AB

COMMONWEALTH OF MASSACHUSETTS



CONTRACT DOCUMENTS AND SPECIAL PROVISIONS

PROPOSAL NO.	608547-132397
P.V. =	$18,823,000.00
PLANS	YES

FOR

Federal Aid Project No. STP/TAP-0031(021)X
Reconstruction of Mount Washington Road (Phase I)

in the Town of

EGREMONT

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

This Proposal to be opened and read: **TUESDAY, OCTOBER 7, 2025 at 2:00 P.M.**

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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.

TUESDAY, OCTOBER 7, 2025 at 2:00 P.M. **
EGREMONT
Federal Aid Project No. STP/TAP-0031(021)X
Reconstruction of Mount Washington Road (Phase I)
****Date Subject to Change**

PROJECT VALUE = $18,823,000.00

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 $635.00 per ton, Portland cement $425.13 per ton, diesel fuel $2.733 per gallon, and gasoline $2.451 per gallon, and Steel Base Price Index 354.8. MassDOT posts the **Price Adjustments** on their Highway Division's website at
https://www.mass.gov/massdot-contract-price-adjustments

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

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

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

BY: Monica G. Tibbits-Nutt, Secretary and CEO, MassDOT
Jonathan L. Gulliver, Administrator, MassDOT Highway Division
SATURDAY, SEPTEMBER 13, 2025

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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.

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

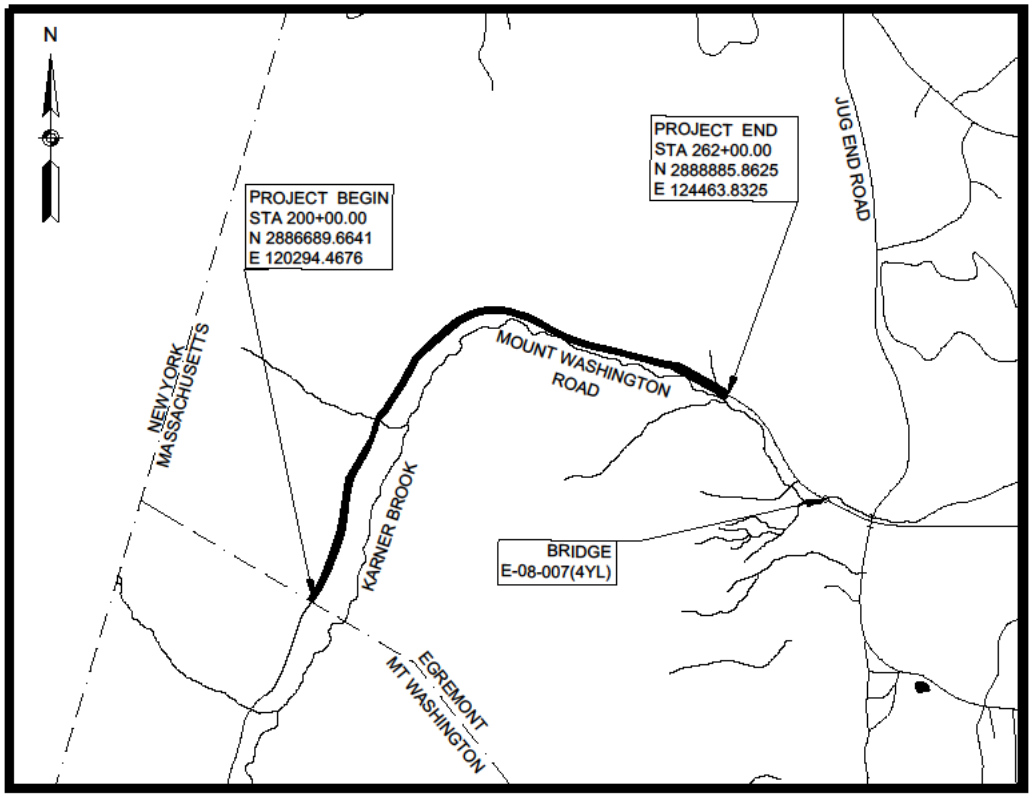
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DOCUMENT 00331

LOCUS MAP

EGREMONT
Federal Aid Project No. STP/TAP-0031(021)X
Reconstruction of Mount Washington Road (Phase I)



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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

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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: 04-16-25

NOTICE OF AVAILABILITY

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

SPECIAL PROVISIONS FOR RIGHT-TO-KNOW ACT REQUIREMENTS

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

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

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

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

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

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

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

ALTERNATIVE DISPUTE RESOLUTION
Forum, Choice of Law and Mediations:

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

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DOCUMENT 00715

SUPPLEMENTAL SPECIFICATIONS

JUNE 30, 2025

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

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

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

DIVISION I

GENERAL REQUIREMENTS AND COVENANTS

SECTION 2.00: PROPOSAL REQUIREMENTS AND CONDITIONS

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

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

SECTION 7.00: LEGAL RELATIONS AND RESPONSIBILITY TO PPUBLIC

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

Subsection 7.22: Labor, Lodging, Board, Maximum Hours of Employment, Weekly Payment, Keeping of Payroll Records.
In the second paragraph replace the word "workman" to "worker" and the word "workmen" to "workers".

Replace the third paragraph with the following:

Attention of Bidders is called to MGL Chapter 149, Section 148 requiring the weekly payment of employee wages.

SECTION 9.00: MEASUREMENT AND PAYMENT

Subsection 9.03: Payment for Extra Work

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

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

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

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

DIVISION II

CONSTRUCTION DETAILS

SECTION 300: WATER SYSTEMS

SUBSECTION 301: WATER SYSTEMS

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

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

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

Replace the second paragraph with the following:

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

SECTION 800: TRAFFIC CONTROL DEVICES

SUBECTION 850: TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE OPERATIONS

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

Subsection 850.49: Temporary Barrier
Delete this subsection.

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

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

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

SUBECTION 853: TEMPORARY BARRIER

Subsection 853.: Temporary Barrier
Add this new subsection:

DESCRIPTION

853.20: General

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

MATERIALS

853.40: General

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

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

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

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

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

853.41: Deflection

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

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

853.42: Precast Concrete Barriers

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

853.43: Delineation

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

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

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

853.44: Anchored Barrier

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

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

853.45: Shop Drawings

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

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

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

CONSTRUCTION METHODS

853.60: General

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

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

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

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

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

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

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

853.61: Temporary Barrier Removed and Reset

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

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

853.62: Quality Control Inspection

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

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

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

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

COMPENSATION

853.80: Method of Measurement

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

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

853.81: Basis of Payment

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

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

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

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

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

853.82: Payment Items

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

SECTION 900: STRUCTURES

SUBECTION 902: ULTA HIGH PERFORMANCE CONCRETE

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

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

DIVISION III

MATERIALS SPECIFICATIONS

SECTION M2: AGGREGATES AND RELATED MATERIALS

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

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

SECTION M5: PIPE, CULVERT SECTIONS AND CONDUIT

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

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

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

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

SECTION M7: PAINTS, PROTECTIVE COATINGS AND PAVEMENT MARKINGS

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

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

SECTION M9: MISCELLANEOUS MATERIALS

Subsection M9.12.0 Reflectors for Barriers
Delete this subsection.

SECTION M10: TRAFFIC CONTROL DEVICES

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

M10.16.0: Temporary Barrier

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

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

M10.16.1: Limited Deflection Temporary Barrier

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

M10.16.2: Delineators for Temporary Barrier

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

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

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

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

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END OF SUPPLEMENTAL SPECIFICATIONS

DOCUMENT 00719

(Revised September 14, 2023 – for all Federally Aided Projects)

SPECIAL PROVISIONS FOR PARTICIPATION BY DISADVANTAGED BUSINESS ENTERPRISES

(IMPLEMENTING TITLE 49 OF THE CODE OF FEDERAL REGULATIONS, PART 26)

Section: Page 00719-

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POLICY

The Massachusetts Department of Transportation (MassDOT) receives Federal financial assistance from the Federal Highway Administration (FHWA), United States Department of Transportation (U.S. DOT), and as a condition of receiving this assistance, has signed an assurance that it will comply with 49 CFR Part 26 (Participation By Disadvantaged Business Enterprises In Department Of Transportation Financial Assistance Programs). The U.S. DOT Disadvantaged Business Enterprise Program is authorized by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users ("SAFETEA-LU"), as amended, at Title 23, United States Code, § 1101.

Accordingly, MassDOT has established a Disadvantaged Business Enterprise (DBE) Program in accordance with 49 CFR Part 26. It is the policy of MassDOT to ensure that DBEs have an equal opportunity to receive and participate in U.S. DOT assisted Contracts, without regard to race, color, national origin, or sex. To this end, MassDOT shall not directly, or through contractual or other arrangements, use criteria or methods of administration that have the effect of defeating or substantially impairing accomplishment of the program objectives stated below:

- To ensure nondiscrimination in the award and administration of U.S. DOT assisted Contracts;
- To create a level playing field on which DBEs can compete fairly for U.S. DOT assisted Contracts;
- To ensure that the DBE Program is narrowly tailored in accordance with applicable law;
- To ensure that only firms that fully meet 49 CFR Part 26 eligibility standards are permitted to participate as DBEs;
- To help remove barriers to the participation of DBEs in U.S. DOT assisted Contracts; and
- To assist the development of firms that can compete successfully in the market place outside the DBE Program.

The Director of Civil Rights of MassDOT has been designated as the DBE Liaison Officer. The DBE Liaison Officer is responsible for implementing all aspects of the DBE Program. Other MassDOT employees are responsible for assisting the Office of Civil Rights in carrying out this obligation. Implementation of the DBE Program is accorded the same priority as compliance with all other legal obligations incurred by MassDOT in its financial assistance agreements with each operating administration of the U.S. DOT. Information on the Federal requirements and MassDOT's policies and information can be found at:

Type of Info	***Website***	***Description***
MassDOT Highway Division Policies and Info	https://www.mass.gov/disadvantaged-business-enterprise-goals-2019-2022	*MassDOT–Highway Div'n Page*
For copies of the Code of Federal Regulations	http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR	FDsys – US Gov't Printing Office
For information about the U.S.DOT DBE Program	https://www.transportation.gov/civil-rights/disadvantaged-business-enterprise	U.S. DOT/ FHWA page

1. DEFINITIONS

As used in these provisions, the terms set out below are defined as follows:

"Broker", for purposes of these provisions, shall mean a DBE Entity that has entered into a legally binding relationship to provide goods or services delivered or performed by a third party. A broker may be a DBE Entity that arranges or expedites transactions but performs no work or installation services.

"Contractor", "General" or "Prime" Contractor, "Bidder," and "DB Entity" shall mean a person, firm, or other entity that has contracted directly with MassDOT to provide contracted work or services.

"Contract" shall mean the Contract for work between the Contractor and MassDOT.

"DBB" or "Design-Bid-Build" shall mean the traditional design, bid and project delivery method consisting of separate contracts between awarding authority and a designer resulting in a fully designed project; and a separate bidding process and Contract with a construction Contractor or Bidder.

"DB" or "Design-Build" shall mean an accelerated design, bid and project delivery method consisting of a single contract between the awarding authority and a DB Entity, consisting of design and construction companies that will bring a project to full design and construction.

"Disadvantaged Business Enterprise" or "DBE" shall mean a for-profit, small business concern:

(a) that is at least fifty-one (51%) percent owned by one or more individuals who are both socially and economically disadvantaged, or, in the case of any corporation, in which at least fifty-one (51%) percent of the stock is owned by one or more such individuals; and

(b) where the management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

"FHWA" shall mean the Federal Highway Administration," an agency within U.S. DOT that supports State and local governments in the design, and maintenance of the Nation's highway system (Federal Aid Highway Program).

"Good faith efforts" shall mean efforts to achieve a DBE participation goal or other requirement of these Special Provisions that, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement. Such efforts must be deemed acceptable by MassDOT.

"Joint Venture" shall mean an association of a DBE firm and one or more other firms to carry out a single, for-profit business enterprise, for which the parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the Contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

"Approved Joint Venture" shall mean a joint venture, as defined above, which has been approved by MassDOT's Prequalification Office and Office of Civil Rights for DBE participation on a particular Contract.

"Manufacturer" shall mean a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles or equipment required under the contract and of the general character described by the specifications.

"Regular Dealer" shall mean a DBE firm that owns, operates, or maintains a store, warehouse, or other establishment in which materials, supplies, articles or equipment of the general character described by the specifications and required under the Contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

(a) To be a regular dealer, the firm must be an established, regular business that engages, as its principal business, and under its own name, in the purchase and sale of the products in question.

(b) A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business as provided above if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by long term lease agreement and not on an ad hoc or contract by contract basis.

(c) Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this definition.

"Responsive" and "Responsible" refers to the bidder's submittal meeting all of the requirements of the advertised request for proposal. The term responsible refers to the ability of the Contractor to perform the work. This ability can be determined prior to bid invitations.

"Small Business or Small Business Concern" shall mean a small business concern or company as defined in Section 3 of the Small Business Act and SBA regulations implementing it (13 CFR Part 121); and is a business that does not exceed the cap on annual average gross receipts established by the U.S. Secretary of Transportation pursuant to 49 CFR Part 26.65; see also 49 CFR Part 26.39.

"SDO" shall mean the Massachusetts Supplier Diversity Office, formerly known as the State Office of Minority and Women Business Assistance (SOMWBA). In 2010, SOMWBA was abolished and the SDO was established. *See* St. 2010, c. 56. The SDO has assumed all the functions of SOWMBA. SDO is an agency within the Commonwealth of Massachusetts Executive office of Administration and Finance (ANF) Operational Services Division (OSD). The SDO mandate is to help promote the development of business enterprises and non-profit organizations owned and operated by minorities and women.

"Socially and economically disadvantaged individuals" shall mean individuals who are citizens of the United States (or lawfully admitted permanent residents) and who are:

(a) Individuals found by SDO to be socially and economically disadvantaged individuals on a case by case basis.

(b) Individuals in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged:

(1) "Black Americans" which includes persons having origin in any of the Black racial groups of Africa; (2) "Hispanic Americans" which include persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race; (3) "Native Americans" which include persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians; (4) "Asian Pacific Americans" which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Tuvalu, Nauru, Federated States of Micronesia, or Hong Kong; (5) "Subcontinent Asian Americans" which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka; (6) Women; or (7) Any additional groups whose members are designated as socially and economically disadvantaged by the Small Business Administration (SBA), at such time as the SBA designation becomes effective.

Other terms and definitions applicable to the U.S. DOT DBE Program may be found at 49 CFR Part 26 and related appendices and guidance pages.

2. DBE PARTICIPATION

a. Goal

On this Contract, MassDOT has established the following goal(s) for participation by firms owned and controlled by socially and economically disadvantaged persons. At least half of the goal must be met in the form of DBE Subcontractor construction activity as opposed to material supplies or other services. The applicable goal remains in effect throughout the life of the contract regardless of whether pre-identified DBE Subcontractors remain on the Project or under Contract.

☒ Design-Bid-Build Projects: DBE Participation Goal **0 %**
(*One half of this goal shall be met in the form of Subcontractor construction activity*)

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

b. Bidders List

Pursuant to the provisions of 49 CFR Part 26.11(c), Recipients such as MassDOT, must collect from all Bidders who seek work on Federally assisted Contracts the firm full company name(s), addresses and telephone numbers of all firms that have submitted bids or quotes to the Bidders in connection with this Project. All bidders should refer to the Special Provision Document "A00801" of the Project proposal for this requirement.

In addition, MassDOT must provide to U.S. DOT, information concerning contractors firm status as a DBE or non-DBE, the age of the firm, and the annual gross receipts of the firm within a series of brackets (e.g., less than $500,000; $500,000–$1 million; $1–2 million; $2–5 million, etc.). The status, firm age, and annual gross receipt information will be sought by MassDOT regularly prior to setting its DBE participation goal for submission to U.S. DOT. MassDOT will survey each individual firm for this information directly.

Failure to comply with a written request for this information within fifteen (15) business days may result in the suspension of bidding privileges or other such sanctions, as provided for in Section 9 of this provision, until the information is received.

3. CONTRACTOR ASSURANCES

No Contractor or any Subcontractor shall 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 all respects and as applicable prior to, or subsequent to, award of U.S. DOT assisted Contracts. The Contractor agrees to affirmatively seek out and consider DBE firms as Contractors, Subcontractors, and/or suppliers of materials and services for this Contract. No Contract will be approved until MassDOT has reviewed Bidders'/Contractors' affirmative actions concerning DBEs. Failure to carry out these requirements is a material breach of this Contract which may result in the termination of the Contract or such other remedy as MassDOT or FHWA deem appropriate.

4. REQUIRED SUBCONTRACT PROVISIONS

The Prime Contractor shall include the provisions of Section 3 above in every subcontract, making those provisions binding on each Subcontractor; in addition, the Prime Contractor shall include a copy of this Special Provision, in its entirety, in every subcontract with a DBE firm which is, or may be, submitted for credit toward the Contract participation goal.

5. ELIGIBILITY OF DBES

Only firms that have been certified by SDO and confirmed by MassDOT as eligible in accordance with 49 CFR Part 26 to participate as DBEs on federally aided MassDOT Contracts may be used on this Contract for credit toward the DBE participation goal.

a. Massachusetts DBE Directory

MassDOT makes available to all bidders the most current Massachusetts Disadvantaged Business Enterprise Directory. This directory is made available for Contractors' convenience and is informational only. The Directory lists those firms that have been certified as eligible in accordance with the criteria of 49 CFR Part 26 to participate as DBEs on federally aided MassDOT contracts. The Directory also lists the kinds of work each firm is certified to perform but does not constitute an endorsement of the quality of performance of any business and does not represent MassDOT Subcontractor approval.

Contractors are encouraged to make use of the DBE Directory maintained by SDO on the Internet. This listing is updated daily and may be accessed at the SDO's website at:
https://www.diversitycertification.mass.gov/BusinessDirectory/BusinessDirectorySearch.aspx

b. DBE Certification

A firm must apply to SDO, currently acting as certification agent for MassDOT, for DBE certification to participate on federally aided MassDOT Contracts. A DBE application may be made in conjunction with a firm's application to SDO for certification to participate in state-funded minority and women business enterprise programs or may be for DBE certification only. An applicant for DBE certification must identify the area(s) of work it seeks to perform on U.S. DOT funded projects.

c. Joint Venture Approval

To obtain recognition as an approved DBE Joint Venture, the parties to the joint venture must provide to MassDOT's Office of Civil Rights and Prequalification Office, at least fourteen (14) business days before the bid opening date, an Affidavit of DBE/Non-DBE Joint Venture in the form attached hereto, and including, but not limited to the following:

1. a copy of the Joint Venture Agreement;
2. a description of the distinct, clearly defined portion of the contract work that the DBE will perform with its own forces; and,
3. all such additional information as may be requested by MassDOT for the purpose of determining whether the joint venture is eligible.

6. COUNTING DBE PARTICIPATION TOWARDS DBE PARTICIPATION GOALS

In order for DBE participation to count toward the Contract participation goal, the DBE(s) must have served a commercially useful function in the performance of the Contract and must have been paid in full for acceptable performance.

a. Commercially Useful Function

(1) In general, a DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. With respect to materials and supplies used on the Contract, the DBE must be responsible for negotiating price, determining quality and quantity, ordering the material, installing (where applicable) and paying for the material itself.

(2) To determine whether a DBE is performing a commercially useful function, MassDOT will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the Contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.

(3) A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, MassDOT will examine similar transactions, particularly those in which DBEs do not participate.

b. Counting Participation Toward The Contract Participation Goal

DBE participation which serves a commercially useful function shall be counted toward the DBE participation goal in accordance with the Provisions of 49 CFR Part 26.55(a) to (h), as follows:

(1) When a DBE participates in a construction Contract, MassDOT will count the value of the work performed by the DBE's own forces. MassDOT will count the cost of supplies and materials obtained by the DBE for the work of its contract, including supplies purchased or equipment leased by the DBE. Supplies, labor, or equipment the DBE Subcontractor uses, purchases, or leases from the Prime Contractor or any affiliate of the Prime Contractor will not be counted.

(2) MassDOT will count the entire amount of fees or commissions charged by a DBE firm for providing bona fide services, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a U.S. DOT assisted Contract, toward DBE participation goals, provided it is determined that the fee is reasonable and not excessive as compared with fees customarily allowed for similar services.

(3) When a DBE performs as a participant in a joint venture, MassDOT will count toward DBE participation goals a portion of the total dollar value of the contract that is equal to the distinct, clearly defined portion of the work of the Contract that the DBE performs with its own forces.

(4) MassDOT will use the following factors in determining whether a DBE trucking company is performing a commercially useful function:

(i) the DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract; there cannot be a contrived arrangement for the purpose of meeting DBE participation goals.

(ii) the DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the Contract.

(iii) the Contractor will receive DBE credit for the total value of the transportation services the DBE provides on the Contract using trucks owned, insured, and operated by the DBE itself and using drivers the DBE employs alone.

(iv) the DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The Contractor who has a contract with a DBE who leases trucks from another DBE will receive credit for the total value of the transportation services of the lease.

(v) the DBE may also lease trucks from a non-DBE firm, including an owner-operator. The Contractor who has a Contract with a DBE who leases trucks from a non-DBE is entitled to credit for the total value of the transportation services provided by non-DBE lessees not to the exceed the value of transportation services provided by DBE-owned trucks on the Contract. Additional participation by non-DBE lessees receives credit only for the fee or commission it receives as a result of the lease arrangement, fee or commission it receives as a result of the lease arrangement. The DBE does not receive credit for the total value of the transportation services provided by the lessee, since these services are not provided by a DBE.

(vi) the lease must indicate that the DBE has exclusive use of, and control over, the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

(5) MassDOT will count the Prime Contractor's expenditures with DBEs for materials or supplies toward DBE participation goals as follows:

(i) if the materials or supplies are obtained from a DBE manufacturer, as defined in Section 1 above, MassDOT will count one hundred (100%) percent of the cost of the materials or supplies toward DBE participation goals, provided the DBE meets the other requirements of the regulations.

(ii) if the materials or supplies are purchased from a DBE regular dealer, as defined in Section 1 above, MassDOT will count sixty (60%) percent of the cost of the materials or supplies toward the Contract participation goal, provided the DBE meets the other requirements of the regulations.

(iii) for materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer, MassDOT will count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site toward the Contract participation goal, provided that MassDOT determines the fees to be reasonable and not excessive as compared with fees customarily allowed for similar services; the cost of the materials and supplies themselves will not be counted; and provided the DBE meets the other requirements of the regulations.

c. Joint Check Policy

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

In the event that a Contractor or DBE Subcontractor desires to a use joint check, MassDOT will require prior notice and will closely monitor the arrangement for compliance with FHWA regulations and guidance. MassDOT may allow a joint check arrangement and give credit to a Contractor for use of the DBE where one or more of the following conditions exist:

- The use of a joint check is in fact required by this type of vendor or supplier as a standard industry practice that applies to all Contractors (DBEs and non-DBEs); or is required by a specific vendor or supplier;
- Payment for supplies or materials would be delayed for an unreasonably extended period without the joint check arrangement;
- The DBE (or any of its Subcontractors) has a pattern or history of not paying a vendor or supplier within a reasonable time or has not established enough of a credit history with the supplier or vendor; and/or
- The presence of severe adverse economic conditions, where credit resources may be limited and such practices may be necessary or required to effect timely payments.

Other factors MassDOT may consider:

- Whether there is a requirement by the Prime Contractor that a DBE should use a specific vendor or supplier to meet their Subcontractor specifications;
- Whether there is a requirement that a DBE use the Prime Contractor's negotiated price;
- The independence of the DBE;
- Whether approval has been sought prior to use of a joint check arrangement; and
- Whether any approved joint check arrangement has exceeded a reasonable period of use;
- The operation of the joint check arrangement; and
- Whether the DBE has made an effort to establish alternate arrangements for following periods (i.e., the DBE must show it can, or has, or why it has not, established or increased a credit line with the vendor or supplier).

Even with the use of a Joint Check, both the Contractor and DBE remain responsible for compliance with all other elements under 49 CFR § 26.55 (c) (1), and must still be able to prove that a commercially useful function is being performed for the Contractor.

d. Joint Check Procedure(s)

- The DBE advises its General or Prime Contractor that it will have to use a Joint Check and provide proof of such requirement.
- The General or the Prime Contractor submits a request for approval to MassDOT, using MassDOT's approved Joint Check Request form (Document B00855) and by notification on the DBE Letter of Intent (Document B00854), and any other relevant documents. Requests that are not initiated during the bid process should be made in writing and comply with the procedure.
- The MassDOT Office of Civil Rights will review the request and render a decision as part of the approval process for DBE Schedules and Letters of Intent.
- Review and Approval will be project specific and relevant documents will be made part of the project Contract file.
- Payments should be made in the name of both the DBE and vendor or supplier. Payments should be issued and signed by the Contractor as only the guarantor for prompt payment of purchases to the vendor or supplier. The payment to the vendor or supplier should be handled by the DBE (i.e. if possible, funds or the joint check should be processed by the DBE and sent by the DBE to the vendor or supplier).
- MassDOT may request copies of cancelled checks (front and back) and transmittal information to verify any payments made to the DBE and vendor or supplier.
- MassDOT may request other information and documents, and may ask questions of the Contractor, Subcontractor and vendor or supplier prior to, during, and after the project performance to ascertain whether the Subcontractor is performing a commercially useful function and all parties are complying with DBE Program policies and procedures as part of the Subcontractor approval process.

7. AWARD DOCUMENTATION AND PROCEDURES

a. The two lowest bidders/the two bidders with the lowest price per quality score point, shall submit, by the close of business on the third (3rd) business day after the bid opening, a completed Schedule of Participation by DBEs (Document B00853) which shall list:

(1) The full company name, address and telephone number of each DBE with whom the bidder intends to make a commitment.

(2) The contract item(s), by number(s) and quantity(ies), if applicable, or specific description of other business activity to be performed by each DBE as set forth in the Letters of Intent. The Bidder shall list only firms which have the capacity to perform, manage and supervise the work proposed in accordance with the requirements of 49 CFR Part 26 and Section **6.b** of these Special Provisions.

(3) The total dollar amount to be paid to each DBE. (Bidders are cautioned that at least one half of the participation goal must be met with construction activity work.)

(4) The total dollar amount to be paid to each DBE that is eligible for credit toward the DBE participation goal under the counting rules set out in Section **6.b**.

(5) The total creditable DBE participation as a percentage of the total bid price.

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

c. The two lowest bidders/the two bidders with the lowest price per quality score point, shall each submit, with their Schedules of Participation, fully completed, signed Letters of Intent (Document B00854) from each of the DBEs listed on the Schedule. The Letters of Intent shall be in the form attached and shall identify specifically the contract activity the DBE proposes to perform, expressed as contract item number, if applicable, description of the activity, NAICS code, quantity, unit price and total price. In the event of discrepancy between the Schedule and the Letter of Intent, the Letter of Intent shall govern.

d. Evidence of good faith efforts will be evaluated by MassDOT in the selection of the lowest responsible bidder.

