6/1/2026	$59.30	$16.55	$13.35	$3.25	$0.00	$92.45
	12/1/2026	$60.74	$16.55	$13.35	$3.25	$0.00	$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	12/1/2025	$58.02	$16.55	$13.35	$3.25	$0.00	$91.17
	6/1/2026	$59.30	$16.55	$13.35	$3.25	$0.00	$92.45
	12/1/2026	$60.74	$16.55	$13.35	$3.25	$0.00	$93.89

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
MILLWRIGHT (Zone 2) MILLWRIGHTS LOCAL 1121 MILLWRIGHTS LOCAL 1121 - Zone 2	1/5/2026	$46.86	$10.58	$11.47	$10.00	$0.00	$78.91

Apprentice: MILLWRIGHT (Zone 2)

Effective Date: 1/5/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	$25.77	$10.58	$0.00	$5.50	$0.00	$41.85
2	65.00	$30.46	$10.58	$0.00	$6.50	$0.00	$47.54
3	75.00	$35.15	$10.58	$11.47	$7.50	$0.00	$64.70
4	85.00	$39.83	$10.58	$11.47	$8.50	$0.00	$70.38

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	12/1/2025	$40.72	$10.65	$9.75	$9.11	$0.00	$70.23
	6/1/2026	$42.16	$10.65	$9.75	$9.11	$0.00	$71.67
	12/1/2026	$43.60	$10.65	$9.75	$9.11	$0.00	$73.11
	6/1/2027	$45.05	$10.65	$9.75	$9.11	$0.00	$74.56
	12/1/2027	$46.50	$10.65	$9.75	$9.11	$0.00	$76.01
	6/1/2028	$48.00	$10.65	$9.75	$9.11	$0.00	$77.51
	12/1/2028	$49.50	$10.65	$9.75	$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	12/1/2025	$25.08	$16.55	$13.35	$3.25	$0.00	$58.23
	6/1/2026	$25.67	$16.55	$13.35	$3.25	$0.00	$58.82
	12/1/2026	$26.34	$16.55	$13.35	$3.25	$0.00	$59.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
OILER (TRUCK CRANES, GRADALLS) OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	12/1/2025	$31.05	$16.55	$13.35	$3.25	$0.00	$64.20
	6/1/2026	$31.77	$16.55	$13.35	$3.25	$0.00	$64.92
	12/1/2026	$32.57	$16.55	$13.35	$3.25	$0.00	$65.72
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
OTHER POWER DRIVEN EQUIPMENT - CLASS II OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	12/1/2025	$58.02	$16.55	$13.35	$3.25	$0.00	$91.17
	6/1/2026	$59.30	$16.55	$13.35	$3.25	$0.00	$92.45
	12/1/2026	$60.74	$16.55	$13.35	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PAINTER (BRIDGES/TANKS) PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 2	1/1/2026	$59.56	$10.35	$12.00	$12.50	$0.00	$94.41

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
PAINTER (BRIDGES/TANKS)	1/1/2026	$50.46	$10.35	$12.00	$12.60	$0.00	$85.41
* 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							

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

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

PAINTER (SPRAY OR SANDBLAST, REPAINT)	1/1/2026	$48.52	$10.35	$12.00	$12.60	$0.00	$83.47
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

Construction

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

Apprentice: PAINTER (SPRAY OR SANDBLAST, REPAINT)

Effective Date: 1/1/2026

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

PAINTER / TAPER (BRUSH, NEW) *	1/1/2026	$49.06	$10.35	$12.00	$12.60	$0.00	$84.01

* 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

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

PAINTER / TAPER (BRUSH, REPAINT)	1/1/2026	$47.12	$10.35	$12.00	$12.60	$0.00	$82.07

PAINTERS LOCAL 35
PAINTERS LOCAL 35 - ZONE 2

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

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: PAINTER / TAPER (BRUSH, REPAINT)							
Effective Date: 1/1/2026							
Step / Percent		**Apprentice Base Wage**					
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)	12/1/2025	$40.47	$10.65	$9.75	$9.21	$0.00	$70.08
	6/1/2026	$41.91	$10.65	$9.75	$9.21	$0.00	$71.52
	12/1/2026	$43.35	$10.65	$9.75	$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	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
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**					
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	12/1/2025	$40.72	$10.65	$9.75	$9.11	$0.00	$70.23
	6/1/2026	$42.16	$10.65	$9.75	$9.11	$0.00	$71.67
	12/1/2026	$43.60	$10.65	$9.75	$9.11	$0.00	$73.11
	6/1/2027	$45.05	$10.65	$9.75	$9.11	$0.00	$74.56
	12/1/2027	$46.50	$10.65	$9.75	$9.11	$0.00	$76.01
	6/1/2028	$48.00	$10.65	$9.75	$9.11	$0.00	$77.51
	12/1/2028	$49.50	$10.65	$9.75	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
PIPELAYER (HEAVY & HIGHWAY) LABORERS	12/1/2025	$40.72	$10.65	$9.75	$9.21	$0.00	$70.33
	6/1/2026	$42.16	$10.65	$9.75	$9.21	$0.00	$71.77

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	$43.60	$10.65	$9.75	$9.21	$0.00	$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
PLUMBER & PIPEFITTER PLUMBERS & PIPEFITTERS LOCAL 51 PLUMBERS & PIPEFITTERS LOCAL 51	8/25/2025	$55.24	$10.80	$16.80	$4.60	$0.00	$87.44

Apprentice: PLUMBER & PIPEFITTER

Effective Date: 8/25/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$22.10	$10.15	$2.50	$0.00	$0.00	$34.75
2	50.00	$27.62	$10.15	$2.50	$0.00	$0.00	$40.27
3	60.00	$33.14	$10.15	$8.40	$0.50	$0.00	$52.19
4	70.00	$38.67	$10.15	$13.44	$0.80	$0.00	$63.06
5	80.00	$44.19	$10.15	$16.80	$1.00	$0.00	$72.14

Apprentice to Journeyworker Ratio: 1:3

PNEUMATIC CONTROLS (TEMP.) PLUMBERS & PIPEFITTERS LOCAL 51 PLUMBERS & PIPEFITTERS LOCAL 51	8/25/2025	$55.24	$10.80	$16.80	$4.60	$0.00	$87.44
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
PNEUMATIC DRILL/TOOL OPERATOR LABORERS LABORERS - ZONE 2	12/1/2025	$40.72	$10.65	$9.75	$9.11	$0.00	$70.23
	6/1/2026	$42.16	$10.65	$9.75	$9.11	$0.00	$71.67
	12/1/2026	$43.60	$10.65	$9.75	$9.11	$0.00	$73.11
	6/1/2027	$45.05	$10.65	$9.75	$9.11	$0.00	$74.56
	12/1/2027	$46.50	$10.65	$9.75	$9.11	$0.00	$76.01
	6/1/2028	$48.00	$10.65	$9.75	$9.11	$0.00	$77.51
	12/1/2028	$49.50	$10.65	$9.75	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2025	$40.72	$10.65	$9.75	$9.21	$0.00	$70.33
	6/1/2026	$42.16	$10.65	$9.75	$9.21	$0.00	$71.77
	12/1/2026	$43.60	$10.65	$9.75	$9.21	$0.00	$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
POWDERMAN & BLASTER LABORERS LABORERS - ZONE 2	12/1/2025	$41.47	$10.65	$9.75	$9.11	$0.00	$70.98
	6/1/2026	$42.91	$10.65	$9.75	$9.11	$0.00	$72.42
	12/1/2026	$44.35	$10.65	$9.75	$9.11	$0.00	$73.86
	6/1/2027	$45.80	$10.65	$9.75	$9.11	$0.00	$75.31
	12/1/2027	$47.25	$10.65	$9.75	$9.11	$0.00	$76.76
	6/1/2028	$48.75	$10.65	$9.75	$9.11	$0.00	$78.26
	12/1/2028	$50.25	$10.65	$9.75	$9.11	$0.00	$79.76
For apprentice rates see "Apprentice- LABORER"							
POWDERMAN & BLASTER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2025	$41.47	$10.65	$9.75	$9.21	$0.00	$71.08
	6/1/2026	$42.91	$10.65	$9.75	$9.21	$0.00	$72.52
	12/1/2026	$44.35	$10.65	$9.75	$9.21	$0.00	$73.96

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
POWER SHOVEL/DERRICK/TRENCHING MACHINE	12/1/2025	$58.68	$16.55	$13.35	$3.25	$0.00	$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	$59.98	$16.55	$13.35	$3.25	$0.00	$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	$61.43	$16.55	$13.35	$3.25	$0.00	$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (CONCRETE)	12/1/2025	$58.02	$16.55	$13.35	$3.25	$0.00	$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	$59.30	$16.55	$13.35	$3.25	$0.00	$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	$60.74	$16.55	$13.35	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (DEWATERING, OTHER)	12/1/2025	$37.37	$16.55	$13.35	$3.25	$0.00	$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	$38.23	$16.55	$13.35	$3.25	$0.00	$71.38
OPERATING ENGINEERS LOCAL 4	12/1/2026	$39.18	$16.55	$13.35	$3.25	$0.00	$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
READY-MIX CONCRETE DRIVER	8/1/2023	$25.00	$13.91	$6.90	$0.00	$0.00	$45.81
TEAMSTERS 653							
TEAMSTERS 653 - Southeastern Concrete (Weymouth)							
RECLAIMERS	12/1/2025	$58.02	$16.55	$13.35	$3.25	$0.00	$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	$59.30	$16.55	$13.35	$3.25	$0.00	$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	$60.74	$16.55	$13.35	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
RIDE-ON MOTORIZED BUGGY OPERATOR	12/1/2025	$40.72	$10.65	$9.75	$9.11	$0.00	$70.23
LABORERS	6/1/2026	$42.16	$10.65	$9.75	$9.11	$0.00	$71.67
LABORERS - ZONE 2	12/1/2026	$43.60	$10.65	$9.75	$9.11	$0.00	$73.11
	6/1/2027	$45.05	$10.65	$9.75	$9.11	$0.00	$74.56
	12/1/2027	$46.50	$10.65	$9.75	$9.11	$0.00	$76.01
	6/1/2028	$48.00	$10.65	$9.75	$9.11	$0.00	$77.51
	12/1/2028	$49.50	$10.65	$9.75	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
ROLLER/SPREADER/MULCHING MACHINE	12/1/2025	$58.02	$16.55	$13.35	$3.25	$0.00	$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	$59.30	$16.55	$13.35	$3.25	$0.00	$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	$60.74	$16.55	$13.35	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg)	2/1/2026	$53.53	$14.53	$12.67	$9.03	$0.00	$89.76
ROOFERS LOCAL 33							
ROOFERS LOCAL 33							

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	$26.77	$14.53	$6.52	$9.03	$0.00	$56.85
2	60.00	$32.12	$14.53	$12.67	$9.03	$0.00	$68.35

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg)							
Effective Date: 2/1/2026							
Step / Percent		**Apprentice Base Wage**	**Health**	**Pension**	**Annuity**	**Supplemental Unemployment**	**Total Rate**
3 / 65.00		$34.79	$14.53	$12.67	$9.03	$0.00	$71.02
4 / 75.00		$40.15	$14.53	$12.67	$9.03	$0.00	$76.38
5 / 85.00		$45.50	$14.53	$12.67	$9.03	$0.00	$81.73
Apprentice Notes							
** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1							
Apprentice to Journeyworker Ratio: 1:5							
ROOFER SLATE / TILE / PRECAST CONCRETE ROOFERS LOCAL 33 ROOFERS LOCAL 33	2/1/2026	$53.78	$14.53	$12.67	$9.03	$0.00	$90.01
For apprentice rates see "Apprentice- ROOFER"							
SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 17 SHEETMETAL WORKERS LOCAL 17 - B	10/1/2025	$44.05	$14.91	$13.35	$6.15	$2.24	$80.70
	4/1/2026	$45.55	$14.91	$13.35	$6.15	$2.24	$82.20
Apprentice: SHEETMETAL WORKER							
Effective Date: 10/1/2025							
Step / Percent		**Apprentice Base Wage**	**Health**	**Pension**	**Annuity**	**Supplemental Unemployment**	**Total Rate**
1 / 40.00		$17.62	$14.91	$4.27	$0.00	$1.09	$37.89
2 / 45.00		$19.82	$14.91	$4.80	$0.00	$1.17	$40.70
3 / 50.00		$22.03	$14.91	$12.28	$0.00	$1.45	$50.67
4 / 55.00		$24.23	$14.91	$12.28	$0.00	$1.52	$52.94
5 / 60.00		$26.43	$14.91	$12.28	$3.69	$1.64	$58.95
6 / 65.00		$28.63	$14.91	$12.28	$4.00	$1.71	$61.53
7 / 70.00		$30.84	$14.91	$12.28	$4.31	$1.78	$64.12
8 / 75.00		$33.04	$14.91	$12.28	$4.61	$1.86	$66.70
9 / 80.00		$35.24	$14.91	$12.28	$4.92	$1.93	$69.28
10 / 85.00		$37.44	$14.91	$12.28	$5.23	$2.00	$71.86
Apprentice: SHEETMETAL WORKER							
Effective Date: 4/1/2026							
Step / Percent		**Apprentice Base Wage**	**Health**	**Pension**	**Annuity**	**Supplemental Unemployment**	**Total Rate**
1 / 40.00		$18.22	$14.91	$4.27	$0.00	$1.09	$38.49
2 / 45.00		$20.50	$14.91	$4.80	$0.00	$1.17	$41.38
3 / 50.00		$22.78	$14.91	$12.28	$0.00	$1.45	$51.42
4 / 55.00		$25.05	$14.91	$12.28	$0.00	$1.52	$53.76
5 / 60.00		$27.33	$14.91	$12.28	$3.69	$1.64	$59.85
6 / 65.00		$29.61	$14.91	$12.28	$4.00	$1.71	$62.51

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: SHEETMETAL WORKER							
Effective Date: 4/1/2026							
Step / Percent		**Apprentice Base Wage**					
7 / 70.00		$31.89	$14.91	$12.28	$4.31	$1.78	$65.17
8 / 75.00		$34.16	$14.91	$12.28	$4.61	$1.86	$67.82
9 / 80.00		$36.44	$14.91	$12.28	$4.92	$1.93	$70.48
10 / 85.00		$38.72	$14.91	$12.28	$5.23	$2.00	$73.14
Apprentice to Journeyworker Ratio: 1:4							
SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 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
SPECIALIZED EARTH MOVING EQUIP > 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	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 550 SPRINKLER FITTERS LOCAL 550 - (Section B) Zone 2	1/1/2026	$64.85	$13.45	$7.45	$18.25	$0.00	$104.00
Apprentice: SPRINKLER FITTER							
Effective Date: 1/1/2026							
Step / Percent		**Apprentice Base Wage**					
1 / 0.00		$22.70	$13.45	$13.84	$0.00	$0.00	$49.99
2 / 0.00		$25.94	$13.45	$14.75	$0.00	$0.00	$54.14
3 / 0.00		$29.18	$13.45	$15.67	$0.00	$0.00	$58.30
4 / 0.00		$32.43	$13.45	$16.57	$0.00	$0.00	$62.45
5 / 0.00		$35.67	$13.45	$17.49	$0.00	$0.00	$66.61
6 / 0.00		$38.91	$13.45	$18.40	$0.00	$0.00	$70.76
7 / 0.00		$42.15	$13.45	$19.32	$0.00	$0.00	$74.92
8 / 0.00		$45.40	$13.45	$20.22	$0.00	$0.00	$79.07
9 / 0.00		$48.64	$13.45	$21.15	$0.00	$0.00	$83.24
10 / 0.00		$51.88	$13.45	$22.05	$0.00	$0.00	$87.38
Apprentice Notes							
Apprentice entered prior 9/30/10:							
Apprentice to Journeyworker Ratio: 1:3							
STEAM BOILER OPERATOR OPERATING ENGINEERS LOCAL 4 OPERATING ENGINEERS LOCAL 4	12/1/2025	$58.02	$16.55	$13.35	$3.25	$0.00	$91.17
	6/1/2026	$59.30	$16.55	$13.35	$3.25	$0.00	$92.45
	12/1/2026	$60.74	$16.55	$13.35	$3.25	$0.00	$93.89

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN	12/1/2025	$58.02	$16.55	$13.35	$3.25	$0.00	$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	$59.30	$16.55	$13.35	$3.25	$0.00	$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	$60.74	$16.55	$13.35	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
TELECOMMUNICATION TECHNICIAN	9/1/2025	$42.52	$12.00	$12.05	$3.25	$0.00	$69.82
TELECOMMUNICATION TECHNICIAN	9/1/2026	$44.41	$12.25	$12.59	$3.50	$0.00	$72.75
ELECTRICIANS LOCAL 223	9/1/2027	$46.51	$12.50	$13.18	$3.75	$0.00	$75.94
ELECTRICIANS LOCAL 223							
For apprentice rates and ratios see "Apprentice- ELECTRICIAN"							
TERRAZZO FINISHERS	2/1/2026	$66.89	$12.84	$15.57	$8.02	$0.00	$103.32
BRICKLAYERS LOCAL 3	8/1/2026	$69.09	$12.84	$15.57	$8.02	$0.00	$105.52
BRICKLAYERS LOCAL 3 - MARBLE & TILE	2/1/2027	$70.49	$12.84	$15.57	$8.02	$0.00	$106.92

Apprentice: TERRAZZO FINISHERS

Effective Date: 2/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$33.45	$12.84	$15.57	$8.02	$0.00	$69.88
2	60.00	$40.13	$12.84	$15.57	$8.02	$0.00	$76.56
3	70.00	$46.82	$12.84	$15.57	$8.02	$0.00	$83.25
4	80.00	$53.51	$12.84	$15.57	$8.02	$0.00	$89.94
5	90.00	$60.20	$12.84	$15.57	$8.02	$0.00	$96.63

Apprentice: TERRAZZO FINISHERS

Effective Date: 8/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$34.55	$12.84	$15.57	$8.02	$0.00	$70.98
2	60.00	$41.45	$12.84	$15.57	$8.02	$0.00	$77.88
3	70.00	$48.36	$12.84	$15.57	$8.02	$0.00	$84.79
4	80.00	$55.27	$12.84	$15.57	$8.02	$0.00	$91.70
5	90.00	$62.18	$12.84	$15.57	$8.02	$0.00	$98.61

Apprentice to Journeyworker Ratio: 1:5

TEST BORING DRILLER	12/1/2025	$51.95	$10.65	$9.75	$9.80	$0.00	$82.15
LABORERS	6/1/2026	$53.50	$10.65	$9.75	$9.80	$0.00	$83.70
LABORERS - FOUNDATION AND MARINE	12/1/2026	$55.00	$10.65	$9.75	$9.80	$0.00	$85.20
For apprentice rates see "Apprentice- LABORER"							
TEST BORING DRILLER HELPER	12/1/2025	$48.07	$10.65	$9.75	$9.80	$0.00	$78.27
LABORERS	6/1/2026	$49.62	$10.65	$9.75	$9.80	$0.00	$79.82
LABORERS - FOUNDATION AND MARINE	12/1/2026	$51.12	$10.65	$9.75	$9.80	$0.00	$81.32
For apprentice rates see "Apprentice- LABORER"							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
TEST BORING LABORER	12/1/2025	$47.95	$10.65	$9.75	$9.80	$0.00	$78.15
LABORERS	6/1/2026	$49.50	$10.65	$9.75	$9.80	$0.00	$79.70
LABORERS - FOUNDATION AND MARINE	12/1/2026	$51.00	$10.65	$9.75	$9.80	$0.00	$81.20
For apprentice rates see "Apprentice- LABORER"							
TRACTORS/PORTABLE STEAM GENERATORS	12/1/2025	$58.02	$16.55	$13.35	$3.25	$0.00	$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	$59.30	$16.55	$13.35	$3.25	$0.00	$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	$60.74	$16.55	$13.35	$3.25	$0.00	$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
TRAILERS FOR EARTH MOVING EQUIPMENT	1/1/2026	$41.82	$16.17	$21.78	$0.00	$0.00	$79.77
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	$42.82	$16.17	$21.78	$0.00	$0.00	$80.77
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	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	12/1/2025	$60.18	$10.65	$9.75	$10.25	$0.00	$90.83
LABORERS	6/1/2026	$61.73	$10.65	$9.75	$10.25	$0.00	$92.38
LABORERS (COMPRESSED AIR)	12/1/2026	$63.23	$10.65	$9.75	$10.25	$0.00	$93.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE)	12/1/2025	$62.18	$10.65	$9.75	$10.25	$0.00	$92.83
LABORERS	6/1/2026	$63.73	$10.65	$9.75	$10.25	$0.00	$94.38
LABORERS (COMPRESSED AIR)	12/1/2026	$65.23	$10.65	$9.75	$10.25	$0.00	$95.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR	12/1/2025	$52.25	$10.65	$9.75	$10.25	$0.00	$82.90
LABORERS	6/1/2026	$53.80	$10.65	$9.75	$10.25	$0.00	$84.45
LABORERS (FREE AIR TUNNEL)	12/1/2026	$55.30	$10.65	$9.75	$10.25	$0.00	$85.95
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR (HAZ. WASTE)	12/1/2025	$54.25	$10.65	$9.75	$10.25	$0.00	$84.90
LABORERS	6/1/2026	$55.80	$10.65	$9.75	$10.25	$0.00	$86.45
LABORERS (FREE AIR TUNNEL)	12/1/2026	$57.30	$10.65	$9.75	$10.25	$0.00	$87.95
For apprentice rates see "Apprentice- LABORER"							
VAC-HAUL	1/1/2026	$41.24	$16.17	$21.78	$0.00	$0.00	$79.19
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	$42.24	$16.17	$21.78	$0.00	$0.00	$80.19
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	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
WAGON DRILL OPERATOR	12/1/2025	$40.72	$10.65	$9.75	$9.11	$0.00	$70.23
LABORERS	6/1/2026	$42.16	$10.65	$9.75	$9.11	$0.00	$71.67
LABORERS - ZONE 2	12/1/2026	$43.60	$10.65	$9.75	$9.11	$0.00	$73.11
	6/1/2027	$45.05	$10.65	$9.75	$9.11	$0.00	$74.56
	12/1/2027	$46.50	$10.65	$9.75	$9.11	$0.00	$76.01
	6/1/2028	$48.00	$10.65	$9.75	$9.11	$0.00	$77.51
	12/1/2028	$49.50	$10.65	$9.75	$9.11	$0.00	$79.01
For apprentice rates see "Apprentice- LABORER"							
WAGON DRILL OPERATOR (HEAVY & HIGHWAY)	12/1/2025	$40.72	$10.65	$9.75	$9.21	$0.00	$70.33

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS	6/1/2026	$42.16	$10.65	$9.75	$9.21	$0.00	$71.77
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/1/2026	$43.60	$10.65	$9.75	$9.21	$0.00	$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
WASTE WATER PUMP OPERATOR	12/1/2025	$58.68	$16.55	$13.35	$3.25	$0.00	$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	$59.98	$16.55	$13.35	$3.25	$0.00	$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	$61.43	$16.55	$13.35	$3.25	$0.00	$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
WATER METER INSTALLER	8/25/2025	$55.24	$10.80	$16.80	$4.60	$0.00	$87.44
PLUMBERS & PIPEFITTERS LOCAL 51							
PLUMBERS & PIPEFITTERS LOCAL 51							
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"							

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 00870

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS
(EXECUTIVE ORDER 11246)
Revised April 9, 2019

1. As used in these specifications:

   a. "Covered area" means the geographical area described in the solicitation from which this contract resulted:

   b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority.

   c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

   d. "Minority" includes:

      (i) Black (all persons having origins in any of the black African racial groups not of Hispanic origin);
      (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
      (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
      (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $ 10,000 the provisions of the specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in Paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

   a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

   b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

   c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

   d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

   e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

   f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

   g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

   h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables of affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11 The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as many be required by the Government and keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

APPENDIX A

The following goals and timetables for female utilization shall be included in all Federal and federally assisted construction contracts and subcontracts in excess of $ 10,000. The goals are applicable to the Contractor's aggregate on-site construction workforce whether or not part of that workforce is performing work on a Federal or federally-assisted construction contract or subcontract.

Area covered: Goal for Women apply nationwide

Goals and Timetables

Timetable	Goals (percent)
From Apr. 1, 1980 until further notice	6.9

APPENDIX B-80

Until further notice, the following goals for minority utilization in each construction craft and trade shall included in all Federal or federally assisted construction contracts and subcontracts in excess of $ 10,000 to be performed in the respective geographical areas. The goals are applicable to each nonexempt contractor's total on- site construction workforce, regardless of whether or not part of that workforce is performing work on a Federal, federally assisted or nonfederally related project, contract or subcontract.

Construction contractors participating in an approved Hometown Plan (see 41 CFR 6-4.5) are required to comply with the goals of the Hometown Plan with regard to construction work they perform in the area covered by the Hometown Plan. With regard to all their other covered construction work, such contractors are required to comply with the applicable SMSA or EA goal contained in this Appendix B-80.

Economic Areas

STATE:	Goals (percent)
MASSACHUSETTS	
004 Boston MA: SMSA Counties: 1123 Boston-Lowell-Brockton-Lawrence-Haverhill, MA-NH	4.0
MA Essex, MA Middlesex, MA Norfolk, MA Plymouth, MA Suffolk, NH Rockingham.	
5403 Fall River- New Bedford MA, Bristol	1.6
9243 Worcester-Fitchburg-Leominster, MA	1.6
6323 Springfield-Chicopee-Holyoke MA-CT MA Hampden, MA Hampshire	4.8
Non-SMSA Counties: MA Barnstable, MA Dukes, MA Nantucket	3.6
Non-SMSA Counties: MA Franklin	5.9

APPENDIX C

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin (including limited English proficiency), age, sex, disability, or low-income status in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. **Solicitations for Subcontractors, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to nondiscrimination on the grounds of race, color, national origin (including limited English proficiency), age, sex, disability, or low-income status.

4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Massachusetts Department of Transportation (MassDOT) or FHWA to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor will so certify to MassDOT or FHWA, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Nondiscrimination provisions of this contract, MassDOT will impose such contract sanctions as it or FHWA may determine to be appropriate, including, but not limited to:

    a. withholding payments to the contractor under the contract until the contractor complies; and/or
    b. cancelling, terminating, or suspending a control, in whole or in part.

6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as MassDOT or FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request MassDOT to enter into any litigation to protect the interests of MassDOT. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

APPENDIX D

During the performance of this contact, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor," which includes consultants) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

PERTINENT NON-DISCRIMINATION AUTHORITIES:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21

- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-Aid programs and projects)

- Federal-Aid Highway Act of 1973 (23 U.S.C. § 324 *et seq.*) (prohibits discrimination on the basis of sex)

- Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability) and 49 CFR Part 27

- The Age Discrimination Act of 1975, as amended (42 U.S.C. § 6101 *et seq.*) (prohibits discrimination on the basis of age)

- Airport and Airway Improvement Act of 1982 (49 U.S.C. § 471, Section 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex)

- The Civil Rights Restoration Act of 1987 (PL 100-209) (broadened the scope, coverage, and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of Federal-Aid recipients, sub-recipients, and contractors, whether such programs or activities are Federally funded or not)

- Titles II and III of the Americans with Disabilities Act (42 U.S.C. §§ 12131-12189), as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38 (prohibits discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities)

- The Federal Aviation Administration's Non-Discrimination Statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex)

- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations)

- Executive Order 13166, Improving Access to Services for People with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100)

- Title IX of the Education Amendments Act of 1972, as amended (20 U.S.C. 1681 *et seq*.) (prohibits discrimination on the basis of sex in education programs or activities)

*** END OF DOCUMENT ***

DOCUMENT 00880

Revised January 12, 2022

DEPARTMENT OF LABOR

Employment Standards Administration

MINIMUM WAGES FOR FEDERAL AND FEDERALLY ASSISTED CONTRACTS

"General Decision Number: MA20260015 01/02/2026

Superseded General Decision Number: MA20250015

State: Massachusetts

Construction Type: Highway

County: Barnstable County in Massachusetts.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0223-001 09/01/2024

	Rates	Fringes
ELECTRICIAN (Includes Traffic Signalization)	$ 50.02	31.09%+15.50

ENGI0004-032 06/01/2025

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Group 1	$ 57.83	33.70
Group 2	$ 57.18	33.70

FOOTNOTE FOR POWER EQUIPMENT OPERATORS:
A. PAID HOLIDAYS: New Year's Day, Washington's Birthday, Labor Day, Memorial Day, Independence Day, Patriot's Day, Columbus Day, Veteran's Day, Thanksgiving Day, Christmas Day

POWER EQUIPMENT OPERATORS CLASSIFICATIONS
Group 1: Backhoe/Excavator/Trackhoe; Bobcat/Skid Steer/Skid Loader; Broom/Sweeper; Crane; Gradall; Loader; Paver (Asphalt, Aggregate, and Concrete); Post Driver (Guardrail/Fences)
Group 2: Bulldozer; Grader/Blade; Milling Machine; Roller

IRON0007-026 09/16/2025

	Rates	Fringes
IRONWORKER (ORNAMENTAL AND STRUCTURAL)	$ 57.87	37.67

LABO0133-001 12/01/2024

	Rates	Fringes
LABORER (Concrete Surfacer).....	$ 46.20	29.85

LABO0385-001 12/01/2024

	Rates	Fringes
LABORER		
Common or General.....	$ 38.95	29.41
Fence Erection.....	$ 38.95	29.41

LABO0385-005 12/01/2024

	Rates	Fringes
LABORER (Landscape).....	$ 38.95	29.41

LABO0596-009 06/01/2025

	Rates	Fringes
LABORER		
Guardrail Installation.....	$ 35.00	26.91

PAIN0035-023 07/01/2024

	Rates	Fringes
PAINTER (Steel).....	$ 56.76	36.00

TEAM0059-001 06/01/2025

	Rates	Fringes
TRUCK DRIVER (Dump Truck).....	$ 40.78	37.35+a+b

FOOTNOTES:

A. PAID HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Patriot's Day, Columbus Day, Veteran's Day, Thanksgiving Day and Christmas Day

B. PAID VACATION: Employees with 4 months to 1 year of service receive 1/2 day's pay per month; 1 week vacation for 1 - 5 years of service; 2 weeks vacation for 5 - 10 years of service; and 3 weeks vacation for more than 10

years of service

SUMA2014-005 01/11/2017

	Rates	Fringes
CARPENTER, Includes Form Work	$ 43.64	22.09
CEMENT MASON/CONCRETE FINISHER	$ 56.70	21.08
IRONWORKER, REINFORCING	$ 44.52	19.36
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 33.65	17.32
LABORER: Concrete Saw (Hand Held/Walk Behind)	$ 44.43	14.18
LABORER: Jack Hammer	$ 38.69	17.33
OPERATOR: Forklift	$ 64.67	0.00
OPERATOR: Mechanic	$ 48.74	11.79
OPERATOR: Piledriver	$ 42.56	17.34
PAINTER: Spray (Linestriping)	$ 47.30	6.42
TRAFFIC CONTROL: Flagger	$ 23.00	20.44
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper	$ 53.35	12.78
TRUCK DRIVER: Concrete Truck	$ 33.69	15.79
TRUCK DRIVER: Flatbed Truck	$ 48.53	0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any

solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least $13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date,

6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations.

Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION

DOCUMENT A00801

SPECIAL PROVISIONS

HARWICH

Federal Aid Project No. TAP-SRS5(002)X
Harwich Elementary School Improvements (SRTS)

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 *2026 Standard Specifications for Highways and Bridges,* the *Construction Standard Details* in effect as of January 2026, the *1990 Standard Drawings for Signs and Supports*, the 2015 *Overhead Signal Structure and Foundation Standard Drawings*, the *11th Edition of the Manual on Uniform Traffic Control Devices (MUTCD)* and the *January 2026 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.

The proposed project is to provide and enhance safe routes to school for Harwich Elementary School. The proposed project consists primarily of the improvement of pedestrian facilities on South Street, Main Street, and Sisson Road in Harwich, Massachusetts.

The proposed improvements on South Street include reconstruction of the existing sidewalk along the east side of the roadway. The existing sidewalk will be widened to accommodate sidewalk widths of 8 feet from School House Drive to Main Street. Existing concrete curbing will be replaced with granite curb. Reconstruction of all curb ramps, crosswalks and driveways on South Street will be completed to meet ADA compliance requirements. A new crosswalk for South Street at the intersection with Main Street is proposed as well.

The proposed improvements on Main Street include reconstruction of the existing sidewalk along the south side of the roadway from South Street to Sisson Road. The existing sidewalk will be reconstructed to a 5-foot width and include reconstruction of all curb ramp, crosswalks and driveways to meet ADA compliance requirements. Existing berm will be replaced. Two additional crosswalks and receiving curb ramps are proposed across Main Street at Uncle Harry's Road and Island Pond Road, including appropriate signage. At the back of sidewalk, retaining wall/lot curb construction is proposed to accommodate the sidewalk.

The proposed improvements on Sisson Road include reconstruction of the existing sidewalk and new sidewalk construction. The sidewalk on the west side of the roadway from School House Drive to Parallel Street will be reconstructed. North of Parallel Street, replacement of sidewalk on the east side of the roadway will occur to the intersection with Main Street.

SCOPE OF WORK (Continued)

New sidewalk is proposed on the east side of Sisson Road, north of 265 Sisson Road to the intersection with Parallel Street. All sidewalks will be reconstructed to a 5-foot width and include reconstruction of all curb ramp, crosswalks and driveways to meet ADA compliance requirements. Granite curbing will be replaced. An additional crosswalk will be added across the east Parallel Street approach.

The work includes, but is not limited to, the following:

1. Reconstruction of the east sidewalk on South Street to be ADA compliant and 8 feet wide.
2. Reconstruction of a 5-foot-wide sidewalk on the south side of Main Street to be compliant with ADA.
3. Reconstruction of a 5-foot-wide sidewalk on the west side of Sisson Road from School House Drive to Parallel Street, and the east side of Sisson Road from Parallel Street to Main Street. All reconstructed sidewalks to be ADA compliant.
4. Construction of a 5-foot-wide sidewalk on the east side of Sisson Road, from 265 Sisson Road to Parallel Street.
5. Reconstruction of existing pedestrian curb ramps and crossings to be ADA compliant.
6. Construction of proposed pedestrian curb ramps and crossings to be ADA compliant.
7. Replacement and installation of new traffic signs and posts.
8. Mill and overlay at existing crosswalk locations and installation of new crosswalk striping.
9. Installation of detectable warning panels at proposed intersections.
10. Installation and maintenance of temporary traffic controls including temporary barriers and temporary traffic signs to safely detour pedestrians around the work area and navigate motorists through the work zones.

The Contractor shall be responsible for inspecting and examining the site prior to bidding. The roadways remain open to traffic during construction with the contractor utilizing lane shifts and closure of a single lane via the use of one lane alternating set-ups. Sidewalk closures with pedestrian detours shall be used to safely detour pedestrians around the work zone.

The Contractor shall conduct their own investigation and research existing conditions and measurements affecting the work to be done.

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 4.

Asbestos Liability Insurance shall be obtained for this project.

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.

WORK SCHEDULE

The Contractor shall in good faith try to plan all work on South Street during the school's summer vacation period as to cause the least disruption to operations. The Contractor is restricted from conducting any work on Main Street and Sisson Road during the summer months per the Cape Cod Moratorium.

All roadways will remain open to vehicular and pedestrian traffic during construction. One lane alternating and lane shift temporary traffic set-ups will be utilized when work is conducted within the roadways. Additionally, pedestrian detours will be in place when work is being conducted on segments of existing sidewalk. Construction is restricted to a normal 5-day work week, 8 hours per day with the Prime Contractors and Subcontractors working the same from 7:00 am to 3:30 pm unless otherwise stated in these specifications. Property access must be maintained at all times.

The Contractor is allowed to work no more than 8 hours a days, 5 days a week, until 6:00 PM within daylight hours. If the Contractor would like to conduct work after this time they must get prior written approval from the Town.

CAPE COD MORATORIUM WORK NOTE

No work shall be allowed on any roadway between Memorial Day and Labor Day without prior written approval of the Engineer and the Town.

NOTICE TO OWNERS OF UTILITIES (Supplementing Subsection 7.13)

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

The following are the names of owners and representatives of the principal utilities in the area, the completeness of this list is not guaranteed by the Department:

Harwich Department of Public Works Lincoln Hooper 273 Queen Anne Road Harwich, MA 02645 (508) 430-7555 lhooper@harwichdpw.com	**Verizon** Karen Mealey 385 Myles Standish Boulevard Taunton, MA 02780 (774) 409-3160 karen.m.mealey@verizon.com
Harwich Police Department Chief Kevin Considine 183 Sisson Road Harwich, MA 02645 (508) 430-7541 kconsidine@harwichpolice.com	**Comcast Cable Corporation** Wendy Brown P.O. Box 6505, 5 Omni Way Chelmsford, MA 01824 (978) 848-5163 wendy_brown@comcast.com
Harwich Fire Department Chief David LeBlanc 175 Sisson Road Harwich, MA 02645 (508) 430-7546 david.leblanc@harwich-ma.gov	**Crown Castle** Mark Bonanno 80 Central Street Boxborough, MA 01719 (508) 616-7818 mark.bonanno@crowncastle.com
Harwich Water/Wastewater Department Jason Trepanier 196 Chatham Road Harwich, MA 02645 (508) 432-0304 jason.trepanier@harwich-ma.gov	**Eversource Fiber** Bechir Khoury 247 Station Drive, SUM SE 320 Westwood, MA 02090 (781) 441-3864 bechir.khoury@eversource.com
Eversource Electric "B" Ned Sadowski 50 Duchaine Blvd. New Bedford, MA 01745 ned.sadowski@eversource.com	**National Grid Gas** Melissa Owens 170 Data Drive Waltham, MA 02451 (781) 907-2845 melissa.owens@nationalgrid.com

NOTICE TO OWNERS OF UTILITIES (CONTINUED)

Open Cape Gary Farrenkopf PO Box 1148 Barnstable, MA 02630 gary@opencape.org	**Verizon Small Cell** Liz Glidden 20 Alexander Drive Wallingford, CT 06492 elizabeth.glidden@verizonwireless.com
Barnstable County IT Bill Traverse 3195 Main Street Barnstable, MA 02630 (508) 744-1244 btraverse@capecod.gov	

Additionally, utility contact information is available on the MassDOT website:

https://hwy.massdot.state.ma.us/webapps/utilities/select.asp?t=HARWICH&d=5&c=127

Town officials are shown at the website http://www.mass.gov under the "for Government" tab, select "City/Town official directory then select City and town websites link Select the Town of Harwich, and then locate the official to contact.

UTILITY AND MUNICIPAL NOTIFICATION AND COORDINATION

During the progress of the work, the Contractor shall cooperate with the Owners of the utilities and permit their representative's access to the work to determine if their utilities are being endangered in any way.

The Contractor shall schedule his construction to allow for a coordinated highway and utility effort. Upon Notice to Proceed, the Contractor shall notify all utilities relative to the anticipated construction start date. Immediately following the Pre-construction Conference, the Contractor shall initiate any survey layout required for utilities.

NATIONAL GRID EMERGENCY TELEPHONE NUMBERS

GAS:
Emergency: 1-800-233-5325
New Service: 1- 877-696-4743
Customer Support: 1-800-732-3400

EVERSOURCE EMERGENCY TELEPHONE NUMBERS

ELECTRIC:
Outage/ Emergency: 800-592-2000 or 844-726-7562
New Service: 1-888-633-3797 (1-888-need pwr)
Customer Support: 1-800-340-9822

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 0.3 Million 18-kip (80-kn) ESALs.

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.

PROVISIONS FOR TRAVEL AND PROSECUTION OF WORK

(Supplementing Subsections 7.09, 7.10 and 8.03)

Before starting any work under this contract, the Contractor shall submit a schedule of operations as provided in Subsection 8.02. He/she shall coordinate his/her work with the work to be done by the public utilities or other agencies. The schedule submitted shall include consideration of the following factors: Removal and installation of concrete sidewalk, milling and overlaying of outdated crossing locations, and installation of signage and striping. Said schedule, submitted to the Engineer, shall be sufficiently detailed so that the Contractor's method of dealing with the operations above and their effect on one another shall be clearly stated.

The Contractor shall provide, in accordance with the contract plans, all reflectorized drums or cones, signs and all other specified traffic control devices needed to complete the work. Construction work on the project shall not commence until the construction signing and traffic control devices as described in the Contract Drawings have been installed and approved by the engineer. Shop drawings shall be approved prior to any traffic restrictions being imposed.

The Contractor shall maintain traffic in accordance with the Temporary Traffic Control Plans and in the Special Provisions. South Street, Main Street, and Sisson Road shall remain open to traffic at all times during construction.

Pedestrian access along South Street, Main Street, and Sisson Road shall be maintained throughout the duration of construction, and coordination with impacted property owners shall be maintained.

Removal of existing pedestrian network and roadway related work shall not begin until temporary traffic controls, protected pedestrian travel ways, and other warning signs are in place. The Contractor shall not implement the work until receiving approval from the Engineer. Shop drawings shall be approved prior to any traffic restrictions being imposed.

The Contractor will notify the Harwich Department of Public Works and the Harwich Police and Fire Departments in writing at least two weeks before commencing work on the roadway.

The Contractor is responsible for erecting and maintaining any additional signs that may be needed for construction and removing them when they are no longer needed or as directed by the Engineer.

The Contractor shall not begin physical work on the project until the following minimum criteria have been met:

- The Contractor shall verify that shop drawings have been approved and the materials for the construction of the proposed structure have been fabricated accordingly.
- All signing has been installed as noted on the Plans and approved in the field by the engineer.
- All traffic control devices as noted on the Plans have been delivered to the site.

The Contractor shall order all materials and service required for the work immediately after the notice to proceed. The Contractor shall not start any operation until all materials required for the operation are at the site or until the Engineer is satisfied that the materials will be delivered in such order that there will be no interruption to continuous and efficient progress.

WORK DONE BY OTHERS

(Supplementing Subsections 5.06)

Relocation and/or resetting to new grades of all private utilities, including utility poles/guys, and gas lines made necessary by the construction of this project, will be accomplished by the respective utility companies. Adjusting gas gates and telephone manholes to grade will also be conducted by the respected utility.

MATERIALS REMOVED AND STORED

The Contractor shall carefully remove, transport and store these materials on boards at the Harwich Department of Public Works (DPW) located at 273 Queen Anne Road, Harwich, MA 02645.

MATERIAL REMOVED AND STACKED

The Contractor shall carefully remove and stack these materials at a site designated on the project by the Engineer for their subsequent removal by the Town's maintenance personnel. The Contractor shall furnish any necessary equipment and labor for loading and unloading the material onto Town trucks.

If the Engineer determines that any part of the stacked material is unsuitable for reuse, or if the Town decides to abandon part or all of such materials, said materials shall become the property of the Contractor, and the Contractor shall dispose of them away from the site without additional compensation.

Payment for this work shall be included in the respective bid items. Any materials damaged or lost during or subsequent to removal shall be replaced in kind by the Contractor without additional compensation.

SPECIAL PROVISIONS FOR EXCAVATION, EMBANKMENTS, & EROSION CONTROL (Supplementing Subsections 7.02)

The Contractor is cautioned that prior to commencing any operation that will expose the soil and render it subject to erosion, necessary silt fence & compost filter tubes shall be positioned in all locations required as directed by the Engineer.

All slopes shall be covered with hay mulch and seeded. Slopes shall be seeded when practicable to keep the area of soil open to the elements at a minimum.

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.

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.

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.

HOLIDAY WORK RESTRICTIONS (Continued)

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

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 8.02 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.

PROSECUTION OF WORK (Supplementing Subsection 8.03)
Add/amend the following at the end of the Section:

Contractual Milestones:

This Contract contains the following Contractual Milestones that are to be included in the Contractor's Baseline Contract Progress Schedule submission. The contractor shall identify the completion of the work pertaining to each Contractual Milestone through the inclusion of a Finish Milestone in the accepted baseline Contract Progress Schedule.

- **MS#01 – Contractor Completion:** The Contractor shall achieve Contractor Completion within **929 calendar days from Notice to Proceed**.
  Contractor Completion is defined as the completion of all physical contract work including the completion of the punch list work and the Contractor has fully de-mobilized from the field operations.

- **MS#02 – Substantial Completion:** The Contractor shall achieve Substantial Completion within **873 calendar days from Notice to Proceed**.
  Substantial Completion shall be described as the date that a walkthrough of the entire contract work has been performed by the Resident Engineer, and the Work required by the Contract, including paperwork, has been completed, except for work having a contract price of less than one percent of the adjusted contact price, including overruns, underruns and all contact amendments. All Material submittals must have been received by the District Materials Lab.

BIDDERS LIST

Pursuant to the provisions of 49 CFR Part 26.11 all official bidders will be required to report the names, addresses and telephone numbers of all firms that submitted bids or quotes in connection with this project. Failure to comply with a written request for this information within 15 business days may result in a recommendation to the Prequalification Committee that prequalification status be suspended until the information is received.

The Department will survey all firms that have submitted bids or quotes during the previous year prior to setting the annual goal and shall request that each firm report its age and gross receipts for the year.

BUILD AMERICA BUY AMERICA PREFERENCE

On Federally-aid projects the Buy America (23.CFR § 635.410) and Build America, Buy America Act. requires the following,

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

of Build America, Buy America. Temporary steel, shall remain in place when it falls within the influence zone of the soil supporting any structure or railroad tracks.

(2) all manufactured products used in the project are produced in the United States—this means the manufactured product was manufactured in the United States and

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

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

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

All articles, materials, and supplies should be classified as an iron or steel product, a manufactured product, or another product as specified by law or in 2 CFR part 184 (such other products specified by law or in 2 CFR part 184 include "excluded materials" and "construction materials"); an article, material, or supply must not be considered to fall into multiple categories.

EMERALD ASH BORER ADVISORY

To the extent possible, all trees and brush shall be disposed on site, typically chipped and spread in place. When trees or brush must be removed, such as in urban, or otherwise populated areas, Contractor shall identify proposed location for disposal, and provide written notification to the Engineer for approval. Disposal shall be in city or town of project, or at minimum, within county, of construction operations.

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. This project has been consulted with the USFWS through the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and Federal Transit Administration (FTA) Programmatic Biological Opinion/Conference Opinion for Transportation Projects in the Range of the Indiana bat, northern long-eared bat, and tricolored bat, dated December 13, 2024. and generated a May Affect, Not Likely to Adversely Affect (NLAA) determination (see **Document A00844**). Subsequently, the project has completed Section 7 consultation under the ESA.

In advance of the uplisting of the TCB to endangered under the ESA, 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 Unit Supervisor for questions about project limits, restrictions, or conservation measures.

General AMM

- 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 and TCB 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.

- On 6/28/2022, MassDOT Highway Division Environmental Services conducted a northern long-eared bat summer presence/absence survey, in accordance with the 2022 survey guidelines. The survey did not confirm the presence of NLEB and/or TCB. If work is proposed by the Contractor past [6/28/2027], additional review is required by the MassDOT Highway Division's Environmental Services Section, and additional review and restrictions may be required by the USFWS.

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.

ENVIRONMENTAL PERMITTING

A Negative Determination has been obtained from the Harwich Conservation Commission under the Wetlands Protection Act. If field conditions and/or Contractor-proposed erection, demolition, storage, or other procedures not originally allowed by existing environmental permits require work to occur in or otherwise impact water or wetland resource areas, the Contractor is advised that no associated work can occur until all required environmental permits have been either amended or obtained allowing such work. The Contractor must notify the District 5 Highway Director and Resident Engineer in writing at least 60 days prior to desired commencement of the proposed activity. All environmental submittals, including any contact with Local, State, or Federal environmental agencies, must be coordinated with the District 5 Environmental Engineer. The Contractor is expected to fully cooperate with requests for information and provide same in a timely manner. The Contractor is further advised that the Department will not entertain a delay claim due to the time required to modify or obtain the environmental permits.

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:

SUBSECTION 8.14 (Continued)

- 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.

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.

SUBSECTION 8.14 (Continued)

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.

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.

SUBSECTION 8.14 (Continued)

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.

ITEM 102.2 TREE TRIMMING LUMP SUM

The work under this Item shall conform to the relevant provisions of Subsections 8.08 and 101 of the Standard Specifications and the following.

The work shall consist of removing all living, dead, dying, broken and certain other limbs and branches in areas adjacent to proposed overhead wire relocations, highway lighting, traffic signals, traffic signage, and other areas as described in the plans, as required by the Engineer.

Tree trimming shall be done as directed by the Engineer. Any tree trimming for overhead wire relocations shall meet the current requirements of each Utility. Prior to commencing work the Contractor shall verify each location with the Utility Companies.

All pruning and tree work shall be in conformance with the most current version of the American National Standards Institute (ANSI) Standard Z-133.1 and A300 Standard Practices for Tree, Shrub, and Other Woody Plant Maintenance.

All tree trimming work within 10 feet of energized power lines and equipment shall be in conformance with the most current version of the United States Department of Labor (DOL) OSHA Standard 1910.269(r) along with subsections (1) through (8).

All work under this Item will be performed or supervised by a Massachusetts Certified Arborist.

Contractor shall be required to provide a crew, consisting of a bucket truck with operator and grounds man for pruning and removal. The minimum crew shall consist of the following: a supervisor and three tree-trimmers/laborers. The crew shall be equipped with all necessary equipment needed to complete the work including, but not limited to, pickup trucks, chippers, gas powered chain saws, hand saws, loppers, shears, pruners, branch trimmers, ladders, tree-climbing equipment, etc. Fuel for equipment shall also be considered incidental to this Item. The crew shall be OSHA certified as line-clearance tree trimmers to work within 10 feet of energized power lines and equipment.

SUBMITTALS

Prior to the start of work, the Contractor shall submit to the Engineer the name, certification number and resume of the Massachusetts Certified Arborist referenced herein. The cost for Certified Arborist for all activities pertaining to this Item shall be incidental to this Item.

Incidental to this Item, the Contractor shall provide to the Engineer one (1) copy of the most current version of the American National Standards Institute (ANSI) Standard Z-133.1 and A300 Standard Practices for Tree, Shrub, and Other Woody Plant Maintenance, Part 1: Pruning. These references shall be kept by the Engineer at his/her office for the length of the Contract.

ITEM 102.2 (Continued)

Prior to start of work, the Contractor shall coordinate with the MassDOT Landscape Design Section, the Electric Utility Company, and the Utility Company with pole set in the field to confirm number, location, and extent of selective tree trimming.

DESCRIPTION OF WORK

Line-clearance Tree Trimming: Shall be defined as the pruning, trimming, repairing, maintaining, removing, or clearing of trees or the cutting of brush that is near (within 10 feet of) energized power lines.

TREE: Shall be defined as having a diameter of 4 inches or over, measured at a point 3 feet above the average ground.

LIMBS AND BRANCHES: Shall be defined as wood having a diameter of ½ inch or over and wood that has a diameter of less than ½ inch shall be considered a TWIG.

A DYING LIMB OR BRANCH: May have live growth at some point but shall be removed if found to be in an unhealthy condition.

While it is not the intent that every dead, dying and/or broken twig be removed from trees requiring trimming, the tree worker will be required to remove all such twigs accessible in the areas of the tree in which he/she is working.

If required by the Engineer, specific trees or parts thereof which are so located that damage may result from dropping shall be reduced by rope or cable lowering.

Tree shaping may be required on trees, where up-branching done under this contract has distorted the natural symmetry of the tree. Tree shaping shall consist of the removal of limbs and branches from other locations of the tree where removal is desirable to restore natural symmetry.

All sucker growth on all tree trunks within the limits of the contract shall be removed from the ground level to the beginning of the main branch system.

Any and all trees, branches, or brush conflicting with utility poles, equipment, overhead wires, and service connections, shall be removed and/or cut back using best practices to satisfy the requirements of all Utilities with an attachment to the pole line.

Any and all branches extending directly below a street luminaire to limit the light reaching the street or path/sidewalk surfaces shall be removed and all branches shall be cut back to afford a minimum of 5-foot clearance on all sides of the luminaire. The path/sidewalk surface shall be considered as the area from the edge of the roadway surface to the edge of the path/sidewalk surface farthest from the roadway.

By cutting NEARLY, but not quite, flush with the trunk, limb or branch, the "collar" is left at the top of the wound (in the crotch of the union). This will permit the callus growth to cover the wound in a shorter period of time.

ITEM 102.2 (Continued)

BASIS OF PAYMENT

Item 102.2 will be paid for at the Lump Sum Bid Price and it is considered full compensation for all labor, certifications, materials, equipment, apparatus, tools and all incidental cost required to complete the work.

Arborist will be paid for at the contract unit price per hour under the item 102.55 Arborist

ITEM 102.511 TREE PROTECTION – ARMORING AND PRUNING EACH

The work under this item shall conform to the relevant provisions of Sections 771 of the Standard Specifications and the following:

Tree protection – armoring and pruning shall be used for instances where construction activity (the use of heavy equipment), comes within proximity to potentially damage tree trunk(s) or limbs.

The work shall include the furnishing and installing of temporary tree trunk protection, minor limb pruning, or removal of lower tree limbs to prevent injury to the tree from construction equipment and activities; as shown on the Drawings; and/or as required by the Engineer.

REFERENCES

If requested, the Contractor shall provide to the Engineer one copy of the latest edition of the American National Standards Institute (ANSI) A300 Standard Practices for Tree, Shrub, and Other Woody Plant Maintenance: Part 1-Pruning and Part 5-Construction Management Standard. Provision of reference shall be incidental to this item.

MATERIALS

Trunk armoring shall be such that it prevents damage to the trunk from construction equipment. Material used for trunk armoring or mounting shall be such that installation and removal shall not damage the trunk.

Acceptable trunk armoring materials shall include two by four (2x4) wood cladding, mounted with wire or metal strapping, or when duration of construction activities is less than three months, slotted corrugated plastic pipe, mounted with duct tape. Eight (8) once untreated burlap shall be used to wrap the tree trunk prior to installation of cladding.

Alternative armoring methods or materials may be acceptable if approved by the Engineer.

The height of tree trunk cladding shall be measured from the base of the tree (including root flare) to the bottom of the first branch, or to a height of eight (8) feet, or as may be required by the Engineer.

ITEM 102.511 (Continued)

METHODS OF WORK

Prior to construction activities, the Engineer, Contractor, and the Arborist (if item is included in the contract), shall review trees noted on the Drawings to be protected. Final decision and selection of trees to be armored and/or pruned shall be per the Engineer.

Care shall be taken to avoid damage to the bark during installation and removal of armoring. Trunk armoring shall be maintained such that it is effective for as long as required or replaced when materials are found to be damaged or ineffective, as determined by the Engineer. Replacement, if required, shall be incidental to the work. Armoring shall be removed immediately upon completion of work activities adjacent to the protected tree(s).

Pruning of limbs shall conform to the techniques and standards of the most recent ANSI A300 standards.

DAMAGES OR LOSS

If trees designated for protection under this item are damaged, including root damage from unapproved trespassing onto the root zone, the Contractor shall, at his own expense, secure the services of an Arborist, described in Item 102.55. The Arborist shall be approved by MassDOT.

If, based on the recommendation of the Arborist, the Engineer determines that damages can be remedied by corrective measures, such as repairing trunk or limb injury; soil compaction remediation; pruning; soil injection fertilization; and/or watering; the damage shall be repaired as soon as possible, within the appropriate season for such work and according to industry standards.

If, based on the recommendation of the Arborist, the Engineer determines that damages are irreparable, or that the damages are such that the tree is sufficiently compromised to pose a future safety hazard, the tree shall be removed. Tree removal shall include cleanup of all wood, grinding of the stump to a depth sufficient to plant a replacement tree or plant, removal of all chips from the stump site, and filling the resulting hole with topsoil. Such tree removal(s), grinding, debris removal, and topsoil filling, shall be at the Contractor's expense.

Tree removal from improper or inadequate tree protection shall result in the Engineer assessing the Contractor monetary damages consistent with industry standards for assessed value and/or replacement.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 102.511 will be measured and paid at the contract unit price per EACH tree to be armored and pruned. This will include full compensation for all labor, equipment, materials, and incidentals for the satisfactory completion of the work and the subsequent removal and satisfactory disposal of the protective materials upon completion of the contract or as required by the Engineer.

ITEM 102.511 (Continued)

Payment for work under this item will be scheduled as follows:

- 40% of the value shall be paid upon installation of trunk armoring and completion of pruning work, if required.

- 60% of the value shall be paid at the end of construction operations that would potentially damage the tree and after protection materials have been removed and properly disposed of by the Contractor. In the event of repairable damages, payment shall be made after the completion of remediation measures.

No separate payment will be made for costs of remedial actions, including Arborist services, tree removal, but all costs in connection therewith shall be included in the Contract unit price bid.

Tree damages assessed, due to lack of or improper tree and plant protective measures being taken, shall be deducted from the contract price of the work.

ITEM 102.521 TREE AND PLANT PROTECTION FENCE FOOT

The work under this Item shall conform to the relevant provisions of Sections 644 and 771 of the Standard Specifications and the following:

Work under this item shall consist of furnishing, installing, and maintaining tree and plant protection fence(s) in a vertical and taut position; removing and resetting fencing as may be required; and final removal of protection fence(s) at the completion of construction activities, or as otherwise required by the Engineer.

The purpose of the fencing is to signify a construction work-free zone and physical barrier, thereby preventing damage to tree roots, tree trunks, soil, and all other vegetation within this delineated Tree and Plant Protection Zone (TPPZ), as shown on the Drawings, as required by the Engineer, and as described herein.

Protection shall be for the duration of the construction activities unless otherwise required by the Engineer.

MATERIALS

Tree and plant protection fence(s) shall provide a minimum forty-eight (48) inch tall barrier, that remains vertical and taut. The Fence shall be orange plastic safety fence (recommended where high visibility is necessary), or wooden snow fencing, or other approved material. Posts and anchoring materials shall be incidental to the work.

Per requirements of the Engineer, additional posts, deeper post depths, and/or additional attachments shall be used if the fabric or fence sags, leans or otherwise is not providing visible or physical protection to the TPPZ.

ITEM 102.521 (Continued)

REFERENCES

If requested, the Contractor shall provide to the Engineer one copy of the American National Standards Institute (ANSI) A300 Standard Practices for Tree, Shrub, and Other Woody Plant Maintenance Part 1, Pruning and Part 5, Construction Management Standard. Provision of reference shall be incidental to this item.

Establishment of THE TPPZ

Fencing shall be used to delineate and establish the TPPZ, adjacent to construction areas, staging areas, stockpile areas, as shown on the Drawings, and/or as required by the Engineer.

Fencing shall be located as close to the work zone limit and as far from tree trunk(s) and plants as possible to maximize the area to be protected. Fence shall run parallel and adjacent to construction activity to create a barrier between the work zone and the root zone or designated limit of plants and soils to be protected.

When construction activities surround (or have the potential to surround) trees or plants to be protected, a circular enclosure shall be used. In these instances, the TPPZ limit shall be the drip line of each tree or as close as possible to the drip line, and/or as shown on the Drawings. The drip line is defined as the outermost limit of tree canopy.

The Contractor shall not engage in any construction activity within the TPPZ without the approval of the Engineer. Activities may including operating, moving, or storing equipment, supplies, or materials; and locating temporary facilities, including trailers or portable toilets, Accessing or traversing the TPPZ shall not be permitted.

METHOD OF WORK

TPPZ fencing shall be installed prior to any construction work or staging activities. Fence(s) shall be repositioned where and as necessary for optimum tree and plant protection. Repositioning shall be incidental to this item. TPPZ fencing shall not be moved without prior approval by the Engineer.

The TPPZ shall be protected at all times from compaction of the soil; damage of any kind to trunks, bark, branches, leaves, and roots of all plants; and contamination of the soil with construction materials, debris, silt, fuels, oils, and any chemicals substance.

After construction activities are completed, or when required by the Engineer, fencing, stakes, and other anchoring materials, if any, shall be removed and disposed off-site by the Contractor.

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REQUIRED WORK WITHIN THE TPPZ

In the event that grading, trenching, utility work, or storage is unavoidable within the TPPZ, the Engineer shall be notified. Measures may be required for tree protection and preservations, including air spading; the use of six (6) inch depth of wood chips or approved matting for root protection; pruning of branches; and/or trunk protection. These protection measures shall be paid under applicable contract items.

Landscaping work specified within the TPPZ shall be accomplished by hand tools. Where handwork is not feasible, with permission of the Engineer, work shall be conducted with the smallest mechanized equipment necessary.

TREE AND PLANT INJURY OR LOSS

If the TPPZ is encroached by construction activity without approval, at the discretion of the Engineer, the Contractor may be required to provide a more durable barrier (e.g., Jersey Barriers, chain link fence (if not already in use) to secure the area. Costs of furnishing and installing additional or more durable barrier(s) shall be borne by the Contractor.

In such cases of encroachment, soils shall be considered compacted and tree root injury will be assumed. Action shall be taken as specified below.

In the event that trees designated for protection under this item are injured, including root injury from unapproved trespassing onto the root zone, the Contractor shall, at his own expense, secure the services of an Arborist, described under Item 102.55. The Arborist shall be approved by MassDOT.

In the event of spills, compaction or injury, the Contractor shall take corrective action immediately using methods approved by the Engineer, in coordination with the Arborist.

If, based on the recommendations of the Arborist, the Engineer determines that injuries can be remedied by corrective measures, such as repairing trunk or limb injury, soil compaction remediation, pruning, and/or watering; the injury shall be repaired as soon as possible, within the appropriate season for such work, and according to industry standards.

If, based on the recommendations of the Arborist, the Engineer determines that injuries are irreparable, or that the injuries are such that the tree is sufficiently compromised to pose a future safety hazard, the tree shall be removed. Tree removal shall include cleanup of all wood, grinding of the stump to a depth sufficient to plant a replacement tree or plant, removal of all chips from the stump site, and filling the resulting hole with topsoil. Such tree removal(s), grinding, debris removal, and filling, shall be at the Contractor's expense.

Tree removal from improper or inadequate protection of the TPPZ shall result in the Engineer assessing the Contractor monetary damages consistent with industry standards for assessed value and/or replacement.

ITEM 102.521 (Continued)

Shrubs removals from improper or inadequate protection of the TPPZ shall be replaced with plants of similar species and equal size or the largest size plants reasonably available. The Engineer shall approve the size, quality, and quantity of the replacement plant(s). Each replacement shall include a minimum of one year of watering and establishment care, specified under Section 771.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Tree and Plant Protection Fence will be measured by the FOOT, complete in place, by the length along the top of the fence.

Tree and plant protection fence will be paid for under the contract unit price per FOOT, complete in place and shall include all materials, labor, and equipment required to furnish, install, anchor, maintain, and remove the fence upon completion, as described herein. Posts, temporary footings, anchoring and removal upon completion, shall be incidental to this item.

No separate payment will be made for costs of remedial actions, including addition of more durable barriers, Arborist services, tree or plant removal, shrub replacement and establishment, but all costs in connection therewith shall be included in the Contract unit price bid.

Tree damages assessed, due to lack of or improper tree and plant protective measures being taken, shall be deducted from the contract price of the work.

Payment for work under this item will be scheduled as follows:

- Forty (40) percent of the value payment will be made upon installation of fencing.

- Sixty (60) percent of the value payment will be made when fencing materials have been maintained to function as specified, for the intended duration, and removed and disposed off-site at the completion of protection measure requirement.

ITEM 102.55 ARBORIST HOUR

DESCRIPTION

The work under this Item is for the services of a Certified Arborist. Arborist shall be an International Society of Arboriculture (ISA) Certified Arborist or a Massachusetts Certified Arborist. The Arborist shall have at least 10 years of experience in tree care, including tree protection during construction, and shall demonstrate a familiarity with the American National Standards Institute (ANSI) A300 Standard Practices for Tree, Shrub, and Other Woody Plant Maintenance Part 1Pruning, Part 5 Construction Management Standards, and Part 9 Tree Risk Assessment.

The Arborist's general responsibilities include protecting high priority trees within and adjacent to the project limits, stating areas, and access routes; recommending removal of diseased, damaged or otherwise unhealthy trees that pose a potential safety hazard; evaluating effects of construction on future health of trees close to proposed work; and recommending and/or overseeing tree work and care. The Arborist shall oversee tree root inspection when porous pavement is being installed around tree roots per item 707.41.

The Arborist for this item shall not be from the same company as the company responsible for selective clearing or tree removal work.

For projects with multiple phases, projects where construction activities (work or stockpiling) shifts, or when otherwise directed by the Engineer, the Arborist shall re-evaluate conditions and provide follow-up recommendations.

SUBMITTALS

- The contractor shall submit to the Engineer for approval by MassDOT Landscape Design the qualifications and experience of the Arborist. Submittal shall include a copy of current certification and a resume summarizing specific construction experience (including relevant MassDOT projects) for a minimum of five projects.

- The Arborist's Report documenting recommendations shall be submitted to the Engineer and an electronic copy forwarded to MassDOT Landscape Design Section. The report shall include the following:

SCOPE OF WORK

The Arborist shall be responsible for the following tasks:

- Initial Evaluation and Report
  - evaluate and provide recommendations on tree preservation and removal as appropriate to conditions, contract scope, project limits, and project intent;
  - review and recommend tree protection measures (i.e., fencing, trunk protection) for trees to be retained
  - submit a marked-up Construction Plan that briefly notes recommendations and decisions made in the field;

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- submit a corresponding report including photo documentation;

- Oversight
  - direct or execute pruning of branches and/or roots, air spading, and/or other tree care operations
- Special Care
  - provide recommendations for care of trees that have undergone root pruning and/or air excavation of soil
  - oversee tree pruning for health and aesthetics if require for trees that have undergone root pruning.

METHODS

Prior to any work, the Arborist shall walk the site with the Contractor, the Engineer, the Town Tree Warden, and the MassDOT Landscape Architect, to review trees, limits of construction activities, and other concerns. Where required for proper assessment of tree impacts, limits of work shall be staked or otherwise marked in the field prior to the site walk.
Trees to be removed shall be painted or otherwise marked.

Trees to be retained shall be marked such that it does not mar or damage the tree and such that marker is not easily removed. As applicable to the work and scope of the project, trees designated for removal or to be retained shall be noted on the plan and/or in the arborist's report and photographed.

Trees designated to remain that are damaged or removed by construction activities shall be noted and photographed for inclusion in inspection reports submitted to the Engineer.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 102.55 will be measured for payment by the Hour of time spent onsite.

Item 102.55 will be paid at the contract unit price per hour upon submittal and acceptance of the Reports described above

ITEM 120.1 UNCLASSIFIED EXCAVATION CUBIC 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 include the excavation of material of every description regardless of the type encountered, including the excavation of hot mix asphalt pavement from within the project limits as shown on the drawings and as directed by the Engineer.

The work shall also include the removal of any existing pavements. Also included shall be the removal and disposal of existing drainpipes, telephone conduit and all other materials not designated to be reused on the project or to be removed and stacked. The Engineer shall determine the disposition of all materials with respect to removal and disposal.

Edges of excavations made in existing pavements shall be squared by saw cutting with power drive tools to provide a neat, clean edge for joining new pavement as shown on the plans. Ragged, uneven edges shall not be accepted. Pavement areas, which have been broken or undermined, shall be edged neatly with minimum disturbance to the remaining pavement.

The Contractor shall perform all excavation in such a manner as to maintain slopes, longitudinally and laterally and to ensure proper and continuous drainage at all times.

To avoid damage to trees which have parts of their root system in roadways or planting areas designated for excavation, such excavation shall be accomplished as carefully as possible or as directed by the Engineer.

This work shall also include all clearing and grubbing of plant material within the excavation limits.

METHOD OF MEASUREMENT

Item 120.1 will be measured for payment in accordance with Subsection 120.80 and 120.81 of the Standard Specifications.

BASIS OF PAYMENT

Item 120.1 will be paid at the contract unit price per Cubic Yard wich price shal include all labor, materials, equipment and incidentals to complete the workas required.

No separate payment will be made for the off-site disposal of all existing material unsuitable for reuse in the proposed work, but all costs in connection therewith shall be considered incidental to the Contract and no additional compensation shall be allowed, therefore.
The removal and disposal of bollards, removal and disposal of crushed stone and removal and disposal of any drainage pipes and telephone conduit removed during reconstruction shall be included under this item.

The sawcutting for the mill and overlay shall be considered incidental to the item for Pavement Fine Milling.

The sawcutting of cement concrete are paid for at the contract unit price per feet under the item for Sawcutting Cement Concrete.

The sawcutting of the asphalt pavement for box widening is paid for at the contract unit price per feet under the item for Sawcutting Asphalt Pavement For Box Widening.

ITEM 120.9 REMOVE AND STACK BOULDERS EACH

This work consists of removing and stacking boulders as necessary to complete the work to the limits shown on the Plans and as directed by the Engineer.

The Contractor shall coordinate with the Engineer and the property owner for an approved stockpile location for the boulders prior to beginning work. Contractor's proposed means and methods must not increase impacts beyond the limits shown on the Contract Plans

METHOD OF MEASUREMENT

Item 120.9 will be measured for payment by EACH boulder removed and stacked.

BASIS OF PAYMENT

Item 120.9 will be paid for at the Contract unit price per EACH, which price shall include all labor, equipment, materials including excavation as needed and backfilling holes left by the boulders and incidental costs required to complete the Work

ITEM 180.01 ENVIRONMENTAL HEALTH AND SAFETY PROGRAM LUMP SUM

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

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

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

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

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

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

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

ITEM 180.01 (Continued)

Method of Measurement and Basis of Payment

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

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

ITEM 180.02 PERSONAL PROTECTION LEVEL C UPGRADE HOUR

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

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

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

ITEM 180.03 LICENSED SITE PROFESSIONAL SERVICES HOUR

Within limited areas of the project site, media (i.e. soils, sediments, surface water and/or groundwater) requiring evaluation and/or management under the Massachusetts Contingency Plan (MCP) may be encountered. A Licensed Site Professional (LSP) shall be required to provide the services necessary to comply with the requirements of the MCP. These services may include a site walk, field screening, sampling, analysis and characterization of potentially contaminated media, preparation and implementation of Immediate Response Action (IRA) Plans, Utility-Related Abatement Measure (URAM) and Release Abatement Measure (RAM) Plans, Imminent Hazard Evaluations, status reports, transmittal forms, release notification forms, risk assessments, completion statements, and related documents required pursuant to the MCP. LSP services shall also be necessary to temporarily move material generated on the project to an off-site storage location.

The name and qualifications of the LSP and all environmental technicians to be assigned to the project shall be submitted to the Engineer for approval at least four weeks prior to initial site activities. The LSP shall have a current, valid license issued by the Massachusetts Board of Registration of Hazardous Waste Site Cleanup Professionals. The LSP shall have significant experience in the oversight of MCP activities at active construction sites. Qualification packages for the LSP and each technician shall include a resume, all recent work assignments with responsibilities identified (previous 5 years), and applicable training and certifications. A list of all Notices of Noncompliance, Notice of Audit Findings and Enforcement Orders issued by the Massachusetts Department of Environmental Protection (DEP) shall be submitted for all work assignments listed for the LSP and environmental technicians. Upon approval of the LSP Qualifications, the LSP will be designated as the LSP of Record unless MassDOT designates in writing otherwise. The LSP of Record will serve as the primary point of contact for all hazardous material matters on the project.

The LSP shall evaluate soil and/or sediment with discoloration, odor, elevated field screening results, presence of petroleum liquid or sheen on the groundwater surface, or any abnormal gas or materials in the ground which are known or suspected to be oil or hazardous materials. Excavated soil and sediment which is suspected of petroleum contamination shall be field screened using the jar headspace procedures according to established DEP Guidance. All field screening equipment must be pre-approved by the Engineer. The LSP shall ensure proper on-site calibration of all field screening instrumentation.

The Engineer shall be contacted immediately when observations or any field screening results verify contamination requiring further analysis, and/or enhanced management of suspect media. Any enhanced management of contaminated soil to ensure proper stockpiling and storage is incidental to the LSP Services item. The LSP shall evaluate the need for confirmatory sampling prior to backfill in areas where contaminated material has been excavated and disposed off-site for compliance with applicable regulatory requirements. The Engineer shall approve the locations of the testing sites prior to the sampling.

Contaminated media shall be handled in accordance with all applicable state and federal statutes, regulations, and policies. The LSP shall adequately evaluate contaminated media for compliance with the requirements of the MCP and Department Policies.

ITEM 180.03 (Continued)

The Contractor and the LSP shall be aware of the reporting requirements for releases of oil and/or other hazardous material (OHM) as set forth in federal and state laws and regulations and both shall be held responsible for performing the work in accordance with all applicable Federal and State laws and regulations. The LSP shall maintain written records in a clear and concise tabular format which tracks the excavation, stockpiling, analysis and reuse/disposal of all known/suspect contaminated media. These records shall be up-to-date and submitted to the Engineer on a bi-weekly basis. The LSP shall review and summarize the laboratory data from any analyses performed on contaminated media in a tabular format and compare the results to applicable reporting thresholds. A report shall be delivered to the Engineer outlining the material sampling methods, laboratory analysis results, evaluation of applicable regulatory exemptions, reporting obligations, and proposed course of action. The laboratory report together with Chain of Custody forms for all analytical results shall be submitted to the Engineer within 14 days after completion of such analyses.

The LSP and Contractor shall be held responsible for the submission of all MCP-related documents to the Engineer at least 14 days in advance of any timeframe specified in the MCP and for the timely submission of data and tracking information as noted within this Item. All documents prepared under this Item must be reviewed and signed by the approved LSP. The Contractor and LSP shall be responsible for all fines, damages, and enforcement requirements imposed by applicable regulatory agencies for failure to meet regulatory and contract timeframes. No compensation will be provided for such fines, damages, and enforcement actions.

The Contractor and the LSP shall be aware of the reporting requirements for releases of oil and/or other hazardous material (OHM) as set forth in federal and state laws and regulations and shall both be held responsible for performing the work in accordance with all applicable Federal and State laws and regulations.

If the Contractor causes a release of OHM, the Contractor shall be responsible for assessing and remediating the release in accordance with all pertinent State and Federal regulations, including securing the services of a LSP, at his own expense.

The LSP shall coordinate all activities involving both MassDOT and the DEP through the Engineer. Any notification of release shall be approved by the Engineer before submittal to the DEP, except if an imminent hazard condition exists as defined in 309 CMR 4.03(4)(b).

LABORATORY TESTING IN SUPPORT OF LSP SERVICES

Laboratory testing provides for analytical testing in support of LSP services related to maintaining MCP compliance, such as delineating the extent and type of contamination present. Sampling and testing for disposal purposes are not included and are incidental to Items 181.11-181.14.

In order to maintain compliance with the MCP and Department Policies or other regulatory requirements, the LSP shall request approval from the Engineer to obtain samples from various locations and depths within the project area and to perform laboratory analyses on those samples. No sampling shall be conducted without prior approval from the Engineer.

ITEM 180.03 (Continued)

The samples shall be delivered to a DEP-certified laboratory using proper chain-of-custody documentation for analyses which, depending upon site conditions and suspected and/or identified contaminants of concern, may include, but are not limited to, metals, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polycyclic aromatic hydrocarbons (PAHs), extractable petroleum hydrocarbons (EPHs) and volatile petroleum hydrocarbons (VPHs). Subsequent testing, depending upon initial results, may be required for Toxicity Characteristic Leaching Procedure (TCLP) analyses (EPA Method 1311) for metals.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

LSP Services for work under this item will be measured per person, per hour of service provided by LSP, Environmental Technicians and other approved personnel. Travel time shall not be included in the billable hours.

The quantity and type of laboratory tests must be approved by the Engineer beforehand. The Contractor will be reimbursed upon satisfactory written evidence of payment. The Contractor may be required to obtain cost estimates from three DEP certified laboratories for the Engineer to choose the service provider.

LSP Services will be paid at the Contractor bid price for each hour, or fraction thereof, spent to perform the work as described above. The bid price shall be a blended rate that includes the cost of the LSP, environmental technicians and other personnel, the performance of all work tasks and field screening, including required equipment, materials and instrumentation, and production of all documentation described above. All requests for payment must be accompanied by the following information: the names of the personnel associated with the work charged under LSP Services, dates and hours worked, work conducted, including, where appropriate, locations as identified on the construction plans, and a copy of the field diary for the dates submitted.

Laboratory testing will be reimbursed upon receipt of paid invoices for testing approved by the Engineer.

This item is for LSP work for compliance with the MCP and Department Policies. LSP hours and any laboratory testing related to off-site disposal of excess soil and sediment is incidental to Items 181.11-181.14 (including, but not limited to, disposal characterization, disposal package preparation, landfill acceptance, shipment paperwork preparation, field screening, and tracking).

ITEM 181.11 DISPOSAL OF UNREGULATED SOIL TON
ITEM 181.12 DISPOSAL OF REGULATED SOIL- IN-STATE FACILITY TON
ITEM 181.13 DISPOSAL OF REGULATED SOIL- OUT-OF-STATE FACILITY TON
ITEM 181.14 DISPOSAL OF HAZARDOUS WASTE TON

The work under these Items shall include the transportation and disposal of contaminated material excavated, or excavated and stockpiled. It shall also include the cost of any additional laboratory analyses required by a particular disposal facility beyond the standard disposal test set.

Excavation of existing subsurface materials may include the excavation of contaminated soils. The Contractor shall be responsible for the proper coordination of characterization, transport and disposal, recycling or reuse of contaminated soils. Disposal, recycling or reuse will be referred to as "disposal" for the purposes of this specification. However, regardless of the use of the term herein, there will be no compensation under these items for reuse within the project limits. The Contractor will be responsible for coordinating the activities necessary for characterization, transport and disposal of contaminated soils. Such coordination will include the Engineer and his/her designee overseeing management of contaminated materials. Contaminated soils must be disposed of in a manner appropriate for the soil classification as described below and in accordance with the applicable laws of local, state and federal authorities. The Contractor shall be responsible for identifying disposal facility (ies) licensed to accept the class of contaminated soils to be managed and assure that the facility can accept the anticipated volume of soil contemplated by the project. The Contractor shall be responsible for hiring a Licensed Site Professional (LSP) and all ancillary professional services including laboratories as needed for this work. The Contractor will be responsible for obtaining all permits, approvals, manifests, waste profiles, Bills of Lading, etc. subject to the approval of the Engineer prior to the removal of the contaminated soil from the site. The Contractor and LSP shall prepare and submit to the Engineer for approval all documents required under the Massachusetts Contingency Plan (MCP) and related laws and environmental regulations to conduct characterization, transport, and disposal of contaminated materials.

CLASSES OF CONTAMINATED SOILS

The Contractor and its LSP shall determine if soil excavated or soil to be excavated is unregulated soil or contaminated soil as defined in this section. Such materials shall be given a designation for purposes of reuse or disposal based on the criteria of the MCP. Soils and sediments which are not suitable for reuse will be given a designation for purposes of off-site disposal based on the characterization data and disposal facility license requirements. The Classes of Contaminated Soils are defined as follows:

UNREGULATED SOIL consists of soil, fill and dredged material with measured levels of oil and hazardous material (OHM) contamination at concentrations below the applicable Reportable Concentrations (RCs) presented in the MCP. Unregulated soil consists of material which may be reused (or otherwise disposed) as fill within the Commonwealth of Massachusetts subject to the non-degradation criteria of the MCP (310 CMR 40.0032(3), in a restricted manner, such that they are sent to a location with equal or higher concentrations of similar contaminants. Disposal areas include licensed disposal facilities, approved industrial settings in areas which will be capped or covered with pavement or loamed and seeded, and for purposes of this project should be reused as fill within the project site construction corridor whenever possible. The material cannot be placed in residential and/or environmentally sensitive (e.g. wetlands) areas. Under no circumstances shall contaminated soils be placed in an uncontaminated or less contaminated area (including the area above the groundwater table if this area shows no sign of contamination).

ITEMS 181.11 through 181.14 (Continued)

The Contractor shall submit to MassDOT the proposed disposal location for unregulated soils for approval. If such a disposal location is not a licensed disposal facility, the Contractor shall submit to the Engineer analytical data to characterize the disposal area sufficiently to verify that the unregulated material generated within the MassDOT construction project limits is equal to or less than the contaminant levels at the disposal site and meets the non-degradation requirements of the MCP. In addition, the Contractor shall provide written confirmation from the owner of the proposed disposal location that they have been provided with the analytical data for both the materials to be disposed as well as the disposal site characterization and that s/he agrees to accept this material. A Material Shipping Record or Bill of Lading, as appropriate, shall be used to track the off-site disposal of unregulated soil and a copy, signed by the disposal facility or property owner, shall be provided to the Engineer in order to document legal disposal of the unregulated material.

The cost of on-site disposal of unregulated soil within the project area will be considered incidental to the item of work to which it pertains.

REGULATED SOIL consists of materials containing measurable levels of OHM that are equal to or exceed the applicable Reportable Concentrations for the site as defined by the MCP, 310 CMR 40.0000. Regulated soil which meets the MCP reuse criteria of the applicable soil/groundwater category for this project area may be reused on site provided that it meets the appropriate geotechnical criteria established by the Engineer. Regulated Soil may be reused (as daily or intermediate cover or pre-cap contouring material) or disposed (as buried waste) at lined landfills within the Commonwealth of Massachusetts or at an unlined landfill that is approved by the Massachusetts Department of Environmental Protection (DEP) for accepting such material, in accordance with DEP Policy #COMM-97-001, or at a similar out-of-state facility. It should be noted that soils which exceed the levels and criteria for disposal at in-state landfills, as outlined in COMM-97-001, may be shipped to an in-state landfill, but require approval from the DEP Division of Solid Waste Management and receiving facility. An additional management alternative for this material is recycling into asphalt. Regulated Soils may also be recycled at a DEP approved recycling facility possessing a Class A recycling permit subject to acceptance by the facility and compliance with DEP Policy #BWSC-94-400. Regulated Soil removed from the site for disposal or treatment must be removed via an LSP approved Bill of Lading, Manifest or applicable material tracking form. This type of facility shall be approved/permitted by the State in which it operates to accept the class of contaminated soil in accordance with all applicable local, state and federal regulations.

HAZARDOUS WASTE consists of materials which must be disposed of at a facility permitted and operated in full compliance with Federal Regulation 40 CFR 260-265, Massachusetts Regulation 310 CMR 30.000, Toxic Substances Control Act (TSCA) regulations, or the equivalent regulations of other states, and all other applicable local, state, and federal regulations. All excavated materials classified as hazardous waste shall be disposed of at an out-of-state permitted facility. This facility shall be a RCRA hazardous waste or TSCA facility, or RCRA hazardous waste incinerator. This type of facility shall be approved/permitted by the State in which it operates to accept hazardous waste in accordance with all applicable local, state and federal regulations and shall be permitted to accept all contamination which may be present in the soil excavate. The Contractor shall ensure that, when needed, the facility can accept TSCA waste materials i.e. polychlorinated biphenyls (PCBs). Hazardous waste must be removed from the site for disposal or treatment via an LSP approved Manifest.

ITEMS 181.11 through 181.14 (Continued)

MONITORING/SAMPLING/TESTING REQUIREMENTS

The Contractor shall be responsible for monitoring, sampling and testing during and following excavation of contaminated soils to determine the specific class of contaminated material. Monitoring, sampling and testing frequency and techniques should be performed in accordance with Item 180.03 – LSP Services. Additional sampling and analysis may be necessary to meet the requirements of the disposal facility license. The cost of such additional sampling and analysis shall be included in the bid cost for the applicable disposal items. The Contractor shall obtain sufficient information to demonstrate that the contaminated soil meets the disposal criteria set by the receiving facility that will accept the material.

No excavated material will be permanently placed on-site or removed for off-site disposal until the results of chemical analyses have been received and the materials have been properly classified. The Contractor shall submit to the Engineer results of field and laboratory chemical analyses tests within seven days after their completion, accompanied by the classification of the material determined by the Contractor, and the intended disposition of the material. The Contractor shall submit to the Engineer for review all plans and documents relevant to LSP services, including but not limited to, all documents that must be submitted to the DEP.

WASTE TRACKING:

Copies of the fully executed Weight Slips/Bills of Lading/ Manifests/Material Shipping Records or other material tracking form received by the Contractor from each disposal facility and for each load disposed of at that facility, shall be submitted to Engineer and the Contractor's LSP within three days of receipt by the Contractor. The Contractor is responsible for preparing and submitting such documents for review and signature by the LSP or other appropriate person with signatory authority, three days in advance of transporting soil off-site. The Contractor shall furnish a form attached to each manifest or other material tracking form for all material removed off-site, certifying that the material was delivered to the site approved for the class of material. If the proposed disposition of the material is for reuse within the project construction corridor, the Contractor shall cooperate with MassDOT to obtain a suitable representative sample(s) of the material to establish its structural characteristics in order to meet the applicable structural requirements as fill for the project.

All material transported off-site shall be loaded by the Contractor into properly licensed and permitted vehicles and transported directly to the selected disposal or recycling facility and be accompanied by the applicable shipping paper. At a minimum, truck bodies must be structurally sound with sealed tail gates, and trucks shall be lined and loads covered with a liner, which shall be placed to form a continuous waterproof tarpaulin to protect the load from wind and rain.

DECONTAMINATION OF EQUIPMENT

Tools and equipment which are to be taken from and reused off site shall be decontaminated in accordance with applicable local, state and federal regulations. This requirement shall include, but not be limited to, all tools, heavy machinery and excavating and hauling equipment used during excavation, stockpiling and handling of contaminated material. Decontamination of equipment is considered incidental to the applicable excavation item.

ITEMS 181.11 through 181.14 (Continued)

REGULATORY REQUIREMENTS

The Contractor shall be responsible for adhering to regulations, specifications and recognized standard practices related to contaminated material handling during excavation and disposal activities. MassDOT shall not be responsible at any time for the Contractor's violation of pertinent State or Federal regulations or endangerment of laborers and others. The Contractor shall comply with all rules, regulations, laws, permits and ordinances of all authorities having jurisdiction including, but not limited to, Massachusetts DEP, the U.S. Environmental Protection Agency (EPA), Federal Department of Transportation (DOT), Massachusetts Water Resources Authority (MWRA), the Commonwealth of Massachusetts and other applicable local, state and federal agencies governing the disposal of contaminated soils.

All labor, materials, equipment and services necessary to make the work comply with such regulations shall be provided by the Contractor without additional cost to MassDOT. Whenever there is a conflict or overlap within the regulations, the most stringent provisions shall apply. The Contractor shall reimburse MassDOT for all costs it incurs, including damages and/or fines, as a result of the Contractor's failure to adhere to the regulations, specifications, recognized standard practices, etc., that relate to contaminated material handling, transportation and disposal.

SUBMITTALS

I. Summary of Sampling Results, Classification of Material and Proposed Disposal Option.

The following information, presented in tabular format, must be submitted to the Engineer for review and approval prior to any reuse on-site or disposal off-site. This requirement is on-going throughout the project duration. At least two weeks prior to the start of any excavation activity, the Contractor shall submit a tracking template to be used to present the information as stipulated below. Excavation will not begin until the format is acceptable to MassDOT.

Characterization Reports will be submitted for all soil, sediment, debris and groundwater characterized through the sampling and analysis program. Each report will include a site plan which identifies the sampling locations represented in the Report. The Construction Plan sheets may be used as a baseplan to record this information.

The Sampling Results will be presented in tabular format. Each sample will be identified by appropriate identification matching the sample identification shown on the Chain of Custody Record. The sample must also be identified by location (e.g. grid number or stockpile number). For each sample, the following information must be listed: the classification (unregulated, regulated, etc.), proposed disposal option for the stockpile or unit of material represented, and, all analytical results.

Each Characterization Report will include the laboratory analytical report and Chain of Custody Record for the samples included in the Report.

II. Stockpiling, Transport, and Disposal.

At least two weeks prior to the start of any excavation activity, the Contractor shall submit, in writing, the following for review and shall not begin excavation activity until the entire submittal is acceptable to MassDOT.

ITEMS 181.11 through 181.14 (Continued)

Excavation and Stockpiling Protocol:
Provide a written description of the management protocols for performing excavation and stockpiling and/or direct loading for transport, referencing the locations and methods of excavating and stockpiling excavated material.

Disposal and Recycling Facilities:

1. Provide the name, address, applicable licenses and approved waste profile for disposal and/or recycling location(s) where contaminated soil will be disposed. Present information substantiating the suitability of proposed sites to receive classifications of materials intended to be disposed there, including the ability of the facility to accept anticipated volumes of material.

2. Provide a summary of the history of compliance actions for each disposal/recycling facility proposed to be used by the Contractor. The compliance history shall include a comprehensive list of any state or federal citations, notices of non-compliance, consent decrees or violations relative to the management of waste (including remediation waste) at the facility. Material should not be sent to facilities which are actively considered by the DEP, USEPA or other responsible agency to be in violation of federal, state or local hazardous waste or hazardous material regulations. MassDOT reserves the right to reject any facility on the basis of poor compliance history.

Transportation:
The name, address, applicable license and insurance certificates of the licensed hauler(s) and equipment and handling methods to be used in excavation, segregation, transport, disposal or recycling.

III. Material Tracking and Analytical Documentation for Reuse/Disposal.

The following documents are required for all excavation, reuse and disposal operations and shall be in the format described. At least two weeks prior to the start of any excavation or demolition activity, the Contractor shall submit the tracking templates required to present the information as stipulated below. Excavation or demolition will not begin until the format is acceptable to MassDOT.

All soils, sediments and demolition debris must be tracked from the point of excavation to stockpiling to onsite treatment/processing operations to off-site disposal or onsite reuse as applicable.

Demolition Debris:
Demolition debris must be tracked if the debris is stockpiled at a location other than the point of origin or if treatment or material processing is conducted. Identification of locations will be based on the station-offset of the location. The tracking table will identify date and point of generation, any field screening such as PID or dust monitoring, visual observations/comments, quantity, and stockpile ID/processing operation location. For each unit of material tracked, the table will also track reuse of the material on-site, providing reuse date, location of reuse as defined by start and end station, width of reuse location by offset, the fill elevation range, quantity, and finish grade for said location. For demolition debris which is not reused on site, the table will also track disposal of the material as defined by disposal date, quantity and disposal facility. The table must provide a reference to any analytical data generated for the material.

ITEMS 181.11 through 181.14 (Continued)

Soil/Sediment:
Soil excavation will be identified based on the station-offset of the excavation location limits. The tracking table will identify date and point of generation, any field screening such as PID or dust monitoring, visual observations, quantity, and stockpile number/location. For each unit of material tracked, the table will also track reuse of the material on-site and disposal of the material off-site using the same categories identified for demolition debris above.

Method Of Measurement And Basis Of Payment

Disposal of contaminated soil shall be measured for payment by the Ton of actual and verified weight of contaminated materials removed and disposed of. The quantities will be determined only by weight slips issued by and signed by the disposal facility. The most cost-effective, legal disposal method shall be used. The work of the LSP for disposal under all of these items shall be incidental to the work with no additional compensation.

ITEM 181.11 Measurement for Disposal of Unregulated Soil shall be under the Contract Unit Price by the weight, in tons, of contaminated materials removed from the site and transported to and disposed of at an approved location or licensed facility, and includes any and all costs for approvals, permits, fees and taxes, additional testing/characterization required by the facility beyond the standard disposal test set, decontamination procedures, transportation and disposal.

ITEM 181.12 Measurement for Disposal of Regulated Soil – In-State Facility shall be under the Contract Unit Price by the weight in tons of contaminated materials removed from the site and transported to and disposed of at an approved in-state facility, and includes any and all costs for approvals, permits, fees and taxes, testing/characterization required by the facility beyond the standard disposal test set, decontamination procedures, transportation and disposal.

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

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

ITEM 182.1 INSPECTION AND TESTING FOR ASBESTOS LUMP SUM

The work shall include the inspecting and testing of all materials suspected of containing asbestos. When any demolition is required to enable the inspection and testing of the suspected material it will be considered incidental to this Item and the Contractor must perform all asbestos handling and testing in accordance with the regulations stated below.

Dust suppression in the form of light water sprays, foams, dust suppressants and calcium chloride will be implemented as required to control dusting during any disturbance of asbestos suspected material. Alternatively, intrusive activities may be reduced or curtailed under high wind or heavy rain conditions, which in the opinion of the Health and Safety Plan (HASP) may pose a safety hazard to the workers.

The Contractor shall employ the services of a Massachusetts licensed "Asbestos Inspector" to inspect the material to determine whether or not "ITEM 182.2 REMOVAL OF ASBESTOS" is required. Should the asbestos inspector determine laboratory testing is required, a state certified laboratory shall be used to perform all necessary tests.

REGULATIONS

U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA) including but not limited to:

29 CFR 1910 Section 1001 and 29 CFR 1926 Section 58 Occupational exposure to Asbestos, Tremolite, Anthophyllite and Actinolite, Final Rule
29 CFR 1910 Section 134 Respiration Protection
29 CFR 1926 Construction Industry
29 CFR 1910 Section 2 Access to Employee Exposure and Medical Records
29 CFR 1910 Section 1200 Hazard Communication
29 CFR 1910 Section 145 Specifications for Accident Prevention Signs and Tags

U.S. Environmental Protection Agency, (EPA) including but not limited to:

40 CFR 762, CPTS 62044, FRL 2843-9, Federal Register Vol. 50 no.134, July 12, 1985 p.28530 - 28540 Asbestos Abatement Projects Rule
40 CFR 61 Subpart A Regulation for Asbestos
40 CFR 61 Subpart M (Revised Subpart B) National Emission Standard for Asbestos

U.S. Department of Transportation 49 CFR 172 and 173

Massachusetts Department of Labor Standards Regulations, (DLS) including but not limited to:

454 CMR 28.00 Removal, Containment and Encapsulation of Asbestos

ITEM 182.1 (Continued)

Massachusetts Department of Environmental Protection (DEP) including but not limited to (supplementing subsection 7.01):

310 CMR 7.00, Section 7.09 Odor and Dust, Section 7.10 Noise, Section 7.15 Air Pollution Control Regulations
310 CMR 18.00 and 19.00 Solid Waste Regulations

Massachusetts Division of Industrial Safety 45 CMR 10.00

Local Requirements including but not limited to those of Health Departments, Fire Departments and Inspection Services Departments

Wherever there is a conflict or overlap of the above references, the most stringent provision shall apply.

BASIS OF PAYMENT

Item 182.1 will be paid for at the Contract unit price per Lump Sum, which price shall include all labor, materials, tools, equipment, and all incidental costs required to complete the work as described and as required by the Engineer.

No separate payment will be made for the protection of general public, private property, the proper inspecting and testing of the material, but all costs in connection therewith shall be included in the Contract unit price bid.

ITEM 182.2 REMOVAL OF ASBESTOS FOOT

The work shall include the removal and satisfactory disposal of existing asbestos. The Contractor's attention is directed to the fact that existing asbestos shall be inspected and tested prior to removal, to determine if special removal and disposal is required. The Contractor shall follow all the rules and regulations stated in "ITEM 182.1 INSPECTION AND TESTING FOR ASBESTOS". If asbestos is present, the Contractor shall follow all the rules and regulations stated in the section "REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS", under this item. The Contractor should notify and coordinate his/her efforts with the proper utility accordingly.

REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS

This section specifies the requirements for the handling and removal of asbestos containing material. The Contractor must perform all asbestos handling and removal work in accordance with these specifications and the following additional requirements.

U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA) including but not limited to:

29 CFR 1910 Section 1001 and 29 CFR 1926 Section 58 Occupational exposure to Asbestos, Tremolite, Anthophyllite and Actinolite, Final Rule
29 CFR 1910 Section 134 Respiration Protection
29 CFR 1926 Construction Industry
29 CFR 1910 Section 2 Access to Employee Exposure and Medical Records
29 CFR 1910 Section 1200 Hazard Communication
29 CFR 1910 Section 145 Specifications for Accident Prevention Signs and Tags

U.S. Environmental Protection Agency, (EPA) including but not limited to:

40 CFR 762, CPTS 62044, FRL 2843-9, Federal Register Vol. 50 no.134, July 12, 1985 p.28530 - 28540 Asbestos Abatement Projects Rule
40 CFR 61 Subpart A Regulation for Asbestos
40 CFR 61 Subpart M (Revised Subpart B) National Emission Standard for Asbestos

U.S. Department of Transportation 49 CFR 172 and 173

Massachusetts Department of Labor Standards, (DLS) including but not limited to:

454 CMR 28.00 Removal, Containment and Encapsulation of Asbestos

ITEM 182.2 (Continued)

Massachusetts Department of Environmental Protection (DEP) including but not limited to (supplementing subsection 7.01):

310 CMR 7.00, Section 7.09 Odor and Dust, Section 7.10 Noise, Section 7.15 Air Pollution Control Regulations
310 CMR 18.00 and 19.00 Solid Waste Regulations

Massachusetts Division of Industrial Safety 45 CMR 10.00

Local Requirements including but not limited to those of Health Departments, Fire Departments and Inspection Services Departments

Wherever there is a conflict or overlap of the above references, the most stringent provision shall apply.

All asbestos material shall be removed and properly disposed of by a contractor or subcontractor with a current Massachusetts Abatement Contractors License issued by the Department of Labor Standards. Work shall be supervised by a competent person as required by OSHA in 29 CFR 1926 to ensure regulatory compliance. This person must have completed a course at an EPA Training Center or equivalent course in asbestos abatement procedures, have had a minimum of four years on-the-job training and meet any additional requirements set forth in 29 CFR 1926 for a Competent Person. This person must also be certified by the Commonwealth as an Asbestos Supervisor and Asbestos Project Designer as required by 454 CMR 28.00.

Asbestos removal work shall be coordinated with all other work under the contract and shall be completed prior to performing any activities which could disturb the asbestos material or produce airborne asbestos fibers.

Dust suppression in the form of light water sprays, foams, dust suppressants and calcium chloride will be implemented as required to control dusting during trenching and excavation. Alternatively, intrusive activities may be reduced or curtailed under high wind or heavy rain conditions, which in the opinion of the Health and Safety Plan (HASP) may pose a safety hazard to the workers.