All information requested by MassDOT for the purpose of evaluating the Contractor's efforts to achieve the participation goal must be provided within three (3) calendar days and must be accurate and complete in every detail. The apparent low bidder's attainment of the DBE participation goal or a satisfactory demonstration of good faith efforts is a prerequisite for award of the Contract.

e. Failure to meet, or to demonstrate good faith efforts to meet, the requirements of these Special Provisions shall render a bid non-responsive. Therefore, in order to be eligible for award, the bidder (1) must list all DBE's it plans to employ on the Schedule of Participation; and provide the required Letters of Intent for, DBE participation which meets or exceeds the Contract goal in accordance with the terms of these Special Provisions or (2) must demonstrate, to the satisfaction of MassDOT, that good faith efforts were made to achieve the participation goal. MassDOT will adhere to the guidance provided in Appendix A to 49 CFR Part 26 on the determination of a Contractor's good faith efforts to meet the DBE participation goal(s) set forth in Section 2 herein.

f. If MassDOT finds that the percentage of DBE participation submitted by the bidder on its Schedule does not meet the Contract participation goal, or that Schedule and Letters of Intent were not timely filed, and that the bidder has not demonstrated good faith efforts to comply with these requirements, it shall propose that the bidder be declared ineligible for award. In that case, the bidder may request administrative reconsideration. Such requests must be sent in writing within three (3) calendar days of receiving notice of proposed ineligibility to: The Office of the General Counsel, Massachusetts Department of Transportation, 10 Park Plaza, Boston, MA, 02116.

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

h. Actions which constitute evidence of good faith efforts to meet a DBE participation goal include, but are not limited to, the following examples, which are set forth in 49 CFR Part 26, Appendix A:

(1) Soliciting through all reasonable and available means (e.g., attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the Contract. The bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.

(2) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE participation goal will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Prime Contractor might otherwise prefer to perform these work items with its own forces.

(3) Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

(4) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to DBE Subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE Subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone number of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.

A bidder using good business judgment would consider a number of factors in negotiating with Subcontractors, including DBE Subcontractors, and would take a firm's price and capabilities as well as Contract participation goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the Contract DBE participation goal, as long as such costs are reasonable. Also, the ability or desire of a Prime Contractor to perform the work of a Contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime Contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

(5) Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. Contractors should be careful of adding additional requirements of performance that would in effect limit participation by DBEs or any small business. The Contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. nonunion employee status) are not legitimate causes for the rejection or non-solicitation of bids in the Contractor's efforts to meet the Contract participation goal.

(6) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.

(7) Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

(8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case by case basis to provide assistance in the recruitment and placement of DBEs.

8. COMPLIANCE

a. All activity performed by a DBE for credit toward the Contract participation goal must be performed, managed and supervised by the DBE in accordance with all commercially useful function requirements of 49 CFR Part 26. The Prime Contractor shall not enter into, or condone, any other arrangement.

b. The Prime Contractor shall not perform with its own organization, or assign to any other business, an activity designated for the DBE(s) named on the Schedule(s) submitted by the Prime Contractor under Section 7 or under paragraph **8.f** of this section, without the approval of MassDOT in accordance with the requirements of paragraphs **8.f** and **8.j** of this section.

c. MassDOT may suspend payment for any activity that was not performed by the DBE to whom the activity was committed on the approved Schedule of Participation, or that was not performed in accordance with the requirements of Section 6.

d. MassDOT retains the right to approve or disapprove of any or all Subcontractors. Requests by the Prime Contractor for approval of participation by a DBE Subcontractor for credit toward the Contract participation goal must include, in addition to any other requirements for Subcontractor approval, the following:

(1) A copy of the proposed subcontract. The subcontract must be for at least the dollar amount, and for the work described, in the Bidder's Schedule of Participation.

(2) A resume stating the qualifications and experience of the DBE Superintendent and/or foreperson who will supervise the on-site work. A new resume will be required for any change in supervisory personnel during the progress of the work.

(3) A Schedule of Operations indicating when the DBE is expected to perform the work.

(4) A list of (1) equipment owned by the DBE to be used on the Project, and (2) equipment to be leased by the DBE for use on the Project.

(5) A list of: (1) all projects (public and private) which the DBE is currently performing; (2) all projects (public and private) to which the DBE is committed; and (3) all projects (public and private) to which the DBE intends to make a commitment. For each Contract, list the contracting organization, the name and telephone number of a contact person for the contracting organization, the dollar value of the work, a description of the work, and the DBE's work schedule for each project.

e. If, pursuant to the Subcontractor approval process, MassDOT finds that a DBE Subcontractor does not have sufficient experience or resources to perform, manage and supervise work of the kind proposed in accordance with the requirements of 49 CFR Part 26, approval of the DBE Subcontractor may be denied. In the event of such denial, the Prime Contractor shall proceed in accordance with the requirements paragraphs **8.f** and **8.j** of this section.

f. If, for reasons beyond its control, the Prime Contractor cannot comply with its DBE participation commitment in accordance with the Schedule of Participation submitted under Section 7, the Prime Contractor shall submit to MassDOT the reasons for its inability to comply with its obligations and shall submit, and request approval for, a revised Schedule of Participation. If approved by MassDOT, the revised Schedule shall govern the Prime Contractor's performance in meeting its obligations under these Special Provisions.

g. A Prime Contractor's compliance with the participation goal in Section 2 shall be determined by reference to the established percentage of the total contract price, provided, however, that no decrease in the dollar amount of a bidder's commitment to any DBE shall be allowed without the approval of MassDOT.

h. If the contract amount is increased, the Prime Contractor may be required to submit a revised Schedule of Participation in accordance with paragraphs **8.f** and **8.j** of this section.

i. In the event of the decertification of a DBE scheduled to participate on the Contract for credit toward the participation goal, but not under subcontract, the Contractor shall proceed in accordance with paragraphs **8.f** and **8.j** of this section.

j. The Prime Contractor shall notify MassDOT immediately of any facts that come to its attention indicating that it may or will be unable to comply with any aspect of its DBE obligation under this Contract.

k. Any notice required by these Special Provisions shall be given in writing to: (1) the Resident Engineer; (2) the District designated Compliance Officer; and (3) the DBE Liaison Officer, MassDOT Office of Civil Rights, 10 Park Plaza, – 3rd Floor - West, Boston, MA, 02116 and cc'd to the Deputy Chief of External Programs.

l. The Prime Contractor and its Subcontractors shall comply with MassDOT's Electronic Reporting System Requirements (MassDOT Document 00821) and submit all information required by MassDOT related to the DBE Special Provisions through the Equitable Business Opportunity Solution ("EBO"). MassDOT reserves the right to request reports in the format it deems necessary anytime during the performance of the Contract.

m. Termination of DBE by Prime Contractor

(1) A Prime Contractor shall not terminate a DBE Subcontractor or an approved substitute DBE firm without the prior written consent of MassDOT. This includes, but is not limited to, instances in which a Prime Contractor seeks to perform work originally designated for a DBE Subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

(2) MassDOT may provide such written consent only if MassDOT agrees, for reasons stated in its concurrence document, that the Prime Contractor has good cause to terminate the DBE firm.

(3) For purposes of this paragraph, good cause includes the following circumstances:

(i) The DBE Subcontractor fails or refuses to execute a written contract;

(ii) The DBE Subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Good cause, however, does not exist if the failure or refusal of the DBE Subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Prime Contractor;

(iii) The DBE Subcontractor fails or refuses to meet the Prime Contractor's reasonable, nondiscriminatory bond requirements.

(iv) The DBE Subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;

(v) The DBE Subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1,200 or applicable State law;

(vi) (vii) MassDOT has determined that the listed DBE Subcontractor is not a responsible contractor;

(vii) The listed DBE Subcontractor voluntarily withdraws from the Project and provides written notice of its withdrawal;

(viii) The listed DBE is ineligible to receive DBE credit for the type of work required;

(ix) A DBE owner dies or becomes disabled with the result that the listed DBE Contractor is unable to complete its work on the Contract;

(x) Other documented good cause that MassDOT determines compels the termination of the DBE Subcontractor. Good cause, however, does not exist if the Prime Contractor seeks to terminate a DBE it relied upon to obtain the Contract so that the Prime Contractor can self-perform the DBE work or substitute another DBE or non-DBE Contractor after Contract Award.

(4) Before transmitting to MassDOT a request to terminate and/or substitute a DBE Subcontractor, the Prime Contractor must give notice in writing to the DBE Subcontractor, with a copy to MassDOT, of its intent to request to terminate and/or substitute, and the reason for the request.

(5) The Prime Contractor must give the DBE five (5) business days to respond to the Prime Contractor's notice. The DBE must advise MassDOT and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why MassDOT should not approve the Prime Contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), MassDOT may provide a response period shorter than five (5) business days.

(6) In addition to post-award terminations, the provisions of this section apply to pre-award deletions of or substitutions for DBE firms.

n. Prompt Payment.

Contractors are required to promptly pay Subcontractors under this Prime Contract within ten (10) business days from the receipt of each payment the Prime Contractor receives from MassDOT. Failure to comply with this requirement may result in the withholding of payment to the Prime Contractor until such time as all payments due under this provision have been received by the Subcontractor(s) and/or referral to the Prequalification Committee for action which may affect the Contractor's prequalification status.

9. SANCTIONS

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

a. Retain, in connection with final acceptance and final payment processing, an amount determined by multiplying the total contract amount by the percentage in Section 2, less the amount paid to approved DBE(s) for work performed under the Contract in accordance with the provisions of Section 8.

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

c. In accordance with 720 CMR 5.05(1)(f), modify or revoke the Prime Contractor's Prequalification status or recommend that the Prime Contractor not receive award of a pending Contract. The Prime Contractor may appeal the determination of the Prequalification Committee in accordance with the provisions of 720 CMR 5.06.

d. Initiate debarment proceedings pursuant to M.G.L. c. 29 §29F and, as applicable, 2 CFR Parts 180, 215 and 1,200.

e. Refer the matter to the Massachusetts Attorney General for review and prosecution, if appropriate, of any false claim or pursuant to M.G.L. c. 12, §§ 5A to 5O (the Massachusetts False Claim Act).

f. Refer the matter to the U.S. DOT's Office of the Inspector General or other agencies for prosecution under Title 18, U.S.C. § 1001, 49 CFR Parts 29 and 31, and other applicable laws and regulations.

10. FURTHER INFORMATION; ENFORCEMENT, COOPERATION AND CONFIDENTIALITY.

a. Any proposed DBE, bidder, or Contractor shall provide such information as is necessary in the judgment of MassDOT to ascertain its compliance with the terms of this Special Provision. Further, pursuant to 49 CFR, Part 26.107:

(1) If you are a firm that does not meet the eligibility criteria of 49 CFR, Parts 26.61 to 26.73 ("subpart D"), that attempts to participate in a DOT- assisted program as a DBE on the basis of false, fraudulent, or deceitful statements or representations or under circumstances indicating a serious lack of business integrity or honesty, MassDOT or FHWA may initiate suspension or debarment proceedings against you under 49 CFR Part 29.

(2) If you are a firm that, in order to meet DBE Contract participation goals or other DBE Program requirements, uses or attempts to use, on the basis of false, fraudulent or deceitful statements or representations or under circumstances indicating a serious lack of business integrity or honesty, another firm that does not meet the eligibility criteria of subpart D, FHWA may initiate suspension or debarment proceedings against you under 49 CFR Part 29.

(3) In a suspension or debarment proceeding brought either under subparagraph a.(1) or b.(2) of this section, the concerned operating administration may consider the fact that a purported DBE has been certified by a recipient. Such certification does not preclude FHWA from determining that the purported DBE, or another firm that has used or attempted to use it to meet DBE participation goals, should be suspended or debarred.

(4) FHWA may take enforcement action under 49 CFR Part 31, Program Fraud and Civil Remedies, against any participant in the DBE Program whose conduct is subject to such action under 49 CFR Part 31.

(5) FHWA may refer to the Department of Justice, for prosecution under 18 U.S.C. 1001 or other applicable provisions of law, any person who makes a false or fraudulent statement in connection with participation of a DBE in any DOT-assisted program or otherwise violates applicable Federal statutes.

b. Pursuant to 49 CFR Part 26.109, the rules governing information, confidentiality, cooperation, and intimidation or retaliation are as follows:

(1) Availability of records.

(i) In responding to requests for information concerning any aspect of the DBE Program, FHWA complies with provisions of the Federal Freedom of Information and Privacy Acts (5 U.S.C. 552 and 552a). FHWA may make available to the public any information concerning the DBE Program release of which is not prohibited by Federal law.

(ii) MassDOT shall safeguard from disclosure to unauthorized persons information that may reasonably be considered as confidential business information, consistent with Federal and Massachusetts General Law (M.G.L. c. 66, § 10, M.G.L. c. 4, §7 (26), 950 CMR 32.00).

(2) Confidentiality of information on complainants. Notwithstanding the provisions of subparagraph b.(1) of this section, the identity of complainants shall be kept confidential, at their election. If such confidentiality will hinder the investigation, proceeding or hearing, or result in a denial of appropriate administrative due process to other parties, the complainant must be advised for the purpose of waiving the privilege. Complainants are advised that, in some circumstances, failure to waive the privilege may result in the closure of the investigation or dismissal of the proceeding or hearing.

(3) Cooperation. All participants in FHWA's DBE Program (including, but not limited to, recipients, DBE firms and applicants for DBE certification, complainants and appellants, and Contractors using DBE firms to meet Contract participation goals) are required to cooperate fully and promptly with U.S. DOT and recipient compliance reviews, certification reviews, investigations, and other requests for information. Failure to do so shall be a ground for appropriate action against the party involved (e.g., with respect to recipients, a finding of noncompliance; with respect to DBE firms, denial of certification or removal of eligibility and/or suspension and debarment; with respect to a complainant or appellant, dismissal of the complaint or appeal; with respect to a Contractor which uses DBE firms to meet participation goals, findings of non-responsibility for future Contracts and/or suspension and debarment).

(4) Intimidation and retaliation. No recipient, Contractor, or any other participant in the program, may intimidate, threaten, coerce, or discriminate against any individual or firm for the purpose of interfering with any right or privilege secured by this part or because the individual or firm has made a complaint, testified, assisted, or participated in any manner in an investigation, proceeding, or hearing under this part. If any recipient or contractor violates this prohibition, that entity is in noncompliance with this 49 CFR Part 26.

11. LIST OF ADDITIONAL DOCUMENTS.

a. The following documents shall be completed and signed by the bidder and designated DBEs in accordance with Section 7 - Award Documentation and Procedures. These documents must be returned by the bidder to MassDOT's Bid Document Distribution Center:

- □ Schedule of DBE Participation (Document B00853)
- □ Letter of Intent (Document B00854)
- □ DBE Joint Check Arrangement Approval Form (Document B00855), if Contractor and DBE plan, or if DBE is required to use a Joint Check

b. The following document shall be signed and returned by Contractor and Subcontractors/DBEs to the MassDOT District Office overseeing the Project, as applicable:

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

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

- □ Affidavit of DBE/Non-DBE Joint Venture (Document B00856)

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

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

*** END OF DOCUMENT ***

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

August 14, 2025

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

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

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

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

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

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

Base Prices and Period Prices are defined as follows:

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

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

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

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

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

Period Prices are determined as follows:

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

Example of a Period Price Calculation:

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

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

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

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

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

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

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

End of example.

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

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

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

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

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

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

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

TABLE

Steel Type		Price per Pound
1	ASTM A615/A615M Grade 60 (AASHTO M31 Grade 60 or 420) Reinforcing Steel	$0.55
2	ASTM A27 (AASHTO M103) Steel Castings, H-Pile Points & Pipe Pile Shoes (See Note below.)	$0.76
3	ASTM A668 / A668M (AASHTO M102) Steel Forgings	$0.76
4	ASTM A108 (AASHTO M169) Steel Forgings for Shear Studs	$0.78
5	ASTM A709/A709M Grade 36 / AASHTO M270M/M270 Grade 36 or 250 Structural Steel Plate	$0.82
6	ASTM A709/A709M Grade 36 / AASHTO M270M/M270 Grade 36 or 250 Structural Steel Shapes	$0.77
7	ASTM A709/A709M Grade 50 / AASHTO M270M/M270 Grade 50 or 345 Structural Steel Plate	$0.82
8	ASTM A709/A709M Grade 50 / AASHTO M270M/M270 Grade 50 or 345 Structural Steel Shapes	$0.77
9	ASTM A709/A709M Grade 50WT / AASHTO M270M/M270 Grade 50WT or 345WT Structural Steel Plate	$0.85
10	ASTM A709/A709M Grade 50WT / AASHTO M270M/M270 Grade 50WT or 345WT Structural Steel Shapes	$0.78
11	ASTM A709/A709M Grade 50W / AASHTO M270M/M270 Grade 50W 345W Structural Steel Plate	$0.85
12	ASTM A709/A709M Grade 50W / AASHTO M270M/M270 Grade 50W or 345W Structural Steel Shapes	$0.78
13	ASTM A709/A709M Grade HPS 50W / AASHTO M270M/M270 Grade HPS 50W or 345W Structural Steel Plate	$0.89
14	ASTM A709/A709M Grade HPS 70W / AASHTO M270M/M270 Grade HPS 70W or 485W Structural Steel Plate	$0.96
15	ASTM A514/A514M-05 Grade HPS 100W / AASHTO M270M/M270 Grade HPS 100W or 690W Structural Steel Plate	$1.47
16	ASTM A992/A992M Grade 50S / AASHTO M270M/M270 Grade 50S or 345S Structural Steel Plate	$0.85
17	ASTM A992/A992M Grade 50S / AASHTO M270M/M270 Grade 50S or 345S Structural Steel Shapes	$0.78
18	ASTM A276 Type 316 Stainless Steel	$4.42
19	ASTM A240 Type 316 Stainless Steel	$4.42
20	ASTM A148 Grade 80/50 Steel Castings (See Note below.)	$1.52
21	ASTM A53 Grade B Structural Steel Pipe	$0.96
22	ASTM A500 Grades A, B, 36 & 50 Structural Steel Pipe	$0.96
23	ASTM A252, Grades 240 (36 KSI) & 414 (60 KSI) Pipe Pile	$0.76
24	ASTM 252, Grade 2 Permanent Steel Casing	$0.76
25	ASTM A36 (AASHTO M183) for H-piles, steel supports and sign supports	$0.80
26	ASTM A328 / A328M, Grade 50 (AASHTO M202) Steel Sheetpiling	$1.45
27	ASTM A572 / A572M, Grade 50 Sheetpiling	$1.45
28	ASTM A36/36M, Grade 50	$0.82
29	ASTM A570, Grade 50	$0.80
30	ASTM A572 (AASHTO M223), Grade 50 H-Piles	$0.82
31	ASTM A1085 Grade A (50 KSI) Steel Hollow Structural Sections (HSS), heat-treated per ASTM A1085 Supplement S1	$0.96
32	AREA 140 LB Rail and Track Accessories	$0.50

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: 132397 **Project No.** 608547 **Federal Aid No.:** STP/TAP-0031(021)X

Location: EGREMONT

Project Description: Reconstruction of Mount Washington Road (Phase I)

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

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

MAURA HEALY
Governor
KIM DRISCOLL
Lt. Governor

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

LAUREN JONES
Secretary
MICHAEL FLANAGAN
Director

Awarding Authority:	MassDOT Highway	**City/Town:**	EGREMONT
Contract Number:	132397		
Description of Work:	EGREMONT - Federal Aid Project No. STP/TAP-0031(021)X Reconstruction of Mount Washington Road (Phase I)		
Job Location:	Mount Washington Road		

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

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

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
(2 AXLE) DRIVER - EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	6/1/2025	$40.95	$15.57	$20.17	$0.00	$0.00	$76.69
	12/1/2025	$40.95	$15.57	$21.78	$0.00	$0.00	$78.30
	1/1/2026	$40.95	$16.17	$21.78	$0.00	$0.00	$78.90
	6/1/2026	$41.95	$16.17	$21.78	$0.00	$0.00	$79.90
	12/1/2026	$41.95	$16.17	$23.52	$0.00	$0.00	$81.64
	1/1/2027	$41.95	$16.77	$23.52	$0.00	$0.00	$82.24
(3 AXLE) DRIVER - EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	6/1/2025	$41.02	$15.57	$20.17	$0.00	$0.00	$76.76
	12/1/2025	$41.02	$15.57	$21.78	$0.00	$0.00	$78.37
	1/1/2026	$41.02	$16.17	$21.78	$0.00	$0.00	$78.97
	6/1/2026	$42.02	$16.17	$21.78	$0.00	$0.00	$79.97
	12/1/2026	$42.02	$16.17	$23.52	$0.00	$0.00	$81.71
	1/1/2027	$42.02	$16.77	$23.52	$0.00	$0.00	$82.31
(4 & 5 AXLE) DRIVER - EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	6/1/2025	$41.14	$15.57	$20.17	$0.00	$0.00	$76.88
	12/1/2025	$41.14	$15.57	$21.78	$0.00	$0.00	$78.49
	1/1/2026	$41.14	$16.17	$21.78	$0.00	$0.00	$79.09
	6/1/2026	$42.14	$16.17	$21.78	$0.00	$0.00	$80.09
	12/1/2026	$42.14	$16.17	$23.52	$0.00	$0.00	$81.83
	1/1/2027	$42.14	$16.77	$23.52	$0.00	$0.00	$82.43
ADS/SUBMERSIBLE PILOT PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 3)	8/1/2024	$117.16	$10.08	$11.62	$12.67	$0.00	$151.53
For apprentice rates see "Apprentice- PILE DRIVER"							
AIR TRACK OPERATOR LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	12/1/2024	$32.29	$9.90	$9.25	$5.53	$0.00	$56.97
For apprentice rates see "Apprentice- LABORER"							
AIR TRACK OPERATOR (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 4 (HEAVY & HIGHWAY)	6/1/2025	$35.98	$9.90	$9.25	$6.60	$0.00	$61.73
	12/1/2025	$37.21	$9.90	$9.25	$6.60	$0.00	$62.96
	6/1/2026	$39.25	$9.90	$9.25	$6.60	$0.00	$65.00
	12/1/2026	$40.54	$9.90	$9.25	$6.60	$0.00	$66.29
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
ASBESTOS WORKER (PIPES & TANKS) HEAT & FROST INSULATORS LOCAL 6 HEAT & FROST INSULATORS LOCAL 6 (SPRINGFIELD)	6/1/2025	$39.42	$14.50	$4.30	$6.25	$0.00	$64.47
	12/1/2025	$40.32	$14.50	$4.30	$6.25	$0.00	$65.37
ASPHALT RAKER LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	12/1/2024	$31.79	$9.90	$9.25	$5.53	$0.00	$56.47
For apprentice rates see "Apprentice- LABORER"							
ASPHALT RAKER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 4 (HEAVY & HIGHWAY)	6/1/2025	$35.48	$9.90	$9.25	$6.60	$0.00	$61.23
	12/1/2025	$36.71	$9.90	$9.25	$6.60	$0.00	$62.46
	6/1/2026	$38.75	$9.90	$9.25	$6.60	$0.00	$64.50
	12/1/2026	$40.04	$9.90	$9.25	$6.60	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
AUTOMATIC GRADER-EXCAVATOR (RECLAIMER) OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98 For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/1/2023	$39.56	$13.78	$12.15	$3.00	$0.00	$68.49
BACKHOE/FRONT-END LOADER OPERATOR OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98 For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/1/2023	$39.56	$13.78	$12.15	$3.00	$0.00	$68.49
BARCO-TYPE JUMPING TAMPER LABORERS LABORERS - ZONE 4 (BUILDING & SITE) For apprentice rates see "Apprentice- LABORER"	12/1/2024	$31.79	$9.90	$9.25	$5.53	$0.00	$56.47
BATCH/CEMENT PLANT - ON SITE OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98 For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/1/2023	$39.03	$13.78	$12.15	$3.00	$0.00	$67.96
BLOCK PAVER, RAMMER / CURB SETTER LABORERS LABORERS - ZONE 4 (BUILDING & SITE) For apprentice rates see "Apprentice- LABORER"	12/1/2024	$32.29	$9.90	$9.25	$5.53	$0.00	$56.97
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 4 (HEAVY & HIGHWAY) For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"	6/1/2025	$35.98	$9.90	$9.25	$6.60	$0.00	$61.73
	12/1/2025	$37.21	$9.90	$9.25	$6.60	$0.00	$62.96
	6/1/2026	$39.25	$9.90	$9.25	$6.60	$0.00	$65.00
	12/1/2026	$40.54	$9.90	$9.25	$6.60	$0.00	$66.29
BOILER MAKER BOILERMAKERS LOCAL 29 BOILERMAKERS LOCAL 29	1/1/2024	$48.12	$7.07	$14.60	$6.00	$0.00	$75.79

Apprentice: BOILER MAKER

Effective Date: 1/1/2024

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

Apprentice to Journeyworker Ratio: 1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	8/1/2025	$56.36	$11.49	$15.57	$5.89	$0.00	$89.31
	2/1/2026	$57.71	$11.49	$15.57	$5.89	$0.00	$90.66

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
BRICKLAYERS LOCAL 3	8/1/2026	$59.91	$11.49	$15.57	$5.89	$0.00	$92.86
BRICKLAYERS LOCAL 3 (SPRINGFIELD/PITTSFIELD)	2/1/2027	$61.31	$11.49	$15.57	$5.89	$0.00	$94.26

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

Effective Date: 8/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$28.18	$11.49	$15.57	$5.89	$0.00	$61.13
2	60.00	$33.82	$11.49	$15.57	$5.89	$0.00	$66.77
3	70.00	$39.45	$11.49	$15.57	$5.89	$0.00	$72.40
4	80.00	$45.09	$11.49	$15.57	$5.89	$0.00	$78.04
5	90.00	$50.72	$11.49	$15.57	$5.89	$0.00	$83.67

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	$28.86	$11.49	$15.57	$5.89	$0.00	$61.81
2	60.00	$34.63	$11.49	$15.57	$5.89	$0.00	$67.58
3	70.00	$40.40	$11.49	$15.57	$5.89	$0.00	$73.35
4	80.00	$46.17	$11.49	$15.57	$5.89	$0.00	$79.12
5	90.00	$51.94	$11.49	$15.57	$5.89	$0.00	$84.89

Apprentice to Journeyworker Ratio: 1:5

BULLDOZER/POWER SHOVEL/TREE SHREDDER /CLAM SHELL OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.56	$13.78	$12.15	$3.00	$0.00	$68.49

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN LABORERS LABORERS - FOUNDATION AND MARINE	6/1/2025	$48.85	$9.90	$9.25	$9.80	$0.00	$77.80
	12/1/2025	$50.35	$9.90	$9.25	$9.80	$0.00	$79.30
	6/1/2026	$51.90	$9.90	$9.25	$9.80	$0.00	$80.85
	12/1/2026	$53.40	$9.90	$9.25	$9.80	$0.00	$82.35

For apprentice rates see "Apprentice- LABORER"

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

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING TOP MAN LABORERS LABORERS - FOUNDATION AND MARINE	6/1/2025	$48.03	$9.90	$9.25	$9.80	$0.00	$76.98
	12/1/2025	$49.53	$9.90	$9.25	$9.80	$0.00	$78.48
	6/1/2026	$51.08	$9.90	$9.25	$9.80	$0.00	$80.03
	12/1/2026	$52.58	$9.90	$9.25	$9.80	$0.00	$81.53

For apprentice rates see "Apprentice- LABORER"

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
CARBIDE CORE DRILL OPERATOR LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	12/1/2024	$31.79	$9.90	$9.25	$5.53	$0.00	$56.47

For apprentice rates see "Apprentice- LABORER"

CARPENTER CARPENTERS CARPENTERS LOCAL 336 - BERKSHIRE COUNTY	9/1/2025	$44.21	$7.91	$11.25	$6.90	$0.00	$70.27
	3/1/2026	$45.11	$7.91	$11.25	$6.90	$0.00	$71.17
	9/1/2026	$46.06	$7.91	$11.25	$6.90	$0.00	$72.12
	3/1/2027	$46.96	$7.91	$11.25	$6.90	$0.00	$73.02

Apprentice: CARPENTER

Effective Date: 9/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$19.89	$7.91	$0.00	$1.38	$0.00	$29.18
2	45.00	$19.89	$7.91	$0.00	$1.38	$0.00	$29.18
3	55.00	$24.32	$7.91	$0.00	$2.76	$0.00	$34.99
4	55.00	$24.32	$7.91	$0.00	$2.76	$0.00	$34.99
5	70.00	$30.95	$7.91	$11.25	$4.14	$0.00	$54.25
6	70.00	$30.95	$7.91	$11.25	$4.14	$0.00	$54.25
7	80.00	$35.37	$7.91	$11.25	$5.52	$0.00	$60.05
8	80.00	$35.37	$7.91	$11.25	$5.52	$0.00	$60.05

Apprentice: CARPENTER

Effective Date: 3/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$20.30	$7.91	$0.00	$1.38	$0.00	$29.59
2	45.00	$20.30	$7.91	$0.00	$1.38	$0.00	$29.59
3	55.00	$24.81	$7.91	$0.00	$2.76	$0.00	$35.48
4	55.00	$24.81	$7.91	$0.00	$2.76	$0.00	$35.48
5	70.00	$31.58	$7.91	$11.25	$4.14	$0.00	$54.88
6	70.00	$31.58	$7.91	$11.25	$4.14	$0.00	$54.88
7	80.00	$36.09	$7.91	$11.25	$5.52	$0.00	$60.77
8	80.00	$36.09	$7.91	$11.25	$5.52	$0.00	$60.77

Apprentice to Journeyworker Ratio: 1:5

CARPENTER WOOD FRAME CARPENTERS CARPENTERS-ZONE 3 (Wood Frame)	10/1/2024	$26.65	$7.02	$3.80	$1.00	$0.00	$38.47
	10/1/2025	$27.75	$7.02	$3.80	$1.00	$0.00	$39.57
	10/1/2026	$28.85	$7.02	$3.80	$1.00	$0.00	$40.67

All Aspects of New Wood Frame Work

Apprentice: CARPENTER WOOD FRAME

Effective Date: 10/1/2024

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

Construction

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

Apprentice: CARPENTER WOOD FRAME

Effective Date: 10/1/2024

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

Apprentice: CARPENTER WOOD FRAME

Effective Date: 10/1/2025

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

Apprentice to Journeyworker Ratio: 1:5

CEMENT MASONRY/PLASTERING BRICKLAYERS LOCAL 3 BRICKLAYERS LOCAL 3 (SPRINGFIELD/PITTSFIELD)	7/1/2024	$44.56	$13.20	$16.30	$2.93	$1.69	$78.68

Apprentice: CEMENT MASONRY/PLASTERING

Effective Date: 7/1/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$22.28	$13.20	$16.30	$0.00	$0.00	$51.78
2	60.00	$26.74	$13.20	$16.30	$2.93	$1.69	$60.86
3	65.00	$28.96	$13.20	$16.30	$2.93	$1.69	$63.08
4	70.00	$31.19	$13.20	$16.30	$2.93	$1.69	$65.31
5	75.00	$33.42	$13.20	$16.30	$2.93	$1.69	$67.54
6	80.00	$35.65	$13.20	$16.30	$2.93	$1.69	$69.77
7	90.00	$40.10	$13.20	$16.30	$2.93	$1.69	$74.22

Apprentice to Journeyworker Ratio: 1:3

CHAIN SAW OPERATOR LABORERS	12/1/2024	$31.79	$9.90	$9.25	$5.53	$0.00	$56.47

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS - ZONE 4 (BUILDING & SITE)							
For apprentice rates see "Apprentice- LABORER"							
COMPRESSOR OPERATOR	12/1/2023	$39.03	$13.78	$12.15	$3.00	$0.00	$67.96
OPERATING ENGINEERS LOCAL 98							
OPERATING ENGINEERS LOCAL 98							
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
CRANE OPERATOR	12/1/2023	$43.06	$13.78	$12.15	$3.00	$0.00	$71.99
OPERATING ENGINEERS LOCAL 98							
OPERATING ENGINEERS LOCAL 98							
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DELEADER (BRIDGE)	7/1/2025	$58.51	$10.30	$11.95	$12.50	$0.00	$93.26
PAINTERS LOCAL 35	1/1/2026	$59.56	$10.35	$12.00	$12.60	$0.00	$94.51
PAINTERS LOCAL 35 - ZONE 3							

Apprentice: DELEADER (BRIDGE)

Effective Date: 7/1/2025

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

Apprentice: DELEADER (BRIDGE)

Effective Date: 1/1/2026

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

Apprentice to Journeyworker Ratio: 1:1

DEMO: ADZEMAN	6/2/2025	$47.75	$9.90	$9.25	$9.65	$0.00	$76.55
LABORERS	12/1/2025	$49.25	$9.90	$9.25	$9.65	$0.00	$78.05
LABORERS - ZONE 4 (BUILDING & SITE)	6/1/2026	$50.80	$9.90	$9.25	$9.65	$0.00	$79.60
	12/7/2026	$52.30	$9.90	$9.25	$9.65	$0.00	$81.10

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	6/7/2027	$53.90	$9.90	$9.25	$9.65	$0.00	$82.70
	12/6/2027	$55.50	$9.90	$9.25	$9.65	$0.00	$84.30
	6/5/2028	$57.18	$9.90	$9.25	$9.65	$0.00	$85.98
	12/4/2028	$58.85	$9.90	$9.25	$9.65	$0.00	$87.65
For apprentice rates see "Apprentice- LABORER"							
DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	6/2/2025	$48.75	$9.90	$9.25	$9.65	$0.00	$77.55
	12/1/2025	$50.25	$9.90	$9.25	$9.65	$0.00	$79.05
	6/1/2026	$51.80	$9.90	$9.25	$9.65	$0.00	$80.60
	12/7/2026	$53.30	$9.90	$9.25	$9.65	$0.00	$82.10
	6/7/2027	$54.90	$9.90	$9.25	$9.65	$0.00	$83.70
	12/6/2027	$56.50	$9.90	$9.25	$9.65	$0.00	$85.30
	6/5/2028	$58.18	$9.90	$9.25	$9.65	$0.00	$86.98
	12/4/2028	$59.85	$9.90	$9.25	$9.65	$0.00	$88.65
For apprentice rates see "Apprentice- LABORER"							
DEMO: BURNERS LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	6/2/2025	$48.50	$9.90	$9.25	$9.65	$0.00	$77.30
	12/1/2025	$50.00	$9.90	$9.25	$9.65	$0.00	$78.80
	6/1/2026	$51.55	$9.90	$9.25	$9.65	$0.00	$80.35
	12/7/2026	$53.05	$9.90	$9.25	$9.65	$0.00	$81.85
	6/7/2027	$54.65	$9.90	$9.25	$9.65	$0.00	$83.45
	12/6/2027	$56.25	$9.90	$9.25	$9.65	$0.00	$85.05
	6/5/2028	$57.93	$9.90	$9.25	$9.65	$0.00	$86.73
	12/4/2028	$59.60	$9.90	$9.25	$9.65	$0.00	$88.40
For apprentice rates see "Apprentice- LABORER"							
DEMO: CONCRETE CUTTER/SAWYER LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	6/2/2025	$48.75	$9.90	$9.25	$9.65	$0.00	$77.55
	12/1/2025	$50.25	$9.90	$9.25	$9.65	$0.00	$79.05
	6/1/2026	$51.80	$9.90	$9.25	$9.65	$0.00	$80.60
	12/7/2026	$53.30	$9.90	$9.25	$9.65	$0.00	$82.10
	6/7/2027	$54.90	$9.90	$9.25	$9.65	$0.00	$83.70
	12/6/2027	$56.50	$9.90	$9.25	$9.65	$0.00	$85.30
	6/5/2028	$58.18	$9.90	$9.25	$9.65	$0.00	$86.98
	12/4/2028	$59.85	$9.90	$9.25	$9.65	$0.00	$88.65
For apprentice rates see "Apprentice- LABORER"							
DEMO: JACKHAMMER OPERATOR LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	6/2/2025	$48.50	$9.90	$9.25	$9.65	$0.00	$77.30
	12/1/2025	$50.00	$9.90	$9.25	$9.65	$0.00	$78.80
	6/1/2026	$51.55	$9.90	$9.25	$9.65	$0.00	$80.35
	12/7/2026	$53.05	$9.90	$9.25	$9.65	$0.00	$81.85
	6/7/2027	$54.65	$9.90	$9.25	$9.65	$0.00	$83.45
	12/6/2027	$56.25	$9.90	$9.25	$9.65	$0.00	$85.05
	6/5/2028	$57.93	$9.90	$9.25	$9.65	$0.00	$86.73
	12/4/2028	$59.60	$9.90	$9.25	$9.65	$0.00	$88.40
For apprentice rates see "Apprentice- LABORER"							
DEMO: WRECKING LABORER LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	6/2/2025	$47.75	$9.90	$9.25	$9.65	$0.00	$76.55
	12/1/2025	$49.25	$9.90	$9.25	$9.65	$0.00	$78.05
	6/1/2026	$50.80	$9.90	$9.25	$9.65	$0.00	$79.60
	12/7/2026	$52.30	$9.90	$9.25	$9.65	$0.00	$81.10
	6/7/2027	$53.90	$9.90	$9.25	$9.65	$0.00	$82.70

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/6/2027	$55.50	$9.90	$9.25	$9.65	$0.00	$84.30
	6/5/2028	$57.18	$9.90	$9.25	$9.65	$0.00	$85.98
	12/4/2028	$58.85	$9.90	$9.25	$9.65	$0.00	$87.65
For apprentice rates see "Apprentice- LABORER"							
DIVER PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 3)	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 3)	8/1/2024	$49.19	$10.08	$11.62	$12.67	$0.00	$83.56
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 3)	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 3)	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 (Including Core Drilling) ELECTRICIANS LOCAL 7 ELECTRICIANS LOCAL 7	6/29/2025	$52.16	$13.50	$8.31	$6.90	$0.00	$80.87
	12/28/2025	$53.26	$13.75	$8.40	$6.96	$0.00	$82.37
	6/28/2026	$54.41	$14.00	$8.43	$7.03	$0.00	$83.87
	1/3/2027	$55.56	$14.25	$8.47	$7.09	$0.00	$85.37

Apprentice: ELECTRICIAN (Including Core Drilling)

Effective Date: 6/29/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$20.86	$7.50	$0.63	$0.00	$0.00	$28.99
2	45.00	$23.47	$7.50	$0.70	$0.00	$0.00	$31.67
3	50.00	$26.08	$13.50	$7.53	$0.00	$0.00	$47.11
4	55.00	$28.69	$13.50	$7.61	$0.00	$0.00	$49.80
5	65.00	$33.90	$13.50	$9.84	$0.00	$0.00	$57.24
6	70.00	$36.51	$13.50	$11.30	$0.00	$0.00	$61.31

Apprentice: ELECTRICIAN (Including Core Drilling)

Effective Date: 12/28/2025

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

Construction

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

Apprentice: ELECTRICIAN (Including Core Drilling)

Effective Date: 12/28/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$21.30	$7.65	$0.63	$0.00	$0.00	$29.58
2	45.00	$23.97	$7.65	$0.70	$0.00	$0.00	$32.32
3	50.00	$26.63	$13.75	$7.53	$0.00	$0.00	$47.91
4	55.00	$29.29	$13.75	$7.61	$0.00	$0.00	$50.65
5	65.00	$34.62	$13.75	$9.84	$0.00	$0.00	$58.21
6	70.00	$37.28	$13.75	$11.30	$0.00	$0.00	$62.33

Apprentice to Journeyworker Ratio: 2:3

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

Apprentice: ELEVATOR CONSTRUCTOR

Effective Date: 1/1/2025

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

Apprentice: ELEVATOR CONSTRUCTOR

Effective Date: 1/1/2026

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

Apprentice to Journeyworker Ratio: 1:1

ELEVATOR CONSTRUCTOR HELPER ELEVATOR CONSTRUCTORS LOCAL 41 ELEVATOR CONSTRUCTORS LOCAL 41	1/1/2025	$43.98	$16.28	$10.96	$10.40	$0.00	$81.62
	1/1/2026	$44.58	$16.38	$11.06	$10.70	$0.00	$82.72
	1/1/2027	$45.17	$16.48	$11.16	$11.00	$0.00	$83.81

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & BEAM RAIL ERECTOR LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	12/1/2024	$31.79	$9.90	$9.25	$5.53	$0.00	$56.47

For apprentice rates see "Apprentice- LABORER"

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY)	6/1/2025	$35.48	$9.90	$9.25	$6.60	$0.00	$61.23
LABORERS	12/1/2025	$36.71	$9.90	$9.25	$6.60	$0.00	$62.46
LABORERS - ZONE 4 (HEAVY & HIGHWAY)	6/1/2026	$38.75	$9.90	$9.25	$6.60	$0.00	$64.50
	12/1/2026	$40.04	$9.90	$9.25	$6.60	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
FIELD ENG.INST/ROD-BLDG,SITE,HVY/HWY	6/1/1999	$18.84	$4.80	$4.10	$0.00	$0.00	$27.74
OPERATING ENGINEERS LOCAL 98							
OPERATING ENGINEERS LOCAL 98							
FIELD ENG.PARTY CHIEF:BLDG,SITE,HVY/HWY	6/1/1999	$21.33	$4.80	$4.10	$0.00	$0.00	$30.23
OPERATING ENGINEERS LOCAL 98							
OPERATING ENGINEERS LOCAL 98							
FIELD ENG.SURVEY CHIEF-BLDG,SITE,HVY/HWY	6/1/1999	$22.33	$4.80	$4.10	$0.00	$0.00	$31.23
OPERATING ENGINEERS LOCAL 98							
OPERATING ENGINEERS LOCAL 98							
FIRE ALARM INSTALLER	6/29/2025	$52.16	$13.50	$8.31	$6.90	$0.00	$80.87
ELECTRICIANS LOCAL 7	12/28/2025	$53.26	$13.75	$8.40	$6.96	$0.00	$82.37
ELECTRICIANS LOCAL 7	6/28/2026	$54.41	$14.00	$8.43	$7.03	$0.00	$83.87
	1/3/2027	$55.56	$14.25	$8.47	$7.09	$0.00	$85.37
For apprentice rates see "Apprentice- ELECTRICIAN"							
FIRE ALARM REPAIR / MAINTENANCE	6/29/2025	$52.16	$13.50	$8.31	$6.90	$0.00	$80.87
/ COMMISSIONING	12/28/2025	$53.26	$13.75	$8.40	$6.96	$0.00	$82.37
ELECTRICIANS LOCAL 7	6/28/2026	$54.41	$14.00	$8.43	$7.03	$0.00	$83.87
ELECTRICIANS LOCAL 7	1/3/2027	$55.56	$14.25	$8.47	$7.09	$0.00	$85.37
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"							
FIREMAN	12/1/2023	$39.03	$13.78	$12.15	$3.00	$0.00	$67.96
OPERATING ENGINEERS LOCAL 98							
OPERATING ENGINEERS LOCAL 98							

Apprentice: FIREMAN

Effective Date: 12/1/2023

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$23.42	$13.78	$12.15	$3.00	$0.00	$52.35
2	70.00	$27.32	$13.78	$12.15	$3.00	$0.00	$56.25
3	80.00	$31.22	$13.78	$12.15	$3.00	$0.00	$60.15
4	90.00	$35.13	$13.78	$12.15	$3.00	$0.00	$64.06

Apprentice to Journeyworker Ratio: 1:6

FLAGGER & SIGNALER (HEAVY & HIGHWAY)	6/1/2025	$28.09	$9.90	$9.25	$6.60	$0.00	$53.84
LABORERS	12/1/2025	$28.09	$9.90	$9.25	$6.60	$0.00	$53.84
LABORERS - ZONE 4 (HEAVY & HIGHWAY)	6/1/2026	$29.21	$9.90	$9.25	$6.60	$0.00	$54.96
	12/1/2026	$29.21	$9.90	$9.25	$6.60	$0.00	$54.96
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
FLOORCOVERER	9/1/2025	$44.21	$7.91	$11.25	$6.90	$0.00	$70.27
FLOORCOVERERS LOCAL 2168	3/1/2026	$45.11	$7.91	$11.25	$6.90	$0.00	$71.17
FLOORCOVERERS LOCAL 2168 ZONE III	9/1/2026	$46.06	$7.91	$11.25	$6.90	$0.00	$72.12
	3/1/2027	$46.96	$7.91	$11.25	$6.90	$0.00	$73.02

Apprentice: FLOORCOVERER

Effective Date: 9/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$19.89	$7.91	$0.00	$1.38	$0.00	$29.18
2	45.00	$19.89	$7.91	$0.00	$1.38	$0.00	$29.18
3	55.00	$24.32	$7.91	$0.00	$2.76	$0.00	$34.99
4	55.00	$24.32	$7.91	$0.00	$2.76	$0.00	$34.99
5	70.00	$30.95	$7.91	$11.25	$4.14	$0.00	$54.25
6	70.00	$30.95	$7.91	$11.25	$4.14	$0.00	$54.25
7	80.00	$35.37	$7.91	$11.25	$5.52	$0.00	$60.05
8	80.00	$35.37	$7.91	$11.25	$5.52	$0.00	$60.05

Apprentice: FLOORCOVERER

Effective Date: 3/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$20.30	$7.91	$0.00	$1.38	$0.00	$29.59
2	45.00	$20.30	$7.91	$0.00	$1.38	$0.00	$29.59
3	55.00	$24.81	$7.91	$0.00	$2.76	$0.00	$35.48
4	55.00	$24.81	$7.91	$0.00	$2.76	$0.00	$35.48
5	70.00	$31.58	$7.91	$11.25	$4.14	$0.00	$54.88
6	70.00	$31.58	$7.91	$11.25	$4.14	$0.00	$54.88
7	80.00	$36.09	$7.91	$11.25	$5.52	$0.00	$60.77
8	80.00	$36.09	$7.91	$11.25	$5.52	$0.00	$60.77

Apprentice Notes

Steps are 750 hrs.

Apprentice to Journeyworker Ratio: 1:1

FORK LIFT OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.25	$13.78	$12.15	$3.00	$0.00	$68.18

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATORS/LIGHTING PLANTS OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$35.80	$13.78	$12.15	$3.00	$0.00	$64.73

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) GLAZIERS LOCAL 1333	6/1/2025	$43.13	$10.80	$8.25	$5.50	$0.00	$67.68
	6/1/2026	$44.73	$11.20	$8.40	$6.05	$0.00	$70.38

Construction

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

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	$0.00	$0.00	$61.53

Apprentice to Journeyworker Ratio: 3:1

GRADER/TRENCHING MACHINE/DERRICK OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.56	$13.78	$12.15	$3.00	$0.00	$68.49

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 63 SHEETMETAL WORKERS LOCAL 63	7/1/2025	$43.48	$12.94	$11.01	$8.72	$2.13	$78.28
	7/1/2026	$43.48	$13.24	$11.01	$9.92	$2.13	$79.78
	1/1/2027	$43.48	$13.54	$11.01	$11.12	$2.13	$81.28
	7/1/2027	$44.98	$13.54	$11.01	$11.12	$2.13	$82.78
	1/1/2028	$46.48	$13.54	$11.01	$11.12	$2.13	$84.28

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 7 ELECTRICIANS LOCAL 7	6/29/2025	$52.16	$13.50	$8.31	$6.90	$0.00	$80.87
	12/28/2025	$53.26	$13.75	$8.40	$6.96	$0.00	$82.37
	6/28/2026	$54.41	$14.00	$8.43	$7.03	$0.00	$83.87
	1/3/2027	$55.56	$14.25	$8.47	$7.09	$0.00	$85.37

For apprentice rates see "Apprentice- ELECTRICIAN"

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING - AIR)	7/1/2025	$43.48	$12.94	$11.01	$8.72	$2.13	$78.28
SHEETMETAL WORKERS LOCAL 63	7/1/2026	$43.48	$13.24	$11.01	$9.92	$2.13	$79.78
SHEETMETAL WORKERS LOCAL 63	1/1/2027	$43.48	$13.54	$11.01	$11.12	$2.13	$81.28
	7/1/2027	$44.98	$13.54	$11.01	$11.12	$2.13	$82.78
	1/1/2028	$46.48	$13.54	$11.01	$11.12	$2.13	$84.28
For apprentice rates see "Apprentice- SHEET METAL WORKER"							
HVAC (TESTING AND BALANCING -WATER)	7/14/2025	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
PLUMBERS & PIPEFITTERS LOCAL 104	9/17/2025	$53.01	$10.31	$10.85	$7.10	$0.00	$81.27
PLUMBERS & PIPEFITTERS LOCAL 104	3/17/2026	$55.01	$10.31	$10.85	$7.10	$0.00	$83.27
	9/17/2026	$57.01	$10.31	$10.85	$7.10	$0.00	$85.27
	3/17/2027	$59.01	$10.31	$10.85	$7.10	$0.00	$87.27
	9/17/2027	$61.01	$10.31	$10.85	$7.10	$0.00	$89.27
	3/17/2028	$63.01	$10.31	$10.85	$7.10	$0.00	$91.27
	9/17/2028	$65.01	$10.31	$10.85	$7.10	$0.00	$93.27
	3/17/2029	$67.01	$10.31	$10.85	$7.10	$0.00	$95.27
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HVAC MECHANIC	3/17/2025	$51.01	$10.35	$10.85	$7.10	$0.00	$79.31
PLUMBERS & PIPEFITTERS LOCAL 104	9/17/2025	$53.01	$10.35	$10.85	$7.10	$0.00	$81.31
PLUMBERS & PIPEFITTERS LOCAL 104	3/17/2026	$55.01	$10.35	$10.85	$7.10	$0.00	$83.31
	9/17/2026	$57.01	$10.35	$10.85	$7.10	$0.00	$85.31
	3/17/2027	$59.01	$10.35	$10.85	$7.10	$0.00	$87.31
	9/17/2027	$61.01	$10.35	$10.85	$7.10	$0.00	$89.31
	3/17/2028	$63.01	$10.35	$10.85	$7.10	$0.00	$91.31
	9/17/2028	$65.01	$10.35	$10.85	$7.10	$0.00	$93.31
	3/17/2029	$67.01	$10.35	$10.85	$7.10	$0.00	$95.31
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HYDRAULIC DRILLS (HEAVY & HIGHWAY)	6/1/2025	$35.98	$9.90	$9.25	$6.60	$0.00	$61.73
LABORERS	12/1/2025	$37.21	$9.90	$9.25	$6.60	$0.00	$62.96
LABORERS - ZONE 4 (HEAVY & HIGHWAY)	6/1/2026	$39.25	$9.90	$9.25	$6.60	$0.00	$65.00
	12/1/2026	$40.54	$9.90	$9.25	$6.60	$0.00	$66.29
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
INSULATOR (PIPES & TANKS)	9/1/2025	$48.27	$14.75	$9.52	$10.09	$0.00	$82.63
HEAT & FROST INSULATORS LOCAL 6	9/1/2026	$51.01	$14.75	$9.52	$10.09	$0.00	$85.37
HEAT & FROST INSULATORS LOCAL 6 (SPRINGFIELD)							

Apprentice: INSULATOR (PIPES & TANKS)

Effective Date: 9/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$24.14	$14.75	$9.27	$5.05	$0.00	$53.21
2	60.00	$28.96	$14.75	$9.32	$6.05	$0.00	$59.08
3	70.00	$33.79	$14.75	$9.37	$7.06	$0.00	$64.97
4	80.00	$38.62	$14.75	$9.42	$8.07	$0.00	$70.86

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
IRONWORKER/WELDER IRONWORKERS LOCAL 12 IRONWORKERS LOCAL 12	1/1/2025	$39.50	$5.50	$14.28	$4.55	$0.00	$63.83
JACKHAMMER & PAVING BREAKER OPERATOR LABORERS LABORERS - ZONE 4 (BUILDING & SITE) For apprentice rates see "Apprentice- LABORER"	12/1/2024	$31.79	$9.90	$9.25	$5.53	$0.00	$56.47
LABORER LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	12/1/2024	$31.54	$9.90	$9.25	$5.53	$0.00	$56.22
LABORER (HEAVY & HIGHWAY) LABORERS	6/1/2025	$35.23	$9.90	$9.25	$6.60	$0.00	$60.98
	12/1/2025	$36.46	$9.90	$9.25	$6.60	$0.00	$62.21

Apprentice: INSULATOR (PIPES & TANKS)

Effective Date: 9/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$25.51	$14.75	$9.27	$5.05	$0.00	$54.58
2	60.00	$30.61	$14.75	$9.32	$6.05	$0.00	$60.73
3	70.00	$35.71	$14.75	$9.37	$7.06	$0.00	$66.89
4	80.00	$40.81	$14.75	$9.42	$8.07	$0.00	$73.05

Apprentice to Journeyworker Ratio: 1:4

Apprentice: IRONWORKER/WELDER

Effective Date: 1/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	0.00	$23.50	$5.75	$0.00	$3.75	$0.00	$33.00
2	0.00	$25.50	$5.75	$10.00	$3.75	$0.00	$45.00
3	0.00	$27.50	$5.75	$11.42	$3.75	$0.00	$48.42
4	0.00	$29.50	$5.75	$12.85	$3.75	$0.00	$51.85

Apprentice to Journeyworker Ratio: 1:4

Apprentice: LABORER

Effective Date: 12/1/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$18.92	$9.90	$9.25	$5.53	$0.00	$43.60
2	70.00	$22.08	$9.90	$9.25	$5.53	$0.00	$46.76
3	80.00	$25.23	$9.90	$9.25	$5.53	$0.00	$49.91
4	90.00	$28.39	$9.90	$9.25	$5.53	$0.00	$53.07

Apprentice to Journeyworker Ratio: 1:5

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS - ZONE 4 (HEAVY & HIGHWAY)	6/1/2026	$38.50	$9.90	$9.25	$6.60	$0.00	$64.25
	12/1/2026	$39.79	$9.90	$9.25	$6.60	$0.00	$65.54

Apprentice: LABORER (HEAVY & HIGHWAY)

Effective Date: 6/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$21.14	$9.90	$9.25	$6.60	$0.00	$46.89
2	70.00	$24.66	$9.90	$9.25	$6.60	$0.00	$50.41
3	80.00	$28.18	$9.90	$9.25	$6.60	$0.00	$53.93
4	90.00	$31.71	$9.90	$9.25	$6.60	$0.00	$57.46

Apprentice: LABORER (HEAVY & HIGHWAY)

Effective Date: 12/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$21.88	$9.90	$9.25	$6.60	$0.00	$47.63
2	70.00	$25.52	$9.90	$9.25	$6.60	$0.00	$51.27
3	80.00	$29.17	$9.90	$9.25	$6.60	$0.00	$54.92
4	90.00	$32.81	$9.90	$9.25	$6.60	$0.00	$58.56

Apprentice to Journeyworker Ratio: 1:5

LABORER: CARPENTER TENDER LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	12/1/2024	$31.54	$9.90	$9.25	$5.53	$0.00	$56.22
For apprentice rates see "Apprentice- LABORER"							
LABORER: CEMENT FINISHER TENDER LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	12/1/2024	$31.54	$9.90	$9.25	$5.53	$0.00	$56.22
For apprentice rates see "Apprentice- LABORER"							
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	6/1/2025	$34.40	$9.65	$9.00	$5.41	$0.00	$58.46
	12/1/2025	$35.63	$9.65	$9.00	$5.41	$0.00	$59.69
	6/1/2026	$37.67	$9.65	$9.00	$5.41	$0.00	$61.73
	12/1/2026	$38.96	$9.65	$9.00	$5.41	$0.00	$63.02
	6/1/2027	$40.26	$9.65	$9.00	$5.41	$0.00	$64.32
	12/1/2027	$41.56	$9.65	$9.00	$5.41	$0.00	$65.62
	6/5/2028	$42.91	$9.65	$9.00	$5.41	$0.00	$66.97
	12/4/2028	$44.26	$9.65	$9.00	$5.41	$0.00	$68.32
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	12/1/2024	$33.54	$9.90	$9.25	$5.53	$0.00	$58.22
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER (HEAVY & HIGHWAY)	6/1/2025	$35.48	$9.90	$9.25	$6.60	$0.00	$61.23