NOTIFICATION AND PERMITS
The Contractor shall prepare a formal pre-notification form at least ten (10) days prior to the start of asbestos removal work. This form must be submitted to the appropriate Regional Office of the Massachusetts Department of Environmental Protection and to the U.S. Environmental Protection Agency Region I Air and Hazardous Material Division. A copy of the submitted forms must be provided to the Engineer and kept at the work site.

Prior to starting any work, the Contractor shall also obtain any required asbestos removal permit(s) from the city/town. A copy of the permit(s) must be provided to the Engineer and posted at the work site.

ITEM 182.2 (Continued)

The Contractor shall also obtain and pay all other applicable asbestos waste transportation and disposal permits, licenses and fees.

STANDARD OPERATING PROCEDURES
The standard operating procedure shall ensure the following:

1. Proper site security including posting of warning signs and restricting access to prevent unauthorized entry into the work spaces.

2. Proper protective clothing and respiratory protection prior to entering the work spaces.

3. Safe work practices including provisions for communications; exclusion of eating, drinking, smoking, or use of procedures or equipment that would in any way reduce the effectiveness of respiratory protection or other engineering controls.

4. Proper exit practices from the work space though the showering and decontamination facilities.

5. Removing asbestos containing material in ways that minimize release of fibers.

6. Packing, labeling, loading, transporting and disposing of contaminated material in a way that minimizes or prevents exposure and contamination.

7. Emergency evacuation of personnel, for medical or safety (fire and smoke) so that exposure will be minimized.

8. Safety from accidents in the work space, especially from electrical shocks, slippery surfaces and entanglements in loose hoses and equipment.

9. Provisions for effective supervision and OSHA - specified personnel air monitoring for exposure during work.

REQUIRED SUBMITTALS
The Contractor shall submit to the Engineer the following listed items at least ten (10) calendar days prior to the start of asbestos work. No asbestos removal work activities shall commence until these items are reviewed by the Engineer, unless otherwise waived. Submittals shall be clearly labeled and in sufficient detail to enable the Engineer to form an opinion as to its conformity to the specifications.

1. Name, experience and DLS certification of proposed Supervisors and Foreman responsible for asbestos work.

2. Summary of workforce by disciplines and a notarized statement documenting that all proposed workers, by name, have received all required medical exams and have been properly trained and certified for asbestos removal work, respirator use and appropriate Massachusetts DLS, EPA and OSHA standards.

ITEM 182.2 (Continued)

3. Notarized statement that workers are physically fit and able to wear and use the type of respiratory protection proposed for the project. Notarized certification signed by an officer of the abatement contracting firm that exposure measurements, medical surveillance and worker training records are being kept in conformance with 29 CFR 1926.

4. Written plan of action and standard operating procedures (HASP) to include: location and layout of decontamination areas; sequencing of asbestos work; detailed schedule of work activities by date and interface with other project activities which affect work performance; methods used to assure safety and security; worker protection and exposure monitoring; contingency and emergency evacuation procedures; detailed description of methods to be employed to control pollution; waste handling procedures.

5. Written respiratory protection program specifying level of protection intended for each operation required by the project and details of daily inspection and maintenance elements.

6. Copies of the U.S. EPA, State and local asbestos removal pre-notification forms. If applicable, lists and copies of all permits, licenses, or manifests which will be applied for and used.

7. Name, location and applicable approval certificates for primary and secondary landfill for disposal of asbestos-containing or asbestos contaminated waste. Name, address and licenses number(s) of hauler permitted to transport waste. (Submit copies of completed manifests upon disposal).

The Contractor must provide copies of daily inspection and record logs upon request of the Engineer, at any time during project. This information will include but is not limited to work area entry data, respirator inspections and maintenance, HEPA-exhaust inspections and maintenance and other work applicable activities or reports of accidents or unusual events.

METHOD OF MEASUREMENT

ITEM 182.2 will be measured for payment by the FOOT for the complete removal and disposal of the asbestos containing material.

BASIS OF PAYMENT

Item 182.2 will be paid for at the Contract unit price per FOOT, which price shall include all labor, materials, tools, equipment, and all incidental costs required to complete the work specified above and as required by the Engineer.

No separate payment will be made for the protection of general public, private property, the proper inspecting and testing of the material, but all costs in connection therewith shall be included in the Contract unit price bid.

ITEM 184.1 DISPOSAL OF TREATED WOOD PRODUCTS TON

Work under this item shall include the transportation and disposal of all treated existing wood product as directed by the Engineer.

The timber components of the existing structure are suspected to be treated with creosote, pentachlorophenol and/or CCA. This item shall include all costs for sampling, laboratory testing, loading, transportation and disposal of the treated wood. The Contractor is required to submit disposal manifests to the Engineer prior to the completion of the project. All aspects of this Item are to be completed in accordance with state and federal regulations.

Compensation

Measurement and payment will be by the weight, in tons, of treated timber transported and accepted at a licensed facility. The work shall be considered full compensation for all labor, tools, equipment, materials, testing, loading, transportation, approvals, and permits necessary for the completion of the work.

ITEM 358.1 GATE BOX REMOVED AND STACKED EACH
ITEM 381.2 SERVICE BOX REMOVED AND STACKED EACH

The work under these items shall conform to the relevant provisions of Subjection 301. of the Standard Specifications and the following:

The Contractor shall carefully remove transport and stack gates, and service boxes as directed by the Engineer and/or the Harwich DPW. All gate boxes removed and stacked shall be transported to the Harwich Department of Public Works located at 273 Queen Anne Road, Harwich, MA 02645. This includes any damaged or broken gate or service boxes.

METHOD OF MEASUREMENT

Item 358.1 will be measured for payment by the Each gate box removed and stacked.
Item 381.2 will be measured for payment by the Each service box removed and stacked.

BASIS OF PAYMENT

Items 358.1 and 381.2 will be paid for at the respective Contract unit price per EACH, which prices will include all transportation to the Harwich DPW, labor, equipment, materials and incidental costs required to complete the Work

ITEM 520.21 **SPECIAL GRANITE CURB** **FOOT**

The work under this item shall conform to the relevant Subsection 501 of the Standard Specifications and the following:

This work shall consist of constructing granite lot curb at a 24-inch depth, on a prepared gravel foundation at the locations shown on the plans or as directed by the Engineer.

CONSTRUCTION

The trench for the curb shall be excavated to a width of 22 in. The subgrade of the trench shall be 24" below the finished grade of the top of the curb plus 6 inches.

The foundation for the curb shall consist of gravel borrow spread upon the subgrade and after being thoroughly compacted by tamping shall be 6 in in depth. Cement concrete, if needed, to back the curbing shall be considered incidental to this item.

Curbing shall be constructed upon the existing gravel borrow subbase, if suitable, or unless otherwise directed by the Engineer.

METHOD OF MEASUREMENT

Item 520.21 will be measured for payment by the Foot special granite curb installed, complete in place.

BASIS OF PAYMENT

Item 520.21 will be paid for at the Contract unit price per Foot, which price shall constitute full and complete compensation for all labor, materials, equipment including excavation, cement concrete placed to back curb, and all other incidental costs required to complete the work.

Additional excavation beyond the specified trench depth shall be paid for under at the contract unit price per cubic yard under the item for Unclassified Excavation.

Gravel borrow for the foundations and backfilling will be paid for at the contract unit price per cubic yard under the item for Gravel Borrow.

Rock Excavation, if necessary, shall be incidental to this item with no additional compensation.

ITEM 655. CEDAR RAIL FENCE FOOT

The work under this item shall consist of the construction of cedar rail fence including posts and post foundations and all necessary hardware at the required locations as shown on the Plans.

MATERIALS

Use materials for cedar rail fence, posts and all related hardware that conform to the following:

Ensure that the timber rail is cut from the specified grade for dry, well-seasoned, and dressed Southern Yellow Pine, spruce, or fir that complies with AASHTO M168.

Where preservative treatment is specified, use a product that conforms to AASHTO M133 and the current American Wood Protection Association (AWPA) Standards U1 and T1 regarding acceptable wood species, approved preservatives, and treatment processing. Also, select wood preservative that is approved for the end use by the USEPA, registered for use in the State where the treated wood is produced, and acceptable by current MassDEP regulations. Use wood posts that are fabricated from an approved or specified timber species and have the quality, diameter or section, and length as specified in AASHTO M 181. When treated posts are specified, use posts that have been fabricated before treatment.

Ensure that all wood posts are peeled and with ends cut square. Use posts that conform to AASHTO M168. Ensure that the posts are straight and that all knots are trimmed flush with the surface. Where treated posts are designated, use a type of treatment that conforms to AASHTO

M133 and the current American Wood Protection Association (AWPA) Standards U1 and T1 regarding acceptable wood species, approved preservatives, and treatment processing. Also, select a wood preservative that has been approved for end use by the USEPA, registered for use in the State where the treated wood is produced, and acceptable by current MassDEP regulations.

CONSTRUCTION METHODS

Perform clearing as necessary to construct the fence to the required grade and alignment. Tie new fence to the terminals of existing fences and bridge railing.

Set posts in Class A concrete when the Contract requires that posts, braces, or anchors be imbedded in concrete, and install temporary guys or braces as required to support the posts in proper position until the concrete has set sufficiently to anchor the posts. Do not place materials on posts or place strain on guys and bracing that are set in concrete until directed by the Engineer. Extend concrete footings to the required depth and dimensions.

Where rock is encountered within the required depth to which the post will be erected, drill a hole of a diameter slightly larger than the largest dimension of the post into the rock, and grout the post in. Place the regular dimensioned concrete footing between the top of the rock and required grade

Set posts plumb at a minimum depth of 3 ft - 0 in. in concrete footings or in holes backfilled and compacted and set in alignment with the horizontal rail elements. The posts shall be set true to the line and grade of the proposed fence

ITEM 655. (Continued)

METHOD OF MEASUREMENT

Item 655. will be measured approximately parallel to the ground by the foot of completed fence, exclusive of openings from outside of to outside of end posts.

BASIS OF PAYMENT

Item 655. will be paid for at the Contract unit price per FOOT, which price shall include all labor, materials, equipment foundations, posts, fence, hardware, any rock excavation needed to install the fence, backfilling post holes, surface preparation and all incidental costs required to complete the work

ITEM 692. BALANCE STONE WALL FOOT

The work under this Item shall conform to the relevant provisions of Subsections 685, 690, 901, of the Standard Specifications, the Plans, and the following:

DESCRIPTION

The work under this item consists building selected fieldstone balance stone walls in new locations within the project area. Balance stone walls to be built as identified on the plans. Locations of walls shall comply with all ROW and clear recovery requirements.

The work shall include the total volume of constructing wall to the limits and complete as shown in the contract plans and as directed by the Engineer.

The work shall include but not be limited to digging and trenching, removal of vegetation, dense graded stone under the wall, backfilling, labor, tools, equipment and all incidentals required to complete the work as stated herein, shown on the contract plans, and as directed by the Engineer. The work shall be done in accordance with these specifications, and in close conformity with the lines and grades shown on the plans or established by the Engineer.

MATERIALS

Stones shall be field stones which shall match in size, color, and texture, as closely as is feasible, either imported to the project site, or reused from stones found within the project limits. As supply allows, the stone should be from a local source to match the type of stone prevalent in the area of

the project. Stones removed during excavation within the project area may be used if they closely match the imported stone, or are used internally within the wall and are not visible.

No mortar shall be used anywhere or for any reason in reconstructing balance walls.

SUBMITTALS

The stonework shall be done by masons who are experienced in construction of dry laid stone walls. At least one of the masons shall have 10 years or more experience constructing mortarless, dry-laid balance stone walls. Resume and projects showing experience shall be submitted to Engineer and MassDOT Landscape Section for approval.

ITEM 692. (Continued)

CONSTRUCTION METHODS

The Contractor shall provide a secure location for stockpiling stone prior to construction, so that stones will not be damaged, lost or stolen.

The walls shall maintain a linear appearance and irregular character of local early agricultural farmer walls to as great a degree as possible.

To prepare the base, remove vegetation and excavate a trench up to 12 inches deep as needed to achieve stable, unfrozen soil. Place the bottom row of stones in the trench.

The open spaces about the base of the wall shall be filled with the materials excavated from the trench. Surplus excavation shall be used as directed in location or disposed.

The stones shall be laid in a two-over-one, one-over-two pattern so as to break joints and all vertical spaces shall be packed full with spalls or chinking stones. No spalls or chinking shall be allowed in the beds and at least 25% of the stones in the face shall be headers evenly distributed throughout the wall.

The walls shall not exceed four feet in height.

Upon completion of all walls, the Contractor shall coordinate with the adjacent property owner to determine where on the property surplus stones shall be stacked. If it's determined, in writing, the

property owner does not want the stones, they shall be removed and disposed of offsite at no additional cost.

METHOD OF MEASUREMENT

Item 692 will be measured for payment by the foot of wall constructed dry, complete in place.

BASIS OF PAYMENT

Item 692 will be paid for at the contract unit price per foot, which price shall include all labor, materials, equipment, stockpiling, delivery, submittal, and incidentals required to complete the work.

No separate payment will be made for excavation, backfilling, dense graded crushed stone, coordination and disposal (if applicable), but all costs in connection there with shall be included in the unit price bid

ITEM 697.1 SILT SACK EACH

Work under this item shall conform to the relevant provisions of Subsections 227 and 670 of the Standard Specifications and the following:

The work under this item includes the furnishing, installation, maintenance and removal of a reusable fabric sack to be installed in drainage structures for the protection of wetlands and other resource areas and the prevention of silt and sediment from the construction site from entering the storm water collection system. Devices shall be ACF Environmental (800)-448-3636; Reed & Graham, Inc. Geosynthetics (888)-381-0800; The BMP Store (800)-644-9223; or approved equal.

CONSTRUCTION

Silt sacks shall be installed in retained existing and proposed catch basins and drop inlets within the project limits and as required by the Resident Engineer.

The silt sack shall be as manufactured to fit the opening of the drainage structure under regular flow conditions, and shall be mounted under the grate. The insert shall be secured from the surface such that the grate can be removed without the insert discharging into the structure. The filter material shall be installed and maintained in accordance with the manufacturer's written literature and as directed by the Engineer.

Silt sacks shall remain in place until the placement of the pavement overlay or top course and the graded areas have become permanently stabilized by vegetative growth. All materials used for the filter fabric will become the property of the Contractor and shall be removed from the site.

The Contractor shall inspect the condition of silt sacks after each rainstorm and during major rain events. Silt sacks shall be cleaned periodically to remove and disposed of accumulated debris as required. Silt sacks, which become damaged during construction operations, shall be repaired or replaced immediately at no additional cost to the Department.

When emptying the silt sack, the contractor shall take all due care to prevent sediment from entering the structure. Any silt or other debris found in the drainage system at the end of construction shall be removed at the Contractors expense. The silt and sediment from the silt sack shall be legally disposed of offsite. Under no condition shall silt and sediment from the insert be deposited on site and used in construction.

All curb openings shall be blocked to prevent stormwater from bypassing the device.

All debris accumulated in silt sacks shall be handled and disposed of as specified in Section 227 of the Standard Specifications

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Silt sacks will be measured and paid at the Contract unit price per each, complete in place, which price shall include all labor, materials, equipment and incidental costs required to complete the work. No separate payment will be made for removal and disposal of the sediment from the insert, but all costs in connection therewith shall be included in the Contract unit price bid.

ITEM 698.4 GEOTEXTILE FABRIC FOR PERMANENT EROSION CONTROL SQUARE YARD

The work under this Item shall consist of furnishing and installing geotextile fabric in conjunction with the details as shown on the Plans or as directed by the Engineer.

The geotextile fabric shall be listed on the MassDOT QCML and conform to the requirements of AASHTO M288 for fabric used as Permanent Erosion Control, and fabric used for separation. Woven Monofilament Geotextile shall be Class 2, and all others shall be Class 1. Construction and installation shall be in accordance with AASHTO M288 and the following:

Atmospheric exposure of the geotextile fabric to the elements following lay down shall be a maximum of 14 days. If laid under water, the covering rock fill or crushed stone shall be placed on the same day as the geotextile.

For seams that are sewn in the field, the Contractor shall provide at least a six (6) feet length of sample sewn seam for the approval by the Engineer before the geotextile is installed. The seams sewn for sampling shall be sewn using the same type of equipment and procedures as will be used for the production seams. If seams are sewn in both the machine and cross machine direction, samples of seams for both directions shall be provided. The Contractor shall submit the seam assembly

description along with the seam samples. This description shall include the seam type, stitch type, sewing thread, and stitch density.

The geotextile shall be placed in intimate contact with the soils without wrinkles or folds, and it shall be anchored on a smooth graded surface approved by the Engineer. The geotextile shall be placed in

such a manner that placement of the overlaying materials will not excessively stretch or tear the geotextile.

The geotextile shall be placed so that the machine direction is horizontal and runs along the slope. Adjacent geotextile sheets shall be joined by either sewing or overlapping. Overlapped seams at roll ends shall be overlapped a minimum of 12 inches except if placed underwater. In such instances the overlap shall be a minimum of three (3) feet. Overlaps of adjacent rolls shall be a minimum of 12 inches in all instances.

Care shall be taken during installation so as to avoid damage to the geotextile as a result of the installation process. Should the geotextile be damaged during installation, a geotextile patch shall be placed over the damaged area extending three (3) feet beyond the limits of the damage.

The slope protection placement shall begin at the toe of the slope and proceed up the slope. Placement shall take place so as to avoid stretching and subsequent tearing of the geotextile.

Crushed stone, rock fill or riprap shall not be dropped from a height exceeding three (3) feet. All void spaces in the armor stone shall be backfilled with small stone to ensure full coverage.

ITEM 698.4 (Continued)

Field monitoring shall be performed to verify that the crushed stone placement does not damage the geotextile. Any geotextile damaged during backfill placement shall be replaced as directed by the Engineer, at the Contractor's expense.

METHOD OF MEASUREMENT

Item 698.4 shall be measured by the SQUARE YARD of geotextile actually furnished and installed.

BASIS OF PAYMENT

Item 698.4 will be paid for at the contract unit price per SQUARE YARD, which includes full compensation for all labor, equipment and materials and all incidental costs required to complete the work. The area of geotextile folded over the top of the crushed stone will be included in the quantity measurement.

ITEM 706.1 BRICK WALK REMOVED AND RELAID SQUARE YARD

The work under this item shall conform to the relevant provisions of Subsection 485 of the Standard Specifications. and the following:

This work shall consist of removing and relaying bricks for walkways located at the locations shown on the Plans or as directed. The work shall match the existing brick walkway when completed.

METHOD OF MEASUREMENT

Item 706.1 will be measured for payment by the square yard (SY) of brick walkway actually removed and relaid.

BASIS OF PAYMENT

Item 706.1 will be paid for at the Contract unit price per SQUARE YARD, which price shall constitute full and complete compensation for all labor, materials, equipment, and all incidental costs required to complete the work.

Excavation, trimming and fine grading and additional gravel borrow if needed, will be paid for separately under their respective Contract bid Items.

ITEM 712. BOUND REMOVED AND STACKED EACH

The work under this item shall conform to the relevant provisions of Subsection 710. of the Standard Specifications and the following:

This work shall consist of excavating the bound from the ground, backfilling holes with suitable excavated material and stacking and transporting bounds to the Town of Harwich Highway & Maintenance Department located at 273 Queen Anne Road, Harwich, MA 02645.

METHOD OF MEASUREMENT

Bound Removed and Stacked will be measured for payment per EACH bound designated to be removed and stack per the plans and any bounds that are found to be unsuitable for reuse through no fault of the Contractor will be paid for at one half of the contract unit price.

BASIS OF PAYMENT

Item 712. will be paid for at the Contract unit price of EACH, which price shall include all labor, materials, equipment, transportation and all incidental costs required to complete the work.

ITEM 734. SIGN REMOVED AND RESET EACH

This work consists of removing, stockpiling and resetting signs as shown on the Plans and as directed by the Engineer.

CONSTRUCTION METHODS

The Contractor shall remove each item by an appropriate method to avoid damaging the individual components. All items shall be stockpiled in a location approved by the Town.

Care shall be taken to avoid damage to any existing items. If damage occurs, it shall be repaired or replaced by the Contractor at no additional cost to the Town. The methods employed in performing the work and all equipment, tools, and machinery used in handling material and executing any part of the work shall be subject to the approval of the Engineer prior to the commencement of work; if found unsatisfactory, shall be changed to the Engineer's specifications and approval.

METHOD OF MEASUREMENT

Item 734. will be measured for payment by the Each sign removed and reset.

BASIS OF PAYMENT

Item 734 will be paid for at the Contract unit price per Each, which price shall include all labor, materials, equipment, hardware, 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 System 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 systems, 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 756. NPDES STORMWATER POLLUTION PREVENTION PLAN LUMP SUM

This Item addresses the preparation and implementation of a Storm Water Pollution Prevention Plan required by the National Pollutant Discharge Elimination System (NPDES) and applicable Construction General Permit (CGP) issued by the U.S. Environmental Protection Agency (EPA).

Pursuant to the Federal Clean Water Act, construction activities which disturb one acre or more are required to apply to the EPA for coverage under the NPDES General Permit for Storm Water Discharges from Construction Activities. The Contractor shall be fully responsible for compliance with the most recently issued CGP and any subsequent revisions. Should a fine or damages be assessed against it, or MassDOT, as a result of a local, state, or federal enforcement action due to non-compliance with the CGP, the Contractor shall take full responsibility.

The NPDES CGP requires the submission of a Notice of Intent (NOI) to the EPA prior to the start of construction (defined as any activity which disturbs land, including clearing and grubbing). There is a fourteen (14) day review period commencing from the date on which EPA enters the Notice into their database. Based on the review of the NOI, EPA may require additional information, including but not limited to, the submission of the Storm Water Pollution Prevention Plan (SWPPP) for review. Work may not commence on the project until final authorization has been granted by EPA. Any additional time required by EPA for review of submittals will not constitute a basis for claim of delay.

In addition, if the project discharges to an Outstanding Resource Water, vernal pool, or is within a coastal ACEC as identified by the Massachusetts Department of Environmental Protection (DEP), a separate notification to DEP is required. DEP may also require submission of the Storm Water Pollution Prevention Plan for review and approval. Filing fees associated with the notification to DEP and, if required, the SWPPP filing to DEP shall be paid by the Contractor.

The CGP also requires the preparation and implementation of a SWPPP in accordance with the afore-mentioned statutes and regulations. The Plan will include the CGP conditions and detailed descriptions of controls of erosion and sedimentation to be implemented during construction. The contractor shall prepare the SWPPP and update it as necessary. The Contractor shall submit the Plan to the Engineer for approval at least four (4) weeks prior to any site activities. It is the responsibility of the Contractor to comply with the CGP conditions and the conditions of any state Wetlands Protection Act Order, Water Quality Certification, Corps of Engineers Section 404 Permit and other environmental permits applicable to the project and to include in the SWPPP the methods and means necessary to comply with applicable conditions of said permits.

It is the responsibility of the Contractor to complete the SWPPP in accordance with the EPA CGP, provide all information required, and obtain any and all certifications as required by the CGP. Any amendments to the SWPPP required by site conditions, schedule changes, revised work, regulations, construction methodologies, and the like are the responsibility of the Contractor. Amendments will require the approval of the Engineer prior to implementation.

ITEM 756. (Continued)

In addition to the CGP requirements for inspections, MassDOT requires inspection of all erosion controls and site conditions on a weekly basis. Inspections are also required at portions of sites that discharge to sediment or nutrient impaired or high quality waters per the CGP when each incidence of rainfall exceeding 0.25 inches in twenty-four hours or after snowmelt discharge from a storm event that produces 3.25 inches or more of snow within twenty-four hours occurs. The CGP requires that inspections be performed by a qualified individual as outlined in the CGP. MassDOT requires proof of completion of a 4 hour minimum sedimentation and erosion control training class current to the latest CGP. This individual can be, but not limited to, someone that is either a certified inspector, certified professional, or certified storm water inspector. The documentation shall be included as an appendix in the SWPPP. The inspector's qualifications shall be submitted to the Engineer for approval prior to beginning any work. This individual shall be on-site during construction to perform these inspections. In addition, if the Engineer determines at any time that the inspector's performance is inadequate, the Contractor shall provide an alternate inspector. Written weekly inspection forms, storm event inspection forms, and Monthly Summary Reports must be completed and provided to the Engineer. Monthly Summary Reports must include a summary of construction activities undertaken during the reporting period, general site conditions, erosion control maintenance and corrective actions taken, the anticipated schedule of construction activities for the next reporting period, any SWPPP amendments, and representative photographs.

The Contractor is responsible for preparation of the Plan, all SWPPP certifications, inspections, reports and any and all corrective actions necessary to comply with the provisions of the CGP. The Standard Specifications require adequate erosion control for the duration of the Contract. All control measures must be properly selected, installed, and maintained in accordance with manufacturer specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately or is no longer adequate, it is the responsibility of the Contractor to replace or modify the control for site conditions at no additional cost to the Department. Contractor must maintain all control measures and other protective measures in effective operating conditions and shall consider replacement of erosion controls for each construction season.

The work under this item shall also include the preparation, submission and implementation of a Flood Contingency Plan. The plan shall address the potential need for the temporary relocation of construction and auxiliary equipment situated within the 1% annual chance of flooding zone to designated upland locations above the Base Flood Elevation during flood events. The Flood Contingency Plan shall address any additional MassDEP-required information requirements, as applicable. The Flood Contingency Plan shall be submitted to the Engineer for review and approval at the same time as the SWPPP.

This Item addresses acceptable completion of the SWPPP, any revisions/amendments required during construction, preparation of monthly reports and Flood Contingency Plan. In addition, any erosion controls beyond those specified in bid items which are selected by the

ITEM 756. (Continued)

Contractor to facilitate and/or address the Contractor's schedule, methods and prosecution of the work shall be considered incidental to this item.

The CGP provides specific requirements for temporary and final stabilization. This shall be incorporated into the project schedule. The permit defines specific deadline requirements for Initial Stabilization ("immediately", i.e., no later than the end of the next work day following the day when earth-disturbing activities have temporarily or permanently ceased) and for Complete Stabilization Activities (no later than 14 calendar days after the initiation of stabilization). Stabilization criteria for vegetative and non-vegetative measures are provided in the CGP.

The CGP requires the submission of a Notice of Termination (NOT) from all operators when final stabilization has been achieved, as well as removal and proper disposal of all construction materials, waste and waste handling devices, removal of all equipment and construction vehicles, removal of all temporary stormwater controls, etc. Approval of final stabilization by the Engineer and confirmation of submission of the NOT will be required prior to submission of the Resident Engineer's Final Estimate. The permittee shall use EPA's website to prepare and submit the NOT.

BASIS OF PAYMENT

Item 756 will be paid for at the Contract unit price Lump Sum, which price shall include all labor, materials, equipment, SWPPP & Flood Contingency Plan preparation, revisions/addenda during construction, monthly reports, filing fees, and all incidental costs required to complete the work.

Payment of 50% of the Lump Sum price of this item will be made upon acceptance of the NPDES Stormwater Pollution Prevention Plan & Flood Contingency Plan.

Payment of 40% of the Lump Sum price of this item will be will be paid in equal monthly installments distributed across the time remaining in the accepted baseline schedule until substantial completion.

The remaining 10% of the Lump Sum price of this Item will be paid following accepted submission of a Notice of Termination (NOT) when final stabilization has been achieved.

ITEM 765.21 ANNUAL OVER CROP FOR NATIVE SEEDING POUND

The work under this item shall conform to the relevant provisions of Subsection 765 of the Standard Specifications and the following.

DESCRIPTION

Work consists of furnishing and applying the appropriate annual grass to be seeded as a cover crop in conjunction with upland native seeding and at the rate specified herein.

A cover crop shall be used for following conditions:

- when specified under Application Rate for the permanent native upland seed mix
- for slopes 2:1 or steeper and an annual is not already specified as part of the permanent mix
- when seeding out of season and the native seed mix does not already specify an annual
- as required to prevent erosion until the permanent seed establishes.

A cover crop is not necessary for wetland seeding and is not typically necessary for soil stabilization when seeding in conjunction with a compost blanket application.

Annual rye (*Lolium multiflorum*) will not be accepted as an annual cover crop.

Using annual rye or exceeding the application rate such that a dense stand of annual grasses prevents germination of the native grasses will require mowing of annual grasses. In this instance, mowing of cover crop will be incidental to this item.

Seed and Application Rate

Add 30 pounds/acre of the following seed based on seeding season:

Avena sativa (Grain Oats):	1 January to 31 July
Cecale cereale (Grain Rye):	1 August to 31 December

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Annual Cover Crop will be measured for payment per pound of seed, complete in place.

Annual Cover Crop will be paid at the contract unit price per pound upon approval of seed bag tags or other documentation of correct application rate and species, and upon acceptance of a satisfactory stand of annual grasses three weeks following seeding.

Application and care of cover crop will be paid for separately under Item 765.635 Native Seeding and Establishment

ITEM 765.413 ROADSIDE POLLINATOR MEADOW MIX POUND

The work under this item shall consist of furnishing and application of the mix(es) specified below in the required quantity.

SUBMITTALS

1) Pre-Verification of Seed Availability. Within 30 days after the Notice to Proceed, the Contractor shall submit to the Engineer the supplier's verification of availability of seed species in the required quantities and for the anticipated date of seeding. Verification shall be on the supplier's letterhead and notarized by the supplier's notary. Species not expected to be available should be noted and substitutions recommended.

2) Final Verification of Seed Availability. No earlier than 21 days prior to ordering, the Contractor shall submit to the Engineer the supplier's verification of availability of seed species and in the required quantities. Verification shall be on the supplier's letterhead and notarized by the supplier's notary. A copy of this submittal shall be forwarded to the MassDOT Landscape Design Section. Substitutions or changes in the mix at this time must be approved by MassDOT Landscape Design Section.

3) Seed Worksheet provided herein shall be submitted to the Engineer prior to ordering seed to determine the number of pounds of Pure Live Seed required.

4) Seed Tags. The contractor shall submit original seed tags from each bag of seed used on the project or ensure that each tag is photo documented by the Engineer while on the unopened bag.

   Number of tags submitted must correspond to number of bags delivered.

   Species listed on the seed tag shall match the Final Verification of Seed Availability (Submittal #2) unless approved otherwise. Tag must include: variety and species name; lot number; purity; percentage of inert matter; percentage of weeds, noxious seeds, and other crop seeds; germination, dormant or hard seed; total viability; origin of seed; germination test date, net weight, and name and address of seller. The origin of seed must be listed on the seed tag for all species in the mix to provide verification of original (generation 0) seed source. The smallest known geographic area (township, county, ecotype region, etc.) shall be listed. Ecotypes and cultivars shall be as close to Massachusetts as possible and appropriate to the site conditions.

   A copy of this submittal shall be forwarded to the MassDOT Landscape Design Section.

5) Verification of Seed Delivery. Prior to payment, the contractor shall submit the Seed Delivery Verification form contained within the contract or the Supplier's Verification on company letterhead or a bill of lading. Supplier verification must include all information requested on the Verification form within this contract. The bill of lading must include variety and species name, lot number, net weight shipped, date of sale, invoice, project or seeding location, and name and address of Supplier. All information must be filled in and complete for acceptance. Information

ITEM 765.413 (Continued)

must match the seed tags and quantity of seed used on the job. A copy of this submittal shall be forwarded to the MassDOT Landscape Design Section.

6) Seed Sample. If requested or if the seed is from a previously opened bag, the contractor may be asked to submit to the Engineer a sample of seed from the seed bag (1-2 cups) at the time of seeding.

SEEDING SEASON

The appropriate seeding seasons are:
Spring: April 1 - May 15
Fall: October 1 - December 1 for dormant seeding

PERMANENT SEED MIX(ES)

Calculating Pure Live Seed (PLS)

Quantities specified are PURE LIVE SEED. Greater quantities of ordered seed may be required to achieve actual specified seeding rates.

Pure Live Seed (PLS) is defined as a percentage calculated by multiplying the percent of pure seed by the percent of viable seed (total germination, hard seed, and dormant seed). For example:

If a seed label indicates 90% purity, 78% germination, 10% hard seed, and 2% dormancy, it is calculated to be 90% x [78 + 10 + 2]% = 81% PLS.

Therefore, each pound of PLS would need 1 pound / 0.81 = 1.2 pounds of seed with a 90% purity and 90% total germination

Seed Mix(es) shall be as specified below. Ecotypes and cultivars shall be as close to Massachusetts as possible and appropriate to the site conditions

ITEM 765.413 (Continued)

765.413 Roadside Pollinator Meadow Mix

	Botanical Name	Common Name	% PLS by Weight
Grass			
	Schizachyrium scoparium	Little Blue Stem	54.00%
	Elymus virginicus	Virginia Wild Rye	28.00%
	Eragrostis spectabilis 'RI Ecotype'	Purple Lovegrass 'RI Ecotype'	1.00%
	Agrostis perennans	Upland Bentgrass	0.20%
			83.20%
Herb/Forb			
	Echinacea purpurea	Purple Coneflower	4.00%
	Chamaecrista fasciculata	Partridge Pea	3.00%
	Linum perenne lewisii	Blue Flax	2.00%
	Coreopsis lanceolata	Lance-leaf Coreopsis	2.00%
	Penstemon digitalis	Beard-tongue	1.00%
	Aster laevis NY Ecotype	Smooth Aster NY Ecotype	0.80%
	Asclepias tuberosa	Butterfly Milkweed	0.60%
	Rudbeckia hirta-VT ecotype	Black-eyed Susan-VT ecotype	0.60%
	Aster pilosus	Heath Aster	0.50%
	Solidago nemoralis	Grey Goldenrod	0.50%
	Aster lateriflorus	Calico Aster	0.50%
	Monarda fistulosa	Wild Bergamot	0.50%
	Symphyotrichum ericoides	White Heath Aster	0.30%
	Solidago juncea	Early Goldenrod	0.20%
	Pycnanthemum tenuifolium	Slender Mountain Mint	0.20%
	Achillea millefolium	Common Yarrow	0.10%
			16.80%
			100.00%
	Seeding Rate: 20.0 lbs PLS/Acre		

*** Used for Slopes adjacent to Wetlands**

Application Rate

Roadside Pollinator Meadow Mix: 20 lbs./acre PLS. No cover crop shall be applied.

Any species substitution shall be with a species having similar characteristics and function. Substitutions must be approved by MassDOT Landscape Design Section per the documentation submittal process.

50% Increase Adjustment for Field Conditions

ITEM 765.413 (Continued)

Seeding under the following conditions requires a 50% increase in the permanent mix at the time of construction:

- Seeding out of season
  OR
- Seeding after Compost Blanket has been applied (unless already increased for out of season).

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Roadside Pollinator Meadow Mix will be measured for payment by the pound of Pure Live Seed delivered and complete in place.

Roadside Pollinator Meadow Mix will be paid at the contract unit price per pound of Pure Live Seed delivered upon approval of all Seed Submittal Documentation. Overseeding required to correct poor germination or establishment shall be incidental to the item.

Application and care of native seed mix will be paid for separately under Item 765.635 Native Seeding and Establishment

ITEM 765.413 (Continued)

NATIVE SEED WORKSHEET

Project Description: _____ Project No: _____

Contractor: _____ Contract No: _____

Seed Mix Number & Description: _____

Contractor: Complete Prior To Ordering

Pounds of Seed Required Per Contract:

_____lbs./acre for _____Acre(s) OR _____ SY

Additional 50% increase if required (out of season or seeding over compost blanket):

_____**lbs. Total Seed Required**

Calculated Quantity for **P**ure **L**ive **S**eed (PLS[1]):

_____ **Total Pounds PLS**

Engineer: Verification at Time of Application

Number pounds delivered to site[2]: _____ Date(s): _____

Actual Seed Bag Tag/s Received or photo documented by Engineer: _____

[1] PLS=% pure seed x % viable seed (total germination, hard seed, and dormant seed).
*[2]Quantity delivered should match pounds **Total Pounds PLS** and **Verification of Seed Delivery**. Pounds should be shown on each Seed Tag.*

ITEM 765.635 NATIVE SEEDING AND ESTABLISHMENT SQUARE YARD

The work shall conform to the relevant provisions of Subsections 765 and 767 of the Standard Specifications and the following:

The work under this item shall consist of seeding, mowing, and other care to establish a stand of grass in the areas shown on the plans or as required by the Engineer. For the purposes of these specifications, the term "grass" shall apply to all the forbs, grasses, sedges, and rushes included in the materials.

QUALIFICATIONS

Seeding shall be done by a company having a minimum of five years of experience with native seed establishment. Prior to beginning work, the seeding Contractor shall furnish proof of qualifications to the Engineer for approval. Proof of qualifications shall include providing documentation (photos and contacts) to demonstrate knowledge and expertise with native seeding and establishment and proof of having completed successful native seeding projects.

SEEDING SEASON

The seeding seasons for native mixes is April 1 - May 15 and October 1 - December 1 for dormant seeding. Written approval must be obtained for seeding outside the seeding season and, if approved, the permanent seed rate shall be increased by 50%.

The seeding season for cover crops shall be grain oats January 1 – July 31 and grain rye August 1 – December 1.

MATERIAL AND SUBMITTALS

Seed Mixes and Submittals shall be per the item(s) for permanent and annual (cover crop) seed mixes.

Compost Blanket, if used, shall meet the material and submittal requirements for that item.

Hydromulch shall be wood fiber or straw applied per the Standard Specifications and at the rates specified below and per the manufacturer.

A certified statement shall be furnished, prior to start of work, to the Engineer by the Contractor as to the number of pounds of hydromulch, tackifier, and seed, per 100 gallons of water and as applicable to products used. This statement should also specify the number of square yards of seeding that can be covered with the solution specified above.

Fertilizer

No fertilizers shall be applied.

ITEM 765.635 (Continued)

SUPPLIER VERIFICATION OF SEED DELIVERY FOR MASSDOT PROJECTS

Date_____

We hereby certify that (*Seed Supplier*):_____

Furnished to (*Contractor*): _____

For use on: (*Project Description*) _____

Project #: _____ Contract #: _____

Pounds of Pure Live Seed: _____

Of Mix (*Description*): _____

Lot Number _____

The material was delivered on (*Date*)_____.

The labels and contents meet all State and Federal regulations. The mixture consists of the following species, including cultivars (as applicable) and ecotype region, and at the following percentages (may be attached separately):

Name (print): _____ Title: _____

Supplier: _____

Signature and Seal: _____

ITEM 765.635 (Continued)

Water

Water, including hose and all other watering equipment required for the work, shall be furnished by the Contractor to the site at no additional cost. Water shall be suitable for irrigation and free from ingredients harmful to plant life. All plants injured or work damaged due to the lack of water or the use of too much water shall be the Contractor's responsibility to correct.

SEEDING

Hand broadcast method shall be used for all areas smaller than half an acre and when specified on the plans for areas over half an acre. Include note for manual broadcast on plans.

Seeding shall occur within 72 hours of placement of loam and final grading, or the Contractor shall propose a reasonable, alternative schedule that shall be approved by the Engineer.

Surface Preparation

No seeding or soil preparation shall be done if soils are muddy or dry and compacted. Bare soils shall be raked to remove large stiff clods, lumps, brush, roots, stumps, litter and other foreign matter. Ruts and depressions shall be filled with additional loam or compost and the soil shall be re-graded to a relatively smooth finish corresponding to the required grades.

When seeding over existing or compacted soil or soil that has sat bare for more than 30 days, surface will be prepared by tilling or raking to a minimum depth of 2 inches prior to seeding and prior to Compost Blanket application (when applied).

Surface preparation shall be compensated for under for loam placement or topsoil rehandled and spread as appropriate to the project.

Jute or coir mesh, when specified in the contract, shall be placed after seeding and per the Standard Specifications and the manufacturer’s instruction.

Surface preparation shall be approved by the Engineer prior to seeding.

Seeding over Various Substrates

Loam: Seeding shall occur within 72 hours of loam placement to prevent loss of topsoil. Seed shall be manually broadcast for areas less than half an acre (each area, not cumulative area) and when specified on the plans. Broadcasting shall be immediately followed by hydromulching as specified below. When not specified on the plans, larger areas may be hydroseeded as specified below.

ITEM 765.635 (Continued)

Compost Blanket: Compost Blanket shall be applied as specified under that item. Seed should be hand broadcast at the same time as compost application to ensure a thin cover of compost over seed.

When seeding is done after application of Compost Blanket the rate shall be increased by 50%. If the Compost Blanket is applied after December 1, seed shall be broadcast or hydroseeding over the compost in the Spring and the rate increased by 50% specified under Seed Application.

Compost Mulch over Modified Rock: Compost Mulch and seed shall be applied as specified under that item. No hydromulch is required.

Cover Crop

Cover crop shall be used when seeding out of season, when specified with the permanent native seed mix under that item, and as required to prevent erosion until the permanent seed establishes.

A cover crop should not be used with a steep slope mix or other permanent mix which already contains either cereal rye or oats in the composition of the mix. A cover crop is not necessary for wetland seeding and is not typically necessary for soil stabilization when seeding in conjunction with a compost blanket application.

Seed Application

All seed shall be mulched as specified herein.

Seed application shall be by broadcast seeding or by hydroseeding as described below.

Broadcast Seeding

Seed shall be broadcast spread using a cyclone or whirlwind seeder or hand broadcast. Small or light-seeded species such as bluestem may be mixed with approved filler to achieve an even distribution. Seed shall not be broadcast when wind velocities are greater than 15 mph.

Broadcast seeding shall be undertaken in two separate passes at ninety degrees to each other. One-half the seeding rate shall be applied in each direction (horizontally and vertically). To ensure seed to soil contact with broadcasting of seed, seeding shall be followed by rolling or tracking with equipment approved by the Engineer.

Broadcast seed shall be mulched with weed-free straw mulch unless seeding is done as part of Compost Blanket in which case it shall be as specified above under seeding with Compost Blanket application. Hydromulching shall be as specified under Hydromulching.

ITEM 765.635 (Continued)

Hydroseeding and Hydromulching

Hydroseed and mulching shall be per the manufacturer's directions and as follows.

Hydroseeding shall only be used for sites over half an acre in size or with permission of the Engineer.

Tank and hoses shall be cleaned from all previous hydroseeding and hydromulching projects. Seed shall be mixed into the slurry immediately before application and slurry applied within 30 minutes after seeds have been placed in the tank. Once seed has been placed in the tank, tank shall be agitated only enough to mix the seeds and keep slurry from separating.

A 2-step process shall be used for seeding in conjunction with hydromulch. Seed shall be applied with 500 lbs/acre of hydromulch in the first pass. A second pass with 1,000 lbs/ acre of hydromulch shall be applied in a second pass. Each pass shall be applied in a different direction.

Once the seed has been added to the tank mixture a one-hour time limit is set for spreading the mixture on the soil. Once the one hour has passed the excess mixture must be discarded.

For broadcast seeding, hydromulch shall be applied immediately following seeding at a rate of 1,000 lbs/acre. Tank shall be cleaned from any previous hydroseeding.

CARE DURING GERMINATION AND ESTABLISHMENT

Contractor shall care for seeded areas as necessary for successful germination. Care will include watering and weed control as necessary to achieve establishment of the specified seeded species after one growing season as specified below.

The contractor shall maintain the stand of grasses to ensure healthy growth of the seeded species. Work shall include mowing or weed-whacking for weed control, watering if necessary, and removal of invasive plants.

Watering shall be sufficient to achieve soil moisture to a depth of 2 inches or more and such moisture is uniform. Method of watering shall not erode or damage soil or grassed surfaces.

General Weed Control: Unless otherwise directed, mowing shall be as specified under Mowing for Weed Control for seed establishment. Weeds shall be mowed prior to weeds setting seed (by the end of July unless otherwise approved).

Control of Invasive and Aggressive Weeds: Invasive and aggressive weeds, including but not limited to mugwort, ragweed, knapweed, foxtail, crabgrass, and chicory must be cut or treated prior to going to seed. Herbicide treatment must be coordinated with MassDOT. Undesired species (such as chicory) introduced due to use of incorrect seed mix shall be removed at the Contractor's expense.

ITEM 765.635 (Continued)

MOWING FOR WEED CONTROL

Mowing for weed control shall be completed after weeds have sprouted and show leaf and bud growth, but prior to setting seed, generally between July 7th and August 1st, unless directed otherwise by the MassDOT Landscape Architect and the Engineer.

Mowing height shall be as needed for weed control, generally to a height of 8 inches and not below 4 inches, unless directed otherwise. Mowing shall be with a brush hog mower or string trimmer other approved equipment. Conventional lawn mowers which cannot achieve the appropriate cut shall not be used.

The contractor shall give 48-hour notice prior to mowing work. Mowing shall only occur in dry sunny weather. Litter pickup should occur prior to mowing in all areas. If required, cut grass shall be raked and removed. Litter pickup and raking and removal of grass shall be incidental to the work.

Mowing equipment shall be approved by the Engineer prior to work.

OVER-SEEDING

Areas of bare ground greater than 2-3 feet in diameter shall be over-seeded with the specified mix during the appropriate season for seeding. Where required for overseeding mowing shall be as close to the soil as possible. Soil that is compacted shall be raked or otherwise roughened prior to over-seeding.

Over-seeding rates and methods shall those specified above under Materials and Methods. Following over-seeding, soil shall be lightly tamped to ensure seed to soil contact and areas shall be mulched with straw mulch and watered with a fine mist to moisten soil to a depth of at least 2 inches.

Over-seeding, mulch, watering, and all work for over-seeding shall be incidental.

DETERMINING SATISFACTORY GRASS ESTABLISHMENT

A well-established stand of the specified seeded species as determined by the Engineer and the MassDOT Landscape Architect will be required for Final Acceptance. The expectation is that an acceptable number and variety of the desired permanent seeded species (not the cover crop) will be visible. Generally:

- A minimum of 75% coverage by the specified permanent seeded species after one growing season. Of that percentage, generally, depending on the mix species:
    - At least 3 types of permanent seeded grass species shall be visible.
    - At least 3 species of wildflowers shall be visible.
- There will be no significant gaps or bare soil (generally 2-3 feet in diameter or greater).
- There will be no more than 25% coverage by weed species.
- All soil shall be stabilized and there shall be no channeling or erosion.
- There will be no invasive or aggressive species within the stand at the time of acceptance.

There shall be no evidence of seed from non-native mixes (i.e., clover) due to failure to clean the hydroseeding tank or using incorrect mix.

ITEM 765.635 (Continued)

Invasive and aggressive weeds (such as mugwort, ragweed, knapweed, and chicory) must be cut or treated prior to going to seed for Interim Acceptance. Herbicide treatment must be coordinated with MassDOT.

A warm-season grass mix with perennials will not have uniform growth. A uniform stand of grass may indicate use of an incorrect mix.

ACCEPTANCE OF SEEDING AND ESTABLISHMENT WORK

Conditional Acceptance shall be based on proper application of seed as specified herein.

Interim Acceptance of Care. Seeding will be inspected by mid-July to assess germination and Establishment conditions as described above. When necessary for Interim Acceptance, areas shall be mowed prior to weed species producing seed and as specified above under Weed Control. ***Areas requiring weed control that are not mowed prior to weed seed dispersal will not be approved for Interim Acceptance.*** Seeding that shows good germination and is determined by the Engineer and Landscape Architect to not require weed control at time of inspection shall be accepted for Interim Acceptance payment.

Final Acceptance of Establishment shall be given upon satisfactory Establishment as described above.

If the seeded area fails to meet the requirements of Establishment by the end of the growing season, contractor shall propose and implement remediations and site shall be inspected during the following growing season after July 1st. All remediation shall be at the contractor's expense.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Native Seeding and Establishment will be measured for payment by the square yard, complete in place.

Native Seeding and Establishment will be paid at the Contract unit price by the square yard upon Conditional, Interim, and Final Acceptances as described above. This price shall include all submittals, seeding, rolling to ensure seed-to-soil contact, weed control other than mowing, water, over-seeding, labor, materials, equipment, and all incidental costs required to complete the work of establishing a satisfactory stand of grass.

Native seed and cover crop mixes shall be compensated under the respective items.

Site preparation, including raking, tilling, removal of debris and stones, and other work to the prepare site for seeding shall be compensated under loam placement or topsoil rehandled and spread as relevant to the project. If used, Compost Blanket shall be compensated under the respective item.

Mowing for weed control will be incidental to this item.

Schedule of payment shall be as follows:

30% upon Conditional Acceptance
20% upon Interim Acceptance of Care, except this amount will be reduced to zero and final payment will be reduced accordingly when areas requiring weed control are not mowed as specified in the Interim Acceptance criteria
50% upon Final Acceptance of Establishment

ITEM 767.121 SEDIMENT CONTROL BARRIER FOOT

The work under this item shall conform to the relevant provisions of Subsections 670, 751 and 767 of the Standard Specifications and shall include the furnishing and placement of a sediment control barrier. Sediment control barrier shall be installed prior to disturbing upslope soil.

The purpose of the sediment control barrier is to slow runoff velocity and filter suspended sediments from storm water flow. Sediment barriers may be used to contain stockpile sediments, to break slope length, and to slow or prevent upgradient water or water off road surfaces from flowing into a work zone. The contractor shall be responsible for ensuring that barriers fulfill the intent of adequately controlling siltation and runoff.

Twelve-inch diameter (after installation) compost filter tubes with biodegradable natural fabric (i.e., cotton, jute, burlap) are intended to be the primary sedimentation control barrier. Photo-biodegradable fabric shall not be used.

For small areas of disturbance with minimal slope and slope length, the Engineer may approve the following sediment control methods:

- 9-inch compost filter tubes
- Straw bales which shall be trenched

No straw wattles may be used. Additional compost filter tubes (adding depth or height) shall be used at specific locations of concentrated flow such as at gully points, steep slopes, or identified failure points in the sediment capture line.

When required by permits, an additional sediment barrier shall be stored on-site for emergency use and replacement for the duration of the contract.

Where shown on the plans or when required by permits, sedimentation fence shall be used in addition to compost filter tubes and straw bales and shall be compensated under that item.

Sediment control barriers shall be installed in the approximate location as shown on the plans and as required so that no excavated or disturbed soil can enter mitigation areas or adjacent wetlands or waterways. If necessary to accommodate field conditions and to maximize effectiveness, barrier locations may be shifted with approval from the Engineer. Barriers shall be in place prior to excavation work. No work shall take place outside the barriers.

MATERIALS AND CONSTRUCTION

Prior to initial placement of barriers, the Contractor and the Engineer shall review locations specified on the plans and adjust placement to ensure that the placement will provide maximum effectiveness.

Barriers shall be staked, trenched, and/or wedged as specified herein and according to the Manufacturer’s instructions. Barriers shall be securely in contact with existing soil such that there is no flow beneath the barrier.

ITEM 767.121 (Continued)

Compost Filter Tube

Compost material inside the filter tube shall meet M1.06.0, except for the following: no peat, manure or bio-solids shall be used; no kiln-dried wood or construction debris shall be allowed; material shall pass through a 2-inch sieve; and the C:N ratio shall be disregarded.

The outer tube fabric shall be made of 100% biodegradable materials (i.e., cotton, hemp or jute) and shall have a knitted mesh with openings that allow for sufficient water flow and effective sediment capture.

Tubes shall be tamped, but not trenched, to ensure good contact with the soil. When reinforcement is necessary, tubes shall be stacked as shown on the detailed plans.

Straw Bales

Straw bales shall be used if shown on the plans or when specified by Orders of Condition or other permit requirements.

Bales should be placed in a single row, lengthwise on the contour, with ends of adjacent bales tightly abutting one another. All bales should be either wire-bound or string-tied. Straw bales should be installed so that bindings are oriented around the sides (rather than along the tops and bottoms) of the bales in order to prevent deterioration of the bindings.

The barrier should be entrenched and backfilled. A trench should be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. The trench must be deep enough to remove all grass and other material which might allow underflow. After the bales are staked and chinked (filled by wedging), the excavated soil should be backfilled against the barrier. Backfill soil should conform to the ground level on the downhill side and should be built up to 4 inches against the uphill side of the barrier.

Each bale should be securely anchored at least 2 stakes or re-bars driven through the bale. The first stake in each bale should be driven toward the previously laid bale to force the bales together. Stakes or re-bars should be driven deep enough into the ground to securely anchor the bales. For safety reasons, stakes should not extend above the bales but should be driven in flush with the top of the bale.

The gaps between the bales should be chinked (filled by wedging) with straw to prevent water from escaping between the bales. Loose straw scattered over the area immediately uphill from a straw bale barrier tends to increase barrier efficiency. Wedging must be done carefully in order not to separate the bales.

When used in a swale, the barrier should be extended to such a length that the bottoms of the end bales are higher in elevation than the top of the lowest middle bale to assure that sediment-laden runoff will flow either through or over the barrier but not around it.

ITEM 767.121 (Continued)

Sedimentation Fence

Materials and Installation shall be per Section 670.40 and 670.60 of the Standard Specifications and the following:

A Sedimentation fence shall only be used if shown on the plans or when specified by Orders of Condition or other permit requirements.

When used with compost filter tubes, the tube shall be placed on a minimum of 8 inches of folded fabric on the upslope side of the fence. Fabric does not need to be trenched.

When used with straw bales, an 8-inch deep and 4-inch-wide trench or V-trench shall be dug on the upslope side of the fence line. One foot of fabric shall be placed at the bottom of the trench followed by backfilling with compacted earth or gravel. Stakes shall be on the down slope side of the trench and shall be spaced such that the fence remains vertical and effective.

The width of fabric shall be sufficient to provide a 36-inch-high barrier after fabric is folded or trenched. Sagging fabric will require additional staking or other anchoring.

MAINTENANCE

Maintenance of the sediment control barrier shall be per Section 670.60 of the Standard Specifications or per the Stormwater Pollution Prevention Plan (SWPPP), whichever is more restrictive.

The contractor shall inspect the sediment barrier in accordance with relevant permits. At a minimum, barriers shall be inspected at least once every 7 calendar days and after a rain event resulting in 0.25 inches or more of rainfall. Contractor shall be responsible for ensuring that an effective barrier is in place and working effectively for all phases of the Contract.

Barriers that decompose such that they no longer provide the function required shall be repaired or replaced as directed. If the resulting berm of compost within the fabric tube is sufficiently intact (despite fabric decay) and continues to provide effective water and sediment control, the barrier does not necessarily require replacement.

DISMANTLING & REMOVING

Barriers shall be dismantled and/or removed, as required, when construction work is complete, and upslope areas have been permanently stabilized and after receiving permission to do so from the Engineer.

Regardless of site context, nonbiodegradable material and components of the sediment barriers, including photo-biodegradable fabric, plastic netting, nylon twine, and sedimentation fence, shall be removed and disposed off-site by the Contractor.

ITEM 767.121 (Continued)

For naturalized areas, biodegradable, natural fabric and material may be left in place to decompose on-site. In urban, residential, or other locations where aesthetics is a concern, the following shall apply:

- Compost filter tube fabric shall be cut and removed, and compost shall be raked to blend evenly (as would be done with a soil amendment or mulch). No more than a 2-inch depth shall be left on soil substrate.
- Straw bales shall be removed and disposed of off-site by the Contractor. Areas of trenching shall be raked smoothly and disturbed soils stabilized with a seed mix matching adjacent seeding or existing grasses (i.e., lawn or native grass mix).
- Sedimentation fence, stakes, and other debris shall be removed and disposed of off-site. The site shall be restored to a neat and clean condition.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 767.121 will be measured and paid for at the contract unit price per foot of sediment control barrier which price shall include all labor, equipment, materials, maintenance, dismantling, removal, restoration of soil, and all incidental costs required to complete the work.

Additional barrier, such as double or triple stacking compost filter tubes, will be paid per foot of tube installed.

Barriers that have been driven over or otherwise damage by construction activities shall be repaired or replaced as directed by the Engineer at the Contractors expense.

ITEM 767.9 JUTE MESH SQUARE YARD

The work under this item shall conform to the relevant provisions of Section 700 of the Standard Specifications and the following.

The work under this item shall consist of furnishing and installing jute mesh fabric to prevent soil erosion. Jute mesh shall be placed over all areas of exposed soil in locations shown on the plans or as required by the Engineer.

MATERIALS

Jute netting or similar material shall be new, unused, undyed, and unbleached 100% biodegradable yarn (no polypropylene) and of uniform plain weave. The materials should weigh approximately 1.0 (+/- 5%) pounds per linear yard (assuming a 4-foot width).
Shall meet the following minimum requirements:

Open Area:	70-75%
Mesh Size:	approximately 1/2 inch with an open area of 60-65%.
Roll Weight:	approximately 1.0 (+/- 5%) pounds per linear yard
Warp Ends:	78 per linear yard
Weft Ends:	41 per linear yard
Recommended flow:	6 fps (1.8 m/s)
Functional Longevity:	6-9 months

The anchoring devices shall be 11-gauge steel staples 6-inch minimum length. In loose soils the length of the staples shall be 9-inches.

For areas that will be routinely mowed anchoring devices shall consist of a minimum of 8” wooden stakes. Longer stakes shall be used where loose soils or other conditions obligate, as required by the Engineer.

CONSTRUCTION METHODS

The area shall be seeded prior to installation of jute netting.

Installation should be such as to ensure continuous contact with soil without folds or wrinkles. Jute netting shall be laid such that upslope fabric is placed over lower slope fabric by a minimum of 3 feet. Adjoining rolls shall be overlapped a minimum 6 inches. The netting shall extend beyond at least 1 foot beyond the edge of the seeded area.

The Contractor shall bury the ends of the jute netting 6-8 inches in anchor trenches at top and bottom of slopes.

Jute netting shall be anchored in place with vertically driven metal staples. The staples shall be driven in until their tops are flushed with the soil. Staples shall be placed at 12-inch intervals along the top of a slope and in staggered courses along the face of the slope to achieve a minimum of 3 staples per square yard, or at manufacturer’s recommendations for the given site conditions.

ITEM 767.9 (Continued)

The contractor shall reseed all trenched and otherwise disturbed areas with a specified seed mix. The Contractor shall maintain the jute netting and make satisfactory repairs of any areas damaged until acceptance of seed establishment.

METHOD OF MEASUREMENT

Jute Mesh will be measured by the number of Square Yards complete in place, including anchoring, as measured across the surface of grade and does not include buried or overlapped portions. The quantity measured for payment shall not exceed that shown on the plans or as directed by the Engineer.

Mesh that becomes loose or that is not otherwise functioning to stabilize soil shall be repaired and new or additional jute matting installed as required at the Contractor's expense. Soil erosion shall be repaired, and area shall be raked and reseeded with the original specified mix as required by the Engineer at the Contractors expense.

BASIS OF PAYMENT

Item 767.9 will be paid for at the contract unit price per Square Yard, which price shall include all labor, materials, equipment, trenching, placing, and stapling of jute fabric, reseeding of trenched and disturbed areas, and all incidental costs required to complete the work

ITEM 776.523 MAPLE – RED 2-2.5 IN CALIPER EACH

The work under this item shall conform to the relevant provisions of Subsection 771 of the Standard Specifications, and the following:

The plant locations shown on the plans are schematic. Plant quantities may be reduced based on site conditions and plants may be relocated with the project limits. Final quantities shall be per the MassDOT Landscape Architect and determined after the Site Assessments described below.

Site Assessment

Prior to any work, proposed tree locations shall be reviewed during a site walk with the Contractor, the Contractor's Arborist, the Engineer, the MassDOT Landscape Architect, and the Harwich Tree Warden. The site walk is required to be added as a schedule item by the Contractor.

Upon substantial completion of sidewalk construction and prior to ordering plants, a second site walk shall be conducted with the Contractor, the Planting Subcontractor, the Engineer, the MassDOT Landscape Architect, and the Arlington Tree Warden to reassess proposed plant locations. Following the second site walk, if in the opinion of the MassDOT Landscape Architect and Harwich Tree Warden the proposed locations shown on the plan are not suitable, revised locations will be chosen by the MassDOT Landscape Architect and Arlington Town Tree Warden.

Plants

Plant shall be tagged by the MassDOT Landscape Architect or a representative prior to purchase.

Planting

As shown in the Details, soil shall be carefully removed to expose the root flare of all B&B and container plants. Container plants shall be scored and girdled roots shall be teased out and pruned as necessary.

Plants planted incorrectly (too deep, girdled roots, root balls not scored) shall be deemed unacceptable for payment. The problem shall be remediated, and the plants re-planted to the satisfaction of the Landscape Architect. Plants with root systems that cannot be untangled or that require such severe pruning that the plant is compromised shall be rejected on site and replaced at the contractor's expense.

Plants shall be watered prior to backfilling of planting pits and again after backfilling.

Watering

Watering shall meet the requirements for the MassDOT Standard Specifications. In addition, a Watering Log (available online: Watering Log for MassDOT Plantings) shall be submitted to the Engineer at the end of each week or as requested by the Engineer. Watering and submitting of the weekly Watering Log shall commence immediately following planting and shall continue until the end of the plant warranty. The Engineer shall be notified prior to watering.

ITEM 776.523 (Continued)

Failure to submit the watering log and/or notify the Engineer will result in deductions or non-payment for plants at the Interim and Final Acceptance inspections. This may include rejection of plants that have healthy foliage at the time of inspection but have been compromised (root system loss) due to lack of water during establishment.

Acceptance of Planting and Plant Establishment

Inspections and acceptance of planting and plant establishment shall be as follows:

Conditional Acceptance

Following planting, the Contractor shall request an inspection for Conditional Acceptance of the plants and planting beds. The Engineer, the MassDOT Landscape Architect, the Town Tree Warden, and the Contractor shall inspect the plants, planting methods, and planting beds. Approval of plants and planting shall mark the beginning of the Plant Establishment Period and the one-year warranty period. Plants shall be watered and cared for as specified in the MassDOT Standard Specifications.

Interim Acceptance

Following Conditional Acceptance, plants and planting beds shall be cared for as specified in the standard specifications. Plants shall show healthy growth per the Standard Specifications. All weeds shall be removed (including roots) or, if approved by the Landscape Architect, weed-whacked. Watering log submissions shall be submitted and reviewed.

Plants that are dead or that fail to show healthy growth will not be approved for Interim Acceptance. As determined by the Engineer, those plants shall be immediately replaced or shall be deducted from the contract and there shall be no further payments made.

Inspections for Interim Acceptance shall be conducted by the Contractor, the Engineer, and the MassDOT Landscape Architect and shall be according to the following schedule:

Spring Planting: Plants and planting beds shall be inspected following the first full growing season (June – August) after planting.

Fall Planting: Plants and planting beds shall be inspected the following spring (April– June) for Spring Interim Acceptance. Plants and planting beds shall be inspected again at the end of the growing season for Fall Interim Acceptance. This inspection will take place between August 15 - September 10 or as otherwise determined by the Engineer, in order to allow for place replacements.

Final Acceptance: One year following Conditional Acceptance (end of the plant warranty period), plants shall be inspected by the Contractor, MassDOT Landscape Architect, Town Tree Warden, and the Engineer. Plants shall show healthy growth meeting the MassDOT Standard Specifications and planting beds shall be free of weeds.

No payment will be made for plants that are dead or that fail to show healthy growth.

ITEM 776.523 (Continued)

Payment Schedule

Upon approval of plants at each inspection, payment shall be as follows:

Spring Planting:

- 40% upon Conditional Acceptance
- 40% upon Interim Acceptance which will include submission and approval of watering logs
- 20% upon Final Acceptance

Fall Planting:

- 35% upon Conditional Acceptance
- 10% upon Spring Interim Acceptance
- 35% upon Fall Interim Acceptance which will include submission and approval of watering logs
- 20% UPON Final Acceptance

METHOD OF MEASUREMENT

Item 776.523 will be measured for payment by EACH tree installed.

BASIS OF PAYMENT

Item 776.523 will be for all labor and materials to satisfactorily furnish and install EACH tree complete in place including, but not limited to, delivery, excavation for rootball, planting media, soil amendments, fertilizers, watering, stakes and guys, and aged pine bark mulch.

ITEM 802.412 4 INCH TELEPHONE CONDUIT – TYPE NM (12 BANK) FOOT

The work under this item shall conform to the relevant provisions of Section 800 and the following:

The trench shall be excavated to the width and depth shown on the plans. All construction of duct banks including trench, excavation, and backfill shall conform to Verizon details and specifications (Document A00805). All work shall be performed by a Verizon approved Contractor. A representative from Verizon shall be present for all Telephone conduit installed.

For all conduits encased in concrete, use plastic spacers to maintain conduit spacing. Spacers shall meet Verizon specifications for design and spacing.

All trench excavation activities shall comply with all appropriate OSHA standards.

Duct bank shall have 6-inch orange warning tape installed above the concrete encasement as shown on the plans.

Conduits shall be blown clean using compressed air. Run mandrel through each conduit to confirm viable pathway.

Woven polyester mule tape with minimum strength of 2500 lb. tensile strength to be installed within each conduit.

PVC conduits shall be Schedule 40.

Concrete encasement shall be 2,500 psi, 3/8 inch, 520 cement concrete.

METHOD OF MEASUREMENT

Item 802.412 will be measured for payment by the FOOT of conduit installed, complete in place.

BASIS OF PAYMENT

Item 802.412 will be paid for at the contract unit price per FOOT; which price shall be considered full compensation for all labor equipment and materials necessary to complete the work specified above, including, but not limited to, excavation, backfill, conduit, warning tape, spacers, concrete encasement, and all incidental costs required to complete the work.

ITEM 811.121 TELEPHONE MANHOLE EACH

The work under this Item shall conform to the relevant provisions of Section 800 of the Standard Specifications, and the following:

Telephone manholes shall be in conformance with Verizon Standard Specifications. (Document A00805).

Manholes shall be placed on a 6" layer of¾" crushed stone in conformance with Material Specification M2.01.4 of the Standard Specifications.

A representative from Verizon shall be present for all telephone manhole installations. Utility work shall be performed by a Verizon approved Contractor.

METHOD OF MEASUREMENT

Item 811.121 will be measured for payment by EACH telephone manhole installed, complete in place.

BASIS OF PAYMENT

Item 811.121 will be paid for at the contract unit price per EACH and shall be considered full compensation for all labor and equipment, including ground ring and rods for equipment grounding, cable racks, access ladder, frame and cover, and all incidental costs required to complete the work.

ITEM 852.11 TEMPORARY PEDESTRIAN BARRICADE FOOT
ITEM 852.12 TEMPORARY PEDESTRIAN CURB RAMP EACH

Description

The work under these items consists of furnishing, deploying, maintaining in proper operating conditions, and removing temporary pedestrian barricades and temporary pedestrian ramps as part of a Temporary Pedestrian Access Route (TPAR) in order to guide pedestrians around a fully- or partially-closed sidewalk. These devices are intended to prevent pedestrians from entering the work area and to prevent pedestrians from inadvertently entering the vehicle travel lane by providing visual and physical separation between each space.

Materials

The Temporary Pedestrian Barricade shall have a continuous bottom rail or edge no more than two (2) inches above the ground and eight (8) inches in height (minimum) to accommodate cane users, have a smooth and continuous hand railing along the top edge no less than 32 inches above the ground and not obstruct or project into the pedestrian path of travel. Barricade walls shall be nearly vertical and generally within the same plane.

ITEM 852.11 and ITEM 852.12 (Continued)

If exposed to traffic, Temporary Pedestrian Barricades shall be crashworthy.

The Temporary Pedestrian Curb Ramp shall provide a 48 inch minimum width, with a firm, stable, and non-slip surface. Protective edging with a two (2) inch minimum height shall be installed when the curb ramp or landing platform has a vertical drop of six (6) inches or greater.

The Temporary Pedestrian Curb Ramp walkway and landing area surface shall be of a solid, continuous, contrasting color abutting up to the existing sidewalk.

If a Temporary Pedestrian Curb Ramp leads to a crosswalk, a detectable warning pad must be used at the base of the ramp; if it leads to a protected path that does not conflict with vehicular traffic then a detectable pad shall not be used.

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.

The recommended width of the TPAR is 60 inches, but if constraints exist a minimum clear width of 48 inches shall be provided along its entirety. If a 60 inch width cannot be accommodated in full, a 60 inch by 60 inch passing space shall be provided every 200 feet or less along the TPAR.

Turning areas shall be 60 inches by 60 inches minimum.

Lateral joints between any surfaces shall not exceed 0.5 inches. Lateral edges may be vertical up to 0.25 inches high and shall be beveled at 1V:2H between 0.25 inches and 0.5 inches.

The TPAR shall be kept clear of debris, snow, and ice and the Temporary Pedestrian Barricades and Temporary Pedestrian Curb Ramps shall not obstruct drainage.

Removal and/or resetting of Temporary Pedestrian Barricades and Temporary Pedestrian Curb Ramps shall be considered incidental.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Payment for Temporary Pedestrian Barricades will be made at the contract price per foot installed in place, including all incidental items. This price shall include the cost of furnishing, installing, resetting, removal, and maintaining in good working condition.

Payment for Temporary Pedestrian Curb Ramps will be made at the contract price per each unit installed in place, including all incidental items. This price shall include the cost of furnishing, installing, resetting, removal, and maintaining in good working condition.

ITEM 874.2	**TRAFFIC SIGN REMOVED AND RESET**	**EACH**
ITEM 874.4	**TRAFFIC SIGN REMOVED AND STACKED**	**EACH**
ITEM 877.1	**SIGNPOST REMOVED AND DISCARDED**	**EACH**

The work under these items shall conform to the relevant provisions of Subsection 828 of the Standard Specifications and the following:

The Contractor shall carefully remove, transport and stack signs as directed by the Engineer. Signposts shall be discarded. All signs removed and stacked shall be transported to the Harwich Department of Public Works located at 273 Queen Anne Road, Harwich, MA 02645.

All signs that are designated to be removed and reset will be reset on the existing post unless otherwise specified on the plans to the locations as shown on the plans.

The Contractor shall remove each item by an appropriate method to avoid damaging the individual components. All items shall be stockpiled in a location approved by the Town.

Care shall be taken to avoid damage to any existing items. If damage occurs, it shall be repaired or replaced by the Contractor at no additional cost.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 874.2, 874.4 and 877.1 will be measured for payment by the unit EACH, respectively.

Item 874.2, 874.4 and 877. will be paid for at the respective Contract unit price per EACH, which will include all transportation to the Harwich DPW, labor, tools, materials, hardware, equipment, removal of concrete foundation, backfilling holes left from removal of posts, and incidental costs required to complete the Work.

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DOCUMENT A00802

DETAIL SHEETS

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PROJECT NO. 610670

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
TEN PARK PLAZA, BOSTON, MA

- ESTIMATE OF QUANTITIES - DETAIL SHEETS -

TOWN/CITY: Harwich, MA
STA. 100+78 to 111+54.70, 199+96.50 to 224+00, 51+90 to 71+13

YEAR: Federal Fiscal Year 2026

ROAD: South Street, Main Street, Sisson Road

CLASS: Minor Collector, Minor Arterial, Principal Arterial

TYPE OF PROJECT: Roadway Safety Improvements

DATE: February 2026

Unclassified Excavation	1880 CY	Crushed Stone	80 TON
Wood Chip Mulch	5 CY		
Gravel Borrow	2200 CY		
Processed Gravel	10 CY		
Loam for Roadsides	260 CY		
Loam for Lawns	110 CY		

PAVEMENT NOTES

FINE MILLING AND OVERLAY **AREA = 2920 SY**

FINE MILL: 1.5” EX PAVEMENT

OVERLAY: 1.5” SUPERPAVE SURFACE COURSE- 9.5 (SSC-9.5)

HOT MIX ASPHALT DRIVEWAY **AREA = 633 SY**

SURFACE: 4’’ (1.5 SSC-9.5 OVER 2.5’’ SSC-12.5)

SUB-BASE: 8” GRAVEL BORROW (TYPE B)

HOT MIX ASPHALT SIDEWALK **AREA = 2571 SY**

SURFACE: 3” HMA (1.25 SSC-9.5 OVER 1.75’’ SSC-12.5)

SUB-BASE: 8” GRAVEL BORROW (TYPE B)

CEMENT CONCRETE DRIVEWAY **AREA = 90 SY**

SURFACE:	6” CEMENT CONCRETE (AIR ENTRAINED, 4,000 PSI, 0.75”, 610)
SUB-BASE:	8” GRAVEL BORROW (TYPE B)

CEMENT CONCRETE SIDEWALK **AREA = 20 SY**

SURFACE:	4” CEMENT CONCRETE (AIR ENTRAINED, 4,000 PSI, 0.75”, 610)
SUB-BASE:	8” GRAVEL BORROW (TYPE B)

NOTES:

1. ALL SUPERPAVE HOT MIX ASPHALT SHALL BE A WARM MIX ASPHALT TECHNOLOGY.
2. ALL HOT MIX ASPHALT PAVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 450 HOT MIX ASPHALT AND SECTION M3. ASPHALTIC MATERIALS.
3. TACK COAT APPLICATION SHALL BE IN ACCORDANCE WITH SUBSECTION 450.43G(2).
4. WHERE EXISTING SUBBASE/SUBGRADE IS FOUND TO MEET SPECIAL BORROW (M1.02.0) SPECIFICATION REQUIREMENTS, THE EXISTING MATERIAL MAY BE LEFT IN PLACE, AFTER THE APPROVAL OF THE ENGINEER.
5. UNLESS NOTED OTHERWISE ON THE DRAWINGS, PAVEMENT MILLING SHALL BE USED TO ACHIEVE A 2.00% CROSS SLOPE OR TO MAINTAIN EXISTING CROSS SLOPE.
6. * = TOLERANCE FOR CONSTRUCTION ± 0.5% ON SIDEWALK SLOPES, DRIVEWAY SLOPES, AND WHEELCHAIR RAMPS.

PLAN NO'S. _____	ESTIMATED BY HTM
PROFILE NO'S._____	CHECKED BY KJS
CALC. BOOK NO. _____	SUBMITTED BY___

ITEM 102.511 TREE PROTECTION- ARMORING AND PRUNING

To be used to protect isolated trees as shown on the Plans, and as directed by the Town of Harwich.

STATION	OFFSET
108+30	RT
108+56	RT
109+33	RT
109+43	RT
202+47	24’ RT
202+47	24’ RT
203+81	25’ RT
203+81	25’ RT
203+81	25’ RT
203+81	25’ RT
203+81	25’ RT
204+66	21’ RT
204+66	21’ RT
204+66	21’ RT
204+76	RT
204+76	RT
206+66	23’ RT
206+66	23’ RT
208+15	RT
208+15	RT
208+15	RT
208+74	21’ RT
211+10	RT
218+78	24’ RT
60+64	25’ LT
60+64	25’ LT
62+50	25’ LT
63+08	LT
66+11	25’ RT
66+11	25’ RT
66+11	25’ RT

ITEM 103. TREE REMOVED- DIAMETER UNDER 24 INCHES

To be used to remove isolated trees under 24 inches in diameter as shown on the Plans, and as directed by the Town of Harwich.

STATION	OFFSET
105+94	RT
207+31	19’ RT
207+31	19’ RT
207+31	19’ RT
207+60	RT
207+60	RT
207+60	RT
207+60	RT
207+60	RT
56+71	23’ LT
56+71	23’ LT

ITEM 104. TREE REMOVED- DIAMETER 24 INCHES AND OVER

To be used to remove isolated trees 24 inches and over in diameter as shown on the Plans, and as directed by the Town of Harwich.

STATION	OFFSET
201+82	15’ RT
60+59	20’ LT
61+90	LT
62+25	LT

ITEM 105. STUMP REMOVED

To be used to remove isolated stumps as shown on the Plans, and as directed by the Town of Harwich.

STATION	OFFSET
105+82	RT
208+50	RT
209+03	RT

ITEM 120.1 UNCLASSIFIED EXCAVATION

See Cross Sections; For all cut assumed to be needed for earthwork related to sidewalk construction, and as directed by the Engineer.

ITEM 120.9. REMOVE AND STACK BOULDERS

To be used to remove and stack boulders at the location agreed upon by the Engineer and property owner for the installation of sidewalk, and as directed by the Engineer

ITEM 146. DRAINAGE STRUCTURE REMOVED

See Drainage and Utility Plans for details. For removal of drainage structures in poor condition or due to the relocated curb line.

ITEM 151. GRAVEL BORROW

To be used as a subbase material for cement concrete curb ramps and sidewalk, HMA driveway aprons, HMA sidewalks, and as directed by the Engineer.

ITEM 152. PROCESSED GRAVEL

To be used as surface material for driveway aprons, and as directed by the Engineer.

ITEM 156. CRUSHED STONE

For use as directed for bedding for drainage pipe, duct bank or structures if trench is wet or swampy, and as directed by the Engineer.

ITEM 182.1 INSPECTION AND TESTING FOR ASBESTOS
ITEM 182.2 REMOVAL OF ASBESTOS

For inspecting, testing, and removal of the existing duct bank identified to contain asbestos.

ITEM 201. CATCH BASIN

For construction of drainage structure and as directed by the Engineer.

STATION	SIDE
109+22	09’ RT
208+96	08’ RT
59+87	11’ LT

ITEM 204. GUTTER INLET

For construction of drainage structures and as directed by the Engineer.

STATION	SIDE
54+50	12’ LT
70+12	12’ RT
70+3	17’ RT

ITEM 241.12 12 INCH REINFORCED CONCRETE PIPE CLASS III

See Drainage and Utility Plans for details. For drainage structures improvements and for shallow pipe installation to avoid utility conflicts as directed.

ITEM 415.2 PAVEMENT FINE MILLING

For use to remove existing crosswalks and on side streets and restoration of trench patching, as shown on the Plans and as directed by the Engineer.

ITEM 431. HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE

For use for gutter line patching, and as directed by the Engineer.

ITEM 451. HMA FOR PATCHING

For use for trench and gutter line patching and as directed by the Engineer.

ITEM 514. GRANITE CURB INLET- STRAIGHT

To be used for new drainage structure installation and as directed by the Engineer for straight broken or damaged curb inlets.

ITEM 620.131 GUARDRAIL, DEEP POST (SINGLE FACED)

For use in the following locations and as directed by the Engineer:

FROM STATION	SIDE	TO STATION	SIDE
206+68.48	RT	207+73.32	RT

ITEM 627.1 TRAILING ANCHORAGE

For use in the following locations and as directed by the Engineer:

FROM STATION	SIDE	TO STATION	SIDE
207+73.32	RT	207+84.44	RT
59+15.81	LT	59+26.93	LT
60+46.58	LT	60+57.52	LT

ITEM 627.83 GUARDRAIL TANGENT END TREATMENT, TL-3

For use in the following locations and as directed by the Engineer:

FROM STATION	SIDE	TO STATION	SIDE
206+43.48	RT	206+68.48	RT

ITEM 628.25 TRANSITION TO THRIE BEAM

For use to transition from Thrie-Beam Guardrail to W-Beam Guardrail at the following locations and as directed by the Engineer:

FROM STATION	SIDE	TO STATION	SIDE
59+26.93	LT	59+33.18	LT
60+40.33	LT	60+46.58	LT

ITEM 634.1 THRIE BEAM GUARDRAIL PANEL

For use in the following locations and as directed by the Engineer:

FROM STATION	SIDE	TO STATION	SIDE
59+33.18	LT	60+40.33	LT

ITEM 698.4 GEOTEXTILE FABRIC FOR PERMANENT EROSION CONTROL

To be used below crushed stone that has been placed under the modified rock fill, and as directed by the Engineer.

ITEM 711. BOUND REMOVED AND RESET

For use the following location: (and as directed by the Engineer)

STATION	SIDE
200+45	RT
202+47	RT
205+08	RT
218+01	RT
219+52	RT
57+00	LT
57+88	LT
67+60	LT

ITEM 765.21 ANNUAL COVER CROP FOR NATIVE SEEDING

For use on the slope in the vicinity of the Isolated Vegetated Wetland on main Street in conjunction with native seeding when work is conducted outside of the typical planting season and as directed by the Engineer.

ITEM 765.635 NATIVE SEEDING AND ESTABLISHMENT

For use on the slope in the vicinity of the Isolated Vegetated Wetland on Main Street and as directed by the Engineer.

ITEM 767.121 SEDIMENT CONTROL BARRIER

To be used along the perimeter of areas downhill of construction operations and as directed by the Engineer.

ITEM 776.523 MAPLE - RED 2-2.5 INCH CALIPER

To be used to plant new trees as shown on the Plans, and as directed by the Engineer and Town of Harwich.

STATION
60+59 LT
61+85 LT
106+07 RT
202+21 RT
207+17 RT to 207+85 RT

ITEM 847.1 SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL

As shown on the Traffic Sign and Pavement Marking Plans, and as directed by the Engineer.

STATION	SIDE	STATION	SIDE	STATION	SIDE
101+44	21'RT	200+90	23'RT	52+07	24'LT
101+83	22'RT	206+25	13'RT	63+61	31'LT
102+29	19.5' RT	210+00	15'LT	65+39	15'RT
103+70	22'RT	214+37	14'RT	66+19	20'RT
103+88	21'RT	215+38	13'RT	67+05	38'LT
104+18	21'RT	216+37	14'RT	67+13	28'LT
104+32	18' RT	217+25	14'RT	67+33	26'RT
104+32	18' LT	217+27	22'LT	67+35	52'LT
104+68	22'RT	219+49	23'RT	67+44	41'LT
105+31	22'RT	219+49	15'LT	67+80	50'RT
105+82	21'RT	219+53	14'RT	67+82	39'RT
106+10	17' LT	219+82	14'RT	67+94	22'RT
107+06	18'RT	220+27	14'RT	68+95	14'LT
107+19	18'RT	222+03	14'RT	70+84	19'RT
107+69	23'RT	220+72	14'RT		
111+21	20'RT	221+45	14'RT		
223+32	17'RT	222+60	33.5' LT		
		223+27	52' LT		

ITEM 848.1 SIGN SUP (N/GUIDE)+RTE MKR W/2 BRKWAY POST ASSEMBLIES-STEEL

As shown on the Traffic Sign and Pavement Marking Plans, and as directed by the Engineer

STATION	SIDE
107+06	18' RT
67+38	37'RT
208+65	21' LT
217+57	21' LT

ITEM 901. 4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE

For use for repairs to steps, walls, and post foundations, and as directed by the Engineer.

END OF DOCUMENT

DOCUMENT A00805

VERIZON SPECIFICATIONS

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VERIZON SPECIFICATIONS

Verizon Telecommunications Specifications

Section 1 .....Manholes
Section 2 .....Conduit
Section 3 .....Drawings

1. Manholes

1.1. Applications

All Verizon communication manhole locations.

1.2. Type

Standard two piece 38Y-1 (6'-0" x 12'-0" x 7'-0" inside dimensions) telephone company communications vault with 24-4" termaducts, 26-½" racking inserts, pulling eyes, sumps and bonding connections.

1.3. Installation

Manholes to be installed level and plumb with a 24" cover on a 12" bed of ¾" gravel. Joint to be sealed with a butyl rubber gasket or equivalent. Installation includes 24" masonry chimney capped with Verizon specific frame and cover on a grout seal. Galvanized steel loop to be placed in the chimney near top for ladder hooks. Galvanized racking and ladder may be left in manholes for telephone company to assemble.

1.4. Accessories

1.4.1. Racking

Verizon standard steel cable racking with support arms galvanized hot dipped to ASTM A153 or mechanical to B695-91.

1.4.2. Ladder

Verizon standard 8' hooked steel ladder galvanized hot dipped to ASTM A153 or mechanical to B695-91.

1.4.3. Frame & Cover

Verizon specific frame with 30" logo cover.

1.5. Providers

The following companies are familiar with Verizon requirements but suppliers are not limited to:

Manholes and Racking:

Chase Precast East Brookfield Rd. 70 N. Brookfield, MA 01535 508-967-8312	Rotundo Precast 41 Almeida Ave Rehoboth, MA 02769 508-336-7600	Utility Precast PO Box 157 153 Cranberry Hwy West Wareham, MA 02576 508-291-1314

Frames & Covers:

East Jordan Iron Works P.O. Box 439 East Jordan, MI 49727 800-874-4100	LeBaron Foundry P.O. Box 746 14 East Union St. Brockton, MA 02303 508-586-3130

Verizon Telecommunications Specifications

2. Conduit

2.1. Applications

All Verizon communication conduit.

2.2. Type

Industry standard type "C" 4 inch Heavy Wall PVC to conform to GTS 8342 or AT&T 8546 or PTS-77 or NEMA TC 10 requirements. Minimum wall thickness to be 0.149 inches. Use only preformed bends and couplings. No hot bending allowed.

2.3. Installation

2.3.1. Duct formation, including concrete encasement, to have 24" minimum cover.

2.3.2. Ducts to be placed on spacers to provide 1" separation between conduits and a 2" envelope around duct bank for concrete encasement. Spacers lock vertically and horizontally. Spacers shall not exceed 8 ft. intervals and shall be placed at each coupling. Intermediate spacers to be used as a cap on the top tier of the duct bank to prevent floating during the pour.

2.3.3. Concrete to be minimum 2000 psi. Vibrator to be used during placement to eliminate gaps between ducts.

2.3.4. Pole sweeps and ducts capped in dirt will not have encasement the last 4' to facilitate relocation and/or future extension. Ducts terminating at pole bases and in dirt for future to have 4" universal plugs.

2.3.5. All ducts terminated in vaults or at base of poles to be roped pneumatically or mechanically for identification and continuity verification.

2.3.6. Minimum 4' radius for all sweeps, including pole sweeps.

2.4. Accessories

2.4.1. Pull Rope

Pull rope to be mule tape, 1500 pound test or greater.

2.4.2. Spacers

Standard 4" spacers to provide at least 1" separation between ducts

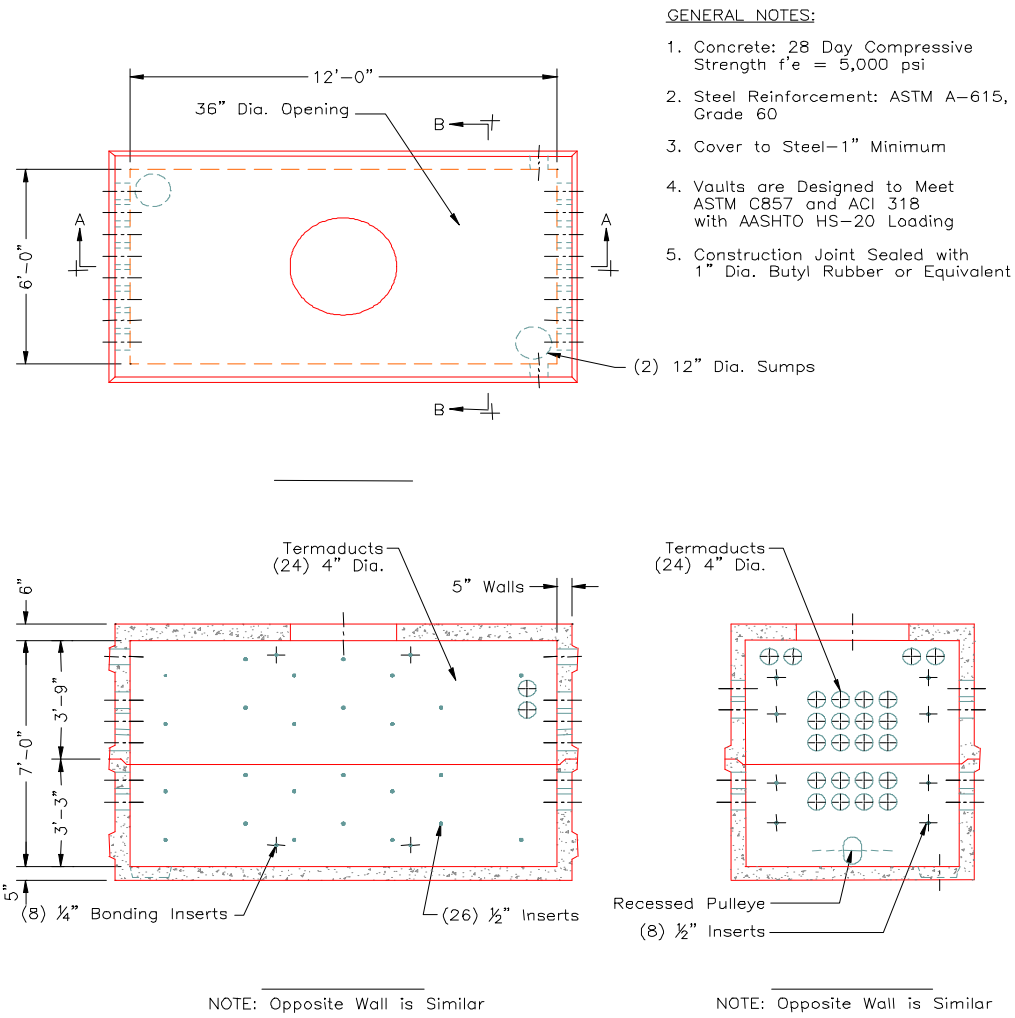
2.4.3. Caps

Standard Universal Plugs with rings to tie pull ropes and provide protection and support to unterminated ducts.

Verizon Telecommunications Specifications

3. Drawings/Attachments

3.1. 38Y-1 Manhole



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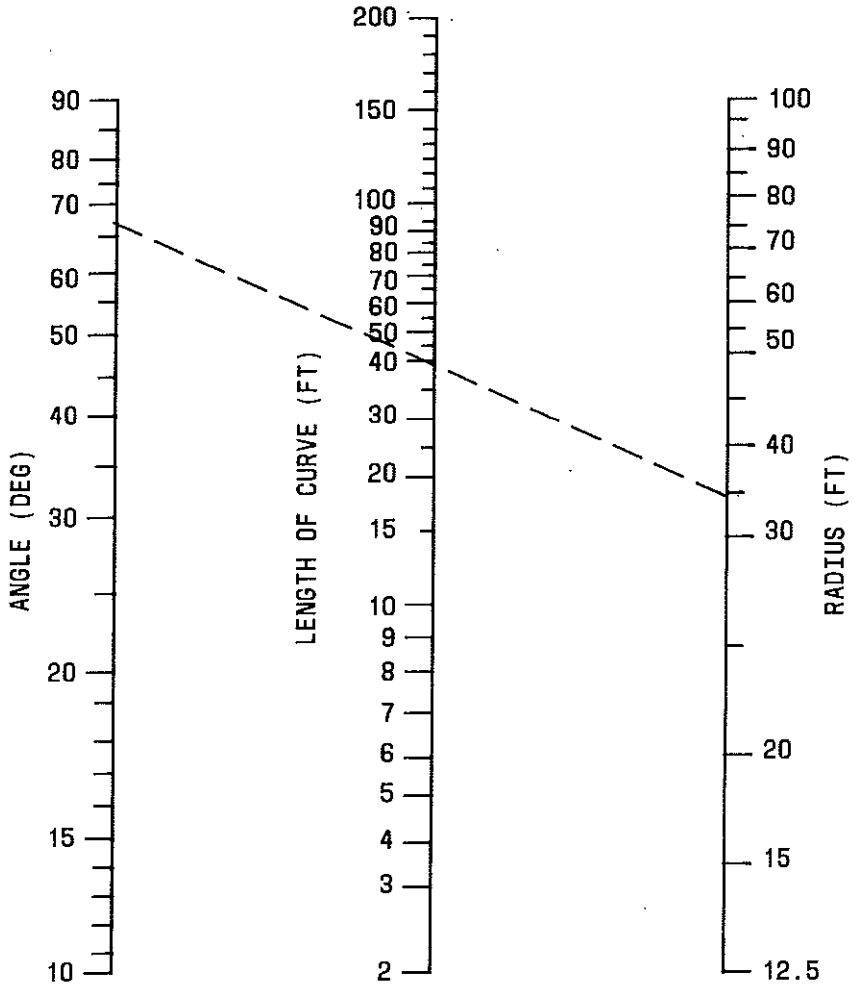
03/04/22

CURVE DESIGN

Practice 919–240–100

The length of a curve can be found using the following nomogram. (Example: The length of a 64–degree, 35–foot radius curve is 40 feet.)



Subsidiary Conduit

Plastic Conduit. Curves are formed using rigid bends (see Pages 8–21).

Steel Pipe. Bends are formed on the job site using a portable pipe bender (see Practice 622–315–200).

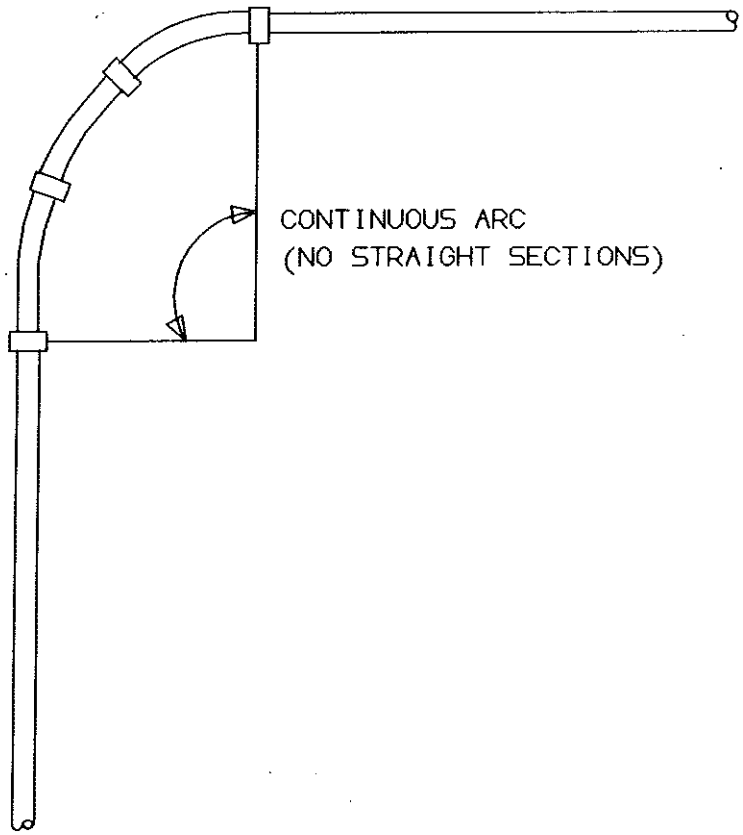
Single–Bore Conduit

Curve Radius 40 Feet or More

Plastic Conduit – Manually bend straight conduit. Conduit must be firmly anchored in trench.

Curve Radius Less Than 40 Feet

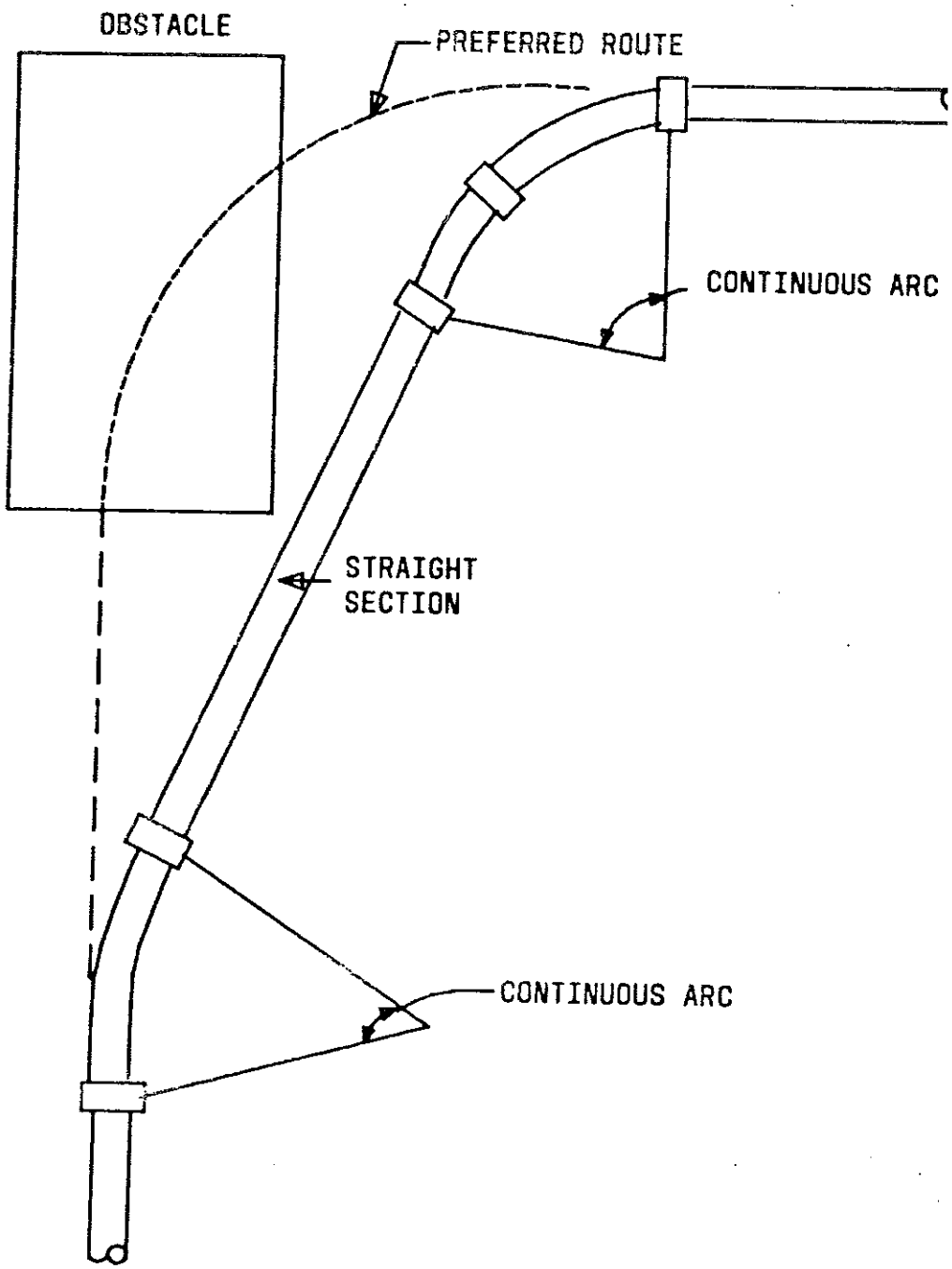
Construct curve in one continuous arc, if possible, using rigid bends without interspersed straight sections, as illustrated below.



For plastic conduit use 15–foot radius bends (7 or 30 degrees, as required. Rigid bends are described on Pages 8–20.