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS LABORERS - ZONE 4 (HEAVY & HIGHWAY)	12/1/2025	$36.71	$9.90	$9.25	$6.60	$0.00	$62.46
	6/1/2026	$38.75	$9.90	$9.25	$6.60	$0.00	$64.50
	12/1/2026	$40.04	$9.90	$9.25	$6.60	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
LABORER: MULTI-TRADE TENDER LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	12/1/2024	$31.54	$9.90	$9.25	$5.53	$0.00	$56.22
For apprentice rates see "Apprentice- LABORER"							
LABORER: TREE REMOVER LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	12/1/2024	$31.54	$9.90	$9.25	$5.53	$0.00	$56.22
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"							
LASER BEAM OPERATOR LABORERS LABORERS - ZONE 4 (BUILDING & SITE)	12/1/2024	$31.79	$9.90	$9.25	$5.53	$0.00	$56.47
For apprentice rates see "Apprentice- LABORER"							
LASER BEAM OPERATOR (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 4 (HEAVY & HIGHWAY)	6/1/2025	$35.48	$9.90	$9.25	$6.60	$0.00	$61.23
	12/1/2025	$36.71	$9.90	$9.25	$6.60	$0.00	$62.46
	6/1/2026	$38.75	$9.90	$9.25	$6.60	$0.00	$64.50
	12/1/2026	$40.04	$9.90	$9.25	$6.60	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
MARBLE & TILE FINISHERS BRICKLAYERS LOCAL 3 BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE	8/1/2025	$44.75	$11.49	$15.10	$5.68	$0.00	$77.02
	2/1/2026	$45.83	$11.49	$15.10	$5.68	$0.00	$78.10
	8/1/2026	$47.59	$11.49	$15.10	$5.68	$0.00	$79.86
	2/1/2027	$48.71	$11.49	$15.10	$5.68	$0.00	$80.98

Apprentice: MARBLE & TILE FINISHERS

Effective Date: 8/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$22.38	$11.49	$15.10	$5.68	$0.00	$54.65
2	60.00	$26.85	$11.49	$15.10	$5.68	$0.00	$59.12
3	70.00	$31.33	$11.49	$15.10	$5.68	$0.00	$63.60
4	80.00	$35.80	$11.49	$15.10	$5.68	$0.00	$68.07
5	90.00	$40.28	$11.49	$15.10	$5.68	$0.00	$72.55

Apprentice: MARBLE & TILE FINISHERS

Effective Date: 2/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$22.92	$11.49	$15.10	$5.68	$0.00	$55.19
2	60.00	$27.50	$11.49	$15.10	$5.68	$0.00	$59.77
3	70.00	$32.08	$11.49	$15.10	$5.68	$0.00	$64.35

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: MARBLE & TILE FINISHERS							
Effective Date: 2/1/2026							
Step / Percent		**Apprentice Base Wage**					
4 / 80.00		$36.66	$11.49	$15.10	$5.68	$0.00	$68.93
5 / 90.00		$41.25	$11.49	$15.10	$5.68	$0.00	$73.52
Apprentice to Journeyworker Ratio: 1:5							
MECH. SWEEPER OPERATOR (ON CONST. SITES) OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.56	$13.78	$12.15	$3.00	$0.00	$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
MECHANIC/WELDER/BOOM TRUCK OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.03	$13.78	$12.15	$3.00	$0.00	$67.96
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
MILLWRIGHT (Zone 3) MILLWRIGHTS LOCAL 1121	1/6/2025	$43.48	$10.08	$11.47	$9.75	$0.00	$74.78
MILLWRIGHTS LOCAL 1121 - Zone 3	1/5/2026	$45.76	$10.08	$11.47	$9.75	$0.00	$77.06

Apprentice: MILLWRIGHT (Zone 3)

Effective Date: 1/6/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	$23.91	$10.08	$0.00	$5.36	$0.00	$39.35
2	65.00	$28.26	$10.08	$0.00	$6.34	$0.00	$44.68
3	75.00	$32.61	$10.08	$11.47	$7.31	$0.00	$61.47
4	85.00	$36.96	$10.08	$11.47	$8.29	$0.00	$66.80

Apprentice: MILLWRIGHT (Zone 3)

Effective Date: 1/5/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	$25.17	$10.08	$0.00	$5.36	$0.00	$40.61
2	65.00	$29.74	$10.08	$0.00	$6.34	$0.00	$46.16
3	75.00	$34.32	$10.08	$11.47	$7.31	$0.00	$63.18
4	85.00	$38.90	$10.08	$11.47	$8.29	$0.00	$68.74

Apprentice Notes

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

Apprentice to Journeyworker Ratio: 1:4

MORTAR MIXER LABORERS	12/1/2024	$31.79	$9.90	$9.25	$5.53	$0.00	$56.47

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS - ZONE 4 (BUILDING & SITE) For apprentice rates see "Apprentice- LABORER"							
OILER OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98 For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/1/2023	$35.02	$13.78	$12.15	$3.00	$0.00	$63.95
OTHER POWER DRIVEN EQUIPMENT - CLASS VI OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98 For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/1/2023	$32.74	$13.78	$12.15	$3.00	$0.00	$61.67
PAINTER (BRIDGES/TANKS) PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 3	7/1/2025	$58.51	$10.30	$11.95	$12.50	$0.00	$93.26
	1/1/2026	$59.56	$10.35	$12.00	$12.60	$0.00	$94.51

Apprentice: PAINTER (BRIDGES/TANKS)

Effective Date: 7/1/2025

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

Apprentice: PAINTER (BRIDGES/TANKS)

Effective Date: 1/1/2026

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

Apprentice to Journeyworker Ratio: 1:1

PAINTER (SPRAY OR SANDBLAST, NEW) * * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 3	7/1/2025	$41.13	$10.30	$11.95	$8.25	$0.00	$71.63
	1/1/2026	$42.03	$10.35	$12.00	$8.35	$0.00	$72.73

Construction

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

Apprentice: PAINTER (SPRAY OR SANDBLAST, NEW) *

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$20.57	$10.30	$0.00	$0.00	$0.00	$30.87
2	55.00	$22.62	$10.30	$0.00	$4.54	$0.00	$37.46
3	60.00	$24.68	$10.30	$0.00	$4.95	$0.00	$39.93
4	65.00	$26.73	$10.30	$0.00	$5.36	$0.00	$42.39
5	70.00	$28.79	$10.30	$11.95	$5.78	$0.00	$56.82
6	75.00	$30.85	$10.30	$11.95	$6.19	$0.00	$59.29
7	80.00	$32.90	$10.30	$11.95	$6.60	$0.00	$61.75
8	90.00	$37.02	$10.30	$11.95	$7.43	$0.00	$66.70

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	$21.02	$10.35	$0.00	$0.00	$0.00	$31.37
2	55.00	$23.12	$10.35	$0.00	$4.59	$0.00	$38.06
3	60.00	$25.22	$10.35	$0.00	$5.01	$0.00	$40.58
4	65.00	$27.32	$10.35	$0.00	$5.43	$0.00	$43.10
5	70.00	$29.42	$10.35	$12.00	$5.85	$0.00	$57.62
6	75.00	$31.52	$10.35	$12.00	$6.26	$0.00	$60.13
7	80.00	$33.62	$10.35	$12.00	$6.68	$0.00	$62.65
8	90.00	$37.83	$10.35	$12.00	$7.52	$0.00	$67.70

Apprentice to Journeyworker Ratio: 1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT) PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 3	7/1/2025	$38.45	$10.30	$11.95	$8.25	$0.00	$68.95
	1/1/2026	$39.35	$10.35	$12.00	$8.35	$0.00	$70.05

Apprentice: PAINTER (SPRAY OR SANDBLAST, REPAINT)

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$19.23	$10.30	$0.00	$0.00	$0.00	$29.53
2	55.00	$21.15	$10.30	$0.00	$4.54	$0.00	$35.99
3	60.00	$23.07	$10.30	$0.00	$4.95	$0.00	$38.32
4	65.00	$24.99	$10.30	$0.00	$5.36	$0.00	$40.65
5	70.00	$26.92	$10.30	$11.95	$5.78	$0.00	$54.95
6	75.00	$28.84	$10.30	$11.95	$6.19	$0.00	$57.28
7	80.00	$30.76	$10.30	$11.95	$6.60	$0.00	$59.61
8	90.00	$34.61	$10.30	$11.95	$7.43	$0.00	$64.29

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
1	50.00	$19.68	$10.35	$0.00	$0.00	$0.00	$30.03
2	55.00	$21.64	$10.35	$0.00	$4.59	$0.00	$36.58
3	60.00	$23.61	$10.35	$0.00	$5.01	$0.00	$38.97
4	65.00	$25.58	$10.35	$0.00	$5.43	$0.00	$41.36
5	70.00	$27.55	$10.35	$12.00	$5.85	$0.00	$55.75
6	75.00	$29.51	$10.35	$12.00	$6.26	$0.00	$58.12
7	80.00	$31.48	$10.35	$12.00	$6.68	$0.00	$60.51
8	90.00	$35.42	$10.35	$12.00	$7.52	$0.00	$65.29

Apprentice to Journeyworker Ratio: 1:1

PAINTER / TAPER (BRUSH, NEW) *	7/1/2025	$39.73	$10.30	$11.95	$8.25	$0.00	$70.23
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.	1/1/2026	$40.63	$10.35	$12.00	$8.35	$0.00	$71.33
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 3							

Apprentice: PAINTER / TAPER (BRUSH, NEW) *

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$19.87	$10.30	$0.00	$0.00	$0.00	$30.17
2	55.00	$21.85	$10.30	$0.00	$4.54	$0.00	$36.69
3	60.00	$23.84	$10.30	$0.00	$4.95	$0.00	$39.09
4	65.00	$25.82	$10.30	$0.00	$5.36	$0.00	$41.48
5	70.00	$27.81	$10.30	$11.95	$5.78	$0.00	$55.84
6	75.00	$29.80	$10.30	$11.95	$6.19	$0.00	$58.24
7	80.00	$31.78	$10.30	$11.95	$6.60	$0.00	$60.63
8	90.00	$35.76	$10.30	$11.95	$7.43	$0.00	$65.44

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	$20.32	$10.35	$0.00	$0.00	$0.00	$30.67
2	55.00	$22.35	$10.35	$0.00	$4.59	$0.00	$37.29
3	60.00	$24.38	$10.35	$0.00	$5.01	$0.00	$39.74
4	65.00	$26.41	$10.35	$0.00	$5.43	$0.00	$42.19
5	70.00	$28.44	$10.35	$12.00	$5.85	$0.00	$56.64
6	75.00	$30.47	$10.35	$12.00	$6.26	$0.00	$59.08
7	80.00	$32.50	$10.35	$12.00	$6.68	$0.00	$61.53
8	90.00	$36.57	$10.35	$12.00	$7.52	$0.00	$66.44

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice to Journeyworker Ratio: 1:1							
PAINTER / TAPER (BRUSH, REPAINT)	7/1/2025	$37.05	$10.30	$11.95	$8.25	$0.00	$67.55
PAINTERS LOCAL 35	1/1/2026	$37.95	$10.35	$12.00	$8.35	$0.00	$68.65
PAINTERS LOCAL 35 - ZONE 3							

Apprentice: PAINTER / TAPER (BRUSH, REPAINT)

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$18.53	$10.30	$0.00	$0.00	$0.00	$28.83
2	55.00	$20.38	$10.30	$0.00	$4.54	$0.00	$35.22
3	60.00	$22.23	$10.30	$0.00	$4.95	$0.00	$37.48
4	65.00	$24.08	$10.30	$0.00	$5.36	$0.00	$39.74
5	70.00	$25.94	$10.30	$11.95	$5.78	$0.00	$53.97
6	75.00	$27.79	$10.30	$11.95	$6.19	$0.00	$56.23
7	80.00	$29.64	$10.30	$11.95	$6.60	$0.00	$58.49
8	90.00	$33.35	$10.30	$11.95	$7.43	$0.00	$63.03

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	$18.98	$10.35	$0.00	$0.00	$0.00	$29.33
2	55.00	$20.87	$10.35	$0.00	$4.59	$0.00	$35.81
3	60.00	$22.77	$10.35	$0.00	$5.01	$0.00	$38.13
4	65.00	$24.67	$10.35	$0.00	$5.43	$0.00	$40.45
5	70.00	$26.57	$10.35	$12.00	$5.85	$0.00	$54.77
6	75.00	$28.46	$10.35	$12.00	$6.26	$0.00	$57.07
7	80.00	$30.36	$10.35	$12.00	$6.68	$0.00	$59.39
8	90.00	$34.16	$10.35	$12.00	$7.52	$0.00	$64.03

Apprentice to Journeyworker Ratio: 1:1							
PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)	6/1/2025	$35.23	$9.90	$9.25	$6.60	$0.00	$60.98
LABORERS	12/1/2025	$36.46	$9.90	$9.25	$6.60	$0.00	$62.21
LABORERS - ZONE 4 (HEAVY & HIGHWAY)	6/1/2026	$38.50	$9.90	$9.25	$6.60	$0.00	$64.25
	12/1/2026	$39.79	$9.90	$9.25	$6.60	$0.00	$65.54
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
PANEL & PICKUP TRUCKS DRIVER	6/1/2025	$40.78	$15.57	$20.17	$0.00	$0.00	$76.52
TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	$40.78	$15.57	$21.78	$0.00	$0.00	$78.13
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	8/1/2024	$49.19	$10.08	$11.62	$12.67	$0.00	$83.56

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
DECK) PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 3) For apprentice rates see "Apprentice- PILE DRIVER"							
PILE DRIVER PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 3)	8/1/2024	$49.19	$10.08	$11.62	$12.67	$0.00	$83.56

Apprentice: PILE DRIVER

Effective Date: 8/1/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$22.14	$10.08	$0.00	$2.53	$0.00	$34.75
2	55.00	$27.05	$10.08	$0.00	$5.07	$0.00	$42.20
3	70.00	$34.43	$10.08	$11.62	$7.60	$0.00	$63.73
4	80.00	$39.35	$10.08	$11.62	$10.14	$0.00	$71.19

Apprentice to Journeyworker Ratio: 1:5

PIPELAYER LABORERS LABORERS - ZONE 4 (BUILDING & SITE) For apprentice rates see "Apprentice- LABORER"	12/1/2024	$31.79	$9.90	$9.25	$5.53	$0.00	$56.47
PIPELAYER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 4 (HEAVY & HIGHWAY)	6/1/2025	$35.48	$9.90	$9.25	$6.60	$0.00	$61.23
	12/1/2025	$36.71	$9.90	$9.25	$6.60	$0.00	$62.46
	6/1/2026	$38.75	$9.90	$9.25	$6.60	$0.00	$64.50
	12/1/2026	$40.04	$9.90	$9.25	$6.60	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
PLUMBER & PIPEFITTER PLUMBERS & PIPEFITTERS LOCAL 104 PLUMBERS & PIPEFITTERS LOCAL 104	3/17/2025	$51.01	$10.35	$10.85	$7.10	$0.00	$79.31
	9/17/2025	$53.01	$10.35	$10.85	$7.10	$0.00	$81.31
	3/17/2026	$55.01	$10.35	$10.85	$7.10	$0.00	$83.31
	9/17/2026	$57.01	$10.35	$10.85	$7.10	$0.00	$85.31
	3/17/2027	$59.01	$10.35	$10.85	$7.10	$0.00	$87.31
	9/17/2027	$61.01	$10.35	$10.85	$7.10	$0.00	$89.31
	3/17/2028	$63.01	$10.35	$10.85	$7.10	$0.00	$91.31
	9/17/2028	$65.01	$10.35	$10.85	$7.10	$0.00	$93.31
	3/17/2029	$67.01	$10.35	$10.85	$7.10	$0.00	$95.31

Apprentice: PLUMBER & PIPEFITTER

Effective Date: 3/17/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$22.95	$10.35	$10.85	$0.00	$0.00	$44.15
2	50.00	$25.51	$10.35	$10.85	$0.00	$0.00	$46.71
3	55.00	$28.06	$10.35	$10.85	$0.00	$0.00	$49.26
4	60.00	$30.61	$10.35	$10.85	$0.00	$0.00	$51.81

Construction

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

Apprentice: PLUMBER & PIPEFITTER

Effective Date: 3/17/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
5	65.00	$33.16	$10.35	$10.85	$0.00	$0.00	$54.36
6	70.00	$35.71	$10.35	$10.85	$0.00	$0.00	$56.91
7	75.00	$38.26	$10.35	$10.85	$0.00	$0.00	$59.46
8	80.00	$40.81	$10.35	$10.85	$0.00	$0.00	$62.01
9	85.00	$43.36	$10.35	$10.85	$7.10	$0.00	$71.66
10	85.00	$43.36	$10.35	$10.85	$7.10	$0.00	$71.66

Apprentice: PLUMBER & PIPEFITTER

Effective Date: 9/17/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$23.85	$10.35	$10.85	$0.00	$0.00	$45.05
2	50.00	$26.51	$10.35	$10.85	$0.00	$0.00	$47.71
3	55.00	$29.16	$10.35	$10.85	$0.00	$0.00	$50.36
4	60.00	$31.81	$10.35	$10.85	$0.00	$0.00	$53.01
5	65.00	$34.46	$10.35	$10.85	$0.00	$0.00	$55.66
6	70.00	$37.11	$10.35	$10.85	$0.00	$0.00	$58.31
7	75.00	$39.76	$10.35	$10.85	$0.00	$0.00	$60.96
8	80.00	$42.41	$10.35	$10.85	$0.00	$0.00	$63.61
9	85.00	$45.06	$10.35	$10.85	$7.10	$0.00	$73.36
10	85.00	$45.06	$10.35	$10.85	$7.10	$0.00	$73.36

Apprentice Notes

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

Apprentice to Journeyworker Ratio: 1:1

PNEUMATIC CONTROLS (TEMP.) PLUMBERS & PIPEFITTERS LOCAL 104 PLUMBERS & PIPEFITTERS LOCAL 104	3/17/2025	$51.01	$10.35	$10.85	$7.10	$0.00	$79.31
	9/17/2025	$53.01	$10.35	$10.85	$7.10	$0.00	$81.31
	3/17/2026	$55.01	$0.00	$10.85	$7.10	$0.00	$72.96
	9/17/2026	$57.01	$10.35	$10.85	$7.10	$0.00	$85.31
	3/17/2027	$59.01	$10.35	$10.85	$7.10	$0.00	$87.31
	9/17/2027	$61.01	$10.35	$10.85	$7.10	$0.00	$89.31
	3/17/2028	$63.01	$10.35	$10.85	$7.10	$0.00	$91.31
	9/17/2028	$65.01	$10.35	$10.85	$7.10	$0.00	$93.31
	3/17/2029	$67.01	$10.35	$10.85	$7.10	$0.00	$95.31

For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 4 (HEAVY & HIGHWAY)	6/1/2025	$35.48	$9.90	$9.25	$6.60	$0.00	$61.23
	12/1/2025	$36.71	$9.90	$9.25	$6.60	$0.00	$62.46
	6/1/2026	$38.75	$9.90	$9.25	$6.60	$0.00	$64.50
	12/1/2026	$40.04	$9.90	$9.25	$6.60	$0.00	$65.79

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

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
POWDERMAN & BLASTER LABORERS LABORERS - ZONE 4 (BUILDING & SITE) For apprentice rates see "Apprentice- LABORER"	12/1/2024	$32.54	$9.90	$9.25	$5.53	$0.00	$57.22
POWDERMAN & BLASTER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 4 (HEAVY & HIGHWAY) For apprentice rates see "Apprentice- LABORER (Heavy and Highway)	6/1/2025	$36.23	$9.90	$9.25	$6.19	$0.00	$61.57
	12/1/2025	$37.46	$9.90	$9.25	$6.19	$0.00	$62.80
	6/1/2026	$39.50	$9.90	$9.25	$6.19	$0.00	$64.84
	12/1/2026	$40.79	$9.90	$9.25	$6.19	$0.00	$66.13
PUMP OPERATOR (CONCRETE) OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98 For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/1/2023	$39.56	$13.78	$12.15	$3.00	$0.00	$68.49
PUMP OPERATOR (DEWATERING, OTHER) OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98 For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/1/2023	$39.03	$13.78	$12.15	$3.00	$0.00	$67.96
READY-MIX CONCRETE DRIVER TEAMSTERS 404 - Construction Service (Northampton) TEAMSTERS 404 - Construction Service (Northampton)	5/1/2024	$26.14	$11.82	$7.25	$0.00	$0.00	$45.21
RIDE-ON MOTORIZED BUGGY OPERATOR LABORERS LABORERS - ZONE 4 (BUILDING & SITE) For apprentice rates see "Apprentice- LABORER"	12/1/2024	$31.79	$9.90	$9.25	$5.53	$0.00	$56.47
ROLLER OPERATOR OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98 For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/1/2023	$38.42	$13.78	$12.15	$3.00	$0.00	$67.35
ROOFER (Coal tar pitch) ROOFERS LOCAL 248 ROOFERS LOCAL 248 For apprentice rates see "Apprentice- ROOFER"	7/16/2025	$43.88	$10.35	$8.70	$9.30	$0.00	$72.23
	10/2/2025	$44.88	$10.35	$8.70	$9.30	$0.00	$73.23
	7/16/2026	$46.88	$10.35	$8.70	$9.30	$0.00	$75.23
ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg) ROOFERS LOCAL 248 ROOFERS LOCAL 248 For apprentice rates see "Apprentice- ROOFER"	7/16/2025	$43.38	$10.35	$8.70	$9.30	$0.00	$71.73
	10/2/2025	$44.38	$10.35	$8.70	$9.30	$0.00	$72.73
	7/16/2026	$46.38	$10.35	$8.70	$9.30	$0.00	$74.73
ROOFER SLATE / TILE / PRECAST CONCRETE ROOFERS LOCAL 248 ROOFERS LOCAL 248 For apprentice rates see "Apprentice- ROOFER"	7/16/2025	$43.88	$10.35	$8.70	$9.30	$0.00	$72.23
	10/2/2025	$44.88	$10.35	$8.70	$9.30	$0.00	$73.23
	7/16/2026	$46.88	$10.35	$8.70	$9.30	$0.00	$75.23
SCRAPER OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98 For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/1/2023	$39.03	$13.78	$12.15	$3.00	$0.00	$67.96

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
SELF-POWERED ROLLERS AND COMPACTORS (TAMPERS) OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98 For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/1/2023	$38.42	$13.78	$12.15	$3.00	$0.00	$67.35
SELF-PROPELLED POWER BROOM OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98 For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/1/2023	$35.80	$13.78	$12.15	$3.00	$0.00	$64.73
SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 63 SHEETMETAL WORKERS LOCAL 63	7/1/2025	$43.48	$12.94	$11.01	$8.72	$2.13	$78.28
	7/1/2026	$43.48	$13.24	$11.01	$9.92	$2.13	$79.78
	1/1/2027	$43.48	$13.54	$11.01	$11.12	$2.13	$81.28
	7/1/2027	$44.98	$13.54	$11.01	$11.12	$2.13	$82.78
	1/1/2028	$46.48	$13.54	$11.01	$11.12	$2.13	$84.28

Apprentice: SHEETMETAL WORKER

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$19.57	$5.82	$4.95	$0.00	$0.85	$31.19
2	50.00	$21.74	$6.47	$5.51	$0.00	$0.94	$34.66
3	55.00	$23.91	$7.12	$9.91	$0.00	$1.15	$42.09
4	60.00	$26.09	$7.76	$9.91	$0.00	$1.23	$44.99
5	65.00	$28.26	$8.41	$9.91	$0.00	$1.31	$47.89
6	70.00	$30.44	$9.06	$9.91	$0.00	$1.39	$50.80
7	75.00	$32.61	$9.71	$9.91	$0.00	$1.47	$53.70
8	80.00	$34.78	$10.35	$9.91	$8.72	$1.78	$65.54
9	85.00	$36.96	$11.00	$9.91	$8.72	$1.86	$68.45
10	90.00	$39.13	$11.65	$9.91	$8.72	$1.94	$71.35

Apprentice: SHEETMETAL WORKER

Effective Date: 7/1/2026

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

Apprentice to Journeyworker Ratio: 1:3

SPECIALIZED EARTH MOVING EQUIP < 35 TONS	6/1/2025	$41.24	$15.57	$20.17	$0.00	$0.00	$76.98

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2025	$41.24	$15.57	$21.78	$0.00	$0.00	$78.59
	1/1/2026	$41.24	$16.17	$21.78	$0.00	$0.00	$79.19
	6/1/2026	$42.24	$16.17	$21.78	$0.00	$0.00	$80.19
	12/1/2026	$42.24	$16.17	$23.52	$0.00	$0.00	$81.93
	1/1/2027	$42.24	$16.77	$23.52	$0.00	$0.00	$82.53
SPECIALIZED EARTH MOVING EQUIP > 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	6/1/2025	$41.53	$15.57	$20.17	$0.00	$0.00	$77.27
	12/1/2025	$41.53	$15.57	$21.78	$0.00	$0.00	$78.88
	1/1/2026	$41.53	$16.17	$21.78	$0.00	$0.00	$79.48
	6/1/2026	$42.53	$16.17	$21.78	$0.00	$0.00	$80.48
	12/1/2026	$42.53	$16.17	$23.52	$0.00	$0.00	$82.22
	1/1/2027	$42.53	$16.77	$23.52	$0.00	$0.00	$82.82
SPRINKLER FITTER SPRINKLER FITTERS LOCAL 669 SPRINKLER FITTERS LOCAL 669	7/1/2025	$53.25	$12.40	$7.40	$9.41	$0.00	$82.46
	10/1/2025	$53.25	$12.40	$7.40	$9.41	$0.00	$82.46
	1/1/2026	$53.25	$13.60	$7.45	$9.41	$0.00	$83.71
	4/1/2026	$56.54	$13.60	$7.45	$9.41	$0.00	$87.00
	7/1/2026	$56.54	$13.60	$7.45	$9.41	$0.00	$87.00
	10/1/2026	$56.54	$13.60	$7.45	$9.41	$0.00	$87.00
	1/1/2027	$56.54	$14.55	$7.50	$9.41	$0.00	$88.00
	4/1/2027	$59.83	$14.55	$7.50	$9.41	$0.00	$91.29
	7/1/2027	$59.83	$14.55	$7.50	$9.41	$0.00	$91.29
	10/1/2027	$59.83	$14.55	$7.50	$9.41	$0.00	$91.29
	1/1/2028	$59.83	$15.50	$7.55	$9.41	$0.00	$92.29

Apprentice: SPRINKLER FITTER

Effective Date: 7/1/2025

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

Apprentice: SPRINKLER FITTER

Effective Date: 10/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	43.00	$26.94	$0.00	$0.00	$0.00	$0.00	$26.94
2	48.00	$30.08	$0.00	$0.00	$0.00	$0.00	$30.08
3	52.00	$32.58	$0.00	$0.00	$1.15	$0.00	$33.73

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
TELECOMMUNICATION TECHNICIAN ELECTRICIANS LOCAL 7 ELECTRICIANS LOCAL 7	6/29/2025	$52.16	$13.50	$8.31	$6.90	$0.00	$80.87
	12/28/2025	$53.26	$13.75	$8.40	$6.96	$0.00	$82.37
	6/28/2026	$54.41	$14.00	$8.43	$7.03	$0.00	$83.87
	1/3/2027	$55.56	$14.25	$8.47	$7.09	$0.00	$85.37

Apprentice: SPRINKLER FITTER

Effective Date: 10/1/2025

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

Apprentice to Journeyworker Ratio: 1:1

Apprentice: TELECOMMUNICATION TECHNICIAN

Effective Date: 6/29/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$20.86	$7.50	$0.63	$0.00	$0.00	$28.99
2	45.00	$23.47	$7.50	$0.70	$0.00	$0.00	$31.67
3	50.00	$26.08	$13.50	$7.53	$0.00	$0.00	$47.11
4	55.00	$28.69	$13.50	$7.61	$0.00	$0.00	$49.80
5	65.00	$33.90	$13.50	$9.84	$0.00	$0.00	$57.24
6	70.00	$36.51	$13.50	$11.30	$0.00	$0.00	$61.31

Apprentice: TELECOMMUNICATION TECHNICIAN

Effective Date: 12/28/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$21.30	$7.65	$0.63	$0.00	$0.00	$29.58
2	40.00	$23.97	$7.65	$0.70	$0.00	$0.00	$32.32
3	26.63	$26.63	$13.75	$7.53	$0.00	$0.00	$47.91
4	55.00	$29.29	$13.75	$7.61	$0.00	$0.00	$50.65
5	65.00	$34.62	$13.75	$9.84	$0.00	$0.00	$58.21
6	70.00	$37.28	$13.75	$11.30	$0.00	$0.00	$62.33

Apprentice to Journeyworker Ratio: 1:1

TERRAZZO FINISHERS BRICKLAYERS LOCAL 3 BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE	8/1/2025	$66.89	$11.49	$15.57	$8.02	$0.00	$101.97
	2/10/2026	$68.24	$11.49	$15.57	$8.02	$0.00	$103.32
	8/1/2026	$70.44	$11.49	$15.57	$8.02	$0.00	$105.52
	2/1/2027	$71.84	$11.49	$15.57	$8.02	$0.00	$106.92

Construction

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

Apprentice: TERRAZZO FINISHERS

Effective Date: 8/1/2025

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

Apprentice: TERRAZZO FINISHERS

Effective Date: 2/10/2026

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

Apprentice to Journeyworker Ratio: 1:5

TERRAZZO MECHANIC BRICKLAYERS LOCAL 3 BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE	8/1/2025	$67.97	$11.49	$15.57	$7.99	$0.00	$103.02
	2/1/2026	$69.32	$11.49	$15.57	$7.99	$0.00	$104.37
	8/1/2026	$71.52	$11.49	$15.57	$7.99	$0.00	$106.57
	2/1/2027	$72.92	$11.49	$15.57	$7.99	$0.00	$107.97

Apprentice: TERRAZZO MECHANIC

Effective Date: 8/1/2025

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

Apprentice: TERRAZZO MECHANIC

Effective Date: 2/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$34.66	$11.49	$15.57	$7.99	$0.00	$69.71
2	60.00	$41.59	$11.49	$15.57	$7.99	$0.00	$76.64
3	70.00	$48.52	$11.49	$15.57	$7.99	$0.00	$83.57

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: TERRAZZO MECHANIC							
Effective Date: 2/1/2026							
Step / Percent		**Apprentice Base Wage**					
4 / 80.00		$55.46	$11.49	$15.57	$7.99	$0.00	$90.51
5 / 90.00		$62.39	$11.49	$15.57	$7.99	$0.00	$97.44
Apprentice to Journeyworker Ratio: 1:5							
TEST BORING DRILLER	6/1/2025	$51.70	$9.90	$9.25	$9.80	$0.00	$80.65
LABORERS	12/1/2025	$53.20	$9.90	$9.25	$9.80	$0.00	$82.15
LABORERS - FOUNDATION AND MARINE	6/1/2026	$54.75	$9.90	$9.25	$9.80	$0.00	$83.70
	12/1/2026	$56.25	$9.90	$9.25	$9.80	$0.00	$85.20
For apprentice rates see "Apprentice- LABORER"							
TEST BORING DRILLER HELPER	6/1/2025	$47.82	$9.90	$9.25	$9.80	$0.00	$76.77
LABORERS	12/1/2025	$49.32	$9.90	$9.25	$9.80	$0.00	$78.27
LABORERS - FOUNDATION AND MARINE	6/1/2026	$50.87	$9.90	$9.25	$9.80	$0.00	$79.82
	12/1/2026	$52.37	$9.90	$9.25	$9.80	$0.00	$81.32
For apprentice rates see "Apprentice- LABORER"							
TEST BORING LABORER	6/1/2025	$47.70	$9.90	$9.25	$9.80	$0.00	$76.65
LABORERS	12/1/2025	$49.20	$9.90	$9.25	$9.80	$0.00	$78.15
LABORERS - FOUNDATION AND MARINE	6/1/2026	$50.75	$9.90	$9.25	$9.80	$0.00	$79.70
	12/1/2026	$52.25	$9.90	$9.25	$9.80	$0.00	$81.20
For apprentice rates see "Apprentice- LABORER"							
TRACTORS	12/1/2023	$38.42	$13.78	$12.15	$3.00	$0.00	$67.35
OPERATING ENGINEERS LOCAL 98							
OPERATING ENGINEERS LOCAL 98							
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
TRAILERS FOR EARTH MOVING EQUIPMENT	6/1/2025	$41.82	$15.57	$20.17	$0.00	$0.00	$77.56
TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	$41.82	$15.57	$21.78	$0.00	$0.00	$79.17
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	1/1/2026	$41.82	$16.17	$21.78	$0.00	$0.00	$79.77
	6/1/2026	$42.82	$16.17	$21.78	$0.00	$0.00	$80.77
	12/1/2026	$42.82	$16.17	$23.52	$0.00	$0.00	$82.51
	1/1/2027	$42.82	$16.77	$23.52	$0.00	$0.00	$83.11
TUNNEL WORK - COMPRESSED AIR	6/1/2025	$59.93	$9.90	$9.25	$10.25	$0.00	$89.33
LABORERS	12/1/2025	$61.43	$9.90	$9.25	$10.25	$0.00	$90.83
LABORERS (COMPRESSED AIR)	6/1/2026	$62.98	$9.90	$9.25	$10.25	$0.00	$92.38
	12/1/2026	$64.48	$9.90	$9.25	$10.25	$0.00	$93.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE)	6/1/2025	$61.93	$9.90	$9.25	$10.25	$0.00	$91.33
LABORERS	12/1/2025	$63.43	$9.90	$9.25	$10.25	$0.00	$92.83
LABORERS (COMPRESSED AIR)	6/1/2026	$64.98	$9.90	$9.25	$10.25	$0.00	$94.38
	12/1/2026	$66.48	$9.90	$9.25	$10.25	$0.00	$95.88
For apprentice rates see "Apprentice- LABORER"							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
TUNNEL WORK - FREE AIR	6/1/2025	$52.00	$9.90	$9.25	$10.25	$0.00	$81.40
LABORERS	12/1/2025	$53.50	$9.90	$9.25	$10.25	$0.00	$82.90
LABORERS (FREE AIR TUNNEL)	6/1/2026	$55.05	$9.90	$9.25	$10.25	$0.00	$84.45
	12/1/2026	$56.55	$9.90	$9.25	$10.25	$0.00	$85.95
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR (HAZ. WASTE)	6/1/2025	$54.00	$9.90	$9.25	$10.25	$0.00	$83.40
LABORERS	12/1/2025	$55.50	$9.90	$9.25	$10.25	$0.00	$84.90
LABORERS (FREE AIR TUNNEL)	6/1/2026	$57.05	$9.90	$9.25	$10.25	$0.00	$86.45
	12/1/2026	$58.55	$9.90	$9.25	$10.25	$0.00	$87.95
For apprentice rates see "Apprentice- LABORER"							
VAC-HAUL	6/1/2025	$41.24	$15.57	$20.17	$0.00	$0.00	$76.98
TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	$41.24	$15.57	$21.78	$0.00	$0.00	$78.59
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	1/1/2026	$41.24	$16.17	$21.78	$0.00	$0.00	$79.19
	6/1/2026	$42.24	$16.17	$21.78	$0.00	$0.00	$80.19
	12/1/2026	$42.24	$16.17	$23.52	$0.00	$0.00	$81.93
	1/1/2027	$42.24	$16.77	$23.52	$0.00	$0.00	$82.53
WAGON DRILL OPERATOR (HEAVY & HIGHWAY)	6/1/2025	$35.48	$9.90	$9.25	$6.60	$0.00	$61.23
LABORERS	12/1/2025	$36.71	$9.90	$9.25	$6.60	$0.00	$62.46
LABORERS - ZONE 4 (HEAVY & HIGHWAY)	6/1/2026	$38.75	$9.90	$9.25	$6.60	$0.00	$64.50
	12/1/2026	$40.04	$9.90	$9.25	$6.60	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
WATER METER INSTALLER	3/17/2025	$51.01	$10.35	$10.85	$7.10	$0.00	$79.31
PLUMBERS & PIPEFITTERS LOCAL 104	9/17/2025	$53.01	$10.35	$10.85	$7.10	$0.00	$81.31
PLUMBERS & PIPEFITTERS LOCAL 104	3/17/2026	$55.01	$10.35	$10.85	$7.10	$0.00	$83.31
	9/17/2026	$57.01	$10.35	$10.85	$7.10	$0.00	$85.31
	3/17/2027	$59.01	$10.35	$10.85	$7.10	$0.00	$87.31
	9/17/2027	$61.01	$10.35	$10.85	$7.10	$0.00	$89.31
	3/17/2028	$63.01	$10.35	$10.85	$7.10	$0.00	$91.31
	9/17/2028	$65.01	$10.35	$10.85	$7.10	$0.00	$93.31
	3/17/2029	$67.01	$10.35	$10.85	$7.10	$0.00	$95.31
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"							

Outside Electrical

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
EQUIPMENT OPERATOR OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42 OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42 For apprentice rates see "Apprentice- LINEMAN"	9/1/2019	$44.67	$8.00	$12.55	$0.00	$0.00	$65.22
GROUNDMAN OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42 OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42 For apprentice rates see "Apprentice- LINEMAN"	9/1/2019	$30.58	$8.00	$5.48	$0.00	$0.00	$44.06
GROUNDMAN / TRUCK DRIVER OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42 OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42 For apprentice rates see "Apprentice- LINEMAN"	9/1/2019	$39.97	$8.00	$10.96	$0.00	$0.00	$58.93
HEAVY EQUIPMENT OPERATOR OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42 OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42 For apprentice rates see "Apprentice- LINEMAN"	9/1/2019	$47.01	$8.00	$13.22	$0.00	$0.00	$68.23
JOURNEYMAN LINEMAN OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42 OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42	9/1/2019	$51.71	$8.00	$15.55	$0.00	$0.00	$75.26

Apprentice: JOURNEYMAN LINEMAN

Effective Date: 9/1/2019

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$31.03	$8.00	$3.43	$0.00	$0.00	$42.46
2	65.00	$33.61	$8.00	$3.51	$0.00	$0.00	$45.12
3	70.00	$36.20	$8.00	$3.59	$0.00	$0.00	$47.79
4	75.00	$38.78	$8.00	$5.16	$0.00	$0.00	$51.94
5	80.00	$41.37	$8.00	$5.24	$0.00	$0.00	$54.61
6	85.00	$43.95	$8.00	$5.32	$0.00	$0.00	$57.27
7	90.00	$46.54	$8.00	$7.40	$0.00	$0.00	$61.94

Apprentice to Journeyworker Ratio: 1:2

TELEDATA CABLE SPLICER OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42 OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42	2/4/2019	$30.73	$4.70	$0.92	$2.25	$0.00	$38.60
TELEDATA LINEMAN/EQUIPMENT OPERATOR OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42 OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42	2/4/2019	$28.93	$4.70	$0.89	$2.25	$0.00	$36.77
TELEDATA WIREMAN/INSTALLER/TECHNICIAN OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42 OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42	2/4/2019	$28.93	$4.70	$0.89	$2.25	$0.00	$36.77
TRACTOR-TRAILER DRIVER OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42	9/1/2019	$44.67	$8.00	$12.55	$0.00	$0.00	$65.22

Outside Electrical

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42							

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

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"General Decision Number: MA20250016 08/15/2025

Superseded General Decision Number: MA20240016

State: Massachusetts

Construction Type: Highway

County: Berkshire County in Massachusetts.

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally
required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658.
Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $17.75 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.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . 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 that contract in 2025.	

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2025
1	03/14/2025
2	05/16/2025
3	07/11/2025
4	07/18/2025
5	08/15/2025

ENGI0004-019 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: Broom/Sweeper; Crane; Gradall; Post Driver (Guardrail/Fences)
Group 2: Bulldozer; Grader/Blade

ENGI0098-010 12/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Group 1	$ 42.88	31.04+A
Group 2	$ 42.57	31.04+A
Group 4	$ 39.12	31.04+A

Footnote:
A. Paid Holidays: New year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day and Christmas Day

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

Group 1: Backhoe/Excavator/Trackhoe; Bobcat/Skid Steer/Skid Loader; Loader
Group 2: Milling Machine; Paver (Asphalt, Aggregate, and Concrete)
Group 4: Roller

IRON0007-027 03/16/2025

	Rates	Fringes
IRONWORKER (ORNAMENTAL AND STRUCTURAL)	$ 41.15	33.25

LABO0473-007 12/01/2024

	Rates	Fringes
LABORER (Common or General)	$ 31.54	26.65
TRAFFIC CONTROL (Flagger)	$ 27.01	26.65

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* LABO0596-005 06/01/2025

	Rates	Fringes
LABORER (Form Work Only)	$ 35.00	26.91

PAIN0035-023 07/01/2024

	Rates	Fringes
PAINTER (Steel)	$ 56.76	36.00

SUMA2014-006 01/11/2017

	Rates	Fringes
CARPENTER	$ 44.11	21.41
CEMENT MASON/CONCRETE FINISHER	$ 52.13	20.89

ELECTRICIAN.....$ 47.13 13.41

IRONWORKER, REINFORCING.....$ 46.21 21.27

LABORER: Asphalt, Includes
Raker, Shoveler, Spreader and
Distributor.....$ 33.10 18.09

LABORER: Concrete Saw (Hand
Held/Walk Behind).....$ 44.43 14.18

LABORER: Landscape.....$ 36.62 16.00

OPERATOR: Forklift.....$ 51.63 0.00

OPERATOR: Mechanic.....$ 48.14 17.02

OPERATOR: Piledriver.....$ 43.87 18.04

PAINTER: Spray (Linestriping)....$ 38.30 17.43

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 43.73 15.06

TRUCK DRIVER: Concrete Truck....$ 33.69 15.79

TRUCK DRIVER: Dump Truck.....$ 38.94 12.00

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.

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"

"General Decision Number: MA20250010 09/12/2025

Superseded General Decision Number: MA20240010

State: Massachusetts

Construction Types: Heavy (Heavy and Marine)

Counties: Berkshire, Franklin, Hampden and Hampshire Counties
in Massachusetts.

HEAVY CONSTRUCTION PROJECTS; AND MARINE CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally
required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658.
Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $17.75 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.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . 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 that contract in 2025.	

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the
Executive Orders and a classification considered necessary for
performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker

protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2025
1	03/07/2025
2	03/14/2025
3	03/21/2025
4	03/28/2025
5	05/16/2025
6	07/11/2025
7	07/18/2025
8	08/15/2025
9	09/12/2025

BOIL0029-001 01/01/2025

	Rates	Fringes
BOILERMAKER	$ 50.62	28.82

BRMA0001-005 08/01/2023

SPRINGFIELD CHAPTER

	Rates	Fringes
BRICKLAYER BRICKLAYERS; CEMENT MASONS; PLASTERERS; STONE MASONS; MARBLE, TILE & TERRAZZO WORKERS	$ 50.81	32.27

BRMA0001-007 08/01/2023

SPRINGFIELD/PITTSFIELD CHAPTER
BERKSHIRE COUNTY

	Rates	Fringes
BRICKLAYER BRICKLAYERS; CEMENT MASONS; PLASTERERS; STONE		

MASONS; MARBLE, TILE &
TERRAZZO WORKERS.....$ 50.81 32.27

CARP0056-004 08/01/2024

	Rates	Fringes
DIVER TENDER	$ 61.70	35.47
DIVER	$ 78.11	35.47

CARP0056-009 08/01/2024

	Rates	Fringes
PILEDRIVERMAN	$ 51.97	35.47

CARP0336-005 03/01/2025

FRANKLIN COUNTY (Erving, Orange, North Orange, and Warwick)

	Rates	Fringes
CARPENTER	$ 42.59	27.61

CARP0336-010 03/01/2025

BERKSHIRE

	Rates	Fringes
CARPENTER	$ 42.59	27.61

CARP0336-012 03/01/2025

HAMPDEN; HAMPSHIRE; AND FRANKLIN (Remainder of County)

	Rates	Fringes
CARPENTER	$ 42.59	27.61

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* CARP1121-004 04/21/2025

	Rates	Fringes
MILLWRIGHT	$ 43.42	33.00

ELEC0007-002 06/29/2025

HAMPDEN (Except Chester & Holyoke); HAMPSHIRE (Belchertown, Ware)

	Rates	Fringes
ELECTRICIAN	$ 52.16	29.56

ELEC0007-003 06/29/2025

BERKSHIRE; FRANKLIN; HAMPDEN (Chester, Holyoke); HAMPSHIRE (Except Belchertown, Ware)

	Rates	Fringes
ELECTRICIAN	$ 52.16	29.56

ENGI0098-007 12/01/2024

	Rates	Fringes
Power equipment operators:		
Group 1	$ 42.88	31.04+A
Group 2	$ 42.57	31.04+A
Group 3	$ 42.35	31.04+A
Group 4	$ 39.12	31.04+A
Group 5	$ 38.00	31.04+A
Group 6	$ 36.06	31.04+A
Group 7	$ 54.38	31.04+A
Group 8	$ 44.06	31.04+A
Group 9	$ 44.37	31.04+A
Group 10	$ 46.38	31.04+A
Group 11	$ 47.38	31.04+A
Group 12	$ 48.88	31.04+A

Group 13	$ 49.88	31.04+A
Group 14	$ 50.88	31.04+A
Group 15	$ 52.38	31.04+A

HAZARDOUS WASTE PREMIUM $2.00

FOOTNOTE FOR POWER EQUIPMENT OPERATORS:
Group 8 and Group 9 are per day wages.
A. Paid Holidays: New year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day and Christmas Day

POWER EQUIPMENT OPERATORS CLASSIFICATIONS
Group 1: Shovels; crawlers and truck cranes including all tower; self-propelled hydraulic cranes 10 tons and over; draglines; clam shells; cableways; shaft hoists; mucking machines derricks; backhoes; bulldozers; gradalls; elevating graders; pile drivers; concrete pavers; trenching machines; front end loaders- 5 1/2 cu yds and over; dual drum paver; automatic grader-excavator(C.M.I. or equal); scrapers towing pan or wagon; tandem dozers or push cats(2 units in tandem); shotcrete machine; tunnel boring machine; combination backhoe/loader 3/4 cu yd hoe or over; jet engine dryer; tree shredder; post hole digger; post hole hammer; post extractor; truck mounted concrete pump with boom; roto-mill; Grader; Horizontal Drilling Machine; John Henry Rock Drill and similar equipment.
Group 2: Rotary drill with mounted compressor; compressor house (3 to 6 compressors); rock and earth boring machines (excluding McCarthy and similar drills); front end loaders 4 cu yds to 5 1/2 cu yds); forklifts-7 ft lift and over 3 ton capacity; scraper 21 yds and over (struck load); sonic hammer console; reclaimers road planer/milling machine; cal tracks; ballast regulators; rail anchor machines; switch tampers, asphalt pavers; mechanic; welder and transfer machine.

Group 3: Combination backhoe/loader up to 3/4 cu yd; scrapers up to 21 cu yd (struck load, self propelled or tractor drawn); tireman; front end loaders up to 4 yds; well drillers; engineer or fireman on high pressure boiler;
self-loading batch plant; well point operators electric pumps used in well point system; pumps, 16 inches and over
(total discharge); compressor, one or two 900 cu ft and over; powered grease truck; tunnel locomotives and dingys;
grout pumps; hydraulic jacks; boom truck; hydraulic cranes-
up to 10 ton.
Group 4: Asphalt rollers; self-powered rollers and compactors; tractor without blade drawing sheepsfoot roller; rubber tire roller; vibratory roller or other type
of compactors including machines for pulverizing and aerating soil; york rake.
Group 5: Hoists; conveyors; power pavement breakers; self-powered concrete pavement finishing machines; two bag
mixers with skip; McCarthy and similar drills; batch plants
(not self loading); bulk cement plants; self-propelled material spreaders; three or more 10 KW light plants; 30 KW or more generators; power broom.
Group 6: Compressor (one or two) 315 cu ft to 900 cu ft; pumps 4 inches to 16 inches (total discharge).
Group 7: Compressors up to 315 cu ft; small mixers with skip; pumps up to 4 inches; power heaters; oiler; A-frame trucks; forklifts-up to 7 ft. lift and up to 3 ton capacity; hydro broom; stud welder.
Group 8: Truck crane crews
Group 9: Oiler
Group 10: Master Mechanic
Group 11: Boom lengths over 150 feet including jib
Group 12: Boom lengths over 200 feet including jib
Group 13: Boom lengths over 250 feet including jib
Group 14: Boom lengths over 300 feet including jib
Group 15: Boom lengths over 350 feet including jib

IRON0007-014 03/16/2025

BERKSHIRE (Becket, East Otis, Hinsdale, Monterey, New Marlboro,
North Otis, Otis, Peru, Sandisfield, Savoy, Sheffield, Washington, Windsor); FRANKLIN; HAMPDEN; HAMPSHIRE

	Rates	Fringes
IRONWORKER	$ 41.15	33.25

IRON0012-003 07/01/2025

BERKSHIRE (Lee)

	Rates	Fringes
IRONWORKER	$ 40.75	31.91

IRON0012-004 07/01/2025

BERKSHIRE (Remainder of County)

	Rates	Fringes
Ironworkers:		
Sheeter	$ 41.00	31.91
Structural, Ornamental, Reinforcing, Fence Erector, Machinery Mover, Rigger, Rodman, Stone Derrickman	$ 40.75	31.91

LABO0022-002 12/01/2024

FRANKLIN (Orange, Warwick)

	Rates	Fringes
Laborers:		
GROUP 1	$ 38.95	29.70
GROUP 2	$ 39.20	29.70
GROUP 3	$ 39.70	29.70

GROUP 4	$ 39.95	29.70
GROUP 5	$ 39.70	29.70
GROUP 6	$ 40.95	29.70

LABORERS CLASSIFICATIONS

GROUP 1: Laborers; carpenter tenders; cement finisher tenders, plasterer tenders

GROUP 2: Asphalt raker; fence and guard rail erector; laser beam operator; mason tenmder; pipelayer; pneumatic drill operator; pneumatic tool operator; wagon drill operatorm jackhammer operator, pavement breaker, carbide core drilling machine, chain saw operator, barco type jumping tampers, concrete pump, motorized mortar miner, ride-on motorized buggy

GROUP 3: Air track operator; block paver; rammer; curb setter, hydraulic and similar self-powered drills

GROUP 4: Blaster; powderman

GROUP 5: Precast floor and roof, plank erector

GROUP 6: Asbestos Abatement, Toxic and Hazardous waste laborers

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LABO0473-005 12/01/2024

FRANKLIN (Except Orange and Warrick); HAMPDEN and HAMPSHIRE COUNTIES (with the exception of Chesterfield, Cummington, Goshen, Middlefield, Plainfield, and Worthington)

	Rates	Fringes
Laborers:		
Group 1	$ 35.00	29.70
Group 2	$ 35.00	29.70
Group 3	$ 35.00	29.70
Group 4	$ 35.00	29.70
Group 5	$ 27.01	29.70
Group 6	$ 35.00	29.70

LABORERS CLASSIFICATIONS

Group 1: Carpenter tenders, cement finisher tenders, laborers, wrecking laborers

Group 2: Asphalt rakers, fence and guard rail erectors, laser beam operator, mason tender, pipelayer, pneumatic drill operator, pneumatic tool operator, wagon drill operator

Group 3: Air track operator, block pavers, rammers, curb setters

Group 4: Blasters, powdermen

Group 5: Flaggers

Group 6: Asbestos abatement, toxic and Hazardous waste laborers

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LABO0473-006 12/01/2024

BERKSHIRE; HAMPSHIRE COUNTIES (the towns of Chesterfield, Cummington, Goshen, Middlefield, Plainfield, and Worthington
only)

	Rates	Fringes
Laborers:		
Group 1	$ 33.99	26.65
Group 2	$ 33.99	26.65
Group 3	$ 33.99	26.65
Group 4	$ 33.99	26.65
Group 5	$ 27.01	26.65
Group 6	$ 33.99	26.65

LABORERS CLASSIFICATIONS

Group 1: Carpenter tenders, cement finisher tenders, laborers, wrecking laborers

Group 2: Asphalt rakers, fence and guard rail erectors, laser beam operator, mason tender, pipelayer, pneumatic drill operator, pneumatic tool operator, wagon drill operator

Group 3: Air track operator, block pavers, rammers, curb setters

Group 4: Blasters, powdermen

Group 5: Flaggers

Group 6: Asbestos abatement, toxic and Hazardous waste laborers

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LABO1421-002 12/02/2024

	Rates	Fringes
Laborers:		
Group 1	$ 46.25	29.70
Group 2	$ 47.00	29.70
Group 3	$ 47.25	29.70
Group 4	$ 42.25	29.70
Group 5	$ 45.35	29.70
Group 6	$ 46.25	29.70

Group 1: Adzeman, Wrecking Laborer.
Group 2: Burners, Jackhammers.
Group 3: Small Backhoes, Loaders on tracks, Bobcat Type Loaders, Hydraulic ""Brock"" Type Hammer Operators, Concrete Cutting Saws.
Group 4: Yardman (Salvage Yard Only).
Group 5: Yardman, Burners, Sawyers.
Group 6: Asbestos, Lead Paint, Toxic and Hazardous Waste.

PAIN0035-010 07/01/2024

	Rates	Fringes
PAINTER		

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     NEW CONSTRUCTION:
      Brush, Taper..............$ 38.78            31.85
      Spray, Sandblast..........$ 39.48            31.85
     REPAINT:
      Bridge....................$ 56.76            31.85
      Brush, Taper..............$ 35.40            31.85
      Spray, Sandblast..........$ 36.80            31.85
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* PLUM0004-003 09/01/2025

FRANKLIN (Orange)

                                      Rates          Fringes

Plumber and Steamfitter.........$ 55.00              31.57
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 PLUM0104-004 03/17/2025

BERKSHIRE (Becket, Otis, Sandisfield); FRANKLIN (Except
Monroe,
Rowe, and the Western part of Charlemont); HAMPDEN;
HAMPSHIRE


                                      Rates          Fringes

Plumbers and Pipefitters.........$ 51.26             29.85

FOOTNOTE:
  A.  Two paid holidays, Independence Day and Labor Day,
  provided the employee has been employed seven days prior
to
  the holiday by the same employer

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 PLUM0104-009 03/17/2025

BERKSHIRE (Except Otis, Becket, Sandisfield); FRANKLIN
(Monroe,
Rowe and the Western part of Charlemont)


                                      Rates          Fringes
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Plumber and Steamfitter.....$ 51.26 29.85

FOOTNOTE FOR PLUMBERS & STEAMFITTERS:
A. Paid holidays: Independence Day and Labor Day, provided
the employee has been employed seven days prior to the holiday by the same employer.