If an obstacle prevents construction of the curve in a single arc, use two arcs connected by a single straight section, as illustrated on Page 8–18.

CONDUIT
Curve Design



CONDUIT AND PIPE

Practice 919–240–400

Factors to Consider in Selecting Type of Conduit

- Material cost and local availability
- Ease of handling
- Ease of joining
- Concrete encasement and backfill requirements
- Soil conditions
- Special conditions (e.g., heat, gas, heavy loads, limited cover).

Advantages of Single–Bore Conduit:

- Lightweight: mechanical handling equipment not required
- Good joint integrity
- Strong, stable structure (if concrete–encased)
- Easily rearranged to avoid obstacles
- Can be pneumatically rodded.

Advantages of Multiple–Bore Conduit

- Long trench openings not required
- Select backfill not required
- Ready–mixed concrete not required.

CONDUIT
Conduit and Pipe

Single–Bore Conduit

Practices 622–020–100, 919–240–400

Straight lengths of single–bore conduit are available as follows:

Material	Length (Ft)	Weight (Lb/Ft		
		Type B	Type C	Type D
Plastic	20*	0.6–1.0	1.0–1.5	1.2–1.7

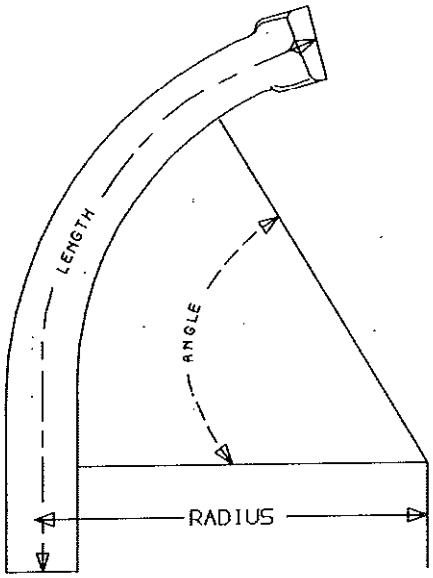
* Longer and shorter lengths available from manufacturer.

Type B (thin wall) requires concrete encasement.

Type C (thick wall) may be buried with selected backfill in straight runs.

Type D is ultraviolet (sunlight) and flame–resistant.

Rigid bends for single-bore conduit are illustrated and listed below.



PLASTIC

RIGID BENDS FOR 4-INCH SINGLE-BORE CONDUIT			
Material	Angle (Degrees)	Radius (Feet)	Length (Feet-Inches)
B, C, or D Plastic	7	15	2-4
	30	15	8-4
	30	12	6-9
	45	9	7-7
	45	6	5-3
	45	3	2-10
	90	3	5-3
E Plastic*	90†	3	6-0
	64	3	3-10

* Replaces cast iron for subsidiary conduit.

† Also available in split form for repairs.

For adapters and couplings, see Practices 622-020-100 and 919-240-400.

CONDUIT
Conduit and Pipe

STEEL PIPE

Practice 919–240–400

Steel pipe is used where conduit must be pushed or jacked, where environment is too severe for other conduit, and for submarine crossings. Standard weight pipe is available in the following sizes:

Nominal Size	Plain End		Bell End	
	OD (In.)	ID (In.)	OD (In.)	ID (In.)
1	1.315	1.048	—	—
1-1/2	1.900	1.610	—	—
2	2.375	2.068	—	—
3	3.500	3.068	3.50	3.06
3-1/2	4.000	3.548	4.00	3.54
4	4.500	4.026	4.50	4.02

PLACEMENT

Duct Arrangements

Duct Arrangements are subject to trench width and/or depth constraints imposed by terrain, the presence of other structures, required workman space, etc. The arrangement of ducts in a conduit run should be compatible with the manhole cable racking arrangement. (Refer to "Manholes" later in this section.) Generally, 2–, 3–, or 4–wide arrangements are preferred for single– or double–wall racking. Where a large number of ducts or other circumstances require center racking as well as wall racking, wider duct arrangements may be appropriate.

Separation From Other Structures

Practices 622–100–010, 622–300–205, NESC Rule 320, 919–000–100

The following separations are required for safety of personnel and for protection of telephone equipment:

Structure	Minimum Separation
Power or other foreign conduit	3–inch concrete 4–inch masonry 12–inch earth
Pipes (gas, oil) water, etc.)	6 inches when crossing 12 inches when parallel
Power conduit terminated on poles	Separate poles, if possible. If same pole, preferably 180°, but, not less than 90° F.
Railroads (except street railways)	Crossing: 5 feet below top of rail.* Terminating on poles: 12 feet from nearest rail, except 7 feet as sidings
Street railways	3 feet below top of rail.*

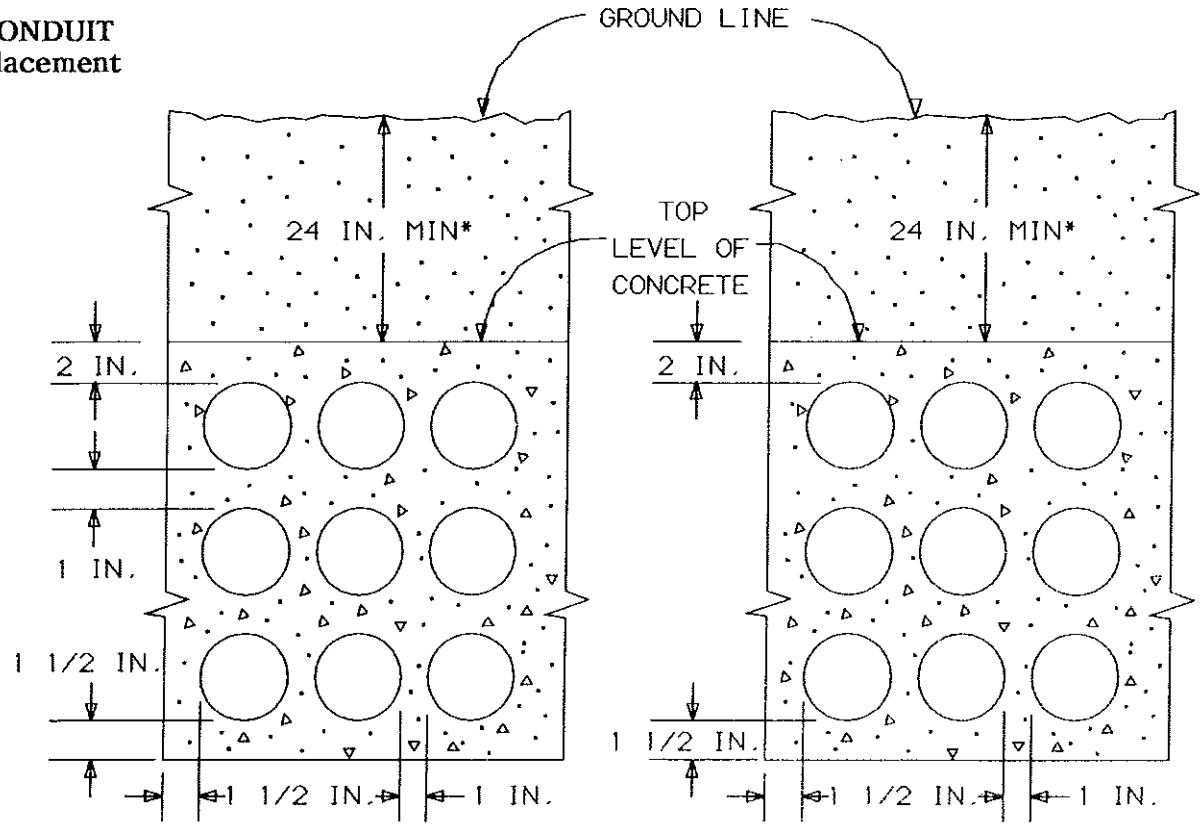
***Exception:** Where impractical, or for other reasons, these clearances may be reduced; however, the top of the conduit or conduit protection shall in no case extend above the bottom of the ballast section which is subject to working or cleaning. Local requirements will prevail.

Spacing and Backfill Requirements

622–020–020
914–240–100
Practice 919–240–400

The next three pages show spacing and backfill requirements for single–bore conduit. The volume of concrete or granular backfill will vary with the trench width and the degree of irregularity of the trench surfaces. Volumes given for each arrangement are for the minimum trench width consistent with the specified clearances. Volumes for sand or granular backfill include an allowance of about 1/12 for compaction.

CONDUIT
Placement



*18 IN. PERMITTED UNDER DRIVEWAYS, SIDEWALKS

CUBIC YARDS OF CONCRETE PER 100 FEET OF TRENCH

	B PLASTIC	
	3-WIDE	4-WIDE
2-HIGH	3.8	4.9
3-HIGH	5.2	6.6
4-HIGH	6.5	8.3

FOR LARGER FORMATIONS USE:

PLASTIC: .35WH + .35W + .28H

	B PLASTIC	
	3-WIDE	4-WIDE
2-HIGH	3.4	4.3
3-HIGH	4.2	5.4
4-HIGH	5.1	6.5

FOR LARGER FORMATIONS USE:

PLASTIC: 22WH + .48W + .23H

(W = NO. OF DUCTS WIDE, H = NO. OF DUCTS HIGH)

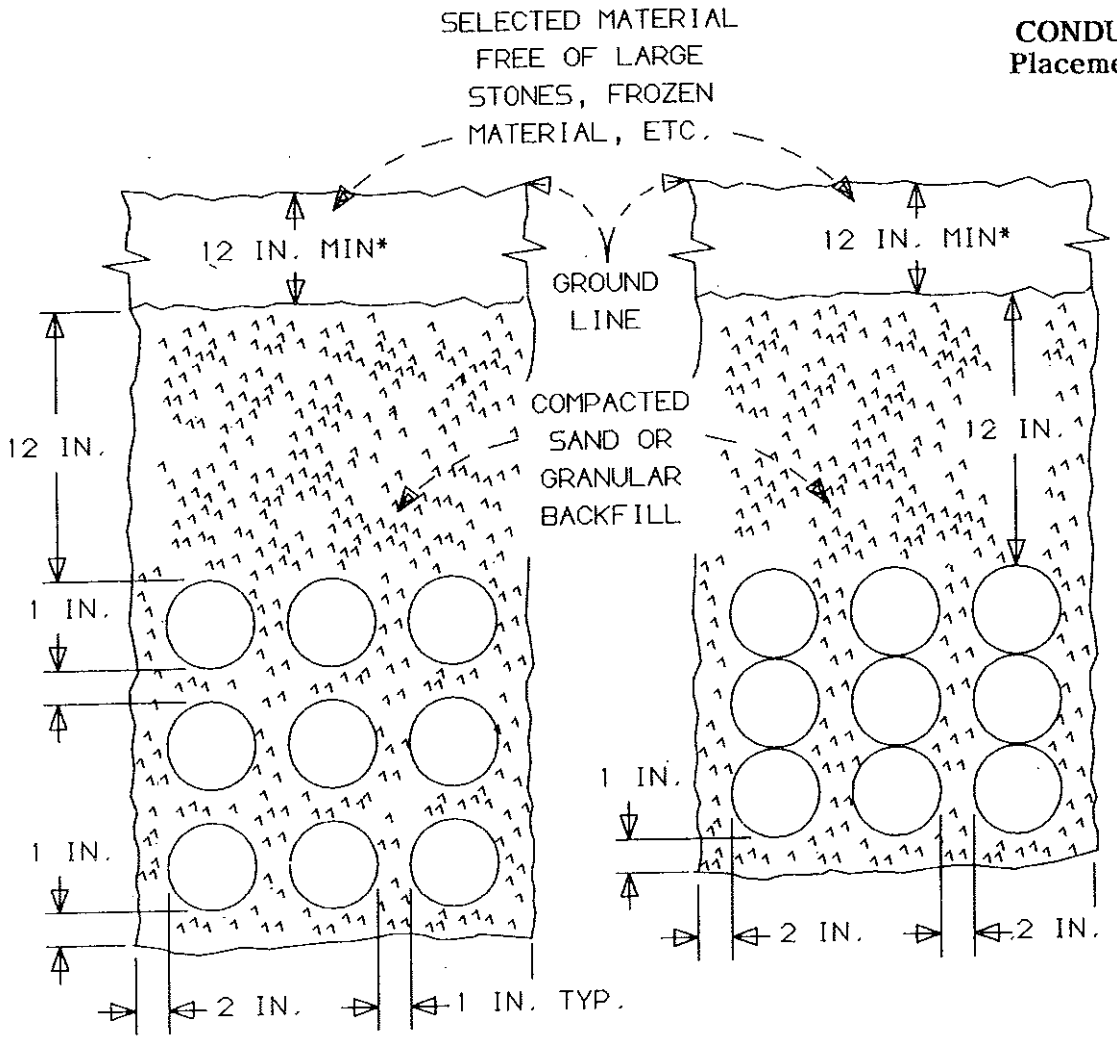
NOTE-OPTIONAL FOR STRAIGHT RUNS OF B PLASTIC.

SINGLE-BORE CONDUIT (ALL TYPES) ON CURVES

NOTE-LIMITED TO 3 TIERS PER POUR. REQUIRES LESS CONCRETE THAN METHOD USING VERT. SEPARATIONS

OPTIONAL ARRANGEMENT FOR B PLASTIC CONDUIT

CONDUIT
Placement



CUBIC YARDS OF SAND OR GRANULAR BACKFILL PER 100 FEET OF TRENCH

	C PLASTIC	
	3-WIDE	4-WIDE
2-HIGH	10	12
3-HIGH	11	14
4-HIGH	13	16

FOR LARGER FORMATIONS USE:

PLASTIC: .38WH + 1.8W + 4H + 1

C PLASTIC CONDUIT, STRAIGHT RUNS, ANY NUMBER OF TIERS

	C PLASTIC	
	3-WIDE	4-WIDE
2-HIGH	10	13
3-HIGH	12	15
4-HIGH	13	16

FOR LARGER FORMATIONS USE:

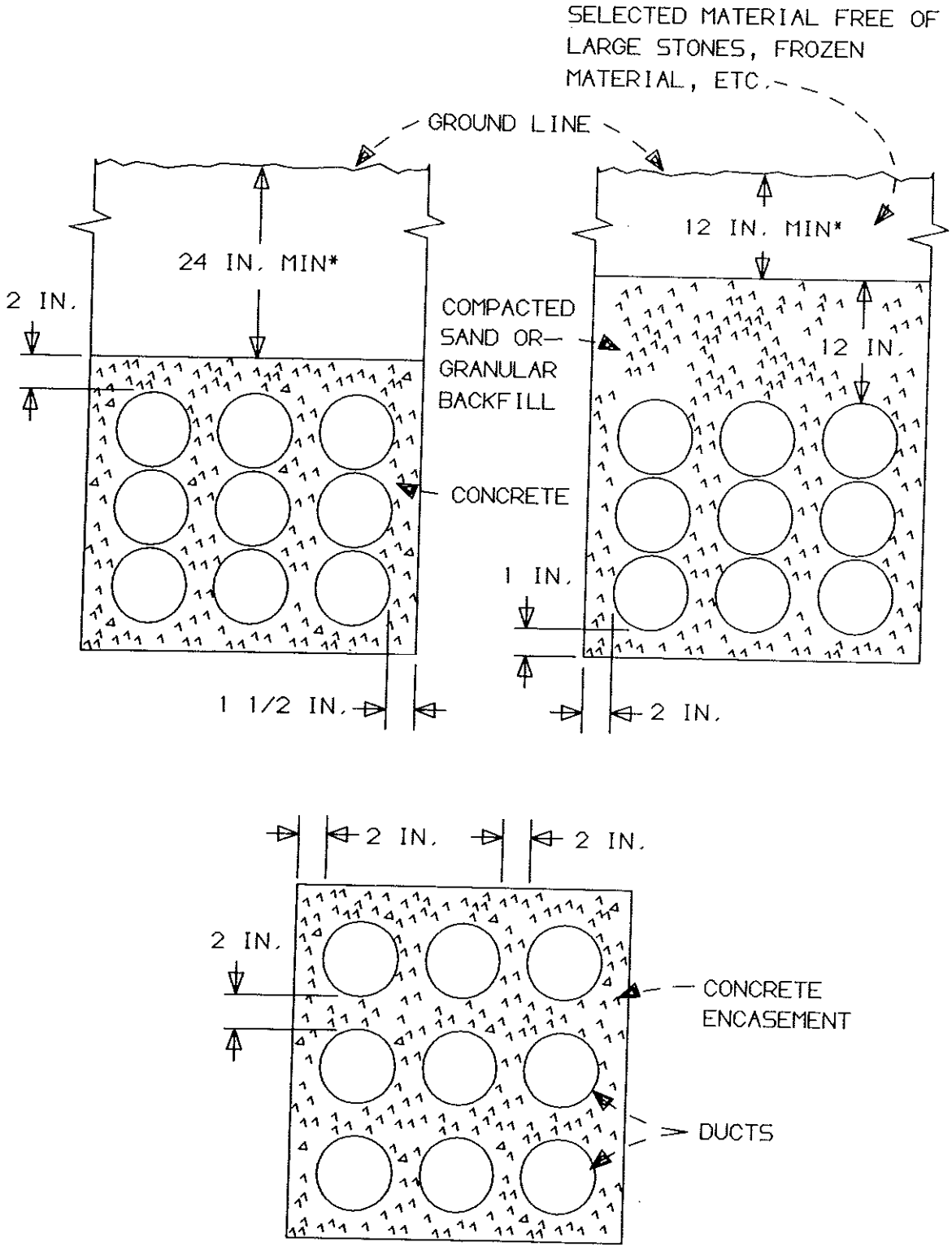
PLASTIC: .36WH + 2.3W + .2H + 7

C PLASTIC CONDUIT, STRAIGHT RUNS, UP TO 4 TIERS

(W = NO. OF DUCTS WIDE, H = NO. OF DUCTS HIGH)

8-25

CONDUIT
Placement



SINGLE-BORE CONDUIT (ALL TYPES)
AT MANHOLE AND VAULT ENTRANCES

CONDUIT FORMATION

AT&T 622–020–020
914–240–100

CONDUIT FORMATIONS

No. Of DUCTS	Single Bore	Multiple Duct
4	2 Wide x 2 High	One, 4-duct
6	3 Wide x 2 High	One, 6-duct
8	4 Wide x 2 High	Two, 4-duct
9	3 Wide x 3 High	One, 9-duct
10	-	One, 6- duct and One, 4-duct
12	4 Wide x 2 High	Two, 6-duct or One, 12-duct (2)
15	-	One, 9-duct and One, 6-duct
16	4 Wide x 4 High	Four, 4-duct
18	-	Two, 9- duct
20	4 Wide x 5 High	Two, 6-duct and Two, 4-duct
24	4 Wide x 6 High	Four, 6-duct or Two, 12-duct (2)
28	4 Wide x 7 High	-
30	-	Five, 6-duct
32	4 Wide x 8 High	-
36	4 Wide x 9 High	Four, 9-duct (3 wide) and three, 12-duct (2)
40	4 Wide x 10 High	Four, 9-duct (3 wide) and One, 4-duct
Over 40 (1)	-	-

Note 1: Investigate center racking possibilities.
Note 2: 12-duct is available only in F and G concrete conduit.

CONDUIT
Placement

Subsidiary Conduit

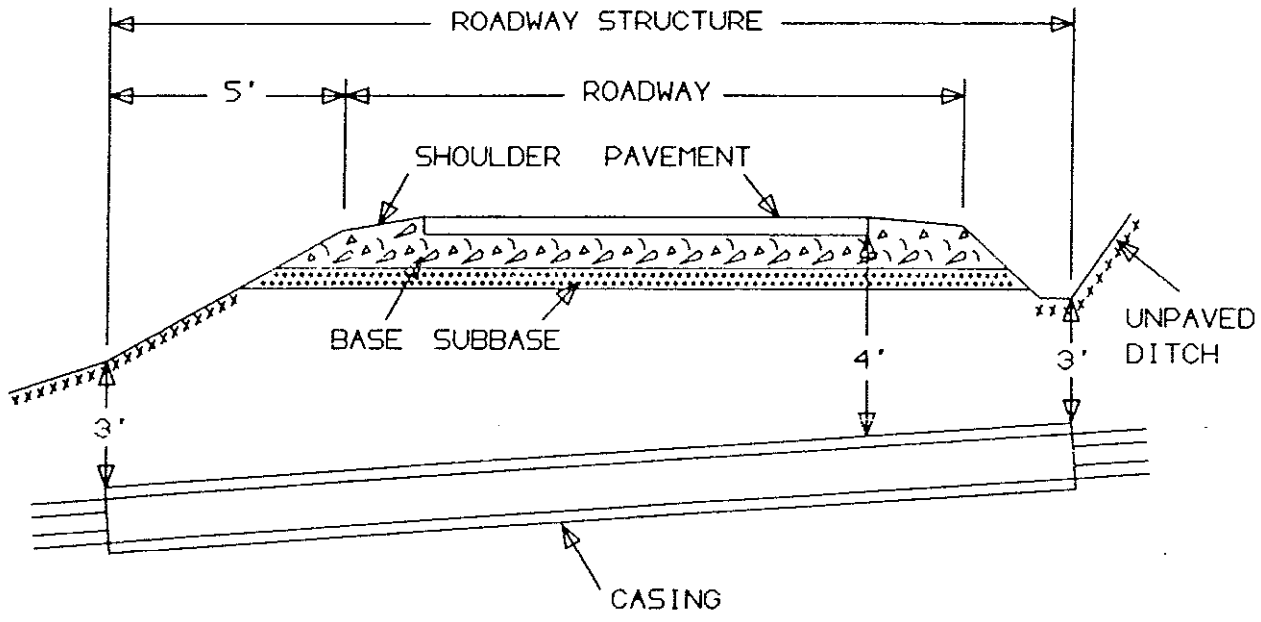
Practice 919–240–400

- Coordinate with builder regarding termination of conduit in a building.
- Use steel pipe or plastic conduit.
- Place in same trench with main conduit, if practicable, and on top of main formation.

Conduit Casings

Practices 919–000–100, 919–240–510

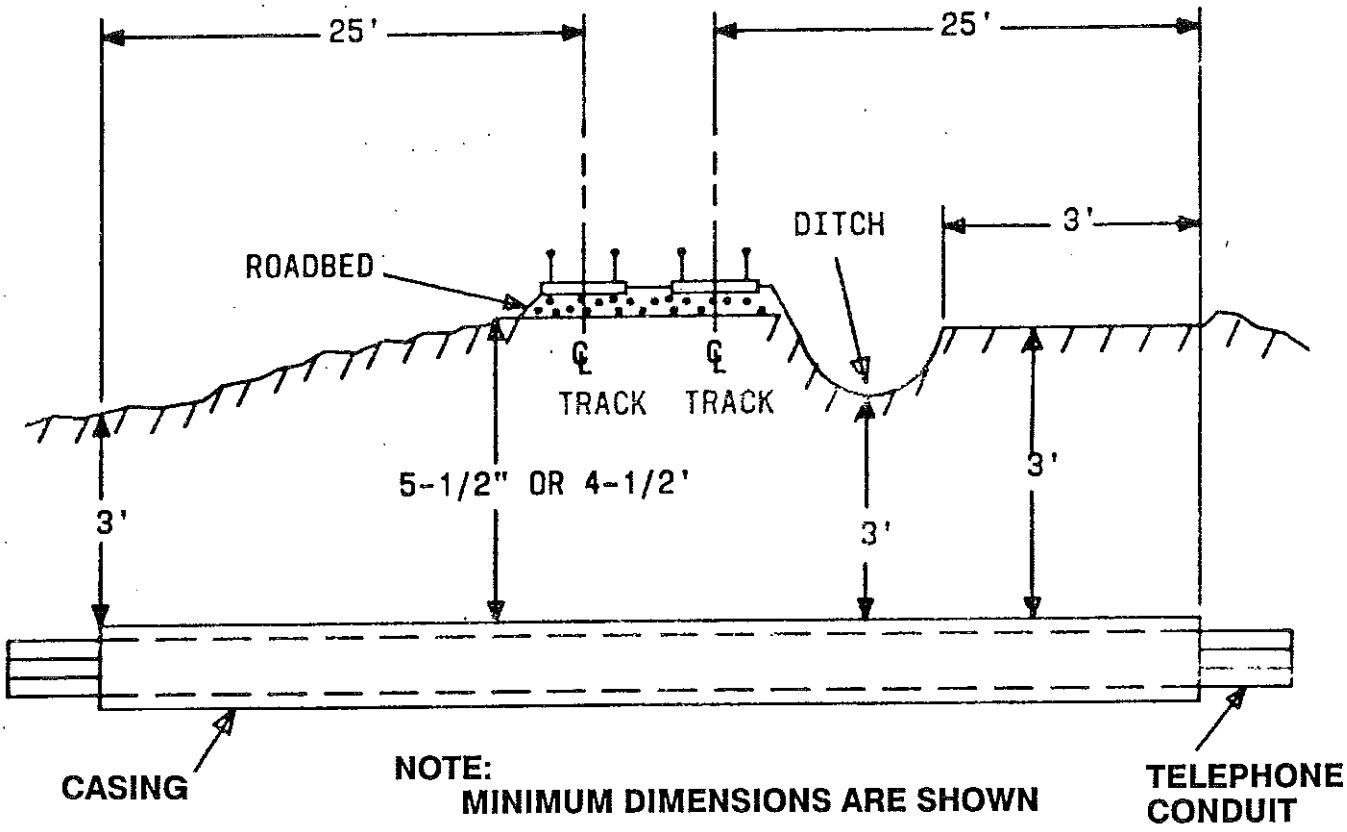
Steel casing pipe is recommended for housing underground conduit under railway and highway crossings. The casings are bored under the crossing to eliminate interference with traffic. Steel casings are also recommended as a supporting structure for conduit placed in unstable soil. Typical installations under a highway and railroad are shown below and on Page 8–29.



NOTE: MINIMUM DIMENSIONS ARE SHOWN

8–28

Conduit Casings Under Highways



Conduit Casings Under Railroads

Note: Design runs to avoid conduit failure due to shearing at junction between casing and regular conduit run, which may result from a difference in settlement rates between casing and regular conduit. Local requirements will prevail.

CONDUIT
Placement
Casings

The table below lists the duct capacity of standard size casings.

STEEL CASING PIPE — DUCT CAPACITY

Standard Casing OD (Note 1)	Duct Capacity (Max)	
	Bundled Formation (Note 2)	Spaced Formation
12	3	3
16	4	4
18	7	4
20	7	7
24	10	10
30	19	19
36	—	24
42	—	37
48	—	44

Notes:

1. Casings with 22-, 26-, 28-, 34-, and 38-inch diameters are nonstandard sizes and should be avoided.
2. More than 19 ducts in the bundled formation are not recommended and may result in severe deflection of the bottom ducts when top ducts are filled.

The wall thickness of the casing pipe is dependent on several factors such as the live or dynamic load from vehicular traffic, the dead or earth load, and the diameter of the casing used (see table on Page 8–31). The dynamic load is dependent on the type and weight of the vehicle, the type of roadbed, and the depth of the casing. The earth load is dependent on the composition of the soil and the depth of the casing. Dynamic loads decrease and earth loads increase with casing depth.

STEEL CASING WALL THICKNESS	
Nominal Wall Thickness (Inches)	**Nominal Casing Diameter (Inches)**
0.188	under 14
0.219	14 to 16
0.250	18
0.281	20
0.312	22
0.344	24
0.375	26
0.406	28 to 30
0.438	32
0.469	34 to 36
0.500	38 to 48

Bridge Crossings

Practice 919–240–520

The diversity of bridge designs makes it impractical to prescribe a standard method of designing conduit on bridges. However, there are certain fundamentals which must be considered. These are covered in the above practice.

CONDUIT
Trench Work

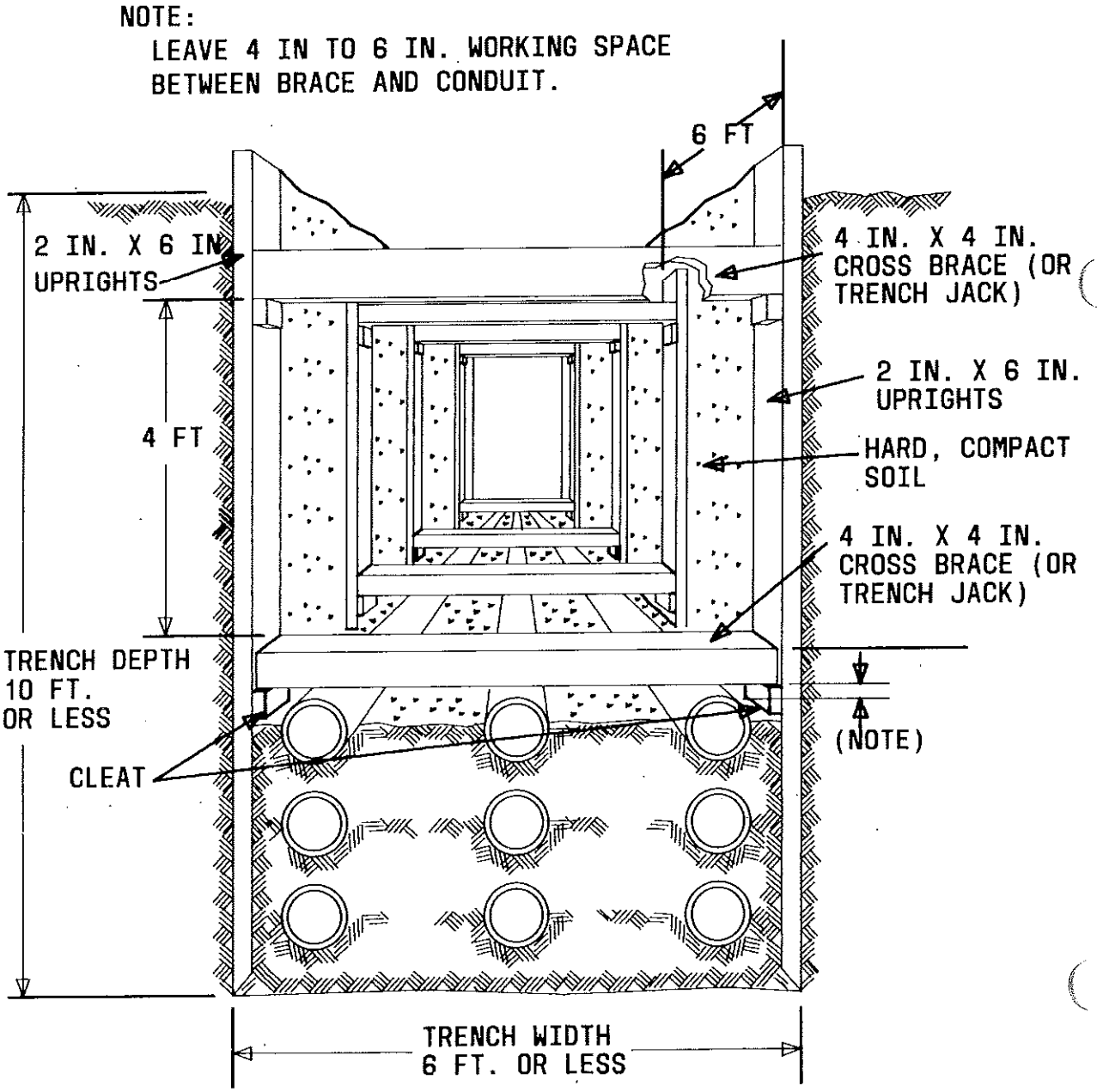
TRENCH WORK

Practice 622–020–020

The Occupational Safety and Health Act (OSHA) requires that all excavations deeper than 5 feet, wherein a craft person is required to enter and work shall have walls shored, sheeted, braced, or otherwise supported unless the excavation is in solid rock, hard shale, hard slag, or where the sidewalls are cut to a slope of 1 foot horizontally for each 2 feet or rise. Typical shoring arrangements are shown as follows.

Trenches less than 5 feet deep should be shored if they constitute a hazardous work location. Someone shall be stationed on the surface to keep the persons in the excavation in sight at all times.

Minimum shoring requirements are shown on the next page.



TRENCH SHORING — MINIMUM REQUIREMENTS
(Wood Member Dimensions in Inches)

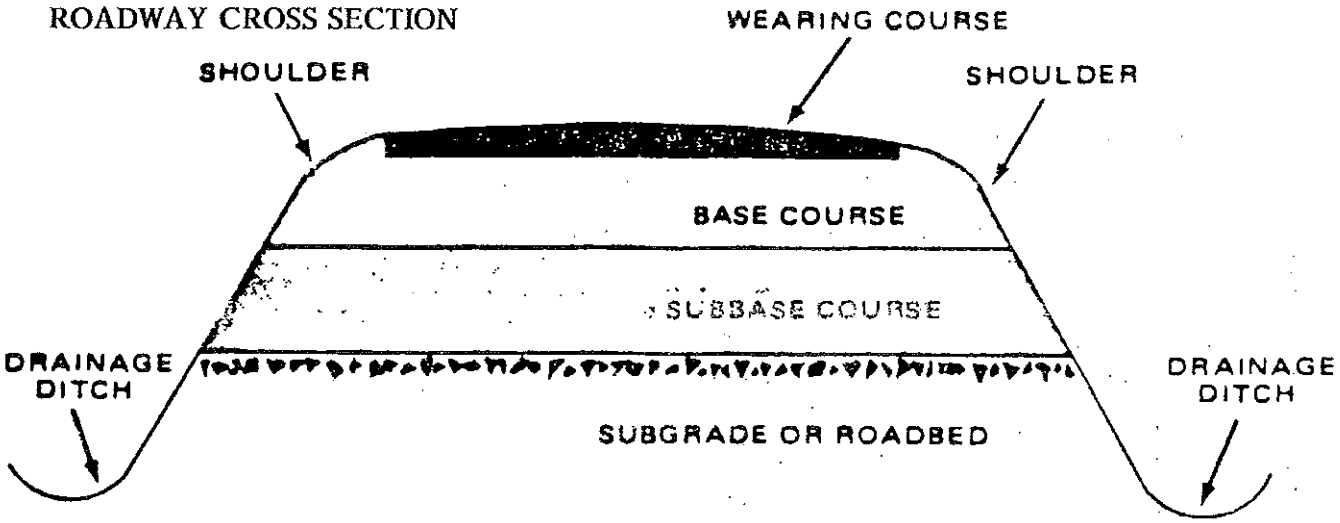
Trench Depth (Ft)	Soil (Note 1)	Uprights		Stringers (Note 2)	Cross Braces for Trench Width up to: (Note 3)			
		Size	Spacing (Ft)		6 Ft	9 Ft	12 Ft	15 Ft
5 to 10	A	3 × 4 or 2 × 6	6	None	4 × 4	4 × 6	6 × 6	6 × 8
	B		3	4 × 6				
	C		Tight	4 × 6	4 × 6	6 × 6	6 × 8	8 × 8
	D		Tight	6 × 8				
10 to 15	A	3 × 4 or 2 × 6 3 × 6	4	4 × 6	4 × 6	6 × 6	6 × 8	8 × 8
	B		2	4 × 6				
	C		Tight	4 × 6	6 × 6	6 × 8	8 × 8	8 × 10
	D		Tight	8 × 10				
15 to 20	All	3 × 6	Tight	4 × 12	6 × 8	8 × 8	8 × 10	10 × 10
>20	All	3 × 6	Tight	6 × 8	8 × 8	8 × 10	10 × 10	10 × 12

Notes:

1. Soil type or condition: A — Hard, compact
   B — Likely to crack
   C — Soft, sandy, or filled
   D — Hydrostatic pressure.
2. Stringer spacing = 4 ft.
3. Cross braces spaced 4 ft vertically, 6 ft horizontally. Trench jacks may be used in lieu of, or in combination with, cross braces.

CONDUIT
Roadway Cross Section

ROADWAY CROSS SECTION



CROSS SECTION OF TYPICAL ROADWAY

NOTE: ROADWAY MAY HAVE ANY COMBINATION OF THE ABOVE COURSES.

Wearing Course

The top layer of material wears off a roadway. It provides a waterproof surface to improve surface drainage and afford protection for the underlying layers against weathering and the abrasive action of traffic. Wearing courses can be classified into two categories:

A. Flexible Type: This type has little "beam" strength. It does not distribute load over the subgrade by its flexural resistance but depends upon the sheer strength of the base and surfacing. Flexible wearing courses may be further classified as follows:

- Intermediate Types: Those in which liquid bituminous materials are used as the binder.
- High Types: Which use asphalt cements and the heaviest grades of tar.

Flexural Type pavement mats are made up of a combination of the following types of coats:

- Prime Coat: A light application of liquid bituminous material used to bind together surface particles and to furnish a bond between the foundation surface and the applied bituminous mat.
- Tack Coat: A light application of liquid bituminous material used as the initial surface treatment to provide a thorough bond between two courses (i.e., the new bituminous mat and concrete pavements, old brick roads, previously treated bituminous surfaces, etc.).

Wearing Course –

- Bituminous Mat: Describes such application or construction which increases the thickness of the wearing course one inch or more.

- Seal Coat: An application of bituminous material followed by a cover of sand or stone chips applied to a new or old pavement which will improve visibility and skid resistance.

B. Rigid Type: This type of pavement includes plain and reinforced Portland cement concrete slabs. With relatively small depths, this type of pavement can transmit wheel loads upon the subgrade by virtue of its flexural strength and load transfer capacity in shear.

Rigid Type pavements are usually made from a cement paste called Portland Cement which combines with water in a chemical reaction called hydration. The resulting paste hardens over a considerable period of time. The adhesive qualities of the past form a strong bond with the aggregate particles to bind them firmly together forming the rock–like structure called concrete. This structure may or may not contain reinforcing such as rebars and/or wire mesh. The hydration of Portland cement can be accelerated (Rapid Curing) by the addition of about 2% calcium chloride by weight of cement. This acceleration is important where concrete is placed in cold weather or where high early strength is required. Agents are also available which will retard the hardening of concrete. This is important in hot weather when the curing is accelerated.

BASE COURSE

The strata of material directly beneath the wearing course. Its purpose is to provide a uniform and non–yielding support for the wearing course and to transfer and distribute traffic wheel loads evenly upon the subgrade. Thickness of this course is generally 5 to 8 inches and is generally made up of the following types of materials: gravel, crushed gravel, crushed rock.

SUB–BASE COURSE

The strata of material found directly beneath the base course and above the subgrade material. Its purpose is to bring the sub–grade material to fairly uniform strength characteristics so that the thickness of the more costly base course can be reduced. It is important that the sub–base have greater stability and bearing power than the sub–grade material that it is to protect.

SUB–GRADE

The bottom layer of material usually composed of existing surface top soil. This course provides for adequate foundation support of the roadway and loads.

CONDUIT
Roadway – Definitions

ROADWAY DEFINITIONS

Gravel

The coarse granular material, larger than sand, resulting from the natural erosion of rock.

Sand

The fine granular material (usually less than ¼" in diameter) resulting from the natural disintegration of rock, or from the crushing of friable sandstone rocks.

Silt

A soft impalpable sediment such as that commonly found in streams or lakes that not only has a fineness of texture but also is weak and unstable as a construction material.

Clay

A material which has a finer particle size than silt and is extremely cohesive and plastic. As indicated above in silts, clay is also weak and unstable as a construction material.

Mixed Soils

A soil composed of two or more of the above 4 classifications.

Washed Aggregate

Natural deposits of sand and gravel usually contain some clay or silt plus injurious amounts of organic coatings on the individual particles which will reduce their usefulness as a construction material. This extraneous material can usually be removed by a process of screening (passing through selves) and washing.

Slump Test

A test designed to measure the consistency of a concrete mix by placing a representative sample into a standardize cone in three equal layers. Each layer is rodded 25 times each. The surface of the top layer is struck off so that the cone is exactly filled. The mold is removed in a vertical direction and the slump (in inches) is measured.

Plant Mix

Asphalt pavement mixed at a mixing plant.

ROADWAY DEFINITIONS – (Cont'd)

Road Mix

Asphalt pavement which can be mixed and placed on the roadway.

Hot Mix, Hot Laid, Cold Mix, Cold Laid

Hot laid mixtures are both mixed and laid hot, whereas the cold laid mixtures may be mixed either hot or cold, but are placed at atmospheric temperatures.

MIX CHARTS

LAY DOWN THICKNESS	MIX NAME	USE	– CONTENTS % – LIQUID ASPHALT	SAND	– INCH STONE – 1/4	3/8	5/8	3/4	FILLER
4"-6"	PLANT MIX	BASE	2.8	5.8	5.8	7.8		77.8	
2"-6"	STABLIZED BASE	BASE	4.5	34.4	8.6	11.4		38.2	2.9
2"-6"	BINDER	INTERMEDIATE COURSE	4.5	34.4	8.6	13.4		38.2	0.9
2"-4"	MABC	TOP	5.2	36.1	8.5	33.2	14.2		2.8
1"-3"	FABC	TOP	5.7	42.4	17.0	32.1			2.8
1"	S.P.	FINE TOP	7.5	65.7	25.0				1.8
1/2"	SHEET	EXTRA FINE TOP	10.0	85.0					5.0
2"	WINTER MIX	TEMP. PVMT.	6.0	42.1	17.0	32.1			2.8

MANHOLES

Practices 622–500–011, 919–240–300

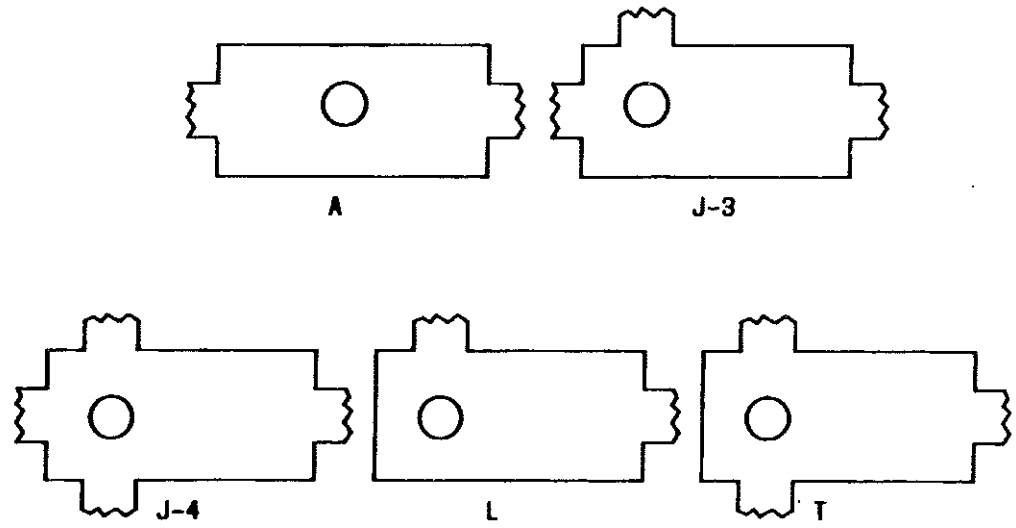
Planning and Design Considerations

- Locate manhole to make optimum use of the connecting conduit structure for cable–placing operations.
- Use precast manholes wherever possible for economy, uniformity, quality control, and quick installation.
- Use cast–in–place construction when: (a) required manhole size exceeds range of precast manholes, (b) obstructions prevent use of precast manholes, (c) manhole is to be rebuilt, or (d) nonstandard designs are required.
- Size manhole for ultimate duct requirements.
- Plug all ducts to minimize entry of water into manholes.

Sizes and Types of Manholes

Basic Manholes

Basic manholes are designated A, J–3, J–4, L, and T, according to the directions in which ducts enter and leave the manhole, as illustrated below.



Sizes

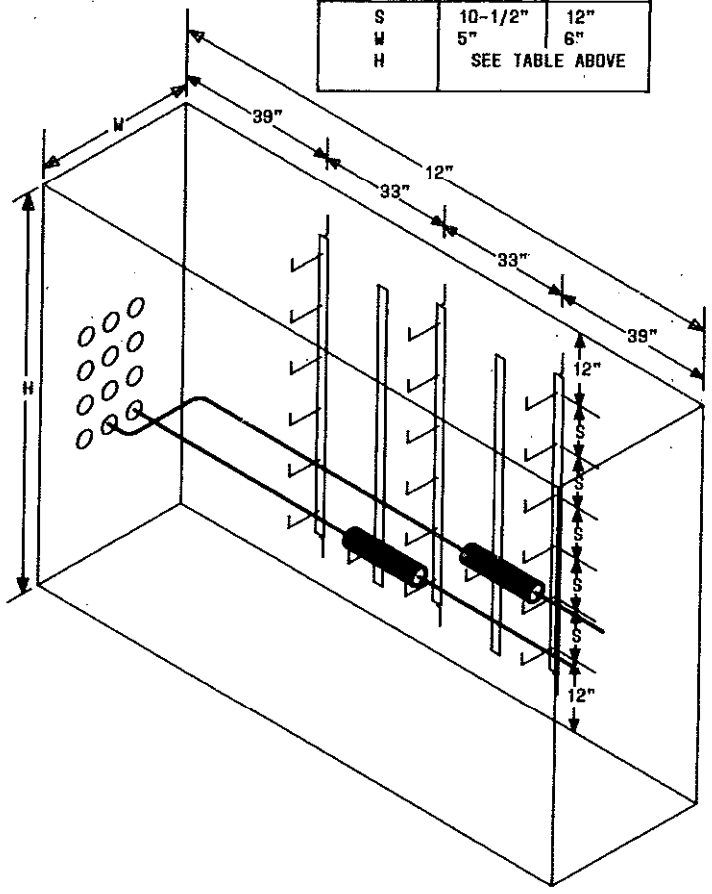
Recommended dimensions of basic manholes are shown below. These sizes allow racking space to accommodate one stub for every four main cables. The ultimate number of main cables must be distributed equally among all racking positions.

BASIC MANHOLE INSIDE DIMENSIONS

Type of Racking	Ultimate No. of Main Cables	Width (Ft)	Length (Ft)	Headroom (Ft)
Single	Any	5	12	7 plus one for every two cables in excess of 20
Double	Up to 20	6	12	7
	>20	6	12	7 plus one for every tier of ducts in excess of 20

CONDUIT
Manholes

DIMENSION	SINGLE-RACK	DOUBLE-RACK
S	10-1/2"	12"
W	5"	6"
H	SEE TABLE ABOVE	



Center Rack Manholes

When the planned cable capacity calls for a manhole of impractical or uneconomical depth, a wider and shallower cast-in-place manhole may be built and arranged for center racking as well as wall racking. A center rack manhole is essentially a double-width manhole with a center cable racking frame.

For the same depth and type of racking, a center rack manhole is twice as wide as a basic manhole and can accommodate twice as many main cables.

Precast Manhole

Practices 622–506–100, 919–24–300

Precast manholes are available with cast–in single or multiple plastic duct terminators to accept single–bore conduit. Thin concrete knockout sections may also be provided for terminating multiple–bore concrete conduit. The top section contains knockouts for subsidiary or lateral ducts.

Precast manholes for general use are listed below. Manholes for loading and carrier apparatus are listed below and on the next page.

PRECAST GENERAL USE MANHOLES

Basic Manhole Designation	Midsection Designation	Config-uration	Number of Sections	Inside Dimensions (Ft)			Capacity (Number of Main Cables)
				W	L	H	
38Y-4046-1 38Y-4046-3	— —	A J, L, T	2	6	12	7	20
38Y-4046-1 38Y-4046-3	38Y-4049-1 38Y-4049-3	A J, L, T	3*	6	12	10*	28
38Y-4046-1 38Y-4046-3	38Y-4050-1 38Y-4050-3	A J, L, T	3*	6	12	12*	36
38Y-4052	—	A	2	4	8	6	4†

*Including midsection.
†For splicing on light, secondary conduit runs or buried cable runs.

CONDUIT
Manholes

PRECAST CARRIER APPARATUS MANHOLES

Basic Manhole Designation	Midsection Designation	Configuration	Number of Sections	Inside Dimensions (Ft) W	L	H	Carrier System	Capacity
38Y-4036-6	—	A	2	6	12	6-1/2	T2	2 dual-cable systems using 52-pair cables, or one dual-cable system using 104-pair cables
38Y-4036-7	—	Single-ended						
38Y-4046-1	—	A	2	6	12	7	T1, T1C	Dual 600-pair cables
38Y-4046-1	38Y-4049-1	A	3*	6	12	10*	T1, T1C	Dual 900-pair cables
38Y-4046-1	38Y-4050-1	A	3*	6	12	12*	T1, T1C	Dual 1200-pair cables
38Y-4046-4	—	A	2	6	12	7	T4M	One 22-tube coaxial cable
38Y-4046-4	38Y-4049-4	A	3*	6	12	10*	T4M	Two 22-tube coaxial cables
38Y-4052	—	A	2	4	8	6	T1, T1C	Four 475- or 479-type apparatus cases

*Including midsection.

PRECAST LOADING MANHOLES

Basic Manhole Designation	Midsection Designation	Configuration	Number of Sections	Inside Dimensions (Ft) W	L	H	Capacity (Number of Coil Cases) (Note)
38Y-4046-1	—	A	2	6	12	7	4
38Y-4046-1	38Y-4050-1	A	3*	6	12	12*	10
38Y-4048	—	A	3	6	15	9	20
38Y-4048	38Y-4051	A	4*	6	15	12*	28

Note: Can vary depending on local practice
*Including midsection.

Seperation from other Structures:

Practice 622–100–100

Minimum reccommended speperation between telephone manholes and outside surfaces of foreign structures are as fellows: Electrical light, power or ther conduits, 3 inches. Pipes such as gas, water, oil mains; 6 inches when crossing and 12 inches when in parrallel.

FRAMES, COVERS, AND COLLARS

Practices 622–520–100, 919–240–300

For frames and covers, the 30-inch size is recommended for all applications and should be specified for use with precast manholes. Although 27-inch frames and covers are available, their use is not generally recommended, particularly where only one manhole opening is provided. It is easier to get into and out of the 30-inch size, especially with a blower or pump hose in the opening, and there is more room for placing apparatus into the manhole. **The 24-inch frame and cover should not be used in new construction.** Available frames and covers are listed below.

MANHOLE FRAMES AND COVERS

Type	Opening Dia. (In.)	Height of Frame (In.)	Remarks
A	27, 30	11	Has inner cover and sealing gasket; recommended for central office, carrier-equipped, loading, and critical junction manholes, or wherever a watertight or secured cover is required
SA	27, 30	5-5/8	Shallow version of A type
G	27, 30	10	Has 4 equally spaced 1-inch diameter holes in the frame flange to permit securing the frame to concrete collars and to 38Y manhole roofs. Used with both the G (nonlocking) and H (locking) covers.
SG	27, 30	5-5/8	Shallow version of G type. Same remarks as G type
R	27, 30	1-1/2	Used where not subject to vehicular traffic
D	30	1-1/2	Modified R with pentagonal head locking bolts
H	30	—	Covers only are equipped with two captive bolts with attached locking plates that engage the rim of either the G or the SG frame.

Caution: **For safety, use only one size frame on manholes with more than one opening.**

CONDUIT
Frames, Covers, and Collars
Duct Assignment and Cable Racking

A manhole collar provides a means for raising the manhole frame and cover to grade. Brick-and-mortar collars and concrete collars may be constructed to any height. Alternatively, the following precast concrete collars can be used, either alone or in combination, to attain the desired height for up to 10 feet of cover.

38Y PRECAST COLLARS		
TYPE	Height (in.)	Use
38Y-4039-1	5-1/2	Not a normal collar, but an apron designed to fit around the manhole cover at grade in unpaved areas to provide a solid, ground level work area.
38Y-4039-3 38Y-4039-9 38Y-4039-15	3 9 15	Used with any of the frames listed on table on page 8-40 except for D and R types. Can also be used under 38Y-4039-15R collar.
38Y-4039-15R	15	Includes a 30-inch R-type frame fabricated into collar. For use with R and D covers.

The above collars can be used with precast or cast-in-place manholes. At least one opening should be provided for manholes up to 12 feet in length, two openings beyond 12 feet in length, and three openings beyond 20 feet in length. The number of manhole openings required is doubled for center racked manholes.

Manhole Extension Rings

Practice 622-520-201

Pavement resurfacing operations sometimes necessitate the raising of manhole covers. This may be conveniently accomplished with manhole extension rings.

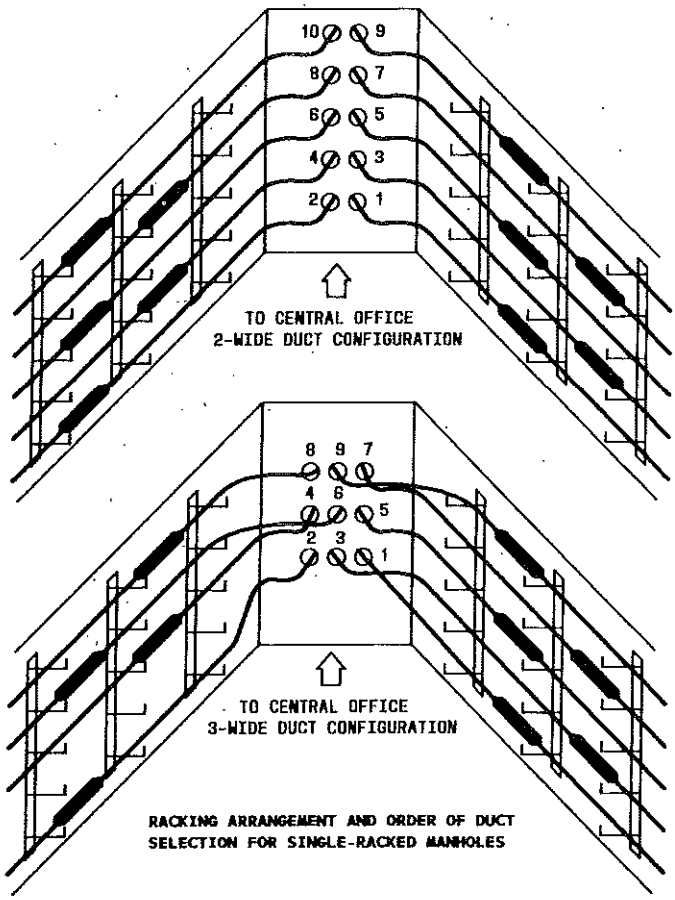
DUCT ASSIGNMENT AND CABLE RACKING

Practices 632-305-215, 919-240-300

Cable rack space should be used in the specified sequence to permit work on cables after placement and to preserve work space for splicing additional cables.

With double–racking arrangements, it is better to use all the outer (against the wall) rack spaces before using any inner (toward the center of the manhole) spaces. With either single or double racking, spaces should be used from the bottom up.

Ducts should be selected to avoid: (1) cable crossovers between the duct entrance and the cable rack, and (2) blockage of future access to vacant ducts. Racking arrangements and order of duct selection for line manholes are shown in the next two illustrations. For A–, L–, and T–type manholes, see referenced practices.

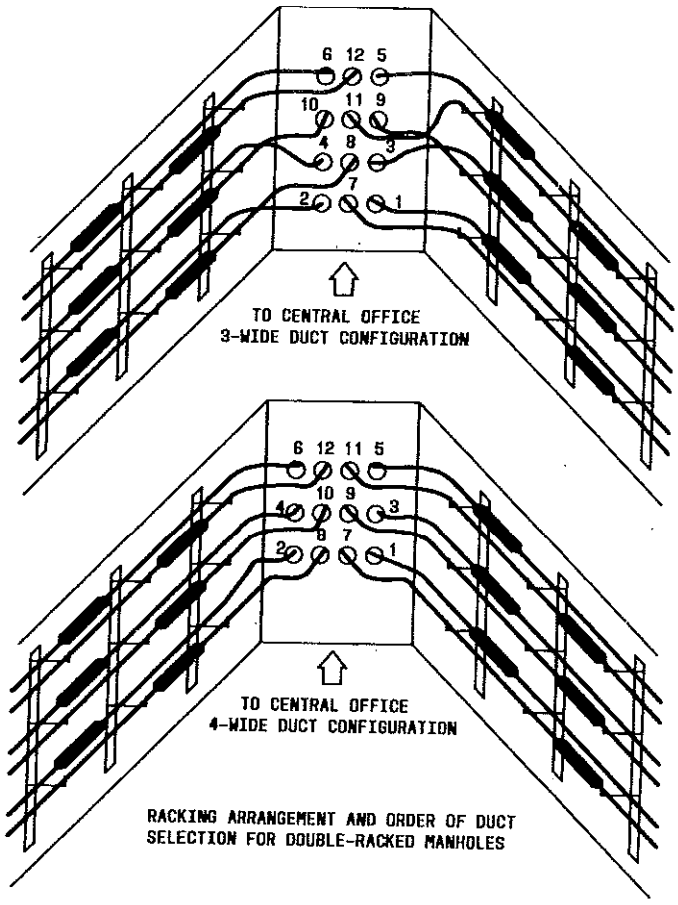


RACKING ARRANGEMENT AND ORDER OF DUCT SELECTION FOR SINGLE-RACKED MANHOLES

CONDUIT
Precast Manholes

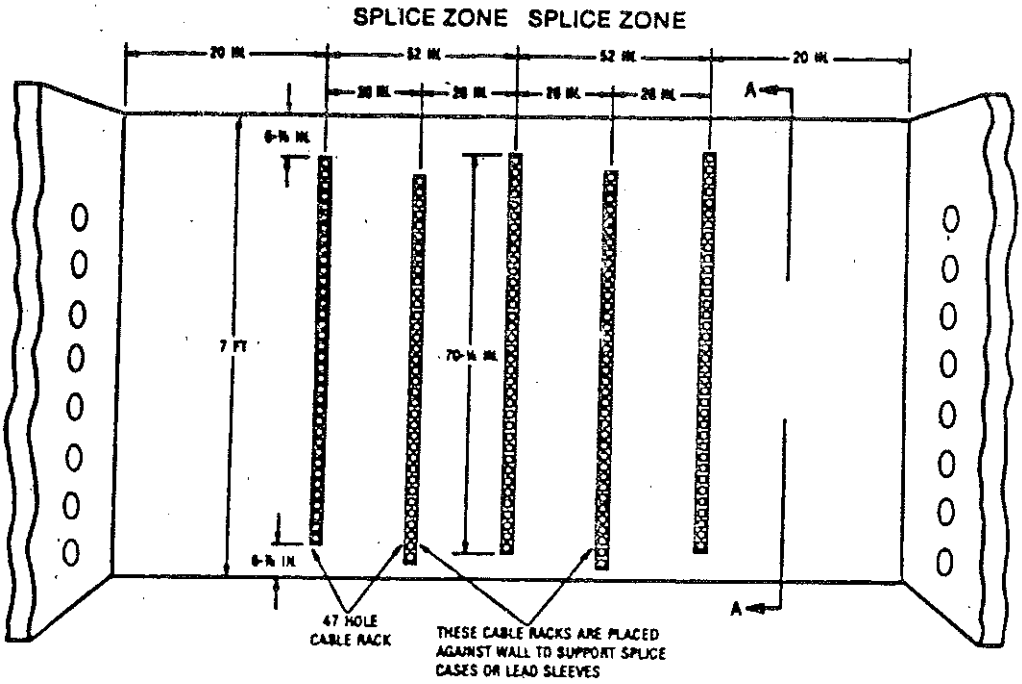
CABLE RACKS

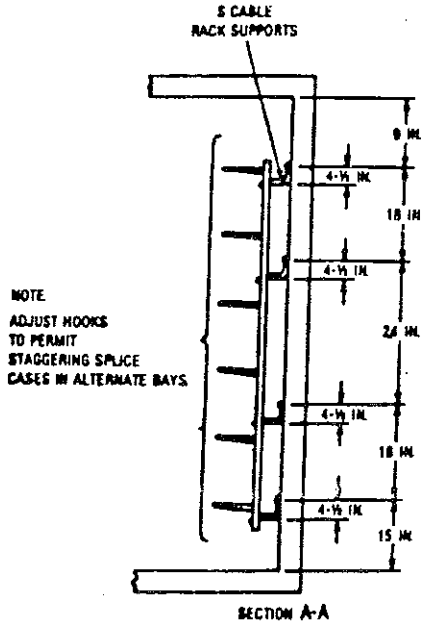
AT&T 622–520–100
919–240–300



RACKING ARRANGEMENT AND ORDER OF DUCT SELECTION FOR DOUBLE-RACKED MANHOLES

CABLE RACKS





NUMBER OF CABLE RACKS PER VERTICAL STRIP OF RACKS

HEAD ROOM	NUMBER OF RACKS			
	14 HOLE RACK	18 HOLE RACK	37 HOLE RACK	47 HOLE RACK
6 ft 6 in.				1
7 ft 0 in.				1
7 ft 6 in.		1	1	
8 ft 0 in.		1	1	
8 ft 6 in.		1		1
9 ft 0 in.		1		1
9 ft 6 in.	2		1	
10 ft 0 in.	2			1
10 ft 6 in.		2	1	
11 ft 0 in.		2		1

SIZE OF RACK	DISTANCE BETWEEN BOLT HOLES
8 Hook Holes	13-½ inches
14 Hook Holes	22 ½ inches
18 Hook Holes	28-½ inches
37 Hook Holes	18 and 24 inches
47 Hook Holes	18 and 24 inches

Cable Racks for

PLACEMENT

Duct Arrangements

Duct Arrangements are subject to trench width and/or depth constraints imposed by terrain, the presence of other structures, required workman space, etc. The arrangement of ducts in a conduit run should be compatible with the manhole cable racking arrangement. (Refer to "Manholes" later in this section.) Generally, 2–, 3–, or 4–wide arrangements are preferred for single– or double–wall racking. Where a large number of ducts or other circumstances require center racking as well as wall racking, wider duct arrangements may be appropriate.

Separation From Other Structures

Practices 622–100–010, 622–300–205, NESC Rule 320, 919–000–100

The following separations are required for safety of personnel and for protection of telephone equipment:

Structure	Minimum Separation
Power or other foreign conduit	3–inch concrete 4–inch masonry 12–inch earth
Pipes (gas, oil) water, etc.)	6 inches when crossing 12 inches when parallel
Power conduit terminated on poles	Separate poles, if possible. If same pole, preferably 180°, but, not less than 90° F.
Railroads (except street railways)	Crossing: 5 feet below top of rail.* Terminating on poles: 12 feet from nearest rail, except 7 feet as sidings
Street railways	3 feet below top of rail.*

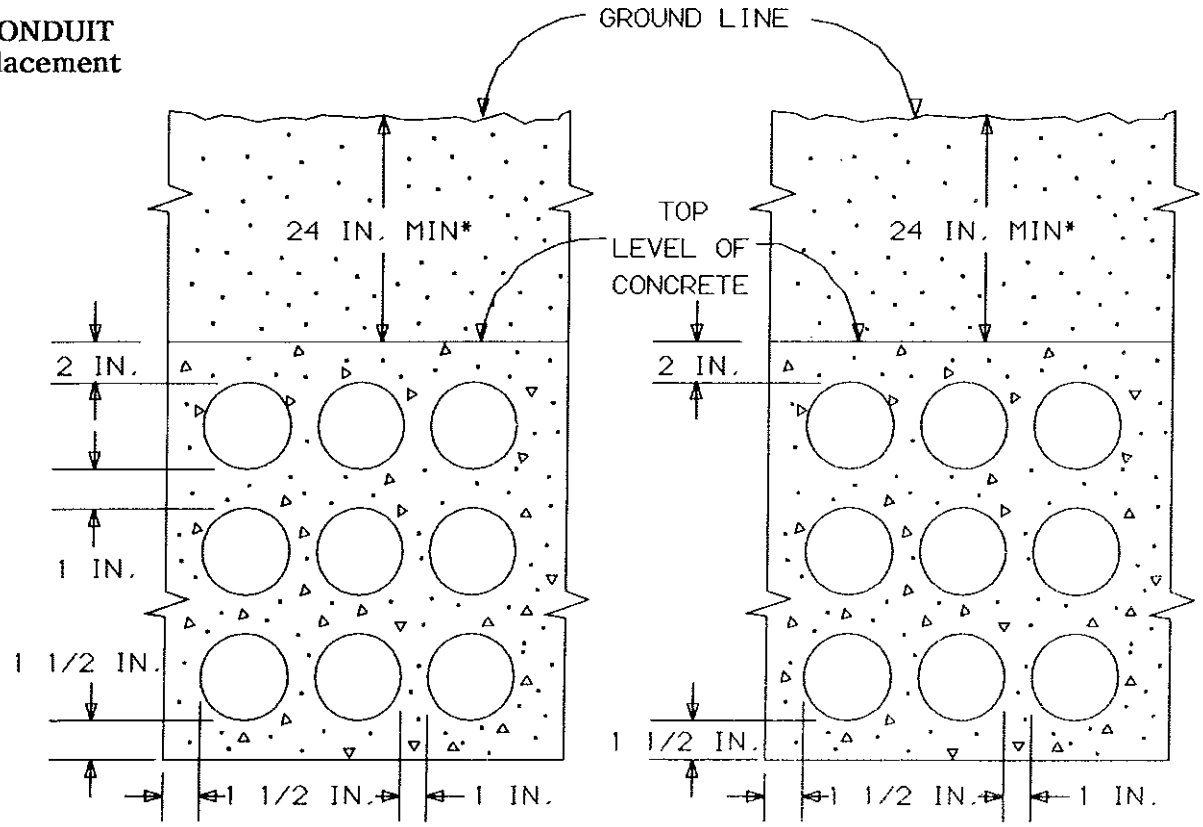
***Exception:** Where impractical, or for other reasons, these clearances may be reduced; however, the top of the conduit or conduit protection shall in no case extend above the bottom of the ballast section which is subject to working or cleaning. Local requirements will prevail.

Spacing and Backfill Requirements

622–020–020
914–240–100
Practice 919–240–400

The next three pages show spacing and backfill requirements for single–bore conduit. The volume of concrete or granular backfill will vary with the trench width and the degree of irregularity of the trench surfaces. Volumes given for each arrangement are for the minimum trench width consistent with the specified clearances. Volumes for sand or granular backfill include an allowance of about 1/12 for compaction.

CONDUIT
Placement



*18 IN. PERMITTED UNDER DRIVEWAYS, SIDEWALKS

CUBIC YARDS OF CONCRETE PER 100 FEET OF TRENCH

	B PLASTIC	
	3-WIDE	4-WIDE
2-HIGH	3.8	4.9
3-HIGH	5.2	6.6
4-HIGH	6.5	8.3

FOR LARGER FORMATIONS USE:

PLASTIC: .35WH + .35W + .28H

	B PLASTIC	
	3-WIDE	4-WIDE
2-HIGH	3.4	4.3
3-HIGH	4.2	5.4
4-HIGH	5.1	6.5

FOR LARGER FORMATIONS USE:

PLASTIC: 22WH + .48W + .23H

(W = NO. OF DUCTS WIDE, H = NO. OF DUCTS HIGH)

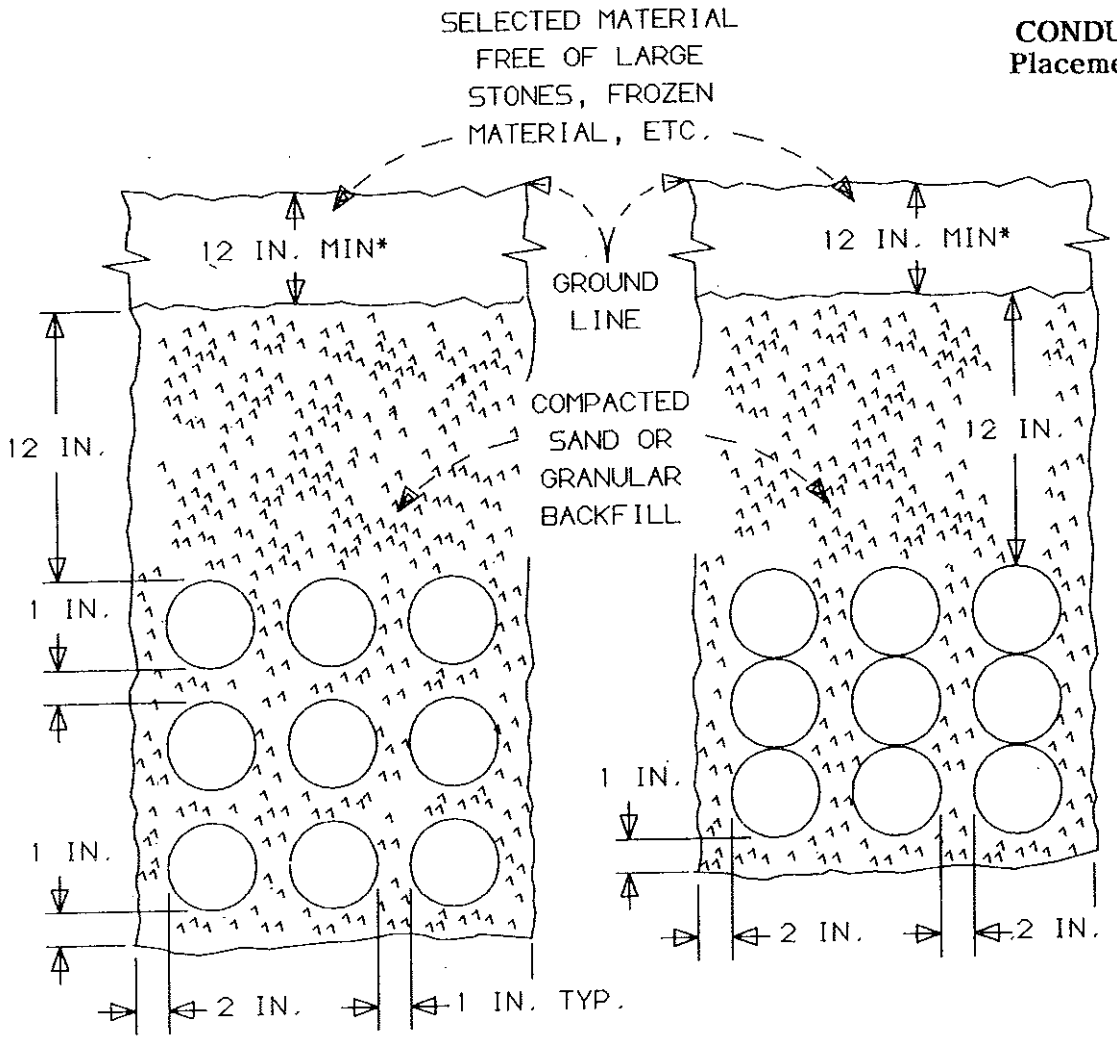
NOTE-OPTIONAL FOR STRAIGHT RUNS OF B PLASTIC.

SINGLE-BORE CONDUIT (ALL TYPES) ON CURVES

NOTE-LIMITED TO 3 TIERS PER POUR. REQUIRES LESS CONCRETE THAN METHOD USING VERT. SEPARATIONS

OPTIONAL ARRANGEMENT FOR B PLASTIC CONDUIT

CONDUIT
Placement



CUBIC YARDS OF SAND OR GRANULAR BACKFILL PER 100 FEET OF TRENCH

	C PLASTIC	
	3-WIDE	4-WIDE
2-HIGH	10	12
3-HIGH	11	14
4-HIGH	13	16

FOR LARGER FORMATIONS USE:

PLASTIC: .38WH + 1.8W + 4H + 1

C PLASTIC CONDUIT,
STRAIGHT RUNS, ANY
NUMBER OF TIERS

	C PLASTIC	
	3-WIDE	4-WIDE
2-HIGH	10	13
3-HIGH	12	15
4-HIGH	13	16

FOR LARGER FORMATIONS USE:

PLASTIC: .36WH + 2.3W + .2H + 7

C PLASTIC CONDUIT,
STRAIGHT RUNS,
UP TO 4 TIERS

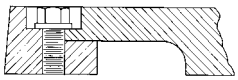
(W = NO. OF DUCTS WIDE, H = NO. OF DUCTS HIGH)

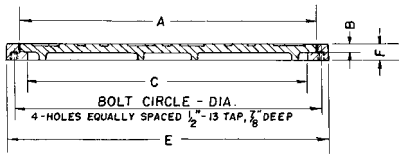
8-25

R-1749 Series
Telephone Design Large Manhole Frame, Solid Lid

Light Duty

Specify if security bolting required (2 per lid).





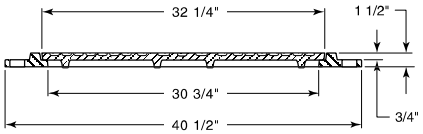
Dimensions in inches

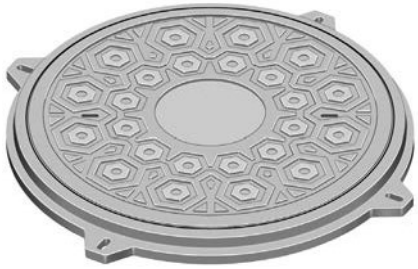
Catalog No.	A	B	C	E	F	Anchor Bolt Circle
R-1749-A	29 1/4	3/4	27 3/4	32	1 1/2	30-1/2
R-1749-B	32 1/4	3/4	30 3/4	35	1 1/2	33-1/2

R-1749-B1
Manhole Frame, Solid Lid

Light Duty

Furnished with four 3/4" x 1" anchor slots on 37" diameter bolt circle.





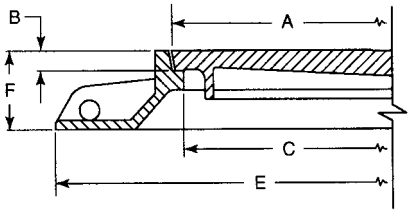
R-1750 Series
Telephone Design Large Manhole Frame, Solid Lid

Heavy Duty

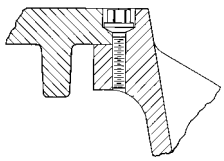
Furnished with machined horizontal and vertical bearing surfaces.

Covers can be bolted to frame with two pentagon head special monel security bolts upon request.

Wrenches available to fit special bolt at extra cost. Advise quantity required.



Illustrating R-1750-B

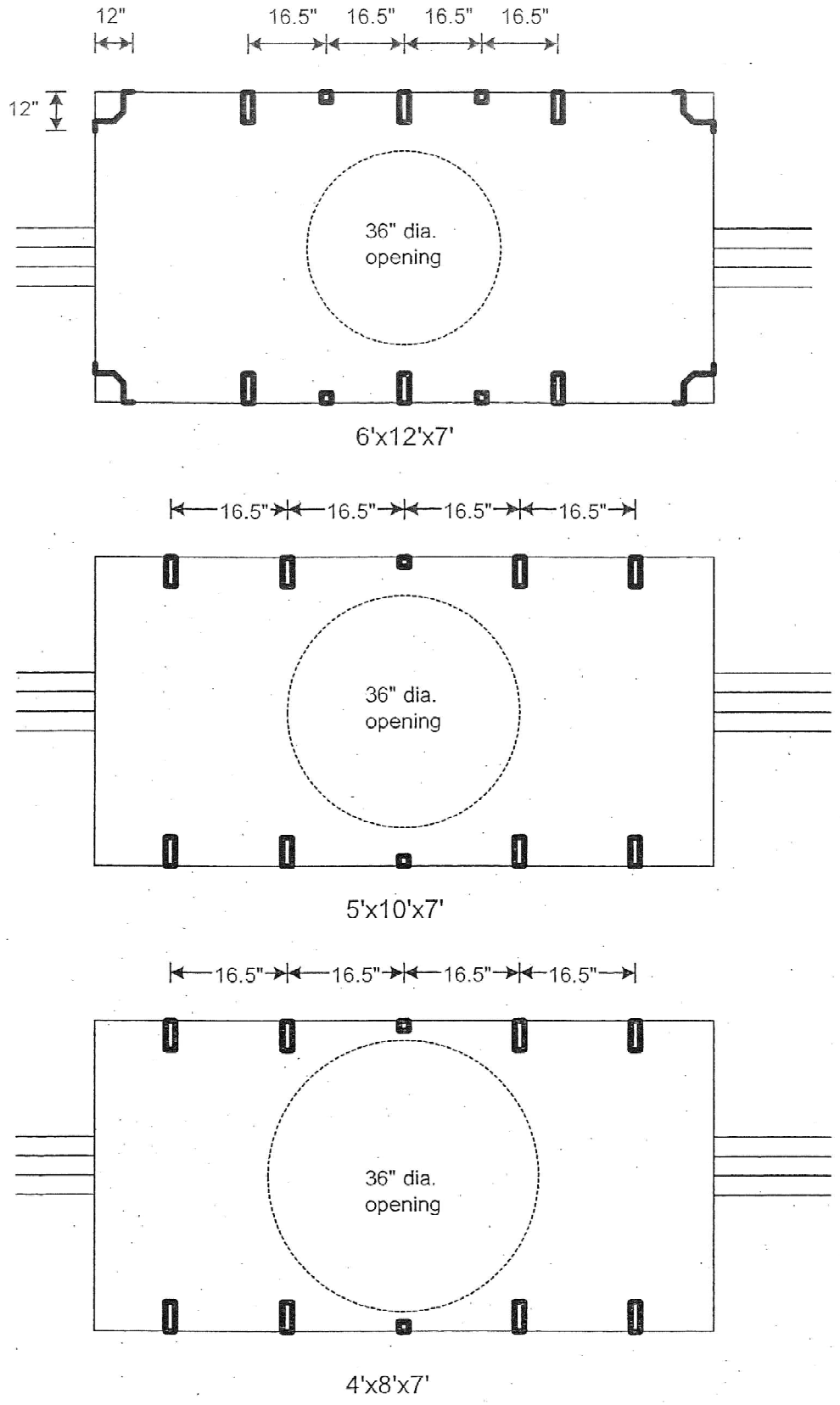


Dimensions in inches

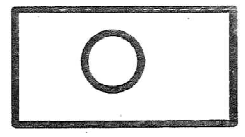
Catalog No. Standard	Catalog No. Security Bolted	A	B	C	E	F	Anchor Bolt Circle*	Grate Alt.
R-1750-A	R-1750-AB	26	1 3/8	24	43	10		R-2300
R-1750-B	R-1750-BB	29	1 3/8	27	46	10	43-1/2	R-2290
R-1750-B1	R-1750-B1B	29	1 3/8	27	46	5 5/8	43-1/2	R-2290-A
R-1750-B2	R-1750-B2B	29	1 3/8	27	46	3 1/2	43-1/2	
R-1750-C	R-1750-CB	32	1 3/8	30	49	10	43-1/2	
R-1750-C1	R-1750-C1B	32	1 3/8	30	49	5 5/8	43-1/2	
R-1750-C1S	R-1750-C1SB	32	1 3/8	30	46	5 5/8	43-1/2	R-2750
R-1750-CS	R-1750-CSB	32	1 3/8	30	46	10	43-1/2	R-2255

* Furnished standard with four 1" diameter holes in base flange, equally spaced.

CLICK HERE to return to the Table of Contents



PLAN LEGEND



MH 1
W'xL'xH'

Manhole dimensions as given on plans are inside dimensions. Typical sizes are:
6'x12'x7'
5'x10'x7'
4'x8'x7'
(Size is dictated by cable sizes and amount of splicing expected at the location)

B cable rack support

cable racks secured to S cable rack support

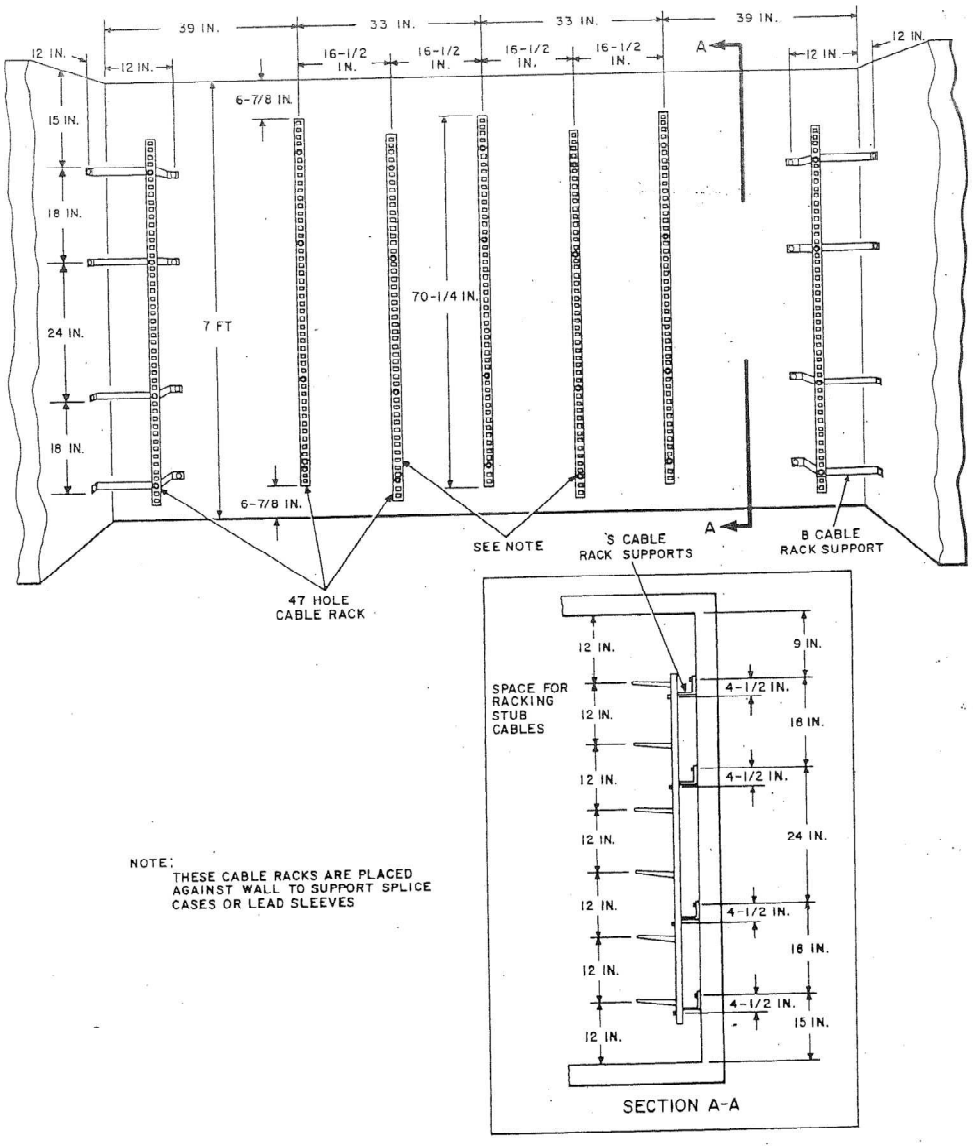
cable racks attached directly to wall

(See included practices for description of cable racking hardware.)

MANHOLE DETAILS

A00805-43

Proposal No. 610670-133876



NOTE:
THESE CABLE RACKS ARE PLACED AGAINST WALL TO SUPPORT SPLICE CASES OR LEAD SLEEVES

Fig. 9—Location of Cable Racks and Hooks in Typical Double Bay, Double Rack A-Type Manhole

DOCUMENT A00808

PROJECT UTILITY COORDINATION FORM

Project Utilities Coordination (PUC) Form

CONTACTS AND GENERAL UTILITY INFORMATION

11/25/2025
Revision Date:

City/Town:	Project File #:	PUC Completed by:	Utility Pole Set:		
Harwich	610670	jhl	Verizon		
Route/Street:	**Resident Engineer:**	**Mass DOT PM:**	**Scheduled Ad Date:**	**Total Poles Relocated:**	11/25/2025
Main St/South St/Sisson Rd		Jon Freeman	12/20/2025	3	PRINTED

Consultant:	Contact:	Office #	Cell #	Email
Pare Corporation	Amy Archer	(401) 334-4100		aarcher@parecorp.com

Utility Company	Contact	Office #	Cell #	Email	Scope, Budget, Duration Submitted		Reimbursement			Potential for District Initiated Early Relocation *		Utilities On Bridge/Structure		Utilities Underground (UG) /Aerial (OH)	
					Yes	No	Agreement	Non-Reimb'le	Notes	YES	NO	YES	NO	UG	OH
Eversource Electric	Ned Sadowski		413-537-6594	ned.sadowski@eversource.com	x		x				x		x		x
Verizon	Karen Mealey	(774) 409-3160		karen.m.mealey@verizon.com	x		x				x		x	x	x
Comcast	Wendy Brown	(978) 848-5163		Wendy_Brown@cable.comcast.com	x		x				x		x		x
Harwich DPW	Lincoln Hooper	508-430-7555		lhooper@harwichdpw.com		x			Town-owned streetlights. Not seeking reimbursement. See 4/1/25 email.		x		x		x
National Grid Gas	Melissa Owens	781-907-2845		Melissa.Owens@nationalgrid.com	x		x				x		x	x	

Utility Relocation Notes for MassDOT Contractor

Unless otherwise noted by Contract, the MassDOT Contractor is to provide the District Construction Office with 7 Calendar Days advance notification in order to validate the current progress and provide the required 30 Days advance notice-to-proceed for the first Utility - and each subsequent Utility. These advance notifications are to be identified in the Contractor's Schedules (Pre-Con preparation, Baseline, Subnets, and Updated/Monthly Schedules) as specified in Subsection 8.02 (for DBB Contracts) and/or Section 9 (of DB Contracts). Note: The durations included below do not include these lead-times. See Additional 'Important Basis notes for Contractor' - on last PUC Form page.

Additional notes:

Suggested Sequence of Relocation (Based on Consultant proposed construction staging)

The sequence as detailed on the following pages is based on the consultants proposed staging plan. This information was compiled through meetings that included all of the utilities listed below along with the designer and the Town of Harwich . The information provided is the best available information prior to project advertisement.

A00808-2

Proposal No. 610670-133876

Is 'enabling' (prep) work, by the Contractor, necessary prior to the start of the first series of utility relocations:	Yes	No
	x	

Has any of the Utility work been identified to work concurrently	Yes	No
		x

11/25/2025
PRINTED

massDOT Massachusetts Department of Transportation Highway Division

	RESPONSIBLE PARTY		DESCRIPTION - Utility Relocation Phases, Tasks and Activities	Estimated Duration (Work Days) by Utilities (Lead time not included)	Concurrent / Exclusive Utility Work Contractor note: In planning and executing the work, the Access Restraints listed in the Special Provisions, takes precedence over the checklist in these 4 columns.				Access Restraint & Limitations of Operations Notes Should an AR be considered for the Contractor ?	
	C = Contractor	U = Utility Co.			Exclusive Utility on site: Utility working with no other Utilities in vicinity	Concurrent Utilities: Utility working with other Utilities on site	Contractor Off-Site: No Contractor physical construction operations on-site (while Utility	Contractor Concurrent: Contractor and Utility are working on-site - but NOT in the same vicinity	Potential Access Restraint (Yes/No)	Reason/Note (optional)
	C		>Contractor to give 30 day notice prior to starting work to affected Utilities. >Contractor to perform clearing and grubbing, tree trimming, tree removal, grading, and embankment work.							
			Utility Operations - Overhead							
Task: 1			***Verizon***							
		u	VERIZON LINE TO PLACE ALL NEW POLES (3 POLES)	2	x			x		
			VERIZON LINE TO PLACE NEW ANCHORS, GUYING, AND STRAND	2	x			x		
			Sub-Total	**4**						
Task: 2			***Eversource Electric***							
		u	Transfer all Eversource conductors and hardware	3	x			x		
			Sub-Total	**3**						
Task: 3			***Harwich DPW***							
		u	**Harwich DPW - Transfer streetlights (1). (No Force Account)	1	x			x		
			Sub-Total	**1**						
Task: 5			***Comcast***							
		u	Transfer Comcast Plant to new utility poles	1	x			x		
			Sub-Total	**1**						
Task: 6			***Verizon***							
		u	VERIZON LINE TO TRANSFER ALL AERIAL CABLE TO NEW POLES	2	x			x		
		u	VERIZON LINE TO REMOVE ALL OLD ANCHORS, GUYING, AND STRAND	1	x			x		
			VERIZON LINE TO REMOVE ALL OLD POLES (3 POLES)	2	x			x		
			Sub-Total	**5**						
	C		>Contractor to give 30 day notice prior to starting work to affected Utilities. >Contractor to install telephone conduit and manhole.							
			Utility Operations - Underground							
Task: 1			***Verizon***							
		u	VERIZON CWI TO STUB OUT DUCTS TO CONNECT TO NEW MASSDOT DUCTS & MANHOLE	25	x			x		
		u	VERIZON LINE TO ROD & ROPE EXISTING DUCTS	7	x			x		
		u	VERIZON LINE TO PLACE ALL NEW UNDERGROUND COPPER CABLES IN DUCTS	6	x			x		
		u	VERIZON LINE TO PLACE ALL NEW UNDERGROUND FIBER CABLES IN DUCTS	2	x			x		
		u	VERIZON SPLICE TO JOIN ALL NEW UNDERGROUND COPPER CABLE & TRIM OUT OLD	17	x			x		
		u	VERIZON SPLICE TO JOIN ALL NEW UNDERGROUND FIBER CABLE & TRIM OUT OLD	8	x			x		
		u	VERIZON LINE TO REMOVE ALL OLD FIBER CABLE (UNDERGROUND)	2	x			x		
		u	VERIZON LINE TO REMOVE ALL OLD COPPER CABLE (UNDERGROUND)	6	x			x		
			Sub-Total	**73**						

A00808-3

Proposal No. 610670-133876

	RESPONSIBLE PARTY		DESCRIPTION - Utility Relocation Phases, Tasks and Activities	Estimated Duration (Work Days) by Utilities (Lead time not included)	Concurrent / Exclusive Utility Work Contractor note: In planning and executing the work, the Access Restraints listed in the Special Provisions, takes precedence over the checklist in these 4 columns.				Access Restraint & Limitations of Operations Notes Should an AR be considered for the Contractor ?	
	C = Contractor	U = Utility Co.			Exclusive Utility on site: Utility working with no other Utilities in vicinity	Concurrent Utilities: Utility working with other Utilities on site	Contractor Off-Site: No Contractor physical construction operations on-site (while Utility	Contractor Concurrent: Contractor and Utility are working on-site - but NOT in the same vicinity	Potential Access Restraint (Yes/No)	Reason/Note (optional)
Task: 2			***National Grid Gas***							
		u	**Installation/Abandonment of 320 FT of 4 inch Gas Main**	15	x			x		
		u	Excavate & Shore		x			x		
		u	Trench and Install approx 320 FT of 4 inch 60 PSIG Plastic Gas Main		x			x		
		u	Main Connections/Tie-ins		x			x		
		u	Stop/Tap/Purge/Cut/Cap		x			x		
		u	Backfill		x			x		
		u	**Installation/Abandonment of 350 FT of 4 inch Gas Main**	15	x			x		
		u	Excavate & Shore		x			x		
		u	Trench and Install approx 350 FT of 4 inch 60 PSIG Plastic Gas Main		x			x		
		u	Main Connections/Tie-ins		x			x		
		u	Stop/Tap/Purge/Cut/Cap		x			x		
		u	Backfill		x			x		
		u	**Installation/Abandonment of 20 FT of 4 inch Gas Main**	3	x			x		
		u	Excavate & Shore		x			x		
		u	Trench and Install approx 20 FT of 4 inch 60 PSIG Plastic Gas Main		x			x		
		u	Main Connections/Tie-ins		x			x		
		u	Stop/Tap/Purge/Cut/Cap		x			x		
		u	Backfill		x			x		
		u	**Installation/Abandonment of 20 FT of 4 inch Gas Main**	3	x			x		
		u	Excavate & Shore		x			x		
		u	Trench and Install approx 20 FT of 4 inch 60 PSIG Plastic Gas Main		x			x		
		u	Main Connections/Tie-ins		x			x		
		u	Stop/Tap/Purge/Cut/Cap		x			x		
		u	Backfill		x			x		
			Sub-Total	**36**						

IMPORTANT BASIS NOTES - FOR CONTRACTOR

1. Unless otherwise specified in the MassDOT Construction Contract, or unless specifically noted within this PUC Form, these durations (herein) are based upon the Contractor providing *unimpeded access* to the Utility company to perform Utility relocations (see Note 5 - Access).
2. "Concurrent Utilities" operations noted herein, are to signify those Utility Company operations that can be worked concurrently (e.g. Utility A and Utility B work on-site together) - MassDOT and the Contractor are to prepare NTPs to Utilities accordingly.
3. "Potential Access Restraints" noted within this PUC Form are for planning purposes. See MassDOT Contract for Contractual Access Restraints (refer to Subsections 8.02, 8.03, and/or 8.06 for Design Bid Build Contracts and Volume II Section 9 for Design Build Contracts).
4. Utility non-work periods - For planning purposes, the durations above contain some non work days (contingency) for New England conditions (precipitation, high temperatures, low temperatures, snow, ice). Gas line work however, typically has a seasonal restriction and can NOT be installed from 15-November to 15-March. Municipally Owned Electric and Gas Utilities are also restricted from proceeding from 15-November to 15-March. The Contractor shall (and the CTD plan) reflect this calendar restriction within the schedule (unless otherwise note).
5. Access - Unless otherwise noted in the Contract, and in addition to the 'enabling' notes above, the Contractor must provide safe and unimpeded access (for trucks, lifts, cranes, etc.) to the Utilities, to allow for the proposed relocation(s) - including but not limited to snow removal, clearing and grubbing, guard rail removal, barrier removal, tree removal, and grading.
6. For all MassDOT construction contracts issued after January 2014, the new Utility Coordination/documentation specification is required. This is Section 8.14 in Design-Bid-Build Contracts (see Design-Build index reference for applicable section #).
7. Prior to starting any and all enabling work for Utilities, the Contractor is to plan in advance with submittals and approved durations.
8. * Potential District Initiated Early Utility Relocation - if noted herein, the District reserves the right to initiate early utility relocation in advance of the Contract NTP. In submitting a bid price and in the development/basis of the Baseline Schedule, the Contractor shall not plan the Work with the potential benefit of any form of 'early utility relocation.' As a requirement of the Baseline submission, unless otherwise noted in this Specification, the earliest that the first Utility company is to receive the 30 days advance notification to mobilize to the site, will be 7 calendar days after the pre-construction meeting and never sooner than 7 days after the Contract NTP.
9. ** Assumed Duration, Not Provided By Utility Company.

DOCUMENT A00811

WATERING LOG
for
MassDOT Plantings

Watering Log for MassDOT Plantings

Project Description:

Contract No:

Project No:

Plant Locations/s: (Attach planting plan/s as necessary)

Notes:

	Separate logs shall be kept to track areas or plants with different watering schedules. Trees shall receive a minimum of 10 gallons with each watering and shrubs a minimum of 5 gallons. Provide note that if watering is not performed as scheduled due to rain. Record date of rainfall and amount.												
Date Watered													
Landscape Contractor Initial													
Prime Contractor Initial													
Date Watered													
Landscape Contractor Initial													
Prime Contractor Initial													

Each week, following watering, Log shall be submitted to the MassDOT Engineer.
6/15/2018

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: HARWICH Project File Number: 610670

Contract Number: 133876

Project Description: Harwich Elementary School Improvements (SRTS)

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 A00844

U.S. FISH AND WILDLIFE SERVICE

NLAA CONCURRENCE VERIFICATION LETTER

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To: 05/21/2025 19:45:07 UTC
Project code: 2023-0014768
Project Name: 610670 - HARWICH- HARWICH ELEMENTARY SCHOOL (SRTS)

Subject: Not Likely to Adversely Affect Concurrence verification letter for the '610670 - HARWICH- HARWICH ELEMENTARY SCHOOL (SRTS)' project under the December 13, 2024, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat, Northern Long-eared Bat, and Tricolored Bat.

To whom it may concern:

This letter records the determination of effects to federally listed (or proposed) bat species anticipated to result from the 610670 - HARWICH- HARWICH ELEMENTARY SCHOOL (SRTS) (the Project). This determination is based upon information you entered into the assisted determination key (Dkey) associated with the above referenced Programmatic Biological Opinion/Conference Opinion (PBO/PCO) in the U.S. Fish and Wildlife Service's (Service) Information for Planning and Consultation (IPaC) system on the date listed above to verify that the Project may rely on the concurrence provided in the PBO/PCO to satisfy requirements under section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (16 USC 1536), as amended.

Ensuring Accurate Determinations When Using IPaC:

The Service developed the IPaC system and this Dkey in accordance with the ESA and based on the PBO/PCO. All information submitted by the project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in the Dkey invalidates this letter. Answers to certain questions in the Dkey commit the project proponent to implementation of conservation measures that must be followed for the ESA determinations to remain valid. Carefully review this letter, your ESA requirements are <u>NOT</u> yet complete.

Determinations:

Based on the information you provided (Project Description shown below), you have determined that the Project is within the scope and adheres to the criteria of the PBO/PCO, including the adoption of applicable avoidance and minimization measures. Based on your IPaC submission and the PBO/PCO, the Project is consistent with the following effect determinations:

Species	Listing Status	Determination
Northern Long-eared Bat (*Myotis septentrionalis*)	Endangered	NLAA
Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	NLAA

The tricolored bat is proposed for listing as endangered under the ESA, but not yet listed. For actions that may affect a proposed species, agencies cannot consult, but they can confer under the authority of section 7(a)(4) of the ESA. Such conferences can follow the procedures for a consultation and be adopted as such if the proposed species is listed. Should the tricolored bat be listed, agencies must review projects that are not yet complete, or projects with ongoing effects within the tricolored bat range that previously received a no effect or not likely to adversely affect (NLAA) determination from the key to confirm that the determination is still accurate.

The Service has 14 calendar days to notify the lead Federal action agency or designated non-federal representative if we determine that the Project does not meet the criteria for a NLAA determination under the PBO/PCO. **If the Service does <u>not</u> notify the lead Federal action agency or designated non-federal representative within that timeframe, you may proceed with the Project under the terms of the NLAA concurrence provided in the PBO/PCO**. This verification period allows Service Field Offices to apply local knowledge to implementation of the PBO, as we may identify a small subset of actions having impacts that were unanticipated. In such instances, Service Field Offices may request additional information that is necessary to verify inclusion of the proposed action under the PBO/PCO.

If the Project is modified, or new information reveals that it may affect the Indiana bat, northern long-eared bat, or tricolored bat in a manner or to an extent not considered in the PBO/PCO, further review to conclude the requirements of ESA section 7(a)(2) may be required.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities:

If your initial bridge, culvert, or structure assessment failed to detect Indiana bat, northern long-eared bat, or tricolored bat use or occupancy, yet bats are later detected prior to, or during construction, promptly notify the local Service Field Office within 2 working days of the discovery. In addition, please document whether incidental take occurred, and if so, the type (i.e. kill or harm) and amount (i.e. number of individuals) and submit documentation to the local Service Field Office within 5 working days from the completion of the bridge, culvert, or structure construction (use Appendix E - Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form in the User's Guide). In these instances, potential incidental take of Indiana bats, northern long-eared bats, or tricolored bats may be exempted provided that the take is reported to

the Service. In these instances, potential incidental take of Indiana bats, northern long-eared bats, or tricolored bats may be exempted provided that the take is reported to the Service.

If the Project may affect any other federally listed or proposed species and/or designated critical habitat, additional consultation between the lead Federal action agency and this Service Field Office is required for those species/designated critical habitat. If the Project has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please advise the lead Federal action agency to contact this Service Field Office

The following species may occur in your project area and **are not** covered by this determination:

- Monarch Butterfly *Danaus plexippus* Proposed Threatened
- Sandplain Gerardia *Agalinis acuta* Endangered

PROJECT DESCRIPTION

The following project name and description was collected in IPaC as part of the endangered species review process.

NAME

610670 - HARWICH- HARWICH ELEMENTARY SCHOOL (SRTS)

DESCRIPTION

610670 - HARWICH- HARWICH ELEMENTARY SCHOOL (SRTS)

The primary scope of work is to implement sidewalk infrastructure improvements/upgrades for the area immediately adjacent and contiguous to the Harwich Elementary School (HES) located at 263 South Street to facilitate a safe and accessible pedestrian connection from HES to Harwich Center. The sidewalk is proposed to be 5' wide asphalt with new 6" vertical granite curbing along Main Street and along Sisson Road. The sidewalk is proposed to be 8' wide along South Street. The project as currently proposed runs along South Street in a northerly direction from the School House Drive @ South Street intersection to the South Street @ Main Street intersection, then along Main Street in an easterly direction to the Main Street @ Sisson Road intersection then along Sisson Road in a southerly and southwesterly direction to the Sisson Road @ School House Drive intersection for a total approximate linear length of one mile.The proposed scope of work also includes the construction of 15 accessible curb ramps with crosswalks at the roadway intersections within the currently defined project limits. Limited signage improvements are also included within the scope of work. Landscaping is anticipated to be limited to loam and seed for areas disturbed by construction.

Sandplain Gerardia: After consulting with the Massachusetts Natural Heritage and Endangered Species Program (NHESP), it was determined that there is no data to suggest the presence of habitat and/or individuals at this project location.

Monarch Butterfly: Proposed Threatened Species only. The project action will not jeopardize the continued existence of the proposed species.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.68402665,-70.07803251228047,14z

DETERMINATION KEY RESULT

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the Indiana bat, northern long-eared bat or tricolored bat, therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.) is required. However, also based on your answers provided, this project may rely on the concurrence provided in the Programmatic Biological Opinion/Conference Opinion for Transportation Projects in the Range of the Indiana bat, northern long-eared bat, and tricolored bat, dated December 13, 2024.

QUALIFICATION INTERVIEW

1. Which Federal Agency is the lead federal agency the action?

   A) Federal Highway Administration (FHWA)

2. Does the Action Area intersect the species list area of the Northern long-eared bat?

   Automatically answered
   Yes

3. Does the Action Area intersect the species list area of the tricolored Bat (TCB)?

   Automatically answered
   Yes

4. Does your project's activities include raising the road profile above the tree canopy in documented habitat for the Indiana bat, NLEB, or TCB?

   Note: For the definition of documented habitat, refer to Appendix A: https://www.fws.gov/media/users-guide-range-wide-programmatic-consultation-indiana-bat-and-northern-long-eared-bat

   No

5. Is your project located within a karst area?

   No

6. Will the project include bridge, culvert, or structure removal, replacement, and/or alteration activities?

   Note: For definitions of bridge, culvert, and structure, refer to Appendix A: https://www.fws.gov/media/users-guide-range-wide-programmatic-consultation-indiana-bat-and-northern-long-eared-bat.

   No

7. Do your project’s activities involve tree removal/trimming, temporary lighting, new/additional permanent lighting, ground disturbance, percussives that involves noise/vibration above existing background levels, vibrations, or slash pile burning?

   Yes

8. Is there suitable summer habitat for the Indiana bat, NLEB, or TCB within the project action area?

   Note: See the Service's summer survey guidance for current definitions of suitable habitat [https://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html].

   Yes

9. Have P/A surveys for the Indiana bat, NLEB, or TCB been conducted within the suitable summer habitat located within your project action area? This refers to mist-netting or acoustic surveys, not bridge assessments.

   Note: See the Service's survey guidance https://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html

   Yes

   SUBMITTED DOCUMENTS

   - *610670_Harwich_MassDOT_AcousticSurvey.pdf https://ipac.ecosphere.fws.gov/project/ZCXFDJZ7LJDMVAOIBSKRCXY5DM/projectDocuments/119960831*

10. Did the P/A surveys detect Indiana bats, NLEBs, or TCBs?

    Note: If Indiana bats, NLEBs, or TCBs are detected, the action area is considered **documented habitat.**

    No

11. Did the local Service Field Office verify that this P/A survey can be used to determine Indiana bat, NLEB, and TCB are **not likely to be present** within the suitable summer habitat located within your project area?

    Yes

12. Does the Action Area intersect the species list area of the tricolored Bat (TCB)?

    Automatically answered
    Yes

13. Does the Action Area intersect the species list area of the northern long-eared bat (NLEB)?

    Automatically answered
    Yes

PROJECT QUESTIONNAIRE

1. Have you made a No Effect determinations for all other species included on the FWS IPaC generated species list?

   Yes

2. Have you made a May Affect determination for any other species on the FWS IPaC generated list?

   No

AVOIDANCE AND MINIMIZATION MEASURES (AMMS)

This determination key result includes the commitment to implement the following Avoidance and Minimization Measures (AMMs):

GAMM1

Ensure all operators, employees, and contractors working in areas of Indiana bat, NLEB, or TCB suitable habitat are aware of all Transportation Agency environmental commitments, including all applicable AMMs.

DETERMINATION KEY DESCRIPTION: FHWA, FRA, FTA PROGRAMMATIC CONSULTATION FOR TRANSPORTATION PROJECTS AFFECTING IBAT, NLEB, OR TCB

This key was last updated in IPaC on May 21, 2025. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) and may affect the federally listed endangered Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), and/or federally proposed endangered tricolored bat (*Perimyotis subflavus*).

This decision key should only be used to verify project applicability with the Service's Programmatic Biological Opinion/Conference Opinion for Transportation Projects in the Range of the Indiana bat, northern long-eared bat, and tricolored bat, dated December 13, 2024. The programmatic consultation limited transportation activities that may affect the covered bat species and addresses situations that are both likely and not likely to adversely affect the covered bat species. This decision key will assist in identifying the effect of a specific project/activity and the applicability of the programmatic consultation. The programmatic consultation is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic consultation, or that may affect ESA-listed species other than the Indiana bat, northern long-eared bat, or tricolored bat, or their designated critical habitat, may require additional ESA Section 7 consultation.

IPAC USER CONTACT INFORMATION

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LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

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November 1, 2022

Tim Dexter
Fish & Wildlife Program Coordinator
Massachusetts Department of Transportation – Highway Division
Ten Park Plaza, Room 4260
Boston, MA 02116-3973

Project	Northern Long-eared Bat (NLEB) Presence/Absence Survey
MassDOT Project #	610670
Town	Harwich, Massachusetts
Surveyor Name/Firm	*Patrick Hutchinson / BSC Group Inc*
Detector Operation Dates	June 28 – July 1, 2022
Survey Results	**NLEB DETECTED BUT NOT CONFIRMED**

Dear Tim,

This report contains the results of the Massachusetts Department of Transportation (MassDOT) northern long-eared bat (*Myotis septentrionalis*, hereafter NLEB) summer presence/absence survey performed for the Safe Routes to School project (MassDOT #601670; HARWICH-HARWICH ELEMENTARY SCHOOL (SRTS)) in Harwich, Massachusetts. Five (5) bat passes were initially classified as the federally threatened NLEB by analysis software but none were confirmed by the analyst. Thirty-five (35) bat passes were initially classified as the state endangered little brown bat (*Myotis lucifugus*) and nineteen (19) were confirmed as such during our qualitative assessment.

Sincerely,

Sarah Barnum

Attachments: NLEB Survey Report for Harwich 610670

Massachusetts Department of Transportation

Northern Long-eared Bat Acoustic Survey Results
MassDOT Project #610670 Harwich

November 2022

BSC GROUP

Prepared for:
Massachusetts Department of Transportation
10 Park Plaza
5th Floor / Room 5170
Boston, MA 02115

BSC Project No 89626.03

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1.0 SUMMARY

An ultrasonic acoustic survey was conducted to inventory the state-endangered and federally-threatened northern long-eared bat (NLEB; *Myotis septentrionalis*) and other state-listed bat species within the proposed limits of work for MassDOT Harwich Elementary School safe route to school (SRTS) Project #610670 in the Town of Harwich, MA. The survey followed 2022 US Fish and Wildlife Service Guidelines (2022 Guidelines) and was conducted from June 28th - July 1st, 2022. **The Kaleidoscope Pro software package did identify bat calls as belonging to or potentially belonging to NLEB and a Qualitative review was conducted.** Other bat species likely present at this project area, based on Kaleidoscope Pro results consisted of little brown bat (*Myotis lucifugus*), big brown bat (*Eptesicus fuscus*), eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), and silver-haired bat (*Lasionycteris noctivagans*). A qualitative review confirmed the presence of the State-listed little brown bat.

2.0 PROJECT OVERVIEW

BSC Group, Inc. (BSC) conducted multiple acoustic presence/absence bat surveys for MassDOT during the 2022 survey season. The methods used for all surveys are summarized in Section 3.

Surveys were conducted because Projects are within the range of the federally threatened NLEB, which encompasses all of Massachusetts. The NLEB is a tree bat that roosts in tree cavities, rocky outcrops and human-made structures such as bridges and buildings during its April 15 - October 31 active season. The Projects have the potential to affect NLEB through tree trimming and/or clearing during the active roosting season, which could reduce roosting habitat or potentially cause direct mortality if an occupied roost tree is felled. Where NLEBs are determined to be present, these direct impacts can be avoided by conducting the work outside of the active season.

BSC's survey methods were consistent with the USFWS' 2022 Range-wide Indiana Bat Summer Survey Guidelines (2022 Guideline), which also explicitly include the NLEB and provide NLEB-specific guidance. Massachusetts is not within the known summer range of the Indiana bat (*Myotis sodalis*), the only other federally listed (endangered) species in the northeast region.

3.0 METHODS

The methods described below were followed for all BSC's 2022 surveys. Survey tasks were conducted by personnel trained and qualified to conduct their respective tasks. Staff resumes are in Appendix D.

3.1 HABITAT ASSESSMENT

Habitat suitability was generally assessed prior to deploying acoustic detectors by examining recent aerial photography (Google Earth™). Habitat suitability was confirmed in the field at each location where a detector was placed. Characteristics of the overall habitat within the Project area are described in Section 3.1.

3.2 DETECTOR DEPLOYMENT

BSC conducted the survey using Wildlife Acoustics SM4BAT-FS Full Spectrum Ultrasonic Bat Recorders and Wildlife Acoustics SMM-U2 Ultrasonic Microphones, which are factory built to be fully weatherized/waterproof, allowing them to be deployed in any weather conditions. The omnidirectional microphone was installed directed straight up to the sky in order record bats flying from any direction.

The Project 610670 project area was categorized as linear, as defined by the Guidelines, and required a minimum of four detector nights (one detector deployed for four nights or two detectors deployed for 2 night) of survey effort per kilometer of project length. The detector set-ups adhered to specifications detailed in the 2022 Guidelines. Detector locations were selected based on a combination of factors including access, minimal human disturbance, an open cone of detection for the microphones to sample, and apparent bat habitat quality (e.g., mature trees, snags, hollows and crevices, and wetland habitat). The microphones were deployed at a height of 3m.

To ensure that the detectors were functioning correctly during every survey period, settings were checked upon retrieval of the detector in a similar fashion as to when they were deployed: 1) the microphones were checked for proper recording of sounds and archiving of data onto the internal drive/USB; and 2) the program recording times and acoustic range were verified.

3.3 CALL ANALYSIS

Acoustic files were processed using Kaleidoscope Pro version 5.4.2 (KPro), which is a USFWS-approved automated bat call classification software package, which determines the probability (or "likelihood of presence p (probability) value") that each call recorded was made by a certain bat species. Probabilities < 0.05 are statistically interpreted to mean that a call belongs to that species. Calls identified as NLEB and little brown bat had Presence P-Values of less than 0.05, and a qualitative review was conducted, as described in Appendix E.

4.0 RESULTS

Project #610670 located in the Town of Harwich, MA, has a total length of 2.3km and may include tree clearing or trimming within the proposed limits of work. Twelve weather compliant detector nights were needed to meet the level of effort required by the 2022 Guidelines. Four detectors were

deployed for three weather compliant nights for a total of twelve qualifying detector nights. Detectors were left in place for three nights due to logistics.

4.1 OVERALL HABITAT ASSESSMENT

Maps of the location of Project #610670 are available in Appendix A. The dominant habitat features of the survey location are developed areas and forest edge along the roadways of South Street, Main Street (Route 39), and Sisson Road in Harwich, MA. Details of the habitat at the detector locations are described in below.

4.2 DEPLOYMENT DETAILS

The surveys were conducted from June 28th - July 1st, 2022. The detectors were programed to run from thirty (30) minutes before sunset to thirty (30) minutes after sunrise the following morning. A summary of the survey locations and recording night weather conditions are presented in Table 1, and specifications of the detectors and microphones used are summarized in Table 2.

Details of the hourly weather conditions from Chatham Municipal Airport (KCQX) in Chatham, MA, the NOAA weather reporting station nearest to the survey in the Town of Harwich, MA, are presented in Appendix B for each of the survey nights.

Table 1. Deployment Details, MassDOT NLEB Acoustic Survey Project #610670, Harwich

Location	Deployment Date	Latitude	Longitude	Begin	End	Sunset	High Temp (Deg F)*	Low Temp (Deg F)*	Max Wind (mph)**	Weather*
HA-1	6/28/2022	41.6831415	-70.0844328	18:00	6:00	20:20	66	63	3	Fair
	6/29/2022			18:00	6:00	20:20	69	68	8	Fair/Partly Cloudy
	6/30/2022			18:00	6:00	20:20	68	68	8	Fair
HA-2	6/28/2022	41.6858282	-70.0845065	18:00	6:00	20:20	66	63	3	Fair
	6/29/2022			18:00	6:00	20:20	69	68	8	Fair/Partly Cloudy
	6/30/2022			18:00	6:00	20:20	68	68	8	Fair
HA-3	6/28/2022	41.6862902	-70.0790838	18:00	6:00	20:20	66	63	3	Fair
	6/29/2022			18:00	6:00	20:20	69	68	8	Fair/Partly Cloudy
	6/30/2022			18:00	6:00	20:20	68	68	8	Fair
HA-4	6/28/2022	41.6827419	-71.0796836	18:00	6:00	20:20	66	63	3	Fair
	6/29/2022			18:00	6:00	20:20	69	68	8	Fair/Partly Cloudy
	6/30/2022			18:00	6:00	20:20	68	68	8	Fair

**High temp, low temp, max wind speed, and weather within the first five after sunset. NOAA records valueshourly, and this table summarizes conditions across those five values.*

***NOAA reports wind speeds hourly; "Max Wind" is the highest speed reported over the first 5 hours after sunset.*

Gray rows indicate detector nights for which data was unacceptable due to weather conditions.

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Table 2. Acoustic Monitoring Equipment Settings

Wildlife Acoustics SM4BAT-FS Detector Setting	Specification	Wildlife Acoustics SMM-U2 Ultrasonic Microphone Specifications
Gain	12 dB	Waterproof enclosure, factory built
Sample Rate	256 HZ	Differential Output
Min. Duration	1.5 ms	Built-in High Pass Filter: 2-pole at 1KHz
Max. Duration	none	Low noise: Less than -110 dBfs/√Hz at 10 – 190 kHZ, at dB gain
Min. Triggering Frequency	16K Hz	Omnidirectional (cardioid response)
Triggering Level	12dB	
Trigger Window	2 s	
Max Length	4s	
Compression	none	

Detailed habitat descriptions for each detector location follow below. Photos of each detector set-up and surrounding habitat are presented in Appendix C.

4.2.1 Location 1 - HA1

The detector was deployed within unmaintained forest edge/shrubs adjacent of the road shoulder of South Street. The microphone was installed straight up to the sky in order record bats flying from any direction. The dominant tree species in the survey area was red oak (*Quercus rubra*), Norway maple (*Acer platanoides*), and pitch pine (*Pinus strobus*). Average diameter at breast height (DBH) was ~10 in DBH for Norway maple, red oak and pitch pine. No snags were observed adjacent to the survey location.

4.2.2 Location 2 - HA2

The detector was deployed within unmaintained forest edge/shrubs adjacent of the road shoulder of South Street. The microphone was installed straight up to the sky in order record bats flying from any direction. The dominant tree species in the survey area was cultivated apple species (*Malus pumila*), Catalpa species (*Catalpa sp*), and black oak (*Quercus velutina*). Average DBH was ~10 in DBH for black oak, and ~3-10 DBH for the catalpa and apple. No snags were observed adjacent to the survey location.

4.2.3 Location 3 - HA3

The detector was deployed within unmaintained forest edge/shrubs adjacent of the road shoulder of Main Street (Rt 39). The microphone was installed straight up to the sky in order record bats flying from any direction. The dominant tree species in the survey area was Norway maple, quaking aspen (*Populus tremuloides*), and eastern hemlock (*Tsuga canadensis*). Average DBH was ~10 in DBH for quaking aspen, and 3-10 in DBH for the Norway maples and eastern hemlock. One 10-17 in DBH snag was observed adjacent to the survey location.

4.2.4 Location 4 - HA4

The detector was deployed within unmaintained forest edge/shrubs adjacent of the road shoulder of Sisson Road. The microphone was installed straight up to the sky in order record bats flying from any direction. The dominant tree species in the survey area was black cherry (*Prunus serotina*), red maple (*Acer rubrum*), and red oak. Average DBH was ~10 in DBH for black cherry, and 3-10 in DBH for the red oak and red maple. One 10-17 in DBH snag was observed adjacent to the survey location.

4.3 SURVEY RESULTS

Table 3 summarized the number of calls recorded by species and location. Blue cells denote calls with likelihood of presence values <0.05, as assigned by KPro. Values <0.05 indicate that the call was likely made by that species. KPro assigned p-values of <0.05 to calls from four species, consisting of little brown bat, big brown bat, eastern red bat, hoary bat, and silver-haired bat. **The Kaleidoscope Pro software package did identify bat calls as belonging to or potentially belonging to NLEB and state listed little brown bat.** A qualitative review was conducted and confirmed the presence of little brown bat.

Table 4. Acoustic Survey Results by Date, Site, and Species - Project #610670, Harwich

Location	Detector Night	EPFU	LABO	LACI	LANO	MYLE	MYLU	MYSE	PESU
Number of Calls Recorded:									
HA-1	6/28/2022	47	5	32	17	0	2	3	0
	6/29/2022	150	8	25	10	0	2	0	0
	6/30/2022	91	5	17	5	0	0	0	0
HA-2	6/28/2022	259	35	44	28	0	9	0	1
	6/29/2022	378	102	47	10	0	1	0	1
	6/30/2022	557	35	41	21	0	3	0	1
HA-3	6/28/2022	40	7	31	25	0	8	0	0
	6/29/2022	75	3	24	24	0	2	2	0
	6/30/2022	71	12	21	17	0	3	0	0
HA-4	6/28/2022	289	11	68	198	0	3	0	0
	6/29/2022	340	2	45	298	0	1	0	0
	6/30/2022	281	24	24	155	0	1	0	1
Presence P-Values:									
HA-1	6/28/2022	0	2.4E-06	0	0.619554	1	0.388743	0.000463	1
	6/29/2022	0	0	3.9E-06	1	1	0.661818	1	1
	6/30/2022	0	1E-07	6.16E-05	1	1	1	1	1
HA-2	6/28/2022	0	0	0	1	1	0.155493	1	1
	6/29/2022	0	0	4E-07	1	1	1	1	1
	6/30/2022	0	0	0.046349	1	1	1	1	1
HA-3	6/28/2022	0	8E-07	0	0.010681	1	0.000186	1	1
	6/29/2022	0	0.000979	0	0.167091	1	0.210755	0.01052	1
	6/30/2022	0	0	0	0.788207	1	0.538403	1	1
HA-4	6/28/2022	0	0	0	0	1	0.475928	1	1
	6/29/2022	0	0.006809	0.001601	0	1	0.566772	1	1
	6/30/2022	0	0	0.303494	0	1	1	1	1

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EPFU= Eptesicus fuscus, LABO= Lasiurus borealis, LACI= Lasiurus cinereus, LANO= Lasionycteris noctivagans,MYLE= Myotis leibii, MYLU= Myotis lucifugus, MYSE= Myotis septentrionalis, PESU= Perimyotis subflavus

Cells highlighted in gray indicate detector nights which did not meet weather standards.

Cells highlighted in blue are calls/p-values considered by Kpro to be present.

A00844-23

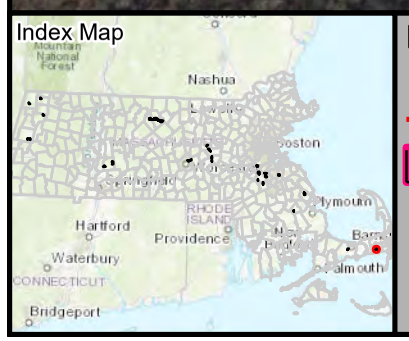
Proposal No. 610670-133876

5.0 APPENDICES

Appendix A. Figures

DRAFT

Index Map



Legend

- 1 Kilometer Markers
- Study Area
- Town Boundary

N

1 inch = 200 feet
0 100 200
Feet

2022 BAT SURVEY LOCATION MAP

Environmental Resources Map

Harwich, MA

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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THIS DOCUMENT IS INTENDED FOR GENERAL PLANNING & INFORMATION PURPOSES ONLY. ALL MEASUREMENTS & LOCATIONS ARE APPROXIMATE.

Project No. 61067.13876
Z:\0089447.20

Appendix B. Weather Data

Date	Time (edt)	Wind (mph)	Vis. (mi.)	Weather	Sky Cond.	Temperature (ºF)				Relative Humidity	Wind Chill (°F)	Heat Index (°F)	Pressure		Precipitation (in.)		
						Air	Dwpt	6 hour Max.	6 hour Min.				altimeter (in)	sea level (mb)	1 hr	3 hr	6 hr
1	6:52	SW 7	10	Fair	CLR	70	65			84%	NA	NA	30.1	1019.3			
1	5:52	S 8	10	Fair	CLR	68	64			87%	NA	NA	30.1	1019.5			
1	4:52	SW 5	10	Fair	CLR	68	64			87%	NA	NA	30.12	1019.9			
1	3:52	S 5	10	Fair	CLR	68	65			90%	NA	NA	30.12	1020			
1	2:52	SW 6	10	Fair	CLR	68	64			87%	NA	NA	30.13	1020.2			
1	1:52	SW 7	10	Fair	CLR	68	64	69	67	87%	NA	NA	30.14	1020.6			
1	0:52	SW 7	10	Fair	CLR	68	63			84%	NA	NA	30.15	1021.1			
30	23:52	SW 7	10	Fair	CLR	68	59			73%	NA	NA	30.16	1021.3			
30	22:52	S 8	10	Fair	CLR	68	59			73%	NA	NA	30.16	1021.4			
30	21:52	S 6	10	Fair	CLR	68	57			68%	NA	NA	30.17	1021.6			
30	20:52	SW 6	10	Fair	CLR	68	59			73%	NA	NA	30.15	1021.2			
30	19:52	Vrbl 5	10	Fair	CLR	69	59	78	69	70%	NA	NA	30.15	1021.2			
30	18:52	Vrbl 5	10	Fair	CLR	70	54			57%	NA	NA	30.15	1021.1			
30	17:52	Vrbl 3	10	Fair	CLR	74	53			48%	NA	NA	30.13	1020.4			
30	6:52	W 3	10	A Few Clouds	FEW110	69	62			78%	NA	NA	30.15	1021			
30	5:52	Calm	10	Fair	CLR	66	62			87%	NA	NA	30.15	1020.9			
30	4:52	Calm	10	Fair	CLR	64	60			87%	NA	NA	30.14	1020.7			
30	3:52	Calm	10	Fair	CLR	64	61			90%	NA	NA	30.14	1020.9			
30	2:52	Calm	10	Overcast	OVC065	66	62			87%	NA	NA	30.16	1021.5			
30	1:52	Calm	10	Thunderstorm in Vicinity	BKN065 BKN080 OVC110	69	61	71	68	76%	NA	NA	30.17	1021.7			
30	0:52	SW 7	10	A Few Clouds	FEW100	69	62			78%	NA	NA	30.16	1021.5			
29	23:52	Vrbl 6	10	Fair	CLR	69	63			81%	NA	NA	30.17	1021.9			
29	22:52	SW 8	10	Fair	CLR	68	64			87%	NA	NA	30.17	1021.8			
29	21:52	SW 6	10	Fair	CLR	69	64			84%	NA	NA	30.18	1022			
29	20:52	SW 7	10	Fair	CLR	69	63			81%	NA	NA	30.18	1022.1			
29	19:52	S 7	10	Fair	CLR	69	62	78	69	78%	NA	NA	30.18	1021.9			
29	18:52	S 10 G 17	10	Fair	CLR	71	59			66%	NA	NA	30.18	1022.2			
29	17:52	SW 7	10	Fair	CLR	73	59			62%	NA	NA	30.19	1022.3			
29	6:52	Calm	10	Fair	CLR	68	64			87%	NA	NA	30.23	1023.6			
29	5:52	Calm	10	Fair	CLR	63	61			93%	NA	NA	30.22	1023.5			
29	4:52	Calm	10	Fair	CLR	63	61			93%	NA	NA	30.21	1023.1			
29	3:52	Calm	10	Fair	CLR	64	61			90%	NA	NA	30.21	1023			
29	2:52	SW 3	10	Fair	CLR	64	61			90%	NA	NA	30.21	1023			
29	1:52	SW 3	10	Fair	CLR	65	62	70	63	90%	NA	NA	30.2	1022.8			
29	0:52	SW 3	10	Fair	CLR	64	61			90%	NA	NA	30.19	1022.6			
28	23:52	Calm	10	Fair	CLR	63	60			90%	NA	NA	30.19	1022.3			

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28	22:52	Calm	10	Fair	CLR	64	60			87%	NA	NA	30.18	1022.2
28	21:52	Calm	10	Fair	CLR	65	60			84%	NA	NA	30.18	1022
28	20:52	Calm	10	Fair	CLR	66	60			81%	NA	NA	30.16	1021.4
28	19:52	Calm	10	Fair	CLR	70	61	76	70	73%	NA	NA	30.15	1020.9
28	18:52	SW 5	10	Fair	CLR	71	61			71%	NA	NA	30.13	1020.5
28	17:52	Vrbl 6	10	Fair	CLR	72	59			64%	NA	NA	30.13	1020.2

Appendix C. Photos

MassDOT Project Number: 610670

Photo #1: Location 1. *Facing north*.

Photo #2: Location 1. *Facing south*.

Photo #3: Location 1. *Facing east*.

Photo #4: Location 1. *Facing west*.

MassDOT Project Number: 610670

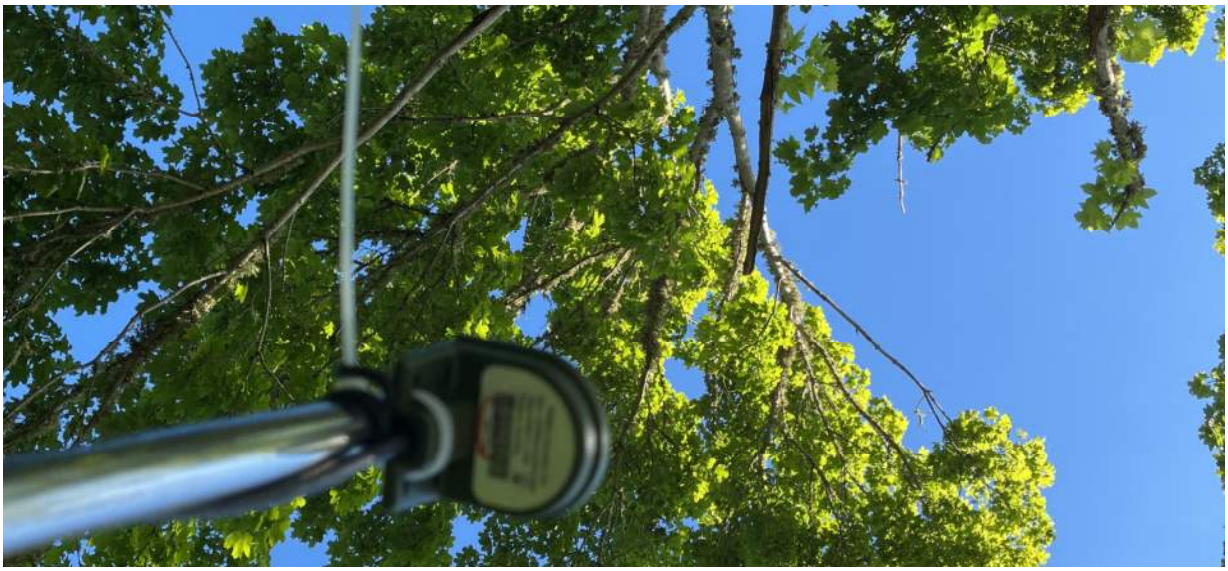

Photo #5: Location 1. *Facing air.*

MassDOT Project Number: 610670

Photo #1: Location 2. *Facing north*.

Photo #2: Location 2. *Facing south*.

Photo #3: Location 2. *Facing east*.

Photo #4: Location 2. *Facing west*.

MassDOT Project Number: 610670

Photo #5: Location 2. *Facing air.*

MassDOT Project Number: 610670

Photo #1: Location 3. *Facing north*.

Photo #2: Location 3. *Facing south*.

Photo #3: Location 3. *Facing east*.

Photo #4: Location 3. *Facing west*.

MassDOT Project Number: 610670

Photo #5: Location 3. *Facing air.*

MassDOT Project Number: 610670

Photo #1: Location 4. *Facing north*.

Photo #2: Location 4. *Facing south*.

Photo #3: Location 4. *Facing east*.

Photo #4: Location 4. *Facing west*.

MassDOT Project Number: 610670

Photo #5: Location 4. *Facing air.*

Appendix D. Resumes

BSC GROUP

Patrick Hutchinson

Ecological Scientist

YEARS OF EXPERIENCE

5

EDUCATION

BS, Environmental Science, Climate Change and Sustainability (Minor)
University of Massachusetts, Lowell

CERTIFICATIONS

- OSHA 40 Hour HAZWOPER
- OSHA Construction Safety and Health

AFFILIATIONS

- Association of State Wetland Scientists

MEET PATRICK

Patrick's professional experience in ecological science has focused on marine, wetlands, and wildlife where he manages projects and people. He is experienced in environmental and regulatory compliance and has worked in accordance with and alongside utility clients, nonprofits, and state agencies.

PROJECT EXPERIENCE HIGHLIGHTS

National Grid, 315 & 303/327/3520 Line Refurbishment Project, Various Towns, MA and RI
Environmental Field Lead

Provided direct coordination between client and consultant for a multistate transmission line span refurbishment project. Patrick provided support and managed a team of monitors for construction monitoring, environmental compliance, and endangered species monitoring while working in accordance with MassWildlife's Natural Heritage and Endangered Species Program.

National Grid, A1B2 Transmission Line Wildlife Habitat Evaluations, MA
Ecological Scientist

In charge of collecting data that was vital to establishing wildlife boundaries and buffers for planned future work along the A1B2 transmission line. Worked alongside Certified Wildlife Biologists and Professional Wetland Scientists to ensure accurate data collection and wetland inventory during surveys.

PATRICK'S PASSION FOR PLANT AND ANIMAL CONSERVATION COMBINED WITH HIS SKILLS MANAGING PROJECTS PROVIDES GREAT VALUE TO CLIENTS.

Endangered Species Surveys, Various Towns, MA
Endangered Species Monitor

Responsible for using Advanced Telemetry Systems, meander surveys, and a turtle tracking dog to track and monitor wildlife throughout many different areas in Massachusetts. Project tasks included monitoring and surveying endangered species breeding habitat and nesting sites as well as gathering information to map areas of habitat for various clients.

Patrick Hutchinson

Massachusetts Department of Conservation and Recreation, Six Dams Removal Project, Various Towns, MA

Environmental Scientist

In charge of collecting sediment samples from six previously abandoned dams in six different Massachusetts towns that the Department of Conservation and Recreation retained ownership of. Patrick provided oversight of subcontractors gathering on-water data as well as sediment cores from the upstream side of the dams. Other project responsibilities included on-site processing and immediate analysis of the sediment cores as well as the preparation of the samples to be further analyzed in a laboratory.

United States Army Corps of Engineers, New Bedford Harbor Superfund Site, New Bedford, MA

Environmental Scientist

Worked under the supervision of the United States Army Core of Engineers and the United States Environmental Protection Agency following a regimented field sampling plan approved for large-scale PCB remediation on a high-profile superfund site. Patrick was responsible for the oversight of subcontractors, intertidal sediment sampling, subtidal data gap oversight, and sediment processing. This project received the United States Army Corps of Engineers Contractor Performance Assessment Report (CPAR) Rating of Exceptional for work at New Bedford Harbor Superfund Site.

Acoustic Bat Surveys, Massachusetts Department of Transportation, MA

Ecological Scientist

Patrick was in charge of deploying acoustic recorders to collect ultrasonic data that identifies the presence of rare and endangered bat species at various locations in Massachusetts. Used Kaleidoscope Pro software and worked alongside a Bat Biologist and a Certified Wildlife Biologist to finalize species data that was collected. Assisted in reporting the finalized data from the surveys to be distributed to the client.

PRIOR TO BSC, PATRICK CONTRIBUTED TO THE FOLLOWING PROJECTS:

Duxbury Harbormaster, Duxbury, Massachusetts

Assistant Harbormaster, Coastal Natural Resources Officer, and Endangered Species Officer

In charge of enforcing all state and local bylaws, responding to all emergency situations within jurisdiction, and ensuring visitor safety on both land and water. Developed monitoring programs for endangered species and provided oversight and management of endangered species monitors. Monitored and enforced the preservation of coastal ecosystems and sand dune restoration. Ensured sustainable harvesting of shellfish, fish, and waterfowl by monitoring all seasonal hunting and fishing licenses in accordance with state laws.

Abandoned Cranberry Bog Restoration, Jones River Watershed Association, Kingston, Massachusetts

Volunteer

Led a team of dedicated people to restore, revive, and harvest formerly abandoned organic cranberry bogs. Developed restoration plans for how to revive overgrown cranberry beds, water management, and sustainable harvesting. Developed a passion for sustainable agriculture while keeping the bogs completely organic.

Donald Solick, MSc

Fort Collins, CO • (307) 286-0770 • dsolick@vesperbats.com • www.linkedin.com/in/donald-solick

Bat Biologist

Experienced bat biologist with 27-year track record of diverse research involving bats across North and Central America

- **15 years' experience classifying bat acoustic data for 100s of NABat and other surveys**
- **Extensive experience manually vetting calls of U.S. and Latin American bats**
- **Leads trainings and workshops on manual vetting of bat echolocation calls**
- **Proficient with Sonobat 4.4.5, Kaleidoscope Pro, and Analook software.**
- **Published papers and presented research on acoustic monitoring and species ID**
- **Author of *Echolocation Calls of Central American Bats* (Pelagic Publishing)**

Professional Experience

Owner, Vesper Bat Detection Services | www.vesperbats.com 2020 - present

Launched a consulting firm specializing in acoustic monitoring and echolocation species classification of bats, professional training for manual vetting of echolocation calls, and public outreach. Contracts have included assessing the impact of artificial lights on bats for the National Park Service, manual vetting of bat calls for the Bureau of Land Management, and training consultants, students, government personnel, and enthusiasts how to manually vet bat echolocation calls.

Research Analyst, Oregon State University-Cascades 2021-present

Bat call analyst for the Northwestern BatHub, analyzing data collected at dozens of locations throughout the western United States for the North American Bat Monitoring program

Senior Field Research Specialist, Bat Conservation International 2021-present

Project Manager supervising dog-detection and human teams to search for bat carcasses at wind farms in Iowa, testing new methods of reducing bat fatalities and maximizing energy production

Research Biologist, Electric Power Research Institute 2021-present

Contract work to support bat research and development projects for the Endangered and Protected Species and Environmental Aspects of Wind programs, specifically working with industry members to reduce impact to bats with minimal power loss.

Permitted Bat Netting Crew Lead, SWCA Environmental Consultants 2021-present

Crew lead conducting mistnet surveys for threatened and endangered bat species in Minnesota.

'On-call' Bat Biologist, Atwell Consulting Group 2021-present

Contract work to assist Atwell as needed with bat expertise, including review and analysis of bat acoustic data for ongoing wind development projects.

Donald Solick, MSc

Resume p. 2 of 2 • (307) 286-0770 • donaldsolick@gmail.com • www.linkedin.com/in/donald-solick

Profesional Experience, Continued

Research Biologist, Western EcoSystems Technology 2007 - 2020

Staff biologist with a leading provider of domestic and international environmental and statistical consulting services and contract research. Developed the bat acoustic monitoring program and coordinated hundreds of acoustic monitoring projects, primarily in the western United States including numerous projects in Colorado. Classified millions of bat acoustic data files to species or species group. Worked with clients and state wildlife agencies to collect and analyze NABat acoustic data at proposed wind energy facilities.

Seasonal Field Biologist, Various institutions, salaries, and hours 1995 - 2007

Served as a seasonal field biologist for a range of state and federal agencies, academic institutions, and nonprofits. Work included 15 projects that involved the capture and identification of numerous species of mammals, birds, fish, and insects for research studies and inventories; radio-tracking species to determine habitat and behavior; banding, nest-searching, and bird population surveys; evaluation of stream health; and investigation of canopy moss communities.

Instructor and Presenter Experience

Instructor and organizer, Neotropical Acoustic Survey Techniques workshops, Belize, 2018-2021

Instructor and organizer, Acoustic Identification of Eastern US Bat Species, 9 online classes, 2021

Invited speaker, 13th NWCC Wind Wildlife Research Conference, Minnesota, 2018.

Presenter and attendee, North American Society of Bat Research, various locations, 1999-2015.

Instructor, Bat Acoustic Data Analysis Methods, Midwest Bat Working Group, 2013.

Select Publications

Solick DI and CM Newman. 2021. *Oceanic records of North American bats and implications for offshore wind energy development in the United States.* Ecology and Evolution doi.org/10.1002/ece3.8175.

Solick DI, D Pham, K Nasman, and K Bay. 2020. *Bat activity rates do not predict bat fatality rates at wind energy facilities*. Acta Chiropterologica 22 (1): 135-146.

Solick DI, RMR Barclay, L Bishop-Boros, QR Hays, and CL Lausen. 2020. *Distributions of eastern and western red bats in western North America.* Western North American Naturalist 80: 90-97.

Professional Development

Certified Wildlife Biologist, The Wildlife Society, 2021.

USFWS Endangered Species Recovery Permit TE234121, 2012-present.

Education

Master of Science, Ecology and Evolutionary Biology, University of Calgary

Bachelor of Science, Bachelor of Arts, Wildlife Biology, Environmental Studies, The Evergreen State College

Appendix E. Qualitative Review Methods and Results

BSC contracted Vesper Bat Detection Services to manually review bat acoustic data collected by BSC for MassDOT in 2022, to verify the presence of myotid species. Manual review was conducted by Don Solick (see Appendix D for resume). Vesper automatically classified the files collected for MassDOT using the North American bat classifier version 5.4.0 in Kaleidoscope Pro 5.4.8. Version 5.4.0 is one of the versions accepted by USFWS.

State-Listed Species: In addition to the NLEB calls evaluated as described below, Vesper reviewed voucher calls for the three other bat species listed in Massachusetts, eastern small-footed bat, little brown bat, and tricolor bat, to confirm their presence at stations where autoclassification results indicated they were present. This review confirmed the presence of little brown bat at the Safe Routes to School Project location (MassDOT #601670) in Harwich, Massachusetts.

NLEB Results: Version 5.4.0 of the autoclassifier yielded slightly more inclusive initial results for NLEB, as compared to BSC's auto classification using version 5.4.2. However, none of the NLEB calls initially identified by version 5.4.0 were confirmed as NLEB by the manual review. Vesper evaluated the sixteen files across 11 stations autoclassified as NLEB (Table 1) for call quality (i.e., minimum number of 5 search phase pulses, harmonics, low signal-to-noise ratio) and bandwidth, defined as the minimum frequency of a pulse subtracted from the maximum frequency of a pulse, in kilohertz (kHz). Northern long-eared bat calls have > 75 kHz in bandwidth when viewed in full-spectrum, distinguishing them from other *Myotis* species (Solick 2022; Szewczak 2022). Other characteristics of NLEBs include a) low fluctuation in minimum frequency across a call sequence, minimum slope > 200 octaves per second (OPS), characteristic frequency between 40-47 kHz (when viewed in zero-cross), and the presence of a 'tail' (i.e., downward, low-intensity ending to a pulse). Based on these characteristics, no calls were classified as NLEB (Table 1). Of the calls autoclassified as NLEBs, six nights across six stations (CD4, DX3, HA1, HA3, QR2, WE2) met the MLE < 0.05 threshold. All 1,984 call files recorded on those nights were manually reviewed. None of these files met the NLEB criteria described above.

Table 1. Manual review of files autoclassified as NLEB by Kaleidoscope Pro 5.4.0, with notes on call characteristics. Grey rows indicate locations which met the MLE <0.05 threshold. No calls were determined to be NLEB.

Station	Night	Time	KPro ID*	Manual ID*	Bandwidth (kHz)	Minimum slope (OPS)	Comment
BH2	7/20/2022	23:21:12	MYOSEP	MYOTIS	52	80	bandwidth < 75 kHz, minimum slope < 200 OPS
CD4	7/20/2022	22:18:18	MYOSEP	MYOTIS	46	150	bandwidth < 75 kHz, minimum slope < 200 OPS
CD4	7/23/2022	23:56:59	MYOSEP	MYOTIS	49	150	poor quality, few pulses; bandwidth < 75 kHz, minimum slope < 200 OPS

Table 1. Manual review of files autoclassified as NLEB by Kaleidoscope Pro 5.4.0, with notes on call characteristics. Grey rows indicate locations which met the MLE <0.05 threshold. No calls were determined to be NLEB.

DX3	6/16/2022	21:37:03	MYOSEP	MYOLUC	46	100	bandwidth < 75 kHz, minimum slope < 200 OPS
DX3	6/16/2022	23:52:28	MYOSEP	MYOTIS	29	150	poor quality, few pulses; bandwidth < 75 kHz, minimum slope < 200 OPS
GR5	6/23/2022	22:40:39	MYOSEP	MYOTIS	56	150	bandwidth < 75 kHz, minimum slope < 200 OPS
GR5	6/24/2022	4:01:23	MYOSEP	MYOTIS	50	150	bandwidth < 75 kHz, minimum slope < 200 OPS
GR6	6/27/2022	20:36:22	MYOSEP	LASBOR	50	60	bandwidth < 75 kHz, minimum slope < 200 OPS
HA1	6/28/2022	22:29:58	MYOSEP	MYOTIS	60	>200	minimum slope >200 OPS, but poor quality and bandwidth < 75 kHz,
HA1	6/28/2022	22:28:25	MYOSEP	MYOTIS	54	>200	minimum slope > 200 OPS, but bandwidth < 75 kHz and a few pulses ~150 OPS
HA3	6/30/2022	2:16:54	MYOSEP	MYOTIS	42	150	poor quality; bandwidth < 75 kHz, minimum slope < 200 OPS
QR2	7/11/2022	0:15:42	MYOSEP	MYOLUC	48	80	bandwidth < 75 kHz, minimum slope < 200 OPS
TE9	8/1/2022	21:58:15	MYOSEP	MYOLUC	50	100	poor quality, few pulses; bandwidth < 75 kHz, minimum slope < 200 OPS
WE1	7/14/2022	23:35:20	MYOSEP	MYOLUC	49	150	bandwidth < 75 kHz, minimum slope < 200 OPS
WE2	7/13/2022	2:20:26	MYOSEP	MYOLUC	40	120	bandwidth < 75 kHz, minimum slope < 200 OPS
WE2	7/13/2022	21:41:18	MYOSEP	MYOTIS	30	100	bandwidth < 75 kHz, minimum slope < 200 OPS

*LASBOR = eastern red bat; MYOLUC = little brown bat; MYOSEP = northern long-eared bat; MYOTIS = unknown *Myotis species*

LITERATURE CITED

Solick, D. I. 2022. Bat Acoustic Species-Pair Matrix for Eastern U.S./Canada. Vesper Bat Detection Services, Colorado. Available from: https://www.batacousticsurveys.com/_files/ugd/a1e0ca_11eef19fd47e4d7cb3684692dd88363c.pdf.

Szewczak, J. 2022. Echolocation Call Characteristics of Western North American Bats. Humboldt State University, Arcata, California.

DOCUMENT A00845

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

PROCESSING FORM FOR CATEGORICAL EXCLUSIONS

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U.S. Department of Transportation
Federal Highway Administration

massDOT

Processing Form for Categorical Exclusions

(Refer to the *CE Guide* for detailed instructions to complete this form)
CE Form Updated March 2022

A. General Project Information

MassDOT Project Number: 610670	**Route or Road Name: South Street, Main Street and Sisson Street**
Project Name: HARWICH- HARWICH ELEMENTARY SCHOOL IMPROVEMENTS (SRTS)	
Municipality(ies): Town of Harwich	**MassDOT Highway District(s): 5**
Project Proponent: Massachusetts Department of Transportation (MassDOT)	
Project Cost and Scheduled Funding Year(s): $3,805,523.57 (2026)	
Project Manager or Preparer: Jonathan E. Freeman (PM) / Michael Dami (Preparer)	

B. Purpose and Need

Need for Proposed Action: *Identify and describe the transportation deficiencies, problems and/or concerns that need to be addressed by the proposed action*

The existing pedestrian facilities do not have curb ramps, meet the MassDOT sidewalk width standard and are not ADA complaint. There are no bicycle accommodations along South Street, Main Street, and Sisson Road.

Purpose of Proposed Action: *State the desired transportation outcome of the proposed action*

The purpose of the proposed project is to provide adequate multi-modal accommodations and provide a safe route to school in the Town of Harwich.

C. Project Description

Project Location and Limits: *Define the limits of the proposed project, including applicable municipalities and counties where the project is located (Attach corresponding Locus Map)*

The project limits generally include approximately 0.20 miles of South Street from School House Drive to Main Street, approximately 0.40 miles of Main Street from South Street to Sisson Road, and approximately 0.35 miles of Sisson Road from Main Street to School House Drive.

Existing Conditions: *Describe the current transportation infrastructure conditions, surrounding land uses, and any relevant environmental resources within or adjacent to the project limits*

South Street

South Street runs in a north to south direction and is classified as an urban major collector according to the MassDOT Road Inventory. South Street has a 10-foot travel lane in each

direction with no shoulders. Berm abuts the road edge on both sides. On the east side of the roadway there is a 3- to 4-foot sidewalk with a grass buffer that is typically 3 feet in width. There is no sidewalk on the west side of the roadway. Parking is not permitted on either side of the roadway and is adequately signed. South Street has a posted school zone speed limit of 20 miles per hour when children are present. During non-school hours, the roadway is assumed to have a de facto speed limit of 30 miles per hour due to its densely settled character. Land use along this section of South Street is residential and institutional with Harwich Elementary School located on the east side of the roadway.

Main Street

Main Street runs in an east to west direction and is classified as an urban minor arterial according to the MassDOT Road Inventory. Main Street, from South Street to Sisson Road, has a 10-foot travel lane and 1-foot shoulder in each direction. A 4-foot sidewalk is present along the south side of the roadway separated by a grass buffer that varies in width from 1 to 7 feet. At the intersection of Island Pond Road bituminous sidewalk develops on the north side of the roadway. The sidewalk varies in width from 3 to 5 feet with a 4-foot grass buffer up to the intersection of Sisson Road where the grass buffer terminates. To the east of the intersection of Main Street and Sisson Road, delineated 8.5-foot wide on-street parking is present on both sides of the roadway. Within the project limits parking is not permitted on either side of the roadway and is adequately signed. The posted speed limit on Main Street is 35 miles per hour but is reduced to 25 miles per hour in the eastbound direction when approaching the intersection of Main Street and Sisson Road. Land use along this section of Main Street is residential and commercial with the Harwich Town Center located on the eastern end of the study limits of Main Street.

Sisson Road

Sisson Road runs in a north to south direction and is classified as an urban principal arterial according to the MassDOT Road Inventory. Sisson Road, from Main Street to School House Drive, consists of an 11-foot travel lane and 1-foot shoulder in each direction. Between Forest Street and School House Drive a 4-foot sidewalk is present with a grass buffer ranging in width from 5-8 feet wide. The grass buffer terminates in the vicinity of House No 228 with sidewalk continuing along the west side of the roadway. In this area, no sidewalk is present on the east side of the roadway. Between Parallel Street and Forest Street a 4-foot sidewalk separated by a grass buffer that varies in width from 4 to 7 feet is present on the west side of the roadway. In this area, no sidewalk is present on the east side of the roadway. Between Main Street and Parallel Street, a 4-foot sidewalk separated by a grass buffer that ranges in width from 5 to 9 feet is present on the east side of the roadway. In this area no sidewalk is present on the west side of the roadway. Parking is not permitted on either side but is not signed. North of Forest Street, prior to the horizontal curvature of the roadway, the posted speed limit in the northbound direction on Sisson Road is 20 miles per hour. South of Forest Street the posted speed limit is 40 miles per hour. Land use along this section of Sisson Road is residential and commercial.

Pavement Condition/Markings

The pavement condition throughout the project area is in fair to good condition. Some pavement cracking and fatigue is present, however, does not present a safety concern.

Pavement markings on South Street are in generally good condition with some minor fading. A double yellow centerline and white edge line pavement markings are present. No crosswalks are present at the intersections of South Street and Parallel Street, South Street and Main Street, South Street and School House Drive, nor across the school driveways. The existing location of the stop bar on Parallel Street is in the path of crossing pedestrian and resulting in an unsafe crossing for pedestrians and could lead to cars blocking pedestrians from crossing. Existing stop bars and crosswalks are generally in good condition with some fading noticed.

Pavement markings on Main Street are in fair condition with some fading noticed. A double yellow centerline and white edge line pavement markings are present on Main Street and appear to be in good condition. To the east of the intersection of Main Street and Sisson Road, on-street parking is present with the parking spots delineated with white pavement markings. A crosswalk is present on the south leg of the intersection of Main Street and Sisson Road and a midblock crossing is present approximately 60 feet east of the intersection. No crosswalk is present at the intersection of Main Street and Forest Street and Main Street and South Street. The existing crosswalks appear to be the MassDOT preferred continental style. Existing stop bars and crosswalks are generally in good condition with some fading noticed.

Pavement markings on Sisson Road are in good condition. A double yellow centerline and white edge line pavement markings are present. Crosswalks are present on the north and west legs of the intersection of Sisson Road and Parallel Street as well as a mid-block crossing approximately 130 feet south of the intersection. A crosswalk is also present at the intersection of Sisson Road and Forest Street. No crosswalk is present across School House Drive. All crosswalks except for the crossing at the intersection of Sisson Road and Forest Street of the crosswalks are the MassDOT preferred continental style striping. Existing stop bars and crosswalks are generally in good condition with some fading noticed.

Proposed Improvements: *Describe the proposed scope of work within the project limits and how it accomplishes the identified purpose and need, including any secondary project goals*

On South Street, existing berm on the east side of the road will be replaced with vertical granite curbing. South Street shall utilize existing granite curbing that will be removed along the west side of Sisson Road that has been identified as suitable for re-use. On Main Street, new berm is to be installed along the south side of the roadway. On Sisson Road new berm shall be installed on both sides of the roadway along the limits of sidewalk reconstruction. Curb ramps on South Street and the north side of Main Street will be installed with new vertical granite curbing.

Sidewalk & ADAAG Compliance

To ensure a safe and walkable path to the school, the existing sidewalk along the east side of South Street is to be replaced with an 8-foot-wide bituminous grade separated shared use path from School House Drive to Main Street. The shared use path will connect to a proposed 5-foot-wide bituminous sidewalk with a 3-foot grass buffer on the south side of Main Street. The grass buffer will increase the separation of pedestrians from traffic on Main Street and can be used to accommodate grade differentials needed to allow for a maximum cross slope of 1.5% (design) for the sidewalk as well as for placement of signage and utility poles. In addition to the work on the south side of the roadway, curb ramps are to be installed at the intersections of Main Street and Uncle Harry's Road and Main Street and Island Pond Road to facilitate crossings along Main Street. Additionally, a new section of sidewalk is proposed to be installed from the proposed eastern curb ramp on Island Pond Road to the existing bituminous sidewalk, connecting Island Pond Road to the center of Town.

On Sisson Road, a 5-foot-wide sidewalk with a 2-foot grass buffer is proposed along the west side of the road from School House Drive to Parallel Street and then along the east side of the roadway from Parallel Street to Main Street. Crosswalks at the intersections of Sisson Road with Parallel Street and Sisson Road with Main Street connect the sidewalk segments. Similar to Main Street the grass buffer will increase the separation of pedestrians from traffic on Sisson Road and can be used to accommodate grade differentials needed to allow for a maximum cross slope of 1.5% (design) for the sidewalk. Constructing this approximately 0.95 mile stretch of sidewalk and shared use path will improve connection between Harwich Elementary School and the Harwich Town Center.

Enhanced Crossing

Due to safety concerns expressed by the Town regarding the existing crossing at the intersection of Sisson Road and Parallel Street, the crossing is proposed to be relocated further south resulting in greater sight distance for vehicles traveling in both directions as the crossing will be shifted towards the center of the horizontal curvature of the roadway. With existing and shifted crossings on Sisson Road and new crossings proposed on Main Street, just east of Uncle Harry's Road and just west of Island Pond Road, consideration was given to the installation of RRFBs, Pedestrian Hybrid Beacons (PHB or HAWK signal) or other appropriate traffic calming measures in these locations.

Bicycle Facilities

To provide bicycle accommodations to the school, an 8-foot-wide grade separated bituminous shared use path is proposed to be installed on South Street that will provide safety and accessibility for bicyclists approaching the school's main entrance. Additionally, the Town ordinances were investigated to confirm if there are any restrictions regarding bicyclists using the sidewalk. No such restrictions were found; therefore, it is assumed that the pedestrians and bicyclists will share the sidewalk along Main Street and Sisson Road. An 8-foot-wide shared use path could also be accommodated in the areas where new sidewalk is proposed; however, the grass buffer would need to be eliminated. This was unfavorable to the Town and its residents, based on feedback obtained from a Public Informational Meeting (PIM) held on September 13, 2022, due to concern of reducing the offset to vehicular traffic. Consideration was given to

installing a bike lane, buffered bike lane or separated bike lane on the north side of Main Street; however, due to the limited ROW, utility impacts, tree impacts and steep grades installation of these options is not feasible. The same restraints in addition to steep roadside grades along sections of Sisson Road make installing bicycle facilities along Sisson Road infeasible.

D. No Build and Other Dismissed Alternatives

Describe the No-Build Alternative and any other dismissed alternative(s) to the proposed action, including rationale for each dismissal.

No Build Alternative
The No Build alternative would result in no accessibility improvements to provide safety along routes from surrounding neighborhoods to the elementary school, and would result in crosswalks, curb ramps, and signage that are currently under safety standards.

Alternative 1
Along with the existing design, a buffered 8-foot-wide shared use path could also be accommodated in the areas where new sidewalk is proposed; however, the grass buffer would need to be eliminated. This was unfavorable to the Town and its residents, based on feedback obtained from a Public Informational Meeting (PIM) held on September 13, 2022, due to concern of reducing the offset to vehicular traffic. This alternative was dismissed.

Alternative 2
Consideration was given to installing a bike lane, buffered bike lane or separated bike lane on the north side of Main Street; however, due to the limited ROW, utility impacts, tree impacts and steep grades installation of these options is not feasible. The same restraints in addition to steep roadside grades along sections of Sisson Road make installing bicycle facilities along Sisson Road infeasible. This alternative was dismissed.

E. Environmental Review, Mitigation Measures, and Agency Consultation

1. **Wetlands and Waters of the United States** (*responses to both questions required)*

   a. Are there any wetlands or waters of the United States within the project area that would be temporarily or permanently impacted by the project?
   ☐**NO**
   ☒**YES**, *describe potential impacts, required federal, state, and local permitting and proposed mitigation below*:

   The Project will not have any impacts to any Waters of the United States subject to protection under Section 401 or 404 of the Clean Water Act. An erosion and sedimentation control plan will be implemented during construction to minimize the likelihood of secondary impacts to jurisdictional resource areas adjacent to the

Project limits. Therefore, no impacts to wetlands or waterways are anticipated to occur as a result of the Project. A Request for Determination of Applicability (RDA) was filed with the Harwich Conservation Commission due to the minor Buffer zone area impacts. Approximately 2,047 square feet (sf) of the proposed work area is located within the 100-foot buffer zone associated with the BVW. Buffer zone impacts have been minimized to the extent practicable. A Negative Determination was received on 5/21/2025.

b. Does the project involve the construction or modification of a bridge or causeway across any navigable waters of the United States?
☒**NO**
☐**YES**, *discuss whether any permit or authorization is required from the U.S. Coast Guard*:

2. **<u>Threatened and Endangered Species / Essential Fish Habitat</u>** (*responses to both questions required)*

a. Are there any federally listed endangered or threatened species or designated critical habitat potentially present within the project area?
☐**NO**
☒**YES**, *identify species and discuss any consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service under Section 7 of the Endangered Species Act (Attach corresponding consultation documentation)*.

According to the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) online mapping tool, the Northern long-eared bat (NLEB) (*Myotis septentrionalis*), the proposed endangered Tricolored Bat (TCB) (Perimyotis subflavus), and the proposed threatened Monarch Butterfly (*Danaus plexippus)* may be found within the project limits. This project has been consulted with the USFWS through the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key. A time of year restrictions on tree cutting is required between April 15th and October 31. 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, additional review may be required by the USFWS, and time of year restrictions would apply to such tree cutting. The USFWS provided an automated concurrence that the action is consistent with activities analyzed in the Determination Key (Dkey) for the NLEB and TCB and is therefore ***not likely to adversely affect (NLAA)*** the endangered NLEB on 6/4/2025.

The Contractor shall ensure all personnel working on the project site are aware of all environmental commitments related to NLEB and TCB, including all applicable AMMs

MassDOT reviewed the project action area within The Greater Atlantic Region ESA Section 7 Mapper and it was determined that no NMFS-protected species have been identified in the project area.

b. Are there any Essential Fish Habitat (EFH) mapped for the project area?
☒**NO**
☐**YES**, *identify species and discuss any consultation with the National Marine Fisheries Service under the Magnuson-Stevens Fishery Conservation and Management Act (Attach corresponding consultation documentation)*

3. Historic Resources

a. Are there any historic or known archaeological resources within the project's Area of Potential Effect that are listed in or eligible for listing in the National Register of Historic Places?
☐**NO**
☒**YES**, *identify resource(s) below*:

The project area is within the National Register-listed Harwich Historic District (HRW.K). Contributing properties to the Harwich Historic District within the project area include:

- The Sidney Underwood Barn (HRW.23), 687 Main Street
- Underwood, Sidney House (HRW.22), 687 Main Street
- The Pine Grove Seminary - Brooks Academy Museum (HR W.46), 80 Parallel Street
- Congressional Church Cemetery (HRW.811)
- Harwich First Congressional Church Parish House (HRW.25)
- Harwich First Congressional Church Parsonage (HRW.26), 697 Main Street
- Pine Grove Cottage (HRW.61), 475 Sisson Road
- Harwich Center School (HRW.60), 465 Sisson Road

Whether "Yes" or "No" is checked above, please indicate which project clearance or effect determination was issued for the project under Section 106 of the National Historic Preservation Act, including discussion of any applicable consultation with the State Historic Preservation Officer, Federally Recognized Tribes, and other consulting parties. (*Attach corresponding Section 106 compliance documentation*).

MassDOT has reviewed this project under Section 106 of the National Historic Preservation Act of 1966 and has determined that this project will have No Adverse Effect (NAE) on properties that are listed or eligible for listing in the National Register of Historic Places. MassDOT's Cultural Resources Unit (CRU) staff submitted a NAE recommendation to the State Historic Preservation Officer

(SHPO) on 12/19/2024. SHPO concurred with CRU staff's recommendation on 1/17/2025. SHPO concurred with the Notice of Project Change (NPC) on 4/24/2025. FHWA signed the NPC on 7/1/2025.

On December 6, 2022, MassDOT submitted an early environmental coordination letter to the Harwich Historical Commission (HHC). In addition, MassDOT forwarded a copy to the MHC. To date, no response has been received from the HHC or MHC.

4. Section 4(f) / Section 6(f) Resources (*responses to both questions required)*

a. Are there any properties or facilities protected by Section 4(f) of the DOT Act of 1966 that would be impacted by the project?

☐**NO**

☒**YES**, *identify the applicable resource(s) and discuss any potential impacts, including proposed mitigation measures (if applicable), and coordination with required official(s) with jurisdiction (Attach all documented Section 4(f) impact determinations with sign offs from the applicable official(s) with jurisdiction)*.

The project requires 2 permanent easements and temporary occupancies, also known as temporary construction easements, on the parcels contributing to the NR-listed **Harwich Historic District**. The permanent easements are necessary for highway signage, grading, loam and seed. The temporary occupancies are necessary to facilitate in-kind driveway/walkway apron work, grading, and planting loam and seed. Additionally, the State Historic Preservation Officer (SHPO) is the Official with Jurisdiction (OWJ) over a historic site for the purposes of Section 4(f). The SHPO's concurrence with the project having No Adverse Effect on 4/24/2025, signifies agreement that the proposed permanent easements and temporary occupancies meet the criteria for a Section 4(f) *de minimis* finding, pursuant to 23 CFR 774.17. FHWA provided concurrence on 7/1/2025.

Joseph Powers, the Official with Jurisdiction (OWJ) over the Harwich Elementary School provided concurrence on 3/5/2025, that the impacts to the parkland resources associated with the school meet the criteria for a Section 4(f) de minimis finding and will not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f). The proposed project requires one permanent easement totaling 73 square feet required for utility poles and guy wires. The proposed project also requires 3 temporary occupancies on Harwich Elementary School totaling 1,166 square feet. The temporary occupancies are required from the same parcel for sidewalk construction, milling, overlay, sign removal, grading, loam and seed. The Federal Highway Administration (FHWA) provided concurrence that the permanent and temporary easements will meet the criteria for a Section 4(f) *de minimis* finding, pursuant to 23 CFR 774.17 on 3/28/2025.

A Presence Absence was sent to FHWA on 3/17/2025 and received concurrence that the town owned parcel (Harwich Historical Society) is not subject to protection by Section 4(f) on 4/28/2025. The town owned parcel is on the ROW Parcel Sheet attached in Appendix A.

b. Will the project impact any public park or recreation facility protected by Section 6(f) of the Land and Water Conservation Fund Act?
☒**NO**
☐**YES**, *discuss the consultation process with the National Parks Service, and attach any corresponding documentation*.

5. Noise

a. Is the project classified as a Type I action as defined under 23 CFR 772.5?
☒**NO** *(proceed to Item 6)*
☐**YES**, *describe findings of the Traffic Noise Analysis, including any proposed noise abatement measures below (Attach corresponding Traffic Noise Analysis Report)*.

6. Right-of-Way Requirements

a. Does the project require the acquisition of right-of-way or easements?
☐**NO** *(proceed to Item 7)*
☒**YES**, *indicate whether acquisitions and/or easements will result in any commercial or residential displacements, or substantial adverse impacts on abutting property (Attach necessary right-of-way plan sheets).*

This project will require 1 fee taking, 9 permanent easements and 48 temporary easements. None of the easements and takings are considered more than minor acquisitions as they will not affect the designated activities or uses of adjacent properties. MassDOT's Right-of-Way Bureau will be responsible for ensuring that all right-of-way acquisitions will be completed in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies of 1970 (Uniform Act), as amended. The ROW Parcel Summary sheet is attached in Appendix A.

7. **Environmental Justice**

a. Are there any Environmental Justice populations designated as minority, low-income or limited English proficient within or near the project area?
☐**NO** *(proceed to Item 8)*

☒**YES**, *discuss whether the project may have disproportionately high and adverse impacts on these identified populations below (Attach Environmental Justice/Community Impact Assessment Report, if applicable).*

According to the Massachusetts Executive Office of Energy and Environmental Affairs' Environmental Justice Mapper, portions of the project limits are located with one mapped EJ community: Census Tract 112 Block Group 3 (Income).

It is MassDOT's opinion that the project will not have disproportionately high and adverse impacts on local EJ communities. The project will not materially exacerbate existing environmental or public health burdens borne on the EJ communities. Temporary construction impacts such as increased noise will likely negatively impact the local EJ community in the short term. During construction, bicycle and pedestrian access will be maintained.

8. Other Environmental Considerations *This section should discuss any other potential environmental impacts or concerns not covered in the previous sections*

No other potential environmental impacts have been found.

F. Public Involvement

Describe prior and planned opportunities for public participation during the project planning and development process, and any concerns and issues that have been generated through public comment to date

A virtual Design Public Hearing (DPH) was held 6/12/2024, to discuss the proposed SRTS Improvements at South Street, Main Street and Sisson Road. The meeting was open to all local officials and residents and was intended to provide information about the project including limits, purpose and need construction impacts, and schedule. The MassDOT Project Manager, Right-of-Way agent, and Design Engineer provided an overview of the project. All comments and concerns were addressed at the DPH and the DPH Transcript is attached in Appendix A.

G. Environmental Review and Permitting

List all federal, state, and local environmental reviews and permits required for the project, and the status of approvals

Permit/Review	Agency	Status
Section 7 NLEB PBO Consultation	USFWS	MA Verification Letter: Northern Long-eared Bat (NLEB) (6/4/2025)

Section 106 Finding of Effect	SHPO	No Adverse Effect finding signed by SHPO (4/24/2025)
Section 4(f) De minimis Impact Determination	FHWA	FHWA concurrence received on (3/28/2025)
Request for Determination of Applicability (RDA) under Wetlands Protection Act (WPA)	MassDEP	Negative Determination issued on 5/21/2025

Appendix A. Supporting Documentation

List all supporting documentation that will be attached to the CE Form

- **Locus Map**
- **ROW Parcel Sheet**
- **Section 4(f) De minimis**
- **Section 7**
- **Section 106 NAE**
- **DPH Transcript**

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Categorical Exclusion (CE) Determination

Starting with Section 1, answer the questions by checking Yes or No.

After each of the following sections, there will be instructions that direct the preparer to continue to the next appropriate section of the checklist. The preparer should refer to *MassDOT's Guide for processing Categorical Exclusions* for further information and instructions on completing this checklist.

SECTION 1. CATEGORICAL EXCLUSIONS		
1. Is project on the list of CEs included under23 CFR 771.117(c) or (d)?	☐**NO**	☒**YES**

If "Yes," the preparer should select the appropriate Categorical Exclusion (CE) that is being considered for the proposed action and then complete Section 2 below. If "No," the preparer should complete Section 2 below.

Activity Listed in 23 CFR 771.117(c) (The "C" List)	
1 ☐	Activities that do not involve or lead directly to construction, such as planning and research activities; grants for training; engineering to define the elements of a proposed action or alternatives so that social, economic, and environmental effects can be assessed; and Federal-aid system revisions which establish classes of highways on the Federal-aid highway system.
2 ☐	Approval of utility installations along or across a transportation facility.
3 ☐	Construction of bicycle and pedestrian lanes, paths, and facilities.
4 ☐	Activities included in the State's Highway Safety Plan under 23 U.S.C. 402.
5 ☐	Transfer of Federal lands pursuant to 23 U.S.C. 107(d) and/or 23 U.S.C. 317 when the land transfer is in support of an action that is not otherwise subject to FHWA review under NEPA.
6 ☐	The installation of noise barriers or alterations to existing publicly owned buildings to provide for noise reduction.
7 ☐	Landscaping.
8 ☐	Installation of fencing, signs, pavement markings, small passenger shelters, traffic signals, and railroad warning devices where no substantial land acquisition or traffic disruption will occur.
9 ☐	The following actions for transportation facilities damaged by an incident resulting in an emergency declared by the Governor of the State and concurred in by the Secretary, or a disaster or emergency declared by the President pursuant to the Robert T. Stafford Act (42 U.S.C. 5121): *i)* Emergency repairs under 23 U.S.C. 125; and *ii)* The repair, reconstruction, restoration, retrofitting, or replacement of any road, highway, bridge, tunnel, or transit facility (such as a ferry dock or bus transfer

	station), including ancillary transportation facilities (such as pedestrian/bicycle paths and bike lanes), that is in operation or under construction when damaged and the action: a) Occurs within the existing right-of-way and in a manner that substantially conforms to the preexisting design, function, and location as the original (which may include upgrades to meet existing codes and standards as well as upgrades warranted to address conditions that have changed since the original construction); and b) Is commenced within a 2-year period beginning on the date of the declaration.
10 ☐	Acquisition of scenic easements.
11 ☐	Determination of payback under 23U.S.C. 156for property previously acquired with Federal-aid participation.
12 ☐	Improvements to existing rest areas and truck weigh stations.
13 ☐	Ridesharing activities.
14 ☐	Bus and rail car rehabilitation.
15 ☐	Alterations to facilities or vehicles in order to make them accessible for elderly and handicapped persons.
16 ☐	Program administration, technical assistance activities, and operating assistance to transit authorities to continue existing service or increase service to meet routine changes in demand.
17 ☐	The purchase of vehicles by the applicant where the use of these vehicles can be accommodated by existing facilities or by new facilities that themselves are within a CE.
18 ☐	Track and railbed maintenance and improvements when carried out within the existing right-of-way.
19 ☐	Purchase and installation of operating or maintenance equipment to be located within the transit facility and with no significant impacts off the site.
20 ☐	[Not Applicable]
21 ☐	Deployment of electronics, photonics, communications, or information processing used singly or in combination, or as components of a fully integrated system, to improve the efficiency or safety of a surface transportation system or to enhance security or passenger convenience. Examples include, but are not limited to, traffic control and detector devices, lane management systems, electronic payment equipment, automatic vehicle locaters, automated passenger counters, computer aided dispatching systems, radio communications

	systems, dynamic message signs, and security equipment including surveillance and detection cameras on roadways and in transit facilities and on buses.
22 ☐	Projects, as defined in 23 U.S.C. 101, that would take place entirely within the existing operational right-of-way. Examples include: ☐ Tower lighting ☐ Guardrail installation and replacement (including median cable barriers) where roadway ditches and backslopes will not be relocated. ☐ Improvements to existing MassDOT maintenance facilities. ☐ Construction of new MassDOT maintenance facilities within an existing operational right of way. ☐ Work on pedestrian and vehicle transfer structures and associated utilities, buildings, and terminals. *(For CE C-22, refer to Categorical Exclusion Guide for further information).*
23 ☐	Federally funded projects: a) That receive less than $5,000,000 (as adjusted annually by the Secretary to reflect any increases in the Consumer Price Index prepared by the Department of Labor) of Federal funds; or b) With a total estimated cost of not more than $30,000,000 (as adjusted annually by the Secretary to reflect any increases in the Consumer Price Index prepared by the Department of Labor) and Federal funds comprising less than 15 percent of the total estimated project cost. *(For CE C-23, refer to Categorical Exclusion Guide for further information).*
24 ☐	Localized geotechnical and other investigation to provide information for preliminary design and for environmental analyses and permitting purposes, such as drilling test bores for soil sampling; archeological investigations for archeology resources assessment or similar survey; and wetland surveys.
25 ☐	Environmental restoration and pollution abatement actions to minimize or mitigate the impacts of any existing transportation facility (including retrofitting and construction of stormwater treatment systems to meet Federal and State requirements under sections 401 and 402 of the Federal Water Pollution Control Act (33 U.S.C. 1341; 1342)) carried out to address water pollution or environmental degradation.
26 ☒	Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (including parking, weaving, turning, and climbing lanes). Examples include: ☐ Construction of highway safety and truck escape ramps

	☒ Construction of bicycle lanes and pedestrian walkways, sidewalks, shared-use paths, or facilities and trailhead parking that do not otherwise qualify for a CE C-1 designation. ☒ Beautification or facility improvement projects (*e.g.*, landscaping, curb and gutter installation and replacement, ADA ramps/curb ramps, installation of park benches, or decorative lighting). ☒ Implementation of Complete Street elements to improve safety and/or pedestrian, bicycle, transit, vehicular, or freight mobility.
27 ☐	Highway safety or traffic operations improvement projects, including the installation of ramp metering control devices and lighting. Examples include lane reduction changes, provided traffic analyses are completed.
28 ☐	Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.
29 ☐	Purchase, construction, replacement, or rehabilitation of ferry vessels (including improvements to ferry vessel safety, navigation, and security systems) that would not require a change in the function of the ferry terminals and can be accommodated by existing facilities or by new facilities which themselves are within a CE.
30 ☐	Rehabilitation or reconstruction of existing ferry facilities that occupy substantially the same geographic footprint, do not result in a change in their functional use, and do not result in a substantial increase in the existing facility's capacity. Example actions include work on pedestrian and vehicle transfer structures and associated utilities, buildings, and terminals.
Activity Listed in 23 CFR 771.117(d) (The "D" List)	
1 – 3	[*Reserved*]
4 ☐	Transportation corridor fringe parking facilities.
5 ☐	Construction of new truck weigh stations or rest areas.
6 ☐	Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.
7 ☐	Approvals for changes in access control.
8 ☐	Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.
9 ☐	Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required and there is not a substantial increase in the number of users.

10 ☐	Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks, and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.
11 ☐	Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and where there is no significant noise impact on the surrounding community.
12 ☐	Acquisition of a particular parcel or a limited number of parcels for hardship or protective purposes where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed. An example is right-of-way acquisition only for a bikeway/pedestrian facility (no construction).

SECTION 2. SEGMENTATION REVIEW		
2. Is the action a linear project?	☒**NO**	☐**YES**
If the answer is "Yes," the preparer should respond to Questions 3 through 5 below. If the answer is "No," the preparer should proceed to Section 3.		
3. Does the project have independent utility?	☐**NO**	☐**YES**
4. Does the project connect logical termini?	☐**NO**	☐**YES**
5. Does the project allow further consideration of alternatives for other reasonably foreseeable transportation improvements?	☐**NO**	☐**YES**

If "NO" is checked for any of the Questions 3 through 5, the project does not qualify as a Categorical Exclusion (CE) and consultation between MassDOT and FHWA is required. If "YES" is checked for Questions 3 through 5, the preparer should complete Section 3.

SECTION 3. CE AND UNUSUAL CIRCUMSTANCES REVIEW		
6. Does the project induce significant impacts to planned growth or land use for the area?	☒**NO**	☐**YES**

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7. Does the project require the relocation of significant numbers of people?	☒**NO**	☐**YES**
8. Does the project have a significant impact on any natural, cultural, recreational, historic, or other resource?	☒**NO**	☐**YES**
9. Does the project involve significant air, noise, or water quality impacts?	☒**NO**	☐**YES**
10. Does the project have a significant impact on travel patterns?	☒**NO**	☐**YES**
11. Does the project involve substantial controversy on environmental grounds?	☒**NO**	☐**YES**
12. Does the project have a significant impact on Section 4(f) properties or on historic properties?	☒**NO**	☐**YES**
13. Is the project inconsistent with any Federal or state requirement or administrative determination relating to the environmental aspects of the action?	☒**NO**	☐**YES**

If "YES" is checked for any of the questions in Section 3, the project does not qualify as a Categorical Exclusion (CE) and an Environmental Assessment (EA) or Environmental Impact Statement (EIS) is required. If the answer to all questions within Section 3 is "No," the preparer should complete Section 4 below.

SECTION 4. PROGRAMMATIC CATEGORICAL EXCLUSION THRESHOLD REVIEW		
14. Does the project involve residential or commercial displacement, or acquisition of property rights that results in substantial abutter impacts?	☒**NO**	☐**YES**
15. Does the project require submittal of an Interchange Modification Report?	☒**NO**	☐**YES**
16. Does the project have a finding of "may affect, likely to adversely affect" any listed or candidate species or critical habitat that has been designated or proposed under the Endangered Species Act?	☒**NO**	☐**YES**
17. Does the project involve opposition or unresolved objections resulting from consultation or correspondence with Federally Recognized Tribes?	☒**NO**	☐**YES**
18. Does the project have a finding of "Adverse Effect" on historic properties pursuant to Section 106 the National Historic Preservation Act?	☒**NO**	☐**YES**
19. Does the project have an adverse effect on a National Historic Landmark?	☒**NO**	☐**YES**
20. Does the project require the use of Section 4(f) properties that cannot be documented with an FHWA *de minimis* determination?	☒**NO**	☐**YES**

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21. Does the project require the acquisition of lands under the protection of Section 6(f) of the Land and Water Conservation Act or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property?	☒**NO**	☐**YES**
22. Does the project require a U.S. Army Corps of Engineers Section 404 (33 U.S.C. § 1344) permit other than a General Permit?	☒**NO**	☐**YES**
23. Does the project require a U.S. Coast Guard bridge permit?	☒**NO**	☐**YES**
24. Does the project require work encroaching on a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake?	☒**NO**	☐**YES**
25. Does the project involve impacts subject to the conditions of the Bald and Golden Eagle Protection Act?	☒**NO**	☐**YES**
26. Is the project a "Type I project" requiring a noise analysis?	☒**NO**	☐**YES**
27. Does the project involve acquisition of land for hardship, protective purposes, or early acquisition?	☒**NO**	☐**YES**
28. Does the project generate substantial public controversy or opposition for any reason?	☒**NO**	☐**YES**
29. Does the project involve construction in, across, or adjacent to a river component designated or proposed for inclusion in the National System of Wild and Scenic Rivers?	☒**NO**	☐**YES**
30. Does the project involve the construction of temporary access or closure of existing road, bridge, or ramps?	☒**NO**	☐**YES**

If the answers to Questions 14 through 30 are "NO", then the project qualifies as a Programmatic CE. If any of the answers to Questions 14 through 30 are "YES", then the project cannot be classified as a Programmatic CE and an Individual CE approval from FHWA is required. If the answer to Question 30 is "Yes", the preparer should complete Question 31 below.

31. Does the project meet the following conditions for construction of temporary access or closure of existing road, bridge, or ramps?	☐**NO**	☐**YES**

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- Provisions have been made for access by local traffic and are posted;
- There will be no adverse effects on through-traffic dependent business;
- The temporary access or closure of existing road, bridge, or ramps will not interfere with a local special event or festival; or
- The temporary access or closure of existing road, bridge, or ramps will not substantially change the environmental consequences of the project.

If the answer to Question 31 is "YES", then the project qualifies as a Programmatic CE. The checklist and all supporting information should be submitted to the MassDOT Project Manager.

If the answer to Question 31 is "NO", then the project cannot be classified as a Programmatic CE and an Individual CE approval from FHWA is required. The preparer should attach to this checklist all supporting information to clearly establish that there is little or no potential for significant impact. The Individual CE and supporting information will be submitted to the FHWA Massachusetts Division for approval.

CERTIFICATION *(FOR AGENCY USE ONLY)*

Based on the information obtained during environmental review process and included in this checklist, the project is determined to be a Categorical Exclusion pursuant to the National Environmental Policy Act and complies with all other applicable environmental laws, regulations, and Executive Orders.

Director of Environmental Services
(or designee)

7/7/2025
Date

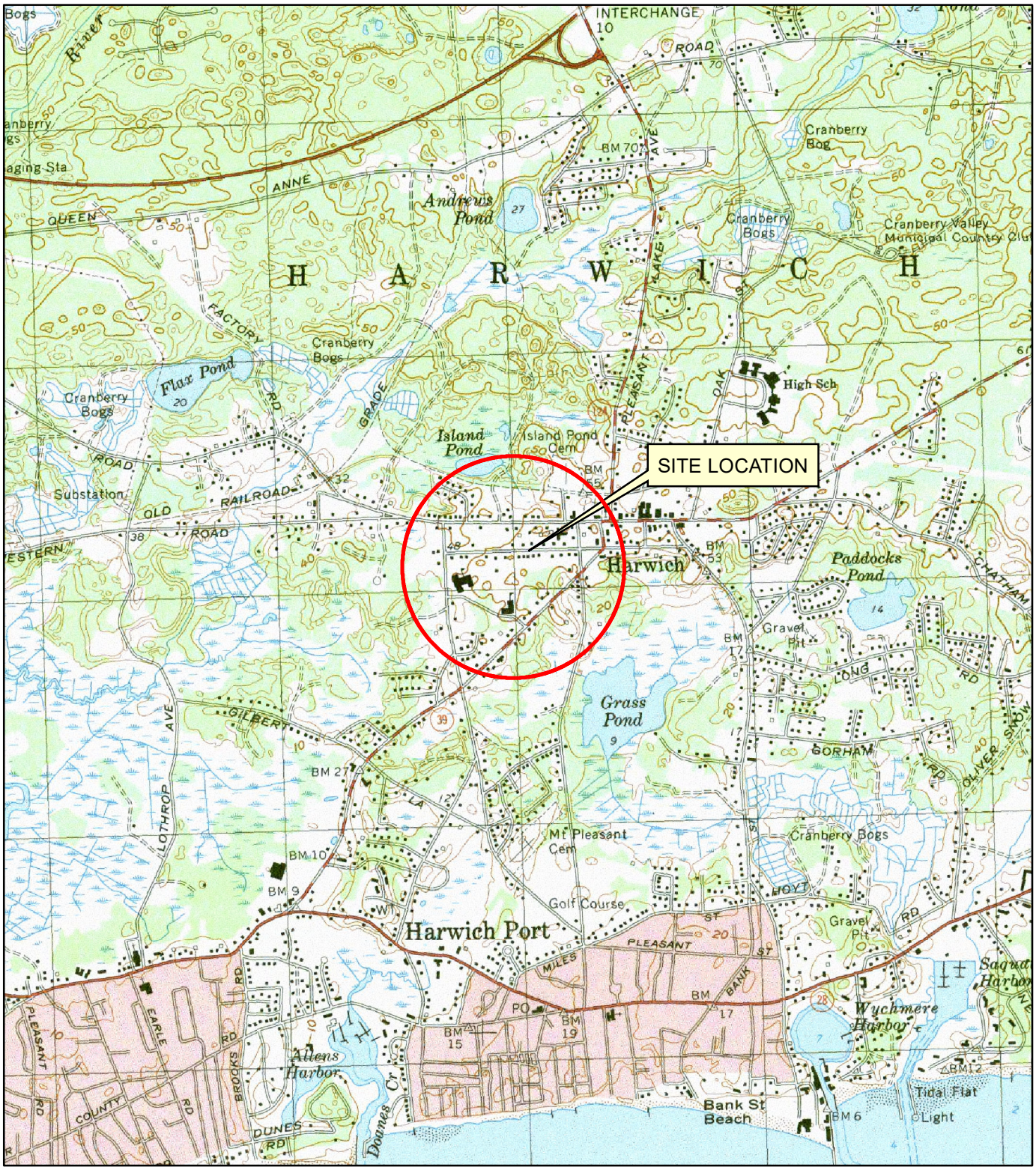
For Individual CEs, the FHWA Division Administrator's signature is also required.

N/A

Division Administrator
(or designee)

Date

FHWA Comments or Conditions:



MASS GIS

SITE LOCATION MAP

SCALE: 1 ' = 2,000 "

N
W E
S

8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
(401) 334-4100

10 LINCOLN ROAD, SUITE 210
FOXBORO, MA 02035
(508) 543-1755

PARE PROJECT No. 20154.02 DECEMBER 2022

FIGURE 1

HARWICH ELEMENTARY SCHOOL
SAFE ROUTES TO SCHOOL
HARWICH, MA

MassDOT Project No. 610670

PROJECT TOTALS			
AFFECTED PROPERTIES	FEE TAKINGS	PERMANENT EASEMENTS	TEMPORARY EASEMENTS
39	1	9	48

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#	5	17
PROJECT FILE NO.	610670		

PRELIMINARY RIGHT OF WAY
PARCEL SUMMARY SHEET 1 OF 2

PARCEL NO.	PLAN SHEET NO.	TITLEHOLDER	TITLE REFERENCE				ROW PARCEL		PROPERTY TOTALS (S.F.)			FRONT-AGE ON ROW PLAN (FT.)	STREET ADDRESS	ZONING DISTRICT	REMARKS	LAND RESTRICTIONS FROM THE DEED
			DEED BOOK	PAGE NO.	L.C.C. NO.	CERT. NO.	INTEREST ACQUIRED	AREA (S.F.+/-)	TOTAL TAKEN	REMAINING	TOTAL PROPERTY AREA (RECORD)					
TE-46	8	JOSHUA FORD AND AMANDA FORD	20163	54			TEMP	9				99	249 SOUTH STREET	R-M	GRADING (3:1), LOAM & SEED	
PUE-1	8,9	TOWN OF HARWICH (SCHOOL DEPARTMENT)	837	335			PERM	344			50,965	203	263 SOUTH STREET	R-M	OVERHEAD WIRE, GUY WIRE	
TE-32	8,9	TOWN OF HARWICH (SCHOOL DEPARTMENT)	837	335			TEMP	158							GRADING (3:1), LOAM & SEED, HMA DWAY	
TE-42	9	TOWN OF HARWICH (SCHOOL DEPARTMENT)	837	335			TEMP	22							REM. GUY WIRE	
TE-48	8,9	TOWN OF HARWICH (SCHOOL DEPARTMENT)	837	335			TEMP	191							REM SIGN, HMA DWAY	
TE-1	8	TOWN OF HARWICH (SCHOOL DEPARTMENT)	521	395			TEMP	38				291	263 SOUTH STREET	R-M	GRADING (3:1), LOAM & SEED, MILLING AND OVERLAY	
TE-31	8	TOWN OF HARWICH (SCHOOL DEPARTMENT)	521	395			TEMP	476							SIGN REMOVAL	
TE-17	14	TOWN OF HARWICH (SCHOOL DEPARTMENT)	521	396			TEMP	472				147	263 SOUTH STREET	R-M	GRADING (3:1), LOAM & SEED, HMA DWAY	
TE-47	8,9	VILLAGE WOODS HOMEOWNERS ASSOCIATION, INC.	5171	223			TEMP	319				480	BISHOPS LANE	R-M	GRADING (3:1), LOAM & SEED, CONC. PCR, BERM	
TE-33	9	MARY JORDAN	15173	3			TEMP	62				228	1 PARALLEL STREET	R-M	HMA DRIVEWAY, GRADING (3:1), LOAM AND SEED, WOOD MULCH	
TE-49	9	MARY JORDAN	15173	3			TEMP	88							LOAM AND SEED, TREE PROTECTION	
TE-50	9	MARY JORDAN	15173	3			TEMP	114							LOAM AND SEED, TREE PROTECTION	
1-T	9	LINDSAY F. SANDERS	36394	95			FEE	20	20	15,047	15,067	250	2 PARALLEL STREET	R-M	ROADWAY	
TE-34	9	LINDSAY F. SANDERS	36394	95			TEMP	283							GRADING (3:1), LOAM AND SEED, CLEARING & GRUBBING, TREE PROTECTION	
TE-35	9,10	JOSEPH R. MURPHY	22385	253			TEMP	280				100	283 SOUTH STREET	R-M	HMA DRIVEWAY, GRADING (3:1), LOAM AND SEED, TREE PROTECTION	
TE-2	10	FREDERICK E. GIANNELLI AND VIRGINIA T. GIANNELLI	1386	1168			TEMP	1,660				319	615 MAIN STREET	R-M	GRADING (3:1), LOAM & SEED, CONC LOT CURB, SHRUB PLANTING, PROP CONC. STEP, REM. HEDGES, R&R COBBLES	
TE-36	9,10	FREDERICK E. GIANNELLI AND VIRGINIA T. GIANNELLI	1386	1168			TEMP	75							HMA DWAY, LOAM & SEED	
TE-37	10	JAMES FRANCIS TURNER, III 2014 TRUST	30170	144			TEMP	93				308	609 MAIN STREET	R-M	TRIM SHRUBS	
TE-3	10,11	JESSE M. DOWNING	31409	260			TEMP	2,206				261	619 MAIN STREET	R-M	HMA DRIVEWAY, GRADING (3:1), LOAM AND SEED, GRAVEL, TREE PROTECTION	
TE-4	11	VERRILL FAMILY TRUST	34958	11			TEMP	495				61	627 MAIN STREET	R-M	HMA DRIVEWAY, GRADING (3:1), LOAM AND SEED, GRAVEL DWAY	
GR-1	11	VERRILL FAMILY TRUST	34386	233			PERM	134			14,830	90	629 MAIN STREET	R-M	GUARDRAIL	
TE-5	11	VERRILL FAMILY TRUST	34386	233			TEMP	743							SEDIMENT CONTROL, GRADING (3:1), LOAM & SEED, CLEARING & GRUBBING, TREE PROTECTION	
GR-2	11	VERRILL FAMILY TRUST	34987	68			PERM	518			15,260	90	633 MAIN STREET	R-M	GUARDRAIL	
TE-6	11	VERRILL FAMILY TRUST	34987	68			TEMP	1,257							GRADING (2:1), LOAM & SEED, CLEARING & GRUBBING, TREE PROTECTION	
GR-3	11	WAYNE F. ELDRIDGE AND ELLEN F. ELDRIDGE	30686	241			PERM	406			58,360	284	643 MAIN STREET	R-M	GUARDRAIL, REM. TREES	
TE-7	11,12	WAYNE F. ELDRIDGE AND ELLEN F. ELDRIDGE	30686	241			TEMP	3,796							HMA DRIVEWAY, GRADING (3:1), LOAM AND SEED, CLEARING & GRUBBING, TREE PROTECTION	
HS-2	11	PETER J. MCAVOY	32010	181			PERM	55			87,998	20	5 UNCLE HARRY'S ROAD	R-M	HIGHWAY SIGN, GRADING (7:1), LOAM & SEED	
TE-45	11	PETER J. MCAVOY	32010	181			TEMP	314							REM. SIGN, PAVEMENT REMOVAL, GRADING (7:1), LOAM & SEED	
TE-38	11	GERALD D. COUGHLAN AND SALLY A. COUGHLAN	4125	111			TEMP	182				57	646 MAIN STREET	R-M	GRADING (3:1), LOAM & SEED	
TE-9	12	ESTATE OF RUTH B. ERICSON	1443	285			TEMP	1,047				114	647 MAIN STREET	R-M	HMA DRIVEWAY, RECONSTRUCT CONC WALK,TREE PROTECTION, GRADING (3:1), LOAM AND SEED	
TE-10	12	PAUL V. DOANE AND HELEN R. DOANE	3914	213			TEMP	1,426				135	653 MAIN STREET	R-M	SEA SHELL DRIVEWAY, GRADING (3:1), LOAM AND SEED, R&S PAVERS	
TE-11	12	CURRAN E. STOCKWELL AND JILLIAN P. STOCKWELL	31650	50			TEMP	990				129	657 MAIN STREET	R-M	HMA DRIVEWAY, GRADING (3:1), LOAM AND SEED	
TE-12	12,13	KATHRYN W. CLAYTON REVOCABLE TRUST	36724	327			TEMP	1,164				165	665 MAIN STREET	R-M	GRADING (7:1 MAX), HMA DRIVEWAY, RECONSTRUCT STAIRS AND HMA WALK, REM. STONE POSTS	
TE-13	13	ROSEWOOD LIMITED PARTNERSHIP	12712	142			TEMP	943				213	671 MAIN STREET	R-M	GRADING (3:1), LOAM & SEED, HMA DRIVEWAY, CONC LOT CURB, WOOD MULCH	

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STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#	6	17
PROJECT FILE NO.	610670		

PRELIMINARY RIGHT OF WAY
PARCEL SUMMARY SHEET 2 OF 2

PARCEL NO.	PLAN SHEET NO.	TITLEHOLDER	TITLE REFERENCE				ROW PARCEL		PROPERTY TOTALS (S.F.)			FRONT-AGE ON ROW PLAN (FT.)	STREET ADDRESS	ZONING DISTRICT	REMARKS	LAND RESTRICTIONS FROM THE DEED
			DEED BOOK	PAGE NO.	L.C.C. NO.	CERT. NO.	INTEREST ACQUIRED	AREA (S.F.+/-)	TOTAL TAKEN	REMAINING	TOTAL PROPERTY AREA (RECORD)					
TE-14	13	RAIN C. RYDER AND JUSTINE A. RYAN	28288	86			TEMP	1,389				142	679 MAIN STREET	R-M	GRADING (3:1), LOAM AND SEED, CONC. STAIRS, R&R BRICK WALK, CONC LOT CURB, REM. GRAN. STEPS	
HS-3	13	BRIAN M. MURPHY AND RANDALL L. DARWELL	11397	99			PERM	24			34,912	378	683 MAIN STREET	R-M	HIGHWAY SIGN, GRADING (3:1), LOAM AND SEED	
TE-15	13,17	BRIAN M. MURPHY AND RANDALL L. DARWELL	11397	99			TEMP	1,825							GRADING (3:1), LOAM & SEED, PROP HEDGE, CLEARING & GRUBBING, TREE PROTECTION, R&D HEDGE, TRIM SHRUB	
TE-39	13	THOMAS J. BLUTE AND JODIE C. BLUTE	12951	308			TEMP	185				210	672 MAIN STREET	R-M	GRADING (3:1), LOAM & SEED	
TE-40	13	CHAPMAN COUSINS, LLC	29369	215			TEMP	161				250	678 MAIN STREET	R-M	GRADING (3:1), LOAM & SEED	
TE-18	14	DAVID R. LEFEBVRE AND ANN E. LEFEBVRE F/K/A ANNA E. ROCHE	32431	269			TEMP	409				100	210 SISSON ROAD	R-M	HMA DRIVEWAY, AND GRADING (3:1), LOAM AND SEED, WOOD STEPS	
TE-19	14	JAMES T. WALPOLE AND MARY I. WALPOLE	22511	126			TEMP	695				166	214 SISSON ROAD	R-M	HMA DRIVEWAY, GRADING (3:1), LOAM AND SEED	
TE-20	14	JUDITH ANNE UNDERWOOD	23272	197			TEMP	240				85	220 SISSON ROAD	R-M	TRIM HEDGES, GRAVEL DRIVEWAY, GRADING (3:1), LOAM AND SEED	
TE-41	14,15	ANNE MARIE LEE	13196	272			TEMP	210				90	226 SISSON ROAD	R-M	TRIM HEDGES, GRAVEL DRIVEWAY, GRADING (3:1), LOAM AND SEED	
TE-22	15	DANIEL JAMES WARNER	34896	328			TEMP	242				90	228 SISSON ROAD	R-M	GRADING (7:1), HMA DRIVEWAY, CONC. STEPS, REM. CONC. STEPS	
TCA-1	15	TRUSTEES OF HARWICH CONSERVATION TRUST	34980	154			TEMP	50				230	230 SISSON ROAD	R-M	GRADING (3:1), LOAM & SEED	CONSERVATION
TCA-2	15	TRUSTEES OF HARWICH CONSERVATION TRUST	34980	154			TEMP	493							SEDIMENT CONTROL, GRADING (3:1), LOAM & SEED	CONSERVATION
GR-4	15	LUDDY REALTY TRUST	34475	9			PERM	65			17,339	157	244 SISSON ROAD	R-M	GUARDRAIL	
TE-24	15	LUDDY REALTY TRUST	34475	9			TEMP	621							GRADING (2:1), LOAM & SEED, CLEARING & GRUBBING, TREE PROTECTION, R&S WOOD WALL	
HS-4	16	GARY L. LENTELL LIVING TRUST	28799	230			PERM	15			38,275	535	71 PARALLEL STREET	R-M	HIGHWAY SIGN	
TE-25	15,16	GARY L. LENTELL LIVING TRUST	28799	230			TEMP	1,017							GRADING (2:1), LOAM & SEED, TREE PROTECTION, TREE PROTECTION, R&S WOOD WALL	
TE-28	16,17	COUTURIER FAMILY REVOCABLE TRUST	36447	223			TEMP	326				231	475 SISSON ROAD	C-V	HMA DRIVEWAY, GRADING (3:1), LOAM AND SEED	
TE-26	16	TOWN OF HARWICH (BOARD OF SELECTMEN)	2982	26			TEMP	1,087				732	75 PARALLEL STREET	R-M	GRADING (2:1), LOAM & SEED, TREE PROTECTION	
TE-27	16	HARWICH AFFORDABLE HOUSING TRUST	34796	46			TEMP	415				405	265 SISSON ROAD	R-L	GRADING (3:1), LOAM & SEED, TREE PROTECTION	
TE-29	17	FIRST CONGREGATIONAL CHURCH OF HARWICH			33812A	36148	TEMP	816				286	697 MAIN STREET	C-V	HMA DRIVEWAY, GRADING (3:1), LOAM AND SEED, HMA WALK	
HS-1	17	TOWN OF HARWICH (BOARD OF SELECTMEN)	9770	5			PERM	10			28,552	478	80 PARALLEL STREET	R-M	HIGHWAY SIGN	
TE-30	17	TOWN OF HARWICH (BOARD OF SELECTMEN)	9770	5			TEMP	655							PROP. BRICK WALK, BRICK STAIRS, GRADING (2:1), LOAM & SEED	
TE-43	16	TOWN OF HARWICH (BOARD OF SELECTMEN)	9770	5			TEMP	19							GRADING (2:1), LOAM & SEED	
TE-44	16	TOWN OF HARWICH (BOARD OF SELECTMEN)	9770	5			TEMP	87							PROP. HMA WALK, GRADING (2:1), LOAM & SEED	

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Section 4(f) *de minimis* Impact Determination [per 23 CFR 771]

NOTE: *De minimis* impacts are defined as those that, after considering any measures to minimize harm, do not adversely affect the activities, features or attributes that qualify a significant public park, recreation area, or wildlife and/or waterfowl refuge for protection under Section 4(f) of the DOT of 1966, as amended.