TEAM0379-001 06/01/2025

	Rates	Fringes
Truck drivers:		
Group 1	$ 40.78	37.35+a+b
Group 2	$ 40.95	37.35+a+b
Group 3	$ 41.02	37.35+a+b
Group 4	$ 41.14	37.35+a+b
Group 5	$ 41.24	37.35+a+b
Group 6	$ 41.53	37.35+a+b
Group 7	$ 41.82	37.35+a+b

POWER TRUCKS $.25 DIFFERENTIAL BY AXLE
TUNNEL WORK (UNDERGROUND ONLY) $.40 DIFFERENTIAL BY AXLE
HAZARDOUS MATERIALS (IN HOT ZONE ONLY) $2.00 PREMIUM

TRUCK DRIVERS CLASSIFICATIONS

Group 1: Station wagons; panel trucks; and pickup trucks

Group 2: Two axle equipment; & forklift operator

Group 3: Three axle equipment and tireman

Group 4: Four and Five Axle equipment

Group 5: Specialized earth moving equipment under 35 tons
other than conventional type trucks; low bed; vachual; mechanics, paving restoration equipment

Group 6: Specialized earth moving equipment over 35 tons

Group 7: Trailers for earth moving equipment (double hookup)

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

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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.

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"

"General Decision Number: MA20250006 02/21/2025

Superseded General Decision Number: MA20240006

State: Massachusetts

Construction Type: Heavy Dredging

Counties: Massachusetts Statewide.
STATEWIDE

Massacusetts All Dredging, except self-propelled hopper dredges, on the Atlantic Coast & tributary waters emptying into
the Atlantic Ocean.

Note: Contracts subject to the Davis-Bacon Act are generally
required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658.
Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $17.75 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.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . 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 that contract in 2025.	

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the
Executive Orders and a classification considered necessary for
performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker

protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2025
1	02/21/2025

* ENGI0025-001 10/01/2024

STATEWIDE

	Rates	Fringes
Dredging:		
CLASS A1	$ 47.07	15.34+a+b
CLASS A2	$ 41.94	14.99+a+b
CLASS B1	$ 40.71	14.90+a+b
CLASS B2	$ 38.31	14.73+a+b
CLASS C1	$ 37.26	14.66+a+b
CLASS C2	$ 36.07	14.57+a+b
CLASS D	$ 29.96	14.15+a+b

CLASSIFICATIONS:
CLASS A1: Deck Captain; Mechanical Dredge Operator, Leverman, Licensed Tug Operator over 1000 HP.
CLASS A2: Crane Operator (360 swing).
CLASS B1: Derrick Operator (180 swing), Spider/Spill Barge Operator, Engineer, Electrician, Chief Welder, Chief Mate, Fill Placer, Operator II, Maintenance Engineer, Licensed Boat Operator, Licensed Crew Boat Operator.
CLASS B2: Certified Welder.
CLASS C1: Mate, Drag Barge Operator, Assistant Fill Placer, Welder, Steward.
CLASS C2: Boat Operator.
CLASS D: Oiler, Deckhand, Shoreman, Rodman, Scowman, Cook, Messman, Porter/Janitor.

INCENTIVE PAY: (Add to Hourly Rate)
Operator (NCCCO License/Certification) $1.80 Licensed Tug

Operator over 1000 HP (Assigned as Master) (USCG licensed
Master of Towing Vessels (MOTV) $1.80; Licensed Boat Operator (Assigned as lead boat captain) USCG licensed boat operator $1.30; Engineer (QMED and Tankerman endorsement or licensed engineer (USCG) $1.80
Oiler (QMED and Tankerman endorsement (USCG) $1.80; All classifications (Tankerman endorsement only) USCG $1.55; Deckhand or Mate (AB with Lifeboatman endorsement (USCG) $1.80; All classifications (lifeboatman endorsement only (USCG) $1.55; Welder (ABS certification) $1.55

FOOTNOTES APPLICABLE TO ABOVE CRAFTS:
a. PAID HOLIDAYS: New Year's Day, Martin Luther King, Jr.'s
Birthday, Memorial Day, Good Friday, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day
b. VACATION: Eight percent (8%) of the straight time rate,
multiplied by the total hours worked.

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.

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

EGREMONT
Federal Aid Project No. STP/TAP-0031(021)X
Reconstruction of Mount Washington Road (Phase I)

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

The project consists of the reconstruction and related work of approximately 1.2 miles of Mount Washington Road from the Mount Washington/Egremont town line to 150 Mount Washington Road in the Town of Egremont, Massachusetts.

Pavement reconstruction, pavement milling, rock slope excavation and stabilization, guardrail installation, retaining wall construction, signage and striping upgrades, drainage system improvements, temporary traffic signals, tree and vegetation removal, and other appurtenant work are proposed to be part of this project.

All work under this Contract shall be done in conformance with the *2025 Standard Specifications for Highways and Bridges, the Supplemental Specifications* contained in this book, the *Construction Standard Details* in effect as of June, 2025, the *1990 Standard Drawings for Signs and Supports*, the 2015 *Overhead Signal Structure and Foundation Standard Drawings*, the *2009 Manual on Uniform Traffic Control Devices (MUTCD) with Revisions 1, 2, and 3 and the November 2022 Massachusetts Amendments to the MUTCD, the 1968 Standard Drawings for Traffic Signals and Highway Lighting*, the latest edition of The *American Standard for Nursery Stock*, the Plans and these Special Provisions.

SUBSECTION 7.05 INSURANCE REQUIREMENTS
B. Public Liability Insurance

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

Paragraphs 1 and 2

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

Paragraph 4

Asbestos Liability Insurance shall be obtained for this project. The Contractor and the Massachusetts Department of Transportation shall be named as additional insureds.

CONTRACTOR QUESTIONS AND ADDENDUM ACKNOWLEDGEMENTS

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

Contractors should email questions and addendum acknowledgements to the following email address massdotspecifications@dot.state.ma.us The MassDOT proposal number and municipality is to be placed in the subject line.

EMERGENCY SERVICES

POLICE
Egremont Police Department
Jason LaForest, Chief
171 Egremont Plain Road
Egremont, MA 01230
(413) 528-2160

FIRE
Egremont Fire Department
Joseph Schneider, Chief
175 Egremont Plain Road
Egremont, MA 01230
(413) 717-7622

HOLIDAY WORK RESTRICTIONS

(Supplementing Subsection 7.09)

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

Below are the holiday work restrictions:

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

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

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

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

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

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

HOLIDAY WORK RESTRICTIONS (Continued)

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

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

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

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

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

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

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

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

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

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.

WORK HOURS

(Supplementing Subsection 8.02)

The work hours for this project are 7:00 AM to 3:30 PM. Work outside these hours shall be approved on a case-by-case basis by the Engineer and Egremont Highway Department. All equipment required to perform night work not already included in the contract shall be considered incidental and no separate payment will be made.

TRUCK SAFETY DEVICES

(Supplementing Subsection 7.04: Motor Vehicles)

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

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

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

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

SUBSECTION 8.14 UTILITY COORDINATION, DOCUMENTATION, AND MONITORING RESPONSIBILITIES

A. GENERAL

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

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

B. PROJECT UTILITY COORDINATION (PUC) FORM

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

C. INITIATION OF UTILITY WORK

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

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

C.1 - BASELINE SCHEDULE – UTILITY BASIS

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

SUBSECTION 8.14 (Continued)

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

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

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

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

D. UTILITY DELAYS

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

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

SUBSECTION 8.14 (Continued)

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

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

E. LOCATION OF UTILITIES

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

F. POST UTILITY SURVEY – NOTIFICATION

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

G. MEETINGS AND COOPERATION WITH UTILITY OWNERS

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

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

H. FORCE ACCOUNT / UTILITY MONITORING REQUIREMENTS

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

I. ACCESS AND INSPECTION

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

COMPLIANCE WITH THE NATIONAL DEFENSE AUTHORIZATION ACT

(Supplementing Subsection 7.01)

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

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

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

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

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

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.

BUILD AMERICA BUY AMERICA PREFERENCE (Continued)

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.

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

ENVIRONMENTAL PERMITTING

An Amended Order of Conditions (DEP #153-0240) has been obtained from the Egremont Conservation Commission under the Wetlands Protection Act. Authorization under Section 404 of the Clean Water Act has been obtained from the US Army Corps of Engineers. 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 1 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 1 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.

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION FILE NUMBER SIGN

This project is subject to Massachusetts General Laws, Chapter 131, Section 40 as amended. Signs shall be in accordance with the latest MassDOT Construction Standards. All costs for the manufacture, erection, maintenance, moving, and removal of the signs shall be absorbed by the contractor with no additional compensation other than the contract unit prices.

For this project the Massachusetts Department of Environmental Protection File Number is 153-0240.

NATIONAL GRID EMERGENCY TELEPHONE NUMBERS

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

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

NOTICE TO OWNERS OF UTILITIES

(Supplementing Subsection 7.13 Protection and Restoration of Property)

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

Before the Contractor begins any work or operation that might damage subsurface structures, he/she shall carefully locate all such structures and conduct his operations so as to avoid any damage to them.

The following are the names and addresses of the utilities presumed to be effected, but the completeness of the list is not guaranteed:

Telephone:
Verizon
385 Myles Standish Blvd.
Taunton, MA 02780
Attn: Karen Mealey
karen.m.mealey@verizon.com
774-409-3160

Electric:
National Grid Electric
548 Haydenville Road
Leeds, MA 01053
Attn. Sandra Annis
sandra.annis@nationalgrid.com
413-582-7424

Town Highway:
Egremont Highway Department
171 Egremont Plain Road
Egremont, MA 01230
Attn: James Noe
highway@egrmeont-ma.gov
413-528-1106

Fiber / Local Linx
30 Elmview Circle
Dover, NH 03820
Attn: Jason Wing
Jason.wing@locallinx.com
403-538-4545

Fiber Connect
PO Box 764
Monterey, MA 01245
Attn: Adam Chait
Adam@bfcma.com
413-854-2109

A list of public and private utilities can be found on the MassDOT website at:
http://www.massdot.state.ma.us/

Select Quick Links
Select Doing Business with the Highway Division
Select Design/Engineering
Select Utility Contacts
Select District 2 on top of the webpage, select the City/Town, and then locate the utility.

The utility contact list is for guidance only and is not guaranteed to be complete or up to date.

PIGEON WASTE

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

MATERIAL OPTIONS

The Contractor shall inform the Engineer of his option prior to the installation of the material. Once the option is designated, all material for the option item(s) shall remain the same throughout the job.

OPTIONS

Item Number	Item Description	Unit
234.12	12 Inch Drainage Pipe-Option	Foot
234.15	15 Inch Drainage Pipe-Option	Foot
234.18	18 Inch Drainage Pipe-Option	Foot
234.24	24 Inch Drainage Pipe-Option	Foot
234.30	30 Inch Drainage Pipe-Option	Foot
234.36	36 Inch Drainage Pipe-Option	Foot

Pipe Options

Reinforced Concrete Pipe
Corrugated Plastic (Polyethylene) Pipe
Corrugated Plastic (Polypropylene) Pipe

PUBLIC SAFETY AND CONVENIENCE

(Supplementing Subsection 7.09)

Traffic may be reduced to one lane through work zones as provided in the Traffic Management Plans (Temporary Traffic Control Plans in the project Plans). The Contractor shall notify the Town of Egremont police, fire, and highway department at least 48 hours in advance of lane closures.

The Contractor is permitted to close down the roadway during rock blasting operations only. The Contractors attention is directed to the special provisions for Item 121. Class A Rock Excavation and Item 122. Presplitting Rock for further requirements on traffic management related to blasting operations.

Sweeping and cleaning of surfaces beyond the limits of the project to clean up material caused by spillage or vehicular tracking during the various phases of the work shall be considered as incidental to the work being performed under the Contract and there will be no additional compensation.

The Contractor shall sequence the proposed work in such a way to minimize the amount of time that traffic is travelling on an unpaved roadway. The maximum amount of time that the Contractor can have traffic traveling on an unpaved roadway shall be one month.

WORK DONE BY OTHERS

Relocation of all private utilities made necessary by the construction of this project will be accomplished by the respective utility companies.

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.

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.

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.

SOIL STOCKPILING DIRECTIVE P-22-001

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

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. MassDOT, on behalf of FHWA, submitted a Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key Consultation through Information for Planning and Consultation (IPaC) 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 AMMs

- 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 July 9, 2024 MassDOT Highway Division Environmental Services conducted a northern long-eared bat summer presence/absence survey, in accordance with the 2024 survey guidelines. The survey did confirm the presence of NLEB and/or TCB. If work is proposed by the Contractor past July 9, 2029, additional review is required by the MassDOT Highway Division's Environmental Services Section, and additional review and restrictions may be required by the USFWS.

Lighting AMMs

- Direct temporary lighting away from suitable habitat during the active season: **April 15 to October 31**
- When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable.

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

Tree Removal AMMs

- *If additional cutting is proposed by the Contractor that is outside the scope of this contract, additional review is required by the MassDOT Highway Division's Environmental Services Section, and additional review and restrictions may be required by the USFWS.*
- Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).
- No tree cutting, trimming, or removal of trees and/or woody vegetation >3-inch in diameter shall be conducted between **April 15 to October 31**
- The Contractor shall ensure all personnel working in on the project site are aware of all environmental commitments related to NLEB and/or TCB, including the **TOY** restriction. If this restriction needs to be waived at any location(s) the Resident Engineer shall send a locus map of the proposed work to MassDOT Highway Division's Environmental Services Section for review and a determination if the restriction can be waived.

Bridge AMMs

- On July 9, 2024, MassDOT Highway Division Environmental Services, conducted a northern long-eared bat bridge/structure bat assessment, in accordance with the USFWS guidelines. The assessment did not find presence of, or evidence of use by bats, and as stated within the guidelines, the assessment is valid for two years. If bridge work is not complete before July 9, 2026, assessment of the bridge for the presence of, or evidence of use by, bats shall be completed by the MassDOT Wildlife Unit prior to continuing bridge work. The Contractor shall notify the MassDOT Wildlife Unit no later than fourteen (14) days prior to July 9, 2026 to provide adequate time for inspection. If bats are found to be present, or, if there is evidence of bat usage, work at the bridge shall not commence until after the MassDOT Wildlife Unit has completed coordination with the US Fish and Wildlife Service to determine the appropriate follow up or mitigation actions.

DRAINAGE

It shall be the responsibility of the Contractor to make certain that the drainage construction sequence avoids disturbances and/or damage to the project area. Disturbances and damage can include erosion and slope impacts, environmental impacts, resource area impacts, flooding, icing, and freezing, improper sediment control, and any condition that would deem travel through the project area unsafe, impede operations through the corridor, or result in damage to the project area, private property and surrounding natural area. Safe roadway travel must be maintained. Functional drainage operations must be maintained throughout the removal of the existing drainage system and the construction of the proposed drainage system. Collection and acceptable discharge, as approved by the Engineer, of roadway runoff must be maintained at all times. It shall be the responsibility of the Contractor to ensure that the means and methods of construction can meet these requirements.

The Contractor shall submit a drainage sequencing and construction plan to MassDOT for approval prior to starting drainage work. The plan shall include a full construction staging sequence and include any temporary means necessary for completing the work. Any damages accrued during the drainage construction process as a result of failure to adhere to these requirements to the project area, surrounding area, abutting properties, and/or roadway users shall be the Contractor's liability.

It shall be the responsibility of the Contractor to make certain that all new drainage systems operate efficiently before final acceptance of the work.

All drainage castings in new pavement areas shall be installed at base or binder course grade, as directed by the Engineer, and reset to proposed finish surface grade prior to placement of the pavement surface course.

Removal of debris and sediment deposited in drainage structures prior to final acceptance shall be removed by the contractor at no cost to MassDOT.

VALUE ENGINEERING CHANGE PROPOSAL

This Subsection defines the conditions and requirements which apply to Value Engineering Change Proposals ("VECPs"). The purpose of this provision is to encourage the Contractor to propose changes in certain project requirements that will maintain the project's functional requirements at a savings in contract time, contract price, or both. The net savings obtained by using a VECP that meets the conditions and requirements set forth here will be shared by the Contractor and MassDOT.

VECP's under this provison are to be initiated, developed and submitted to MassDOT by the Contractor. The VECP must show the contemplated changes to the Drawings, Specifications and other requirements in the Contract. When a VECP submitted pursuant to this section is fully accepted by MassDOT, the VECP will be implemented by the Contractor and paid using the current cost and resource loaded schedule. Contractor shall demonstrate that the VECP is equal to, or better than, the original design or material; that there is an interest in public safety within the VECP; that there is a life-cycle cost benefit; and/or that end users will benefit from the shortened schedule. VECPs shall be consistent with the MassHighway/MassDOT Standard Specifications for Highways and Bridges and other applicable reference documents and directives. Any proposed deviation from these documents will need to be clearly identified in the VECP Proposal Documents, and must be approved by MassDOT's Chief Engineer before accepting this VECP.

A. In order to be considered for MassDOT review each VECP shall:

1. Be clearly labeled pursuant to this Subsection;

2. Yield a net savings at least two hundred and fifty thousand (250,000.00) Dollars and/or a net saving of contract completion duration of at least three (3) months;

3. The proposed changes to contract items must:

    a. maintain the specified items' required functions (service life, reliability);

    b. meet applicable safety regulations and codes;

    c. material substitutions must be in accordance with DOT prequalified/preapproved products and must be tested in accordance with standard material specs/testing methods (and considering all relevant environmental, load, and other relevant factors);

    d. show economy of operation, ease of maintenance, ease of construction, and necessary standardized features and appearance; and

4. Shall not require an extension of Contract Time or Contract Milestones, with the exception of cases when there are anticipated significant cost saving.

VALUE ENGINEERING CHANGE PROPOSAL (Continued)

The thresholds above are considered to be a general guideline. MassDOT will consider VECPs outside of these thresholds if a significant benefit is demonstrated. Additionally, notwithstanding this VECP process, MassDOT will consider minor revisions in the form of a Contract Modification.

Further, any VECP submitted shall be in sufficient detail to clearly define the proposed change. The Contractor's failure to provide information of the type, detail and in a format to facilitate the MassDOT's review, may be grounds for rejection of the VECP. Additionally, the Contractor will not be entitled to any equitable adjustment or increased Time, due to any aspect of any of the proposed VECP including permitting, right of way, utility coordination or delayed responses by MassDOT. If, after the progression of the work associated with the executed Contract Modification for the VECP, any additional costs are realized by the Contractor or any of the sub-consultants, sub-contractors, or suppliers, the Contractor shall be obligated to pay for any and all costs.

B. The following initial items shall be provided by the Contractor for MassDOT's review. *Items 1-6 need to be submitted prior to the start of MassDOT's review of the VECP and item 7 is an important consideration for the pricing of the VECP and the timeline of the proposed VECP schedule.*

1. ***VECP Description***: A description of the difference between the existing and the proposed Contract requirements, and the comparative advantages and disadvantages of each;

2. ***VECP Change Listing***: A listing of the Contract requirements that will need to be changed, modified, or reviewed as well as the proposed Contract document changes in the Instructions to Bidders, Contract, Standard Specifications, General Requirements and Special Provisions required by the VECP.

3. ***Construction Schedule Update*****:** Any changes in the Contract Time(s) or Contract Milestone(s), that will result from acceptance of the VECP, shall be accompanied by a contemporaneous schedule analysis *(i.e, the Contractor's baseline schedule submission, all past/required monthly schedule updates, a detailed assessment of all past delays, and a resource loaded Crticial Path Method schedule as specified in Section 8.0 / Subsection 8.02 of this Contract)* of the projected Work that remains including the proposed VECP related schedule changes *(inclusive of the timeline to review accept the VECP and the timeline for implementing the design changes)* in the remaining work. This shall be submitted in the form of a Proposal Schedule until the VECP has been formally accepted. Note: All of this information is to be updated, recertified, and formally accepted by MassDOT before final acceptance of this this VECP is issued.

VALUE ENGINEERING CHANGE PROPOSAL (Continued)

4. ***Date for MassDOT's Acceptance***: A statement that clearly justifies the date by which the VECP must be accepted to obtain the maximum price reduction, noting any effect upon the Contract Time(s) and/or Contract Milestone(s). This statement must include a narrative that demonstrates the most recent construction schedule has been utilized to justify that proposed acceptance date *(e.g. "in order to start to fabricate critical materials, authorization must be provided to work on the shop drawings by no later than [date]").* The Contractor should allow for at least sixty (60) to ninety (90) days for acceptance by MassDOT once all of the VECP documentation has been provided. Acceptance shall mean that MassDOT has received a finalized and executed contract modification. However, this is a proposed Contract change.

   The Contractor is fully obligated to progress the Work of the original Contract and MassDOT is not liable for any delays or costs that may occur in the review phase of any VECP proposal.

5. ***Cost and Savings Estimates***: A detailed estimate of the anticipated net savings, calculated as follows:

   a. ***Original Scope:*** Isolate the cost of performing the original contract construction activities, in accordance with the original Contract Documents, as originally bid by the Contractor, that are anticipated to be superseded by the VECP. *This cost is to include any original contract scope that is anticipated to be altered or eliminated by the VECP such as, shop drawing preparation, inspection work, testing, maintenance of traffic, or any other original contract costs, that have yet to have been performed at the time of this VECP submission.*

   b. ***New VECP Scope:*** Calculate the cost of performing the comparable construction activities associated with the VECP.

   c. ***Contractor's Engineer & Inspection***: Calculate the cost of engineering, inspection, and design work by the Contractor's Engineer/Designer. This should be a realistic estimate of the costs of any required engineering, design and review work by the Contractor's Engineer.

   d. ***MassDOT's Costs:*** MassDOT's estimate of costs to perform engineering/design reviews, cost estimate reviews, schedule reviews, and any other administrative costs to review and recommend implementation of the proposed VECP. *(including all anticipated increased costs to MassDOT on other Contracts and all anticipated follow-on increased costs to MassDOT, if any)* as provided by MassDOT. MassDOT's estimated costs must be included the VECP calculation and will be provided by MassDOT in support of the VECP evaluation process.

   e. ***Other Costs:*** Estimated costs associated with any revisions to other project related costs, such as Environmental Permits or Right of Way acquisitions, including other agency or municipality costs, as provided by MassDOT.

VALUE ENGINEERING CHANGE PROPOSAL (Continued)

Net Savings:
The net savings to be split between MassDOT and the Contractor shall be calculated using the items above as follows: a - (b+c+d+e) = net savings

6. *The Contractor shall also provide:*

   a. A proposed Change Order, which explains and justifies any required Equitable Adjustment in the Contract Price.

   b. The Contractor's actual costs expended for developing the VECP as of the date of the VECP submission;

7. ***Design Changes and Drawings*:** The costs that are outlined above should be inclusive of the following design and engineering responsibilities.

   a. Design changes shall be prepared and stamped by the Contractor's professional designer and/or engineer. In addition, in the development of the VECP; the Contractor is responsible for anticipating and managing all aspects associated with any VECP design work that must be performed by a licensed Engineer.

   b. The Contractor's engineer must analyze and stamp all components of any aspect of the project that has been redesigned, changed, or altered as a result of this VECP.

   c. The Contractor's engineer shall provide all calculations and supporting design/engineering documentation that was utilized to develop the changes and stamped drawings. These will be used by MassDOT's Designer-of-Record to review the VECP changes. The Contractor is limited to selecting only those engineer's that have been pre-qualified by MassDOT's A&E Board.

   d. MassDOT's Designer-of-Record will review and respond to all completed design submissions related to this VECP within thirty (30) calendar days, unless determined to be a non-critical path item.

   e. MassDOT will be responsible for estimating and managing MassDOT's Designer-of-Record during the VECP review and implementation. Should any significant conflicts arise, between the Contractor's Engineer and MassDOT's Designer-of-Record, the DOT and the Contractor will work expeditiously to resolve the conflict. Should this type of conflict continue for greater than five (5) days, the Contractor is to bear all financial and time related impacts of such delay and must seek to resolve the design conflict, in an acceptable manner to MassDOT. The resolution of this conflict will be funded at the Contractor's expense – exclusive of the net saving that was agreed to at the execution of the contract modification for this VECP.

f. The Contractor's Engineer may also be required to inspect the construction work. The Contractor is to include such anticipated inspection costs in the initial VECP.

VALUE ENGINEERING CHANGE PROPOSAL (Continued)

g. MassDOT's Designer of Record will remain the Designer-of-Record for the entire Project. Any costs incurred in the use of MassDOT's Designer-of-Record by MassDOT or Contractor associated with the review of a VECP are to be included in the calculated net savings.

C. Approval of the VECP shall not occur until a Contract Modification, incorporating the VECP, is issued by MassDOT and properly executed by the Contractor. MassDOT may accept or reject part or all of any VECP at any time prior to an executed Contract Modification for the applicable VECP. The decision of MassDOT, concerning acceptance or rejection of any VECP, shall be final and shall not be subject to dispute resolution.

It is expected that several weeks may go by before the final VECP documentation has been executed with a Contract Modification. Therefore, MassDOT intends to make certain that the initial cost estimate information has not changed before entering into a Contract Modification. As the VECP evaluation process is finalized, and prior to the signed Contract Modification for the VECP, the Contractor and MassDOT must re-certify the current status of the originally proposed cost and/or schedule savings.

Until a contract modification is issued and schedule and cost/savings re-certification is complete and accepted by MassDOT, the Contractor shall remain obligated to perform the Work in accordance with the terms and conditions of the original Contract Documents.

Upon completion of the work associated with the VECP, MassDOT may require verification that the VECP savings has been achieved.

D. VECPs will be processed (distributed, reviewed, commented upon, accepted or rejected) expeditiously (pursuant to M.G.L. c. 30, § 39R); however, as this is an elective modification to the contract, MassDOT shall not be liable for any delay or cost in the review and acceptance of the VECP. During the review of the VECP, the Contractor remains obligated to progress the original Contract scope, and schedule, as planned; until a Contract Modification, accepting the Contractor re-certified VECP, has been executed by MassDOT.

The Contractor has the right to withdraw part, or all of any VECP, prior to acceptance by MassDOT. Such withdrawal shall be made in writing to the Engineer. The Contractor shall state the period of time, from the date of the initial VECP submittal, that the VECP shall remain valid and feasible. Revision of this validity and feasibility period shall be allowed only by mutual agreement of the Contractor and the Engineer in writing.

If the Contractor desires to withdraw the proposal prior to the expiration of this period for non-technical reason, MassDOT reserves the right to recover all actual costs that have been incurred to MassDOT.

VALUE ENGINEERING CHANGE PROPOSAL (Continued)

If the Contractor withdraws the VEC Proposal, MassDOT reserves the right to proceed with the VECP or any portion of the VECP as a normal change and the Contractor waives any right it may have had to share in net savings thereunder.

For purposes of this provision, expiration of the time established by the Contractor for approval shall be considered as withdrawal by the Contractor if MassDOT requests an extension of that time and the Contractor does not provide a written extension.