This form is prepared to document the analysis of planned impacts to a Section 4(f) facility and seek concurrence from the official with jurisdiction that the below-referenced MassDOT federal-aid transportation project's minor impacts would not adversely affect the operation/function of the subject resource.

Project Information Table

Project Proponent:	Massachusetts Department of Transportation
Project Name:	HARWICH- HARWICH ELEMENTARY SCHOOL IMPROVEMENTS
Municipality:	Town of Harwich
Project Description:	The Massachusetts Department of Transportation, Highway Division (MassDOT) in cooperation with the Town of Harwich proposes to expend federal funds to construct the above-referenced state-designed Safe Routes to School (SRTS) project. The proposed project will improve and expand the pedestrian and bicycle facilities utilized to access the Harwich Elementary School, located at 263 South Street. The project will include reconstructing sidewalks and constructing new shared use paths, planting new grass buffers between the sidewalk and roadway, restriping the roadway and providing new crosswalks, and installing new rectangular rapid flashing beacon pedestrian signals at selected locations. The proposed project work will improve 0.20 mile along South Street from School House Drive to Main Street, 0.40 mile of Main Street from South Street to Sisson Road, and 0.35 mile of Sisson Road from Main Street to School House Drive.
Section 4(f) Resource:	Harwich Elementary School, 263 South Street
Type of Section 4(f) Resource:	Recreation Area
Official with Jurisdiction:	Joseph Powers
Impacts to Section 4(f) Resource:	The Harwich Elementary School parcel will require one permanent easement and six temporary easements. 1. A permanent utility easement (PUE-1) is required for overhead wires and guy wires. 2. A temporary easement (TE-32) is required for grading, hot mix asphalt (HMA) driveway, loam and seed. 3. A temporary easement (TE-42) is required for removing guy wires. 4. A temporary easement (TE-48) is required for removing a sign and HMA driveway. 5. A temporary easement (TE-1) is required for grading, loam, seed, milling, and overlay. 6. A temporary easement (TE-31) is required for sign removal. 7. A temporary easement (TE-17) is required for grading, loam, seed, and HMA driveway.

Ten Park Plaza, Suite 4140, Boston, MA, 02116
Tel: 857-368-4636, TTY: 857-368-0655
www.mass.gov/massdot

Docusign Envelope ID: EBFED214-F505-4CCD-BC2A-3796829C9BF1

Public Outreach and public comments:	Public input was sought for the de minimis impact determination through a legal ad notice advertised in the Cape Cod Chronicle on January 23rd, 2025. A Design Public Hearing (DPH) was held on June 12th, 2024 to present the proposed details about the project. No comments on the de minimis impact determination were received during the public comment period. All comments and concerns were addressed at the DPH.

Summary and Determination

Based on the minor scope of the above-referenced impacts, including measures to minimize harm, MassDOT Highway Division has determined that the project will not adversely affect the activities, features or attributes that qualify the resource for protection under Section 4(f).

MassDOT Intent to make a *De Minimis* Determination

This notification hereby serves to inform the official with jurisdiction of MassDOT's intent to make a *de minimis* impact determination for the proposed "use" of the subject Section 4(f) resource.

Jeffrey Shrimpton, Program Engineer for Design
MassDOT Highway Division

2/13/2025
Date

Section 4 (f) *De Minimis* Finding Concurrence

After consideration of any comments received from the public, as the official with jurisdiction over said resource, I hereby concur with the determination that "use" will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f).

DocuSigned by:
Joseph F. Powers
0623C0C5799644E...
Joseph Powers, Town Administrator
Town of Harwich

3/5/2025 | 12:30:28 PM EST
Date

MassDOT Request for Federal Highway Administration (FHWA) Approval

MassDOT Highway Division requests final approval from FHWA that the proposed "use" of the above described Section 4(f) resource meets the criteria of a *de minimis* impact, as specified under 23 CFR 774.17.

KENNETH S MILLER
Digitally signed by KENNETH S MILLER
Date: 2025.03.28 08:16:47 -04'00'

Kenneth S. Miller, P.E., Deputy Division Administrator
Federal Highway Administration, Massachusetts Division

Date

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To: December 13, 2022
Project code: 2023-0014768
Project Name: 610670 - HARWICH- HARWICH ELEMENTARY SCHOOL (SRTS)

Subject: Concurrence verification letter for the '610670 - HARWICH- HARWICH ELEMENTARY SCHOOL (SRTS)' project under the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated December 13, 2022 to verify that the **610670 - HARWICH- HARWICH ELEMENTARY SCHOOL (SRTS)** (Proposed Action) may rely on the concurrence provided in the February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures, and may affect, but is not likely to adversely affect (NLAA) the endangered Indiana bat (*Myotis sodalis*) and/or the threatened Northern long-eared bat (*Myotis septentrionalis*). Consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) is required.

The Service has 14 calendar days to notify the lead Federal action agency or designated non-federal representative if we determine that the Proposed Action does not meet the criteria for a NLAA determination under the PBO. If we do not notify the lead Federal action agency or designated non-federal representative within that timeframe, you may proceed with the Proposed Action under the terms of the NLAA concurrence provided in the PBO. This verification period allows Service Field Offices to apply local knowledge to implementation of the PBO, as we may identify a small subset of actions having impacts that were unanticipated. In such instances, Service Field Offices may request additional information that is necessary to verify inclusion of the proposed action under the PBO.

NOTE: The Service reclassified the NLEB as an endangered species on November 30, 2022. This ruling becomes effective on January 30, 2023. This NLAA determination does not require reinitiation. For projects requiring consultation after the effective date of January 30, 2023, please use the 2022 FHWA, FRA, FTA PBO.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities: If your initial bridge/culvert or structure assessment documented signs of bat use or occupancy, or an assessment failed to detect Indiana bats and/or NLEBs, yet are later detected prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office within 2 working days of any potential take. In these instances, potential incidental take of Indiana bats and/or NLEBs is covered under the Incidental Take Statement in the 2018 FHWA, FRA, FTA PBO (provided that the take is reported to the Service).

If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or Northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA Section 7(a)(2) may be required. If the Proposed Action may affect any other federally-listed or proposed species, and/or any designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please contact this Service Office.

The following species may occur in your project area and **are not** covered by this determination:

- Monarch Butterfly *Danaus plexippus* Candidate
- Sandplain Gerardia *Agalinis acuta* Endangered

Project Description

The following project name and description was collected in IPaC as part of the endangered species review process.

Name

610670 - HARWICH- HARWICH ELEMENTARY SCHOOL (SRTS)

Description

610670 - HARWICH- HARWICH ELEMENTARY SCHOOL (SRTS)

This is a Safe Routes To School project intended to facilitate pedestrian safety, accessibility, and mobility. The sidewalk along the east side of South Street north of School House Drive will be widened from three feet to an eight-foot shared-use path for pedestrian and bicycle use. The sidewalk along the south side of Main Street between the South Street and Sisson Road intersections will be widened from three feet to five feet and upgraded from hot mix asphalt to cement concrete sidewalk. This provides a connection to the town center and indirectly via Island Pond Road to the rail trail. The sidewalk along the west side of Sisson Road will similarly be widened from three feet to five feet between School House Drive and Parallel Street, with a crosswalk enhanced with pedestrian crossing warning signage and rectangular rapid flashing beacons (RRFBs) directing pedestrians to/from the easterly side of Sisson Road between Parallel Street and Main Street. RRFBs will also be installed at two strategic locations across Main Street. Curb ramps will be upgraded within project limits to be compliant with the Americans with Disabilities Act (ADA).

Sandplain Gerardia: After consulting with the Massachusetts Natural Heritage and Endangered Species Program (NHESP), it was determined that there is no data to suggest the presence of habitat and/or individuals at this project location.

Monarch Butterfly: Candidate Species only, no conservation measures at this time

Determination Key Result

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the endangered Indiana bat and/or the threatened Northern long-eared bat, therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the concurrence provided in the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

Qualification Interview

1. Is the project within the range of the Indiana bat[1]?

   [1] See Indiana bat species profile

   Automatically answered
   No

2. Is the project within the range of the Northern long-eared bat[1]?

   [1] See Northern long-eared bat species profile

   Automatically answered
   Yes

3. Which Federal Agency is the lead for the action?

   A) Federal Highway Administration (FHWA)

4. Are *all* project activities limited to non-construction[1] activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

   [1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

   No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/ rail surfaces[1]?

   [1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

   No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum[1]?

   [1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

   No

7. Is the project located **within** a karst area?

   No

8. Is there *any* suitable[1] summer habitat for Indiana Bat or NLEB **within** the project action area[2]? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   [2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the User's Guide for the Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat.

   Yes

9. Will the project remove *any* suitable summer habitat[1] and/or remove/trim any existing trees **within** suitable summer habitat?

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   Yes

10. Will the project clear more than 20 acres of suitable habitat per 5-mile section of road/rail?

    No

11. Have presence/probable absence (P/A) summer surveys[1][2] been conducted[3][4] **within** the suitable habitat located within your project action area?

    [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

    [2] Presence/probable absence summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate distance from hibernacula) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

    [3] For projects within the range of either the Indiana bat or NLEB in which suitable habitat is present, and no bat surveys have been conducted, the transportation agency will assume presence of the appropriate species. This assumption of presence should be based upon the presence of suitable habitat and the capability of bats to occupy it because of their mobility.

    [4] Negative presence/probable absence survey results obtained using the summer survey guidance are valid for a minimum of two years from the completion of the survey unless new information (e.g., other nearby surveys) suggest otherwise.

    Yes

SUBMITTED DOCUMENTS

- *610670_Harwich_MassDOT_AcousticSurvey.pdf https://ipac.ecosphere.fws.gov/project/ZCXFDJZ7LJDMVAOIBSKRCXY5DM/projectDocuments/119960831*

12. Did the presence/probable absence (P/A) summer surveys detect Indiana bats and/or NLEB[1]?

    [1] P/A summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate home range) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

    No

13. Were the P/A summer surveys conducted **within** the fall swarming/spring emergence range of a documented Indiana bat hibernaculum[1]?

    [1] Contact the local Service Field Office for appropriate distance from hibernacula.

    No

14. Does the project include activities **within documented NLEB habitat**[1][2]?

    [1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

    [2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

    No

15. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors?

    Yes

16. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors occur?

    B) During the inactive season

17. Will *any* tree trimming or removal occur **within** 100 feet of existing road/rail surfaces?

    Yes

18. Will *any* tree trimming or removal occur **between** 100-300 feet of existing road/rail surfaces?

    No

19. Are *all* trees that are being removed clearly demarcated?

    Yes

20. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?

    No

21. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

    No

22. Does the project include slash pile burning?

    No

23. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

    No

24. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

    No

25. Will the project involve the use of **temporary** lighting *during* the active season?

    Yes

26. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **temporary** lighting will be used?

    Yes

27. Will the project install new or replace existing **permanent** lighting?

    No

28. Does the project include percussives or other activities (**not including tree removal/ trimming or bridge/structure work**) that will increase noise levels above existing traffic/ background levels?

    Yes

29. Will the activities that use percussives (**not including tree removal/trimming or bridge/ structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the active season[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    Yes

30. Will *any* activities that use percussives (**not including tree removal/trimming or bridge/ structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the inactive season[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    Yes

31. Are *all* project activities that are **not associated with** habitat removal, tree removal/ trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

    Examples: lining roadways, unlighted signage , rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

    Yes

32. Will the project raise the road profile **above the tree canopy**?

    No

33. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the active season within undocumented habitat.

34. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) and/or increase noise levels above existing traffic/background levels consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the inactive season

35. Is the location of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because no bats were detected during presence/probable absence surveys conducted during the summer survey season and outside of the fall swarming/spring emergence periods. Additionally, all activities were at least 0.5 miles from any hibernaculum.

36. **General AMM 1**
    Will the project ensure *all* operators, employees, and contractors working in areas of known or presumed bat habitat are aware of *all* FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable Avoidance and Minimization Measures?

    Yes

Project Questionnaire

1. Have you made a No Effect determination for *all* other species indicated on the FWS IPaC generated species list?

   Yes

2. Have you made a May Affect determination for *any* other species on the FWS IPaC generated species list?

No

3. How many acres[1] of trees are proposed for removal between 0-100 feet of the existing road/rail surface?

   [1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

   0.03

Avoidance And Minimization Measures (AMMs)

This determination key result includes the committment to implement the following Avoidance and Minimization Measures (AMMs):

GENERAL AMM 1

Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

Determination Key Description: FHWA, FRA, FTA Programmatic Consultation For Transportation Projects Affecting NLEB Or Indiana Bat

This key was last updated in IPaC on December 01, 2022. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the threatened **Northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects. The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

IPaC User Contact Information

Agency: Massachusetts Department of Transportation
Name: Julia Hoogeboom
Address: 10 Park Plaza
City: Boston
State: MA
Zip: 02116
Email julia.a.hoogeboom@dot.state.ma.us
Phone: 8574452880

Lead Agency Contact Information

Lead Agency: Federal Highway Administration

Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbits-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator

MassDOT Massachusetts Department of Transportation Highway Division

December 19, 2024

RE: Harwich –Harwich Elementary School Improvements (SRTS) / MassDOT# 610670
Section 106 Review - No Adverse Effect
Section 4(f) Evaluation – Temporary Occupancies – No 4(f) Use

RECEIVED
DEC 24
MASS. HIST. COMM
RC.72551

Ms. Brona Simon
State Historic Preservation Officer
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

CONCURRENCE. Brona Simon
1/17/25
BRONA SIMON
STATE HISTORIC
PRESERVATION OFFICER
MASSACHUSETTS
HISTORICAL COMMISSION

Dear Ms. Simon:

The Massachusetts Department of Transportation, Highway Division (MassDOT) in cooperation with the Town of Harwich proposes to expend federal funds to construct the above-referenced state-designed Safe Routes to School (SRTS) project. The proposed project will improve and expand the pedestrian and bicycle facilities utilized to access the Harwich Elementary School, located at 263 South Street. The project will include reconstructing sidewalks and constructing new shared use paths, planting new grass buffers between the sidewalk and roadway, restriping the roadway and providing new crosswalks, and installing new rectangular rapid flashing beacon pedestrian signals at selected locations. The proposed project work will improve 0.20 mile along South Street from School House Drive to Main Street, 0.40 mile of Main Street from South Street to Sisson Road, and 0.35 mile of Sisson Road from Main Street to School House Drive.

The eastern end of the project corridor is in the National Register-listed **Harwich Historic District**. MassDOT has reviewed this project under the terms of the 2004 Massachusetts Statewide Programmatic Agreement for Section 106 of the National Historic Preservation Act of 1966, as amended [36 CFR Part 800.3(a)(2)] and has determined that the project will have **No Adverse Effect** on any NR-listed properties.

NR-Listed Harwich Historic District (HRW.K)
The Harwich Historic District is mainly comprised of eighteenth and nineteenth century commercial, religious, and residential buildings in downtown Harwich. The majority of the historic district's boundaries overlap with the Harwich Local Historic District (HRW.I). The proposed roadway work in the historic district will be limited to reconstructing the sidewalk and grass buffer strip along the south side of Main Street and the west side of Sisson Road from Main Street to its intersection of Parallel Street. A new sidewalk will be constructed within the existing right-of-way along the east side of Sisson Road from Parallel Street southerly for approximately 200' to the entrance of the NR-contributing Harwich Center School (HRW.60), which now houses The Arts Center Theatre Company. The existing sidewalk on the west side of Sisson Road will be reconstructed to meet current ADA requirements.

Ten Park Plaza, Suite 4160, Boston, MA 02116
Tel: 857-368-4636, TTY: 857-368-0655
www.mass.gov/massdot

MassDOT Cultural Resources Unit staff completed a site visit to the project area in May 2023. It is the opinion of CRU staff that the portion of the Harwich Center Area (HRW.A) along the western side of the project corridor along Main Street does not comprise a NR-eligible historic district because of the extensive alterations to the buildings, which include additions, replacement windows, altered roof lines, and chimney removals.

Archaeological Assessment

A review of the MHC's archaeological maps on MACRIS revealed no recorded archaeological sites in the vicinity of the project area. It is the opinion of the MassDOT Archaeologist that low sensitivity can be ascribed to the project area based on the impacts of past roadway, sidewalk, utility, driveway, and drainage construction and roadside development. The project work will be confined to disturbed areas within and immediately adjacent to the roadway layout.

Section 4(f) Evaluation – Temporary Occupancies – No 4(f) use

The project requires temporary occupancies, also known as temporary construction easements, on the parcels contributing to the NR-listed **Harwich Historic District.** The temporary occupancies are necessary to facilitate in-kind driveway/walkway apron work, grading, and planting loam and seed. The temporary occupancy is highlighted in yellow on the attached right of way plans.

It is MassDOT's opinion that the temporary occupancies on the properties that contribute to the NR-listed Harwich Historic District will satisfy the five conditions required for a temporary occupancy not to constitute a "use" within the meaning of Section 4(f), pursuant to 23 CFR 774.13(d):

(1) Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
(2) Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal;
(3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;
(4) The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and
(5) There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

The SHPO is the official with jurisdiction over historic sites for the purposes of Section 4(f), pursuant to 23 CFR 774.17. Your concurrence with this letter will signify that your office agrees with MassDOT's assessment that the proposed temporary occupancies do not constitute a "use" of a historic site under Section 4(f) and that the conditions listed above have been satisfied, pursuant to Condition 5 above.

Summary of Section 106 Coordination &Effect Finding

On behalf of MassDOT, Pare Corp. sent early coordination letters (dated December 6, 2022) to the Harwich Historical Commission, and a copy was forwarded to the MHC. No responses were received by either Commission.

It is MassDOT's opinion that the proposed Harwich Elementary School's Safe Routes to School Project will have **No Adverse Effect** on the National Register-listed **Harwich Historic District**. MassDOT solicits your concurrence with our No Adverse Effect finding for the project in accordance with Stipulation V.C.1 of the amended Section 106 Programmatic Agreement. A copy of this letter will be forwarded to the FHWA as specified under the terms of the Programmatic Agreement. If you should have any questions, please feel free to contact me at Mary.Hafferty@state.ma.us.

Sincerely,

MHH

Mary Hafferty
Cultural Resources Specialist
Environmental Services

Harwich Historical Commission (email)

encs: 75%/100% Highway & Right of Way Plans
Maps & Photographs

Proposal No. 610670-133876

Harwich 72551

RECEIVED

MAR 27 2025

MASS. HIST. COMM

Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbits-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator

massDOT
Massachusetts Department of Transportation
Highway Division

RC.72551

March 25, 2025

CONCURRENCE: Brona Simon
4/24/25
BRONA SIMON
STATE HISTORIC
PRESERVATION OFFICER
MASSACHUSETTS
HISTORICAL COMMISSION

Ms. Brona Simon
State Historic Preservation Officer
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

RE: HARWICH **Harwich Elementary School Improvements (SRTS)**
MHC# RC.72551 & MassDOT# 610670
Notice of Project Change for Section 106 Review - No Adverse Effect

Dear Ms. Simon:

The Massachusetts Department of Transportation (MassDOT) has updated the Harwich Elementary School Improvements-Safe Routes to School Project to include slightly increased temporary easements for in-kind driveway and walkway work, landscaping, and grading and two small permanent easements for existing street signs. The original Section 106 No Adverse Effect documentation was submitted to the Massachusetts Historical Commission (MHC) on December 19, 2024, and the MHC concurred with this finding in a stamped approval letter dated January 17, 2025.

The eastern end of the project corridor is in the National Register-listed **Harwich Historic District (HRW.K)**, and properties that contribute to this district will be affected at the back of sidewalk with new and revised temporary and permanent easements. It is the opinion of MassDOT Archeologist that the small increases of impacts to the properties adjacent to the right-of-way has low sensitivity. MassDOT has reviewed the additional project work under the Massachusetts Statewide Programmatic Agreement for Section 106 of the National Historic Preservation Act of 1966, as amended [36 CFR 800], and has determined that the project's No Adverse Effect finding is still valid.

Section 4(f) Evaluation – Permanent Easements – de minimis impact

This project requires the following permanent easements from properties that contribute to the National Register-listed Harwich Historic District:

- The Sidney Underwood Barn (HRW.23), 687 Main Street, will have an easement (HS-3) for the existing stop sign.
- The Pine Grove Seminary – Brooks Academy Museum (HRW.46), 80 Parallel Street, will have an easement (HS-1) for the existing street sign.

The permanent easements are highlighted in pink on the enclosed ROW plans.

Any easements or takings that result in the permanent incorporation of land from a public or private historic site into a transportation facility (e.g., roadway, public sidewalk) is regarded as a transportation use and must be evaluated and approved under Section 4(f) of the Department of Transportation Act of 1966, as amended [23 CFR Part 774].

Ten Park Plaza, Suite 4160, Boston, MA 02116
Tel: 857-368-4636, TTY: 857-368-0655
www.mass.gov/massdot

It is MassDOT's expectation that the Federal Highway Administration (FHWA) will determine that the proposed permanent easements meet the criteria for a Section 4(f) de minimis finding, pursuant to 23 CFR 774.3(b). This project, therefore, does not require an individual Section 4(f) evaluation. This letter is intended to inform the State Historic Preservation Officer (SHPO) that this project is expected to qualify for a de minimis finding under Section 4(f) based on the concurrence of your office with this Section 106 finding of No Adverse Effect, pursuant to 23 CFR 774.5(b)(1)(ii).

Section 4(f) Evaluation – Temporary Occupancies – No 4(f) use

The project requires temporary occupancies, also known as temporary construction easements, on the parcels contributing to the NR-listed **Harwich Historic District**. The temporary occupancies are necessary to facilitate in-kind driveway/walkway apron work, grading, landscaping, planting loam and seed, and other incidental work. The temporary occupancy is highlighted in yellow on the attached right of way plans.

It is MassDOT's opinion that the temporary occupancies on the properties that contribute to the NR-listed Harwich Historic District will satisfy the five conditions required for temporary occupancies not to constitute a "use" within the meaning of Section 4(f), pursuant to 23 CFR 774.13(d):

(1) Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
(2) Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal;
(3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;
(4) The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and
(5) There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

The SHPO is the official with jurisdiction over historic sites for the purposes of Section 4(f), pursuant to 23 CFR 774.17. Your concurrence with this letter will signify that your office agrees with MassDOT's assessment that the proposed temporary occupancies do not constitute a "use" of a historic site under Section 4(f) and that the conditions listed above have been satisfied, pursuant to Condition 5 above.

MassDOT solicits your concurrence that our finding of **No Adverse Effect** is still valid for this project under Section 106 of the National Historic Preservation Act of 1966, as amended. Please feel free to contact me at mary.hafferty@dot.state.ma.us if you have any questions.

Sincerely,

M. Hafferty

Mary Hafferty
Cultural Resources Specialist
Environmental Services

encl: Revised 100% Right-of-Way Plans
MHC Approval Letter Dated January 17, 2025

FOR FHWA USE

MassDOT Request for Federal Highway Administration (FHWA) Approval

MassDOT Highway Division requests final approval from FHWA that the proposed "use" of the above-described Section 4(f) resources meets the criteria of a *de minimis* impact, as specified under 23 CFR 774.17.

Joi Singh, Division Administrator (or designee)
Federal Highway Administration
Massachusetts Division

7-1-2025
Date

NR-Listed Harwich Historic District (HRW.K)
Harwich Local Historic District (HRW.I)

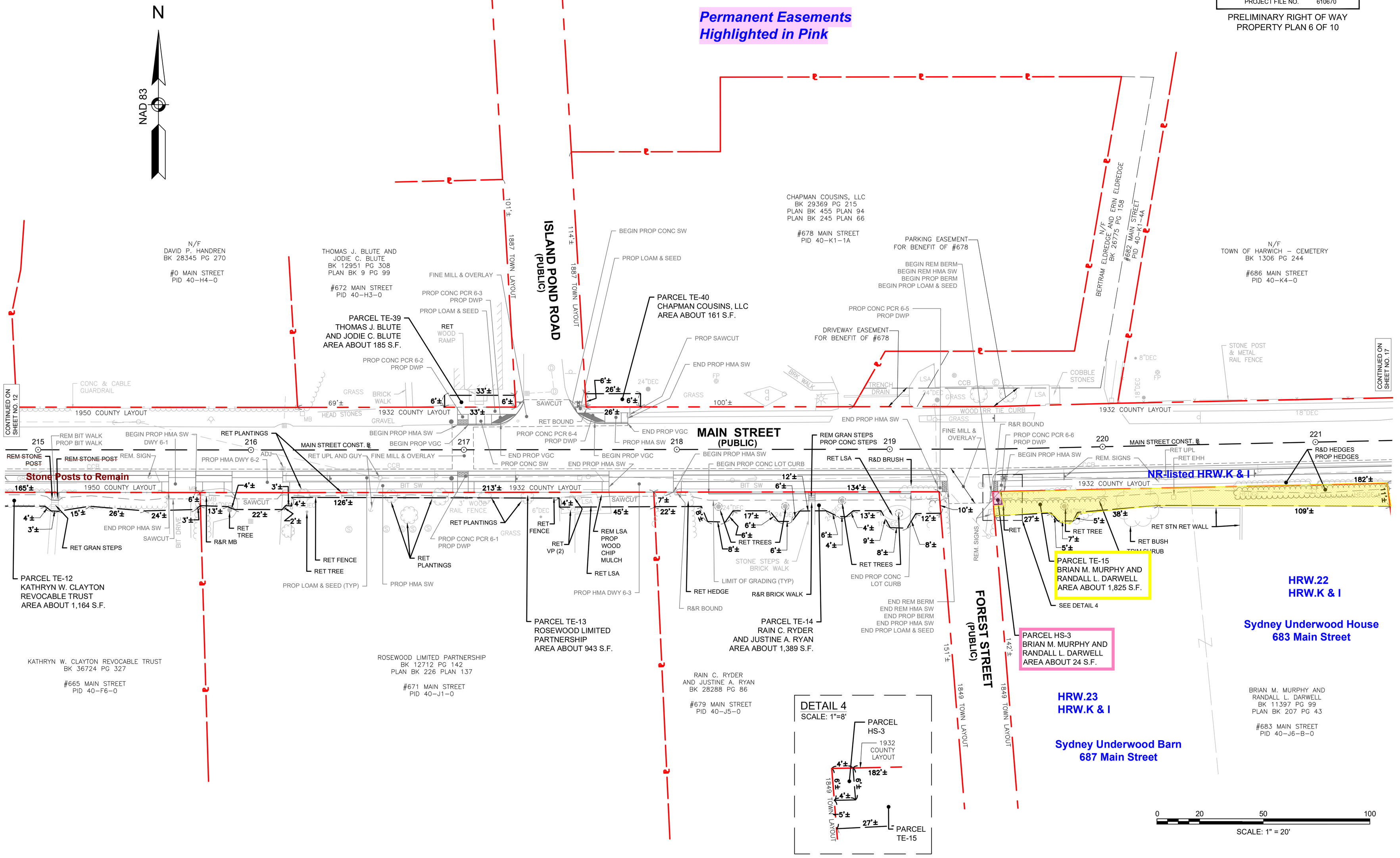
Temporary Easements Highlighted in Yellow

Permanent Easements Highlighted in Pink

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	13	17
PROJECT FILE NO.	610670		

PRELIMINARY RIGHT OF WAY
PROPERTY PLAN 6 OF 10



610670_RW(PROP).DWG Plotted on 14-Feb-2025 2:43 PM
Proposal No. 610670-133876
AM8945-44

Proposal No. 610670-13387G

610670_RW(PROP).DWG Plotted on 14-Feb-2025 2:43 PM

A00845-45

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD
PRELIMINARY RIGHT OF WAY PROPERTY PLAN 9 OF 10

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	16	17
PROJECT FILE NO. 610670			

Pine Grove Seminary
Brooks Academy Museum
Harwich Historical Society
80 Parallel Street

NR-listed HRW.K & I

(HRW.46 cont.)
(HRW.K)

SISSON ROAD (ROUTE 124)(ROUTE 39)
(PUBLIC)
1931 COUNTY LAYOUT

PARALLEL STREET
(PUBLIC)
1866 TOWN LAYOUT

- PARCEL TE-28
COUTURIER FAMILY
REVOCABLE TRUST
AREA ABOUT 326 S.F.

PARCEL TE-44
TOWN OF HARWICH
(BOARD OF SELECTMEN)
AREA ABOUT 87 S.F.

PARCEL TE-43
TOWN OF HARWICH
(BOARD OF SELECTMEN)
AREA ABOUT 19 S.F.

HRW.61
HRW.K

CONTINUED ON SHEET NO. 17

NR-listed HRW.K & I

HRW.60
HRW.K

PARCEL TE-27
HARWICH AFFORDABLE
HOUSING TRUST
AREA ABOUT 415 S.F.

SISSON ROAD (ROUTE 39)(ROUTE 124)
(PUBLIC)

NR-listed HRW.K & I

PARALLEL STREET
(PUBLIC)
1866 TOWN LAYOUT

PARCEL TE-26
TOWN OF HARWICH
(BOARD OF SELECTMEN)
AREA ABOUT 1,087 S.F.

FOREST STREET
(PUBLIC)
1849 TOWN LAYOUT

PARCEL TE-25
GARY L. LENTELL
LIVING TRUST
AREA ABOUT 1,017 S.F.

PARCEL HS-4
GARY L. LENTELL
LIVING TRUST
AREA ABOUT 15 S.F.

CONTINUED ON SHEET NO. 15

NR-Listed Harwich Historic District (HRW.K)
Harwich Local Historic District (HRW.I

NAD 83

N

SCALE: 1" = 20'

0 20 50 100

DETAIL 5
SCALE: 1"=8'

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	17	17
PROJECT FILE NO.	610670		

PRELIMINARY RIGHT OF WAY
PROPERTY PLAN 10 OF 10

610670_RW(PROP).DWG Plotted on 14-Feb-2025 2:43 PM

Proposal No. 610670-138576

A00845-46

NR-Listed Harwich Historic District (HRW.K)
Harwich Local Historic District (HRW.I

N/F
BRIAN M. MURPHY AND
RANDALL L. DARWELL
BK 11397 PG 99
PLAN BK 207 PG 43

#687 MAIN STREET
PID 40-J6-B-0

Sydney Underwood House
687 Main Street

HRW.46
HRW.K

Pine Grove Seminary
Brooks Academy Museum
Harwich Historical Society
80 Parallel Street

PARCEL TE-15
BRIAN M. MURPHY AND
RANDALL L. DARWELL
AREA ABOUT 1,825 S.F.

(HRW.22 cont.)
(HRW.K)

R&D HEDGES
PROP HEDGES

CONTINUED ON SHEET NO. 13

NR-listed HRW.K & I

LIMIT OF GRADING (TYP)

REM SIGN
RET UTL

PARCEL TE-30
TOWN OF HARWICH
BOARD OF SELECTMEN)
AREA ABOUT 655 S.F.

MAIN STREET (PUBLIC)

R&R BOUND

PROP WALK
PROP BRICK STAIRS

TOWN OF HARWICH
(BOARD OF SELECTMEN)
BK 9770 PG 5
PLAN BK 334 PG 98

#80 PARALLEL STREET
PID 40-J9-0

PARCEL HS-1
TOWN OF HARWICH
(BOARD OF SELECTMEN)
AREA ABOUT 10 S.F.

END REM BERM
END REM HMA SW
END PROP BERM
END PROP LOAM & SEED
END PROP HMA SW

N/F
TOWN OF HARWICH – CEMETERY
BK 1306 PG 244

#686 MAIN STREET
PID 40-K4-0

STONE POST &
METAL RAIL FENCE

PROP CONC
PCR 10-1
PROP DWP

STA 222+38.07 MAIN STREET =
STA 71+13.00 SISSON ROAD
N 2713930.6694
E 1044981.3978

FINE MILL & OVERLAY

END REM BERM
BEGIN REM VGC

LIMIT OF WORK
STA 222+78
N2713931.7117
E1045021.3084

CONTINUED ON SHEET NO. 16

SISSON ROAD (ROUTE 124)(ROUTE 39)
(PUBLIC)

1931 COUNTY LAYOUT

SISSON ROAD CONST. ℄
(ADJ.)

NR-listed HRW.K & I

RET TREE

(RET)
BOULDER
W/PLAQUE

PROP CONC PCR 10-2
PROP DWP

RET SIGN

LIMIT OF GRADING (TYP)

HRW.26
HRW.K

PROP HMA

BEGIN PROP HMA SW

BEGIN REM BERM

SAWCUT

BEGIN PROP
HMA SW

PROP GRAVEL

PROP HMA
DWY 10-1

PROP HMA DWY 10-2

PARCEL TE-29
FIRST CONGREGATIONAL
CHURCH OF HARWICH
AREA ABOUT 816 S.F.

FIRST CONGREGATIONAL CHURCH
OF HARWICH
CERT. 36148
LCC 33812A

#697 MAIN STREET
PID 40-Y1-0

END REM VGC
END REM HMA SW
END PROP VGC
END PROP HMA SW
END PROP LOAM & SEED

MAIN STREET CONST. ℄

MAIN STREET (ROUTE 39)
(PUBLIC)

1932 COUNTY LAYOUT

N/F
FIRST CONGREGATIONAL CHURCH
CERT. 38810
LCC 33260A

#690 MAIN STREET
PID 40-K3-0

4" MTL
POST (TYP)

BIT WALK

STONE POST &
METAL RAIL FENCE

HEDGE

STONE POST
& METAL RAIL
FENCE (TYP)

1958 COUNTY LAYOUT

GRASS

GRAN SLAB

PLEASANT LAKE AVENUE (ROUTE 124)
(PUBLIC)

(HRW.61 cont.)
(HRW.K)

PARCEL TE-28
COUTURIER FAMILY
REVOCABLE TRUST
AREA ABOUT 326 S.F.

COUTURIER FAMILY
REVOCABLE TRUST
BK 36447 PG 223

#475 SISSON ROAD

WAY 20' WIDE
LCC 31718A

N/F
BRIAN P. DRUKER
BK 10983 PG 315
BK 4184 PG 234

#703 MAIN STREET
PID 40-Y3-0

PID 41-B9
#702 MAIN STREET
TOWN OF HARWICH
BK 9770 PG 21

"WAY" 15' WIDE
LCC 26218A

NAD 83

N

0 20 50 100

SCALE: 1" = 20'

DESIGN PUBLIC HEARING

June 12, 2024

FOR THE PROPOSED

HARWICH ELEMENTARY SCHOOL SAFE ROUTES TO SCHOOL PROJECT

PROJECT NO. 610670

IN HARWICH, MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION

HIGHWAY DIVISION

JONATHAN L. GULLIVER

HIGHWAY ADMINISTRATION

CARRIE E. LAVALLEE, P.E.

CHIEF ENGINEER

PANELISTS

Jonathan Freeman, MassDOT Project Manager
Lawrence Cash, MassDOT Project Manager
Richard Bilski, Project Development Engineer, MassDOT District 5
Suren Parajuly, MassDOT District 5
Craig Sheehan, MassDOT ROW
Gareth Saunders, MassDOT Legislative Affairs
Amy Archer, PE, PARE Corporation Design Consultant
Kyle Stanley, PE, PARE Corporation Design Consultant
William Parent, PIMA Outreach Consultant, HNTB
Emily Wood, PIMA Outreach Consultant, HNTB

ALSO PRESENT:
General Audience

SPEAKER LIST

NAME	PAGE
Jonathan Freeman	4-7, 9, 23, 25, 26, 27, 30
Craig Sheehan	7-9
Amy Archer	9-23, 27, 28, 29, 30

P R O C E E D I N G S

MR. FREEMAN: Good evening. My name is Jon Freeman. I'm the project manager for the proposed Harwich Elementary Safe Routes to School project, which will be presented tonight. I work in the project management section at the Massachusetts Department of Transportation's Highway Division headquarters in Boston. Once the hearing is completed this evening, the attendance sheet will become a part of the public record. So if you would like your attendance at this hearing to be part of the public record, please sign in the sign-in sheet located out there. Handouts containing details regarding this project are next to the sign-in sheet.

This public meeting will be recorded. Massachusetts Department of Transportation may choose to retain and distribute the video images or audio. All parts of this meeting are considered public record. A transcript will be prepared and also made part of the public record. By continuing attendance with this public hearing, you are consenting to participate in a recorded event. If you are not comfortable being recorded, you may choose to excuse yourself from the meeting. The meeting will be open to questions and

answers at the end of the formal presentation. All questions and comments are welcome and appreciated. However, we do request that you refrain from any disrespectful comments.

All MassDOT activities, including public meetings, are free of discrimination. MassDOT complies with all federal and state civil rights requirements, preventing discrimination based on sex, race, color, ancestry, national origin, limited English proficiency, religion, creed, gender, sexual orientation, gender identity or expression, or veteran status. We welcome diversity from across our entire service area. If you have any questions or concerns, please visit the website on the screen to reach the Office of Diversity and Civil Rights. Thank you for joining our meeting. We appreciate your participation.

Now, I would like to introduce the members of the hearing panel. Lawrence Cash, my supervisor, supervising project manager from the Boston office. Lincoln Hooper, director of highways and maintenance in the town of Harwich. Rich Bilski and Suren Parajuly from the District 5 office, and Joe Lane. Craig Sheehan from the Right of Way Bureau. Amy Archer from Pare Corporation and MassDOT's design consultant for

this project. And the stenographer, Melissa Lupo of Advanced Court Reporting.

In the handout, the notice of hearing is included on Page 2. This notice appeared in the Cape Cod Times on May 29th and June 5, 2024, and it's in the Cape Cod Chronicle on May 30th and June 6th. A copy of this notice will be attached in the final hearing transcript. Page 4 of the handout explains the purpose of the hearing, which gives us an opportunity to make a formal presentation of the proposed project, and at the same time, allows us to record your input regarding the project. The project we will be presenting is Harwich Elementary Safe Routes to School.

They will construct the sidewalk along South Street, Main Street, and Sisson Road. We are currently in the design stage, which means that the project is not yet complete, and we welcome your feedback. We estimate the total project will cost approximately $2.5 million which will come from federal aid funding, with the Federal Highway Administration funding 80 percent of the total construction cost. MassDOT funds the remaining 20 percent. This project must be programmed in the state-wide Transportation Improvement Program in the appropriate federal fiscal year in order for

MassDOT to solicit bids for eventual construction. The total estimated cost of the project does not include any Right of Way acquisition costs.

The design is expected to be completed in the summer of 2025. Construction is expected to be completed within one-and-a-half to two years. As you may be aware, the reason for the project is that the existing sidewalks surrounding the Harwich Elementary School are too narrow to facilitate students walking and biking to and from school, and some segments are in poor condition. In a few minutes, Amy Archer of Pare Corporation is going to tell you about this project, and how it will improve the existing sidewalk infrastructure. But first, I would like to ask Craig Sheehan to explain the Right of Way procedure.

MR. SHEEHAN: Thank you, Jonathan. This is a very legal document, so I apologize for putting anybody to sleep. I'm usually not as dry as this. Good evening. So when the Commonwealth acting through the -- acting through its Massachusetts Department of Transportation's Highway Division, indicated it would accept this project for funding, your municipality accepted certain responsibilities. One of those responsibilities is acquiring all the necessary rights

and private -- private and public lands for the design, construction, and implementation of this project. My function is to review and recommend procedures that your municipality may use in acquiring these rights.

Procedures used must comply with both federal and state regulations. Current design plans indicate that 2 permanent easements and 30 temporary easements may be required. Property owners impacted by this project will be contacted by your municipal officials who will present the proposed impacts to each owner and discuss the methods with which they may acquire the needed rights for the project. Frequently, municipalities may appeal for donations to minimize the acquisition cost to your community. However, donations are not required, and property owners are entitled to an appraisal, review appraisal, and just compensation. Right of Way documents will be provided to each owner to help them understand the acquisition process and how the project affects their property.

Affected property owners' rights are protected under Mass. General Laws, primarily in Chapter 79, and because this project is receiving federal funds, property owners' rights are further defined under Title III of the Real Acts of 1970 as amended. I would be

happy to answer any general questions concerning Right of Way activities during the open forum. And if anybody wants to meet afterwards to discuss how their individual property may be impacted, I will be available. Thank you. Back to you, Jonathan.

MR. FREEMAN: Thank you, Craig. Now, Amy Archer will describe MassDOT's project in detail for you. Please keep in mind that the project we are presenting to you tonight is still in the design stage. Once Amy is done telling you about the design, I'll explain the hearing procedure and then open up the hearing to your questions and comments, which we will take into consideration when completing the project's design. Please hold your questions until after the presentation.

MS. ARCHER: Thank you, Jon. Can everyone hear me, okay? All right. I'm going to roll through a few things, and then, as Jon said, we'll get your input on anything you guys want to discuss further. I'll give you an overview of the project area and the limits of our proposed work; the needs and goals that were identified and the reason why the project was initiated; a couple of different alternatives that were considered for each of the three roadways; the details

of the project as it's currently scoped and is intended to move forward following your feedback; the Right of Way impacts a little bit more in detail than what Craig just covered; any environmental permitting that we anticipate being required for the project; impacts to traffic during the construction; and next steps.

So, the project begins at School House Drive on South Street, continues clockwise, and then ends back at School House Drive on Sisson Road, so it covers about 1,000 feet on South Street from School House Drive to Main. It runs along Main from South Street to Sisson Road, and then back down Sisson Road from Main to School House Drive. Why was this project initiated? So just so everyone is aware, the town initiated the project. Between the town and the school, there was identification of a need to improve safety and to try to widen the sidewalk so that more students could access the school using the sidewalk network. So, the town and the school then went to MassDOT to request the funding to move the project forward.

There are a few different reasons why this project was selected by MassDOT as an eligible candidate. The main reason is to improve sidewalks and accessibility. In various sections along these three

roads, the existing sidewalks are narrow. In some areas, they're as narrow as three feet. So, ADA standard is five feet, with a pinch to four in just a small stretch, so we certainly want to make sure that we're meeting compliance. There are also several areas where there are missing ADA ramps. So, the lower right image gives an example of what an ADA ramp -- ADA ramp should look like. It should have relatively level slopes that accommodate all users. It should be clear of obstructions, and it should have the detectable warning panel. So, there are various areas where these ramps are missing entirely, and there are some areas where these ramps exist, but they're not up to code.

The second need for the project is to make sure that there is consistency and conformance throughout the project area. There are several crosswalks within the project limits that don't currently meet what we called desire lines. So, the intended path of the pedestrians don't have a crosswalk, and the crosswalk is displaced somewhere else. It's not the key direction that the pedestrians want to travel in. So, we want to align the crosswalks with the desire lines. We want to make sure that sight lines are met in all instances. So, at this

intersection in the top right at Parallel Street and Sisson, there's quite a curve there. There is some limited sight lines. We want to make sure we're putting that crossing in the best location. And then we want to make sure there's consistency. So, there are some areas where the striping of the crosswalks doesn't match; there are different types, or they might be missing entirely like the lower right image, which is South Street and Parallel.

And the final need that was identified was trying to see if we could get kids not just walking, but also biking to the school. We acknowledge that this school has an extreme proximity to the Old Colony Rail Trail, which runs east-west, parallel to Main Street just to the north of our project limit.

So I'll give a quick run through of what alternatives were considered before we advanced one specific alternative for each road towards preliminary design. If anyone attended the public informational meeting about a year-and-a-half ago, these next few slides might look familiar. So, on each of the two roadways, we considered two alternatives. The first alternative on South Street would take what is typically a three- to four-foot sidewalk and make it a

fully compliant five-foot sidewalk. In doing so, we would have the opportunity to make sure we had a two-foot shoulder on the east side of South Street, so that curb line would be set back just a little bit from the existing edge line of the road.

The second alternative that was considered was essentially keeping a minimal shoulder on South Street but widening the sidewalk to accommodate an eight-foot width. Since South Street accesses the school's main entrance, that's the area where we anticipate the greatest volume of users. So if you look at these two alternatives in comparison, the right-of-way line, which is identified as the layout line, the vertical line in-between the trees there, the right of way on South Street is quite a bit to the east of the edge of the road. Neither alternative would come close to the right of way line, so we don't anticipate easements or impacts along South Street. Both improvements could also fit without having impacts to the trees that are along this roadway.

As we shift to Main Street, the first alternative that was considered was maintaining the -- the bituminous berm that's out there today, also maintaining the grass buffer, and then improving the

sidewalk. There are various areas along Main Street where the sidewalk is a little bit broken up, a couple of areas where it actually depresses a little bit, where it's got some ponding, and it's not always five feet wide. So, the improvement here would basically be to take the existing sidewalk, make sure it's five feet wide everywhere, and adjust some of those drainage -- drainage locations.

The second alternative considered was similar to the second on South Street. It would look at implementing an eight-foot wide sidewalk that could accommodate more users at one time. And then the first alternative and the second alternative showed a different treatment. Either could consider the slope or the retaining wall. However, if we did the second alternative, that doesn't have the berm and the buffer of the retaining wall that fit within the right of way, and if we use the wall with alternative one, the -- that retaining wall would have sat just beyond the right of way limit.

Circling around to Sisson, the first potential improvement was to install a five-foot sidewalk. In this area along Sisson, there's quite a bit of slope work. There's some areas where the existing sidewalk

sits quite a bit above the roadway, and there are some areas where there's a slope down into the woods off the back of the sidewalk along the west side of the road there. So, we considered a five-foot sidewalk, and then anticipating that we wouldn't have as much use on Sisson as Main and South, the second consideration was a six-foot sidewalk. But we didn't go all the way to an eight-foot sidewalk. It didn't seem as pertinent along Sisson. Similar to Main Street on Sisson, there's an alternative that could involve slope work that would take more property gradually, but have a little bit lower cost, or there was an alternative where we were looking at including a wall as we went to the wider sidewalk to try to limit impacts further into the property.

So, we got a lot of feedback from the community at that public informational meeting. We coordinated with MassDOT, and now I'll walk you through what has advanced to the 25 percent design in a little more detail. So, along South Street, the proposed alternative that has moved forward to this preliminary design phase is the eight-foot sidewalk. So, as I mentioned originally, this is a stretch that comes right to the front of the school. We anticipate the

most amount of users there between students themselves or maybe even parents or older siblings coming to walk them home. And we want to make sure that we've got a width there that can accommodate all of the individuals that would like to utilize the facility.

The driveway into School House Drive is relatively wide in its width in the crossing length there. So, as the project advances, that's another detail we'll look at. We'll run some turning movements for the vehicles coming in there, the buses, and the delivery trucks to the school, and we'll see if we can narrow that entrance up a little bit. That same section will continue north on South Street.

So, just a couple of things I'm pointing out here, differences between crossing an intersection and crossing a driveway. So, when we go to cross an intersection, the pedestrians will cross in the roadway pavement. We'll stripe it very visibly with the high visibility striping. And then at driveways, we'll utilize what they call sidewalk through driveway. It will switch to a concrete material so we can form it nicely and grade it properly as the users cross each driveway entrance. Turning up to Main Street, the alternative that's advanced so far is the one that

maintains the berm.

So, Main Street is relatively narrow itself, and it is used quite frequently by the town's emergency response. So, we wanted to make sure that if there was ever a need for someone to get out of the way, they could shift a little bit further away from the road. The berm helps with that. And then the berm, combined with a three-foot grass buffer still allows us to put the sidewalk five feet away from the actual road edge. So, there's a good buffer there with Main Street being the busiest street, we're getting some of those setbacks there. This alternative also allows us to avoid some impacts to utilities that we would have had if we switched to a granite curb.

As we continue further east, there is a wetland present along the south side of Main Street. It's not heavily visible from the road, but it exists, and we wanted to limit impacts to that as much as possible. So, in this stretch of Main Street, we were proposing the wall. The wall will take up a couple of feet beyond the right of way, but it allows us to save several of the trees that exists there along the south side of the road, and it allows us to stay out of the actual footprint of the wetland itself. The typical

section continues as we head east along this road, berm, three-foot grass buffer, five-foot sidewalk.

And then one more thing I'd like to highlight on Main Street when we turn on to Sisson is how will we handle people that live on the north side and might need to cross to the south or any individual that may want to traverse to and from the bike path. So at -- at Island Pond Road as well as Harrys, we're going to install a rectangular rapid flashing beacon. We went through, and we did what's called a warrant to see if that was the most recommended improvement. Based on the volumes and the speed of the road, it is warranted.

There's a picture in the lower left of what an RRFB looks like. I think many people are probably familiar with that. There's one present just a little bit south of our project limit. And then, as we continue further east, the utility poles that are on the north side of the road towards the western end of Main Street switch to the south side of the road as we come closer to Sisson, and the grass buffer included in our typical section allows us to continue to accommodate most of those utility poles right in the grass buffer with a couple of foot offset for the side.

Turning on the Sisson, the proposed sidewalk

at the northern end of the road, approaching Main, is going to stay on the east side. This connects to more of the town's amenities, and it allows us to avoid impacts to the historic property that's on the west side of Sisson Road there. Once we get to Parallel Street, as I mentioned, this intersection today has some sight line limitations. It also has a crosswalk that crosses to the historic property, but not quite to its entrance or where its pathway is. So, we're switching the crosswalk from the north side of the intersection to the south, taking it closer to The Arts Center, which is one of the main areas that we understand individuals try to cross to, especially when the farmer's market is out there in the summer. We'll extend the western crosswalk over to the actual entrance to the historic building.

And then the sidewalk that -- that runs along the east side past The Arts Center and then north towards Main, will allow for any future extension that the town may want to look at along Parallel Street. I know that was identified previously as a potential future connection. So, heading south of Parallel, the primary improvement is along the west side of Sisson. We'll be putting a little bit of widening there to make

sure that the shoulder on that side is two feet, and then installing granite curb and a five-foot sidewalk.

So, we had heard from the public at the public informational meeting previously that during that farmer's market time frame, and whenever The Arts Center is busy, a lot of people pull right over to the farm and park on the sidewalk. We certainly want to make sure that that's not happening. That eliminates the ability of anyone to use the sidewalk. So, the granite curb there will help slow some of the speeds on Sisson a little bit and prevent that parking on the sidewalk.

Heading south, getting closer to School House Drive, as I mentioned, there's quite a bit of slope on that west side of the road. So, we're going to use a combination of the granite curb at the road edge and what's called a lot curb at the back of the sidewalk. So, granite curb typically has about a six-inch reveal. That lot curb has more like a foot or sometimes even up to 14 or 16 inches. The combination of the two will allow us to make up the majority of that slope differential, so that way, we can just use a little bit of grading and, in most areas, tie back in for the road way.

The last section I have here is the southernmost portion of Sisson and our improvements. It'll connect back to School House Drive, and then south of School House Drive, the existing network is in good shape, so we'll connect into the existing sidewalk.

So, a few things to keep in mind. We want to go over quickly: How will your property be affected? So, I do believe Craig touched on this at the beginning. The impacts to private property include primarily temporary easements. So, temporary easements accomplish construction staging and limits of regrading. So basically, someone might be on a couple of feet of your property right at the back of the sidewalk during the construction phase, but then once construction is done, the edge of your property will look just like it does today, and there won't be any improvements from this project actually constructed on your land.

Permanent easements are proposed in two areas, so one is along South Street, where there's a repositioning of the utility pole recommended to get it a little bit further off of the sidewalk. And in relocating that, we anticipate needing a guy to anchor

it. The guy would extend on the private property. It's actually the school parcel. Then, the other two permanent easements would be for the wall along Main Street. As I mentioned, to get the berm and the grass buffer, the five-foot sidewalk, and then the wall, the wall itself will sit just behind the right of way so it's a couple feet wide. It would be constructed at the back of the right of way, and there will be a permanent easement proposed that straddles two property lines for the construction of that wall. As I mentioned, that wall allows us to very much minimize the impact to the tree stand and avoid the wetland, so the buffer that exists to the homes on those properties would remain.

So, what are the environmental, cultural, and community impacts? Well, the construction of that retaining wall allows us to avoid the wetland. However, we do still have an anticipated impact to a few trees. Once we get over four trees being impacted, we have to go to MEPA, which is the Mass. Environmental Protection. In applying to MEPA for their review, that will also give the public another opportunity to provide input on this project. The MEPA process requires another hearing related to that

specifically. I believe I mentioned, we're specifically avoiding the historic property on the west side of Sisson, so there are no historic or cultural impacts anticipated from the construction of this project.

And the project will have some increase in impervious area. Since the sidewalks in many areas are only three feet wide and we're looking to get at least five, there will be that increase in impervious for the adjustment. How will the road user be affected? So during construction, a lot of times people wonder, you know, what's my day-to-day commute going to look like, so the roads in this project area are relatively narrow. We'll use lane shifts where we can to try to keep both lanes open, but it is likely there will be short-term alternating one-way traffic setups.

The areas that will be impacted will be identified with variable message signs two weeks prior to their impact or their interruption, and officers and flaggers will be on-site during the construction to provide any additional information needed. I'm going to turn it back over to Jon at this point. I guess for the remainder.

MR. FREEMAN: Thank you, Amy. Before I open

the hearing to questions and comments, I would like to explain the hearing procedure. First, as stated previously, the purpose of this hearing is to solicit your input regarding this project. As the plans are not yet complete, we may not be able to answer all of your questions or respond to all of your comments at this time. Next, we ask that anyone who wishes to have his or her comments entered into the official hearing transcript please stand up, identify yourself by name and affiliation, whether you are an abutter, local official, or concerned citizen, and spell your last name. This is necessary in order for us to obtain a full verbatim transcript as required by law.

Also, the last sheet of the handout is a mailing sheet. If you have any questions or comments which you would like to submit in writing, please use this sheet for that purpose. You may leave this sheet with me tonight, or you may mail it to the department within ten days of this date, and it will become part of the official record. Finally, it is normal procedure to ask elected officials to offer your comments first. Are there any federal, state, or local officials who would like to speak at this time?

MR. HOOPER: Jonathan, people have questions,

so we need to repeat that or we can pass the mic. So, if somebody has a question to ask I can hand the mic to them.

MR. FREEMAN: Okay. Thank you.

MR. HOOPER: Thank you. Linc Hooper, DPW director. I want to say that this project was initiated by the former elementary school principal, and, you know, we thought it was a good collaboration between the town and the school system. She has since moved on, so this project has become, by default, kind of mine at the moment. I've done a number of projects with MassDOT. We've got five currently in the queue or under construction in the Town of Harwich, and I have enjoyed working with my MassDOT contacts.

This project has been completely funded by DOT, including the initial design, reconnaissance survey, every bit of it. So I think, you know, this is a home-run project by any stretch of imagination, and I thank all the DOT personnel for their efforts.

MR. FREEMAN: Thank you, Lincoln. Anyone else, officials?

MR. CONSIDINE: Good evening, Kevin Considine, C-O-N-S-I-D-I-N-E, with the Harwich Police Department, the deputy chief -- will be chief when this project

occurs. Very happy about this project. Long time coming. Both proposals in South Street I like with the granite curbing. Our request was going to have granite curbing in front of the elementary school. We currently have issues with parents picking up kids and crossing over the sidewalk and onto the grass, which damages the sidewalk and just causes safety issues. So, those granite curbs are huge there.

Our second request -- and I'd like to see the crossing triangular signs at those two locations on Main Street. Our other request, if it's appropriate for this project, we do have a speeding issue on Main Street. I think this will not slow it down tremendously, and there'll be more people using this with the nice sidewalks, whether it be bikers or walkers. So our request, as part of this project, would hopefully be installing some type of electronic speed zone signs on Main Street, so coming from Harwich Center and then coming from the direction of Great Western onto South Street. So, I appreciate your effort in this and looking forward to this project. Thank you.

MR. FREEMAN: Thank you. We can take that into consideration. Do you want to speak about that, Amy?

MS. ARCHER: I think we can consider that.

MR. FREEMAN: Oh. All right. If there are no more officials that would like to speak, this hearing is now open to the public, and we welcome your questions and comments.

MR. RYDER: Hi. My name's Rain Ryder, R-Y-D-E-R. I live on the intersection of Forest Street and Main Street. I'm listening to the design of a five-foot sidewalk, and I just -- personally, I know the telephone pole there, and I have a hill is probably that high from the sidewalk. It's maybe three feet from the pole to the hill. That's also where you're going to have a crosswalk. So, I'm kind of interested if there's going to be any kind of retaining wall or pole being removed because even without the sidewalk, the telephone pole is constantly being hit by cars, but that's a different issue.

MS. ARCHER: Thank you. There are a couple areas along Main Street where there's a grade differential as well, the western part and close to your property. We are proposing that lot curb I was describing, so it would have the sidewalk, and then at the back, the lot curb is exposed about a foot. With that there, we were able to tie in to grade pretty

easily. I know at the western end, we were anticipating an impact to a hedge that's going to be replaced. I don't believe we had any other vegetative impacts, but we have a copy of the plans, if you want to show me your particular property, and we can take a look at it.

MR. SALEWSKI: Hi. I'm Francis Salewski, and I'm with the Harwich Bikeways Committee. My question is: Would there be -- with all planning, would there be any thought to getting bikers or walkers off the rail trail and down to South Street to be on that path going down South Street?

MS. ARCHER: Yes. So, I'm going to double back quick to a couple of the slides. So, at Island Pond Road and at Uncle Harrys, we're proposing a crosswalk across Main Street, and both of those will have this rectangular rapid flash beacon. We can use the school sign instead of the bike sign compared to what's in the picture here. But basically, that would be opportunity for individuals to push a button. It'll start that rapid flashing, if you've seen those before. Both strobes go, it indicates to the drivers that they need to stop and let the pedestrians cross.

Both of those roadways have very low volumes

of traffic. Island Pond Road is an access to the cemetery, so they both cross the rail trail at grade and will provide an opportunity for users to get from the rail trail to Main Street. And then, at either of these two crossings, those individuals could cross Main, get onto the sidewalk that's being reconstructed and improved along Main, and then around to South Street.

If you don't have particular questions, you can also feel free to let us know if there are any elements of what we've described in the design that you do like or that you are not as in favor of. There are things that you have an opinion on.

MR. RYDER: Rain Ryder again, R-Y-D-E-R. I do like the fact that along Main Street, you're not going to have a curb, so -- because with the rescue vehicles, that is very important for the cars to be able to get out of the way, and that's actually a picture of my house right there at that intersection Forest Street that I was talking about, so...

MS. ARCHER: Okay.

MR. RYDER: But it will be nice to be able to access Island Pond, which I do every morning with my dog because it's impossible to cross the road in the

morning, so that will be a great help.

MS. ARCHER: Excellent.

MR. FREEMAN: Anyone else? If there are no other questions or comments, I'd like to remind you the last sheet of the handout is a mailing sheet. If you have any further questions or comments which you would like to submit, please e-mail MassDOT at massdotprojectmanagement@dot.state.ma.us or use this sheet for that purpose. You may leave this sheet with me tonight, or you may mail it to the department within ten days of this date, and it will become part of the official record.

Before I close this hearing, I would like to say that we will be here as long as you are interested in looking at the plans, and we will try to respond to questions that affect you personally. Thank you very much for attending and for providing us with this facility. I declare this hearing closed at 6:38 p.m.

(Whereupon, the hearing in the above-captioned matter was adjourned at 6:38 p.m.)

C E R T I F I C A T E

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF NORFOLK, ss.

I, Melissa Lupo, a Professional Court Reporter and Notary Public in and for the Commonwealth of Massachusetts, do hereby certify that the foregoing Hearing Transcript was taken by me on June 12, 2024 and transcribed under my direction.

To the best of my knowledge, the within transcript is a complete, true and accurate record of said hearing.

I am not connected by blood or marriage with any of the said parties, nor interested directly or indirectly in the matter in controversy.

In witness whereof, I have hereunto set my hand and Notary Seal this 24th day of June, 2024.

Melissa Lupo

NOTARY PUBLIC
My Commission Expires
April 28, 2028

From: Freeman, Jonathan E. (DOT)
To: MassDOT Project Management; brownma30@hotmail.com
Cc: Liautaud, Lyris A. (DOT); Lenhardt, Tracie A. (DOT)
Subject: RE: Attention: Project Management, Project File No. 610670-HARWICH
Date: Wednesday, June 12, 2024 10:53:00 AM

Dear Mr. Brown:

Please be advised that there is a design public hearing being held for the subject Project at the Harwich Community Center (100 Oak Street) today (June 12, 2024) at 6:00pm in the multipurpose room. We encourage you to attend and voice your concerns. They will be taken into the maximum possible consideration as the project progresses.

Thank you for your interest in this MassDOT Project.

Sincerely,
Jon

Jonathan E. Freeman, EIT
MassDOT Civil Engineer IV/Project Manager
Boston HQ
Tel: 631-946-3665
Email: Jonathan.e.freeman@dot.state.ma.us

From: MassDOT Project Management <massdotprojectmanagement@dot.state.ma.us>
Sent: Wednesday, June 12, 2024 10:35 AM
To: Freeman, Jonathan E. (DOT) <Jonathan.E.Freeman@dot.state.ma.us>
Cc: Liautaud, Lyris A. (DOT) <Lyris.Liautaud@dot.state.ma.us>
Subject: FW: Attention: Project Management, Project File No. 610670

Hi Jon

This email came in on Monday

Thank you
Tracie

Tracie Lenhardt, P.E., ENV SP
Director of Project Management
MassDOT - Highway Division

From: Matthew Brown <brownma30@hotmail.com>
Sent: Monday, June 10, 2024 6:48 PM
To: MassDOT Project Management <massdotprojectmanagement@dot.state.ma.us>
Subject: Attention: Project Management, Project File No. 610670

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

As a frequent cyclist in the area included in this project, I encourage you to consider making a safe route that links up to the Cape Cod Rail Trail at Island Pond Road leading from Island Pond Cemetery to Main Street. Currently, the only crosswalk is near the Congregational Church, and I have seen two motorists run that stop sign in the last two months – literally drive right through it at speed into the intersection. Improved signage at that intersection combined with better sight lines would make it possible to cyclists and pedestrians – especially children headed to Harwich Elementary School to safely cross Main Street to access Parallel Street and reach school. Parallel Street, while safe to cycle, lacks sidewalks. It is far safer than accessing South Street via Main Street by bike.

I encourage your department to consider taking advantage of the fact that every school in the Monomoy school district is close to the Cape Cod Rail Trail. A little education and community organization combined with infrastructure improvements would allow students to access school without having to rely on so many parent motorists. I find it absurd that lines of cars pull up to schools so easily accessed by bicycle. I commuted to Monomoy High for two years by bike without problems. Well, once a deer jumped in front of me...

Thanks,
Matthew Brown
2 Elizabeth Road
Harwich, MA 02645

HARWICH Police
DEPARTMENT
183 Sisson Road, Harwich, MA 02645
Tel 508-430-7541 Fax 508-432-2530

DAVID J. GUILLEMETTE
Chief of Police

KEVIN M. CONSIDINE
Deputy Chief

TO: **Carrie E. Lavallee, P.E., Chief Engineer**
Mass DOT – Highway Division

FROM: Kevin M. Considine
Deputy Chief of Police

DATE: June 13, 2024

SUBJECT: **Harwich, MA Project File No. 610670**

I had the opportunity to attend the Design Public Hearing on June 12, 2014 for the proposed Harwich Elementary School Safe Routes to School Improvements Project No. 610670. The following are my comments made during public comment section.

1. It was our request to ensure there were granite curbs for the sidewalk placed in front of the Harwich Elementary School. During the presentation, this was already in the plans. This is very important as we have issues of those visiting the school pulling over the existing sidewalk and onto the front grass of the school. This causes a safety issue when they pull up or back out of the area over a sidewalk as well as causing damage to the sidewalk. Please ensure granite curbs stay on the plan for this specific area.

2. We requested that two electronic radar speed zone advisory signs be placed on Main Street between South Street and Sisson Road (one in each direction). This area has been an area of constant complaints for speeding vehicles. By improving the sidewalk, more pedestrians and cyclists will be using this roadway, and we would like to use all means necessary to advise motorists of their speed in hopes to lower speeds.

3. The plans called for granite curbing on Sisson Road in the area of the Farmer's Market (corner of Parallel Street) and the Art's building (corner of Parallel Street). It is our request that granite curbs only be used on the side where the Farmer's Market takes place and NOT on the side of the Art's building. Sisson Road is utilized by Police and Fire on a daily basis responding to emergency calls. This area of Sisson Road and Parallel Street often times bottle necks with vehicles. If granite curbs are installed on both sides of the road, there may be little place for someone to pull over for an emergency vehicle to pass.

Thank you for your consideration.

DOCUMENT A00850

MASSACHUSETTS WETLANDS PROTECTION ACT

Request for Determination of Applicability

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REQUEST FOR DETERMINATION OF APPLICABILITY

Pare Project No. 20154.02

Pursuant to
The Massachusetts Wetlands Protection Act

South Street, Main Street, & Sisson Road
Harwich, Massachusetts 02703

South Street, Main Street, & Sisson Road Right-of-Ways

Applicant:

MassDOT Highway Division
10 Park Plaza
Boston, MA 02116

MAY 2025

PARE CORPORATION
ENGINEERS SCIENTISTS PLANNERS

Engineers Scientists Planners
parecorp.com

PARE CORPORATION

May 5, 2025

John Ketchum, Chair
Harwich Conservation Commission
732 Main Street
Harwich, MA 02645

Re: **Request for Determination of Applicability**
South Street, Main Street, and Sisson Road
Safe Routes to School Project
Harwich, Massachusetts
(Pare Project No. 20154.02)

Dear Mr. Ketchum and Members of the Harwich Conservation Commission:

On behalf of Massachusetts Department of Transportation – Highway Division (MassDOT) and pursuant to the Regulations of the Massachusetts Wetlands Protection Act 310 CMR 10.00 (referred to herein as the WPA Regulations), Pare Corporation (Pare) submits the attached Request for Determination of Applicability (RDA) and supporting materials for the South Street, Main Street, and Sisson Road safe routes to school project along the associated right-of-ways in Harwich. As an agency of the Commonwealth providing essential government functions, MassDOT is exempt from certain municipal requirements including but not limited to: local wetland bylaws, local ordinances and policies, and peer review fees. Additionally, MassDOT is not required to notify abutters per the WPA Regulations at 310 CMR 10.05(4). Enclosed for your review are two (2) copies of the complete application, including the signed WPA Form 1, Site Photographs, Figures, Wetland Delineation Documentation, two (2) copies of the full size Project Plans prepared by Pare Corporation entitled South Street, Main Street, and Sisson Road dated December 2024 (Project Plans), and ten (10) copies of reduced sized (11 x 17") project plans.

I. Introduction and Background

This project is part of the MassDOT Safe Routes to School Program (SRTS). The SRTS program funds projects that will improve pedestrian and bicycle facilities to improve access to elementary and middle schools. The existing conditions on South Street, Main Street and Sisson Road do not provide a complete, ADA compliant path to Harwich Elementary School located at 263 South Street in Harwich. The existing sidewalks on these roadways do not comply with ADA standards, with stretches of narrow sidewalk and several missing curb ramps for street crossings. The project will extend and improve the sidewalk network by making it ADA accessible. Proposed work seeks to improve existing sidewalks to make them ADA accessible throughout and transition them to a multi-use path along South Street. New sidewalks, where none currently exist are proposed adjacent to the Sisson Road and Parallel Street intersection. The new sidewalks will result in a slight increase in impervious area along the roadways. Six (6) deep sump catch basins that will replace existing catch basins have been included in the project design to account for the minor increase in impervious area.

Wetland resource areas, including two (2) Bordering Vegetated Wetlands (BVW) and an Isolated Vegetated Wetland (IVW), are located within the vicinity of the project limits. Due to the proximity of

wetland resource areas to the existing roadway, the project will result in minor, unavoidable impacts to buffer zone of the BVW. However, as stated above, the project is not subject to the local Bylaw and therefore the IVW are not jurisdictional. Regardless of work being exempt, it is anticipated to have no impact on the functions and values of resource areas under jurisdiction of the WPA regulations.

II. Existing Site Conditions

The proposed limit of disturbance (LOD) totals approximately 2.34 acres along South Street, Main Street, and Sisson Road. The LOD is currently developed with bituminous pavement associated with roadways and sidewalks, maintained or landscaped areas along the roadways, and natural areas along the road shoulders.

The Harwich Elementary School's primary concern is for the safety of schoolchildren who currently utilize an aged and incomplete sidewalk network along South Street, Main Street, and Sisson Road that does not meet current accessibility standards. The existing sidewalk network includes sidewalks that are insufficient in width, and made of various materials with virtually no updated ADA elements. The condition of the existing sidewalk infrastructure leads to concerns when mixed with the intersection of two state numbered routes, Route 124 and Route 39, respectively. The mixing of vehicular traffic with school aged children walking along inadequate or nonexistent sidewalk networks is a significant safety concern and impacts the number of students who are able to safely walk to school.

The existing inadequate sidewalks are also used to provide the school with an emergency evacuation routes to crisis reunification sites in Harwich Center and the Harwich Public Safety facility. During safety drills, approximately 700 staff and students must walk in a single file line down the narrow sidewalks. This creates bottlenecks and concerns for pedestrian safety in the event of a true crisis.

Epsilon Associates, Inc. completed an onsite investigation on May 6, 2021, to confirm the extent of wetland resource areas in the vicinity of the site. Wetland resource areas delineated by Epsilon in the vicinity of the project area include two IVWs and one BVW. The IVWs are delineated with wetland flags V-101 through V-104 to the west of South Road at 0 Bishops Lane (PID 40-N16-0) and V-201 through V-203 to the south of Main Street at 643 Main Street (PID 40-E4-0). Impacts to buffer zones of the BVWs have been discussed below in section IV. The BVW is delineated with wetland flags V-301 through V-304 and is located to the north of Main Street at 0 Main Street (PID 40-H4-0). The BVW is protected and receives a 100-foot buffer zone under the WPA Regulations. Wetland resource areas are discussed in depth in the wetland delineation documentation, included as Section 4 of this RDA.

In preparation of the permit submission, Pare reconfirmed wetland determinations and extents, and included additional flags where necessary on March 20, 2025. During this process, the V-100 series wetland was determined to have a hydrologic connection to a waterbody and therefore was determined to be a BVW. In addition, additional wetland flags were placed in the field to extend the previously delineated edges, however no flags were moved. Additional flags placed in the field include V-105 through V109, V-200, V-204, V-205, V-300A, V-300, and V-301.

According to FEMA Flood Insurance Rate Maps for the Town of Harwich (Panel 25001C0612J effective 7/16/2014), the entire site is located within FEMA Zone X – Area of Minimal Flood Hazard. As such, no Bordering Land Subject to Flooding is located on the site, per 310 CMR 10.57(2). Based upon desktop review, field investigations, topographic contours, and 2023 aerial imagery, the IVW in the vicinity of the site does not appear to the meet the WPA size or volume requirements of Isolated Land Subject to Flooding.

Information obtained from the most recent available MassGIS data indicates that the Site does not contain any Areas of Critical Environmental Concern, Outstanding Resource Waters, mapped Rare Species Habitat, mapped Certified Vernal Pools, or mapped Potential Vernal Pools (MassGIS data layers ACECS_POLY, 2009; ORW_POLY, 2010; PRIHAB_POLY, 2021; ESTHAB_POLY, 2021; CVP_PT, updated continually; and PVP_PT, 2013, respectively).

III. Proposed Project

The scope of work under the SRTS Program includes improving and expanding the existing pedestrian facilities to ensure safe access to the school. The limits of work generally include South Street, from School House Drive to Main Street; Main Street, extending eastward from South Street to Sisson Road and Sisson Road extending from Main Street to School House Drive.

Demolition and Erosion & Sedimentation Control

To prepare the Site for construction and minimize impacts to resource areas associated with earth disturbing activities, temporary erosion and sedimentation control measures will be installed along the LOD in the vicinity of resource areas prior to commencement of construction and will remain for the duration of work until the site has become stabilized. The project proposes to disturb greater than one acre of land and is therefore required to develop a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the Environmental Protection Agency (EPA) National Pollution Discharge Elimination System (NPDES) Construction General Permit (CGP) for discharges from construction activities. The Contractor shall prepare and submit a SWPPP prior to commencement of construction activities. Erosion and Sedimentation Control measures will be specified in the SWPPP and include, but may not be limited to, the following: temporary inlet protection on all catch basins and compost filter sock, staked on 10-foot linear spacing, along portions of the LOD adjacent to wetland resource areas.

Following the installation of erosion and sediment controls, portions of the bituminous pavement and surrounding curbing associated with existing sidewalks within the site will be removed and disposed of, where specified. Other areas of bituminous pavement, especially within the roadways, will be milled and overlayed and do not require full depth removal. Trees in the location of, or directly adjacent to proposed sidewalks and their associated grading will be removed in anticipation of the proposed work. Each tree proposed for removal, or proposed to be retained throughout construction, has been depicted on the Project Plans.

South Street

The proposed work on South Street includes the replacement of existing sidewalk with an 8-foot-wide grade separated bituminous shared-use path (exclusive of curb) on the east side of the roadway and constructing and improving curb ramps to be ADA compliant. Additional signing and striping improvements will be made at the following intersections: South Street and School House Drive; South Street and Harwich Elementary School Southern Driveway; South Street and Harwich Elementary School Northern Driveway; and South Street and Main Street.

Main Street

Proposed work on Main Street includes the reconstruction of a sidewalk on the south side of the roadway, constructing and improving curb ramps to be ADA compliant, and improvements to signage and striping. A 5-foot hot mix asphalt sidewalk (exclusive of berm) separated from the roadway by a 3-foot grass buffer is proposed along the south side of the roadway. On the north side of the roadway, sections of bituminous sidewalk, and concrete ADA compliant curb ramps are proposed to the east of the intersection of Main Street and Uncle Harry's Road and at the intersection of Main Street and Island Pond Road. The proposed sidewalk will connect the existing westbound bituminous sidewalk network along Main Street to Island Pond Road. It will also accommodate pedestrians walking from Harwich Town Center and the Old Colony Rail Trail, creating a safer pedestrian network on the north side of the roadway. Grading with a line of guard rail on the upgradient side is proposed at the back of sidewalk adjacent to stations 207 and 208 to support its increased width, required to make it ADA compliant.

Sisson Road

Work on Sisson Road includes the reconstruction of sidewalk on the west and east side of the roadway, construction of new sidewalk on the east side of the roadway, improving and installing curb ramps to be ADA compliant, and improvements to signage and striping. In locations where new sidewalk is proposed the roadway will be widened to accommodate a 2-foot wide shoulder that will serve as a roadway buffer to the sidewalk. 5-foot hot mix asphalt sidewalk (exclusive of curb) is proposed along the west side of the roadway from School House Drive to Parallel Street, and along the east side of the road from 265 Sisson Road to Main Street, with the new section of sidewalk being installed from 265 Sisson Road to Parallel Street. All new and existing crossing locations will be installed with ADA compliant curb ramps. Additionally, lot curb and a retaining wall are proposed at the back of the sidewalk in select locations to avoid significant impacts to private property as a result of grading.

Small areas of pavement mill and overlay are required on all project roadways to remove existing crosswalk markings that are being relocated or are not compliant with MassDOT standards. Mill and overlay will also be performed at locations of proposed crosswalks that currently have poor condition, extensive cracking, and/or an uneven surface. Full resurfacing or roadway reconstruction is not included in the project scope and will be performed by the Town following the SRTS improvements as a separate project.

IV. Buffer Zone Impacts

The project entirely avoids permanent and temporary impacts to the BVWs in the vicinity of the site. However, approximately 2,047 square feet (sf) of non-exempt proposed work area is located within the 100-foot buffer zone associated with the BVWs along South Street and Main Street. Buffer zone impacts have been minimized to the extent practicable given the existing conditions/use of the Site, the constraints of the Site, and programmatic needs of the proposed Site improvements. The project includes work on bituminous asphalt and lawn/landscaped areas within the buffer zone. Work includes the removal of the existing sidewalk, and the construction of a new ADA compliant sidewalk, in the same general locations. The sidewalk along Main Street is proposed as being 5-feet wide and made of hot mix asphalt with a 3-foot strip of lawn between it and the road. Along South Street, the sidewalk is proposed as 5-feet wide, however no 3-foot grassed buffer is proposed due to spatial constraints. No naturally vegetated areas will be impacted from the proposed work, which is located on the opposite side of the road as the BVWs. Due to the increase in width of the sidewalks, there will be a minor increase in impervious surfaces within the buffer zone, however all work will occur on the opposite (east) side of the roadway. Where existing

sidewalk, roadways, or driveways are being resurfaced, reclaimed, and/or repaved, these areas have not been included in the impact totals as they are exempt under 310 CMR 10.02(2)(b)2.p.

Impacts to the V-200 series IVW have been avoided entirely. Various designs were considered in order to bring the grade up to a proper elevation for the repositioned and wider sidewalk, including a retaining wall, however grading at a slope was seen as being the least impactful and requiring the least amount of long term maintenance. While filling of the area between the IVW and the roadway is necessary for the project, existing trees have been retained to the greatest extent practicable with eight (8) trees proposed for removal. The remaining twelve (12) trees in the direct vicinity of grading will be preserved.

As demonstrated above, the proposed work is necessary to provide safe access to Harwich Elementary School and have proper amenities in the case of an emergency. Permanent impacts to buffer zone of BVW are limited to replacement and improvement of existing sidewalks in order to make them ADA compliant and provide a proper width. MassDOT has made every effort limit work within buffer zone. Given this, Pare respectfully requests that the Harwich Conservation Commission issue a Negative Determination allowing the work to proceed as proposed.

Thank you for your consideration of this application. If you have any questions, please feel free to contact us at 401-334-4100 or via email at glacroix@parecorp.com.

Sincerely,

Gregory LaCroix,
Environmental Scientist

GL/dp

cc: DEP Southeast Regional Office (via electronic copy to sero_noi@mass.gov)

Z:\JOBS\20 Jobs\20154.02 MassDOT-Harwich SRTS-MA\ENVIRONMENTAL 150\RDA\Cover Letter.docx

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entitled “South Street, Main Street, & Sisson Road” prepared by Pare Corporation and dated March 2025

MassDOT – Highway Division

SOUTH STREET, MAIN STREET, & SISSON ROAD

SECTION 1

ADMINISTRATIVE DOCUMENTATION

WPA Form 1 – Request for Determination of Applicability

Massachusetts Department of Environmental Protection
Bureau of Water Resources - Wetlands

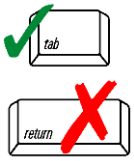
WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Harwich
Municipality

A. General Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Applicant:

First Name	Last Name
Erica	Larner

Address: 10 Park Plaza, Room 7360

City/Town	State	Zip Code
Boston	MA	02116

Phone Number	Email Address
857-268-1729	erica.n.larner@dot.state.ma.us

2. Property Owner (if different from Applicant):

First Name	Last Name
Town of Harwich	

Address: 732 Main Street

City/Town	State	Zip Code
Harwich	MA	02645

Phone Number	Email Address (if known)
508-430-7514	

3. Representative (if any)

First Name	Last Name
Amy	Archer

Company Name:

Address: 8 Blackstone Valley Place

City/Town	State	Zip Code
Lincoln	RI	02865

Phone Number	Email Address (if known)
401-334-4100	aarcher@parecorp.com

B. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

South Street, Main Street, & Sisson Road Right-of-Ways	Harwich (City/Town)
41.68625 (Latitude (Decimal Degrees Format with 5 digits after decimal e.g. XX.XXXXX))	70.080999 (Longitude (Decimal Degrees Format with 5 digits after decimal e.g. -XX.XXXXX))
N/A - right-of-way (Assessors' Map Number)	(Assessors' Lot/Parcel Number)

How to find Latitude and Longitude

and how to convert to decimal degrees

b. Area Description (use additional paper, if necessary):

South Street, Main Street, & Sisson Road roadways, sidewalks, and adjacent pervious areas.

c. Plan and/or Map Reference(s): (use additional paper if necessary)

Title	Date
South Street, Main Street, & Sisson Road	December 2024

Massachusetts Department of Environmental Protection
Bureau of Water Resources - Wetlands

WPA Form 1- Request for Determination of Applicability

Harwich
Municipality

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Project Description (cont.)

2. a. Activity/Work Description (use additional paper and/or provide plan(s) of Activity, if necessary):

This project is part of the MassDOT Safe Routes to School Program (SRTS). The SRTS program funds projects that will improve pedestrian and bicycle facilities to improve access to elementary and middle schools. The existing conditions on South Street, Main Street and Sisson Road do not provide a complete, ADA compliant path to the Harwich Elementary School located at 263 South Street in Harwich. The existing sidewalks on these roadways do not comply with ADA standards, with stretches of narrow sidewalk and several missing curb ramps for street crossings. The project will extend and improve the sidewalk network by making it ADA accessible. Proposed work seeks to improve existing sidewalks to make them ADA accessible throughout and transition them to a multi-use path along South Street.

b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

310 CMR 10.02(2)(b)2.p. Pavement repair, resurfacing, and reclamation of existing roadways within the right-of-way configuration provided that the roadway and shoulders are not widened, no staging or stockpiling of materials, all disturbed road shoulders are stabilized within 72 hours of completion of the resurfacing or reclamation, and no work on the drainage system is performed, other than adjustments and/or repairs to respective structures within the roadway.

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- ☐ Single family house on a lot recorded on or before 8/1/96
- ☐ Single family house on a lot recorded after 8/1/96
- ☐ Expansion of an existing structure on a lot recorded after 8/1/96
- ☐ Project, other than a single-family house or public project, where the applicant owned the lot before 8/7/96
- ☐ New agriculture or aquaculture project
- ☐ Public project where funds were appropriated prior to 8/7/96
- ☐ Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- ☐ Residential subdivision; institutional, industrial, or commercial project
- ☐ Municipal project
- ☐ District, county, state, or federal government project
- ☐ Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)

Massachusetts Department of Environmental Protection
Bureau of Water Resources - Wetlands

WPA Form 1- Request for Determination of Applicability

Harwich
Municipality

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. Determinations

1. I request the Harwich (Conservation Commission) make the following determination(s). Check any that apply:

☐ a. whether the **area** depicted on plan(s) and/or map(s) referenced above is an area subject to jurisdiction of the Wetlands Protection Act.

☐ b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced above are accurately delineated.

☒ c. whether the **Activities** depicted on plan(s) referenced above is subject to the Wetlands Protection Act and its regulations.

☐ d. whether the area and/or Activities depicted on plan(s) referenced above is subject to the jurisdiction of any **municipal wetlands' ordinance** or **bylaw** of:

Name of Municipality

☐ e. whether the following **scope of alternatives** is adequate for Activities in the Riverfront Area as depicted on referenced plan(s).

D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Signatures:

I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

Signature of Applicant | Date

Signature of Representative (if any) | Date

MassDOT – Highway Division

SOUTH STREET, MAIN STREET, & SISSON ROAD

SECTION 2

FIGURES

Figure 1 - Site Location Map
Figure 2 - Annotated Aerial Photograph
Figure 3 - FEMA Flood Insurance Map

MASS GIS

SITE LOCATION MAP

SCALE: 1" = 2,000'

N
W E
S

8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
(401) 334-4100

10 LINCOLN ROAD, SUITE 210
FOXBORO, MA 02035
(508) 543-1755

PARE PROJECT No. 20154.02 DECEMBER 2024

FIGURE 1

HARWICH ELEMENTARY SCHOOL
SAFE ROUTES TO SCHOOL
HARWICH, MA

MassDOT Project No. 610670

Proposaal No. 610670-133876

A00850-16

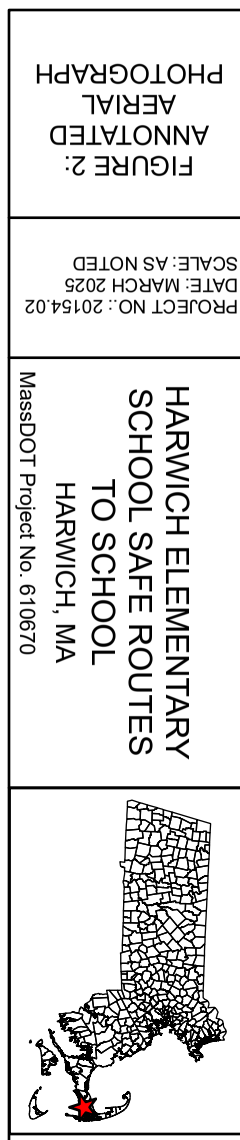
FIGURE 2: ANNOTATED AERIAL PHOTOGRAPH

PROJECT NO.: 20154.02
DATE: MARCH 2025
SCALE: AS NOTED

HARWICH ELEMENTARY SCHOOL SAFE ROUTES TO SCHOOL

HARWICH, MA

MassDOT Project No. 610670



N

1 INCH = 175 FEET

0" 1"

BAR IS ONE INCH ON ORIGINAL DRAWING

MASS GIS

PARE CORPORATION
ENGINEERS · SCIENTISTS · PLANNERS
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

Legend

- Approximate Work Limits
- 1-foot Contours
- Parcels

Field Delineated Wetland Resources

Type

- Bordering Vegetated Wetland
- Isolated Vegetated Wetland
- 100' Buffer Zone

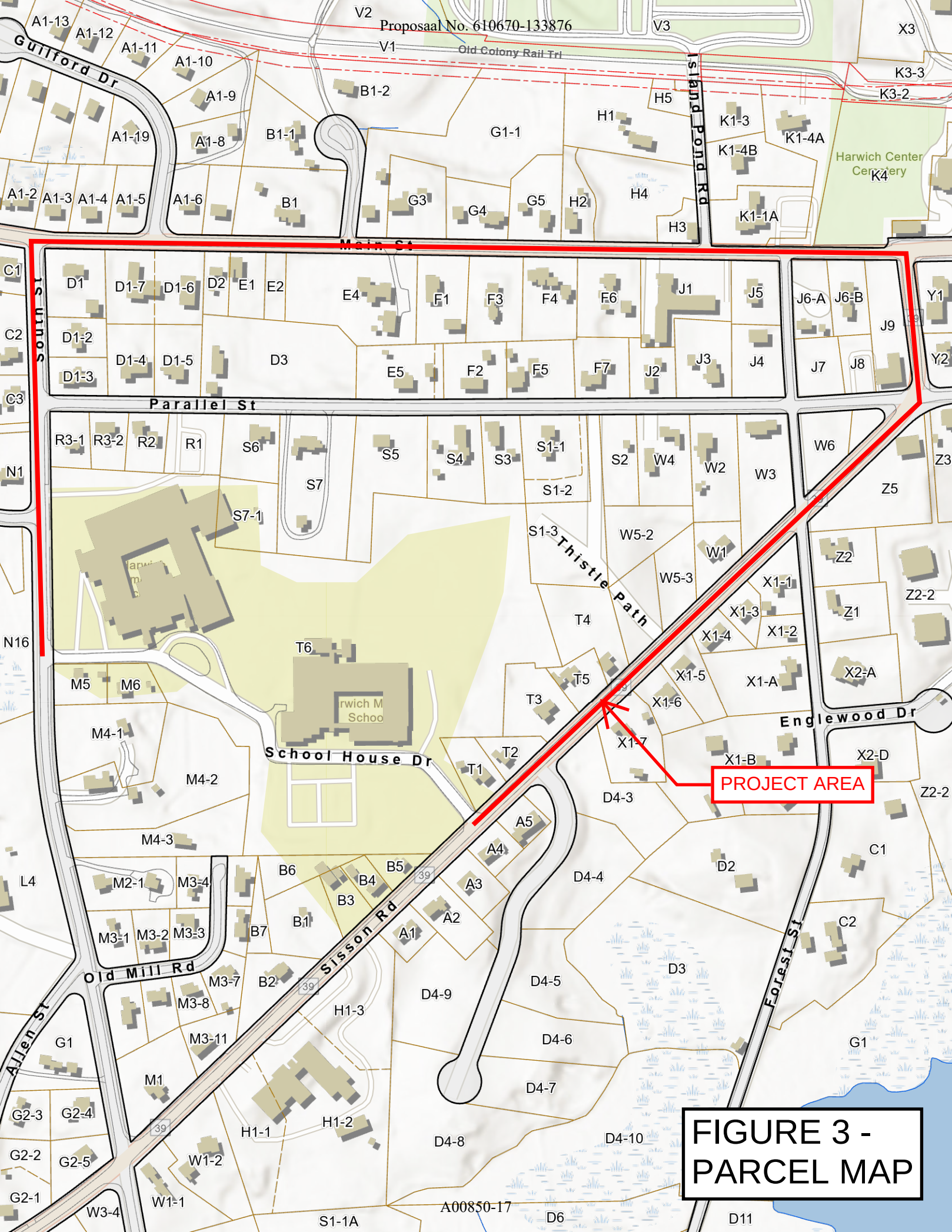
SCHOOL HOUSE DRIVE

HARWICH ELEMENTARY SCHOOL

SISSON ROAD

SOUTH STREET

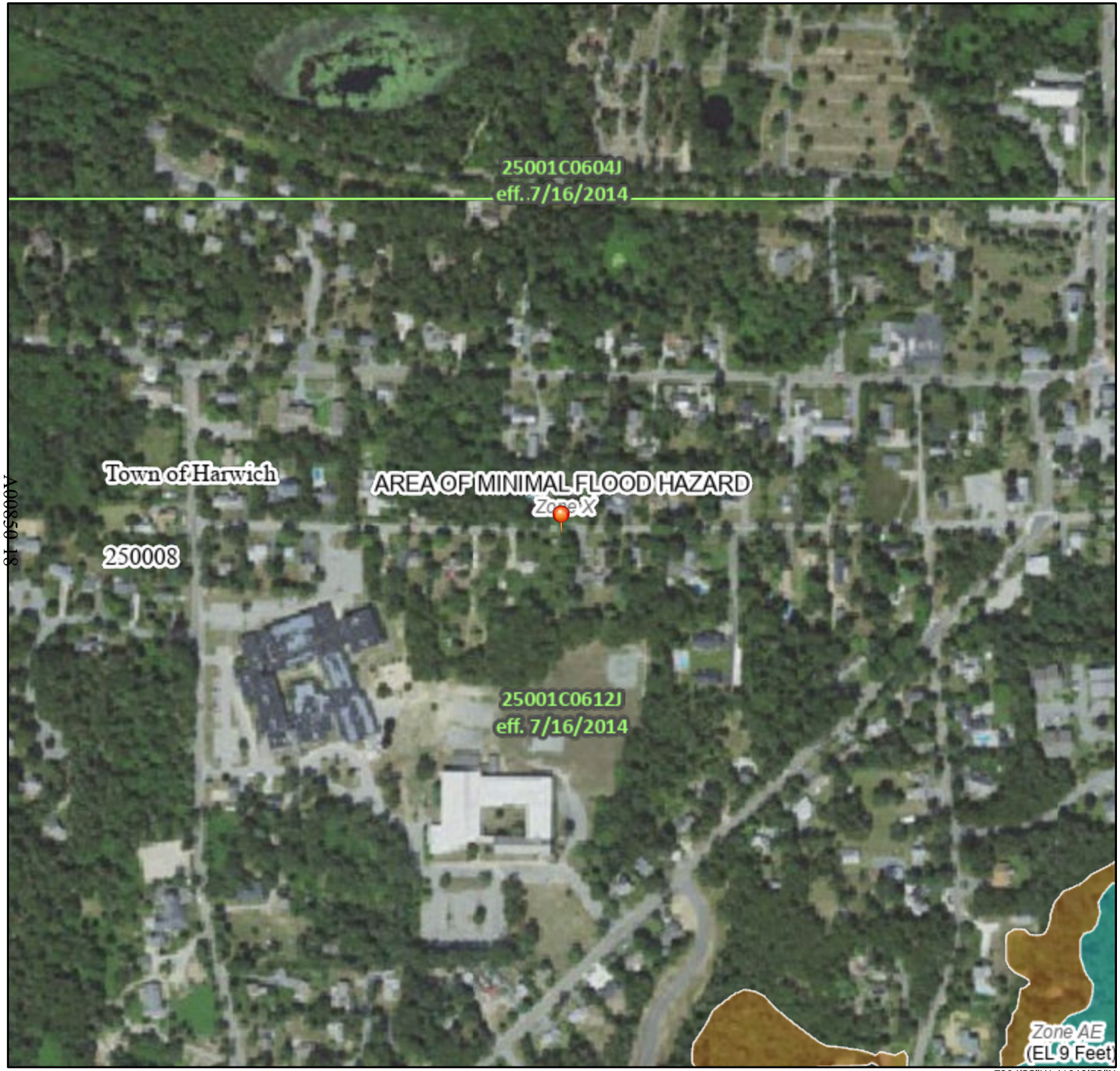
MAIN STREET


Proposaal No. 610670-133876
Old Colony Rail Trl
Guilford Dr
Island Pond Rd
Harwich Center Cemetery
Main St
South St
Parallel St
Thistle Path
School House Dr
Sisson Rd
Old Mill Rd
Allen St
Forest St
Englewood Dr
PROJECT AREA
A00850-17
FIGURE 3 - PARCEL MAP

National Flood Hazard Layer FIRMette

FEMA

70°5'10"W 41°41'20"N



A0080 0 18

0 250 500 1,000 1,500 2,000 Feet

1:6,000

70°4'33"W 41°40'53"N

Basemap Imagery Source: USGS National Map 2023

Legend

FIGURE 4

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

Proposal No. 610670-133876

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/4/2024 at 10:09 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

MassDOT – Highway Division

SOUTH STREET, MAIN STREET, & SISSON ROAD

SECTION 3

SITE PHOTOGRAPHS

Photo 1: View of the typical roadway and sidewalk combination existing on the site. As seen in the picture, the existing sidewalks are not 5-feet wide and therefore are not ADA compliant.

Photo 2: View of settling and cracking of the existing sidewalks on the site. In addition, there is no buffer between the sidewalk and the roadway and the sidewalk is less than 5-feet wide.

MassDOT – Highway Division

SOUTH STREET, MAIN STREET, & SISSON ROAD

SECTION 4

WETLAND DELINEATION DOCUMENTATION

Wetland Resource Area Delineation Summary Memo

MassDOT Safe Routes to School Program-Harwich Elementary School

Harwich, Massachusetts

May 14, 2021

UNDERSTANDING OF THE PROJECT

As part of its "Safe Routes to School Program", the Massachusetts Department of Transportation – Highway Division ("MassDOT") proposes certain sidewalk improvements along various roads near the Harwich Elementary School in Harwich, Massachusetts. Epsilon understands, the proposed improvements include (in part) the installation of vertical granite curbs with curb ramps, installation of asphalt sidewalk and retaining walls, striped crosswalks, and landscaping. The approximately ¾-mile project corridor extends from the elementary school northward approximately 1,000 feet on South Street, then eastward approximately 2,100 feet on Main Street, and southward and southwestward approximately 800 feet on Forrest Street, extending through the historic center of Harwich Village where land use is primarily residential.

Epsilon Associates, Inc. ("Epsilon") was engaged by MassDOT to conduct a site reconnaissance of the project corridor to determine if jurisdictional wetland resource areas existed near the proposed limits of work. If jurisdictional wetland resource areas were identified, Epsilon would delineate the boundaries in accordance with state and federal regulations. As a stage agency, Epsilon understands that MassDOT's work is not subject to review under local wetland bylaws and ordinances, including the Harwich Wetlands Bylaw. The balance of this memo described Epsilon's findings.

WETLAND DELINEATION METHODOLOGY

A wetland scientist from Epsilon delineated jurisdictional wetland resource areas within the study area on May 6, 2021. The vegetated wetlands were delineated in accordance with the U.S. Army Corps of Engineers *Wetland Delineation Manual* (USACE, 1987), the "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0", the Massachusetts Wetlands Protection Act and implementing regulations (310 CMR 10.00), and the Massachusetts Department of Environmental Protection's handbook, *Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act* (MADEP, 1995). The federal and state delineation methodologies generally prescribe a three-parameter approach, where hydrophytic vegetation, hydric soils, and hydrology are reviewed in conjunction with one another when delineating a wetland edge.

The boundaries of wetland resource areas were delineated in the field by tying brightly colored survey ribbons to woody vegetation or other relatively permanent vegetation. The colored ribbons were placed sufficiently close together to clearly identify wetland edges and to allow survey crews to see adjacent

flags from each other. Flags were labeled sequentially using alpha numeric identifiers and will be located by a licensed survey crew.

FINDINGS

Wetland resource areas present within the study area include two Isolated Vegetated Wetlands ("IVW's") and one Bordering Vegetated Wetland ("BVW") associated with Island Pond. All identified wetlands extend beyond the roadway layout and only the portions closest to the roadway were delineated. In support of the delineation, Epsilon evaluated soil, hydrology, and vegetation data within the identified wetland and surrounding upland areas. plan mark-up showing approximate location of wetland flags is provided as Attachment A. Representative site photographs are provided in Attachment B. Finally, Attachment C includes a set of MassDEP BVW Wetland Determination Forms for Wetland Area 3. Additional detail is provided below.

Wetland Area 1 (IVW)

Wetland Area 1, an IVW located directly opposite the Harwich Elementary School on South Road, is an abandoned cranberry bog that features a network of perimeter and interior ditches that are characteristic of this type of agriculture. The relatively flat expanse of the formerly cultivated bog contrasts sharply with the gently rolling topography of the adjacent wooded upland. In its fallow state the bog has reverted to a forested palustrine wetland. Dominant trees include red maple *(Acer rubrum)* and tupelo *(Nyssa sylvatica)*. Highbush blueberry *(Vaccinium corymbosum)* and sweet pepperbush *(Clethra alnifolia)* are common in the shrub layer. Groundcover was mostly limited to openings along the sides of ditches and included sphagnum moss *(Sphagnum sp.)*, starflower *(Trientalis borealis)*, blue flag *(Iris versicolor)*, and sensitive fern *(Onoclea sensibilis)*. Flags labeled V-101 through V-104 were placed along the edge of this wetland area closest to South Road.

Wetland Area 2 (IVW)

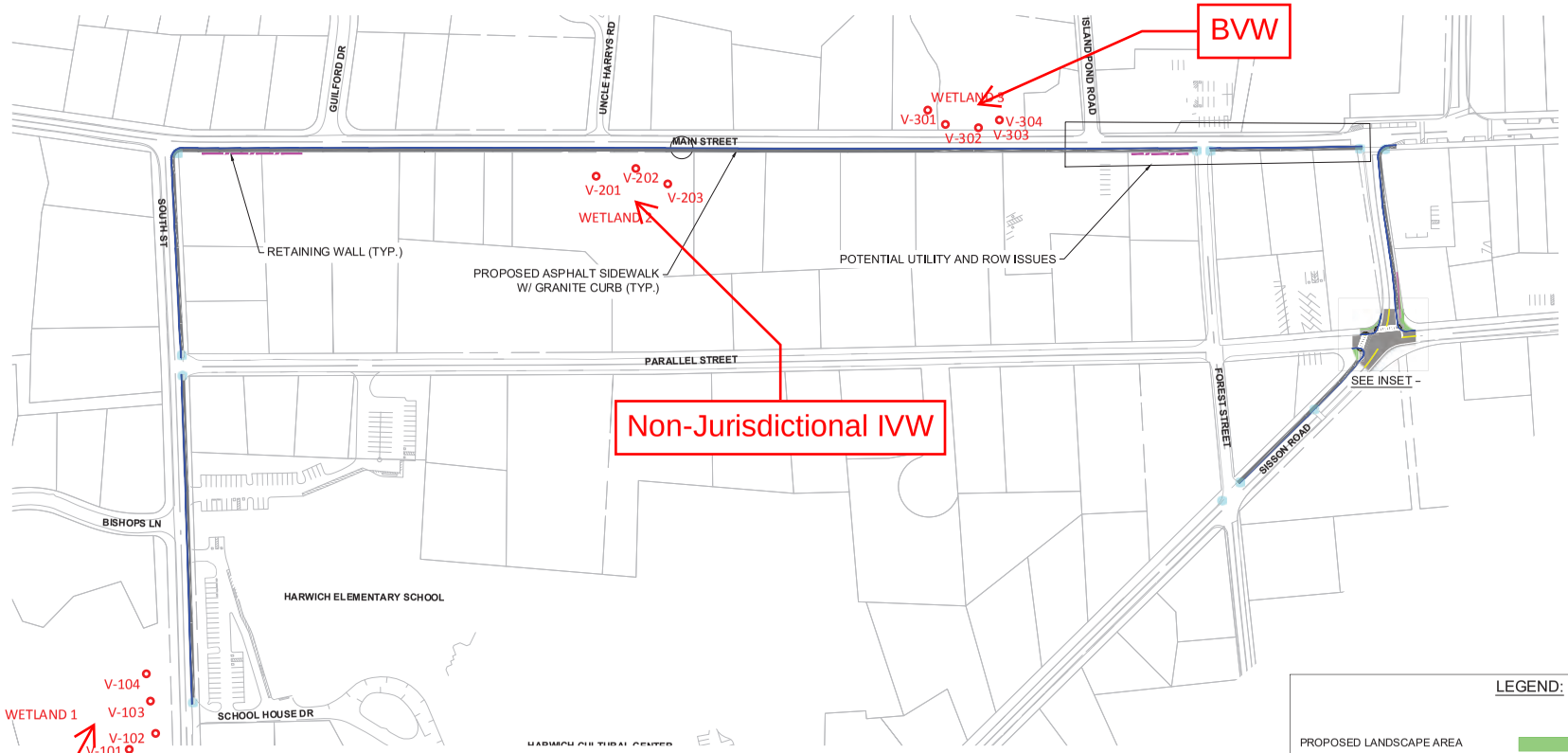
Wetland Area 2 is an IVW located along the south side of Main Street nearly opposite the intersection with Uncle Harry's Road. It is characterized as a palustrine forested wetland with red maple *(Acer rubrum)* being the dominant tree in the area closest to the project corridor. Common shrubs include northern arrowwood *(Viburnum recognitum)*, common winteberry *(Ilex verticillata)*, and blackberry *(Rubus setosus)*. Groundcovers were relatively scarce except for discrete pockets of soft rush *(Juncus effusus)* and some garlic mustard *(Alliaria petiolate)* occurring along the upland transition. Flags V-201 through V-203 were placed along the edge of this wetland area along Main Street.

Wetland Area 3 (BVW)

Wetland Area 3 is a BVW that is located on the north side of Main Street just west of Island Pond Road (see flags V-301 through V304). The wetland is hydrologically connected to Island Pond by way of a drainage ditch and culvert that carries water beneath the Cape Cod Rail Trail approximately 450-feet north of Main Street. The wetland area is located at the base of a very steep embankment that is thickly vegetated with a row of eastern hemlock *(Tsuga canadensis).* Dominant vegetation includes red maple *(Acer rubrum)*, northern arrowwood *(Viburnum recognitum)*, common winterberry *(Ilex verticillate)*, and sensitive fern *(Onoclea sensibilis)*. BVW delineation data forms are included as Attachment C.

Attachment A

Wetland Delineation Field Sketch



DRAFT

PREPARED BY: AECOM

massDOT Massachusetts Department of Transportation

MASSACHUSETTS Safe Routes to School

MASSACHUSETTS SAFE ROUTES TO SCHOOL
INFRASTRUCTURE APPLICATION PROGRAM
10% CONCEPT PLAN

HARWICH ELEMENTARY SCHOOL
HARWICH, MASSACHUSETTS

JULY 2019 SHEET 1 OF 1

Plotted on 24-Jul-2019 1:11 AM
HARWICH.DWG

Proposaal No. 610670-133876

A00850-25

Attachment B

Representative Photographs of Delineated Wetland Resource Areas

Wetland Area 1

Wetland Area 2

Wetland Area 3

Attachment C

MassDEP BVW Determination Forms

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: MassDOT Prepared by: J. Vaccaro Project location: Harwich , MA DEP File #: _____

Check all that apply:

- ☒ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☐ Vegetation and other indicators of hydrology usedto delineateBVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I.

Vegetation	Observation Plot Number:		Transect Number:	Date of Delineation:
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees				
Red maple *(Tsuga canadensis)*	15	100	YES	FAC
Shrubs				
Northern arrowwood *(Viburnum recognitum)*	10	40	YES	FAC
Common winterberry *(Ilex verticilata)*	10	40	YES	FACW
Swamp rose *(Rosa palustris)*	5	20	YES	OBL
Herbs				
Sensitive fern *(Onoclea sensibilis)*	15	50	YES	FACW
Soft rush *(Juncus effusis)*	10	33	YES	OBL
Blue flag *(Iris veriscolor)*	5	17	NO	(OBL)

* *Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.*

Vegetation conclusion:

Number of dominant wetland indicator plants: 6 Number of dominant non-wetland indicator plants: 0

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

A00850-31

Proposaal No. 610670-133876

WETLAND AREA 3 -UPLAND PLOT

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: MassDOT Prepared by: J. Vaccaro Project location: Harwich , MA DEP File #: _____

Check all that apply:

- ☒ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☐ Vegetation and other indicators of hydrology usedto delineateBVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I.

Vegetation	Observation Plot Number:		Transect Number:	Date of Delineation:
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees				
Eastern Hemlock *(Tsuga canadensis)*	100	100	YES	FACU

A00850-32

Proposaal No. 610670-133876

Note: Upland plot located within row of hemlocks on very steep slope road shoulder with distinct transition to wetland at base of slope.

* *Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.*

Vegetation conclusion:

Number of dominant wetland indicator plants: 0 Number of dominant non-wetland indicator plants: 0

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes (no)

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

MassDOT – Highway Division

SOUTH STREET, MAIN STREET, & SISSON ROAD

SECTION 5

SITE PLANS

Entitled "South Street, Main Street, & Sisson Road"
prepared by Pare Corporation dated May 2025

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	1	71
PROJECT FILE NO.	610670		

TITLE SHEET AND INDEX -PERMIT

PLAN AND PROFILE OF

SOUTH STREET, MAIN STREET

AND SISSON ROAD

IN THE TOWN OF

HARWICH

BARNSTABLE COUNTY

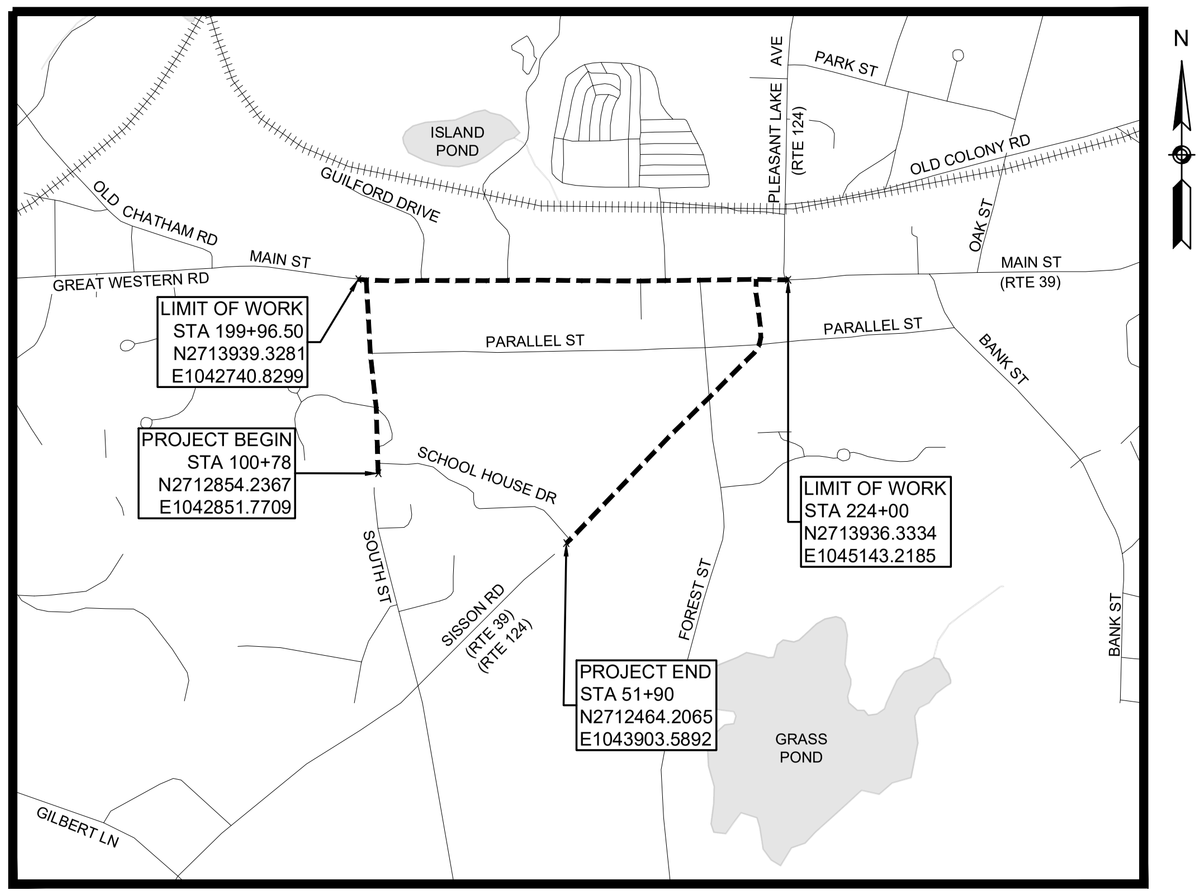
FEDERAL AID PROJECT NO. -

PERMIT SUBMITTAL

THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 2024, THE MARCH 2025 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET AND INDEX
2	LEGEND & ABREVIATIONS
3	NOTES
4	KEY PLAN
5 - 6	TYPICAL SECTIONS - 1 - 2
7 - 16	CONSTRUCTION PLAN - 1 - 10
17 - 26	CURB TIE & GRADING PLAN - 1 - 10
27 - 36	DRAINAGE & UTILITY PLAN - 1 - 10
~~37 - 46~~	~~TRAFFIC SIGN & PAVEMENT MARKINGS PLAN - 1 - 10~~
~~47~~	~~TRAFFIC SIGN SUMMARY~~
~~48 - 50~~	~~TEMPORARY TRAFFIC CONTROL PLAN 1 - 3~~
51 - 55	CONSTRUCTION DETAILS - 1 - 5
~~56 - 71~~	~~CROSS SECTIONS - 1 - 16~~



0 600 1200 2400

SCALE: 1" = 600'

DESIGN DESIGNATION
FROM MASSDOT DATA

	SOUTH STREET	MAIN STREET	SISSON ROAD
DESIGN SPEED	40 MPH	40 MPH	35 MPH
ADT (2022)	1,278 VPD	5,092 VPD	5,716 VPD
ADT (2042)	1,379 VPD	5,627 VPD	6,316 VPD
K	14%	14%	10%
D	54%	50%	51%
T (PEAK HOUR)	7%	12%	7%
T (AVERAGE DAY)	7%	16%	9%
DHV	194	788	632
DDHV	105	394	323
FUNCTIONAL CLASSIFICATION	URBAN MAJOR COLLECTOR	URBAN MINOR ARTERIAL	URBAN PRINCIPAL ARTERIAL

SOUTH STREET LENGTH OF PROJECT = 1076.5 FEET = 0.204 MILES
MAIN STREET LENGTH OF PROJECT = 2351.1 FEET = 0.445 MILES
SISSON ROAD LENGTH OF PROJECT = 1913.6 FEET = 0.362 MILES

COMMONWEALTH OF MASSACHUSETTS
5/5/25
AMY J ARCHER
CIVIL
NO. 50439
REGISTERED PROFESSIONAL ENGINEER

DATE	DESCRIPTION	REV #
05-05-25	PERMIT SUBMISSION	0
12-06-24	75% / 100% DESIGN	0
12-05-22	25% DESIGN	0

massDOT Massachusetts Department of Transportation Highway Division

PARE

APPROVED

CHIEF ENGINEER **DATE**

610670_HD\TITLE SHEET AND INDEX\ DWG Plotted on 5-May-2025 2:33 PM
Proposal No. 610670-133876
A00850-34

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
JB	JB	JERSEY BARRIER
CB	CB	CATCH BASIN
		CATCH BASIN CURB INLET
FP	FP	FLAG POLE
GP	GP	GAS PUMP
MB	MB	MAIL BOX
		POST SQUARE
		POST CIRCULAR
WELL	WELL	WELL
EHH	EHH	ELECTRIC HANDHOLE
		FENCE GATE POST
GG	GG	GAS GATE
BHL #	BHL #	BORING HOLE
MW #	MW #	MONITORING WELL
TP #	TP #	TEST PIT
		HYDRANT
		LIGHT POLE
CO.BD.		COUNTY BOUND
		GPS POINT
C	C	CABLE MANHOLE
D	D	DRAINAGE MANHOLE
E	E	ELECTRIC MANHOLE
G	G	GAS MANHOLE
M	M	MISC MANHOLE
S	S	SEWER MANHOLE
T	T	TELEPHONE MANHOLE
W	W	WATER MANHOLE
MHB	MHB	MASSACHUSETTS HIGHWAY BOUND
MON		MONUMENT
SB		STONE BOUND
TB		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
TPL or GUY	TPL or GUY	TROLLEY POLE OR GUY POLE
HTP		TRANSMISSION POLE
UFB	UFB	UTILITY POLE W/ FIREBOX
UPDL	UPDL	UTILITY POLE WITH DOUBLE LIGHT
ULT	ULT	UTILITY POLE W / 1 LIGHT
UPL	UPL	UTILITY POLE
		BUSH
SIZE & TYPE		TREE
		STUMP
		SWAMP / MARSH
WG	WG	WATER GATE
PM	PM	PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
100 99		CONTOURS (ON-THE-GROUND SURVEY DATA)
100 99		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		GUARD RAIL - DOUBLE FACE - STEEL POSTS
		GUARD RAIL - DOUBLE FACE - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		SEDIMENT CONTROL BARRIER
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
1	1	CONTROLLER PHASE ACTUATED
		TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
		VIDEO DETECTION CAMERA
		MICROWAVE DETECTOR
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
	*	EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
RRSG	RRSG	RAILROAD SIGNAL
OR		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
	20'	MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
		SIGN AND POST
		SIGN AND POST (2 POSTS)
	20'	MAST ARM WITH LUMINAIRE
		OPTICAL PRE-EMPTION DETECTOR
		CONTROL CABINET, GROUND MOUNTED
		CONTROL CABINET, POLE MOUNTED
		FLASHING BEACON CONTROL AND METER PEDESTAL
		LOAD CENTER ASSEMBLY
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT
		RECTANGULAR RAPID FLASHING BEACON

PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
	SL	STOP LINE - 12" SOLID WHITE LINE
	CW	CROSSWALK - 2' SOLID WHITE LINE, 2' SPACE
	SWL	SOLID WHITE LINE - 6" REFLECTORIZED
	SYL	SOLID YELLOW LINE - 6" REFLECTORIZED
	BWL	BROKEN WHITE LINE
	BYL	BROKEN YELLOW LINE
	DWL	DOTTED WHITE LINE
	DYL	DOTTED YELLOW LINE
	DWLEx	DOTTED WHITE LINE EXTENSION
	DYLEx	DOTTED YELLOW LINE EXTENSION
	DBWL	DOUBLE WHITE LINE
	DBYL	DOUBLE YELLOW LINE - 6" REFLECTORIZED

ABBREVIATIONS

GENERAL

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CR GR	CROWN GRADE
CW	CROSSWALK
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
DWP	DETECTABLE WARNING PANEL
ELEV (or EL.)	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LB	LEACH BASIN
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCR	PEDESTRIAN CURB RAMP
PERM	PERMANENT
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PLAS	PLASTIC
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY

ABBREVIATIONS (cont.)

GENERAL

PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATER WAY
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

TRAFFIC SIGNAL ABBREVIATIONS

CAB	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
DW	STEADY UPRAISED HAND
FDW	FLASHING UPRAISED HAND
FR	FLASHING CIRCULAR RED
FRL	FLASHING RED LEFT ARROW
FRR	FLASHING RED RIGHT ARROW
FY	FLASHING CIRCULAR YELLOW
FYL	FLASHING YELLOW LEFT ARROW
FYR	FLASHING YELLOW RIGHT ARROW
G	STEADY CIRCULAR GREEN
GL	STEADY GREEN LEFT ARROW
GR	STEADY GREEN RIGHT ARROW
GSL	STEADY GREEN SLASH LEFT ARROW
GSR	STEADY GREEN SLASH RIGHT ARROW
GV	STEADY GREEN VERTICAL ARROW
OL	OVERLAP
PED	PEDESTRIAN
PTZ	PAN, TILT, ZOOM
R	STEADY CIRCULAR RED
RL	STEADY RED LEFT ARROW
RR	STEADY RED RIGHT ARROW
RRFB	RECTANGULAR RAPID FLASHING BEACON
TR SIG	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
W	STEADY WALKING PERSON
Y	STEADY CIRCULAR YELLOW
YL	STEADY YELLOW LEFT ARROW

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	2	71
PROJECT FILE NO.	610670		

LEGEND & ABREVIATIONS

610670_HD(LEGEND).DWG Plotted on 5-May-2025 3:20 PM
Proposal No. 610670-133876
A000850-35

GENERAL NOTES

1. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT FOR REVIEW A SCHEDULE OF OPERATIONS IN ADDITION TO OTHER CONTRACT REQUIREMENTS TO THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION.
2. WHERE THE NEW CONSTRUCTION COINCIDES WITH PRESENT TRAVELED WAYS, THE CONTRACTOR SHALL PERFORM THEIR WORK IN A MANNER ACCEPTABLE TO THE ENGINEER SO THAT INTERFERENCE TO BUSINESSES AND ABUTTERS, ON ACCOUNT OF THE CONSTRUCTION WORK, IS KEPT TO A MINIMUM. THE CONTRACTOR WILL NOT BE ALLOWED TO PARK EQUIPMENT OR STOCKPILE MATERIAL ON THE TRAVELED WAYS OVERNIGHT OR WHEN NOT IN USE. THE CONTRACTOR SHALL MAINTAIN SAFE AND REASONABLE ACCESS TO AND FROM ABUTTING PROPERTIES AT ALL TIMES AT NO ADDITIONAL COST.
3. NO EXISTING PUBLIC UTILITY STRUCTURES SHALL BE ABANDONED AND/OR DISMANTLED WITHOUT AUTHORIZATION FROM THE ENGINEER.
4. FINAL LOCATION OF TRAFFIC SIGNS AND SUPPORTS SHALL BE SHOWN ON THE TRAFFIC PLAN AND MAY, IF NECESSARY, AT DISCRETION OF THE ENGINEER, BE MODIFIED IN THE FIELD AS APPROPRIATE.
5. DETAILS FOR SIGN SUPPORTS SHALL BE IN ACCORDANCE WITH MASSDOT STANDARD DRAWINGS.
6. DAMAGE OF PROPERTY BEYOND THE WORK LIMITS CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, SUBJECT TO THE APPROVAL OF THE ENGINEER AND ACCEPTANCE OF THE PROPERTY OWNER.
7. ALL EXISTING TOWN AND PRIVATE UTILITY CASTINGS SUCH AS WATER BOXES, CURB STOPS, MANHOLE FRAMES AND COVERS, CATCH BASIN FRAME AND GRATES AND OTHER CASTINGS SHALL BE ADJUSTED BY THE CONTRACTOR TO LINE AND GRADE AS DIRECTED BY THE ENGINEER UNLESS OTHERWISE SPECIFIED IN THE SPECIAL PROVISIONS OR ON THE CONTRACT PLANS.
8. THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL UTILITIES THROUGHOUT THE PROJECT SO THAT THE VARIOUS UTILITY OWNERS HAVE ACCESS TO VAULTS AND MANHOLES TO OPERATE VALVES AND OTHER CONTROLS ON THEIR SYSTEM.
9. THE LOCATIONS OF PROPOSED PIPELINES, STRUCTURES AND UTILITY RELOCATIONS MAY BE MODIFIED TO SUIT FIELD CONDITIONS AT THE DISCRETION OF THE ENGINEER.
10. OFFSETS TO CATCH BASINS ARE TO THE CENTER OF THE GRATE.
11. RIM ELEVATIONS MAY BE SUBJECT TO FIELD ADJUSTMENTS AS DIRECTED BY THE ENGINEER. ELEVATIONS ON CATCH BASINS ARE REFERENCED TO THE CENTER OF GRATE AT FACE OF CURB.
12. WHERE WATERLINES, DRAINAGE PIPES OR STRUCTURES ARE ABANDONED IN PLACE, CONTRACTOR SHALL MAKE SURE THAT ALL CONNECTING PIPES, INLETS AND OUTLETS ARE PLUGGED. ALL LIVE CONNECTIONS SHALL BE CONNECTED TO THE NEW SYSTEM.
13. DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY, BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL ANY OF THE STRUCTURES BE ORDERED.
14. ADA COMPLIANT ACCESS MUST BE MAINTAINED AT ALL TIMES.
15. DAMAGE OF PROPERTY BEYOND THE WORK LIMITS CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, SUBJECT TO THE APPROVAL OF THE ENGINEER AND ACCEPTANCE OF THE PROPERTY OWNER.
16. THE CONTRACTOR SHALL DISPOSE OF ALL WASTE MATERIAL IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS AT THEIR OWN EXPENSE IF NOT OTHERWISE SPECIFIED, OUTSIDE OF THE PROJECT LIMITS.
17. THE CONTRACTOR SHALL EXCAVATE TEST PITS TO VERIFY LOCATIONS OF EXISTING UTILITIES AS DIRECTED BY THE ENGINEER.
18. IF THE CONTRACTOR DAMAGES UTILITY SERVICES, THEY SHALL IMMEDIATELY NOTIFY THE RESPECTIVE UTILITY COMPANY AND SHALL IMMEDIATELY REPLACE OR REPAIR, UNLESS INDICATED OTHERWISE BY THE RESPECTIVE UTILITY OWNER.
19. ALL WHEELCHAIR RAMPS SHALL CONFORM TO THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB) RULES AND REGULATIONS AND THE AMERICANS WITH DISABILITIES ACT (ADA) GUIDELINES AND THE PUBLIC RIGHTS OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
20. IN ALL LOCATIONS WHERE PROPOSED SIDEWALK TRANSITIONS TO MEET EXISTING GRADE, SIDEWALK OR PAVED AREA, SLOPE SHALL NOT EXCEED 1:12.
21. AN UNOBSTRUCTED ACCESSIBLE PATH OF TRAVEL WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED PAST ALL OBSTRUCTIONS (UTILITY POLES, SIGNS, SIGNAL FOUNDATIONS AND MASTS, MAILBOXES, ALONG DRIVE OPENINGS, ETC.)
22. ALL EXISTING DRAINAGE STRUCTURES AND PIPE TO REMAIN WITHIN THE PROJECT LIMITS SHALL BE CLEANED AND SEDIMENT DISPOSED OF.
23. ALL PROPOSED DRAINAGE CONNECTIONS TO EXISTING STRUCTURES WILL BE INCLUDED IN THE COST OF INSTALLATION OF THE NEW PIPE OR STRUCTURE.
24. THE FINAL LOCATIONS OF TREES SHOWN ON PRIVATE PROPERTY WILL BE DECIDED IN THE FIELD WITH THE MASSDOT LA, TOWN TREE WARDEN AND IMPACTED PROPERTY OWNER.
25. NGRID GAS INFORMATION HAS BEEN PLOTTED BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE AWARE THAT SEVERAL GAS SERVICES ARE NOT SHOWN ON THE PLAN.

SURVEY NOTES:

1. THIS PLAN IS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY BSC GROUP INC. BETWEEN OCTOBER 2020 AND MARCH 2021.
2. HORIZONTAL DATUM SHOWN HEREON REFERENCES THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, MAINLAND ZONE, US SURVEY FEET, NAD83 (2011-EPOCH 2010.00) AND IS BASED ON GROUND CONTROL PROVIDED BY MASSDOT. MASSDOT CONTROL POINTS ARE 2621, 2622, 2623 AND 2624.
3. THE VERTICAL DATUM SHOWN HEREON REFERENCES NAVD88 (GEOID 18) AND IS BASED ON GROUND CONTROL PROVIDED BY MASSDOT. MASSDOT CONTROL CHECKED INTO MASSDOT TBM 8085. ELEVATIONS OF CONTROL AND TBMS SET BY BSC GROUP ARE BASED ON DIFFERENTIAL LEVELING FROM MASSDOT POINTS 2621, 2622, 2623 AND 2624.
4. AVERAGE GROUND-TO-GRID COMBINED SCALE FACTOR OF CONTROL SET BY BSC GROUP = 1.00000625.
5. EASEMENTS SHOWN ARE BASED ON A LIMITED PLAN REVIEW AND MAY NOT REFLECT ALL EASEMENTS IN THE PROJECT AREA.
6. AT THE TIME OF SURVEY, VERIZON HAD NOT SUPPLIED RECORDS FOR SISSON ROAD, SOUTH OF PARALLEL STREET.

SURVEY PLAN REFERENCES:

1. LAYOUT PLANS OF RECORD: 1931 COUNTY LAYOUT OF SISSON ROAD, 1932 COUNTY LAYOUT OF MAIN STREET, 1949 COUNTY LAYOUT OF MAIN STREET, 1950 COUNTY LAYOUT OF MAIN STREET. COUNTY LAYOUTS ARE FILED AT THE NORFOLK COUNTY REGISTRY OF DEEDS.
2. PLANS OF RECORD (BK/PG): 88/111, 90/149, 244/80, 401/81, 421/79. LAND COURT PLANS LCC 26218A AND LCC33260A. SAID PLANS ARE RECORDED AT THE NORFOLK COUNTY REGISTRY OF DEEDS.

UTILITY NOTES

1. EXISTING UTILITIES, WHERE SHOWN HEREON, ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON-SITE ACTIVITY WITH DIG-SAFE AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. DIG-SAFE SHALL BE NOTIFIED PER THE COMMONWEALTH OF MASSACHUSETTS STATUTE CHAPTER 82, SECTION 40, AT 1-888-344-7233. NO GUARANTEE IS IMPLIED OR INTENDED AS TO THE ACCURACY, LOCATION OR THAT ALL UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION AND INVERTS OR UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTIBILITY OF THE DRAINAGE SYSTEM SHALL ANY STRUCTURES BE ORDERED. ANY FIELD ADJUSTMENTS TO LINE & GRADE UP TO A DEPTH OF 5' SHALL BE INCLUDED IN THE COST OF THE PIPE. PIPE EXCAVATION GREATER THAN 5' WILL BE PAID UNDER CLASS B EXCAVATION.

NATIONAL GRID GAS NOTES

1. IF THE PROPOSED CONSTRUCTION IS WITHIN CLOSE PROXIMITY OF HIGH PRESSURE TRANSMISSION GAS MAIN, CONTACT NATIONAL GRID'S DAMAGE PREVENTION DEPARTMENT FOR SPECIFIC REQUIREMENTS. IT IS RECOMMENDED THAT:

   - A NATIONAL GRID REPRESENTATIVE IS ON SITE CONTINUOUSLY DURING ANY EXCAVATION/SUBSURFACE WORK WITHIN 15 FEET OF A TRANSMISSION FACILITY.

   - WHEN WORKING WITHIN 15' OF THE OUTSIDE PERIMETER OF ANY TRANSMISSION PIPELINE, HAND TOOLS AND VACUUM EXCAVATION MUST BE USED UNTIL THE EXACT ALIGNMENT HAS BEEN VERIFIED

   - WHEN WORKING WITHIN 15' OF THE OUTSIDE PERIMETER OF ANY TRANSMISSION PIPELINE, VERIFICATION HOLES SHOULD BE DUG USING HAND TOOLS/VACUUM EXCAVATION AT 50 FT INTERVALS OVER TRANSMISSION MAIN THAT RUNS ADJACENT TO A PROPOSED INDIVIDUAL CONSTRUCTION EXCAVATION.

   - WHERE CROSSING TRANSMISSION GAS PIPE WITH UTILITIES AND UNDERGROUND STRUCTURES, TEST HOLES MUST BE DUG AT THE CROSSING TO CONFIRM THE DEPTH, INVERT ELEVATION, AND SEPARATION.

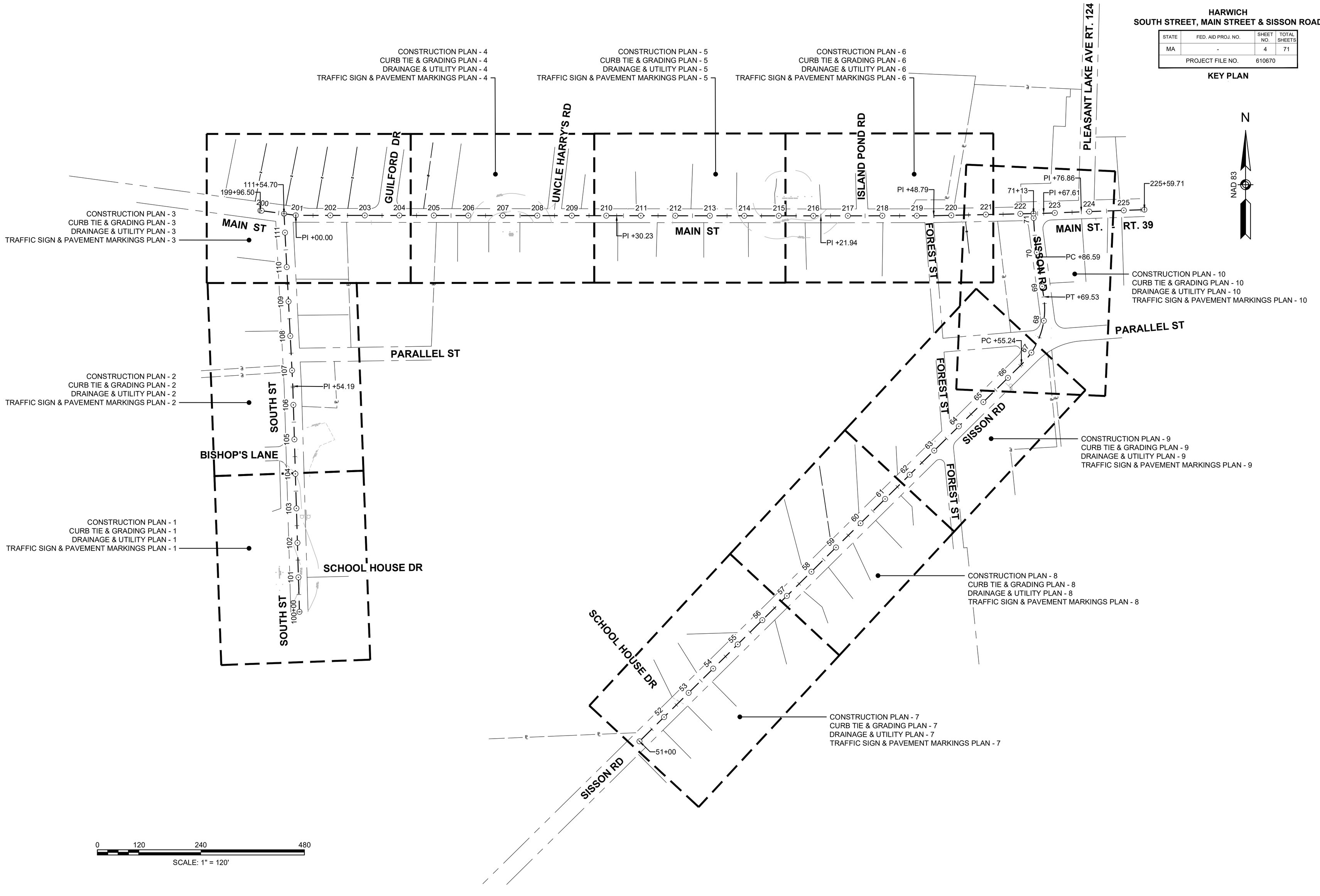
   - ONCE THE EXACT ALIGNMENT OF TRANSMISSION PIPING HAS BEEN VERIFIED USING HAND TOOLS AND VACUUM EXCAVATION, POWERED EXCAVATION MAY BE USED WITHIN 15' OF THE PIPELINE, BUT NO CLOSER THAN THE TRANSMISSION PIPELINE SAFETY ZONE (18" + 1/2 THE DIAMETER OF THE PIPELINE).

610670_HD(LEGEND).DWG Plotted on 5-May-2025 3:20 PM
Proposal No. 610670-133876
A00850-36

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	4	71
PROJECT FILE NO.	610670		

KEY PLAN



610670_HD(KEY SHEET).DWG Plotted on 5-May-2025 3:21 PM
Proposal No. 610670-133876
A000850-37

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	5	71
PROJECT FILE NO.	610670		

TYPICAL SECTIONS - 1

HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

GENERAL NOTES:

1. ALL HOT MIX ASPHALT PAVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 450 QUALITY ASSURANCE OR HMA.
2. ASPHALT EMULSION FOR TACK COAT (ITEM 452) SHALL BE SPRAY APPLIED FOR TRIPLE OVERLAP COVERAGE AT 0.08 GAL/SY OVER MILLED SURFACES AND 0.07 GAL/SY OVER SMOOTH SURFACES.
3. HMA JOINT ADHESIVE (ITEM 453) SHALL BE APPLIED IN SURFACE COURSE AT ALL VERTICAL COLD JOINTS PRIOR TO HMA PAVING.
4. ALL HOT MIX ASPHALT WALKS AND DRIVEWAYS SHALL BE ESTIMATED AND PAID FOR UNDER ITEM 702. OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
5. WHERE EXISTING GRAVEL IS FOUND TO BE SUITABLE, THE EXISTING GRAVEL MAY BE USED IN PROPOSED SUBBASE, AFTER APPROVAL BY THE ENGINEER.

PAVEMENT NOTES

FINE MILL & OVERLAY

FINE MILL:	1.5" EX PAVEMENT
TOP COURSE:	1.5" SUPERPAVE SURFACE COURSE - 9.5 (SSC-9.5)

HOT MIX ASPHALT DRIVEWAY

SURFACE:	4" HMA (1.5" SSC - 9.5 OVER 2.5" SSC - 12.5)
SUBBASE:	8" GRAVEL BORROW (TYPE B)

HOT MIX ASPHALT SIDEWALK

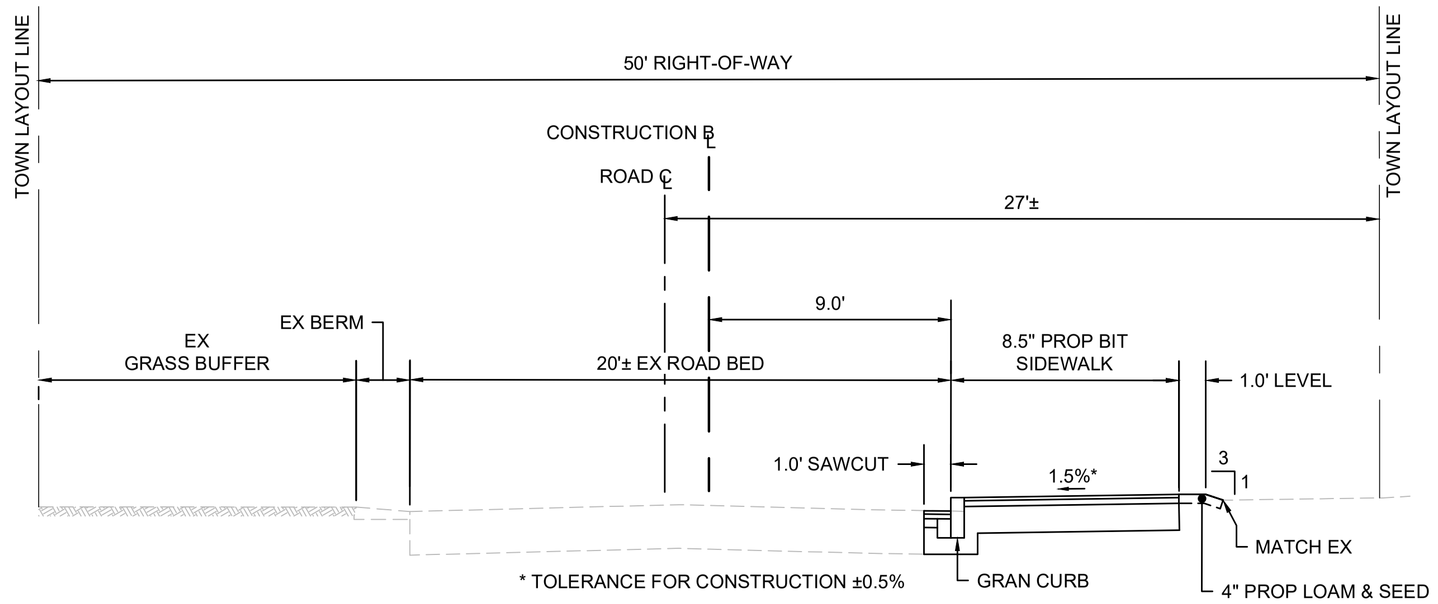
SURFACE:	3" HMA (1.25" SSC- 9.5 OVER 1.75" SSC- 12.5)
SUBBASE:	8" GRAVEL BORROW (TYPE B)

CEMENT CONCRETE DRIVEWAY

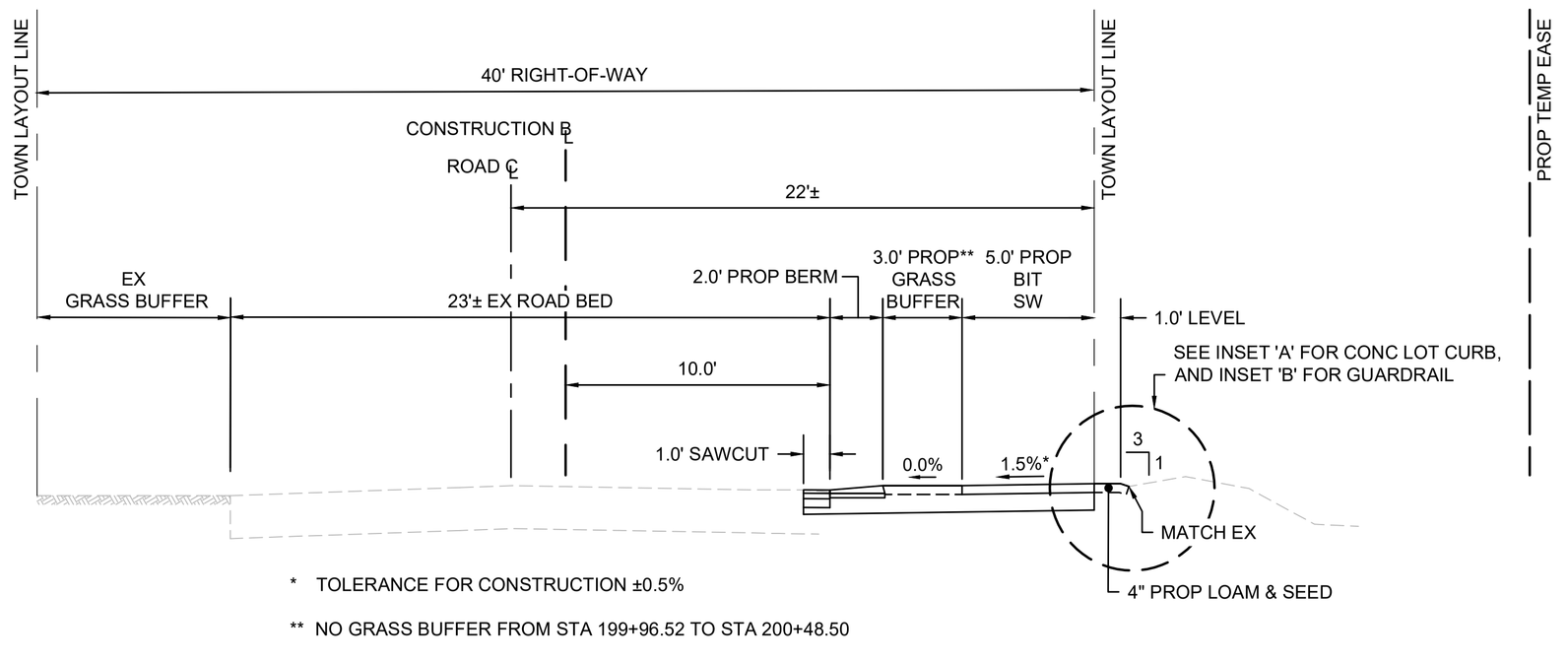
SURFACE:	6" CEMENT CONCRETE (AIR ENTRAINED, 4,000 PSI, 0.75", 610)
SUBBASE:	8" GRAVEL BORROW (TYPE B)

CEMENT CONCRETE CURB RAMPS

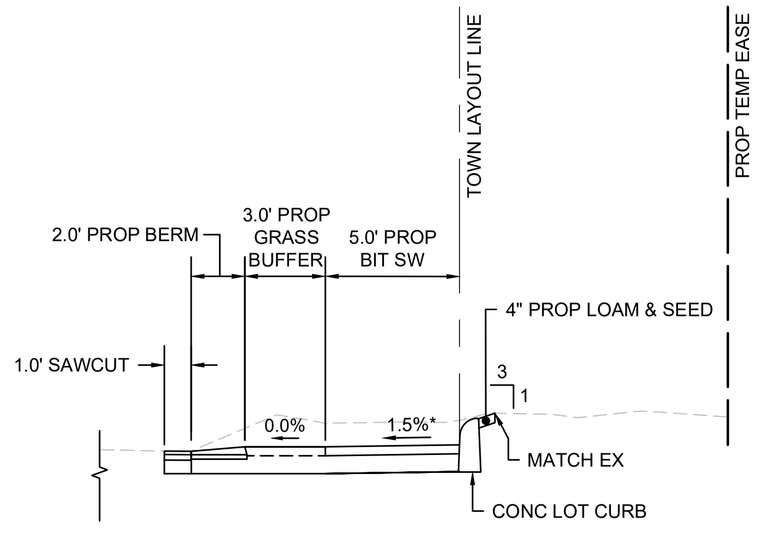
SURFACE:	4" CEMENT CONCRETE (AIR ENTRAINED, 4,000 PSI, 0.75", 610)
SUBBASE:	8" GRAVEL BORROW (TYPE B)



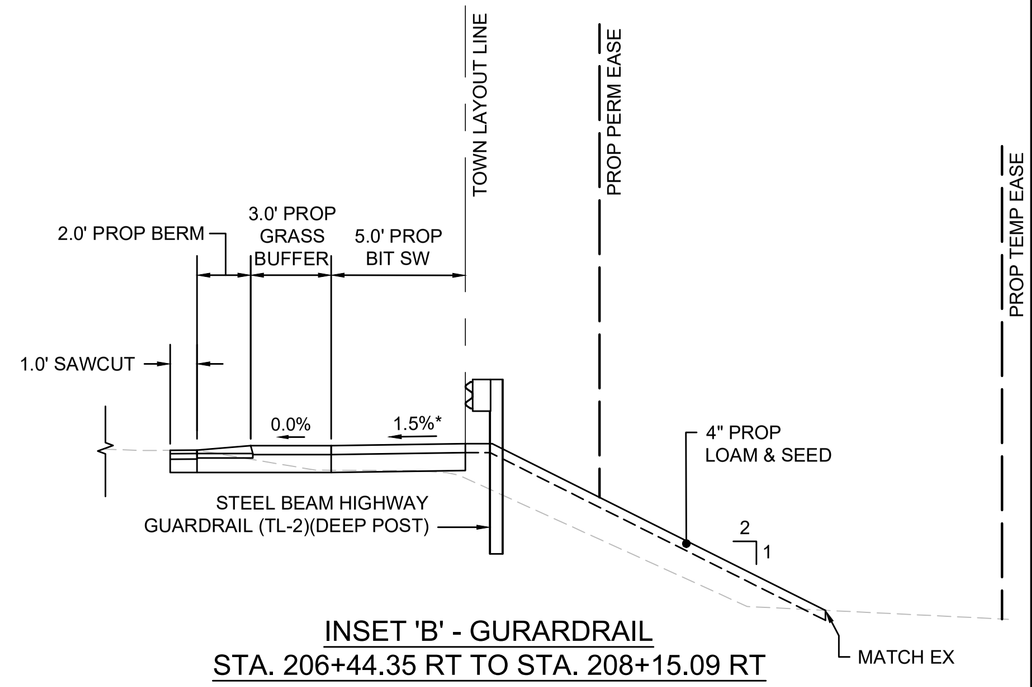
TYPICAL SECTION - SOUTH STREET
STA. 100+78.00 TO STA. 111+54.70
SCALE: 1" = 4'



TYPICAL SECTION - MAIN STREET
STA 199+96.50 TO STA 222+78.00
SCALE: 1" = 4'



INSET 'A' - CONC LOT CURB
STA. 201+00.00 TO STA. 203+00.00 AND
STA. 218+00.00 TO STA. 219+10.00
SCALE: 1" = 4'



INSET 'B' - GURARDRAIL
STA. 206+44.35 RT TO STA. 208+15.09 RT
SCALE: 1" = 4'

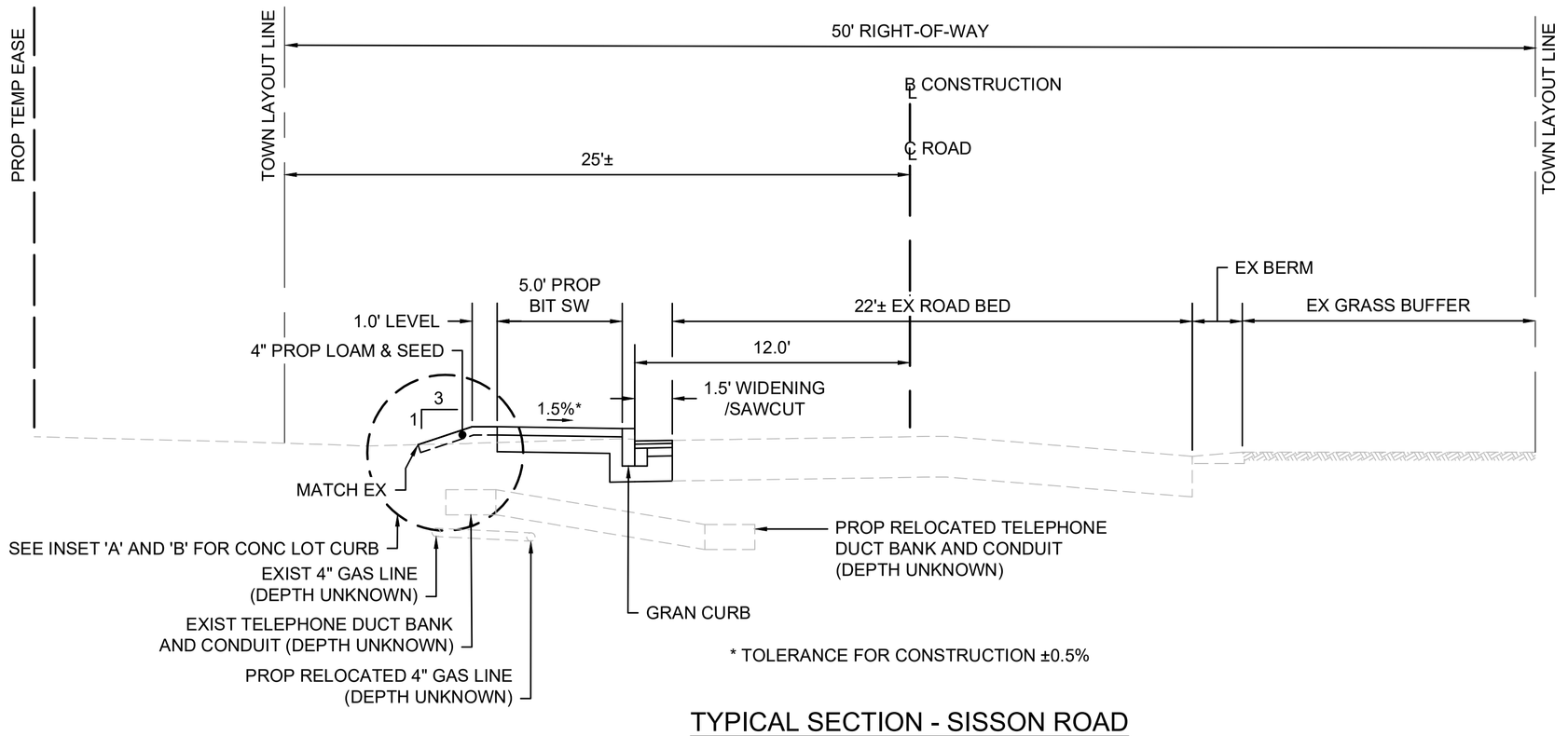
610670_HD(TYPICAL SECTION).DWG Plotted on 5-May-2025 3:22 PM
Proposal No. 610670-138766
A000850-38

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

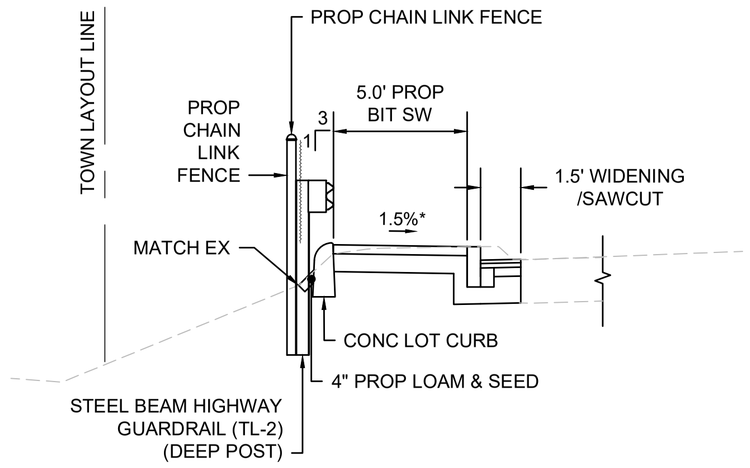
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	6	71
PROJECT FILE NO.	610670		

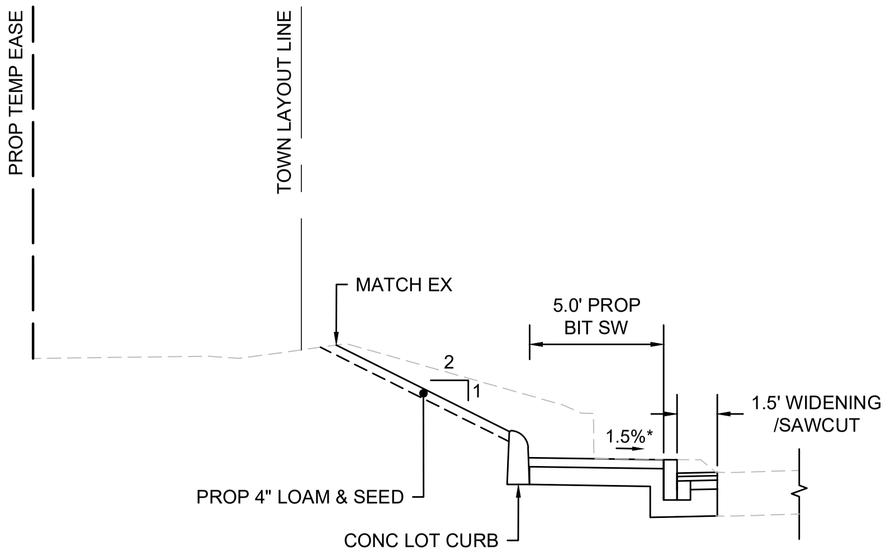
TYPICAL SECTIONS - 2



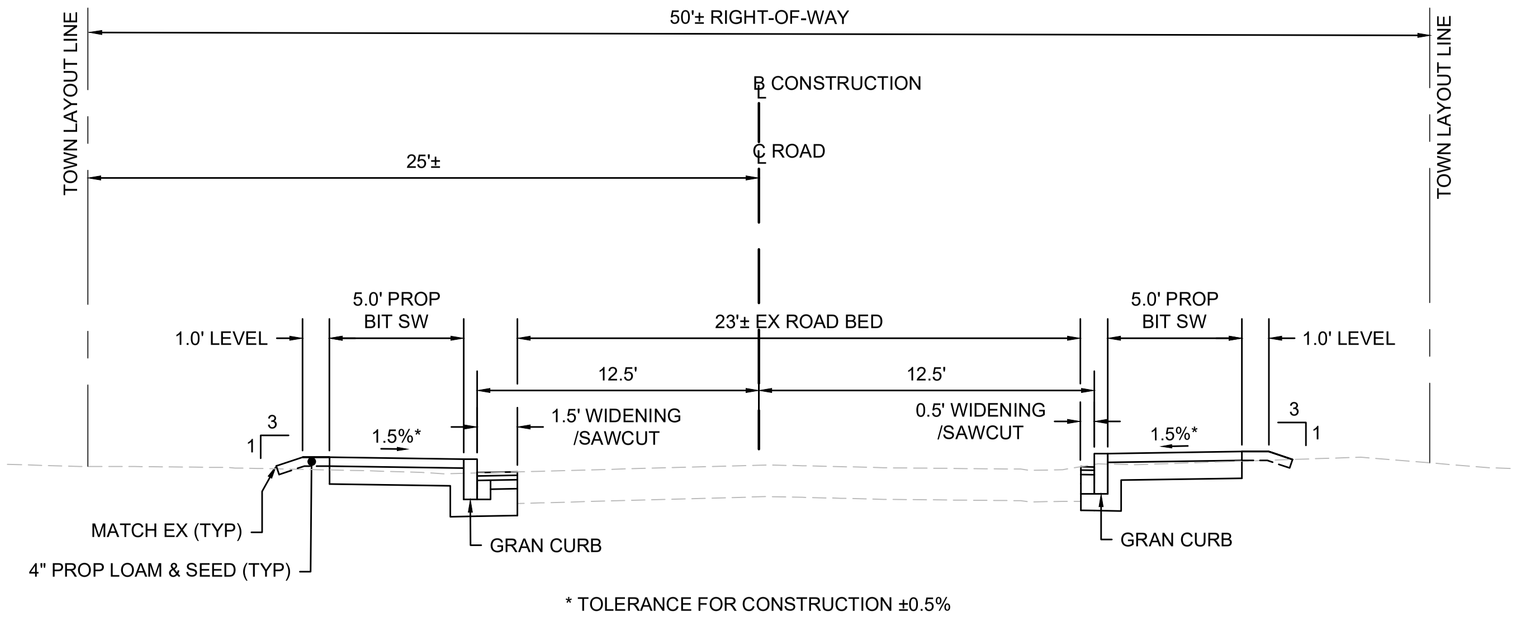
TYPICAL SECTION - SISSON ROAD
STA 51+90.00 TO STA 65+71.58
SCALE: 1" = 4'



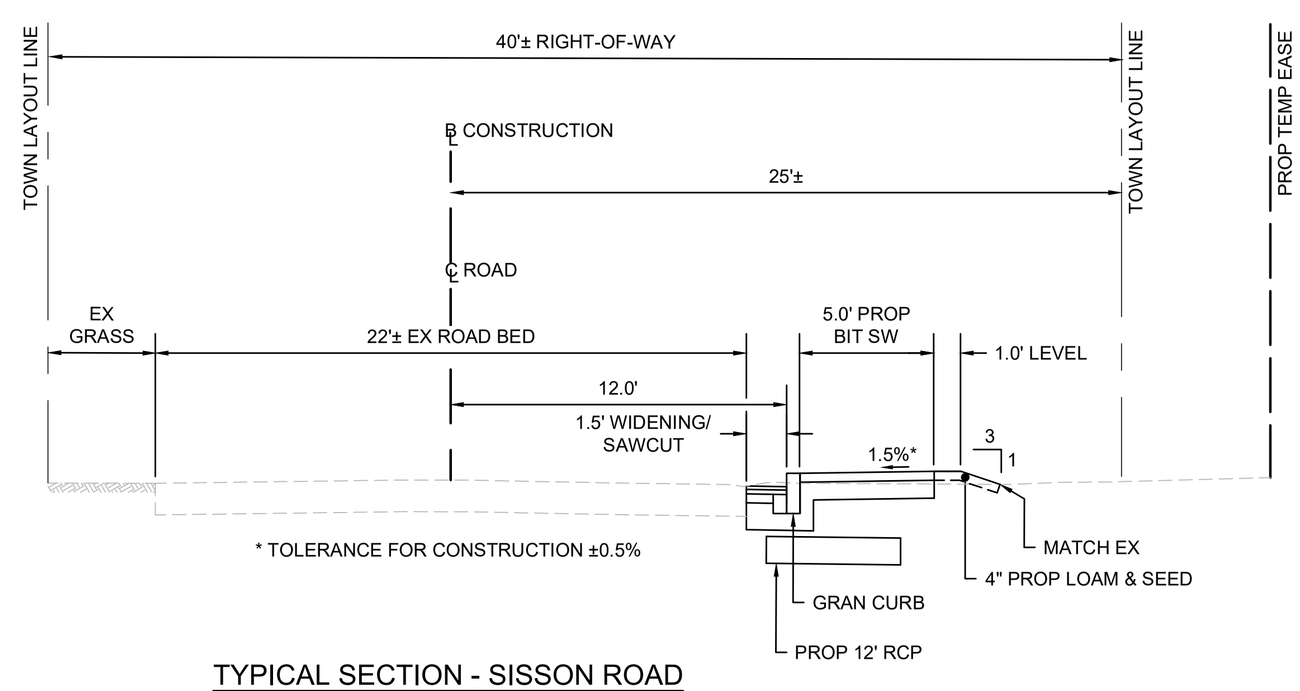
INSET 'A' - CONC LOT CURB
STA. 59+30.00 TO STA. 60+50.00
SCALE: 1" = 4'



INSET 'B' - CONC LOT CURB
STA. 56+57.00 TO STA. 57+70.00
STA. 61+05.00 TO STA. 62+30.00
SCALE: 1" = 4'



TYPICAL SECTION - SISSON ROAD
STA 65+71.58 TO STA 67+60.06
SCALE: 1" = 4'



TYPICAL SECTION - SISSON ROAD
STA 67+81.03 TO STA 71+03.58
SCALE: 1" = 4'

610670_HD(TYPICAL SECTION).DWG Plotted on 5-May-2025 3:22 PM

Proposal No. 610670-13876

A008850-59

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

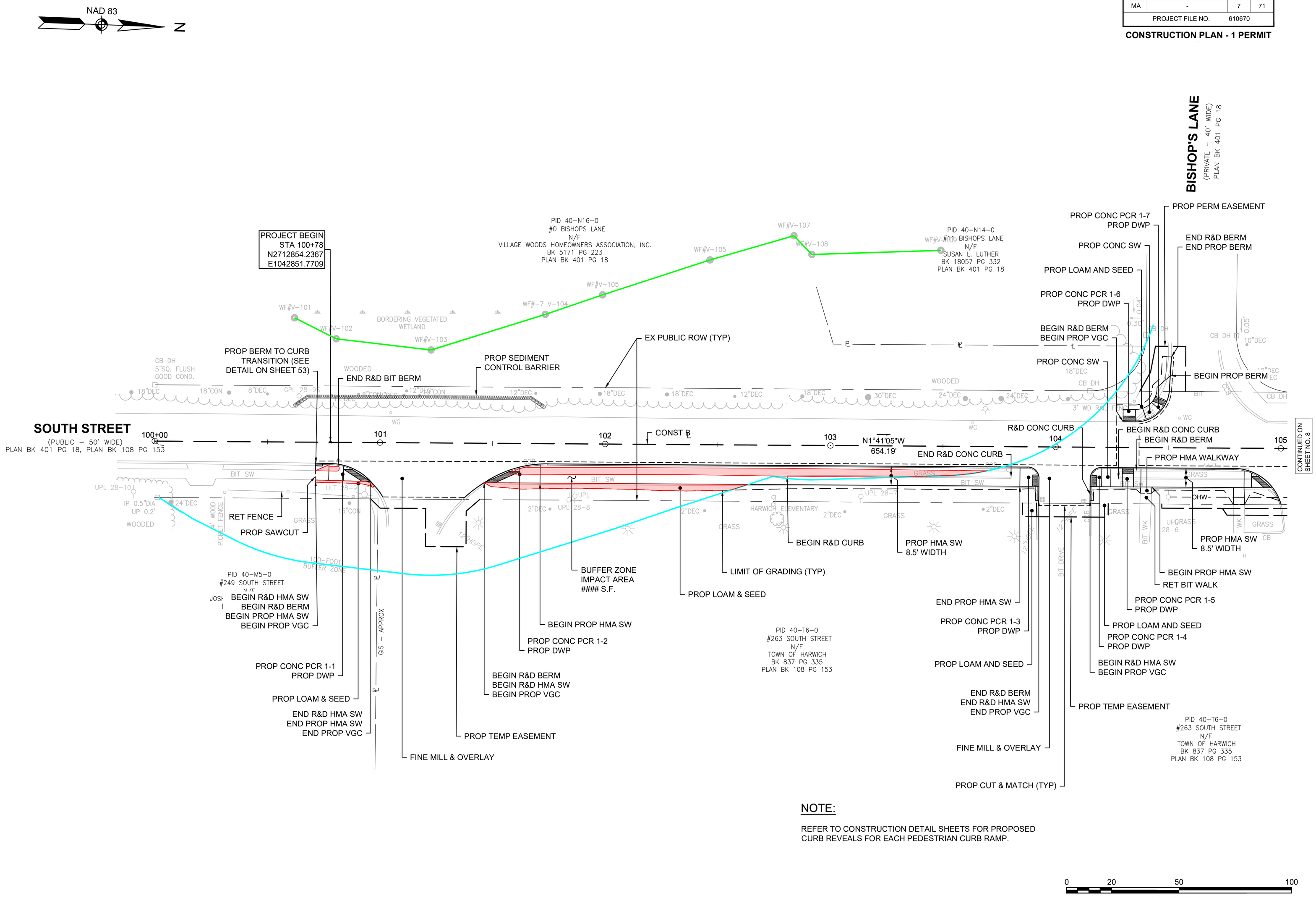
DRAINAGE DETAILS

SEE SHEET 27

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	7	71
PROJECT FILE NO.	610670		

CONSTRUCTION PLAN - 1 PERMIT



NOTE:

REFER TO CONSTRUCTION DETAIL SHEETS FOR PROPOSED CURB REVEALS FOR EACH PEDESTRIAN CURB RAMP.

0 20 50 100

SCALE: 1" = 20'

610670_HD(CONST PLAN-1).DWG Plotted on 5-May-2025 3:57 PM

Proposal No. 610670-1338

A008540-40

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET 28

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	8	71
PROJECT FILE NO.	610670		

CONSTRUCTION PLAN - 2

610670_HD(CONST PLAN-2).DWG Plotted on 5-May-2025 4:04 PM

Proposal No. 610670-13876

A0085041

NAD 83

N

BISHOP'S LANE
(PRIVATE – 40' WIDE)
PLAN BK 401 PG 18

PID 40-N1-0
#268 SOUTH STREET
N/F
LOUISA J. MACPHERSON
BK 21834 PG 193
PLAN BK 401 PG 18

PID 40-N16-0
#0 BISHOP'S LANE
N/F
VILLAGE WOODS HOMEOWNERS ASSOCIATION
BK 5171 PG 223

PID 40-C3-0
#276 SOUTH STREET
N/F
RONALD E. & DOROTHY H. LINDHOLM
BK 30094 PG 232

PID 40-C3-0
#280 SOUTH STREET
N/F
WILLIAM H. RAYE & KRISTEN M. CARNEY
BK 13890 PG 214

CONTINUED ON SHEET NO. 7

CONTINUED ON SHEET NO. 9

105

106

107

108

109

110

N1°41'05"W
654.19'

N2°55'24"W
500.51'

PI 54.19

SOUTH STREET
(PUBLIC – 50' WIDE)
PLAN BK 220 PG 101, PLAN BK 492 PG 71

PARALLEL STREET
(PUBLIC – 40' WIDE)
PLAN BK 220 PG 101, PLAN BK 492 PG 71

PID 40-T6-0
#263 SOUTH STREET
N/F
TOWN OF HARWICH
BK 837 PG 335
PLAN BK 108 PG 153

PID 40-R3-1
#1 PARALLEL STREET
N/F
MARY JORDAN
BK 15173 PG 3
PLAN BK 492 PG 71

PID 40-D1-3
#2 PARALLEL STREET
N/F
BRIAN WEINER
BK 22162 PG 35

PID 40-D1-2
#283 SOUTH STREET
N/F
JOSEPH R. MURPHY
BK 22385 PG 253

PID 40-D1-0
#615 MAIN STREET
N/F
FREDERICK E. & VIRGINIA T. GIANNELLI
BK 1386 PG 1168

PROP HMA SW 8.5' WIDTH
PROP LOAM & SEED
END PROP HMA SW
R&D BIT WALK
PROP HMA WALK
PROP CONC PCR 2-1
PROP DWP
END R&D BERM
END R&D HMA SW
END PROP VGC
FINE MILL & OVERLAY
PROP CUT & MATCH (TYP)
END R&D CONC CURB
BEGIN R&D CONC CURB
R&D STUMP
BEGIN PROP HMA SW
PROP CONC PCR 2-2
PROP DWP
BEGIN R&D BERM
BEGIN R&D HMA SW
BEGIN PROP VGC
PROP PERM UTILITY EASEMENT
PROP LOAM & SEED
PROP TREE TRIMMING
CONST ℄
RET BRUSH
RET TREE
RET FENCE
RET TREE
PROP HMA DWY
PROP CONC DWY 2-1
PROP TEMP EASEMENT
PROP LOAM & SEED
END R&D BERM
END R&D HMA SW
END PROP VGC
FINE MILL & OVERLAY
END PROP HMA SW
RET TREE
RET SHRUBS
PROP TEMP EASEMENT
PROP CONC PCR 2-3
PROP DWP
PROP TREE TRIMMING
RET TREE
RET TREE
RET SHRUBS
PROP TEMP EASEMENT
LIMIT OF GRADING (TYP)
BEGIN PROP HMA SW
PROP CONC PCR 2-4
PROP DWP
BEGIN R&D BERM
BEGIN R&D HMA SW
BEGIN PROP VGC
R&D LSA
PROP WOOD CHIP MULCH
RET LSA
PROP CONC DWY 2-2
PROP HMA DWY
R&D LSA
PROP WOOD CHIP MULCH
RET LSA
RET TREE
RET TREE
EX PUBLIC ROW (TYP)
PROP HMA SW 8.5' WIDTH
R&S BOULDERS
RET BOULDER
PROP CONC DWY 2-3
RET LSA
R&D LSA
PROP LOAM & SEED
PROP HMA DWY
PROP TEMP EASEMENT
LOCATION ACCURATE ANGLE GIS – APPROX

NOTE:

REFER TO CONSTRUCTION DETAIL SHEETS FOR PROPOSED CURB REVEALS FOR EACH PEDESTRIAN CURB RAMP.

0 20 50 100

SCALE: 1" = 20'

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET 29

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	9	71
PROJECT FILE NO.	610670		

CONSTRUCTION PLAN - 3

N

NAD 83

PID 40-A1-1
#606 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-2
#610 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-3
#614 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-4
#618 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-5
#622 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-6
#628 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

GUILFORD DRIVE
(PRIVATE – 50' WIDE)
PLAN BK 244 PG 80, PLAN BK 247 PG 43

LIMIT OF WORK
STA 199+96.50
N2713939.3281
E1042740.8299

111+54.70 SOUTH STREET=
200+65.60 MAIN STREET

END PROP BERM

PROP CONC PCR 3-1
PROP DWP

PROP CONC PCR 3-2
PROP DWP

FINE MILL & OVERLAY

EX PUBLIC ROW (TYP)

PROP BERM TO CURB TRANSITION
(SEE DETAIL ON SHEET 53)

PROP BERM TO CURB TRANSITION
(SEE DETAIL ON SHEET 53)

PROP TREE TRIMMING

199+96.50

MAIN STREET
(PUBLIC – 40' WIDE)
1949 COUNTY LAYOUT PLAN BK 88 PG 111

200 S82°16'24"E 103.50'

201 PI +00.00

202

203 S89°56'34"E 930.23'

204

205

MAIN STREET
1950 COUNTY LAYOUT PLAN BK 90 PG 149
(PUBLIC – 40' WIDE)

CONTINUED ON SHEET NO. 10

R&D HEDGES
PROP HEDGES

R&S COBBLES
PROP CONC STEPS
PROP HMA WALK

R&R BOUND
(SEE NOTE)

CONST ℄

RET BUSH

R&D TREE

RET TREES

R&D TIMBER CURB

RET TREES

BEGIN R&D BERM
BEGIN PROP BERM
BEGIN PROP HMA SW
BEGIN PROP LOAM & SEED

END R&D BERM

END PROP HMA SW

TRIM SHRUBS

RET BOUND

BEGIN PROP GRAN LOT CURB
(SEE DETAIL ON SHEET 55)

END R&D BERM
END R&D HMA SW
END PROP VGC
BEGIN R&D BERM
BEGIN R&D HMA SW
BEGIN PROP BERM
BEGIN PROP HMA SW
BEGIN PROP LOAM & SEED

END PROP HMA
SHARED USE PATH

RET LSA

PROP HMA SW
8.5' WIDTH

PROP TEMP EASEMENT

RET TREE

RET FENCE

RET CONC WALK

R&D HEDGES
PROP HEDGES

PROP TREE

RET TREES

PROP LOAM & SEED

END PROP GRAN LOT CURB

LIMIT OF GRADING (TYP)

PROP TEMP EASEMENT

RET PLANTING

RET MB

RET IRRIGATION COVER

S89°56'34"E 466.58'

RET IRRIGATION COVER

RET PLANTINGS

BEGIN PROP HMA SW

PROP GRAVEL

PROP HMA DWY 3-1

END PROP HMA SW

PROP GRAVEL

BEGIN PROP HMA SW

PROP HMA DWY 3-2

END PROP HMA SW

PID 40-D1-07
#619 MAIN STREET
N/F
JESSE M. DOWNING
BK 31409 PG 260
PLAN BK 220 PG101

PID 40-C1-0
#609 MAIN STREET
N/F
JAMES FRANCIS TURNER, III
BK 30170 PG 144

SOUTH STREET 111
(PUBLIC – 50' WIDE)
PLAN BK 220 PG 101
PLAN BK 492 PG 21

CONST ℄ N2°55'24"W 500.51'

110

PID 40-D1-0
#615 MAIN STREET
N/F
FREDERICK E. & VIRGINIA T. GIANNELLI
BK 1386 PG 1168

LOCATION ACCURATE ANGLE DIS – APPROX

CONTINUED ON SHEET NO.8

NOTES:

1. ALL BOUNDS WITHIN THE SIDEWALK SHALL BE CAREFULLY INSTALLED SUCH THAT THE BOUND SHALL BE SET FLUSH WITH THE SIDEWALK SURFACE.
2. REFER TO CONSTRUCTION DETAIL SHEETS FOR PROPOSED CURB REVEALS FOR EACH PEDESTRIAN CURB RAMP.

0 20 50 100

SCALE: 1" = 20'

610670_HD\CONST PLAN-3).DWG Plotted on 5-May-2025 4:04 PM

Proposal No. 610670-138376

AW8850-42

HIGHWAY GUARD DETAILS

GUARDRAIL TANGENT END TREATMENT (TL-2)
STA 206+43.48 RT TO STA 206+51.10 RT

GUARDRAIL, TL-2 (SINGLE-FACED) (DEEP POST)
STA 206+51.10 RT TO STA 207+73.32 RT

TRAILING ANCHORAGE
STA 207+73.32 RT TO STA 207+84.44 RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET 30

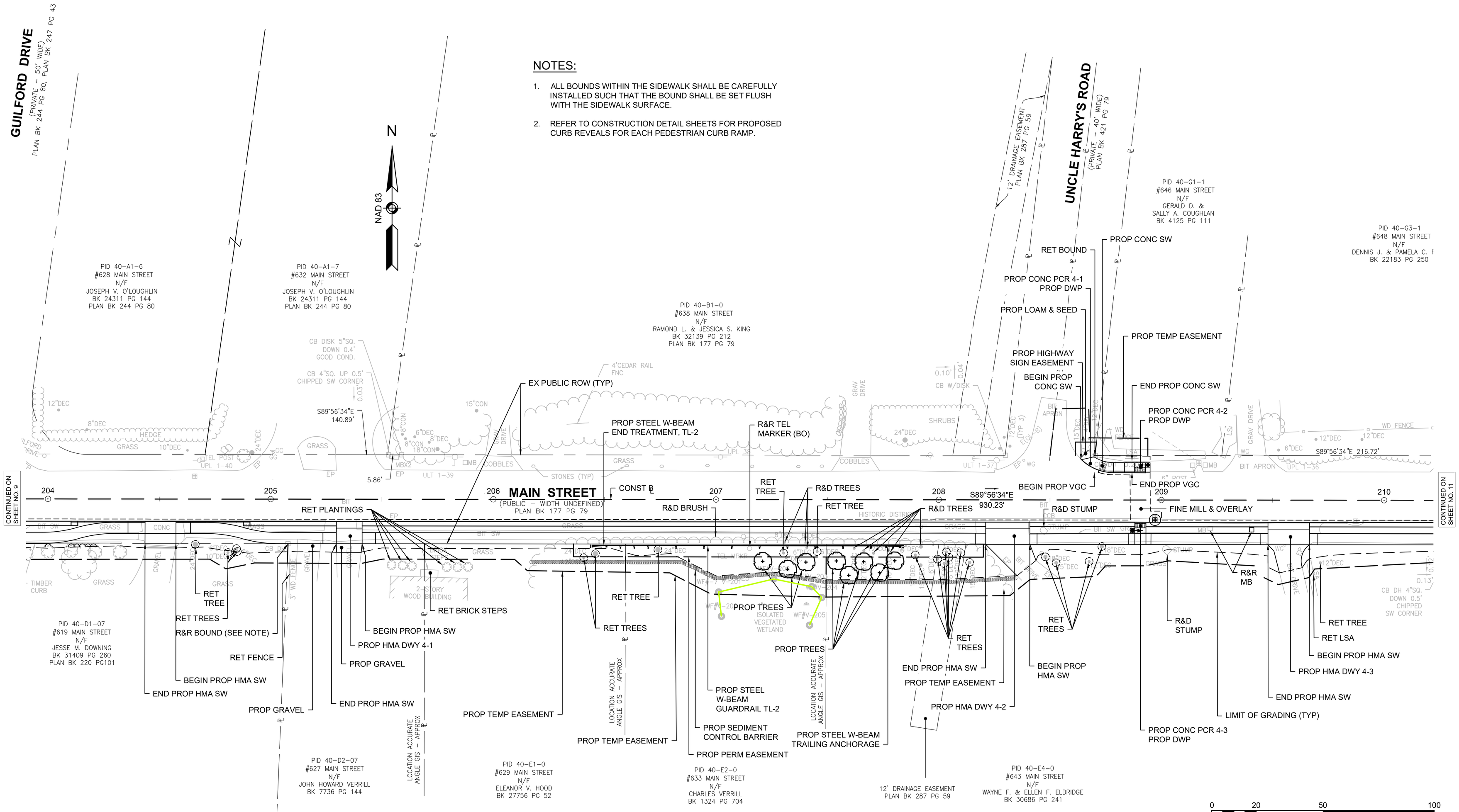
HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	10	71
PROJECT FILE NO.	610670		

CONSTRUCTION PLAN - 4 PERMIT

NOTES:

1. ALL BOUNDS WITHIN THE SIDEWALK SHALL BE CAREFULLY INSTALLED SUCH THAT THE BOUND SHALL BE SET FLUSH WITH THE SIDEWALK SURFACE.
2. REFER TO CONSTRUCTION DETAIL SHEETS FOR PROPOSED CURB REVEALS FOR EACH PEDESTRIAN CURB RAMP.



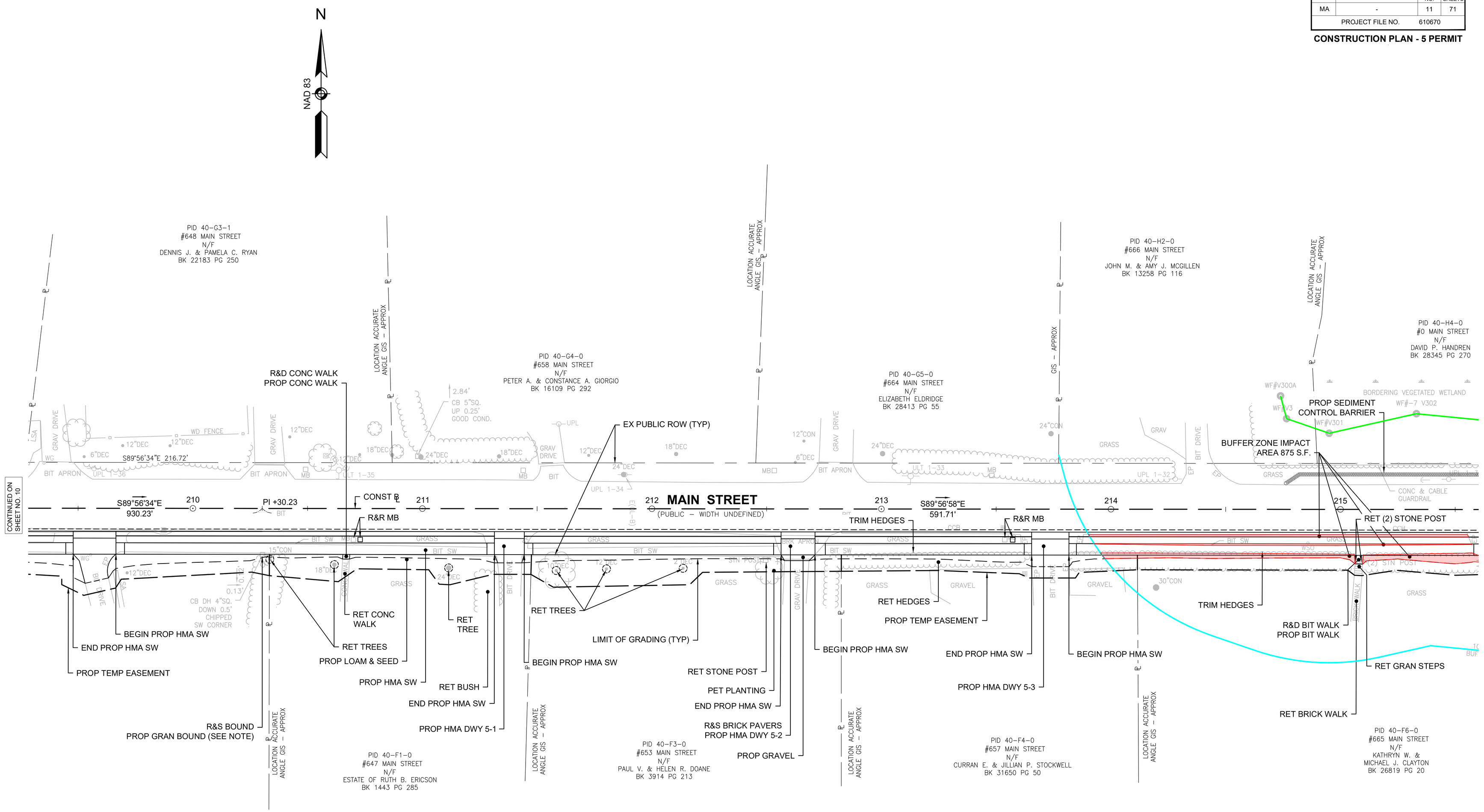
610670_HD(CONST PLAN-4).DWG Plotted on 5-May-2025 3:58 PM
Proposal No. 610670-13876
AM8850-43

HIGHWAY GUARD DETAILS	TRAFFIC SIGNAL CONDUIT	WATER SUPPLY ALTERATIONS	DRAINAGE DETAILS
NONE	NONE	NONE	SEE SHEET 31

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	11	71
PROJECT FILE NO.	610670		

CONSTRUCTION PLAN - 5 PERMIT



NOTES:

1. ALL BOUNDS WITHIN THE SIDEWALK SHALL BE CAREFULLY INSTALLED SUCH THAT THE BOUND SHALL BE SET FLUSH WITH THE SIDEWALK SURFACE.
2. REFER TO CONSTRUCTION DETAIL SHEETS FOR PROPOSED CURB REVEALS FOR EACH PEDESTRIAN CURB RAMP.

0 20 50 100

SCALE: 1" = 20'

610670_HD(CONST PLAN-5).DWG Plotted on 5-May-2025 3:58 PM
Proposal No. 610670-183876
A00850-44

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET 32

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	12	71
PROJECT FILE NO.	610670		

CONSTRUCTION PLAN - 6 PERMIT

N

NAD 83

ISLAND POND ROAD
(PUBLIC – 33' WIDE)
PLAN BK 245 PG 66, PLAN BK 455 PG 94

PID 40-H3-0
#672 MAIN STREET
N/F
THOMAS J. & JODIE C. BLUTE
BK 12951 PG 308
PLAN BK 9 PG 99

PID 40-H4-0
#0 MAIN STREET
N/F
DAVID P. HANDREN
BK 28345 PG 270

PID 40-K1-1A
#678 MAIN STREET
N/F
CHAPMAN COUSINS LLC
BK 29369 PG 215
PLAN BK 455 PLAN 94
PLAN BK 245 PLAN 66

PID 40-K1-4A
#692 MAIN STREET
N/F
BERTRAM ELDREDGE AND ERIN ELDREDGE
BK 26775 PG 158

PID 40-K4-0
#686 MAIN STREET
N/F
TOWN OF HARWICH – CEMETERY
BK 1306 PG 244

PID 40-F6-0
#665 MAIN STREET
N/F
KATHRYN W. &
MICHAEL J. CLAYTON
BK 26819 PG 20

PID 40-J1-0
#671 MAIN STREET
N/F
ROSEWOOD LIMITED PARTNERSHIP
BK 12712 PG 142
PLAN BK 226 PLAN 137

PID 40-J5-0
#679 MAIN STREET
N/F
RAIN C. & JUSTINE A. RYDER
BK 28288 PG 86

PID 40-J6-A-0
#683 MAIN STREET
N/F
BRIAN M. MURPHY
BK 11397 PG 99
PLAN BK 207 PG 43

PID 40-J6-B-0
#687 MAIN STREET
N/F
BRIAN M. MURPHY
BK 11397 PG 99
PLAN BK 207 PG 43

FOREST STREET
(PUBLIC – 25' WIDE)
PLAN BK 152 PG 87, PLAN BK 207 PG 43

MAIN STREET
(PUBLIC – 40' WIDE)
1932 COUNTY LAYOUT PLAN BK 45 PG 75

BENCHMARK:
HYD REAR BOLT
EL=51.45'

BORDERING VEGETATED WETLAND
WF#-7 V302
WF#V304
WF#V303
V301

BUFFER ZONE IMPACT
AREA 875 S.F.

PROP SEDIMENT
CONTROL BARRIER

RET PLANTINGS

S89°56'58"E
591.71'

PI +21.94

215
216
217
219
220
221

N89°55'37"E
326.85'

S89°55'37"E
190.67'

N88°45'15"E
318.82'

S88°45'15"E
255.25'

PI +48.79

CONST ℄

CONTINUED ON SHEET NO. 11

CONTINUED ON SHEET NO. 16

BEGIN PROP CONC SW
FINE MILL & OVERLAY
END PROP HMA SW
PROP CONC PCR 6-3
PROP DWP
PROP LOAM & SEED
PROP CONC SW
PROP TEMP EASEMENT
PROP CONC PCR 6-2
PROP DWP
BEGIN PROP HMA SW
PROP LOAM & SEED
RET BOUND
PROP CONC PCR 6-4
PROP DWP
PROP TEMP EASEMENT
END PROP HMA SW
PROP HMA SW
PROP SAWCUT
BEGIN PROP HMA SW
BEGIN PROP VGC
END PROP VGC
END PROP HMA SW
END PROP VGC
R&S GRAN STEPS
PROP CONC STEPS
EX PUBLIC ROW (TYP)
FINE MILL & OVERLAY
R&D BRUSH
RET PLANTINGS
FINE MILL & OVERLAY
END PROP VGC
RET TREE
RET TREE
RET FENCE
RET TREE
R&R MB
END PROP HMA SW
PROP LOAM & SEED
PROP HMA DWY 6-2
PROP HMA SW
RET PLANTINGS
PROP HMA DWY 6-1
BEGIN PROP HMA SW
R&D LSA
PROP WOOD CHIP MULCH
RET LSA
PROP HMA DWY 6-3
R&R BOUND (SEE NOTE)
RET HEDGE
BEGIN PROP CONC LOT CURB
(SEE DETAIL ON SHEET 55)
PROP CONC PCR 6-1
PROP DWP
LIMIT OF GRADING (TYP)
RET FENCE
PROP TEMP EASEMENT
RET TREES
R&R BRICK WALK
PROP TEMP EASEMENT
RET LSA
RET TREES
END PROP CONC LOT CURB
END PROP HMA SW
PROP CONC PCR 6-5
PROP DWP
END R&D BERM
END R&D HMA SW
END PROP BERM
END PROP HMA SW
END PROP LOAM & SEED
BEGIN PROP HMA SW
PROP CONC PCR 6-6
PROP DWP
PROP HIGHWAY
SIGN EASEMENT
R&R BOUND (SEE NOTE)
BEGIN R&D BERM
BEGIN R&D HMA SW
BEGIN PROP BERM
BEGIN PROP LOAM & SEED
RET TREE
RET BUSH
RET STN RET WALL
PROP TEMP EASEMENT
R&D HEDGES
PROP HEDGES

SW CORNER
GRANITE FENCE POST
10"X10"

STONE POST
& METAL
RAIL FENCE

CB 5"SQ.
FLUSH
GOOD COND.

2-STORY
WOOD
BUILDING

CB 5"SQ.
MAIN DRAIN
POOR COND.

CONC & CABLE
GUARDRAIL

(2) STN POST

6"DEC

24"DEC

18"DEC

8"DEC

10"DEC

14"DEC

SMH
RIM=52.24'

SMH
RIM=52.06'

SMH
RIM=51.86'

SMH
RIM=52.01'

SB 10"SQ.
IN 10
OUT 10
0.37'

STN RET WALL

100-FOOT
BUFFER ZONE

GIS - APPROX

NOTES:

1. ALL BOUNDS WITHIN THE SIDEWALK SHALL BE CAREFULLY INSTALLED SUCH THAT THE BOUND SHALL BE SET FLUSH WITH THE SIDEWALK SURFACE.

2. REFER TO CONSTRUCTION DETAIL SHEETS FOR PROPOSED CURB REVEALS FOR EACH PEDESTRIAN CURB RAMP.

0 20 50 100

SCALE: 1" = 20'

610670_HD(CONST PLAN-6).DWG Plotted on 5-May-2025 3:58 PM

Proposal No. 610670-13876

A008850-45

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

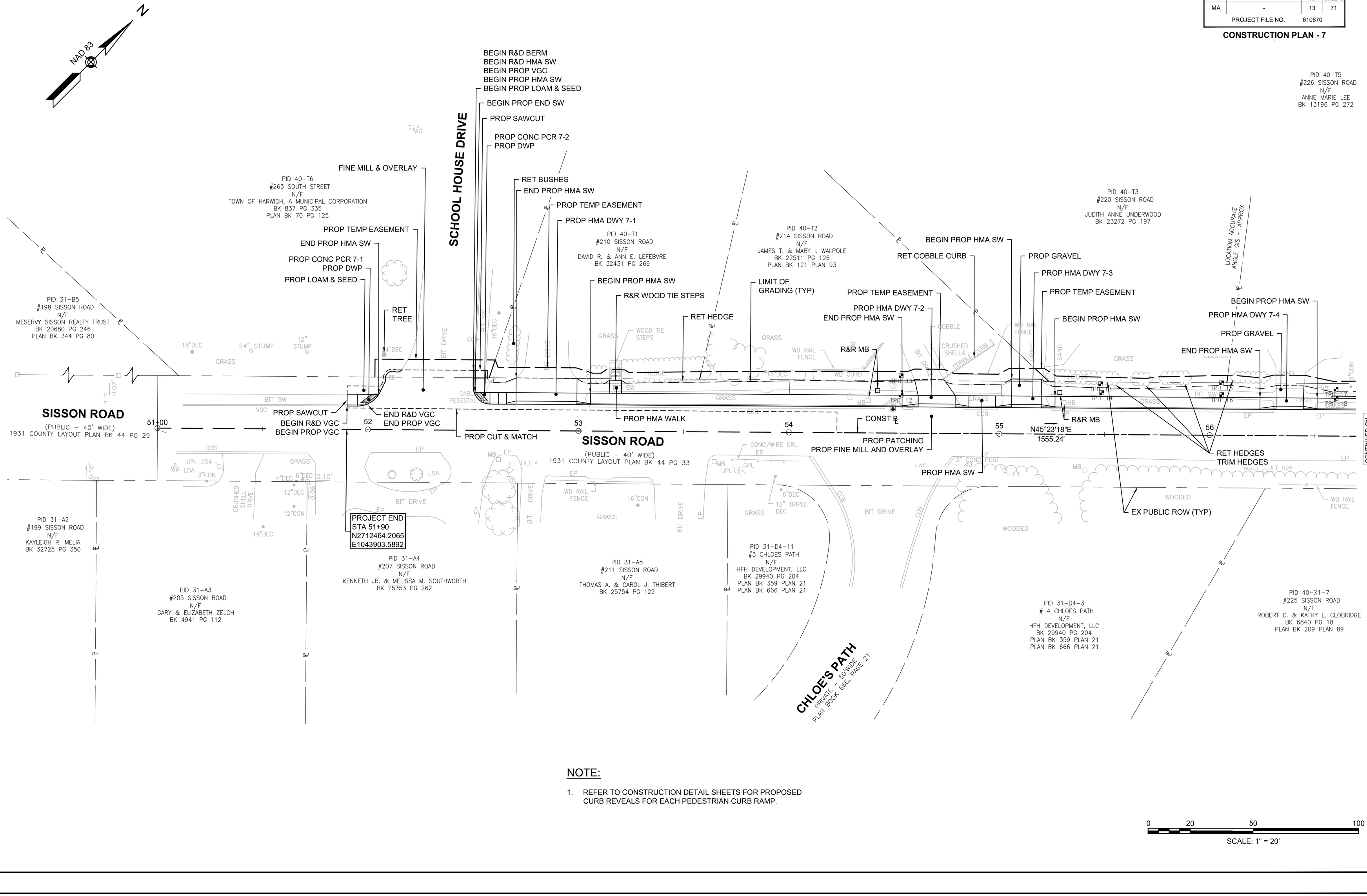
DRAINAGE DETAILS

SEE SHEET 33

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	13	71
PROJECT FILE NO.	610670		

CONSTRUCTION PLAN - 7



NOTE:

1. REFER TO CONSTRUCTION DETAIL SHEETS FOR PROPOSED CURB REVEALS FOR EACH PEDESTRIAN CURB RAMP.

0 20 50 100

SCALE: 1" = 20'

610670_HD\CONST PLAN-7).DWG Plotted on 5-May-2025 4:05 PM

Proposal No. 610670-133876

A00850-46

HIGHWAY GUARD DETAILS

STEEL W-BEAM TRAILING ANCHORAGE
STA 59+15.81 LT TO STA 59+26.93 LT
STA 60+46.58 LT TO STA 60+57.52 LT

STEEL W BEAM GUARDRAIL (TL-2) (DEEP POST)
STA 59+26.93 LT TO STA 60+46.58 LT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

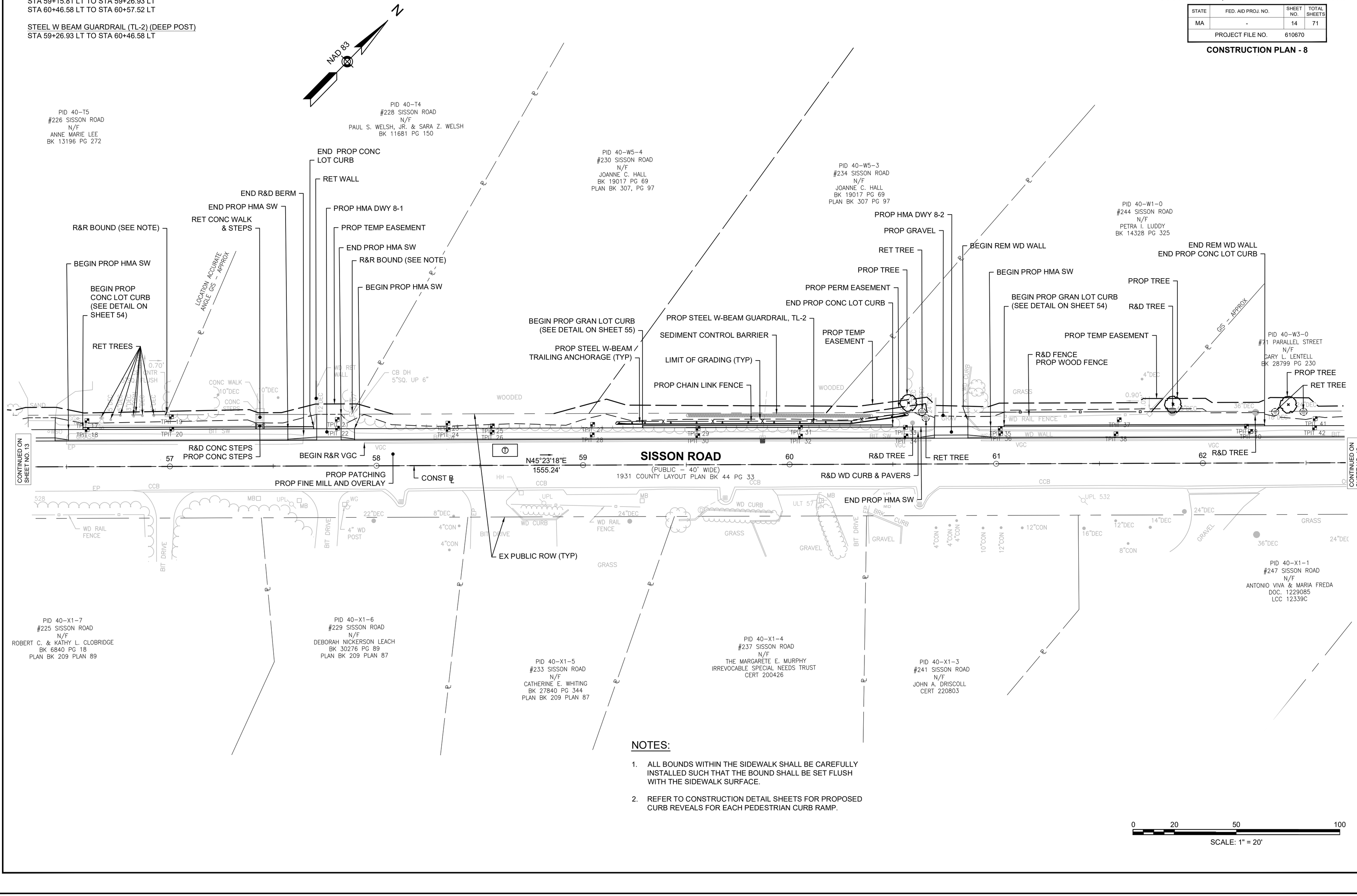
DRAINAGE DETAILS

SEE SHEET 34

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	14	71
PROJECT FILE NO.	610670		

CONSTRUCTION PLAN - 8



NOTES:

1. ALL BOUNDS WITHIN THE SIDEWALK SHALL BE CAREFULLY INSTALLED SUCH THAT THE BOUND SHALL BE SET FLUSH WITH THE SIDEWALK SURFACE.
2. REFER TO CONSTRUCTION DETAIL SHEETS FOR PROPOSED CURB REVEALS FOR EACH PEDESTRIAN CURB RAMP.