E. With regard to unknown conditions or sub-surface work, in general, the expectation is that the Contractor and MassDOT will strive to gain enough knowledge about the risks in order to provide a forward-priced Change Proposal. Therefore, any costs to fully evaluate the proposal, such as additional borings and/or test pits, must be considered in the cost evaluation of whether the VECP is worth pursuing. However, if it is impractical to gather conclusive exploratory information, before the VECP is executed, MassDOT may consider provisions in the VECP that clearly identifies the risk sharing (cost and time) related specifically to the unknown/sub-surface conditions. If these VECP provisions are acceptable to MassDOT they are to include supplemental language to provide a determination of the final savings/cost, and time impacts, no later than 45 days after the sub-surface work is completed. All other aspects of the VECP, unrelated to these Provisions, will be binding upon execution of the VECP.

NOTIFICATION OF FUNDING SOURCES FOR WORK TO BE PAID BY OTHERS

This contract has an agreement with the ***Town of Egremont;*** whereas when the construction costs for the contract scope exceed the total participating contract bid price by more than ten percent (10%), the ***Town*** shall be responsible for the amount over 110% of the total participating contract bid price.

SECTION 722
CONSTRUCTION SCHEDULING
DESCRIPTION

722.20 General

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

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

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

Type A –

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

Type B –

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

Type C –

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

SECTION 722 (Continued)

Type D -

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

EQUIPMENT, PERSONNEL

722.40 General

A. **Software Requirements**

The Contractor shall use Primavera P6 computer scheduling software.

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

B. Scheduler Requirements

The Scheduler shall be approved by the Engineer.

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

SCHEDULING METHODS

722.60 General

A. **Schedule Planning Session**

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

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

SECTION 722 (Continued)

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

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

B. **Schedule Reviews by the Department**

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

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

722.61 Schedule Content and Preparation Requirements

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

A. **LOGIC**

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

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

SECTION 722 (Continued)

B. **ACTIVITIES**

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

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

SECTION 722 (Continued)

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

C. **EARLY AND LATE DATES**

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

D. **DURATIONS**

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

SECTION 722 (Continued)

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

E. **MATERIALS ON HAND**

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

F. **ACTIVITY DESCRIPTIONS**

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

G. **ACTIVITY IDENTIFICATION NUMBERS**

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

H. **ACTIVITY CODES**

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

I. **CALENDARS**

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

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

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

SECTION 722 (Continued)

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

J. **FLOAT**

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

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

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

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

SECTION 722 (Continued)

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

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

722.62 Submittal Requirements

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

Each monthly Contract Progress Schedule submittal shall be uniquely identified.

Each Submission shall, at a minimum, include the following:

a. Narrative
b. Schedule submittals shall be signed by the Scheduler
c. Schedule Printout - All Activities
d. Schedule Printout - Critical Path Layout
e. Schedule Printout - Remaining Work
f. Schedule Printout - Top 3 Float Path
g. Work Breakdown Structure (WBS) Summary
h. Project Spending Report (PSR) in Portable Document Format (.PDF)
i. Project Spending Report (PSR) in Microsoft Excel spreadsheet (.XLS)
j. Oracle Primavera P6 Schedule File (.XER)

All digital file submittals will be labeled with the following information.

- Contract Number
- Project Number
- Project locations (i.e., town(s))
- Brief description
- Submittal description (i.e., UP07)
- Data Date (MM-DD-YY)
- File Description (i.e., Critical Path)

Example: C110464 (P606309) - Orange Route 2 over 202 – UP23 (07-15-22) - Critical Path

A. **Narratives**

A written narrative shall be submitted with every schedule submittal. The narrative shall:

1. itemize and describe the flow of work for all activities on the Critical Path in a format that includes any changes made to the schedule since the previous Contract Progress Schedule / Monthly Update or the Baseline Schedule, whichever is most recent.
2. provide a description of any specification requirements that are not being followed. Identify those that are improvements and those that are not considered to be meeting the requirements.

SECTION 722 (Continued)

3. provide all references to any Notice of Delay that has been issued, within the time period of the Contract Progress Schedule Update, by letter to the Engineer. Note that any Notice of Delay that is not issued by letter will not be recognized by the Engineer. See Subsection 722.64.A – Notice of Delay.
4. provide a description of each third-party utility's planned vs. actual progress and note any that are trending late or are late per the durations and commitments as provided in the PUC Form; provide a description of the five (5) most important responses needed from the Department and the need date for the responses in order to maintain the current Schedule of Record.
5. provide a description of all critical issues that are not within the control of the Contractor or the Department (third party) and any impact they had or may have on the Critical Path.
6. provide a description of any possible considerations to improve the probability of completing the project early or on time.
7. compare Early and Late Dates for activities on the Critical Path and describe reasons for changes in the top three (3) most critical paths.
8. describe the Contractor's plan, approach, methodologies, and resources to be employed for completing the various operations and elements of the Work for the top three (3) most critical paths. For update schedules, describe and propose changes to those plans and verify that a Proposal Schedule is not required.
9. describe, in general, the need for shifts that are not 5 days/week, 8 hours/day, the holidays that are inserted into each calendar and a tabulation of each calendar that has been used in the schedule.
10. describe any out-of-sequence logic and provide an explanation of why each out-of-sequence activity does not require a correction, if one has not been provided, and an adequate demonstration that these changes represent the basis of how these activities will be built, including considerations for resources, dependencies, and previously approved production rates.
11. identify any possible duration increases resulting from actual or anticipated unit price item quantity overruns as compared to the baseline duration, with a corresponding suggestion to mitigate any possible delays to the Critical Path. If the delay is anticipated to impact the Critical Path, refer to Subsections 4.06 – Increased or Decreased Contract Quantities and 8.10 – Determination and Extension of Contract Time for Completion and submit a letter to the Engineer notifying of a potential delay.
12. include a schedule log consisting of the name of the schedule, the data date and the date submitted.
13. include and describe any notifications, communications and coordination meetings with third-parties such as utility companies that occurred from the last update including personnel names, job titles and contact information, date of meeting(s)/correspondence(s), topics discussed, and reasons the third party provided for deviations from the PUC form.

SECTION 722 (Continued)

B. **CPM Bar Charts**

One (1) timescaled bar chart containing all activities shall be prepared and submitted using a scale that yields readable plots and that meets the requirements of Subsection 722.61 – Schedule Content and Preparation Requirements Activities shall be linked by logic ties and shown on their Early Dates. Critical Paths shall be highlighted, and Total Float shall be shown for all activities.

A second timescaled bar chart shall also be prepared containing only the Critical Path or, if the Critical Path is not the longest path, the Longest Path using a scale that yields readable plots and that meets the requirements of Subsection 722.61 – Schedule Content and Preparation Requirements. Activities shall be linked by logic ties and shown on their Early Dates. Total Float shall be shown for all activities.

C. Detailed Activity Schedule Comparisons

A Detailed Activity Schedule Comparison (DASC) is a simple reporting tool in the format of a graphical report that will provide Resident Engineers with immediate, timely and up-to-date information. The DASC consists of an updated bar chart that overlays the current time period's bar chart onto the previous time period's bar chart for an easily read comparison of progress during the present and previous reporting periods.

D. Activity Cost Report and Monthly Cash Flow Projections (Type A only)

With each Contractor Quantity Estimate (CQE), the Contractor shall submit an Activity Cost Report and Cash Flow Projection that includes all activities grouped by Contract Bid Item.

The Activity Cost Report shall be generated from the Schedule of Record and shall be the basis of the Monthly Cash Flow Projection. Within each contract Bid Item, activities shall be sequenced by ascending activity identification number and shall show:

1. activity ID and description,
2. forecast start and finish dates for each activity and,
3. when submitted as a revised schedule, actual start, and finish dates for each completed activity.
4. any variance to the estimated contract quantity shall be shown.

E. Resource Graphs (Type A only)

Monthly and cumulative resource graphs for the remaining Contract period using the Early Dates and Late Dates in the Contract Progress Schedule shall be included as part of each schedule submittal.

SECTION 722 (Continued)

F. Projected Spending Reports

A Projected Spending Report (PSR) shall be prepared and submitted monthly. The PSR shall indicate the monthly spending (cash flow) projection for each month from NTP to Contractor Field Completion (CFC). Each month's actual spending shall be calculated using all CQEs paid during that month. The Projected Spending Report (PSR) shall be depicted in a tabular format and provided in both an .XLS and .PDF.

722.63. Progress Schedule Requirements

A. Baseline Schedule

The Baseline Schedule shall be due thirty (30) Calendar Days after Notice to Proceed (NTP). The Baseline Schedule shall only reflect the Work awarded to the Contractor and shall not include any additional work involving Extra Work Orders or any other type of alleged delay. The Baseline Schedule shall be prepared and submitted in accordance with Subsections 722.61 - Schedule Content and Preparation Requirements and 722.62 - Submittal Requirements. Once the Baseline Schedule has been accepted by the Engineer, with or without comments, it shall represent the as-planned schedule for the Work and become the Contract Progress Schedule of Record until such time as the schedule is updated or revised under Subsections 722.63.C - Contract Progress Schedules / Monthly Updates, 722.64.C - Recovery Schedules and 722.64.D - Proposal Schedules.

The Cost and Resource-Loading information (Types A and B only) shall be provided by the Contractor within forty-five (45) Calendar Days after NTP.

The Engineer's review comments on the Baseline Schedule and the Contractor's responses to them will be maintained for the duration of the Contract and will be used by the Engineer to monitor the Contractor's work progress by comparing it to the Contract Progress Schedule / Monthly Update.

B. Interim Progress-Only Schedule Submissions

The first monthly update of the Contract Progress Schedule/Monthly Update is due within seventy (70) Calendar Days after Notice to Proceed (NTP.) The Baseline Schedule review period ends at sixty (60) Calendar Days after NTP, see Subsection 722.60.B - Schedule Reviews by the Department. If the Baseline Schedule has not been accepted within sixty (60) Calendar Days after NTP, an Interim Progress-Only Schedule shall be due within seventy (70) Calendar Days after NTP. The purpose of the Interim Progress-Only Schedule is to document the actual progress of all activities, including non-construction activities, from NTP until the Baseline Schedule is accepted.

SECTION 722 (Continued)

C. Contract Progress Schedules / Monthly Updates

The first Contract Progress Schedule shall be submitted by the Contractor no later than seventy (70) Calendar Days after NTP. The data date for this first Progress Schedule shall be two months (approximately sixty (60) Calendar Days) after NTP. Subsequent Progress Schedules shall be submitted monthly.

Each Contract Progress Schedule shall reflect progress up to the data date. Updated progress shall be limited to asbuilt sequencing and asbuilt dates for completed and inprogress activities. Asbuilt data shall include actual start dates, remaining Work Days and actual finish dates for each activity, but shall not change any activity descriptions, the Original Durations, or the Original Resources (as planned at the time of bid), without the acceptance of the Engineer. If any activities have been completed out-of-sequence, the Contractor shall propose new logic ties for affected in-progress and future activities that accurately reflect the previously approved sequencing. Alternatively, the Contractor may submit to the Engineer for approval an explanation of why an out-of-sequence activity does not require a correction and an adequate demonstration that the changes accurately represent how the activities will be built, including considerations for resources, dependencies, and previously approved production rates. Once approved by the Engineer, the Contractor may incorporate the changes in the next Contract Progress Schedule/Monthly Update with the affected activities clearly identified and explained in the Schedule Narrative.

No revisions to logic ties, sequence, description, or duration of future activities; or planned resource costs shall be made without prior approval by the Engineer.

Any proposed logic changes for in-progress or future activities shall be submitted to the Engineer for approval before being incorporated into a Contract Progress Schedule. The logic changes must be submitted using a Proposal Schedule or a schedule fragnet submission. Once approved by the Engineer, the Contractor may incorporate the logic in the next Contract Progress Schedule/Monthly Update with the affected activities clearly identified and explained in the Schedule Narrative.

For any proposed changes to the original sequence, description or duration of future activities, the Contractor shall submit to the Engineer for approval an explanation of how the proposed description or duration change reflects how the activity will be progressed, including considerations for resources and previously approved production rates. Any description or duration change that does not accurately reflect how the activity will be progressed will not be approved by the Engineer. Once approved by the Engineer, the Contractor may incorporate the changes in the next Contract Progress Schedule/Monthly Update with the affected activities clearly identified and explained in the Schedule Narrative.

Contract Progress Schedules that extend performance beyond the Contract Time or beyond any Contract Milestone shall not be approved by the Engineer. The Contractor shall submit a Recovery Schedule, or a Time Entitlement Analysis, if any Contract Progress Schedule/Monthly Update indicates a failure to meet the Contract Dates.

SECTION 722 (Continued)

D. Short-Term Construction Schedule

The Contractor shall provide a Short-Term Construction Schedule that details daily work activities, including any multiple shift work that the Contractor intends to conduct, in a spreadsheet format. The daily activities shall directly correspond to the Contract Progress Schedule activities, with a matching reference to the activity identification number in the Contract Progress Schedule and may be at a greater level of detail. The Short-Term Construction Schedule shall be submitted every two weeks. It shall display all work for a thirty-five (35) Calendar Day period consisting of completed work for the two (2) week period prior and all planned work for the following three (3) week period. The initial submission shall be provided no later than thirty (30) Calendar Days after NTP or as required by the Engineer.

The Contractor shall be prepared to discuss the Short-Term Construction Schedule, in detail, with the Engineer in order to coordinate field inspection staff requirements, the schedule of work affecting abutters and any corresponding work with affected utilities. Short-Term Construction Schedules shall be prepared and submitted in accordance with Subsections 722.61 - Schedule Content and Preparation Requirements and 722.62 - Submittal Requirements.

722.64 Impacted Schedule Requirements

A. Notice of Delay

The Contractor shall notify the Engineer in writing, with copies to the District and State Construction Engineers, within fifteen (15) of the start of any delays to the Critical Path that are caused by actions or inactions that were not within the control of the Contractor. Delay notifications that are not provided in a letter to the Engineer, such as a delay notification in the schedule narrative, will not be recognized as contractual notice in the determination of any Time Extension related to the impacts to the work associated with this specific alleged delay. Should such a delay continue for more than one (1) week, the Contractor shall note it in the Schedule Narrative until the delay is no longer impacting the Critical Path for the completion of the Contract Milestones. The Engineer will evaluate the alleged delay and its impact and will respond to the Contractor within ten (10) Calendar Days after receipt of a notice of delay.

B. Time Entitlement Analysis

A Time Entitlement Analysis (TEA) shall consist of a descriptive narrative, prepared in accordance with Subsection 722.62.A - Narratives, and an as-built CPM schedule, which may be in the form of a schedule fragnet that has been developed from the project's Contract Progress Schedule of Record, and illustrates the impact of a delay to the Critical Path, Contract Milestones and/or Contract Completion Date as required in Subsection 8.10 - Determination and Extension of Contract Time for Completion. TEAs shall also be used to determine the schedule impact of proposed Extra Work Orders (EWO) as also required in Subsection 8.10.

TEAs shall be prepared and submitted in accordance with the requirements of Subsections 722.61 - Schedule Content and Preparation Requirements and 722.62 - Submittal Requirements and shall be based on the Contract Progress Schedule of Record applicable at the start of the delay or impact from an EWO. A TEA fragnet must start with a specific new activity describing the work contained in either a Notice of Delay previously submitted to the Department per Subsection 722.64.A - Notice of Delay or an EWO.

SECTION 722 (Continued)

TEAs shall be submitted:

1. as part of any Extra Work Order that may impact Contract Time,
2. with a request for a Time Extension,
3. within fifteen (15) Calendar Days after a request for a TEA by the Engineer for any other reason.

A TEA shall be submitted to the Engineer before any Time Extension is granted to the Contractor. Time Extensions will not be granted unless the TEA accurately reflects an evaluation of all past delays and the actual events that occurred that impacted the Critical Path. The TEA must also demonstrate a plan for the efficient completion of all of the remaining work through an optimized CPM Schedule. The analysis shall include all delays, including Contractor-caused delays, and shall be subdivided into timeframes and causes of delays.

TEAs shall incorporate any proposed activities, logic ties, resource considerations, and activity costs required to demonstrate the schedule impacts most efficiently in addition to detailing all impacts to existing activities, logic ties, the Critical Path, Contract Milestones, and the Contract Completion Date. In addition, TEAs shall accurately reflect any changes made to activities, logic ties, restraints, and activity costs, necessitated by an Extra Work Order or other schedule impact, for the completion of the remaining work. The Contractor shall provide TEAs that demonstrate that all delays have been mitigated to the fullest extent possible without requiring an Equitable Adjustment to the original bid basis.

All TEAs shall clearly indicate any overtime hours, additional shifts and the resources that are proposed to be incorporated in the schedule. The Engineer shall have final discretion over the use of overtime hours and additional shifts. The Engineer shall have the right to require that overtime hours and/or additional shifts be used to minimize the duration of Time Extensions if it is determined to be in the best interest of the Department to do so.

When accepted, the changes included in a TEA shall be incorporated into the next Contract Progress Schedule per the requirements of Subsection 722.63.C - Contract Progress Schedules / Monthly Updates. During the review of any TEA, all Contract Progress Schedules shall continue to be submitted as required.

The Engineer may request that the Contractor prepare a Proposal Schedule or a Recovery Schedule to further mitigate any delays that are shown in the accepted TEA or Contract Progress Schedule.

C. Recovery Schedules

The Contractor shall promptly report to the Engineer all schedule delays during the prosecution of the Work. Contract Progress Schedules that predict performance extended beyond the Contract Time or beyond any Contract Milestone shall not be approved as the schedule of record. This requirement is critical to the Department's ability to make informed decisions regarding Contract Time and costs.

The Contractor shall submit a Recovery Schedule within fifteen (15) Calendar Days of a Contract Progress Schedule submission that shows failure to meet the Contract Dates unless a recovery schedule is waived by the Department. Waiving the recovery schedule does not relieve the contractor of the responsibility for the delay. The Department may revoke the waiver of a Recovery Schedule, at which time a Recovery Schedule shall be submitted within fifteen (15) Calendar Days of the Contractor being notified.

Changes represented in accepted Recovery Schedules shall be incorporated into the next Contract Progress Schedule.

SECTION 722 (Continued)

D. Proposal Schedules

A Proposal Schedule is an alternative schedule used to evaluate proposed changes to the Contract scope or significant alternatives to previously approved approaches to complete the Work, which may include changes to activity durations, logic, and sequence. For Types A and B Schedules, the Proposal Schedule shall be cost and resource loaded.

A Proposal Schedule may be requested by the Department at any time or may be offered by the Contractor. The Engineer may request that the Contractor prepare a Proposal Schedule to further mitigate any delays that are shown in an accepted TEA or Contract Progress Schedule.

The Contractor shall submit the Proposal Schedule within thirty (30) Calendar Days of a request from the Department.

The Proposal Schedule shall not be considered a Schedule of Record until the logic, durations, narrative, and basis of the Proposal Schedule have been accepted by the Engineer. If the Proposal Schedule took the form of a fragnet, it must be incorporated into the Contract Progress Schedule of Record showing the current progress of all other activities and the impacts/results of the changes made by the Proposal Schedule before the Proposal Schedule is accepted by the Department.

Proposal Schedules shall clearly indicate any proposed acceleration including overtime hours, additional shifts, and the resources that are proposed to be incorporated in the schedule. The Engineer shall have final discretion over the use of overtime hours and additional shifts. Proposal Schedules that contain a cost element shall be submitted with a separate Cost Proposal.

Changes represented in the accepted Proposal Schedules shall be incorporated into the next Contract Progress Schedule. During the review of any Proposal Schedule, all Contract Progress Schedules shall continue to be required every month.

E. Disputes

All schedules shall be submitted, reviewed, dispositioned, and accepted in the timely manner specified herein so as to provide the greatest possible benefit to the execution of this Contract.

The Contractor may dispute a decision by the Engineer by filing a claim notice within seven (7) days after the Contractor's request for additional time has been denied or if the Contractor does not accept the number of days granted in a time extension. The Contractor's claim notice shall include a revised time entitlement analysis that sufficiently explains the basis of the time-related claim. Failure to submit the required time entitlement analysis with the claim notice shall result in denial of the Contractor's claim. A determination on the Contractor’s claim shall be in accordance with Subsection 7.16 Claims of Contractor for Compensation. Pending resolution of any dispute, the last schedule accepted by the Engineer will remain the Contract Schedule of Record.

SECTION 722 (Continued)

722.65 Schedule Type D Requirements

This section is to detail the requirements for Type D Schedules and is separate from the requirements listed above. These schedules are intended for a project in which a more formal schedule would not be practical.

Schedules for Type D projects shall be submitted for each work assignment. The Schedule Type D shall be submitted electronically in .XLS and .PDF format and meet the following requirements.

The schedule requirements for work assignments that are anticipated to last three weeks or less shall conform to the requirements for Short-term Construction Schedules below.

Work assignments that are anticipated to last longer than three weeks shall submit a bar chart baseline and provided update schedules upon request of the engineer as required under Bar Chart Schedule below in addition to meeting the Short-term Construction schedule requirements.

A. **Bar Chart Schedule**

A Bar Chart that shall include the following:

- Work Assignment start date.
- Activities to identify.
  - Major work operations broken down to be no longer than 14 days.
  - Procurement of fabricated materials and equipment with long lead times, including time for review and approval of submittals required before procuring and fabricating.
  - The preparation and submission of shop drawings, procedures, and other required submittals, with a planned duration that is to be demonstrated to the Engineer as reasonable.
  - The review and return of shop drawings, procedures, and other required submittals, approved or with comments, the duration of which shall be shown as thirty (30) Calendar Days,
  - Detailed activities to satisfy permit requirements.
  - Subcontractor approvals at fifteen (15) Calendar Days from submittal to response
  - Project Close out activities including a 21-calendar day creation of a punchlist activity and 30 calendar day minimum completion of punchlist activity.
- Interfaces with adjacent work, utility companies, other public agencies, sensitive abutters, and/or any other third-party work affecting the Contract.
- Access Restraints – restrictions on access to areas of the Work
- Traffic work zone set-up and removal, night work and phasing
- Contract Milestones including Full beneficial Use, Substantial Completion and Contractor Field Completion

The Bar Char Schedule shall be provided at the beginning of the project and updated with each work order created for the project.

SECTION 722 (Continued)

B. **Short-Term Construction Schedule**

The Contractor shall provide a Short-Term Construction Schedule that details daily work activities, including any multiple shift work that the Contractor intends to conduct, in a spreadsheet format. The daily activities shall directly correspond to the Contract Progress Schedule activities, with a matching reference to the activity identification number in the Contract Progress Schedule and may be at a greater level of detail. See schedule toolkit for suggested format.

The Short-Term Construction Schedule shall be submitted every two weeks. It shall display all work for a thirty-five (35) Calendar Day period consisting of completed work on the assignment for the two week period prior and all planned work for the following three week period. The initial submission shall be provided no later than thirty (30) Calendar Days after NTP or as required by the Engineer.

The Contractor shall be prepared to discuss the Short-Term Construction Schedule, in detail, with the Engineer in order to coordinate field inspection staff requirements, the schedule of work affecting abutters and any corresponding work with affected utilities.

C. **Project Spending Report (PSR)**

A Projected Spending Report (PSR) shall be prepared and submitted monthly. The PSR shall be for all active work assignments, broken down by work assignment. The PSR shall indicate the monthly spending (cash flow) projection for each month from NTP to Contractor Field Completion (CFC). Each month's actual spending shall be calculated using all CQEs paid during that month. The Projected Spending Report (PSR) shall be depicted in a tabular format and provided in both an .XLS and .PDF

SECTION 722 (Continued)

COMPENSATION

722.80 Method of Measurement

Schedule of Operations (Type A, B and C)

The project bid documents specify the fixed-price amounts to be paid to the Contractor for the Project Schedule requirements contained herein. Each bidder shall include this fixed price bid item amounts in their bid. Failure to do so may be grounds for the rejection of the bid.

This fixed price amount is for payment purposes only and is separate from what the Department considers to be the Contractor's General Condition costs. If the Contractor deems it necessary to include additional costs to provide all of the requirements of this section, these additional costs shall be included in the Contractor's overall bid price.

All required schedule-related work, including, but not limited to computers, computer software, the planning and coordination with utilities, training, schedule preparation and schedule submittals will be paid for under the fixed price amount.

Twenty percent (20%) of this pay item will be paid upon the Engineer's acceptance of the Contractor's Baseline Schedule, prepared and submitted in accordance with Subsection 722.63.A.

The remaining eighty percent (80%) of this pay item will be paid in equal monthly installments distributed across the Contract Duration from Notice to Proceed (NTP) to Contractor Field Completion (CFC), less the 2 months required for the submittal and review of the Baseline Schedule in accordance with the following formula:

$$\text{Monthly Payment} = \frac{\text{Remaining Fixed Price amount (80\% of the Item Cost.)}}{\text{Contract Duration in whole months} - 2 \text{ months}}$$

The Schedule of Operations pay item will be adjusted to pay for only the actual quantity of schedules that have been submitted in accordance with this section.

Should there be a Time Extension granted to the Contractor, the Engineer may provide an Equitable Adjustment for additional Contract Progress Schedule Updates at intervals directed by the Engineer. The monthly payment will be the basis for this Equitable Adjustment.

Schedule of Operations (Type D)

For projects assigned with Type D schedule requirements, all scheduling work shall be considered incidental to the project with no separate payment under this section.

SECTION 722 (Continued)

722.81 Basis of Payment

The timely and accurate submission of the Baseline Schedule is critical to the Contract and the Department's ability to make informed decisions. Only payments under Item 740 - Engineer's Field Office and Item 748 – Mobilization will be made until the Baseline Schedule is accepted by the Engineer.

All required schedule-related work, including, but not limited to computers, computer software, the planning and coordination with utilities, training, schedule preparation and schedule submittals (including monthly progress schedules, short-term schedules, project spending reports, TEAs, recovery schedules or impacted schedules) shall be included in this work.

No payment for any other pay item will be processed beyond seventy-five (75) Calendar Days from Notice to Proceed (NTP) until the Baseline Schedule is accepted by the Engineer. Until the Engineer's acceptance of the Baseline Schedule, the combined total of all payments made to the Contractor will be limited to an amount no greater than the total price for Item 748 - Mobilization or 3% of the contract price, whichever is less.

All Contract Progress Schedule Updates submitted later than ten (10) Calendar Days after the CQE (Contract Quantity Estimate) completion date, or greater than forty (40) Calendar Days from the Data Date of the previous submission, will be deemed to be no longer useful and will not qualify for payment. The late submission of Impacted schedules, including TEAs, recovery schedules and proposal schedules will result in the forfeiture of the monthly payment for the month in which they were due and subsequent months until the submission is made. Late submission of missed submittals will not result in recovery of the previously forfeited portion of the Schedule of Operations Fixed Price Payment Item.

Failure to submit schedules as and when required may result in the forfeiture of that portion of the Schedule of Operations Fixed Price Payment and/or the withholding of the full or partial CQE payments by the Engineer.

Failure to submit schedules that are acceptable to the Engineer may result in the forfeiture of that portion of the Schedule of Operations Fixed Price Payment and/or the withholding of the full or partial CQE payments by the Engineer.

The Schedule of Operations pay item will be adjusted to pay for only the actual quantity of schedules that have been submitted in accordance with this section.

The Contractor's failure or refusal to comply with the requirements of this Section shall be reasonable evidence that the Contractor is not prosecuting the Work with due diligence and may result in the Engineer withholding of full or partial payments of all work performed.