0 20 50 100
SCALE: 1" = 20'

610670_HD(CONST PLAN-8).DWG Plotted on 5-May-2025 4:05 PM
Proposal No. 610670-133876
A00850-47

HIGHWAY GUARD DETAILS

STEEL W-BEAM TRAILING ANCHORAGE
STA 67+84.83 RT TO STA 67+87.20 RT
STA 68+07.21 RT TO STA 68+17.27 RT

STEEL W BEAM GUARDRAIL (TL-2)
STA 67+84.83 RT TO STA 68+07.21 RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

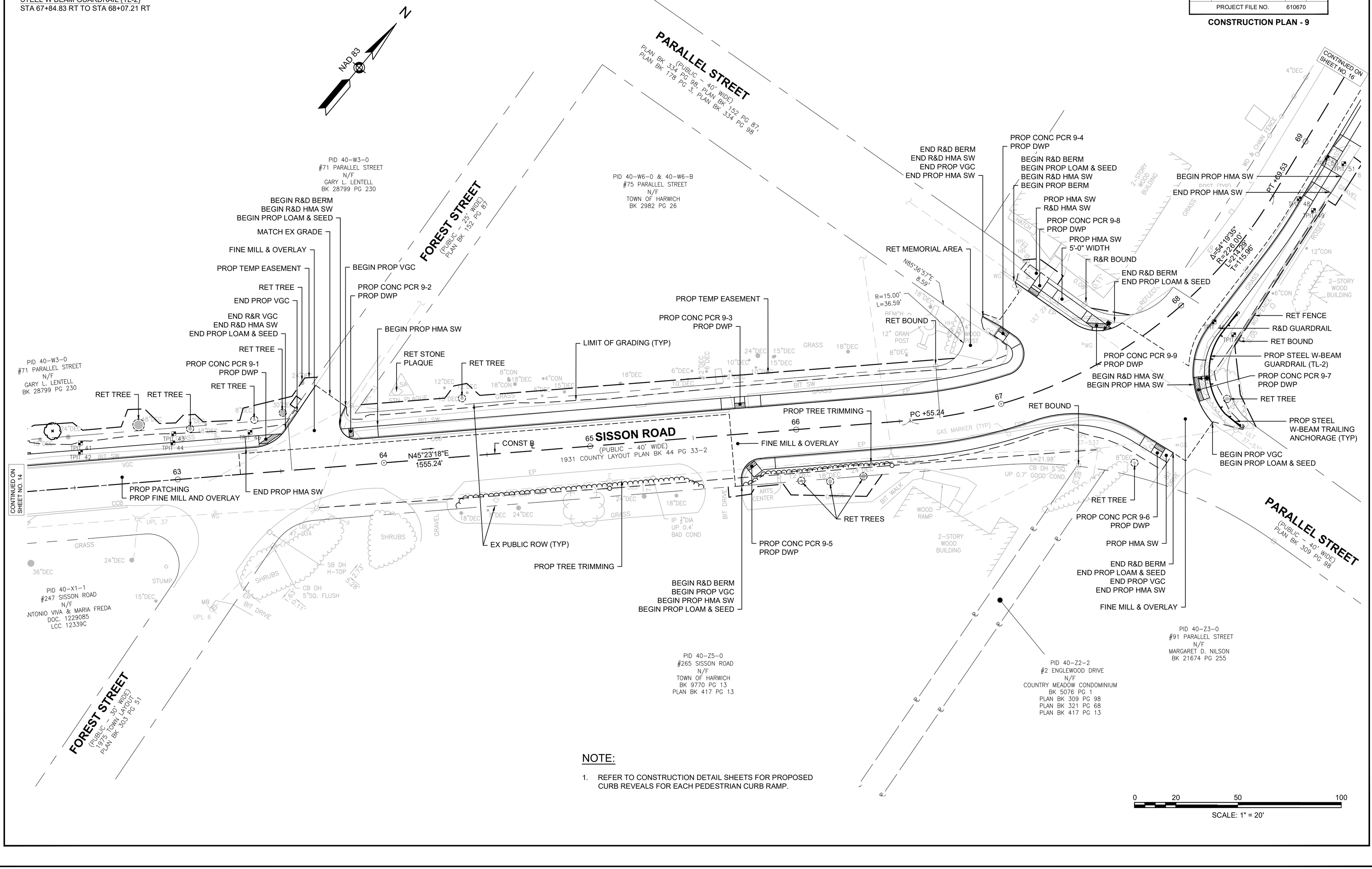
DRAINAGE DETAILS

SEE SHEET 35

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	15	71
PROJECT FILE NO.	610670		

CONSTRUCTION PLAN - 9


N
NAD 83
PARALLEL STREET
(PUBLIC – 40' WIDE)
PLAN BK 334 PG 98, PLAN BK 152 PG 87,
PLAN BK 178 PG 3, PLAN BK 334 PG 98
FOREST STREET
(PUBLIC – 25' WIDE)
PLAN BK 152 PG 87
SISSON ROAD
(PUBLIC – 40' WIDE)
1931 COUNTY LAYOUT PLAN BK 44 PG 33-2
FOREST STREET
(PUBLIC – 30' WIDE)
1975 TOWN LAYOUT
PLAN BK 303 PG 51
PARALLEL STREET
(PUBLIC – 40' WIDE)
PLAN BK 309 PG 98
PID 40-W3-0
#71 PARALLEL STREET
N/F
GARY L. LENTELL
BK 28799 PG 230
PID 40-W6-0 & 40-W6-B
#75 PARALLEL STREET
N/F
TOWN OF HARWICH
BK 2982 PG 26
PID 40-X1-1
#247 SISSON ROAD
N/F
ANTONIO VIVA & MARIA FREDA
DOC. 1229085
LCC 12339C
PID 40-Z5-0
#265 SISSON ROAD
N/F
TOWN OF HARWICH
BK 9770 PG 13
PLAN BK 417 PG 13
PID 40-Z2-2
#2 ENGLEWOOD DRIVE
N/F
COUNTRY MEADOW CONDOMINIUM
BK 5076 PG 1
PLAN BK 309 PG 98
PLAN BK 321 PG 68
PLAN BK 417 PG 13
PID 40-Z3-0
#91 PARALLEL STREET
N/F
MARGARET D. NILSON
BK 21674 PG 255
CONTINUED ON SHEET NO. 14
CONTINUED ON SHEET NO. 16
BEGIN R&D BERM
BEGIN R&D HMA SW
BEGIN PROP LOAM & SEED
MATCH EX GRADE
FINE MILL & OVERLAY
PROP TEMP EASEMENT
RET TREE
END PROP VGC
END R&R VGC
END R&D HMA SW
END PROP LOAM & SEED
PROP CONC PCR 9-1
PROP DWP
BEGIN PROP VGC
PROP CONC PCR 9-2
PROP DWP
BEGIN PROP HMA SW
RET STONE PLAQUE
LIMIT OF GRADING (TYP)
PROP CONC PCR 9-3
PROP DWP
RET MEMORIAL AREA
RET BOUND
END R&D BERM
END R&D HMA SW
END PROP VGC
END PROP HMA SW
PROP CONC PCR 9-4
PROP DWP
BEGIN R&D BERM
BEGIN PROP LOAM & SEED
BEGIN R&D HMA SW
BEGIN PROP BERM
PROP HMA SW
R&D HMA SW
PROP CONC PCR 9-8
PROP DWP
PROP HMA SW
5'-0" WIDTH
R&R BOUND
END R&D BERM
END PROP LOAM & SEED
PROP CONC PCR 9-9
PROP DWP
BEGIN R&D HMA SW
BEGIN PROP HMA SW
BEGIN PROP HMA SW
END PROP HMA SW
PT +89.53
RET FENCE
R&D GUARDRAIL
RET BOUND
PROP STEEL W-BEAM GUARDRAIL (TL-2)
PROP CONC PCR 9-7
PROP DWP
RET TREE
PROP STEEL W-BEAM TRAILING ANCHORAGE (TYP)
BEGIN PROP VGC
BEGIN PROP LOAM & SEED
PROP PATCHING
PROP FINE MILL AND OVERLAY
END PROP HMA SW
CONST ℄
EX PUBLIC ROW (TYP)
PROP TREE TRIMMING
PROP TREE TRIMMING
FINE MILL & OVERLAY
PC +55.24
RET TREES
PROP CONC PCR 9-5
PROP DWP
BEGIN R&D BERM
BEGIN PROP VGC
BEGIN PROP HMA SW
BEGIN PROP LOAM & SEED
RET BOUND
RET TREE
PROP CONC PCR 9-6
PROP DWP
PROP HMA SW
END R&D BERM
END PROP LOAM & SEED
END PROP VGC
END PROP HMA SW
FINE MILL & OVERLAY
RET TREE
RET TREE
RET TREE

CONTINUED ON SHEET NO. 12

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE SHEET 36

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	16	71
PROJECT FILE NO.	610670		

CONSTRUCTION PLAN - 10

610670_HD(CONST PLAN-10).DWG Plotted on 5-May-2025 4:06 PM

Proposal No. 610670-13876

A00850-49

NAD 83

N

NOTES:

1. ALL BOUNDS WITHIN THE SIDEWALK SHALL BE CAREFULLY INSTALLED SUCH THAT THE BOUND SHALL BE SET FLUSH WITH THE SIDEWALK SURFACE.
2. REFER TO CONSTRUCTION DETAIL SHEETS FOR PROPOSED CURB REVEALS FOR EACH PEDESTRIAN CURB RAMP.

PID 40-J6-B-0
#687 MAIN STREET
N/F
BRIAN M. MURPHY
BK 11397 PG 99
PLAN BK 207 PG 43

S88°45'15"E
255.25'

MAIN STREET
(PUBLIC - WIDTH UNDEFINED)
PLAN BK 207 PG 43
PLAN BK 455 PG 93

221

EX PUBLIC ROW (TYP)

LAYOUT LINE
SE CORNER GRANITE
FENCE POST 10"X10"
S20°45'29"W
15'±

PID 40-J9-0
#80 PARALLEL STREET
N/F
TOWN OF HARWICH
BK 9770 PG 5
PLAN BK 334 PG 98

PROP TEMP EASEMENT

PROP WALK
PROP BRICK STAIRS

R&R BOUND
PROP GRAN BOUND (SEE NOTE)

PROP CONC PCR 10-1
PROP DWP

END PROP HMA SW

S88°45'15"E
318.82'

222

END R&D BERM
END R&D HMA SW
END PROP BERM
END PROP LOAM & SEED
END PROP HMA SW

FINE MILL & OVERLAY

71

71+13

222+38.08 MAIN STREET=
71+13.00 SISSON ROAD

PID 40-K4-0
#686 MAIN STREET
N/F
TOWN OF HARWICH - CEMETERY
BK 1306 PG 244

CONST ℄

Δ=7°19'23"
R=989.00'
L=126.40'
T=63.29'

PC +86.59

70

N8°56'17"W
117.07'

END R&D BERM
BEGIN R&D VGC

SISSON ROAD
(PUBLIC - 40' WIDE)
1931 COUNTY LAYOUT PLAN BK 44 PG 33-2
PLAN BK 322 PG 33

PT +69.53

69

PI +67.61

CONTINUED ON SHEET NO. 15

RET BOULDER
W/ PLAQUE

PROP CONC PCR 10-2
PROP DWP

223

PID 40-K3-0
#690 MAIN STREET
N/F
FIRST CONGREGATIONAL CHURCH
CERT. 38810
LCC 33260A

LIMIT OF GRADING (TYP)

PROP HMA WALK

PID 40-Y1-0
#697 MAIN STREET
N/F
FIRST CONGREGATIONAL CHURCH
CERT. 36148
LCC 33812A

BEGIN PROP HMA SW

BEGIN R&D BERM

PROP TEMP EASEMENT

END R&D VGC
END R&D HMA SW
END PROP VGC
END PROP HMA SW
END PROP LOAM & SEED

N87°47'35"E
109.25'

(PUBLIC - VARIABLE WIDTH)
LCC 33260A, LCC 33812A, LCC 31178A

END PROP
HMA SW

PROP HMA
DWY 10-1

PROP GRAVEL

PROP HMA DWY 10-2

BEGIN PROP HMA SW

STONE POST &
METAL RAIL FENCE

WOOD
CHURCH

HEDGE

24"DEC

STONE POST
& METAL RAIL
FENCE (TYP)

STN POST

GRASS

BIT WALK

STN POST

8.02'

STN POST

0.82

PI +76.86

WAY 20.00' WIDE
LCC 31718A

224

LIMIT OF WORK
STA 224+00.00
N2713936.3334
E1045143.2185

CONST ℄

PLEASANT LAKE AVENUE RT. 124
PUBLIC - 45'WIDE
1958 COUNTY LAYOUT (PLAN BK 144 PG 15)

PID 40-Y3-0
#703 MAIN STREET
N/F
BRIAN P. DRUKER
BK 10983 PG 315
BK 4184 PG 234

MAIN STREET - RT. 39
COUNTY ROAD
LAYOUT NOT FOUND

PID 41-B9
#702 MAIN STREET
TOWN OF HARWICH
BK 9770 PG 21

PID 41-B3 #706 MAIN STREET
N/F PILGRIM LODGE AF & AM TR
CERT 158472 LCC 26218A

"WAY" 15'WIDE
LCC 26218A

PID 40-Y5
#705 MAIN STREET
N/F
CTC REALTY TRUST
BK 13549 PG 282
BK 4184 PG 235

225

PID 40-D10
#707 MAIN STREET
N/F 707 MAIN STREET REALTY TRUST
BK 22919 PG 263, PLAN BK 90 PG 65-2

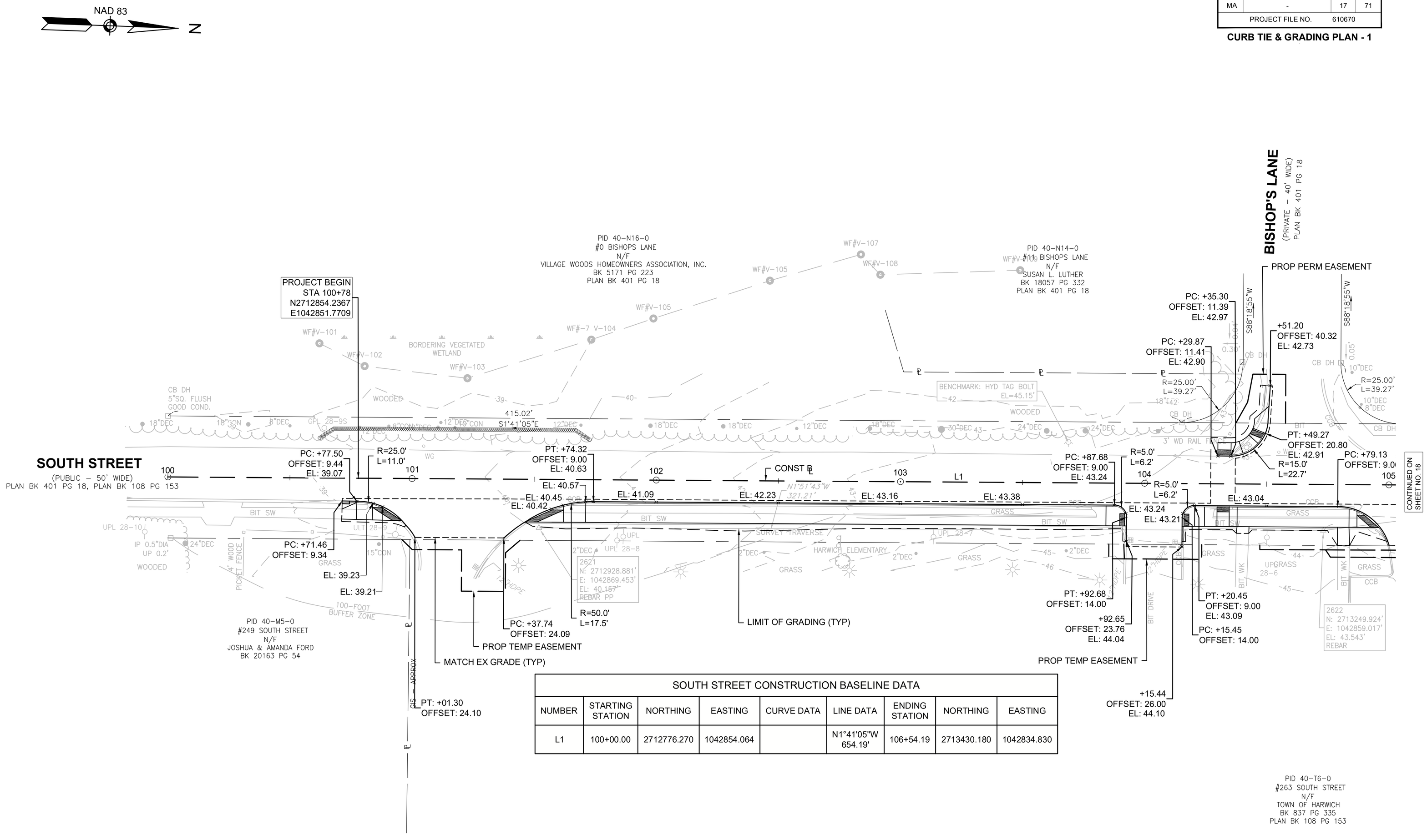
0 20 50 100

SCALE: 1" = 20'

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	17	71
PROJECT FILE NO.	610670		

CURB TIE & GRADING PLAN - 1



SOUTH STREET CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	100+00.00	2712776.270	1042854.064		N1°41'05"W 654.19'	106+54.19	2713430.180	1042834.830

610670_HD(TIE & GRADING-1).DWG Plotted on 5-May-2025 4:06 PM
Proposal No. 610670-1.1S876
A0058050

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	18	71
PROJECT FILE NO.	610670		

CURB TIE & GRADING PLAN - 2

NAD 83

N

SOUTH STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	100+00.00	2712776.270	1042854.064		N1°41'05"W 654.19'	106+54.19	2713430.180	1042834.830
L2	106+54.19	2713430.180	1042834.830		N2°55'24"W 500.51'	111+54.70	2713930.038	1042809.303

BISHOP'S LANE
(PRIVATE – 40' WIDE)
PLAN BK 401 PG 18

PID 40-N1-0
#268 SOUTH STREET
N/F
LOUISA J. MACPHERSON
BK 21834 PG 193
PLAN BK 401 PG 18

PID 40-N16-0
#0 BISHOP'S LANE
N/F
VILLAGE WOODS HOMEOWNERS ASSOCIATION
BK 5171 PG 223

PID 40-C3-0
#276 SOUTH STREET
N/F
RONALD E. & DOROTHY H. LINDHOLM
BK 30094 PG 232

PID 40-C3-0
#280 SOUTH STREET
N/F
WILLIAM H. RAYE & KRISTEN M. CARNEY
BK 13890 PG 214

SOUTH STREET
(PUBLIC – 50' WIDE)
PLAN BK 220 PG 101, PLAN BK 492 PG 71

LOCATION ACCURATE ANGLE GIS – APPROX

CONTINUED ON SHEET NO. 17

CONTINUED ON SHEET NO. 19

S88°18'55"W 0.04' 0.30' CB DH

S88°18'55"W 0.05' 0.06' CB DH 10"DEC R=25.00' L=39.27' 8"DEC SHRUBS 0.05' GRASS

148.90' S1°41'05"E

CONC WALK

3' WD RAIL FENCE

36"CON HEDGE GRASS

6"DEC 4"DEC 18"DEC 6"DEC

GUDGEON ELEC (SBV)

GRAVEL

UPL 28-4

SHRUBS 3' WOOD FENCE 4"CON

12 N: 2713484.941' E: 1042820.256' EL: 47.274' MAG NAIL

EP BIT DRIVE MB (TYP)

N2°39'21"W 211.60'

CCB SURVEY TRAVERSE

UPL 28-3

11 N: 2713696.317' E: 1042810.452' EL: 46.180' MAG NAIL

8"DEC 18"DEC 8"DEC GRASS

12"DEC 10"DEC 8"DEC 6"DEC BRUSH GRASS GRAVEL

479.50' S2°55'24"E

4"DEC UPL 28

COBBLES

N5°52'31"E 211.33'

ULT 28-2

CCB SURVEY TRAVERSE

PC: +79.13
OFFSET: 9.00
EL: 43.00

R=22.0'
L=11.8'

105

EL: 43.04

EL: 43.02

R=22.0'
L=8.6'

R=10.0', L=8.2'

PT: +38.28
OFFSET: 9.00
EL: 43.59

EL: 43.65

L1

106

EL: 43.91

EL: 45.50

PI +54.19

107

EL: 47.06

R=30.0'
L=13.6'

CONST ℄

EL: 46.90

108

EL: 46.57

EL: 46.42

L2

109

EL: 45.90

110

EL: 46.05

EL: 46.82

+47.24
OFFSET: 9.00
EL: 46.95

+60.06
OFFSET: 9.00
EL: 47.18

PC: +79.35
OFFSET: 13.55
EL: 46.46

+79.37
OFFSET: 10.50
EL: 45.81

+02.42
OFFSET: 10.50
EL: 45.86

GRASS

BIT WK 28-6 UPGRASS 45

BIT WK GRASS CB CCB EL: 42.86

2622 N: 2713249.924' E: 1042859.017' EL: 43.543' REBAR

BIT PARKING 44

CCB GRASS EL: 43.54

S1°41'05"E

PC: +28.40
OFFSET: 17.50
EL: 43.31

PT: +00.23
OFFSET: 24.75

+28.17
OFFSET: 20.58
EL: 43.23

PROP PERM UTILITY EASEMENT

UPL 5 STUMPS 12"DEC 10"DEC 6"DEC 18"DEC 24"DEC 20"DEC BRUSH

BIT SW

BIT DRIVE

6' WD FENCE

PI: +54.19
OFFSET: 9.00

PC: +02.13
OFFSET: 9.00
EL: 47.07

S2°55'24"E 69.39'

SHRUBS 36"DEC

PT: +92.53
OFFSET: 10.50
EL: 46.51

R=30.0'
L=13.7'

+65.83
OFFSET: 24.47

MATCH EX GRADE (TYP)

LIMIT OF GRADING (TYP)

GIS – APPROX

S2°55'24"E 365.44

BIT DRIVE

LSA

BOULDER (TYP)

STN BORDER

N89°10'09"E

+28.42
OFFSET: 23.93

PID 40-T6-0
#263 SOUTH STREET
N/F
TOWN OF HARWICH
BK 837 PG 335
PLAN BK 108 PG 153

PID 40-R3-1
#1 PARALLEL STREET
N/F
MARY JORDAN
BK 15173 PG 3
PLAN BK 492 PG 71

PARALLEL STREET
(PUBLIC – 40' WIDE)
PLAN BK 220 PG 101, PLAN BK 492 PG 71

PID 40-D1-3
#2 PARALLEL STREET
N/F
BRIAN WEINER
BK 22162 PG 35

PID 40-D1-2
#283 SOUTH STREET
N/F
JOSEPH R. MURPHY
BK 22385 PG 253

PID 40-D1-0
#615 MAIN STREET
N/F
FREDERICK E. & VIRGINIA T. GIANNELLI
BK 1386 PG 1168

0 20 50 100

SCALE: 1" = 20'

610670_HD(TIE & GRADING-2).DWG Plotted on 5-May-2025 4:06 PM

Proposal No. 610670-138576

400695151

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	19	71
PROJECT FILE NO.	610670		

CURB TIE & GRADING PLAN - 3

N

NAD 83

PID 40-A1-1
#606 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-2
#610 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-3
#614 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-4
#618 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-5
#622 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-6
#628 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

GUILFORD DRIVE
(PRIVATE - 50' WIDE)
PLAN BK 244 PG 80, PLAN BK 247 PG 43

BENCHMARK: HYD RT FRONT BOLT
EL=47.20'

S82°16'24"E
148.46'

LIMIT OF WORK
STA 199+96.50
N2713939.3281
E1042740.8299

111+54.70 SOUTH STREET=
200+65.60 MAIN STREET

10
N: 2713906.535'
E: 1042832.085'
EL: 50.909'
MAG NAIL

8
N: 2713939.399'
E: 1043082.108'
EL: 50.440'
MAG NAIL

9
N: 2713909.522'
E: 1042940.769'
EL: 54.072'
MAG NAIL

N8°08'26"E

+43.64
OFFSET: 10.00
EL: 47.76
R=25.00'
L=42.80'

MAIN STREET
(PUBLIC - 40' WIDE)
1949 COUNTY LAYOUT PLAN BK 88 PG 111

199+96.52
OFFSET: 12.80

PC: +44.45
OFFSET: 29.02
EL: 48.93

PC: +37.64
OFFSET: 20.64
EL: 49.22

PC: +18.56
OFFSET: 10.50
EL: 50.37

R=20.0', L=7.6'

EL: 50.86
EL: 50.47
EL: 50.38

MAIN STREET
(PUBLIC - 40' WIDE)
1950 COUNTY LAYOUT PLAN BK 90 PG 149

PI +00.00
EL: 52.48

EL: 53.05
EL: 52.70
EL: 51.61
EL: 48
EL: 48.37
EL: 47.65
47.71

+46.68
OFFSET: 10.00
EL: 50.16

+58.38
OFFSET: 10.00
EL: 49.83

+57.53
OFFSET: 10.00
EL: 47.66

CONST ℄

PT: +99.60
OFFSET: 10.14
EL: 51.19

EL: 50.09

SOUTH STREET
(PUBLIC - 50' WIDE)
PLAN BK 220 PG 101
PLAN BK 492 PG 271

EL: 48.55

+16.60
OFFSET: 10.50
EL: 47.29

+04.26
OFFSET: 10.50
EL: 46.90

CONST ℄

S2°55'24"E
479.50'
S2°55'24"E
363.44'

S89°56'34"E
466.58'

S89°56'34"E
930.23'

PROP TEMP EASEMENT

LIMIT OF GRADING (TYP)

PID 40-C1-0
#609 MAIN STREET
N/F
JAMES FRANCIS TURNER, III
BK 30170 PG 144

PID 40-D1-0
#615 MAIN STREET
N/F
FREDERICK E. & VIRGINIA T.
GIANNELLI
BK 1386 PG 1168

PID 40-D1-07
#619 MAIN STREET
N/F
JESSE M. DOWNING
BK 31409 PG 260
PLAN BK 220 PG101

LOCATION ACCURATE
ANGLE OIS - APPROX

CONTINUED ON
SHEET NO.18

CONTINUED ON
SHEET NO. 20

MAIN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L3	199+96.50	2713939.328	1042740.830		S82°16'24"E 103.50'	201+00.00	2713925.413	1042843.392
L4	201+00.00	2713925.413	1042843.392		S89°56'34"E 930.23'	210+30.23	2713924.484	1043773.619

0 20 50 100
SCALE: 1" = 20'

6106701

6106701_HD(TIE & GRADING-3).DWG Plotted on 5-May-2025 4:06 PM

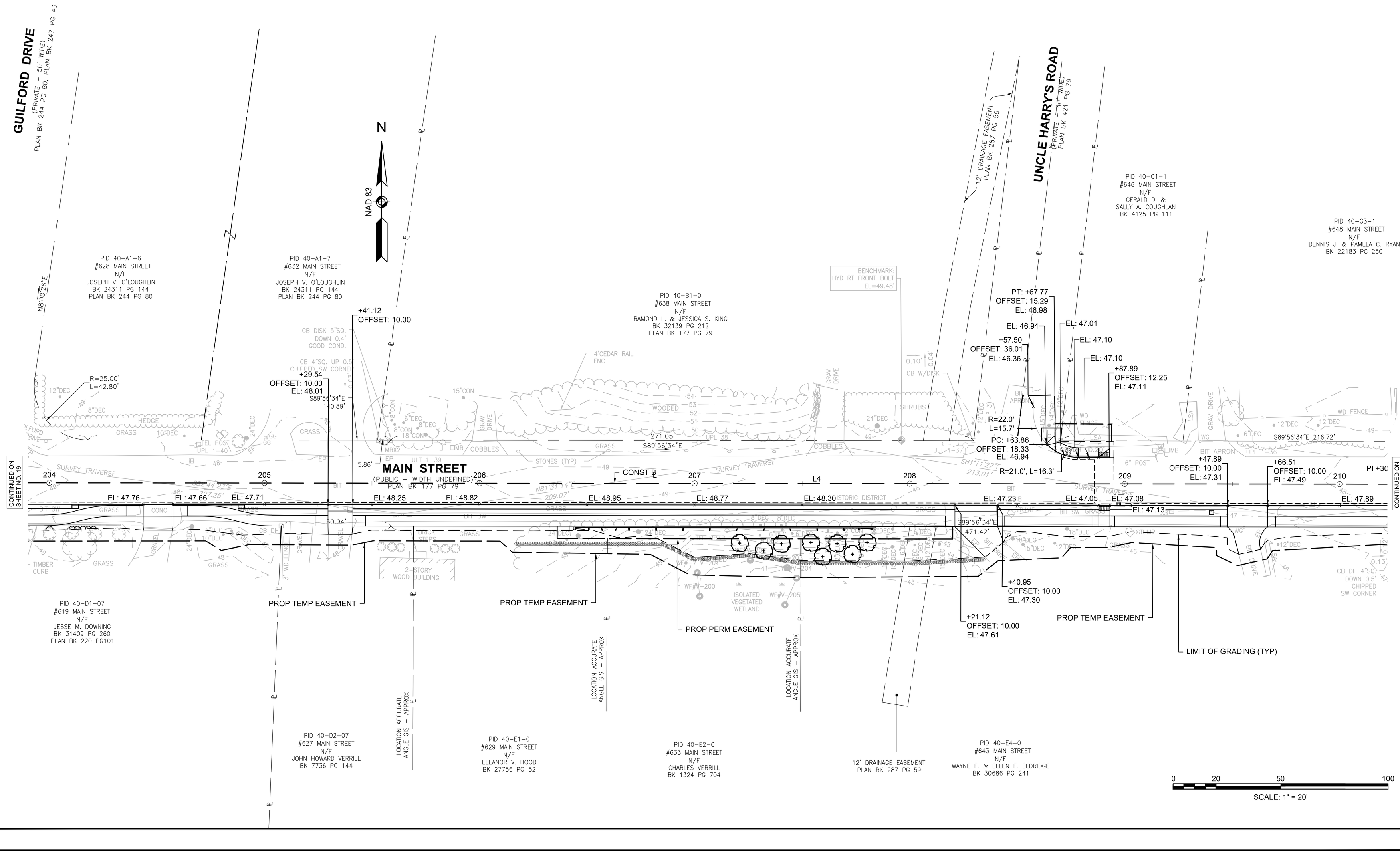
Proposal No. 610670-13876

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	20	71
PROJECT FILE NO.	610670		

CURB TIE & GRADING PLAN - 4

MAIN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L4	201+00.00	2713925.413	1042843.392		S89°56'34"E 930.23'	210+30.23	2713924.484	1043773.619



610670_HD(TIE & GRADING-4).DWG Plotted on 5-May-2025 4:06 PM

Proposal No. 610670-13876

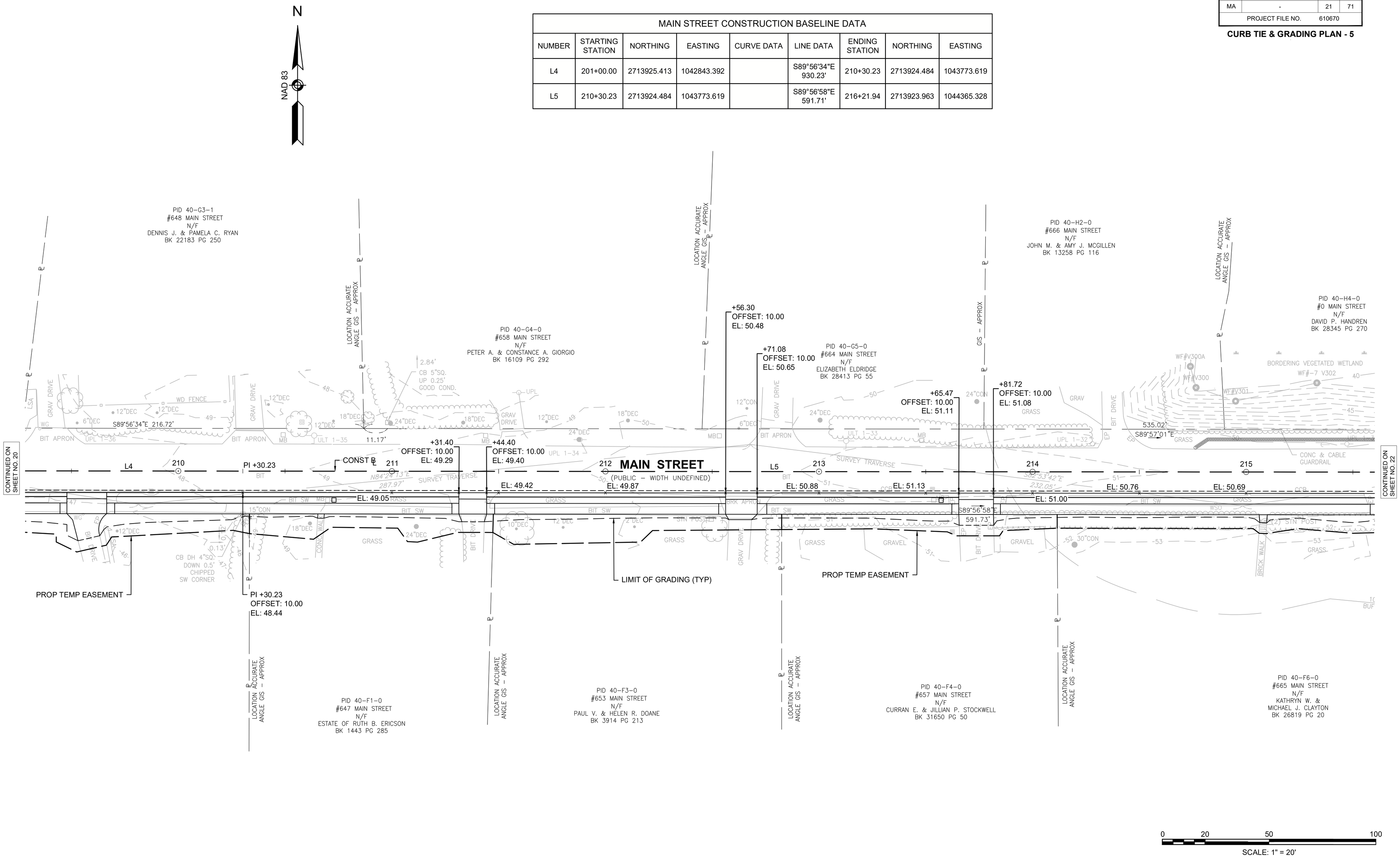
AM0836/53

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	21	71
PROJECT FILE NO.	610670		

CURB TIE & GRADING PLAN - 5

MAIN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L4	201+00.00	2713925.413	1042843.392		S89°56'34"E 930.23'	210+30.23	2713924.484	1043773.619
L5	210+30.23	2713924.484	1043773.619		S89°56'58"E 591.71'	216+21.94	2713923.963	1044365.328



610670_HD(TIE & GRADING-5).DWG Plotted on 5-May-2025 4:07 PM
Proposal No. 610670-138376
AM0050454

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	22	71
PROJECT FILE NO.	610670		

CURB TIE & GRADING PLAN - 6

MAIN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L5	210+30.23	2713924.484	1043773.619		S89°56'58"E 591.71'	216+21.94	2713923.963	1044365.328
L6	216+21.94	2713923.963	1044365.328		N89°55'37"E 326.85'	219+48.79	2713924.380	1044692.176
L7	219+48.79	2713924.380	1044692.176		N88°45'15"E 318.82'	222+67.61	2713931.312	1045010.925

N

NAD 83

ISLAND POND ROAD
(PUBLIC – 33' WIDE)
PLAN BK 245 PG 66, PLAN BK 455 PG 94

MAIN STREET
(PUBLIC 52' 40' WIDE)
1932 COUNTY LAYOUT PLAN BK 45 PG 75

FOREST STREET
(PUBLIC – 25' WIDE)
PLAN BK 207 PG 43, PLAN BK 152 PG 87

PID 40-H3-0
#672 MAIN STREET
N/F
THOMAS J. & JODIE C. BLUTE
BK 12951 PG 308
PLAN BK 9 PG 99

PID 40-H4-0
#0 MAIN STREET
N/F
DAVID P. HANDREN
BK 28345 PG 270

PID 40-K1-1A
#678 MAIN STREET
N/F
CHAPMAN COUSINS LLC
BK 29369 PG 215
PLAN BK 455 PLAN 94
PLAN BK 245 PLAN 66

PID 40-K1-4A
#692 MAIN STREET
N/F
BERTRAM ELDREDGE AND ERIN ELDREDGE
BK 26775 PG 158

PID 40-K4-0
#686 MAIN STREET
N/F
TOWN OF HARWICH – CEMETERY
BK 1306 PG 244

PID 40-F6-0
#665 MAIN STREET
N/F
KATHRYN W. &
MICHAEL J. CLAYTON
BK 26819 PG 20

PID 40-J1-0
#671 MAIN STREET
N/F
ROSEWOOD LIMITED PARTNERSHIP
BK 12712 PG 142
PLAN BK 226 PLAN 137

PID 40-J5-0
#679 MAIN STREET
N/F
RAIN C. & JUSTINE A. RYDER
BK 28288 PG 86

PID 40-J6-A-0
#683 MAIN STREET
N/F
BRIAN M. MURPHY
BK 11397 PG 99
PLAN BK 207 PG 43

PID 40-J6-B-0
#687 MAIN STREET
N/F
BRIAN M. MURPHY
BK 11397 PG 99
PLAN BK 207 PG 43

BENCHMARK:
HYD REAR BOLT
EL=51.45'

1
N: 2713937.258'
E: 1044752.650'
EL: 52.778'
MAG NAIL

2
N: 2713943.666'
E: 1044491.305'
EL: 51.096'
MAG NAIL

3
N: 2713908.265'
E: 1044241.681'
EL: 50.603'
MAG NAIL

16
N: 2714134.806'
E: 1044838.968'
EL: 56.581'
SPK

CONTINUED ON SHEET NO. 21

CONTINUED ON SHEET NO. 26

+61.37
OFFSET: 10.00
EL: 50.57

+74.04
OFFSET: 10.00
EL: 50.57

+91.14
OFFSET: 10.00
EL: 50.56

+14.94
OFFSET: 10.00
EL: 50.55

PI +21.94
OFFSET: 10.00
EL: 50.63

PC: +13.02
OFFSET: 11.62
EL: 50.97

+97.02
OFFSET: 11.59
EL: 51.01

PT: +28.10
OFFSET: 23.46

PC: +49.55
OFFSET: 23.43

PT: +66.25
OFFSET: 12.25
EL: 51.20

+73.85
OFFSET: 12.19
EL: 51.24

+77.02
OFFSET: 12.26
EL: 51.26

+83.02
OFFSET: 12.27

+68.17
OFFSET: 10.00
EL: 51.64

+98.38
OFFSET: 10.00
EL: 51.89

PC: +22.08
OFFSET: 10.00
EL: 52.38

PT: +27.08
OFFSET: 14.70
EL: 52.32

PT: +52.99
OFFSET: 10.00
EL: 52.46

PC: +48.34
OFFSET: 14.25
EL: 52.27

PI +48.79

MATCH EX GRADE (TYP)

LIMIT OF GRADING (TYP)

PROP TEMP EASEMENT

CONST ℄

215 | 216 L5 | 217 | 218 L6 | 219 | 220 L7 | 221

EL: 50.56 | EL: 50.99 | EL: 51.32 | EL: 51.35 | EL: 51.55 | EL: 52.27 | EL: 52.42 | EL: 52.68 | EL: 53.04 | EL: 53.54

R=18.0'
R=15.0'
R=18.0', L=4.5'
R=15.0', L=4.5'
R=5.0'
R=5.0'

EL: 50.98
EL: 50.98
EL: 50.99
EL: 51.00
EL: 51.19

N89°56'58"E 591.71'
N89°55'37"E 326.85'
N88°45'15"E 318.82'
N89°55'37"E 190.67'
N89°55'37"E 361.49'
S89°55'37"E 190.67'
S88°35'33"E 260.93'
N89°28'58"E 364'±
S88°51'34"W 176'±
S88°45'15"E 255.25'
N81°56'39"E 252.62'
N89°55'37"E 103.24'
S4°36'18"E
S4°36'18"E

SURVEY TRAVERSE

0 20 50 100
SCALE: 1" = 20'

A00850-55

610670_HD(TIE & GRADING-6).DWG Plotted on 5-May-2025 4:07 PM

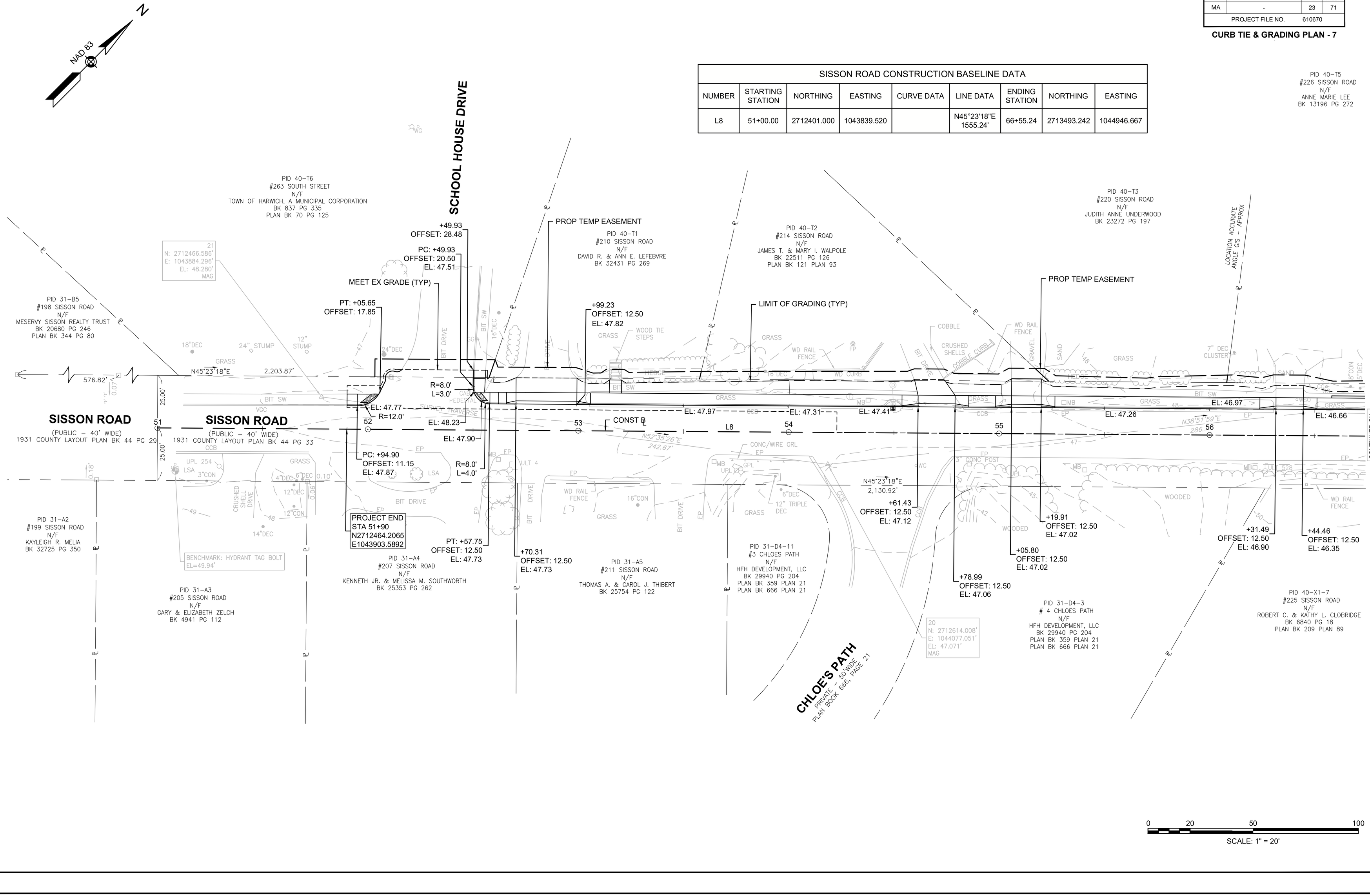
Proposal No. 610670-133876

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	23	71
PROJECT FILE NO.	610670		

CURB TIE & GRADING PLAN - 7

SISSON ROAD CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L8	51+00.00	2712401.000	1043839.520		N45°23'18"E 1555.24'	66+55.24	2713493.242	1044946.667



Plotted on 5-May-2025 4:07 PM
610670_HD(TIE & GRADING-7).DWG
Plotted by: Nicholas Tsiknas

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	24	71
PROJECT FILE NO.	610670		

CURB TIE & GRADING PLAN - 8

NAD 83

PID 40-T5
#226 SISSON ROAD
N/F
ANNE MARIE LEE
BK 13196 PG 272

PID 40-T4
#228 SISSON ROAD
N/F
PAUL S. WELSH, JR. & SARA Z. WELSH
BK 11681 PG 150

PID 40-W5-4
#230 SISSON ROAD
N/F
JOANNE C. HALL
BK 19017 PG 69
PLAN BK 307, PG 97

PID 40-W5-3
#234 SISSON ROAD
N/F
JOANNE C. HALL
BK 19017 PG 69
PLAN BK 307 PG 97

PID 40-W1-0
#244 SISSON ROAD
N/F
PETRA I. LUDDY
BK 14328 PG 325

PID 40-W3-0
#71 PARALLEL STREET
N/F
GARY L. LENTELL
BK 28799 PG 230

LOCATION ACCURATE ANGLE GIS - APPROX

PROP TEMP EASEMENT

LIMIT OF GRADING (TYP)

2,203.87'
N45°23'18"E

PROP TEMP EASEMENT

GIS - APPROX

CONTINUED ON SHEET NO. 23

CONTINUED ON SHEET NO. 25

SISSON ROAD
(PUBLIC - 40' WIDE)
1931 COUNTY LAYOUT PLAN BK 44 PG 33

EL: 46.69 | EL: 46.12 | EL: 44.88 | EL: 42.45 | EL: 40.92 | EL: 39.19 | EL: 37.81 | EL: 38.32 | EL: 39.16 | EL: 40.42 | EL: 42.00 | EL: 43.49 | EL: 45.99

57 | 58 | CONST ℄ | L8 | 59 | 60 | 61 | 62

192.12'
N54°35'12"E

165.05'
N36°01'10"E

257.63'
N53°54'22"E

N45°23'18"E
2,130.92'

+82.93
OFFSET: 12.50
EL: 43.00

+71.15
OFFSET: 12.50
EL: 43.51

+70.15
OFFSET: 12.50
EL: 39.13

+86.37
OFFSET: 12.50
EL: 39.93

PID 40-X1-7
#225 SISSON ROAD
N/F
ROBERT C. & KATHY L. CLOBRIDGE
BK 6840 PG 18
PLAN BK 209 PLAN 89

PID 40-X1-6
#229 SISSON ROAD
N/F
DEBORAH NICKERSON LEACH
BK 30276 PG 89
PLAN BK 209 PLAN 87

PID 40-X1-5
#233 SISSON ROAD
N/F
CATHERINE E. WHITING
BK 27840 PG 344
PLAN BK 209 PLAN 87

PID 40-X1-4
#237 SISSON ROAD
N/F
THE MARGARETE E. MURPHY
IRREVOCABLE SPECIAL NEEDS TRUST
CERT 200426

PID 40-X1-3
#241 SISSON ROAD
N/F
JOHN A. DRISCOLL
CERT 220803

PID 40-X1-1
#247 SISSON ROAD
N/F
ANTONIO VIVA & MARIA FREDA
DOC. 1229085
LCC 12339C

R=15.0
L=33.7

SISSON ROAD CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L8	51+00.00	2712401.000	1043839.520		N45°23'18"E 1555.24'	66+55.24	2713493.242	1044946.667

0 20 50 100
SCALE: 1" = 20'

610670_HD(TIE & GRADING-8).DWG Plotted on 5-May-2025 4:08 PM

Proposal No. 610670-13876

A00850-57

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	25	71
PROJECT FILE NO.	610670		

CURB TIE & GRADING PLAN - 9

Plotted on 5-May-2025 4:08 PM
610670_HD(TIE & GRADING-9).DWG
Proposal No. 610670-13876
AM0905SS

NAD 83

PARALLEL STREET
(PUBLIC – 40' WIDE)
PLAN BK 334 PG 98, PLAN BK 152 PG 87,
PLAN BK 178 PG 3, PLAN BK 334 PG 98

FOREST STREET
(PUBLIC – 25' WIDE)
PLAN BK 152 PG 87

SISSON ROAD
(PUBLIC – 40' WIDE)
1931 COUNTY LAYOUT PLAN BK 44 PG 33-2

FOREST STREET
(PUBLIC – 30' WIDE)
1975 TOWN LAYOUT
PLAN BK 303 PG 51

PARALLEL STREET
(PUBLIC – 40' WIDE)
PLAN BK 309 PG 98

PID 40-W3-0
#71 PARALLEL STREET
N/F
GARY L. LENTELL
BK 28799 PG 230

PID 40-W6-0 & 40-W6-B
#75 PARALLEL STREET
N/F
TOWN OF HARWICH
BK 2982 PG 26

PID 40-X1-1
#247 SISSON ROAD
N/F
ANTONIO VIVA & MARIA FREDA
DOC. 1229085
LCC 12339C

PID 40-Z5-0
#265 SISSON ROAD
N/F
TOWN OF HARWICH
BK 9770 PG 13
PLAN BK 417 PG 13

PID 40-Z2-2
#2 ENGLEWOOD DRIVE
N/F
COUNTRY MEADOW CONDOMINIUM
BK 5076 PG 1
PLAN BK 309 PG 98
PLAN BK 321 PG 68
PLAN BK 417 PG 13

PID 40-Z3-0
#91 PARALLEL STREET
N/F
MARGARET D. NILSON
BK 21674 PG 255

CONTINUED ON SHEET NO. 24
CONTINUED ON SHEET NO. 26

SISSON ROAD CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C1	66+55.24	2713493.242	1044946.667	R=226.00' Δ=54°19'35" L=214.29' T=115.96'		68+69.53	2713689.241	1045011.203
L8	51+00.00	2712401.000	1043839.520		N45°23'18"E 1555.24'	66+55.24	2713493.242	1044946.667
L9	68+69.53	2713689.241	1045011.203		N8°56'17"W 117.07'	69+86.59	2713804.887	1044993.015

SCALE: 1" = 20'

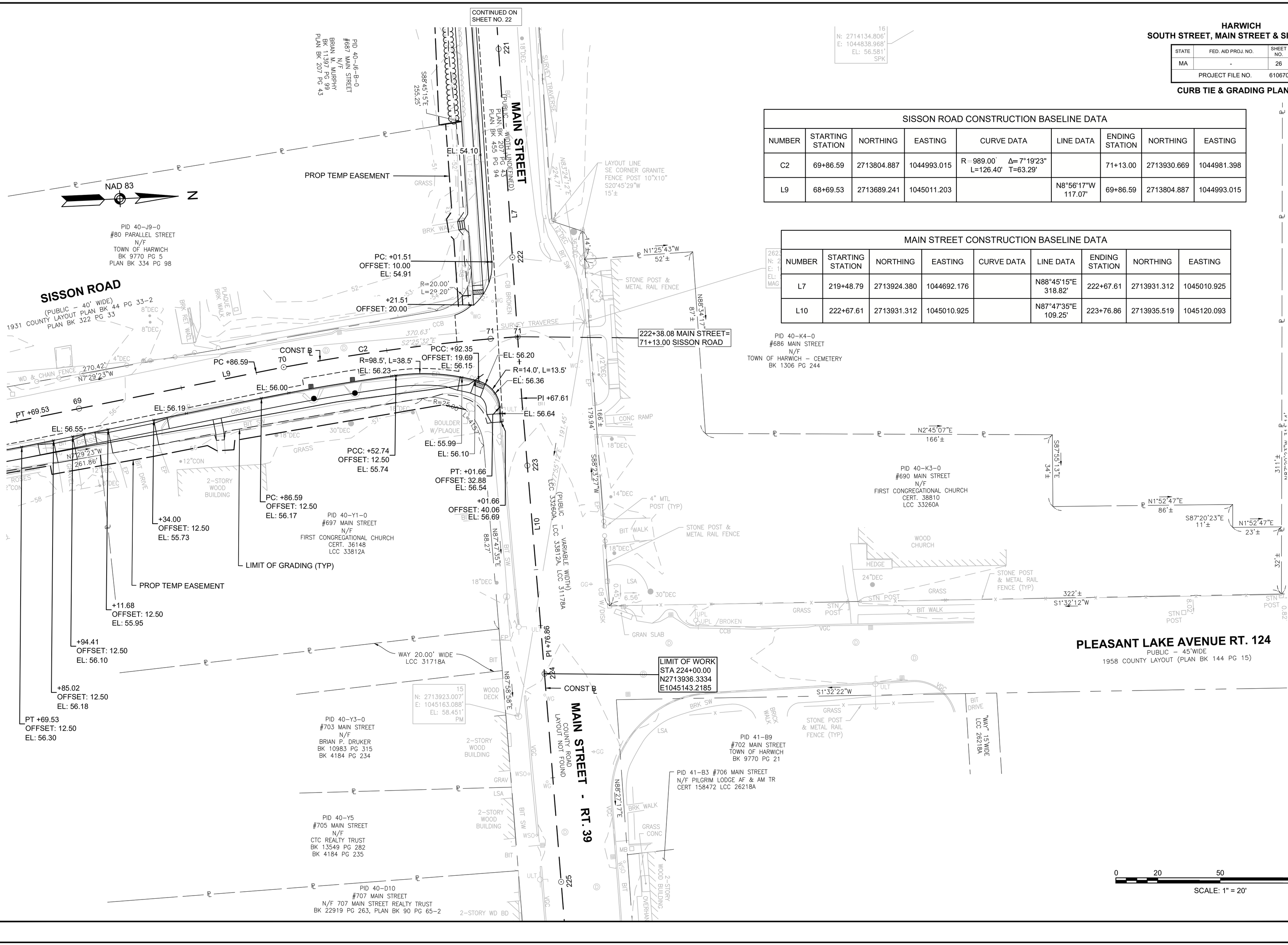
HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	26	71
PROJECT FILE NO.	610670		

CURB TIE & GRADING PLAN - 10

SISSON ROAD CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C2	69+86.59	2713804.887	1044993.015	R=989.00' Δ=7°19'23" L=126.40' T=63.29'		71+13.00	2713930.669	1044981.398
L9	68+69.53	2713689.241	1045011.203		N8°56'17"W 117.07'	69+86.59	2713804.887	1044993.015

MAIN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L7	219+48.79	2713924.380	1044692.176		N88°45'15"E 318.82'	222+67.61	2713931.312	1045010.925
L10	222+67.61	2713931.312	1045010.925		N87°47'35"E 109.25'	223+76.86	2713935.519	1045120.093



610670_HDLTIE & GRADING-10).DWG Plotted on 5-May-2025 4:08 PM

Proposal No. 610670-13876

A00859.69

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	27	71
PROJECT FILE NO.	610670		

DRAINAGE & UTILITY PLAN - 1

Plotted on 5-May-2025 4:08 PM
610670_HD(DRAINAGE-1).DWG
Proposal No. 610670-1338
AV 0058069

NAD 83

N

SOUTH STREET
(PUBLIC – 50' WIDE)
PLAN BK 401 PG 18, PLAN BK 108 PG 153

BISHOP'S LANE
(PRIVATE – 40' WIDE)
PLAN BK 401 PG 18

PROJECT BEGIN
STA 100+78
N2712854.2367
E1042851.7709

PID 40–N16–0
#0 BISHOPS LANE
N/F
VILLAGE WOODS HOMEOWNERS ASSOCIATION, INC.
BK 5171 PG 223
PLAN BK 401 PG 18

PID 40–N14–0
#13 BISHOPS LANE
N/F
SUSAN L. LUTHER
BK 18057 PG 332
PLAN BK 401 PG 18

PID 40–M5–0
#249 SOUTH STREET
N/F
JOSHUA & AMANDA FORD
BK 20163 PG 54

PID 40–T6–0
#263 SOUTH STREET
N/F
TOWN OF HARWICH
BK 837 PG 335
PLAN BK 108 PG 153

PID 40–T6–0
#263 SOUTH STREET
N/F
TOWN OF HARWICH
BK 837 PG 335
PLAN BK 108 PG 153

BENCHMARK: HYD TAG BOLT
EL=45.15'

PROP PERM EASEMENT

CONTINUED ON SHEET NO. 28

NOTE:

1. ALL UTILITY COVERS WITHIN THE SIDEWALK SHALL BE CAREFULLY ADJUSTED SUCH THAT THE STRUCTURE COVERS SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.

0 20 50 100
SCALE: 1" = 20'

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	28	71
PROJECT FILE NO.	610670		

DRAINAGE & UTILITY PLAN - 2

DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION AND OFFSET	RIM EL.	INV EL. IN	INV EL. OUT	REMARKS
2-1	CB (201.0.2)	STA: 109+21.92 9.49 RT	45.83	-	MATCH EX (42.8)(NW)	R&D CATCH BASIN R&S FRAME & GRATE PROP GRAN CURB INLET PROP FRAME & GRATE

NAD 83

N

BISHOP'S LANE
(PRIVATE – 40' WIDE)
PLAN BK 401 PG 18

PID 40-N1-0
#268 SOUTH STREET
N/F
LOUISA J. MACPHERSON
BK 21834 PG 193
PLAN BK 401 PG 18

PID 40-N16-0
#0 BISHOP'S LANE
N/F
VILLAGE WOODS HOMEOWNERS ASSOCIATION
BK 5171 PG 223

PID 40-C3-0
#276 SOUTH STREET
N/F
RONALD E. & DOROTHY H. LINDHOLM
BK 30094 PG 232

PID 40-C3-0
#280 SOUTH STREET
N/F
WILLIAM H. RAYE & KRISTEN M. CARNEY
BK 13890 PG 214

SOUTH STREET
(PUBLIC – 50' WIDE)
PLAN BK 220 PG 101, PLAN BK 492 PG 71

PARALLEL STREET
(PUBLIC – 40' WIDE)
PLAN BK 220 PG 101, PLAN BK 492 PG 71

PID 40-T6-0
#263 SOUTH STREET
N/F
TOWN OF HARWICH
BK 837 PG 335
PLAN BK 108 PG 153

PID 40-R3-1
#1 PARALLEL STREET
N/F
MARY JORDAN
BK 15173 PG 3
PLAN BK 492 PG 71

PID 40-D1-3
#2 PARALLEL STREET
N/F
BRIAN WEINER
BK 22162 PG 35

PID 40-D1-2
#283 SOUTH STREET
N/F
JOSEPH R. MURPHY
BK 22385 PG 253

PID 40-D1-0
#615 MAIN STREET
N/F
FREDERICK E. & VIRGINIA T. GIANNELLI
BK 1386 PG 1168

RELOCATE UPL (BO VERIZON)
RET UPL
RET
ADJ
PROP PERM UTILITY EASEMENT
RET 2" PL GAS MAIN
RET UPL
CONST B
ADJ
RET GAS MARKER
PROP CB 2-1
RET PIPE
RET 6" CS GAS MAIN
LOCATION ACCURATE ANGLE G/S – APPROX
G/S – APPROX

PI 54.19
S1°41'05"E 148.90'
S2°55'24"E 69.39'
S2°55'24"E 479.50'
S2°55'24"E 365.44'
N89°10'09"E

CONTINUED ON SHEET NO. 27
CONTINUED ON SHEET NO. 29

NOTE:

1. ALL UTILITY COVERS WITHIN THE SIDEWALK SHALL BE CAREFULLY ADJUSTED SUCH THAT THE STRUCTURE COVERS SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.

0 20 50 100
SCALE: 1" = 20'

610670_HD(DRAINAGE-2).DWG Plotted on 5-May-2025 4:09 PM
Proposal No. 610670-13876
A008904-01

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	29	71
PROJECT FILE NO.	610670		

DRAINAGE & UTILITY PLAN - 3

610670_HD\DRAINAGE-3).DWG Plotted on 5-May-2025 4:09 PM

Proposal No. 610670-11538

A00850-62

N

NAD 83

PID 40-A1-1
#606 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-2
#610 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-3
#614 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-4
#618 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-5
#622 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

PID 40-A1-6
#628 MAIN STREET
N/F
JOSEPH V. O'LOUGHLIN
BK 24311 PG 144
PLAN BK 244 PG 80

GUILFORD DRIVE
(PRIVATE – 50' WIDE)
PLAN BK 244 PG 80, PLAN BK 247 PG 43

BENCHMARK: HYD RT FRONT BOLT
EL=47.20'

LIMIT OF WORK
STA 199+96.50
N2713939.3281
E1042740.8299

CB DH 4"SQ.
FLUSH
GOOD COND.
0.05'

MAIN STREET
(PUBLIC – 40' WIDE)
1949 COUNTY LAYOUT PLAN BK 88 PG 111

199+96.50
200
201
201+00.00
202
203
204
205

MAIN STREET
(PUBLIC – 40' WIDE)
1950 COUNTY LAYOUT PLAN BK 90 PG 149

111+84.70

SOUTH STREET
(PUBLIC – 50' WIDE)
PLAN BK 220 PG 101
PLAN BK 492 EC 71

110

CONST B

ADJ (BO VERIZON)

S89°56'34"E
178.11'

S89°56'34"E
466.58'

RET 4" PL GAS MAIN (TYP)

RET 4" PL GAS MAIN

RET 6" CS GAS MAIN

RET GPL

RET EHH

RET TELEPHONE DUCT
AND CONDUIT (TYP)

PID 40-D1-07
#619 MAIN STREET
N/F
JESSE M. DOWNING
BK 31409 PG 260
PLAN BK 220 PG101

PID 40-C1-0
#609 MAIN STREET
N/F
JAMES FRANCIS TURNER, III
BK 30170 PG 144

PID 40-D1-0
#615 MAIN STREET
N/F
FREDERICK E. & VIRGINIA T.
GIANNELLI
BK 1366 PG 1168

LOCATION ACCURATE
ANGLE OIS – APPROX

CB DISK 5"SQ. UP 0.5'
CHIPPED SW & SE CORNER

CB DISK 6"SQ. UP 0.5'
LEAN SW 0.5' BROKEN NW CORNER

CB DH
5"X5" FLUSH
GOOD COND.

NOTE:

1. ALL UTILITY COVERS WITHIN THE SIDEWALK SHALL BE CAREFULLY ADJUSTED SUCH THAT THE STRUCTURE COVERS SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.

CONTINUED ON SHEET NO.28

CONTINUED ON SHEET NO. 30

0 20 50 100

SCALE: 1" = 20'

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	30	71
PROJECT FILE NO.	610670		

DRAINAGE & UTILITY PLAN - 4

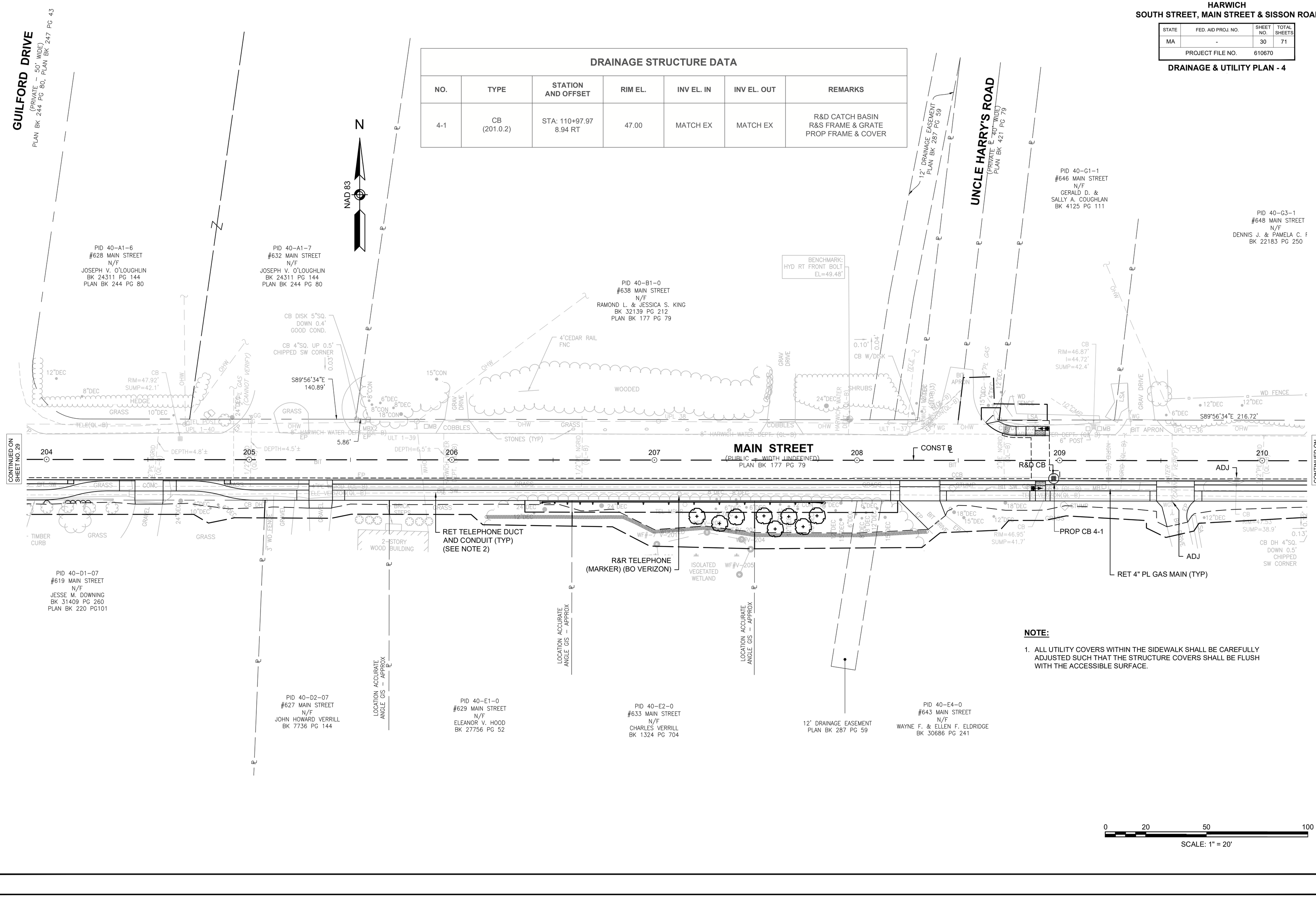
610670_HD(DRAINAGE-4).DWG Plotted on 5-May-2025 4:09 PM

Proposal No. 610670-138376

A00850-63

DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION AND OFFSET	RIM EL.	INV EL. IN	INV EL. OUT	REMARKS
4-1	CB (201.0.2)	STA: 110+97.97 8.94 RT	47.00	MATCH EX	MATCH EX	R&D CATCH BASIN R&S FRAME & GRATE PROP FRAME & COVER



NOTE:

1. ALL UTILITY COVERS WITHIN THE SIDEWALK SHALL BE CAREFULLY ADJUSTED SUCH THAT THE STRUCTURE COVERS SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.

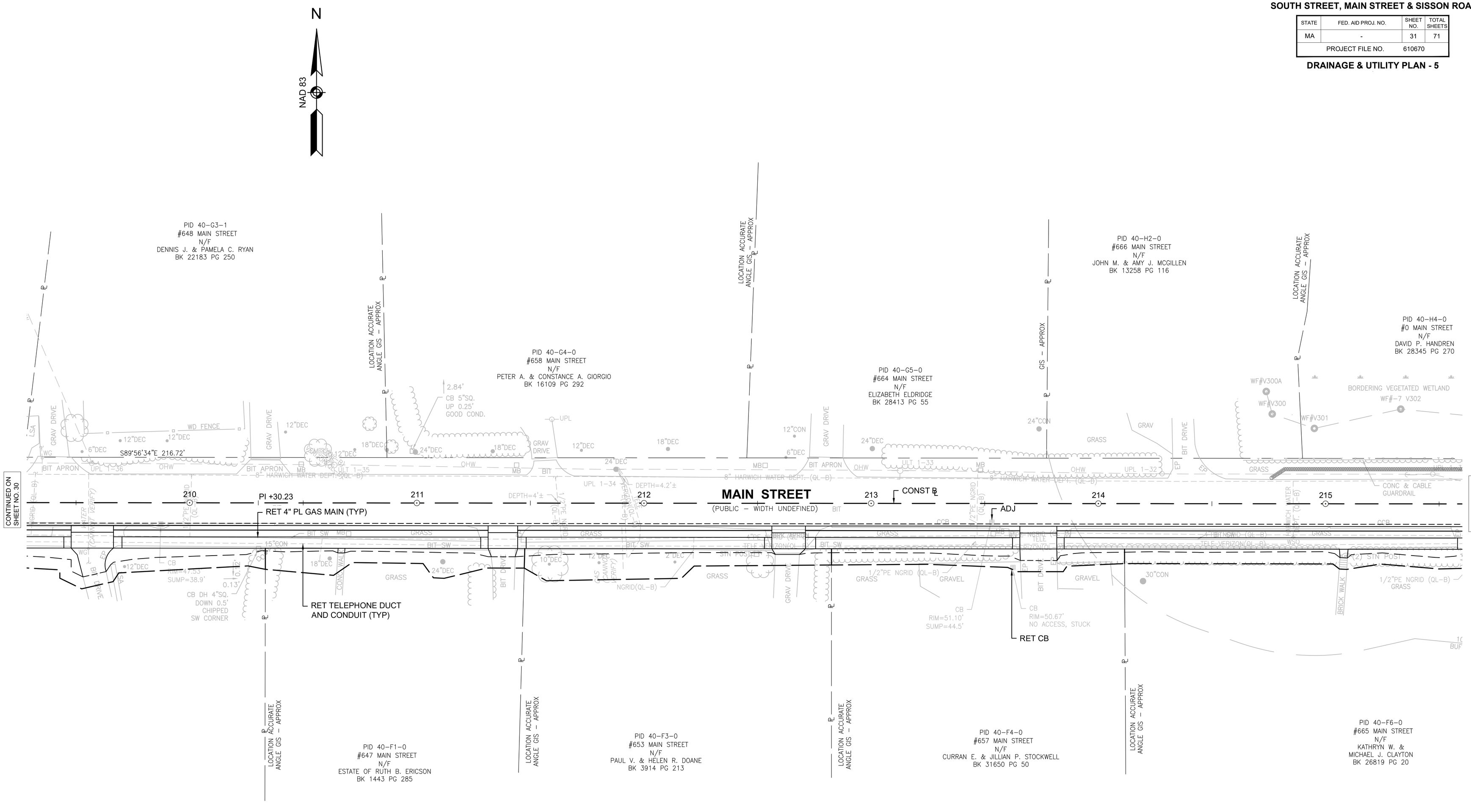
0 20 50 100

SCALE: 1" = 20'

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	31	71
PROJECT FILE NO.	610670		

DRAINAGE & UTILITY PLAN - 5



NOTE:

1. ALL UTILITY COVERS WITHIN THE SIDEWALK SHALL BE CAREFULLY ADJUSTED SUCH THAT THE STRUCTURE COVERS SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.

0 20 50 100

SCALE: 1" = 20'

610670_HD(DRAINAGE-5).DWG Plotted on 5-May-2025 4:09 PM
Proposal No. 610670-1-F33878
A0085964

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	32	71
PROJECT FILE NO.	610670		

DRAINAGE & UTILITY PLAN - 6

NOTE:

1. ALL UTILITY COVERS WITHIN THE SIDEWALK SHALL BE CAREFULLY ADJUSTED SUCH THAT THE STRUCTURE COVERS SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.

N

NAD 83

PID 40-H3-0
#672 MAIN STREET
N/F
THOMAS J. & JODIE C. BLUTE
BK 12951 PG 308
PLAN BK 9 PG 99

PID 40-H4-0
#0 MAIN STREET
N/F
DAVID P. HANDREN
BK 28345 PG 270

ISLAND POND ROAD
(PUBLIC - 33' WIDE)
PLAN BK 245 PG 66, PLAN BK 455 PG 94

PID 40-K1-1A
#678 MAIN STREET
N/F
CHAPMAN COUSINS LLC
BK 29369 PG 215
PLAN BK 455 PLAN 94
PLAN BK 245 PLAN 66

PID 40-K1-4A
#692 MAIN STREET
N/F
BERTRAM ELDREDGE AND ERIN ELDREDGE
BK 26775 PG 158

PID 40-K4-0
#686 MAIN STREET
N/F
TOWN OF HARWICH - CEMETERY
BK 1306 PG 244

PID 40-F6-0
#665 MAIN STREET
N/F
KATHRYN W. &
MICHAEL J. CLAYTON
BK 26819 PG 20

PID 40-J1-0
#671 MAIN STREET
N/F
ROSEWOOD LIMITED PARTNERSHIP
BK 12712 PG 142
PLAN BK 226 PLAN 137

PID 40-J5-0
#679 MAIN STREET
N/F
RAIN C. & JUSTINE A. RYDER
BK 28288 PG 86

FOREST STREET
(PUBLIC - 25' WIDE)
PLAN BK 152 PG 87, PLAN BK 207 PG 43

PID 40-J6-A-0
#683 MAIN STREET
N/F
BRIAN M. MURPHY
BK 11397 PG 99
PLAN BK 207 PG 43

PID 40-J6-B-0
#687 MAIN STREET
N/F
BRIAN M. MURPHY
BK 11397 PG 99
PLAN BK 207 PG 43

MAIN STREET
(PUBLIC - 40' WIDE)
1932 COUNTY LAYOUT PLAN BK 45 PG 75

CONTINUED ON SHEET NO. 31

CONTINUED ON SHEET NO. 36

BENCHMARK: HYD REAR BOLT EL=51.45'

1 N: 2713937.258' E: 1044752.650' EL: 52.778' MAG NAIL

2 N: 2713943.666' E: 1044491.805' EL: 51.096' MAG NAIL

3 N: 2713908.265' E: 1044241.681' EL: 50.603' MAG NAIL

16 N: 2714134.806' E: 1044838.968' EL: 56.581' SPK

N 2714000 E 1044250

N 2714000 E 1044500

N 2714000 E 1044750

S89°55'37"E 190.67'

S88°45'15"E 255.25'

N81°56'39"E 252.62'

SURVEY TRAVERSE

PI +21.94 ADJ

PI +48.79 ADJ (BO VERIZON)

CONST ℄

RET WATER MAIN

RET 4" PL GAS MAIN (TYP)

RET UPL AND GUY

RET TELEPHONE DUCT AND CONDUIT (TYP)

RET UPL

RET TELEPHONE POST

RET ULT

RET

RET UPL

RET EHH

RET 2" PL GAS MAIN (TYP)

GIS - APPROX

100-FOOT BUFFER ZONE

BORDERING VEGETATED WETLAND WF#-7 V302

WF#V304 12"RCP I=45.6'

WF#V303 CB RIM=50.21' SUMP=46.91'

CB 5"SQ. FLUSH GOOD COND.

CB 5"SQ. DOWN 0.3' POOR COND.

2-STORY WOOD BUILDING

DMH (LEACH) RIM=51.53' I=NO ACCESS, OFFSET SUMP=44.0'

DMH RIM=51.20' I(A)=NO ACCESS, OFFSET I(B)=48.4' W=48.5' SUMP=44.0'

CB RIM=50.98' I=48.8' SUMP=48.7'

CB RIM=50.25' SUMP=46.15'

CB RIM=50.25' SUMP=45.55'

SMH RIM=52.24'

SMH RIM=52.06'

SMH RIM=52.03'

SMH RIM=51.86'

SMH RIM=52.01'

CB RIM=52.73' NO ACCESS, STUCK

CB RIM=51.65' NO ACCESS, STUCK

SW CORNER GRANITE FENCE POST 10"X10"

STONE POST & METAL RAIL FENCE

STONE STEPS & BRICK WALK

STN RET WALL

HEAD STONES

CONC & CABLE GUARDRAIL

WOOD RAIL FENCE

BRICK WALK

GRASS

GRAVEL

BIT DRIVE

BIT SW

WOOD RR TIE CURB BIT SW

COBBLE STONES

SPOT LIGHT

TRENCH DRAIN

BRK WALK

BIT PARKING

1/2"PE NGRID (QL-B)

6"CS NGRID (QL-B)

8"HARWICH WATER DEPT. (QL-B)

12"HDPE (QL-B)

UPL 1-30

TELE VERIZON(QL-B)

OHW

WG

WV

WM

EP

FP

CCB

LSA

WD POST

6 DEC

8"DEC

10"DEC

18"DEC

24"DEC

0 20 50 100

SCALE: 1" = 20'

610670_HD(DRAINAGE-6).DWG Plotted on 5-May-2025 4:10 PM

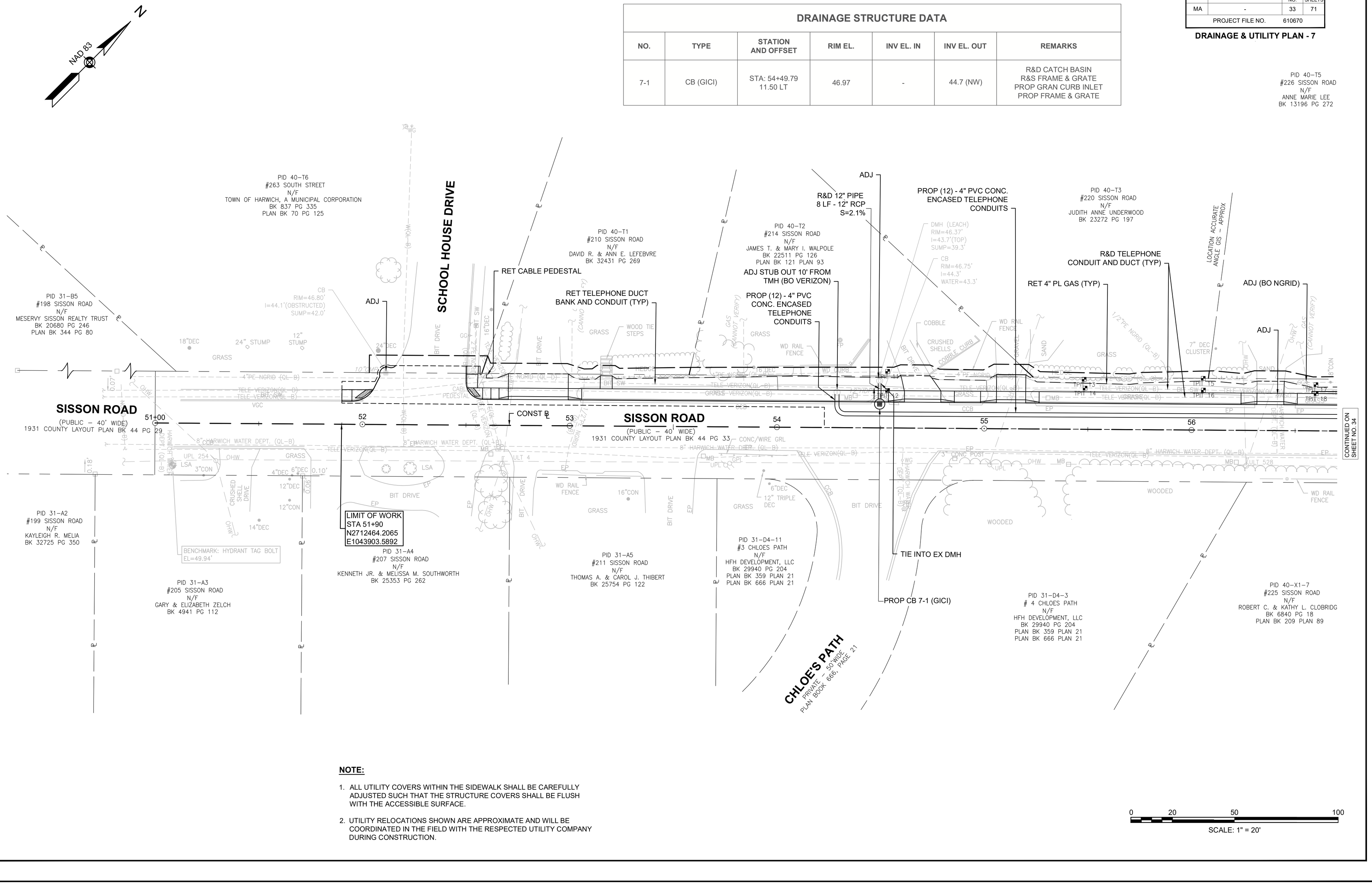
Proposal No. 610670-13876

A0008950-65

610670_HD(DRAINAGE-7).DWG Plotted on 5-May-2025 4:10 PM
Proposal No. 610670-11-F&SR76
A00850966

DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION AND OFFSET	RIM EL.	INV EL. IN	INV EL. OUT	REMARKS
7-1	CB (GICI)	STA: 54+49.79 11.50 LT	46.97	-	44.7 (NW)	R&D CATCH BASIN R&S FRAME & GRATE PROP GRAN CURB INLET PROP FRAME & GRATE



NOTE:

1. ALL UTILITY COVERS WITHIN THE SIDEWALK SHALL BE CAREFULLY ADJUSTED SUCH THAT THE STRUCTURE COVERS SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.
2. UTILITY RELOCATIONS SHOWN ARE APPROXIMATE AND WILL BE COORDINATED IN THE FIELD WITH THE RESPECTED UTILITY COMPANY DURING CONSTRUCTION.

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	34	71
PROJECT FILE NO.	610670		

DRAINAGE & UTILITY PLAN - 8

DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION AND OFFSET	RIM EL.	INV EL. IN	INV EL. OUT	REMARKS
8-1	CB (201.0.2)	STA: 59+86.96 11.50 LT	37.62	MATCH EX (35.6)	35.12 (NW)	R&D CATCH BASIN R&S FRAME & GRATE PROP GRAN CURB INLET PROP FRAME & GRATE

NAD 83

PID 40-T5
#226 SISSON ROAD
N/F
ANNE MARIE LEE
BK 13196 PG 272

PID 40-T4
#228 SISSON ROAD
N/F
PAUL S. WELSH, JR. & SARA Z. WELSH
BK 11681 PG 150

PID 40-W5-4
#230 SISSON ROAD
N/F
JOANNE C. HALL
BK 19017 PG 69
PLAN BK 307, PG 97

PID 40-W5-3
#234 SISSON ROAD
N/F
JOANNE C. HALL
BK 19017 PG 69
PLAN BK 307 PG 97

PID 40-W1-0
#244 SISSON ROAD
N/F
PETRA I. LUDDY
BK 14328 PG 325

PID 40-W3-0
#71 PARALLEL STREET
N/F
GARY L. LENTELL
BK 28799 PG 230

LOCATION ACCURATE ANGLE GIS - APPROX

PROP (12) - 4" PVC CONC. ENCASED TELEPHONE CONDUITS

RET 4" PL GAS (TYP)

RELOCATE 4" PL GAS (TYP) (BO NGRID)

TIE EX PIPE INTO NEW STRUCTURE

R&D TELEPHONE CONDUIT AND DUCT

ADJ

TIE INTO EX (BO NGRID)

CONTINUED ON SHEET NO. 33

CONTINUED ON SHEET NO. 35

CONST ℄

SISSON ROAD
(PUBLIC – 40' WIDE)
1931 COUNTY LAYOUT PLAN BK 44 PG 33

TIE EX SERVICE INTO PROP GAS MAIN (TYP) (BO NGRID)

PROP 6'x12' TMH

PROP CB 8-1

PID 40-X1-7
#225 SISSON ROAD
N/F
ROBERT C. & KATHY L. CLOBRIDGE
BK 6840 PG 18
PLAN BK 209 PLAN 89

PID 40-X1-6
#229 SISSON ROAD
N/F
DEBORAH NICKERSON LEACH
BK 30276 PG 89
PLAN BK 209 PLAN 87

PID 40-X1-5
#233 SISSON ROAD
N/F
CATHERINE E. WHITING
BK 27840 PG 344
PLAN BK 209 PLAN 87

PID 40-X1-4
#237 SISSON ROAD
N/F
THE MARGARETE E. MURPHY
IRREVOCABLE SPECIAL NEEDS TRUST
CERT 200426

PID 40-X1-3
#241 SISSON ROAD
N/F
JOHN A. DRISCOLL
CERT 220803

PID 40-X1-1
#247 SISSON ROAD
N/F
ANTONIO VIVA & MARIA FREDA
DOC. 1229085
LCC 12339C

FOREST STREET
(PUBLIC – 30' WIDE)
1975 TOWN LAYOUT
PLAN BK 303 PG 5

NOTE:

1. ALL UTILITY COVERS WITHIN THE SIDEWALK SHALL BE CAREFULLY ADJUSTED SUCH THAT THE STRUCTURE COVERS SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.
2. UTILITY RELOCATIONS SHOWN ARE APPROXIMATE AND WILL BE COORDINATED IN THE FIELD WITH THE RESPECTED UTILITY COMPANY DURING CONSTRUCTION.

0 20 50 100
SCALE: 1" = 20'

610670_HD(DRAINAGE-8).DWG Plotted on 5-May-2025 4:10 PM

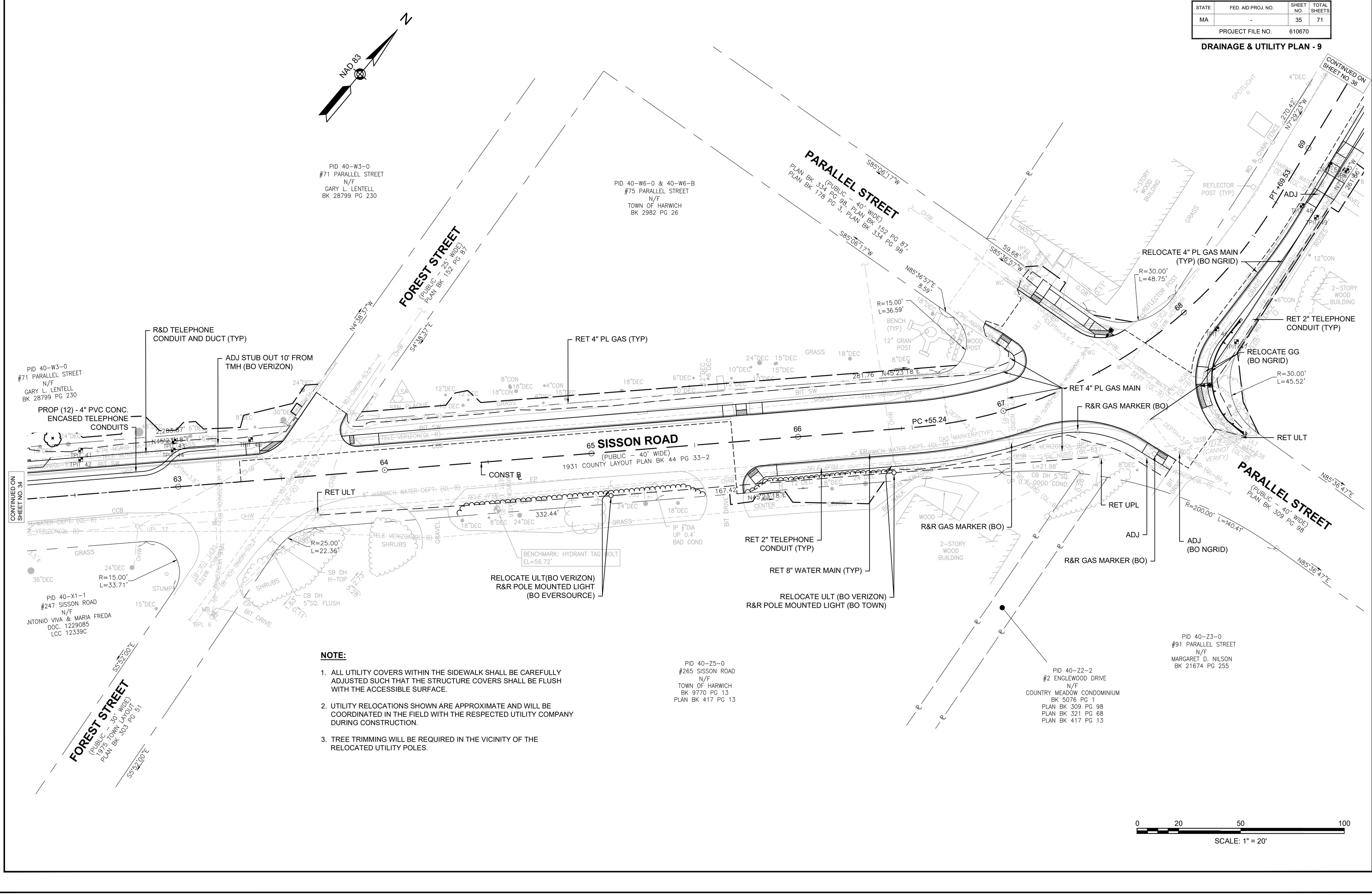
Proposal No. 610670-138376

4008936-67

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	35	71
PROJECT FILE NO.	610670		

DRAINAGE & UTILITY PLAN - 9



NOTE:

1. ALL UTILITY COVERS WITHIN THE SIDEWALK SHALL BE CAREFULLY ADJUSTED SUCH THAT THE STRUCTURE COVERS SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.
2. UTILITY RELOCATIONS SHOWN ARE APPROXIMATE AND WILL BE COORDINATED IN THE FIELD WITH THE RESPECTED UTILITY COMPANY DURING CONSTRUCTION.
3. TREE TRIMMING WILL BE REQUIRED IN THE VICINITY OF THE RELOCATED UTILITY POLES.

0 20 50 100

SCALE: 1" = 20'

610670_HD\DRAINAGE-9).DWG Plotted on 5-May-2025 4:10 PM
Proposal No. 610670-13876
AM8890-08

HARWICH
SOUTH STREET, MAIN STREET & SISSON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	36	71
PROJECT FILE NO.	610670		

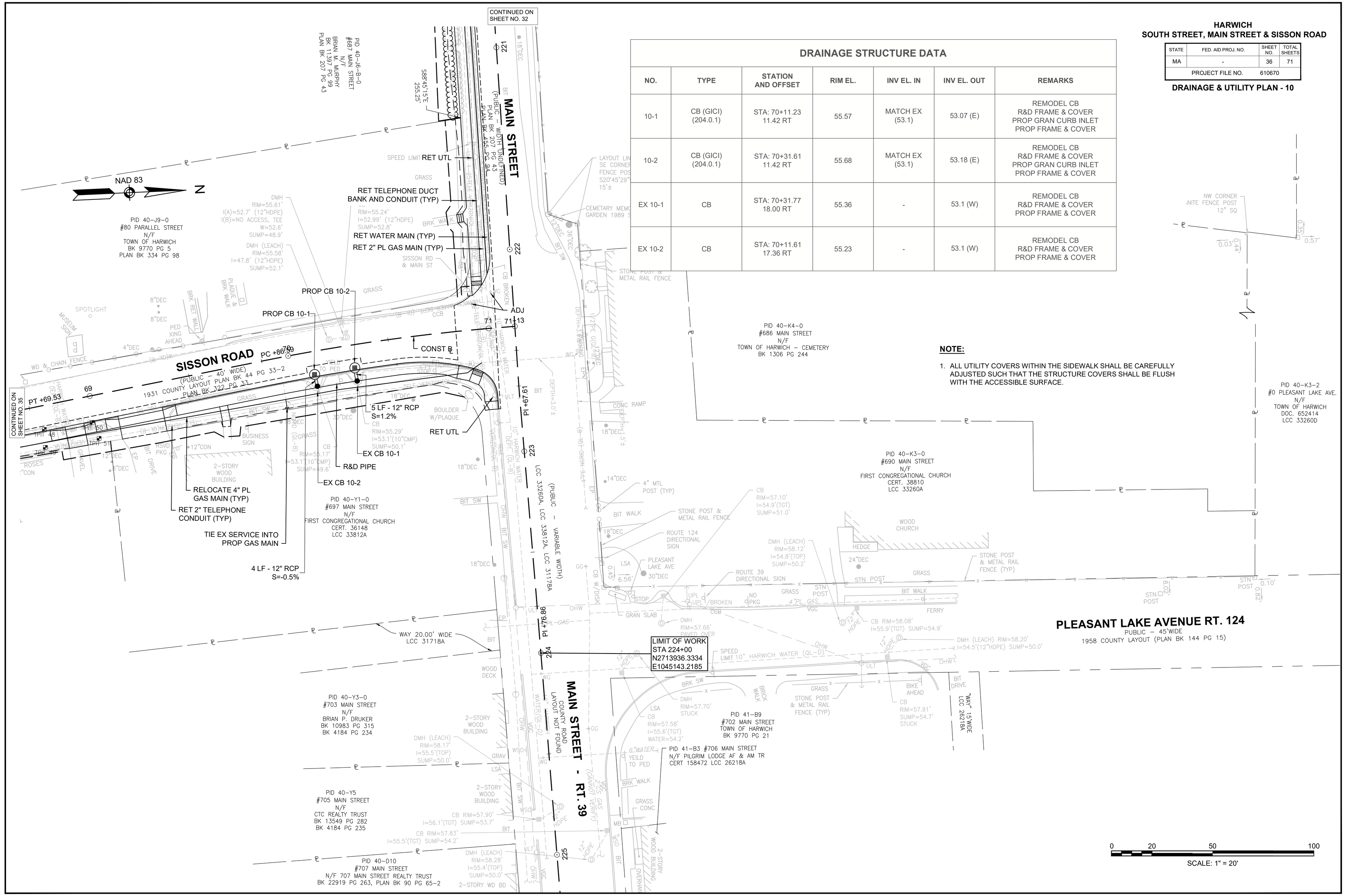
DRAINAGE & UTILITY PLAN - 10

DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION AND OFFSET	RIM EL.	INV EL. IN	INV EL. OUT	REMARKS
10-1	CB (GICI) (204.0.1)	STA: 70+11.23 11.42 RT	55.57	MATCH EX (53.1)	53.07 (E)	REMODEL CB R&D FRAME & COVER PROP GRAN CURB INLET PROP FRAME & COVER
10-2	CB (GICI) (204.0.1)	STA: 70+31.61 11.42 RT	55.68	MATCH EX (53.1)	53.18 (E)	REMODEL CB R&D FRAME & COVER PROP GRAN CURB INLET PROP FRAME & COVER
EX 10-1	CB	STA: 70+31.77 18.00 RT	55.36	-	53.1 (W)	REMODEL CB R&D FRAME & COVER PROP FRAME & COVER
EX 10-2	CB	STA: 70+11.61 17.36 RT	55.23	-	53.1 (W)	REMODEL CB R&D FRAME & COVER PROP FRAME & COVER

NOTE:

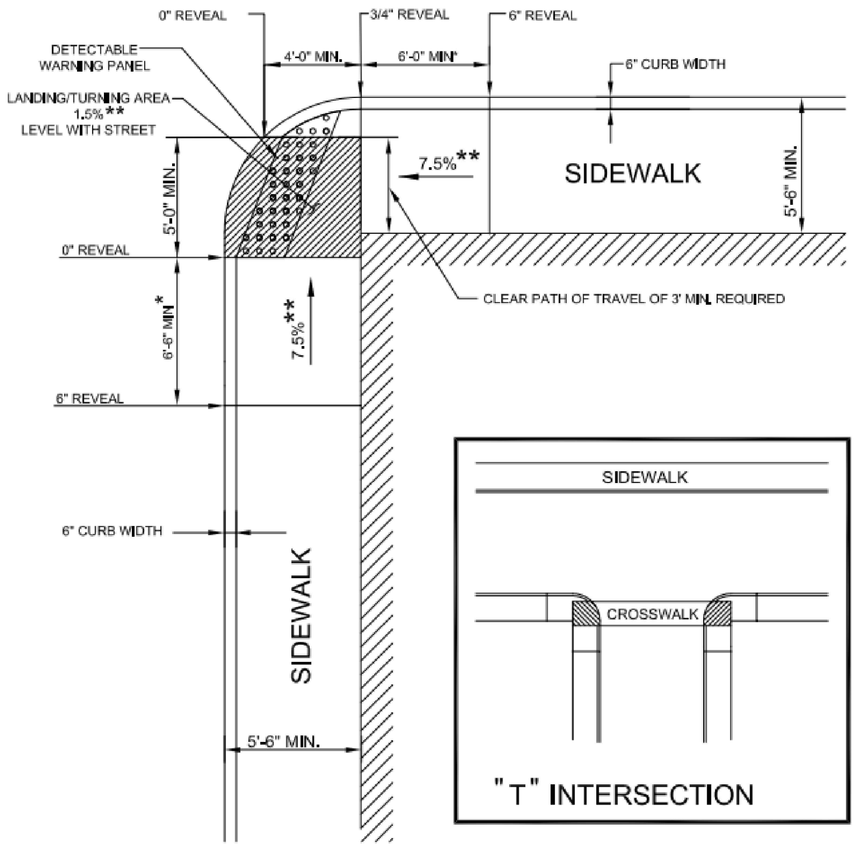
1. ALL UTILITY COVERS WITHIN THE SIDEWALK SHALL BE CAREFULLY ADJUSTED SUCH THAT THE STRUCTURE COVERS SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.



610670_HD(DRAINAGE-10).DWG Plotted on 5-May-2025 4:11 PM
Proposal No. 610670-13876
A00859469

610670_HD(DETAILS).DWG Plotted on 5-May-2025 3:16 PM

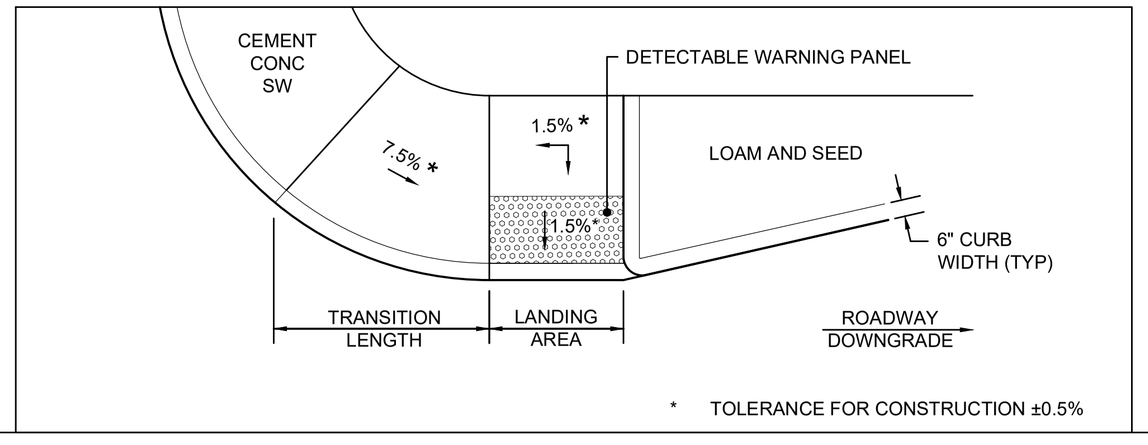
A00850-70



* TOLERANCE FOR CONSTRUCTION ±0.5%
** NOTED FROM STANDARD DETAIL

PEDESTRIAN CURB RAMP - TYPE 1

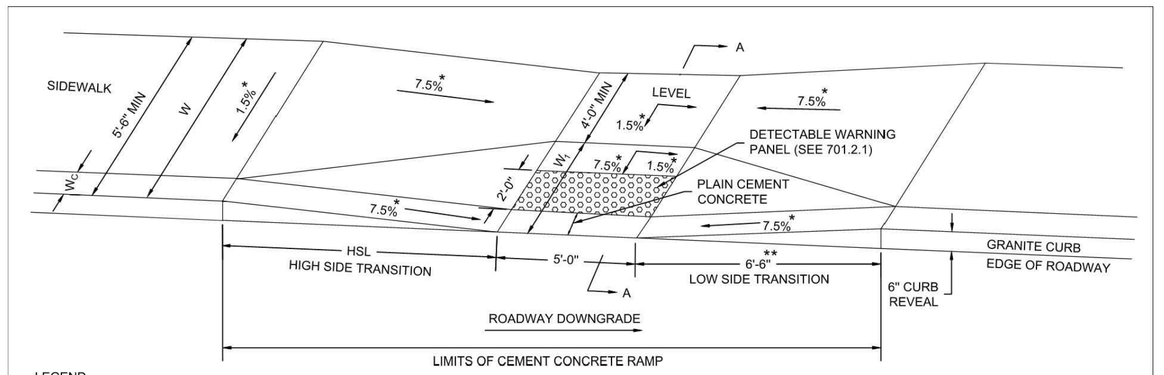
ROADWAY	PCR #	RAMP REFERENCE POINT		ROADWAY GUTTER SLOPE	TRANSITION LENGTH		CURB REVEAL (IN)	
		STATION	OFFSET		HIGH SIDE	LOW SIDE	HIGH SIDE	LOW SIDE
SISSON	7-2	52+51	16' LT	-0.5%	3.84'	6.5'	3"	6"



* TOLERANCE FOR CONSTRUCTION ±0.5%

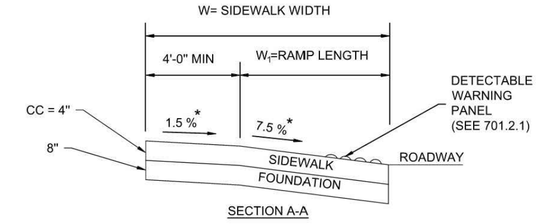
PEDESTRIAN CURB RAMP - TYPE 2 (MODIFIED)

ROADWAY	PCR #	RAMP REFERENCE POINT		WIDTH OF SIDEWALK	WIDTH OF RAMP ENTRANCE 5.0' (MIN)	ROADWAY GUTTER SLOPE	TRANSITION LENGTH		CURB REVEAL (IN)	
		STATION	OFFSET				HIGH SIDE	LOW SIDE	HIGH SIDE	LOW SIDE
SISSON	9-4	67+15	35' LT	5.5'	5.0'	-0.32%	-	6.5'	-	6"



LEGEND
HSL = HIGH SIDE TRANSITION LENGTH (SEE 701.2.8)
W = SIDEWALK WIDTH
W_C = CURB WIDTH
W_t = PERPENDICULAR RAMP LENGTH
CC = CEMENT CONCRETE
* = TOLERANCE FOR CONSTRUCTION=0.5%±
** = TRANSITION LENGTH SHOWN IS MINIMUM

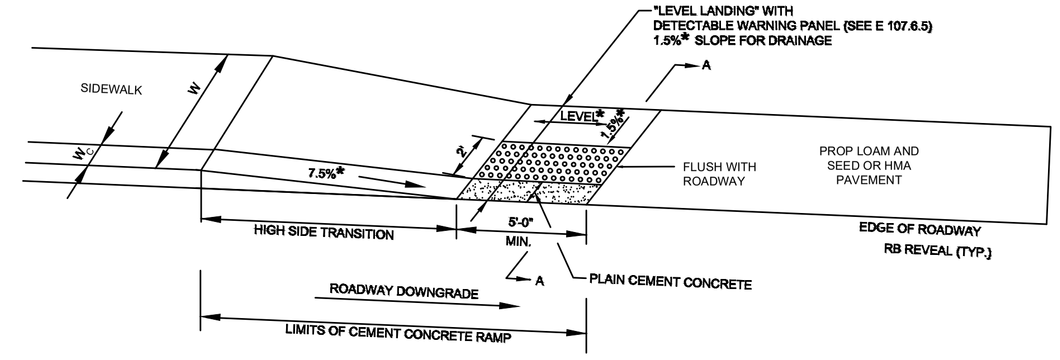
NOTES:
1. LEVEL LANDING AND RAMP MUST BE CLEAR OF ANY OBSTRUCTIONS.
2. DETECTABLE WARNING PANEL MUST BE 2' AT ALL POINTS IN PEDESTRIAN PATH OF TRAVEL.
3. PEDESTRIAN PATH OF TRAVEL SHALL BE NO LESS THAN 4'-0" WIDE AND FREE OF VERTICAL OBSTRUCTIONS (FOR ALL CONSTRAINED CONDITIONS).
4. ALL SLOPE VALUES LISTED HERE ARE MAXIMUM VALUES WITH A CONSTRUCTION TOLERANCE OF ±0.5%.
5. USABLE SIDEWALK WIDTH = W-W_C



massDOT Massachusetts Department of Transportation Highway Division	CONSTRUCTION STANDARDS SECTION 700	PEDESTRIAN CURB RAMP LESS THAN 12'-4" SIDEWALK	ISSUE DATE JULY 2024	DRAWING NUMBER 701.2.3

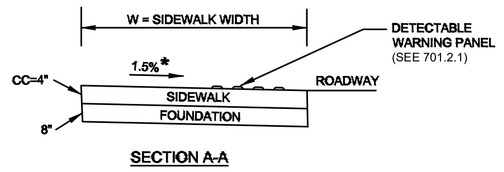
PEDESTRIAN CURB RAMP - TYPE 1 (MODIFIED)

ROADWAY	PCR #	RAMP REFERENCE POINT		WIDTH OF SIDEWALK (W)	WIDTH OF RAMP ENTRANCE 5.0' (MIN)	LENGTH OF PRIMARY RAMP (W1)	ROADWAY GUTTER SLOPE	TRANSITION LENGTH		CURB REVEAL (IN)	
		STATION	OFFSET					HIGH SIDE	LOW SIDE	HIGH SIDE	LOW SIDE
SOUTH	3-1	111+32	15' RT	8.5'	5.0'	3.7'	-2.21%	3.7'	6.5'	2"	6"



LEGEND
HSL = HIGH SIDE TRANSITION LENGTH (SEE 701.2.8)
W = SIDEWALK WIDTH
W_C = CURB WIDTH
CC = CEMENT CONCRETE
* = TOLERANCE FOR CONSTRUCTION ±0.5%
USABLE SIDEWALK WIDTH PER AAB = W-W_C
USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'0"
(SEE 701.2.1) FOR DETAILS OF DETECTABLE WARNING PANEL

NOTE:
ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS



NOTE:

1. SIDEWALK TERMINATES ON THE EAST SIDE OF MAIN STREET AND SISSON ROAD AT THESE LOCATIONS, AND ON THE SOUTH SIDE OF SOUTH STREET, THEREFORE A HIGH SIDE TRANSITION IS NOT NEEDED.

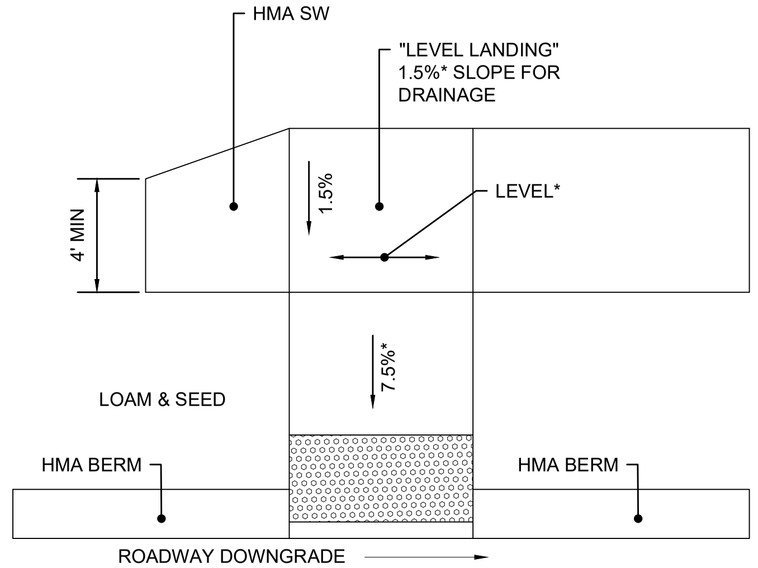
PEDESTRIAN CURB RAMP - TYPE 2

ROADWAY	PCR #	RAMP REFERENCE POINT		WIDTH OF RAMP ENTRANCE 5.0' (MIN)	ROADWAY GUTTER SLOPE	TRANSITION LENGTH		CURB REVEAL (IN)	
		STATION	OFFSET			HIGH SIDE	LOW SIDE	HIGH SIDE	LOW SIDE
MAIN	4-2	208+91	12' LT	5.0'	-0.09%	-	4.5'	-	4"
MAIN	6-2	217+00	12' LT	5.0'	-0.06%	3.25'	-	3"	-
SISSON	9-5	65+76	14.2 RT	5.0'	-0.35%	7.67'	-	6"	-
SISSON	9-6	67+59	53' RT	5.0'	+0.65%	-	6.5'	-	6"
SISSON	9-7	67+79	43' RT	12.0'	-0.50%	7.67'	-	6"	-
SOUTH	1-6	104+32.5	11.5 LT	5.5'	LEVEL	3.25'	-	3"	-

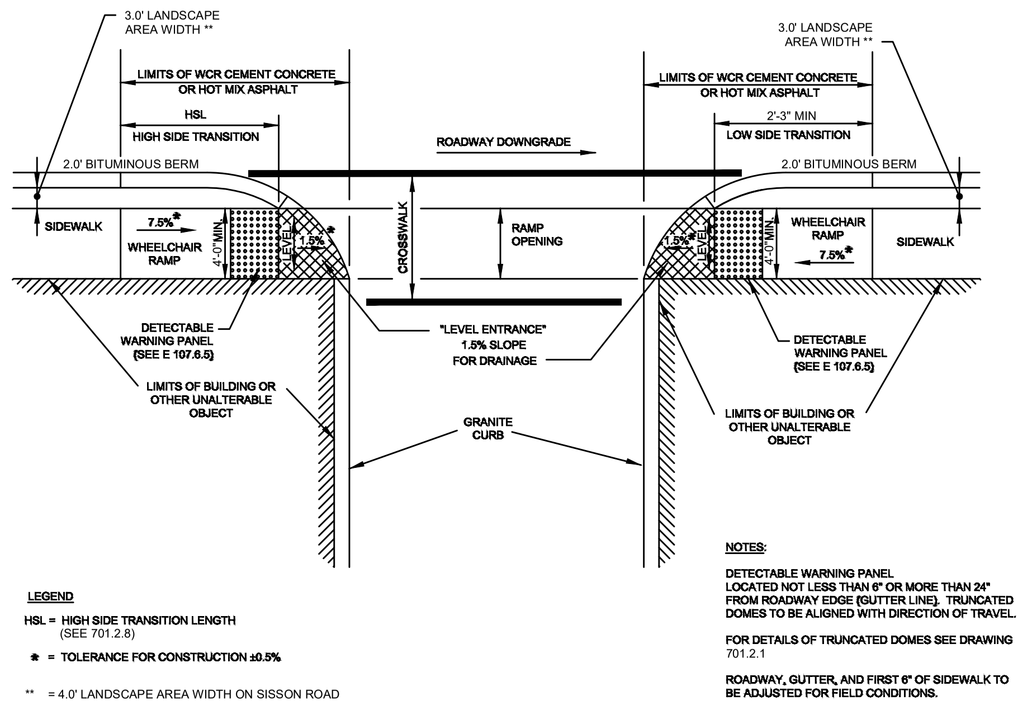
Proposal No. 610670-133876

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	52	71
PROJECT FILE NO.	610670		

CONSTRUCTION DETAILS - 2



* TOLERANCE FOR CONSTRUCTION ±0.5%



LEGEND

HSL = HIGH SIDE TRANSITION LENGTH (SEE 701.2.8)

* = TOLERANCE FOR CONSTRUCTION ±0.5%

** = 4.0' LANDSCAPE AREA WIDTH ON SISSON ROAD

NOTES:

DETECTABLE WARNING PANEL LOCATED NOT LESS THAN 6" OR MORE THAN 24" FROM ROADWAY EDGE (GUTTER LINE). TRUNCATED DOMES TO BE ALIGNED WITH DIRECTION OF TRAVEL.

FOR DETAILS OF TRUNCATED DOMES SEE DRAWING 701.2.1

ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS.

PEDESTRIAN CURB RAMP - TYPE 3

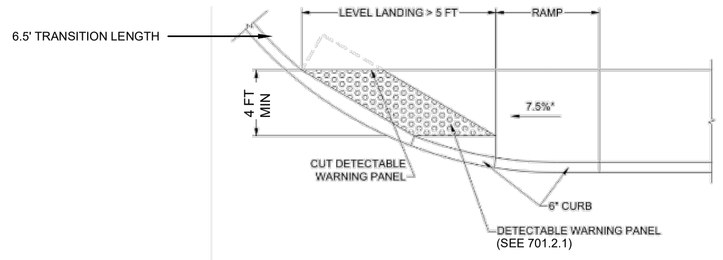
ROADWAY	PCR #	RAMP REFERENCE POINT		WIDTH OF RAMP ENTRANCE 4.0' (MIN)	ROADWAY GUTTER SLOPE*	TRANSITION LENGTH		CURB REVEAL (IN)	
		STATION	OFFSET			HIGH SIDE	LOW SIDE	HIGH SIDE	LOW SIDE
SOUTH	1-3	103+93	16' RT	5.0'	-0.39%	7.67'	-	6"	-
SOUTH	1-4	104+16	16' RT	5.0'	0.39%	-	4.33'	-	4"
SOUTH	2-2	105+29	15' RT	5.0'	-1.18%	9.0'	-	6"	-
SISSON	9-2	63+81	17' LT	5.0'	-3.89%	14'	-	6"	-

PEDESTRIAN CURB RAMP - TYPE 3 (MODIFIED)

ROADWAY	PCR #	RAMP REFERENCE POINT		WIDTH OF RAMP ENTRANCE 5.0' (MIN)	ROADWAY GUTTER SLOPE	TRANSITION LENGTH		REVEAL (IN)	
		STATION	OFFSET			HIGH SIDE	LOW SIDE	HIGH SIDE	LOW SIDE
MAIN	6-5	219+27	18' RT	5.0'	- 0.75%	-	2.56	-	2"
MAIN	6-6	219+48	18' RT	5.0'	-0.75%	-	2.56	-	2"
MAIN	10-1	222+19	17' RT	5.0'	- 2.95%	-	4.67	-	2"
SOUTH	3-2	111+42	25' LT	5.0'	+3.27%	-	2.17	-	2"

PEDESTRIAN CURB RAMP - TYPE 5

ROADWAY	PCR #	RAMP REFERENCE POINT		WIDTH OF RAMP ENTRANCE 5.0' (MIN)	ROADWAY GUTTER SLOPE*	TRANSITION LENGTH		CURB REVEAL (IN)	
		STATION	OFFSET			HIGH SIDE	LOW SIDE	HIGH SIDE	LOW SIDE
SISSON	9-8	67+36	45' LT	5.0'	0.18%	6.5'	6.5'	6"	6"



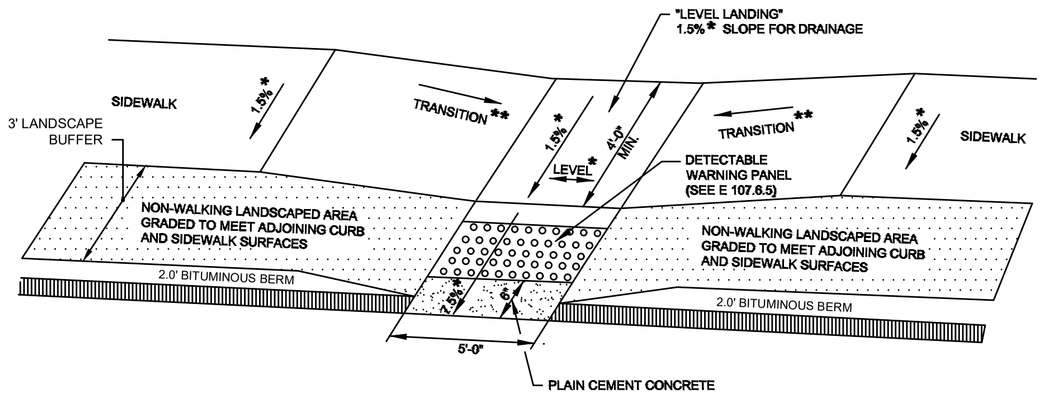
* = TOLERANCE FOR CONSTRUCTION ±0.5%

NOTE:
1. THE DETECTABLE WARNING PANEL IS 2 FEET DEEP MINIMUM AT ALL LOCATIONS IN THE PEDESTRIAN PATH OF TRAVEL.

DETECTABLE WARNING PANEL ON WHEELCHAIR RAMP FOR ONE CONTINUOUS DIRECTION OF PEDESTRIAN TRAVEL WHERE THE LEVEL LANDING IS MORE THAN 5 FEET DEEP AT ANY POINT

CURB RAMP - TYPE 4

ROADWAY	PCR #	RAMP REFERENCE POINT		WIDTH OF RAMP ENTRANCE 4.0' (MIN)	ROADWAY GUTTER SLOPE*	TRANSITION LENGTH		CURB REVEAL (IN)	
		STATION	OFFSET			HIGH SIDE	LOW SIDE	HIGH SIDE	LOW SIDE
SOUTH	1-1	100+93	14' RT	5.0'	-1.61%	-	6.5'	-	6"
SOUTH	1-2	101+52	14' RT	5.0'	+1.61%	9.0'	-	6"	-
SOUTH	2-1	104+92	13' RT	5.0'	-1.18%	-	3.25'	-	3"
SOUTH	2-3	107+20	15' RT	5.0'	-0.71%	7.67'	-	6"	-
SOUTH	2-4	107+76	16' RT	5.0'	+0.71%	-	6.5'	-	6"
MAIN	6-3	217+17	12' LT	4.0'	+0.21%	-	3.25'	-	3"
MAIN	6-4	217+60	13' LT	4.0'	-0.50%	7.67'	-	6"	-
MAIN	7-1	52+02	13' LT	4.0'	+0.23%	-	6.5'	-	6"
SISSON	9-1	63+50	17' LT	4.0'	+2.56%	-	6.5'	-	6"
SISSON	9-9	67+64	12' LT	5.0'	LEVEL	-	2.17'	-	2"



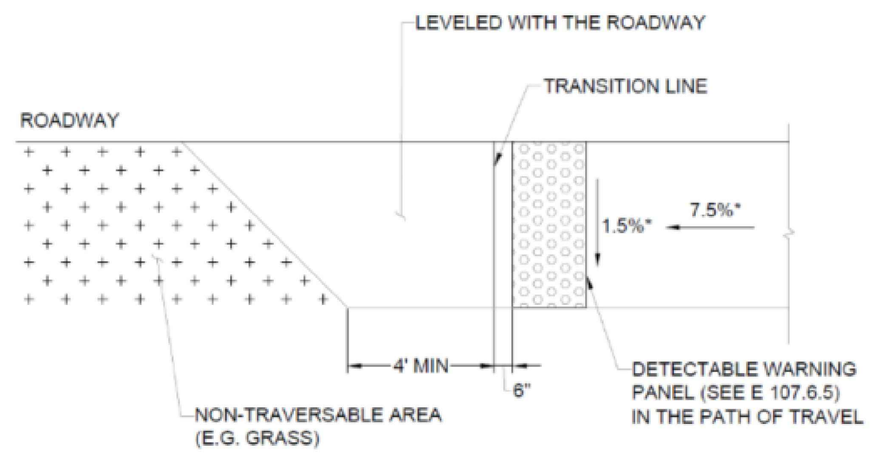
LEGEND

* = TOLERANCE FOR CONSTRUCTION ±0.5%

** = SEE 701.2.8 FOR TRANSITION LENGTH

PEDESTRIAN CURB RAMP - TYPE 6

ROADWAY	PCR #	RAMP REFERENCE POINT		WIDTH OF RAMP ENTRANCE 5.0' (MIN)	ROADWAY GUTTER SLOPE	TRANSITION LENGTH		REVEAL (IN)	
		STATION	OFFSET			HIGH SIDE	LOW SIDE	HIGH SIDE	LOW SIDE
MAIN	4-3	208+90	10' RT	5.0'	+0.33%	2.56'	2.17'	2"	2"
MAIN	6-1	217+00	10' RT	5.0'	-0.68%	2.56'	2.17'	2"	2"



* = TOLERANCE FOR CONSTRUCTION ±0.5%

PEDESTRIAN CURB RAMP - TYPE 9

ROADWAY	PCR #	RAMP REFERENCE POINT		WIDTH OF RAMP ENTRANCE 4.0' (MIN)	ROADWAY GUTTER SLOPE	TRANSITION LENGTH		REVEAL (IN)
		STATION	OFFSET			HIGH SIDE	LOW SIDE	
SOUTH	1-7	104+49	21' LT	5.0'	LEVEL	3.25'	-	3"
MAIN	4-1	208+68	17' LT	4.0'	+0.99%	-	5.25'	4"

V:\CADD Library\State and Client Standard Details\Massachusetts Standard Details\updated 2017\LE 107.6.0.tif
(SEE 701.2.8)
4'-0"
701.2.1
A0085071
610670_HD(DETAILS).DWG Plotted on 5-May-2025 3:16 PM
Proposal No. 610670-133876

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	53	71
PROJECT FILE NO.	610670		

CONSTRUCTION DETAILS - 3

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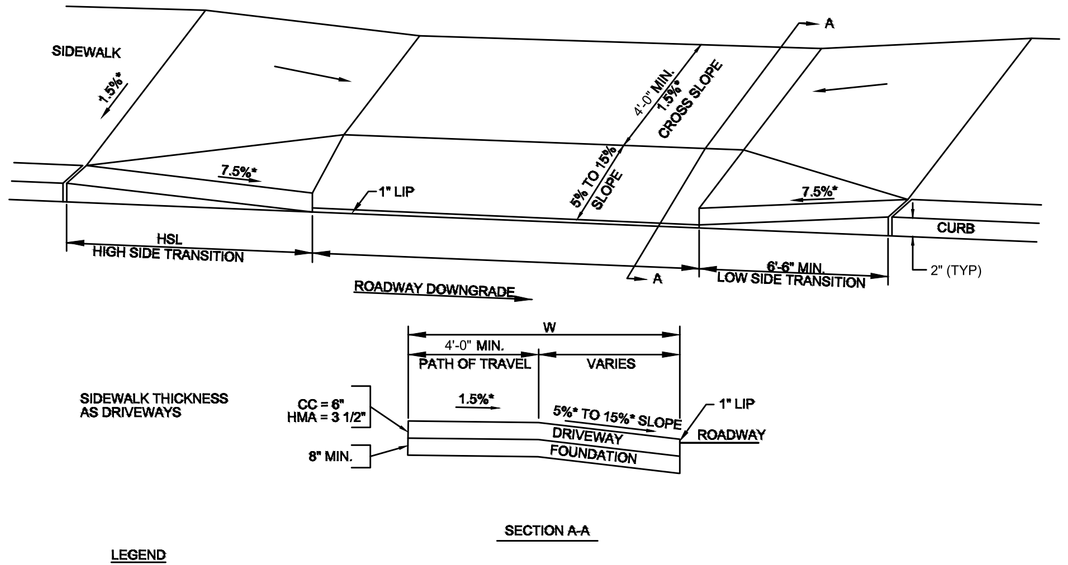
(SEE 701.2.8)

(SEE 701.2.1)

PEDESTRIAN CURB RAMP - TYPE 8

ROADWAY	PCR #	RAMP REFERENCE POINT		ROADWAY GUTTER SLOPE	TRANSITION LENGTH		CURB REVEAL (IN)	
		STATION	OFFSET		HIGH SIDE	LOW SIDE	HIGH SIDE	LOW SIDE
SISSON	9-3	65+74	12.5' LT	+0.89%	7.67'	6.5'	6"	6"
SISSON	10-2	70+93	20' RT	-1.66%	9.0'	6.5'	6"	6"
SOUTH	1-5	104+32.5	9' RT	+0.22%	5.11'	3.25'	4"	3"



SECTION A-A

LEGEND

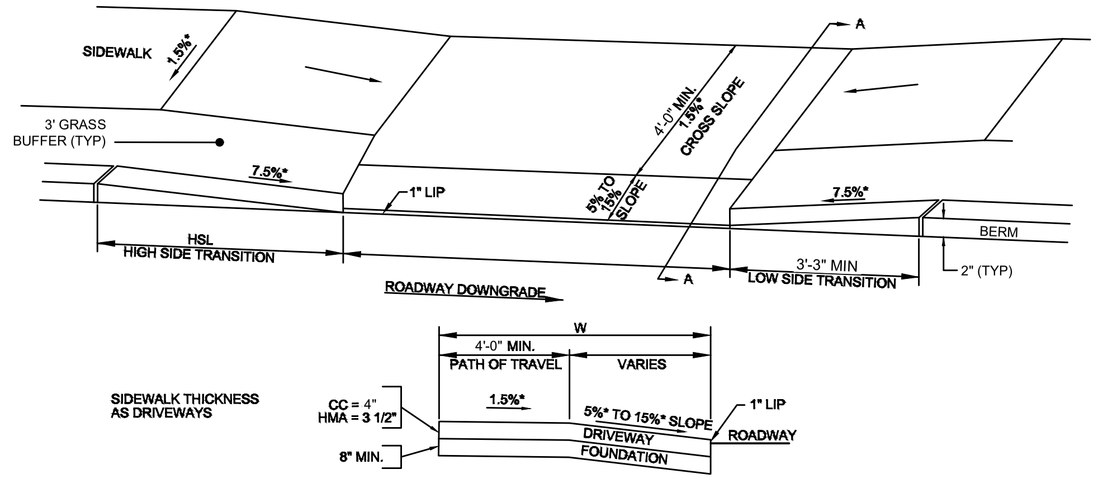
HSL = HIGH SIDE TRANSITION LENGTH. (SEE 701.2.8)
W = SIDEWALK WIDTH
* = TOLERANCE FOR CONSTRUCTION ±0.5%
CC = CEMENT CONCRETE
HMA = HOT MIX ASPHALT

NOTE:

THE CURB REVEAL SHALL BE A MINIMUM OF 3" WHERE NEEDED TO PROPERLY TRANSITION FROM DRIVEWAY TO PEDESTRIAN CURB RAMP (CR).

DRIVEWAY - TYPE 1

ROADWAY	DRIVEWAY NUMBER	RAMP REFERENCE POINT		ROADWAY GUTTER SLOPE	TRANSITION LENGTH		CURB REVEAL (IN)	
		STATION	OFFSET		HIGH SIDE	LOW SIDE	HIGH SIDE	LOW SIDE
SOUTH	2-1	106+54	9' RT	-1.89%	9.00'	6.50'	6"	6"
SOUTH	2-2	108+91	10.5' RT	0.00%	6.50'	6.50'	6"	6"
SOUTH	2-3	110+10	10.5' RT	-3.00%	14.00'	6.50'	6"	6"
SISSON	7-1	52+83	11' LT	-0.13%	4.50'	6.50'	3"	6"
SISSON	7-2	54+71	11' LT	-0.18%	7.67'	6.50'	6"	6"
SISSON	7-3	55+14	11' LT	+0.15%	7.67'	6.50'	6"	6"
SISSON	7-4	56+38	11' LT	-0.63%	7.67'	6.50'	6"	6"
SISSON	8-1	57+77	11' LT	+3.83%	14.00'	6.50'	6"	6"
SISSON	8-2	60+79	11' LT	+2.80%	11.00'	6.50'	6"	6"
SISSON	10-1	68+89	11' RT	+0.86%	7.67'	5.41'	6"	5"
SISSON	10-2	69+24	11' RT	+0.70%	6.50'	6.50'	5"	6"



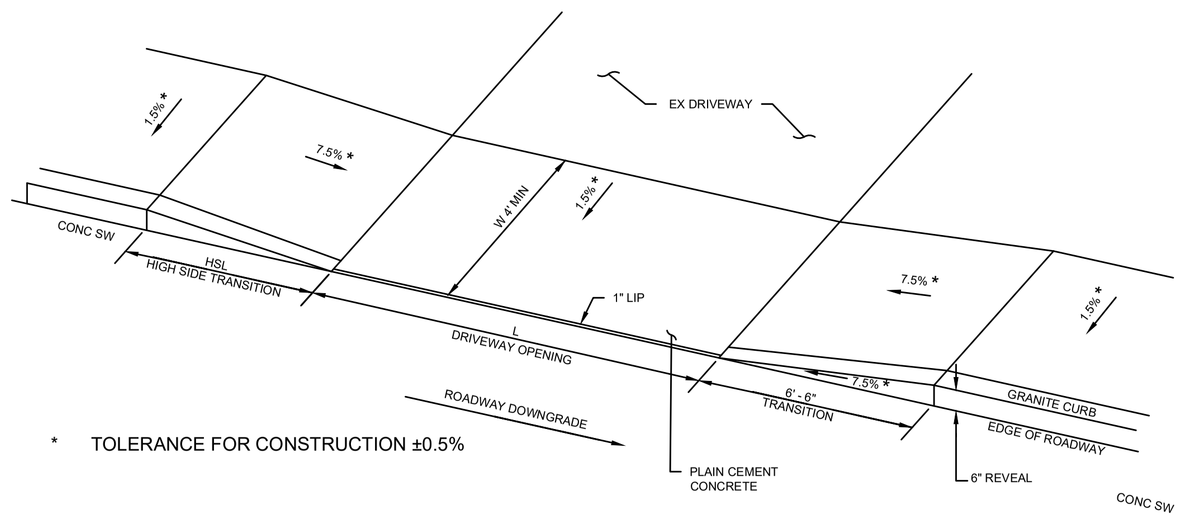
SECTION A-A

LEGEND

HSL = HIGH SIDE TRANSITION LENGTH. SEE E 107.9.0
W = SIDEWALK WIDTH
* = TOLERANCE FOR CONSTRUCTION ±0.5%
CC = CEMENT CONCRETE
HMA = HOT MIX ASPHALT

DRIVEWAY - TYPE 2 (BERM AND GRASS BUFFER)

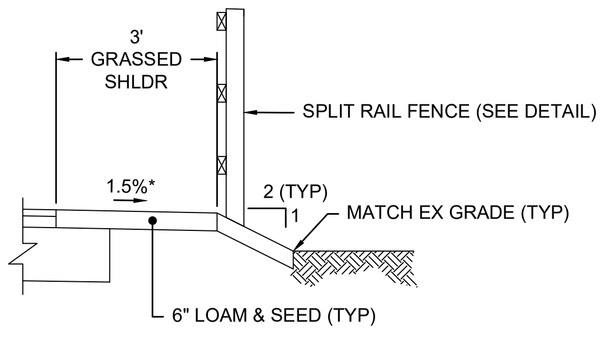
ROADWAY	DRIVEWAY NUMBER	RAMP REFERENCE POINT		ROADWAY GUTTER SLOPE	TRANSITION LENGTH		CURB REVEAL (IN)	
		STATION	OFFSET		HIGH SIDE	LOW SIDE	HIGH SIDE	LOW SIDE
MAIN	3-1	203+52	10' RT	+2.94%	5.50'	3.25'	2"	2"
MAIN	4-1	205+36	10' RT	-0.95%	3.75'	3.25'	2"	2"
MAIN	4-2	208+30	10' RT	+1.43%	4.50'	3.25'	2"	2"
MAIN	4-3	209+57	10' RT	-0.80%	3.75'	3.25'	2"	2"
MAIN	5-1	211+38	10' RT	-0.84%	3.75'	3.25'	2"	2"
MAIN	5-2	212+64	10' RT	-1.20%	4.50'	3.25'	2"	2"
MAIN	5-3	213+73	10' RT	0.00%	3.25'	3.25	2"	2"
MAIN	6-1	215+68	10' RT	0.00%	3.25'	3.25'	2"	2"
MAIN	6-2	216+04	10' RT	+0.13%	3.75'	3.25'	2"	2"
MAIN	6-3	217+85	10' RT	-0.70%	3.75'	3.25'	2"	2"



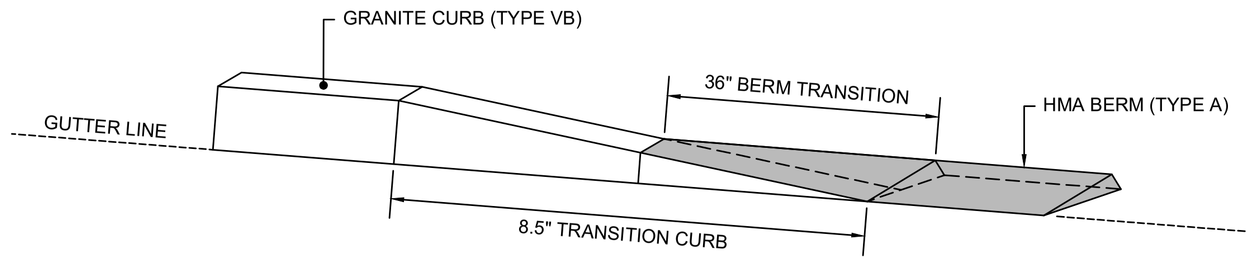
* TOLERANCE FOR CONSTRUCTION ±0.5%

DRIVEWAY - TYPE 3

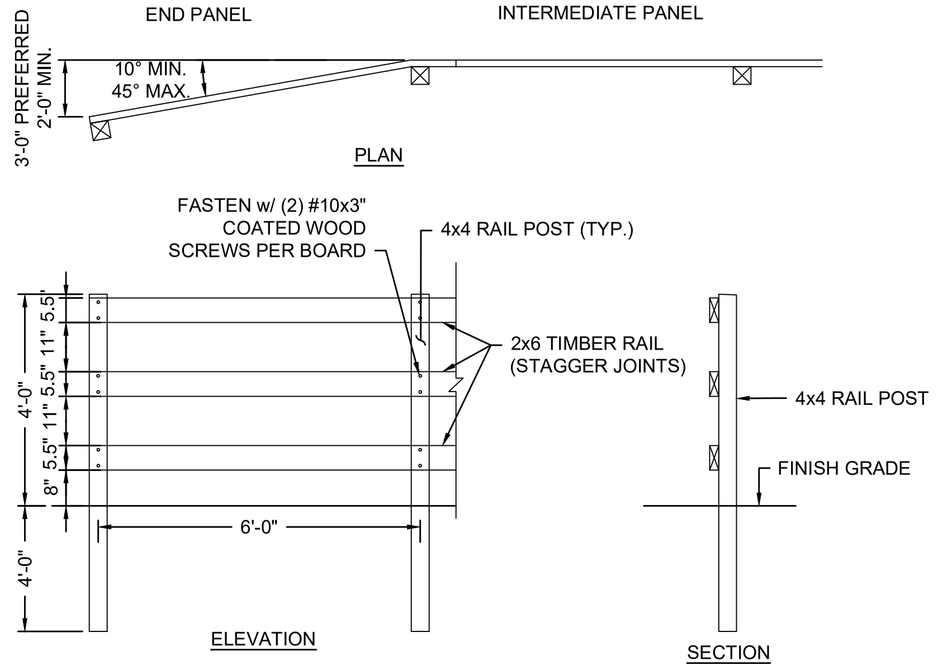
ROADWAY	DRIVEWAY NUMBER	RAMP REFERENCE POINT		ROADWAY GUTTER SLOPE	TRANSITION LENGTH		CURB REVEAL (IN)	
		STATION	OFFSET		HIGH SIDE	LOW SIDE	HIGH SIDE	LOW SIDE
MAIN	3-2	204+50	10' RT	+0.75%	7.67'	6.5'	-	6"



TYPICAL SECTION WITH SPLIT RAIL FENCE
NOT TO SCALE



HMA CURB TRANSITION TO BERM
NOT TO SCALE

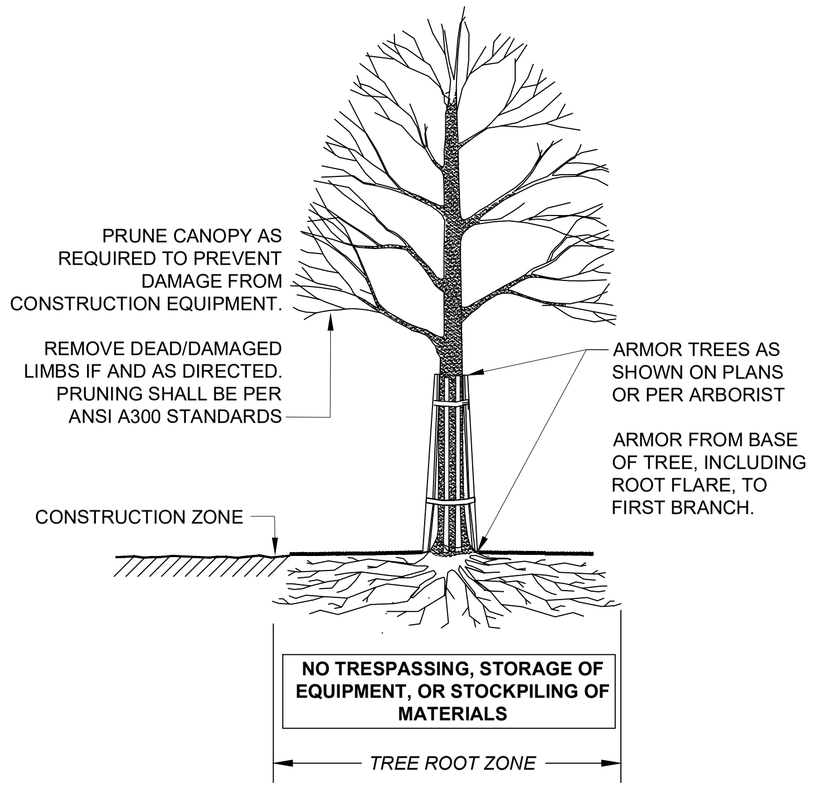


SPLIT RAIL FENCE DETAILS
NOT TO SCALE

610670_HD(DETAILS).DWG Plotted on 5-May-2025 3:16 PM
Proposal No. 610670-133876
A000850-72

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	54	71
PROJECT FILE NO.	610670		

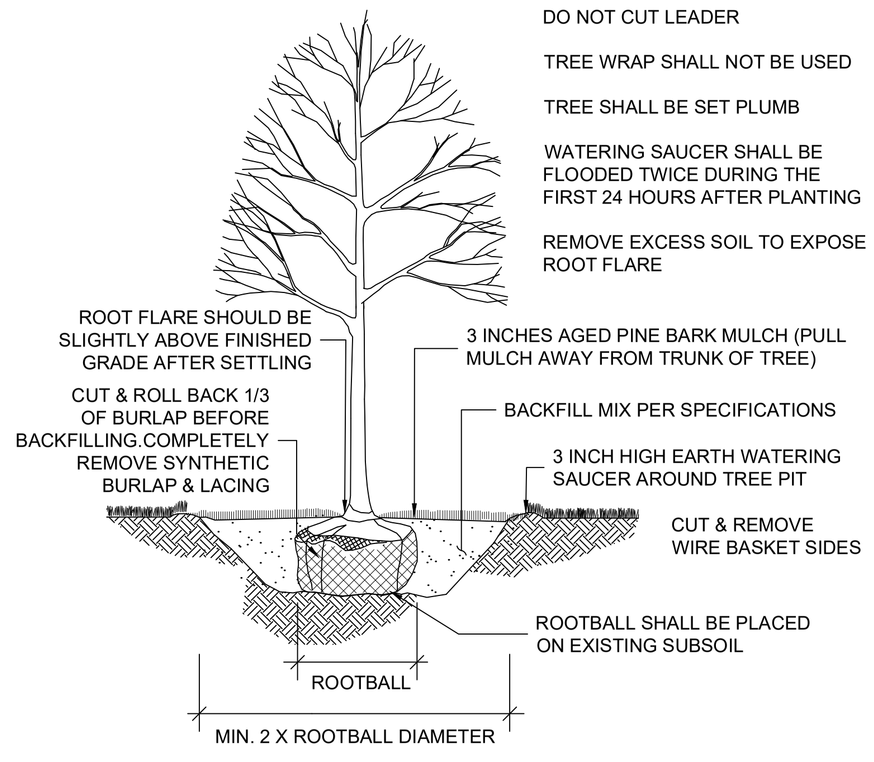
CONSTRUCTION DETAILS - 4



SECTION - TRUNK ARMORING & PRUNING

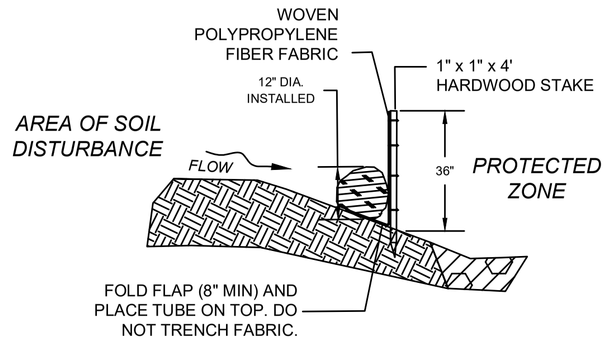
TREE PROTECTION - TRUNK

NOT TO SCALE



DECIDUOUS TREE PLANTING

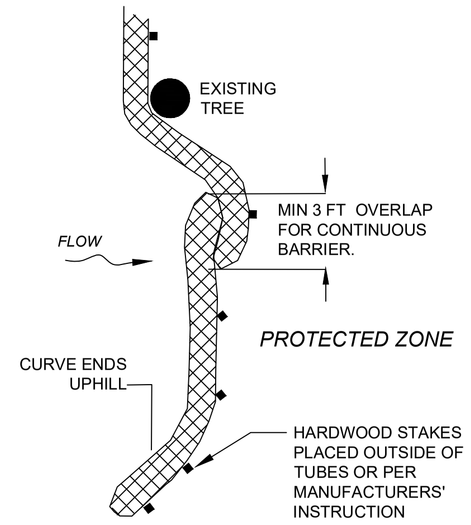
NOT TO SCALE



SECTION

COMPOST FILTER TUBE & SILT FENCE

NOT TO SCALE



PLACE TUBE ALONG CONTOURS AND PERPENDICULAR TO FLOW.

PLACE AS CLOSE TO LIMIT OF SOIL DISTURBANCE AS POSSIBLE

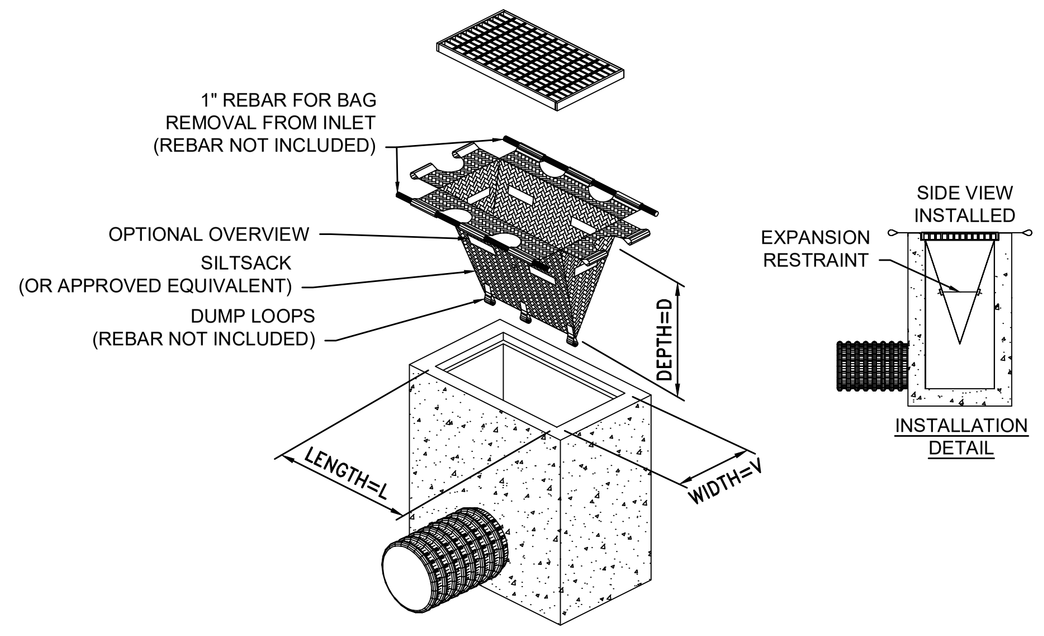
ADJUST LOCATION AS REQUIRED FOR OPTIMUM EFFECTIVENESS. DO NOT INSTALL IN WATERWAYS.

PLACE STAKES AS NEEDED TO SECURE TUBES IN PLACE.

PLAN VIEW

COMPOST FILTER TUBE

NOT TO SCALE



TEMPORARY INLET PROTECTION

NOT TO SCALE

610670_HD(DETAILS).DWG Plotted on 5-May-2025 3:16 PM
Proposal No. 610670-133876
A008850-73

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	55	71
PROJECT FILE NO.	610670		

CONSTRUCTION DETAILS - 5

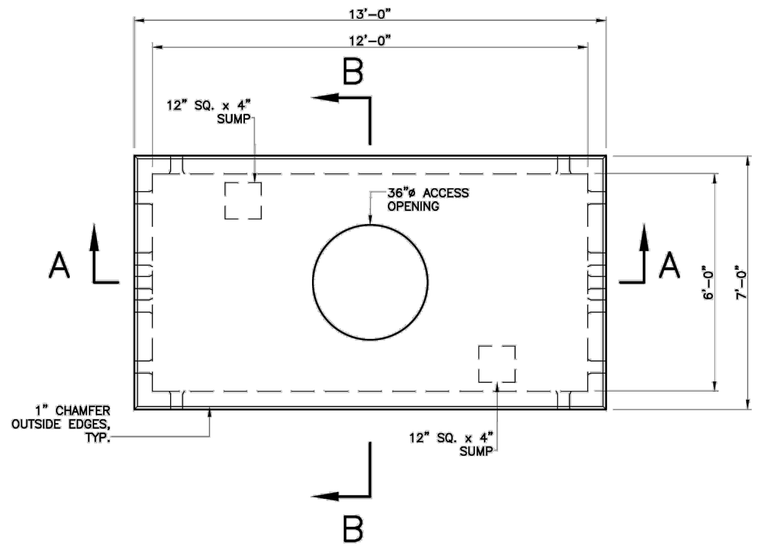
610670_HD(DETAILS).DWG Plotted on 5-May-2025 3:16 PM

Proposal No. 610670-133876

A000830-74

SHEA CONCRETE PRODUCTS — *New England's Premier Precaster* 800-696-7432 (SHEA) www.sheaconcrete.com
MAILING ADDRESS: 87 HAVERHILL RD AMESBURY, MA 01913

MANHOLE 6' X 12' X 7'



PLAN

NOTES:

1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN LOADING: AASHTO HS20-44, 0 TO 5 FEET COVER.
3. STEEL REINFORCEMENT CONFORMS TO ASTM A615, GRADE 60.
4. MINIMUM STEEL COVER 1".

SHEA PRODUCT ID:	MH-6127	FILE NAME:	MH 6X12X7	
WEIGHT (LBS):	36880	DRAWN BY: L.P.	DATE: 2/6/2018	PAGE: I.C.11-1

773 Salem Street—Wilmington, MA | 153 Cranberry Hwy—Rochester, MA | 87 Haverhill Road—Amesbury, MA | 160 Old Turnpike Rd—Nottingham, NH

Specifications subject to change without notice

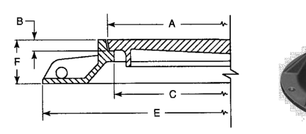
R-1750 Series
Telephone Design Large Manhole Frame, Solid Lid

Heavy Duty

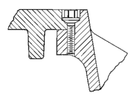
Furnished with machined horizontal and vertical bearing surfaces.

Covers can be bolted to frame with two pentagon head special monel security bolts upon request.

Wrenches available to fit special bolt at extra cost. Advise quantity required.



Illustrating R-1750-B

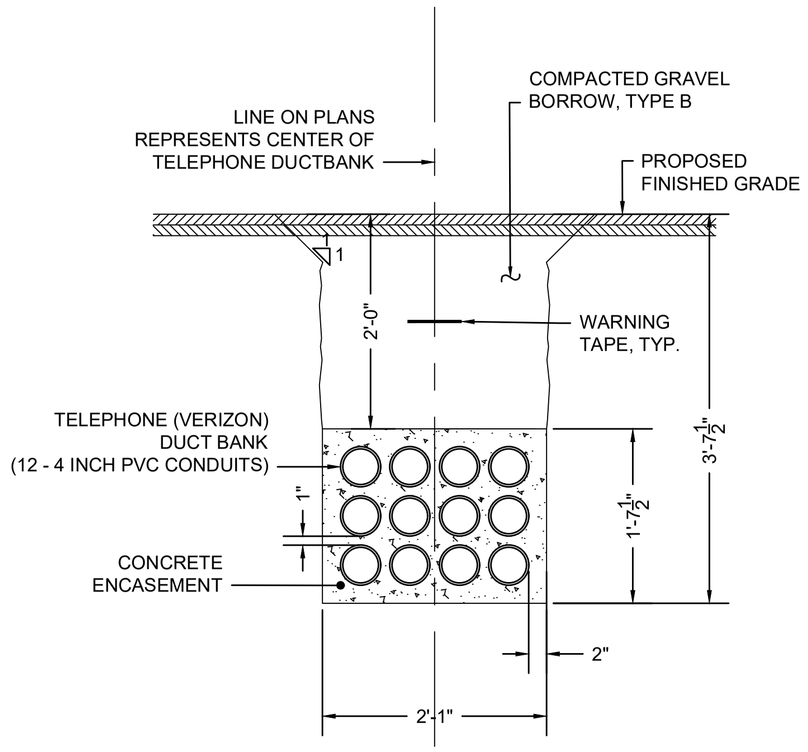


Dimensions in inches

Catalog No. Standard	Catalog No. Security Bolted	A	B	C	E	F	Anchor Bolt Circle*	Grate Alt.
R-1750-A	R-1750-AR	26	1 3/8	24	43	10		R-2300
R-1750-B	R-1750-BR	29	1 3/8	27	46	10	43-1/2	R-2290
R-1750-B1	R-1750-B1R	29	1 3/8	27	46	5 5/8	43-1/2	R-2290-A
~~R-1750-B2~~	~~R-1750-B2R~~	~~29~~	~~1 3/8~~	~~27~~	~~46~~	~~3 1/2~~	~~43-1/2~~	
R-1750-C	R-1750-CR	32	1 3/8	30	49	10	43-1/2	
R-1750-C1	R-1750-C1R	32	1 3/8	30	49	5 5/8	43-1/2	
R-1750-C1S	R-1750-C1SR	32	1 3/8	30	46	5 5/8	43-1/2	R-2750
R-1750-CS	R-1750-CSR	32	1 3/8	30	46	10	43-1/2	R-2255

* Furnished standard with four 1" diameter holes in base flange, equally spaced.

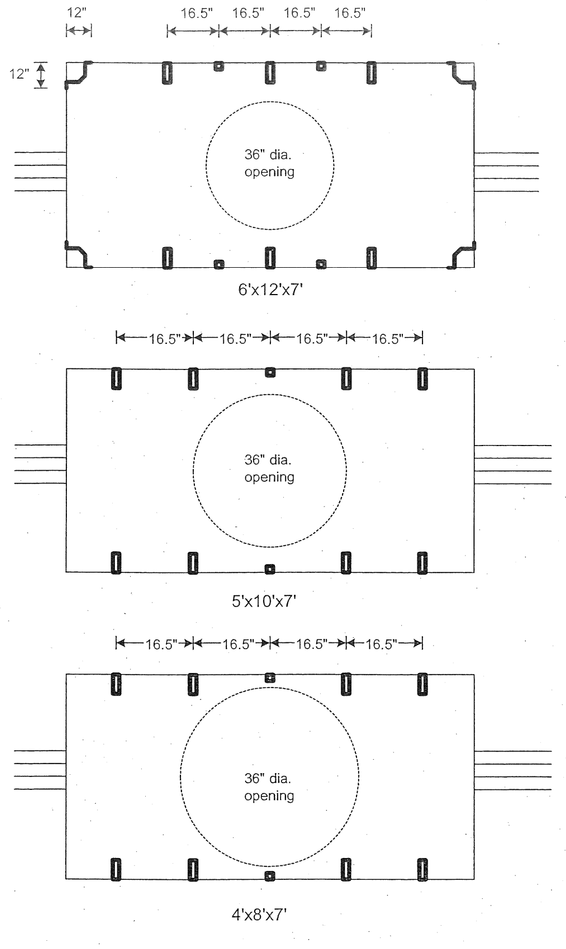
TELEPHONE MANHOLE FRAME
NOT TO SCALE



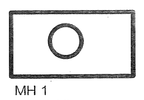
TELEPHONE TRENCH 12 DUCT
SCALE: 1" = 1'

UTILITY TRENCH NOTES:

1. ALL CONSTRUCTION OF DUCT BANKS INCLUDING TRENCH, EXCAVATION, AND BACKFILL SHALL CONFORM TO UTILITY DETAILS AND SPECIFICATIONS.
2. FOR ALL DUCTS USE SCHEDULE 40 CONDUITS ENCASED IN 2,500 PSI, 3/8 INCH, 520 CEMENT CONCRETE CONCRETE. USE PLASTIC SPACERS TO MAINTAIN CONDUIT SPACING. SPACERS SHALL MEET UTILITY SPECIFICATIONS FOR DESIGN AND SPACING.
3. ALL TRENCH EXCAVATION ACTIVITIES SHALL COMPLY WITH ALL APPROPRIATE OSHA STANDARDS.
4. TELEPHONE DUCT BANKS WILL HAVE 6 INCH, COLOR ORANGE, DETECTABLE METALLIC WARNING TAPE PLACED 12 INCHES ABOVE EACH CONCRETE ENCASEMENT.
5. A UTILITY COMPANY REPRESENTATIVE FROM VERIZON SHALL BE PRESENT FOR ALL TELEPHONE CONDUIT INSTALLED.
6. A MINIMUM OF 12 INCHES OF SEPARATION IS REQUIRED FOR CROSSINGS WITH GAS, WATER, SEWER AND DRAINAGE.
7. CONDUITS SHALL BE BLOWN CLEAN USING COMPRESSED AIR. RUN MANDREL THRU EACH CONDUIT TO CONFIRM VIABLE PATHWAY.
8. WOVEN POLYESTER MULE TAPE WITH MINIMUM STRENGTH OF 2500 LB TENSILE STRENGTH TO BE INSTALLED WITHIN EACH CONDUIT.



PLAN LEGEND



MH 1
W'xL'xH'

Manhole dimensions as given on plans are inside dimensions. Typical sizes are:
6'x12'x7'
5'x10'x7'
4'x8'x7'
(Size is dictated by cable sizes and amount of splicing expected at the location)

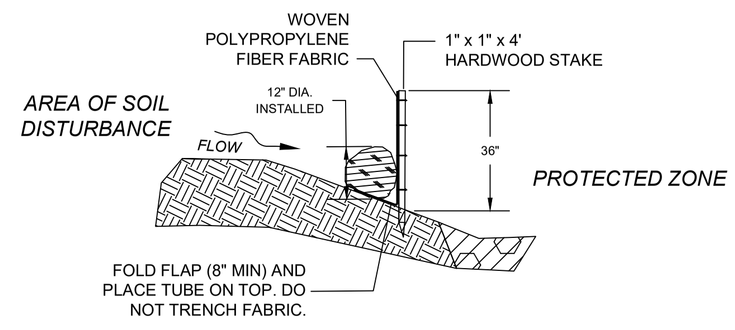
B cable rack support

cable racks secured to S cable rack support

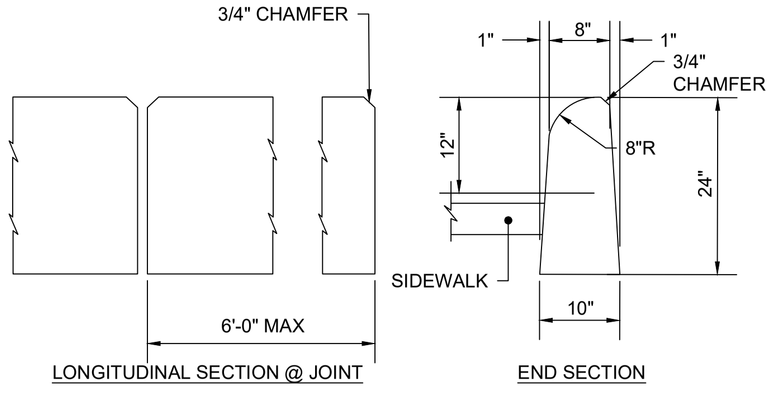
cable racks attached directly to wall

(See included practices for description of cable racking hardware.)

MANHOLE DETAILS

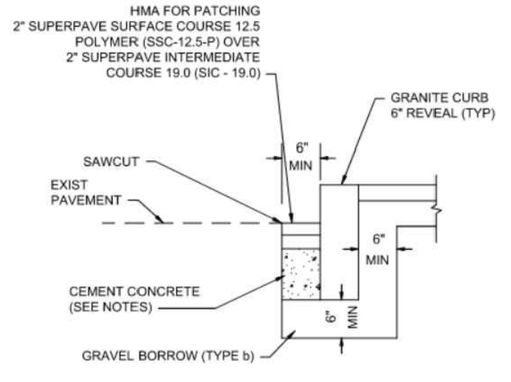


SECTION



2'-0" LOT CURB

GRANITE LOT CURB DETAIL
NOT TO SCALE



NOTES:
1. CONCRETE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB.
2. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

GRANITE CURB IN EXISTING PAVEMENT
SCALE: N.T.S.

SIGN DETAIL

SIGN NUMBER	SP-1
WIDTH X HGHT.	2'-0" X 2'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	GROUND
BACKGROUND	TYPE: REFLECTIVE
	COLOR: WHITE
LEGEND/BORDER	TYPE: REFLECTIVE
	COLOR: BLACK/BLACK

SYMBOL	ROT	X	Y	WID	HT

PANEL STYLE: REGULATORY.SSI
DIMENSIONS ARE IN INCHES.TENTHS
LETTER LOCATIONS ARE PANEL EDGE TO LOWER LEFT CORNER

LETTER POSITIONS (X)									LENGTH	SERIES/SIZE
P	R	I	V	A	T	E				C 2000
2.3	5.7	9	10.3	13.3	16.5	19.4			19.4	4.5
R	O	A	D							C 2000
5.8	8.8	11.8	15.1						11.9	4.5
N	O									C 2000
9.6	12.1								4.5	3.5
T	H	R	U							C 2000
7.2	9.4	11.9	14.2						9	3.5
T	R	A	F	F	I	C				C 2000
4.5	6.6	8.8	11.4	13.5	15.7	16.6			14.1	3.5

DOCUMENT A00851

MASSACHUSETTS WETLANDS PROTECTION ACT

Determination of Applicability

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Proposal No. 610670-133876

Massachusetts Department of Environmental Protection

Bureau of Resource Protection-Wetlands

HARWICH
City/ Town

Submittal Platform for WPA Form 2 - Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. General Information

1. Project Location:

a. Street Address: SOUTH STREET, MAIN STREET, SISSON ROAD

b. City/Town: HARWICH | c. State: MA | d. Zip Code: 02645

e. Latitude: 41.68554 N | f. Longitude: 70.07631 W

g. Map/Plat #: N/A | h. Parcel/Lot #: N/A

i. Project Description: MAKING SIDEWALKS MORE ACCESSIBLE.

2. Applicant:

a. First Name: ERICA | b. Last Name: LARNER

c. Organization: MASS DOT

d. Mailing Address: 10 PARK PLAZA, ROOM 7360

e. City/Town: BOSTON | f. State: MA | g. Zip Code: 02116

h. Phone Number: 857-268-1729 | i. Email: erica.n.larner@dot.state.ma.us

3. Property Owner:

☐ more than one owner

a. First Name: | b. Last Name:

c. Organization: TOWN OF HARWICH

d. Mailing Address: 732 MAIN STREET

e. City/Town: HARWICH | f. State: MA | g. Zip Code: 02645

h. Phone Number: 508-430-7514 | i. Email:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection-Wetlands

HARWICH
City/ Town

Submittal Platform for WPA Form 2 - Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

4. Determination by Local Conservation Commission:

DOA Negative

Positive

☐ 1. The Area is subject to protection under the Act.

☐ 2a. The Boundary Delineations are Accurate.

☐ 2b. The Boundary Delineations are not Confirmed.

☐ 3. Work is within an area subject to the Act and requires the filing of an NOI.

☐ 4. Work is within Buffer Zone and requires the filing of an NOI.

☐ 5. Area/Work is subject to review/approval under a municipal ordinance or bylaw.

☐ 6. Area/Work is subject to review/approval only under a municipal ordinance or bylaw (not under the Act).

☐ 7. Scope of alternatives for work in Riverfront Area.

- ☐ Alternatives limited to lot.
- ☐ Alternatives limited to lot, subdivided lots, and adjacent lots.
- ☐ Alternatives limited to original parcel, subdivided lots, adjacent lots, and obtainable lots within municipality.
- ☐ Alternatives extended to any obtainable sites.

Negative

☐ 1. The Area is not subject to the Act or within Buffer Zone.

☐ 2. Work is within an area subject to the Act but will not alter the area.

☑ 3. Work is within Buffer Zone but will not alter an area subject to the Act.

☐ 4. Work is not within Buffer Zone or an area subject to the Act.

☐ 5. Work is exempt.

☐ 6. Area/Work is not subject to additional review and approval by municipal ordinance or bylaw.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 2 – Determination of Applicability
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. Authorization (cont.)

Signatures:	Printed Name
Signature	Printed Name
Signature	Printed Name
Signature	Printed Name
Signature	Printed Name
Signature	Printed Name
Signature	Printed Name
Signature	Printed Name
Signature	Printed Name

D. Appeals

The applicant, owner, any person aggrieved by this Determination, any owner of land abutting the land upon which the proposed work is to be done, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate Department of Environmental Protection Regional Office (see https://www.mass.gov/service-details/massdep-regional-offices-by-community) to issue a Superseding Determination of Applicability. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and Fee Transmittal Form (see Request for Departmental Action Fee Transmittal Form) as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Determination. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant if he/she is not the appellant. The request shall state clearly and concisely the objections to the Determination which is being appealed. To the extent that the Determination is based on a municipal ordinance or bylaw and not on the Massachusetts Wetlands Protection Act or regulations, the Department of Environmental Protection has no appellate jurisdiction.

TOWN OF HARWICH

732 Main Street
Harwich, MA 02645

CONSERVATION COMMISSION (508)430-7538 FAX (508)430-7531

MAY 22, 2025

ERICA LARNER
10 PARK PLAZA, ROOM 7360
BOSTON, MA 02116

RE: Safe Routes to Schools Project, Harwich, MA

The Harwich Conservation Commission approved the Request for Determination of Applicability by Mass DOT at their meeting on May 21, 2025 with a Negative 3 Determination. This permit is enclosed. The approval is subject to following conditions:

1. Due to the proximity of the work to the Isolated Vegetated Wetland (IVW) on Main Street, once the limit of work/erosion control is installed in that area it shall be inspected by the Conservation Administrator;
2. Any bare area in the buffer zone to the IVW shall be reseeded with a native grass seed mix approved by the Conservation Administrator after the work in that area of the project is complete;
3. Trees within the work limit of the Main Street IVW that are removed are to be replanted with native Red Maple Trees (*Acer rubrum*) upon completion of the work in that area provided it is during Spring or Fall growing seasons. Trees to be at least 1.5" diameter at breast height.

If you have any questions, please contact the Harwich Conservation Department.

Amy Usowski

Conservation Administrator

Town of Harwich

DOCUMENT A00862

MASSACHUSETTS

HISTORICAL COMMISSION

PROJECT NOTIFICATION FORM

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Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbits-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator

massDOT
Massachusetts Department of Transportation
Highway Division

March 25, 2025

Ms. Brona Simon
State Historic Preservation Officer
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

RE: HARWICH Harwich Elementary School Improvements (SRTS)
MHC# RC.72551 & MassDOT# 610670
Notice of Project Change for Section 106 Review - No Adverse Effect

Dear Ms. Simon:

The Massachusetts Department of Transportation (MassDOT) has updated the Harwich Elementary School Improvements-Safe Routes to School Project to include slightly increased temporary easements for in-kind driveway and walkway work, landscaping, and grading and two small permanent easements for existing street signs. The original Section 106 No Adverse Effect documentation was submitted to the Massachusetts Historical Commission (MHC) on December 19, 2024, and the MHC concurred with this finding in a stamped approval letter dated January 17, 2025.

The eastern end of the project corridor is in the National Register-listed **Harwich Historic District (HRW.K)**, and properties that contribute to this district will be affected at the back of sidewalk with new and revised temporary and permanent easements. It is the opinion of MassDOT Archeologist that the small increases of impacts to the properties adjacent to the right-of-way has low sensitivity. MassDOT has reviewed the additional project work under the Massachusetts Statewide Programmatic Agreement for Section 106 of the National Historic Preservation Act of 1966, as amended [36 CFR 800], and has determined that the project's No Adverse Effect finding is still valid.

Section 4(f) Evaluation – Permanent Easements – de minimis impact

This project requires the following permanent easements from properties that contribute to the National Register-listed Harwich Historic District:

- The Sidney Underwood Barn (HRW.23), 687 Main Street, will have an easement (HS-3) for the existing stop sign.
- The Pine Grove Seminary – Brooks Academy Museum (HRW.46), 80 Parallel Street, will have an easement (HS-1) for the existing street sign.

The permanent easements are highlighted in pink on the enclosed ROW plans.

Any easements or takings that result in the permanent incorporation of land from a public or private historic site into a transportation facility (e.g., roadway, public sidewalk) is regarded as a transportation use and must be evaluated and approved under Section 4(f) of the Department of Transportation Act of 1966, as amended [23 CFR Part 774].

It is MassDOT's expectation that the Federal Highway Administration (FHWA) will determine that the proposed permanent easements meet the criteria for a Section 4(f) de minimis finding, pursuant to 23 CFR 774.3(b). This project, therefore, does not require an individual Section 4(f) evaluation. This letter is intended to inform the State Historic Preservation Officer (SHPO) that this project is expected to qualify for a de minimis finding under Section 4(f) based on the concurrence of your office with this Section 106 finding of No Adverse Effect, pursuant to 23 CFR 774.5(b)(1)(ii).

Section 4(f) Evaluation – Temporary Occupancies – No 4(f) use

The project requires temporary occupancies, also known as temporary construction easements, on the parcels contributing to the NR-listed **Harwich Historic District**. The temporary occupancies are necessary to facilitate in-kind driveway/walkway apron work, grading, landscaping, planting loam and seed, and other incidental work. The temporary occupancy is highlighted in yellow on the attached right of way plans.

It is MassDOT's opinion that the temporary occupancies on the properties that contribute to the NR-listed Harwich Historic District will satisfy the five conditions required for temporary occupancies not to constitute a "use" within the meaning of Section 4(f), pursuant to 23 CFR 774.13(d):

(1) Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
(2) Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal;
(3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;
(4) The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and
(5) There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

The SHPO is the official with jurisdiction over historic sites for the purposes of Section 4(f), pursuant to 23 CFR 774.17. Your concurrence with this letter will signify that your office agrees with MassDOT's assessment that the proposed temporary occupancies do not constitute a "use" of a historic site under Section 4(f) and that the conditions listed above have been satisfied, pursuant to Condition 5 above.

MassDOT solicits your concurrence that our finding of **No Adverse Effect** is still valid for this project under Section 106 of the National Historic Preservation Act of 1966, as amended. Please feel free to contact me at mary.hafferty@dot.state.ma.us if you have any questions.

Sincerely,

M. Hafferty

Mary Hafferty
Cultural Resources Specialist
Environmental Services

encl: Revised 100% Right-of-Way Plans
MHC Approval Letter Dated January 17, 2025

FOR FHWA USE

MassDOT Request for Federal Highway Administration (FHWA) Approval

MassDOT Highway Division requests final approval from FHWA that the proposed "use" of the above-described Section 4(f) resources meets the criteria of a *de minimis* impact, as specified under 23 CFR 774.17.

_____ _____

Jeffrey H. McEwen, P. E. (or designee) Date
Division Administrator
Federal Highway Administration
Massachusetts Division

,,950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

APPENDIX A
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD
BOSTON, MASS. 02125
617-727-8470, FAX: 617-727-5128

PROJECT NOTIFICATION FORM

Project Name: Harwich Elementary School -Safe Routes to School / MassDOT# 610670

Location /Address: Main Street, South Street & Sisson Road

City/Town: Harwich

Project Proponent

Name: Massachusetts Department of Transportation

Address: 10 Park Plaza

City/Town/Zip/Telephone: Boston, MA 02116

Agency license or funding for the project (list all licenses, permits, approvals, grants or other entitlements being sought from state and federal agencies).

Agency Name	**Type of License or funding (specify)**
FHWA	Federal funding

Project Description (narrative):

The Massachusetts Department of Transportation, Highway Division (MassDOT) in cooperation with the Town of Harwich proposes to expend federal funds to construct the above-referenced state-designed Safe Routes to School (SRTS) project. The proposed project will improve and expand the pedestrian and bicycle facilities utilized to access the Harwich Elementary School, located at 263 South Street. The project will include reconstructing sidewalks and constructing new shared use paths, planting new grass buffers between the sidewalk and roadway, restriping the roadway and providing new crosswalks, and installing new rectangular rapid flashing beacon pedestrian signals at selected locations. The proposed project work will improve 0.20 mile along South Street from School House Drive to Main Street, 0.40 mile of Main Street from South Street to Sisson Road, and 0.35 mile of Sisson Road from Main Street to School House Drive.

Does the project include demolition? If so, specify nature of demolition and describe the building(s) which are proposed for demolition.

n/a

Does the project include rehabilitation of any existing buildings? If so, specify nature of rehabilitation and describe the building(s) which are proposed for rehabilitation.

n/a

Does the project include new construction? If so, describe (attach plans and elevations if necessary).

n/a

To the best of your knowledge, are any historic or archaeological properties known to exist within the project's area of potential impact? If so, specify.

A review of the National Register of Historic Places revealed that the Harwich Historic District is on the easternmost end of the project corridor. The Harwich Historic District is mainly comprised of eighteenth and nineteenth century commercial, religious, and residential buildings in downtown Harwich. The majority of the historic district's boundaries overlap with the Harwich Local Historic District (HRW.I). The proposed roadway work in the historic district will be limited to reconstructing the sidewalk and grass buffer strip along the south side of Main Street and the west side of Sisson Road from Main Street to its intersection of Parallel Street. A new sidewalk will be constructed within the existing right-of-way along the east side of Sisson Road from Parallel Street southerly for approximately 200' to the entrance of the NR-contributing Harwich Center School (HRW.60), which now houses The Arts Center Theatre Company. The existing sidewalk on the west side of Sisson Road will be reconstructed to meet current ADA requirements.

MassDOT Cultural Resources Unit staff completed a site visit to the project area in May 2023. It is the opinion of CRU staff that the portion of the Harwich Center Area (HRW.A) along the western side of the project corridor along Main Street does not comprise a NR-eligible historic district because of the extensive alterations to the buildings, which include additions, replacement windows, altered roof lines, and chimney removals.

Archaeological Assessment

A review of the MHC's archaeological maps on MACRIS revealed no recorded archaeological sites in the vicinity of the project area. It is the opinion of the MassDOT Archaeologist that low sensitivity can be ascribed to the project area based on the impacts of past roadway, sidewalk, utility, driveway, and drainage construction and roadside development. The project work will be confined to disturbed areas within and immediately adjacent to the roadway layout.

What is the total acreage of the project area?

Woodland		acres	Productive Resources:		
Wetland		acres	Agriculture		acres
Floodplain		acres	Forestry		acres
Open Space		acres	Mining/Extraction		acres
Developed		acres	Total Project Acreage		acres

What is the acreage of the proposed new construction? acres

What is the present land use of the project area?

The project area is in and along the outskirts of downtown Harwich and is developed with residential, commercial, and public buildings.

Please attach a copy of the section of the USGS quadrangle map which clearly marks the project location.

This Project Notification Form has been submitted to the MHC in compliance with 950 CMR 71.00.

Signature of person submitting this M. Hafferty **Date:** 12/20/2024

form:

Name:	Mary Hafferty, Cultural Resources Specialist MassDOT
Address:	10 Park Plaza, Room 4260
City/Town/Zip:	Boston, MA 02717
Telephone:	857-368-8799

REGULATORY AUTHORITY

950 CMR 71.00: M.G.L. c. 9, §§ 26-27C as amended by St. 1988, c. 254.

CC:

DOCUMENT A00863

MASSACHUSETTS

HISTORICAL COMMISSION

CONCURRENCE LETTER

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Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbits-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator

MassDOT Massachusetts Department of Transportation Highway Division

December 19, 2024

RE: Harwich –Harwich Elementary School Improvements (SRTS) / MassDOT# 610670
Section 106 Review - No Adverse Effect
Section 4(f) Evaluation – Temporary Occupancies – No 4(f) Use

RECEIVED
DEC 24
MASS. HIST. COMM
RC.72551

Ms. Brona Simon
State Historic Preservation Officer
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

CONCURRENCE. Brona Simon
1/17/25
BRONA SIMON
STATE HISTORIC
PRESERVATION OFFICER
MASSACHUSETTS
HISTORICAL COMMISSION

Dear Ms. Simon:

The Massachusetts Department of Transportation, Highway Division (MassDOT) in cooperation with the Town of Harwich proposes to expend federal funds to construct the above-referenced state-designed Safe Routes to School (SRTS) project. The proposed project will improve and expand the pedestrian and bicycle facilities utilized to access the Harwich Elementary School, located at 263 South Street. The project will include reconstructing sidewalks and constructing new shared use paths, planting new grass buffers between the sidewalk and roadway, restriping the roadway and providing new crosswalks, and installing new rectangular rapid flashing beacon pedestrian signals at selected locations. The proposed project work will improve 0.20 mile along South Street from School House Drive to Main Street, 0.40 mile of Main Street from South Street to Sisson Road, and 0.35 mile of Sisson Road from Main Street to School House Drive.

The eastern end of the project corridor is in the National Register-listed **Harwich Historic District**. MassDOT has reviewed this project under the terms of the 2004 Massachusetts Statewide Programmatic Agreement for Section 106 of the National Historic Preservation Act of 1966, as amended [36 CFR Part 800.3(a)(2)] and has determined that the project will have **No Adverse Effect** on any NR-listed properties.

NR-Listed Harwich Historic District (HRW.K)
The Harwich Historic District is mainly comprised of eighteenth and nineteenth century commercial, religious, and residential buildings in downtown Harwich. The majority of the historic district's boundaries overlap with the Harwich Local Historic District (HRW.I). The proposed roadway work in the historic district will be limited to reconstructing the sidewalk and grass buffer strip along the south side of Main Street and the west side of Sisson Road from Main Street to its intersection of Parallel Street. A new sidewalk will be constructed within the existing right-of-way along the east side of Sisson Road from Parallel Street southerly for approximately 200' to the entrance of the NR-contributing Harwich Center School (HRW.60), which now houses The Arts Center Theatre Company. The existing sidewalk on the west side of Sisson Road will be reconstructed to meet current ADA requirements.

Ten Park Plaza, Suite 4160, Boston, MA 02116
Tel: 857-368-4636, TTY: 857-368-0655
www.mass.gov/massdot

MassDOT Cultural Resources Unit staff completed a site visit to the project area in May 2023. It is the opinion of CRU staff that the portion of the Harwich Center Area (HRW.A) along the western side of the project corridor along Main Street does not comprise a NR-eligible historic district because of the extensive alterations to the buildings, which include additions, replacement windows, altered roof lines, and chimney removals.

Archaeological Assessment

A review of the MHC's archaeological maps on MACRIS revealed no recorded archaeological sites in the vicinity of the project area. It is the opinion of the MassDOT Archaeologist that low sensitivity can be ascribed to the project area based on the impacts of past roadway, sidewalk, utility, driveway, and drainage construction and roadside development. The project work will be confined to disturbed areas within and immediately adjacent to the roadway layout.

Section 4(f) Evaluation – Temporary Occupancies – No 4(f) use

The project requires temporary occupancies, also known as temporary construction easements, on the parcels contributing to the NR-listed **Harwich Historic District.** The temporary occupancies are necessary to facilitate in-kind driveway/walkway apron work, grading, and planting loam and seed. The temporary occupancy is highlighted in yellow on the attached right of way plans.

It is MassDOT's opinion that the temporary occupancies on the properties that contribute to the NR-listed Harwich Historic District will satisfy the five conditions required for a temporary occupancy not to constitute a "use" within the meaning of Section 4(f), pursuant to 23 CFR 774.13(d):

(1) Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
(2) Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal;
(3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;
(4) The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and
(5) There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

The SHPO is the official with jurisdiction over historic sites for the purposes of Section 4(f), pursuant to 23 CFR 774.17. Your concurrence with this letter will signify that your office agrees with MassDOT's assessment that the proposed temporary occupancies do not constitute a "use" of a historic site under Section 4(f) and that the conditions listed above have been satisfied, pursuant to Condition 5 above.

Summary of Section 106 Coordination &Effect Finding

On behalf of MassDOT, Pare Corp. sent early coordination letters (dated December 6, 2022) to the Harwich Historical Commission, and a copy was forwarded to the MHC. No responses were received by either Commission.

It is MassDOT's opinion that the proposed Harwich Elementary School's Safe Routes to School Project will have **No Adverse Effect** on the National Register-listed **Harwich Historic District**. MassDOT solicits your concurrence with our No Adverse Effect finding for the project in accordance with Stipulation V.C.1 of the amended Section 106 Programmatic Agreement. A copy of this letter will be forwarded to the FHWA as specified under the terms of the Programmatic Agreement. If you should have any questions, please feel free to contact me at Mary.Hafferty@state.ma.us.

Sincerely,

MHH

Mary Hafferty
Cultural Resources Specialist
Environmental Services

Harwich Historical Commission (email)

encs: 75%/100% Highway & Right of Way Plans
Maps & Photographs

Harwich 72551

Proposal No. 610670-133876

RECEIVED

MAR 27 2025

MASS. HIST. COMM

Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbits-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator

massDOT
Massachusetts Department of Transportation
Highway Division

RC.72551

March 25, 2025

CONCURRENCE: Brona Simon
4/24/25
BRONA SIMON
STATE HISTORIC
PRESERVATION OFFICER
MASSACHUSETTS
HISTORICAL COMMISSION

Ms. Brona Simon
State Historic Preservation Officer
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

RE: HARWICH **Harwich Elementary School Improvements (SRTS)**
MHC# RC.72551 & MassDOT# 610670
Notice of Project Change for Section 106 Review - No Adverse Effect

Dear Ms. Simon:

The Massachusetts Department of Transportation (MassDOT) has updated the Harwich Elementary School Improvements-Safe Routes to School Project to include slightly increased temporary easements for in-kind driveway and walkway work, landscaping, and grading and two small permanent easements for existing street signs. The original Section 106 No Adverse Effect documentation was submitted to the Massachusetts Historical Commission (MHC) on December 19, 2024, and the MHC concurred with this finding in a stamped approval letter dated January 17, 2025.

The eastern end of the project corridor is in the National Register-listed **Harwich Historic District (HRW.K)**, and properties that contribute to this district will be affected at the back of sidewalk with new and revised temporary and permanent easements. It is the opinion of MassDOT Archeologist that the small increases of impacts to the properties adjacent to the right-of-way has low sensitivity. MassDOT has reviewed the additional project work under the Massachusetts Statewide Programmatic Agreement for Section 106 of the National Historic Preservation Act of 1966, as amended [36 CFR 800], and has determined that the project's No Adverse Effect finding is still valid.

Section 4(f) Evaluation – Permanent Easements – de minimis impact

This project requires the following permanent easements from properties that contribute to the National Register-listed Harwich Historic District:

- The Sidney Underwood Barn (HRW.23), 687 Main Street, will have an easement (HS-3) for the existing stop sign.
- The Pine Grove Seminary – Brooks Academy Museum (HRW.46), 80 Parallel Street, will have an easement (HS-1) for the existing street sign.

The permanent easements are highlighted in pink on the enclosed ROW plans.

Any easements or takings that result in the permanent incorporation of land from a public or private historic site into a transportation facility (e.g., roadway, public sidewalk) is regarded as a transportation use and must be evaluated and approved under Section 4(f) of the Department of Transportation Act of 1966, as amended [23 CFR Part 774].

It is MassDOT's expectation that the Federal Highway Administration (FHWA) will determine that the proposed permanent easements meet the criteria for a Section 4(f) de minimis finding, pursuant to 23 CFR 774.3(b). This project, therefore, does not require an individual Section 4(f) evaluation. This letter is intended to inform the State Historic Preservation Officer (SHPO) that this project is expected to qualify for a de minimis finding under Section 4(f) based on the concurrence of your office with this Section 106 finding of No Adverse Effect, pursuant to 23 CFR 774.5(b)(1)(ii).

Section 4(f) Evaluation – Temporary Occupancies – No 4(f) use

The project requires temporary occupancies, also known as temporary construction easements, on the parcels contributing to the NR-listed **Harwich Historic District**. The temporary occupancies are necessary to facilitate in-kind driveway/walkway apron work, grading, landscaping, planting loam and seed, and other incidental work. The temporary occupancy is highlighted in yellow on the attached right of way plans.

It is MassDOT's opinion that the temporary occupancies on the properties that contribute to the NR-listed Harwich Historic District will satisfy the five conditions required for temporary occupancies not to constitute a "use" within the meaning of Section 4(f), pursuant to 23 CFR 774.13(d):

(1) Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
(2) Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal;
(3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;
(4) The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and
(5) There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

The SHPO is the official with jurisdiction over historic sites for the purposes of Section 4(f), pursuant to 23 CFR 774.17. Your concurrence with this letter will signify that your office agrees with MassDOT's assessment that the proposed temporary occupancies do not constitute a "use" of a historic site under Section 4(f) and that the conditions listed above have been satisfied, pursuant to Condition 5 above.

MassDOT solicits your concurrence that our finding of **No Adverse Effect** is still valid for this project under Section 106 of the National Historic Preservation Act of 1966, as amended. Please feel free to contact me at mary.hafferty@dot.state.ma.us if you have any questions.

Sincerely,

M. Hafferty

Mary Hafferty
Cultural Resources Specialist
Environmental Services

encl: Revised 100% Right-of-Way Plans
MHC Approval Letter Dated January 17, 2025

FOR FHWA USE

MassDOT Request for Federal Highway Administration (FHWA) Approval

MassDOT Highway Division requests final approval from FHWA that the proposed "use" of the above-described Section 4(f) resources meets the criteria of a *de minimis* impact, as specified under 23 CFR 774.17.

_____ _____

Joi Singh, Division Administrator (or designee) Date
Federal Highway Administration
Massachusetts Division

DOCUMENT A00864

MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS

OFFICE OF COASTAL ZONE MANAGEMENT

FEDERAL CONSISTENCY CERTIFICATION LETTER

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
OFFICE OF COASTAL ZONE MANAGEMENT
100 Cambridge Street, Suite 900, Boston, MA 02114 ◦ (617) 626-1200

June 27, 2025

Kevin Thompson
Environmental Analyst
MassDOT
10 Park Plaza
Boston, MA 02116

RE: Federal Consistency Certification: Improvements at Harwich Elementary School; Harwich

Dear Mr. Thompson:

The Massachusetts Office of Coastal Zone Management (CZM) has completed its review of the proposed project to improve portions of South Street, Main Street, and Sisson Road near the Harwich Elementary School as part of the Safe Routes to School (SRTS) Program. These activities include the following:

- The project consists of improving and extending the sidewalk network along these roadways to make them ADA accessible.

Although the activities associated with this project are located within the defined Massachusetts Coastal Zone, they fall below the thresholds that CZM generally uses to require review under our federal consistency provisions. Consequently, a formal decision from this office regarding consistency with our enforceable program policies is not necessary. Any federal licenses or permits for the work performed may be subject to CZM's federal consistency review. It is incumbent upon the proponent to notify CZM, submit an explanation of the nature of the work, and submit necessary data and information. CZM will use this information to determine if further federal consistency review is required.

Thank you for submitting the information to CZM. If you have any questions regarding our review process, feel free to contact me at sean.duffey@mass.gov.

Sincerely,

Sean Duffey
CZM Project Review and Dredging Coordinator

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

HARWICH

For: **Harwich Elementary School Improvements (SRTS)**

COMMONWEALTH OF MASSACHUSETTS

LOCATION

The work referred to herein is in the Town of HARWICH in Barnstable 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:

School House Drive

Beginning – Station 100+78.00 +/-

Sisson Road

Ending – Station 51+90.00 +/-

Main Street

Limit of Work – Station 199+96.50
Limit of Work – Station 224+00.00

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 **929 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 # 610670	Contract # 133876			
Location : HARWICH				
Description : Harwich Elementary School Improvements (SRTS)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
102.2	1	TREE TRIMMING AT _____ LUMP SUM		
102.511	36	TREE PROTECTION - ARMORING AND PRUNING AT _____ EACH		
102.521	200	TREE AND PLANT PROTECTION FENCE AT _____ PER FOOT		
102.55	20	ARBORIST AT _____ PER HOUR		
103.	13	TREE REMOVED - DIAMETER UNDER 24 INCHES AT _____ EACH		
104.	6	TREE REMOVED - DIAMETER 24 INCHES AND OVER AT _____ EACH		
105.	3	STUMP REMOVED AT _____ EACH		
120.1	1,880	UNCLASSIFIED EXCAVATION AT _____ PER CUBIC YARD		
120.9	7	REMOVE AND STACK BOULDERS AT _____ EACH		

Project # 610670	Contract # 133876			
Location : HARWICH				
Description : Harwich Elementary School Improvements (SRTS)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
146.	4	DRAINAGE STRUCTURE REMOVED AT _____ EACH		
151.	2,200	GRAVEL BORROW AT _____ PER CUBIC YARD		
152.	10	PROCESSED GRAVEL AT _____ PER CUBIC YARD		
156.	80	CRUSHED STONE AT _____ PER TON		
170.	6,710	FINE GRADING AND COMPACTING - SUBGRADE AREA AT _____ PER SQUARE YARD		
180.01	1	ENVIRONMENTAL HEALTH AND SAFETY PROGRAM AT _____ LUMP SUM		
180.02	40	PERSONAL PROTECTION LEVEL C UPGRADE AT _____ PER HOUR		
180.03	40	LICENSED SITE PROFESSIONAL SERVICES AT _____ PER HOUR		
181.11	132	DISPOSAL OF UNREGULATED SOIL AT _____ PER TON		

Project # 610670	Contract # 133876			
Location : HARWICH				
Description : Harwich Elementary School Improvements (SRTS)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
181.12	132	DISPOSAL OF REGULATED SOIL - IN-STATE FACILITY AT _____ PER TON		
181.13	94	DISPOSAL OF REGULATED SOIL - OUT-OF-STATE FACILITY AT _____ PER TON		
181.14	17	DISPOSAL OF HAZARDOUS WASTE AT _____ PER TON		
182.1	1	INSPECTION AND TESTING FOR ASBESTOS AT _____ LUMP SUM		
182.2	900	REMOVAL OF ASBESTOS AT _____ PER FOOT		
184.1	14	DISPOSAL OF TREATED WOOD PRODUCTS AT _____ PER TON		
201.	3	CATCH BASIN AT _____ EACH		
204.	3	GUTTER INLET AT _____ EACH		
220.	9	DRAINAGE STRUCTURE ADJUSTED AT _____ EACH		

Project # 610670	Contract # 133876			
Location : HARWICH				
Description : Harwich Elementary School Improvements (SRTS)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
220.5	3	DRAINAGE STRUCTURE REMODELED AT _____ EACH		
221.	2	FRAME AND COVER AT _____ EACH		
222.1	8	FRAME AND GRATE - MASSDOT CASCADE TYPE AT _____ EACH		
223.2	8	FRAME AND GRATE (OR COVER) REMOVED AND DISCARDED AT _____ EACH		
227.3	15	REMOVAL OF DRAINAGE STRUCTURE SEDIMENT AT _____ PER CUBIC YARD		
227.31	370	REMOVAL OF DRAINAGE PIPE SEDIMENT AT _____ PER FOOT		
241.12	20	12 INCH REINFORCED CONCRETE PIPE CLASS III AT _____ PER FOOT		
357.08	1	8 INCH GATE BOX AT _____ EACH		
358.	5	GATE BOX ADJUSTED AT _____ EACH		

Project # 610670	Contract # 133876			
Location : HARWICH				
Description : Harwich Elementary School Improvements (SRTS)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
358.1	1	GATE BOX REMOVED AND STACKED AT _____ EACH		
381.	1	SERVICE BOX AT _____ EACH		
381.2	1	SERVICE BOX REMOVED AND STACKED AT _____ EACH		
381.3	2	SERVICE BOX ADJUSTED AT _____ EACH		
415.2	2,920	PAVEMENT FINE MILLING AT _____ PER SQUARE YARD		
431.	180	HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE AT _____ PER SQUARE YARD		
443.	25	WATER FOR ROADWAY DUST CONTROL AT _____ PER 1000 GALLONS		
450.22	260	SUPERPAVE SURFACE COURSE – 9.5 (SSC – 9.5) AT _____ PER TON		
451.	480	HMA FOR PATCHING AT _____ PER TON		

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ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
452.	810	ASPHALT EMULSION FOR TACK COAT AT _____ PER GALLON		
453.	6,610	HMA JOINT ADHESIVE AT _____ PER FOOT		
470.	57	HOT MIX ASPHALT BERM AT _____ PER TON		
472.	10	TEMPORARY ASPHALT PATCHING AT _____ PER TON		
482.4	20	SAWCUTTING PORTLAND CEMENT CONCRETE AT _____ PER FOOT		
482.5	1,770	SAWCUTTING ASPHALT PAVEMENT FOR BOX WIDENING AT _____ PER FOOT		
504.	2,240	GRANITE CURB TYPE VA4 - STRAIGHT AT _____ PER FOOT		
504.1	160	GRANITE CURB TYPE VA4 - CURVED AT _____ PER FOOT		
509.	330	GRANITE TRANSITION CURB FOR PEDESTRIAN CURB RAMPS - STRAIGHT AT _____ PER FOOT		

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ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
509.1	190	GRANITE TRANSITION CURB FOR PEDESTRIAN CURB RAMPS - CURVED AT _____ PER FOOT		
514.	5	GRANITE CURB INLET - STRAIGHT AT _____ EACH		
520.21	570	SPECIAL GRANITE CURB AT _____ PER FOOT		
580.	270	CURB REMOVED AND RESET AT _____ PER FOOT		
594.	440	CURB REMOVED AND DISCARDED AT _____ PER FOOT		
620.131	110	GUARDRAIL, DEEP POST (SINGLE FACED) AT _____ PER FOOT		
627.1	3	TRAILING ANCHORAGE AT _____ EACH		
627.83	1	GUARDRAIL TANGENT END TREATMENT, TL-3 AT _____ EACH		
628.25	2	TRANSITION TO THRIE BEAM AT _____ EACH		

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630.2	50	HIGHWAY GUARD REMOVED AND DISCARDED AT _____ PER FOOT		
632.11	15	GUARDRAIL, DEEP POST - STEEL AT _____ EACH		
633.1	15	GUARDRAIL OFFSET BLOCK - THRIE BEAM AT _____ EACH		
634.1	9	THRIE BEAM GUARD PANEL AT _____ EACH		
655.	100	CEDAR RAIL FENCE AT _____ PER FOOT		
669.	120	FENCE REMOVED AND STACKED AT _____ PER FOOT		
692.	40	BALANCE STONE WALL AT _____ PER FOOT		
697.1	19	SILT SACK AT _____ EACH		
698.4	50	GEOTEXTILE FABRIC FOR PERMANENT EROSION CONTROL AT _____ PER SQUARE YARD		

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ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
701.	20	CEMENT CONCRETE SIDEWALK AT _____ PER SQUARE YARD		
701.1	90	CEMENT CONCRETE SIDEWALK AT DRIVEWAYS AT _____ PER SQUARE YARD		
701.2	310	CEMENT CONCRETE PEDESTRIAN CURB RAMP AT _____ PER SQUARE YARD		
702.	650	HOT MIX ASPHALT SIDEWALK OR DRIVEWAY AT _____ PER TON		
706.1	2	BRICK WALK REMOVED AND RELAID AT _____ PER SQUARE YARD		
710.4	4	BOUND - PLAIN GRANITE AT _____ EACH		
711.	8	BOUND REMOVED AND RESET AT _____ EACH		
712.	4	BOUND REMOVED AND STACKED AT _____ EACH		
715.	7	RURAL MAIL BOX REMOVED AND RESET AT _____ EACH		

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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
734.	2	SIGN REMOVED AND RESET AT _____ EACH		
740.	30	ENGINEER'S FIELD OFFICE AND EQUIPMENT (TYPE A) AT _____ PER MONTH		
748.	1	MOBILIZATION AT _____ LUMP SUM		
751.	260	LOAM FOR ROADSIDES AT _____ PER CUBIC YARD		
751.1	110	LOAM FOR LAWNS AT _____ PER CUBIC YARD		
756.	1	NPDES STORMWATER POLLUTION PREVENTION PLAN AT _____ LUMP SUM		
765.	2,610	SEEDING AT _____ PER SQUARE YARD		
765.21	2	ANNUAL COVER CROP FOR NATIVE SEEDING AT _____ PER POUND		

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ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
765.413	1	ROADSIDE POLLINATOR MEADOW MIX AT _____ PER POUND		
765.635	200	NATIVE SEEDING AND ESTABLISHMENT AT _____ PER SQUARE YARD		
767.121	480	SEDIMENT CONTROL BARRIER AT _____ PER FOOT		
767.4	5	WOOD CHIP MULCH AT _____ PER CUBIC YARD		
767.9	280	JUTE MESH AT _____ PER SQUARE YARD		
776.523	12	MAPLE - RED 2-2.5 INCH CALIPER AT _____ EACH		
789.333	80	BAYBERRY SHRUB - NORTHERN 2-3 FEET / #3 AT _____ EACH		
802.412	910	4 INCH TELEPHONE CONDUIT- TYPE NM (12 BANK) AT _____ PER FOOT		
811.121	1	TELEPHONE MANHOLE AT _____ EACH		

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ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
825.2	3	RRFB (2-POST ASSEMBLY SYSTEM) AT _____ EACH		
832.	458	WARNING-REGULATORY AND ROUTE MARKER - ALUMINUM PANEL (TYPE A) AT _____ PER SQUARE FOOT		
841.2	1	SUPPORTS FOR GUIDE SIGN (D6-5 INCH TUBULAR POST) STEEL AT _____ EACH		
847.1	54	SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL AT _____ EACH		
848.1	4	SIGN SUP (N/GUIDE)+RTE MKR W/2 BRKWAY POST ASSEMBLIES-STEEL AT _____ EACH		
850.41	960	ROADWAY FLAGGER AT _____ PER HOUR		
852.	340	SAFETY SIGNING FOR TRAFFIC MANAGEMENT AT _____ PER SQUARE FOOT		
852.11	100	TEMPORARY PEDESTRIAN BARRICADE AT _____ PER FOOT		
852.12	4	TEMPORARY PEDESTRIAN CURB RAMP AT _____ EACH		

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ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
853.1	8	PORTABLE BREAKAWAY BARRICADE TYPE III AT _____ EACH		
854.016	11,200	TEMPORARY PAVING MARKINGS - 6 INCH (PAINTED) AT _____ PER FOOT		
859.	3,600	REFLECTORIZED DRUM AT _____ PER DAY		
866.106	4,000	6 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) AT _____ PER FOOT		
866.112	2,520	12 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) AT _____ PER FOOT		
867.106	2,230	6 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC) AT _____ PER FOOT		
874.	24	STREET NAME SIGN AT _____ EACH		
874.2	5	TRAFFIC SIGN REMOVED AND RESET AT _____ EACH		
874.4	61	TRAFFIC SIGN REMOVED AND STACKED AT _____ EACH		

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877.1	50	SIGN POST REMOVED AND DISCARDED AT _____ EACH		
901.	5	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE AT _____ PER CUBIC YARD		
910.	500	STEEL REINFORCEMENT FOR STRUCTURES AT _____ PER POUND		
986.	25	MODIFIED ROCKFILL AT _____ PER TON		
Total Qty:	63,107			