722.82 Payment Items

722.1	SCHEDULE OF OPERATIONS (TYPE A) - FIXED PRICE $_____	LUMP SUM
722.2	SCHEDULE OF OPERATIONS (TYPE B) - FIXED PRICE $_____	LUMP SUM
722.3	SCHEDULE OF OPERATIONS (TYPE C) - FIXED PRICE $_____	LUMP SUM

ITEM 100.99 STRUCTURE AND GEOTECHNICAL MONITORING LUMP SUM

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

The work shall include all materials, labor, equipment, and professional services required to monitor and report on the existing retaining walls and home located at 200 Mount Washington Road (approximately STA 226+50 LT). The Contractor shall implement the following measures:

A. Retaining Wall Condition Surveys: This work shall include performing a condition survey of the retaining wall prior to the commencement of work and after completion of work.

B. Vibration Monitoring (Non-Blasting): This work shall include performing vibration monitoring of background and construction activities, preparing daily reports and summary reports of vibration readings at the specified locations.

C. Survey Monitoring: This work shall include the installation of two deformation monitoring points at each applicable structure to observe possible movement, and/or damage during construction activities.

REQUIREMENTS

Work under this Item will require access to the retaining wall property. Property ownership is shown on the plans.

- The Contractor shall submit all monitoring submittals to the MassDOT for review a minimum of 14 days before to performing any monitoring activities.
- Roadway flaggers will be required for all activities to be performed on the property. It is anticipated that, at a minimum, a roadway flagger will be required during:
  - Installation of deformation monitoring points, and
  - Removal of deformation monitoring points.

CONSTRUCTION METHODS

The Contractor shall engage an experienced vibration monitoring consultant to measure peak particle velocities prior to, and during construction operations, and a geotechnical monitoring consultant to install, monitor, maintain, and report on the monitoring points.

Firm and individual qualifications shall be submitted to the Engineer for approval.

ITEM 100.99 (Continued)

Vibration Monitoring (Non-Blasting):

Materials

The Contractor shall provide a 3-component seismograph, with the following minimum features:

1) Seismic range: 0.01 to 4 inches per second with an accuracy of +/- 5 percent of the measured peak particle velocity or better at frequencies between 10 Hertz and 100 Hertz, and with a resolution of 0.01 inches per second or less.

2) Three channels for vibration monitoring.
3) Two power sources: internal rechargeable battery and charger and 1 15 volts AC. Battery must be capable of supplying power to monitor vibrations continuously for up to 24 hours.

4) Instruments must be capable of producing strip chart recordings and readings on site within one hour of obtaining readings. Provide computer software to perform analysis, produce reports of continuous monitoring.

5) Continuous monitoring mode must be capable of recording single-component peak particle velocities, and frequency of peaks with an interval of one minute or less.

Certification shall be provided to indicate that the test equipment used for this purpose is calibrated and maintained in accordance with the test equipment manufacturer's calibration requirements and that, where applicable, calibrations are traceable to the National Institute of Standards and Technology.

Methods

The Contractor shall operate the seismograph for a minimum of five (5) consecutive 24-hour periods prior to the start of construction to establish baseline levels. Copies of the report summarizing the recorded baseline levels shall be distributed as outlined previously a minimum of five (5) days prior

Following the start of construction, the Contractor shall monitor the vibration levels on an ongoing basis during the construction activities identified in the Vibration Monitoring Plan, or as required by the Engineer. The Contractor shall maintain records of the vibration levels and shall submit a report of these levels as requested by the Engineer. The threshold value for peak particle velocity vibration criteria shall be 12.7 millimeters per second (1/2-inch per second). If measurements exceed the threshold value, the following actions shall be taken:

1 Verify measurement reading
2 Double the frequency of readings

ITEM 100.99 (Continued)

3 Notify the Engineer. Hold a meeting with representatives of the Contractor and MassDOT. Ensure work is being performed in accordance with the Contract Documents. Meeting to be held within 48 hours of exceeding the threshold value

The limiting value for peak particle velocity vibration criteria shall be 25.4 millimeters per second (1 -inch per second).

If measurements exceed the limiting value, the following actions shall be taken:

a. Stop construction operations immediately
b. Verify measurement reading
c. Notify the Engineer and hold a meeting with representatives of the Contractor and MassDOT immediately

d. Inspect the structure for any visible change in condition

Based on the level of damage identified, follow the directions outlined below:

a. No Damage to Slight damage (as defined by Boscardin and Cording); Proceed with construction operations while monitoring the condition of the retaining walls and associated facilities. Monitoring shall be continuous during the hours that construction operations are being performed. If retaining wall damage is noted to reach the Moderate level (as defined by Boscardin and Cording) during the monitoring, stop construction activity. Proceed to b.

b. Moderate to severe damage (as defined by Boscardin and Cording); Install preventative measures to prevent further damage to the structure and associated facilities before proceeding with construction activity. Preventative measures may include supplementary support/stabilization. The Contractor, MassDOT, and Town must all approve the proposed additional measure before the measure is implemented. Once the measure is implemented, proceed with construction operations while monitoring the condition of the structure. Monitoring shall be continuous during the hours that construction activity is being performed. If additional damage is noted, stop construction activity and repeat the above procedure relative to additional preventative measures.

During all monitoring of vibration-producing construction activities the Contractor shall document all events that are responsible for the measured vibration levels, and submit the documentation to the Engineer with the data.

ITEM 100.99 (Continued)

Submittals

The Contractor shall submit a written Vibration Monitoring Plan to the Engineer for approval a minimum of 14 days prior to the commencement of the baseline monitoring period.

The Vibration Monitoring Plan shall include the necessary information to outline the recording collection and shall specifically include, but not be limited to, the following:

1. Contract Designations

   a. The name of vibration monitoring specialist(s).
   b. The scheduled start date and length of construction operations which require vibration monitoring including but not limited to: excavation, driving or vibrating of excavation support system, demolition of existing substructures, driven pile installation, backfill, or other activities as required by the Engineer.
   c. The limits of vibration monitoring work.
   d. The location of all structures to be monitored in proximity to the construction operation.
   e. The location of any underground utilities in proximity to the construction operation.

2. Experience and Equipment

   a. Submit proof and details, as references, of two projects in the past five years where the vibration monitoring consultant performing the work has satisfactorily monitored construction operations by recording maximum peak particle velocities (PPVs). Include contact information for each reference.
   b. Submit information on the required 3-component seismograph, capable of measuring particle velocity data in three mutually perpendicular directions, including: the manufacturer's name, model number, and documentation of factory calibration performed within the last 12 months.

3. Methods and Procedures

a. The location of adjacent structures to be monitored and maximum allowable PPV. If not otherwise specified, a maximum allowable PPV in accordance with the United States Bureau of Mines (USBM) Vibration Criteria shall be observed at all structures.
   b. The location of seismograph(s) placements, as directed by the Contractor's Professional Engineer. Recording seismographs may be installed on selected structures.
   c. Appropriate details for anchoring the geophone(s).

The procedure for tracking PPV throughout construction operations (e.g., rock excavation: excavation depth vs. vibrations may be correlated through time of day. A record of the time of day at each depth interval, included on the rock excavation records, would be required to correlate to a time-based readout of PPV)

ITEM 100.99 (Continued)

d. Materials

Existing structure monitoring points shall consist of 3 inch long surveyors' "PK" nails, securely nailed in place. The point shall be clearly identified using fluorescent spray paint or a tag. The points shall be affixed to the structures at locations approved by the Engineer.

Methods

The Contractor shall retain a Geotechnical Monitoring Consultant to install, monitor, maintain and report on the monitoring points. This proposed subconsultant must be preapproved by the Engineer. The subconsultant shall have the demonstrated experience to perform the work and shall provide reference to at least three (3) similar past projects.

Monitoring points shall be installed for monitoring the retaining wall and the house. The number and location of monitoring points shall be per the recommendations of the Geotechnical Monitoring Consultant as approved by the Engineer, but shall be no less than 2 per structure unit (4 total).

Monitoring points shall be used to measure horizontal displacements of these points during construction of the roadway, retaining walls, drainage pipes, and other work as determined by the Engineer including excavation, installation of excavation support system, driven pile installation, and backfilling.

A baseline report shall be prepared for the existing monitoring points, 2 weeks prior to the start of Construction.

Monitoring frequency on the existing structure shall be daily during all work within 100 feet of the structures. The accuracy of the monitoring data points shall be kept to the nearest 0.01 ft.

Criteria

The following "threshold" and "limiting" movements of existing abutment and pier elements shall be as follows:

- "Threshold" Horizontal or Vertical Movement: No greater than 0.125 inch.
- "Limiting" Horizontal or Vertical Movement: No greater than 0.5 inch.

The Contractor or Geotechnical Monitoring Consultant shall immediately notify the Engineer and shall take immediate steps to control further movement by revising construction procedures, providing supplemental bracing, backfilling or other measures as required if any of the following occur:

ITEM 100.99 (Continued)

- Field measurements indicate that any of the "threshold" movement criteria are reached or exceeded
- Field measurements or observations indicate that significant or sustained movements, beyond those reasonably expected, are occurring (total movement may be less than the "limiting" movement criteria.)

If "limiting" movements are being approached or reached, the Engineer may require the Contractor to temporarily suspend the work in the area where such movement is occurring and implement all necessary mitigation measures which are acceptable to the Engineer, to arrest the movements, at no additional cost.

Work in the area where the "limiting" values have been reached shall not be permitted until the results of surveys can be reviewed and evaluated by the Engineer.

These criteria are intended to establish a minimum basis for the Contractor's design and procedures and does not relieve the Contractor of its responsibility for preventing detrimental movements and damage to adjacent structures, utilities or other work.

In the event the Contractor does not comply with the approved mitigation plan, or continues work in violation of "threshold" or "limiting" values being reached or exceeded, the Contractor shall not be allowed to continue work until proper mitigation procedures and corrections have been made as determined by the Engineer. No claims for schedule delays will be allowed due to the Contractor's failure to comply with these requirements.

Submittals

The Contractor shall submit a plan procedure for the implementation of the monitoring program prior to starting work. As part of this submittal, a mitigation plan shall be provided to indicate the Contractor's course of action in the event that any of the established criteria are exceeded.

The contractor shall provide to the Engineer with the baseline readings fourteen days prior to starting demolition. Subsequent response shall be provided to the Engineer prior to starting work the day following the day the readings were taken.

BASIS OF PAYMENT

Item 100.99 will be paid for at the Contract lump sum bid price, which price shall include full compensation for all labor, materials, equipment, transportation, disposal fees necessary, professional services, the collection and processing of all data and reporting, and incidental costs required to complete the work. Preventative and corrective measures may be required to prevent damage to the structure shall be provided at no additional cost.

The Contractor is responsible for all fees required. Flagger costs associated with monitoring shall be incidental to the work. Flagging required for other purposes not related to the monitoring of 200 Mount Washington Rd shall be paid for under Item 850.41.

ITEM 101.	**CLEARING AND GRUBBING**	**ACRE**
ITEM 102.	**SELECTIVE CLEARING AND THINNING**	**ACRE**
ITEM 102.1	**TREE TRIMMING**	**FOOT**

The work under these Items shall conform to the relevant provisions of Subsection 101 of the Standard Specifications and the following:

The work under these Items shall conform to the project specific restrictions on tree and vegetation removal as outlined in the Massachusetts Division of Fisheries and Wildlife letter dated June 21, 2024 (Document A00844) and in the special provisions under Item 755.771 State-Listed Snake Protection Plan. The Contractor shall conduct all tree and vegetation clearing, grubbing, thinning and trimming in accordance with the environmental permits.

ITEM 121.1 ROCK SCALING HOUR

The work under this Item shall conform to the relevant provisions of Section 100 of the Standard Specification and the following:

1.00: General

The Work covered by this section consists of furnishing all labor, equipment, and materials for the following tasks:

1. Clearing, grubbing, cutting, removal, and disposal of all vegetation (trees, bushes, shrubs, grass, weeds, and other vegetation) within the limits shown on the plan set (including the fresh cut face and existing cut face) or as designated by the Engineer.
2. The burning of trees, brush, stumps, etcetera, will not be permitted. The Contractor shall provide other satisfactory methods of disposal without additional compensation.
3. Contractor shall make all arrangements and negotiations necessary for the satisfactory disposal of trees, shrubs, stumps, roots, dead wood and other litter.
4. Removing loose blocks of bedrock from the rock slopes within the limits shown on the Drawings (including the fresh cut face and existing cut face) including at targeted locations provided by the Rock Mechanics Engineer.
5. Furnishing, installing, and maintaining temporary barriers or rockfall fences to prevent scaled rock from entering the eastbound lane of Mount Washington Road.
6. Loading scaled rocks and debris into trucks for transport and disposal.
7. All supplementary Work incidental to the services outlined above, whether specifically indicated in the Contract Documents.
    (a) Scaling is expected to require hand scaling techniques and may include mechanical scaling techniques.
    (a) Inflatable bladders may be used to remove large blocks of rock that are too large to remove with hand scaling bars.
    (b) The use of explosives is prohibited.
    (c) Expansive grout may be used with the approval of the engineer.

2.00: Definitions

1. Hand Scaling: Removal of loosened, drummy, or unstable slabs or blocks of rock by rope access crews using rock climbing techniques to rappel down the slope. Hand scaling equipment typically includes hand-operated pry bars, pneumatic bladders placed in cracks between the rock to be scaled and the cliff face, and similar tools.
2. Mechanical Scaling: The removal of loosened, drummy, or unstable slabs or blocks of rock from the bedrock surface using mechanical means, such as a long-stick excavator with ripper tooth or bucket.
3. Oversize Material: A single block of rock that is larger in maximum dimension or heavier in gross weight than can be transported by over the road trucks, as specified herein.
4. Scaling Foreman: The Contractor's designated representative responsible for facilitation and coordination of all rock scaling activities.

ITEM 121.1 (Continued)

5. Rock Scaler: An individual who is engaged in accessing and removing unconsolidated materials using hand tools at locations which require rock climbing and rappelling techniques.

3.00: References

U.S. Department of Labor, Occupational Safety and Health Administration (OSHA)

1. 29 CFR 1926, Subpart M (Fall Protection)

2. 29 CFR 1926, Subpart CC (Cranes & Derricks in Construction)

4.00: Submittals

Submit the plan and schedule for rock scaling, vegetation removal, and hauling prior to starting the Work. The plan shall include the following:

1. Descriptions of the methods and equipment to be used for hand scaling (and mechanical scaling, if utilized).
2. Descriptions of the methods and equipment to be used for vegetation removal.
3. A description of the equipment to be used for loading trucks.
4. A detailed description of the proposed temporary barrier or rockfall fence to be used to prevent scaled rocks from entering the roadway.
5. The proposed patching gravel material and method of placement and compaction.
6. A general daily schedule for scaling, vegetation removal, and related activities, including anticipated durations for scaling, loading scaled material, roadway cleaning, and patching.
7. Qualifications of the scaling foreman, rock scalers, and mechanical scaling equipment operator(s).

5.00: Qualifications

1. Scaling Foreman shall have a minimum of three years of rock slope scaling experience, with at least one year in a supervisory role.
2. Rock scalers shall have either a minimum of six months experience in hand scaling operations or shall have attended a training course conducted by an individual who qualifies as a Scaling Foreman.
3. Operators of mechanical scaling equipment shall have experience with at least two similar projects within the past five years.

6.00: Preparatory Meeting

Prior to commencing rock scaling activities, the Contractor, including all field personnel, shall meet with representatives of the Engineer to review the plans and specification work plans, and submittals. Scaling may commence upon approval of all required Submittals and after the completion of the Preparatory Meeting.

ITEM 121.1 (Continued)

MATERIALS

1.00: Patching Gravel

Patching gravel shall consist of material satisfying the gradation requirements specified in the MassDOT Standard Specifications for Highways and Bridges (2023, or latest edition) for Dense-graded Crushed Stone for Subbase (item No. M2.01.7-1) or Gravel Borrow Type B (Item No. M1.03.0-1). Material shall be compacted to at least 95% of its maximum dry density as determined by ASTM D1557 Method C (modified proctor).

CONSTRUCTION PROCEDURES

1.00: General

1. All scaling and excavation shall be performed in accordance with applicable OSHA regulations. Safety shall at all times remain the sole responsibility of the Contractor.
2. Scaling shall be accomplished with equipment, methods, and workmanship that will minimize disturbance or damage to sound, intact bedrock.
3. Both hand scaling and mechanical scaling methods may be used, at the discretion of the Contractor.
4. Contractor shall protect all residential and other structures downhill of the road from damage during scaling operations.
5. Scaling shall be performed after achieving the final configuration of the cut shown on the Drawings.

2.00: Vegetation Removal

1. Remove vegetation, including trees from the rock cut face and the lesser of 10 feet upslope of the rock cut brow and 5 feet from the right of way. Trees should be sawcut to be flush with the ground/rock, with a maximum stick up of 2 inches.
2. Removal of vegetation shall be conducted in a manner which will prevent damage to vegetation outside of the clearing limits, especially above the limits. Contractor shall not trespass beyond the construction limits.
3. All vegetation removed shall be disposed of off-site.

3.00: Protection Against Scaled Rocks

1. The Contractor shall be responsible for designing, installing and maintaining protection measures to prevent rocks from entering the eastbound lane of Mount Washington Road.
2. Selection of method(s) to control and contain falling rock generated by scaling operations shall be the responsibility of the Contractor.
3. Protection measures shall be capable of controlling and containing rocks up to the maximum size and/or weight that can be transported by trucks

    (d) If oversize material needs to be brought down, the Contractor shall verify that the protection system is adequate to contain and control the oversize rock.

    (e) As necessary, the Contractor shall modify or reinforce the protection system to contain oversize blocks of rock.

ITEM 121.1 (Continued)

4. Contractor shall identify the locations(s) of buried utilities, utility poles, or other critical infrastructure within the work area and take all reasonable measures to protect such infrastructure from damage during scaling and excavation activities.

4.00: Hand Scaling

1. Contractor shall hand-scale loose or unstable blocks of rock from the slope.
2. Hand scaling may consist of rope access crews on slope using pry bars, pneumatic bladders ("air bags"), or other approved means and methods.
3. Contractor is responsible for providing suitable anchorages for climbing ropes.

5.00: Mechanical Scaling

1. The general purpose of mechanical scaling is to remove unstable blocks that cannot be removed by hand scaling due to size, limited leverage, or safety concerns.
2. Contractor shall use care when mechanically scaling so as to not loosen or remove otherwise stable blocks of rock.

6.00: Clean-Up and Disposal of Scaled Material

1. At the end of the project, the Contractor shall remove any remaining accumulated rocks from the ditch over the length of the project before demobilizing.
2. The Contractor shall load scaled material into the road trucks for transport to a disposal site. The Contractor shall provide equipment capable of loading material up to the maximum size and/or weight that can be transported by the trucks.

7.00: Oversize Material

1. To the extent practical, and consistent with overall project safety, the Contractor shall notify the Engineer prior to scaling blocks of rock that are too large to pick up with available equipment for loading into the trucks.
2. The Contractor shall be responsible for preventing oversize rocks from leaving the roadway surface.
3. Downsizing of oversize material shall be paid for under Item 121. Class A Rock Excavation.

8.00: Roadway Cleaning

The Contractor shall clean the roadway surface with a rotating broom or similar equipment to remove debris and small rocks prior to opening the road to traffic.

9.00: Temporary Asphalt Patching

If required by the Engineer, the Contractor shall make temporary repairs to the roadway pavement that is damaged by scaled rock or debris prior to opening back up to traffic. Asphalt repairs will be paid for under Item 472. Temporary Asphalt Patching.

ITEM 121.1 (Continued)

METHOD OF MEASUREMENT

Item 121.1 will be measured for payment by the Hour of rock scaling, as defined as a crew of 3 laborers and 1 foreman, for the removal of loose material from the slope as shown on the Drawings or as required by the Engineer. Rock scaling shall include:

(a) Hand scaling activities.
(b) Mechanical scaling activities.
(c) Time spent ascending and descending trails or ropes between the base of the slope and the area to be scaled.
(d) Setting safety anchors.
(e) Vegetation removal
(f) Rock and vegetation disposal. This includes time spent cleaning up, stockpiling, and loading rocks, vegetation, and debris into trucks. No distinction will be made between rocks that have fallen naturally and rocks dislodged by scaling activities, and no distinction will be made for variations in the equipment spread utilized for this task.

1. Incidental Items. The following tasks or items shall be considered incidental and will not be measured:

(a) Scaling outside of the limits approved by the Engineer.
(b) Furnishing, installing, maintaining, and removing temporary barriers capable of containing and controlling scaled rocks.

BASIS OF PAYMENT

Item 121.1 will be paid for at the Contract unit price per Hour, which price shall include hand and mechanical scaling, vegetation and rock removal and disposal, furnishing, installation and maintenance of temporary barriers or rockfall fences, all labor, materials, tools, equipment, and all incidental costs required to complete the work.

No distinction will be made between rocks that have fallen naturally and rocks dislodged by scaling activities.

Asphalt patching due to roadway damage from rock scaling will be paid for under Item 472. Temporary Asphalt Patching.

ITEM 121. CLASS A ROCK EXCAVATION CUBIC YARD
ITEM 122. PRESPLITTING ROCK SQUARE YARD

The work under these Items shall conform to the provisions of Subsection 120 of the Standard Specifications, and the following:

Add the following paragraphs to Section 120.63: Presplitting Rock:

For this project, pre-splitting is anticipated to be required for rock excavation between approximate Station 254+75 to 256+75 where cut slopes are expected to be greater than 10 feet in vertical height. The Contractor shall be restricted to accessing the top of the proposed rock cut from Mount Washington Road. Temporary access will not be granted to the top of the existing cut slope. The Contractor will select one of the following options to facilitate access to the top of the proposed rock cut:

1. Design and construct a temporary berm to provide access for standard drilling equipment to the top of the proposed rock cut. The temporary berm can be constructed within the westbound lane of Mount Washington Road but shall not impact traffic in the eastbound lane. One-way alternating traffic shall be maintained at all times during the installation of the temporary berm, except brief scheduled full roadway closures required to facilitate blasting operations. Temporary erosion control and slope stabilization of the berm shall be included and incidental to the work. Depending on the material used to construct the temporary berm, geosynthetic reinforcement or grade separation structures may be required to maintain traffic in the eastbound lane. No blasting will be permitted above the temporary berm. If blasting is needed above the temporary berm, the berm shall be removed prior to blasting. The Contractor shall submit for approval plans stamped by a Professional Engineer registered in Massachusetts for the design, construction, and maintenance of the temporary berm.
2. Access the top of the rock cut from Mount Washington Road using specialized drilling equipment, such as a drill attached to a telehandler or excavator arm.
3. Another method for drilling the presplit holes developed by the Contractor and approved by the Engineer.

Not less than four weeks prior to commencing blasting operations or at any time the Contractor proposes to change the methods, the Contractor shall submit a detailed blasting plan. The blasting plan shall contain the full details of the proposed access, methods, drilling and blasting patterns, and controls the Contractor proposes to use for the controlled blasting. Review of the blasting plan by the Engineer shall not relieve the Contractor of their responsibility for the accuracy and adequacy of the plan when implemented in the field. The blasting plan shall be in accordance with current fire safety code 527 CMR 1.00 and MassDOT Policy Directive P-01-01. The blasting plan submittal is required for all blasting operations and shall contain at least the following information:

1. A description of the equipment and methods to be used to access the top of the proposed rock cut for drilling presplit holes.
2. Manufacturer’s data sheets for all explosives, primers, and initiators to be employed.

ITEMS 121. and 122. (Continued)

3. Description of intended storage, transportation, handling, placement, and usage of explosive materials.
4. Methods of drilling, including equipment descriptions, hole alignment techniques and measures that will be used to prevent excessive deviation of drilled holes.
5. Plans for preventing damage to nearby existing facilities. The Contractor shall inspect and establish Peak Particle Velocity and Airblast limits for each existing structure that may be impacted and include appropriate measures to prevent damage to such structures.
6. A description of blast monitoring equipment and listing of individuals who will operate such equipment. A description of the software to be used to interpret blast-induced vibration and air overpressure.
7. A description of the warning, clearing, and guarding procedures that will be employed to ensure personnel, staff, visitors, roadway users, and all other persons are at safe locations during blasting.
8. A description of the equipment that will be used to monitor the presence of lightning and the approach of electrical storms, in the event of such, evacuation and site security plans.
9. A detailed contingency plan for handling of misfires caused by cutoffs and other causes.
10. Methods for preventing spills or losses of explosives, drilling fluids, oil, or any other pollutants to either ground or surface water during all handling and hole charging operations. Include details of all containment methods and contingency plans for quickly and effectively cleaning up any spilled materials.
11. The Contractor shall describe the equipment “at the ready” that will be staged near the blast to effectively clean up the roadway after each blast and to allow the roadway open for traffic.

ITEMS 121. and 122. (Continued)

12. Contractor shall coordinate with the Engineer for any portions of roadways that must have temporary closures during blasts. A traffic management plan shall be prepared by the Contractor and approved by the Engineer. At a minimum, all traffic must be stopped during blasting operations on roadways where the Contractor or the Engineer has determined the road users may be impacted by blasting operations. Traffic may be halted for periods not to exceed 15 minutes or unless otherwise approved by the Engineer and the Town of Egremont Fire and Police Departments. Roadway closures are permitted 9:00 AM to 3:00 PM or as specified by the Engineer. Contractor shall notify the Engineer and the Town of Egremont Fire and Police Departments two times prior to each blasting event. The initial notification must be made 24 hours in advance of the expected blasting time. A second notification must be made 15 minutes prior to stopping traffic for the blast work. The Contractor shall also notify the District Permits Engineer at least 48 hours prior to the start of blasting. Sufficient flaggers must be present to control traffic on all impacted roadways. The Contractor shall furnish, erect, and maintain on all affected roadways, appropriate standard signage as shown in the Manual on Uniform Traffic Control Devices, Part 6 Figure 6H-2 Blasting Zone (TA-2). These signs are in addition to any temporary traffic control devices required by an existing temporary traffic control plan.
13. Review by the Engineer of blast designs and techniques shall not relieve the Contractor of responsibility for the accuracy, adequacy and safety of the blasting, exercising proper supervision and field judgment, and producing results within the blasting limits required by these Specifications.

Qualifications

Blasting operations shall be performed under the supervision of individuals who are licensed blasters in the Commonwealth of Massachusetts and who possess demonstrable experience in similar rock excavation projects and controlled blasting methods, as deemed acceptable by the Engineers.

ITEMS 121. and 122. (Continued)

METHOD OF MEASUREMENT

Items 121. and 122. will be measured for payment according to Subsection 120.80 of the Standard Specifications/

BASIS OF PAYMENT

Items 121. and 122. will be paid for according to Subsection 120.81 of the Standard Specifications, and the following:

Traffic management plan, contingency plan, monitoring equipment, coordination with the Town of Egremont and the Engineer for blasting operations, and all other work outlined in these special provisions not payable under other items shall be considered incidental to Item 121. Class A Rock Excavation.

Providing access to the top of the proposed rock cut for drilling presplit holes, including the design, construction, maintenance, and removal of a temporary berm including furnishing and installing borrow, geosynthetic reinforcement, or grade separation structures, or by other means, or other labor, materials, and equipment to complete the work shall be considered incidental Item 122. Presplitting Rock.

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.

ITEM 180.01 (Continued)

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.

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, soils, sediments and/or groundwater may be contaminated. 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 sampling, analysis and characterization of potentially contaminated media, preparation 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 Massachusetts Contingency Plan (MCP). LSP hours related to the characterization and disposal of contaminated soil and/or sediment are incidental to the disposal items. An estimate of LSP services to be provided shall be submitted to the Engineer for approval before any LSP activity begins.

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 DEP shall be submitted for all work assignments listed for the LSP and environmental technicians.

The LSP shall evaluate soil and/or sediment with discoloration, odor, and presence of petroleum liquid or sheening 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 soil and/or sediment. Any enhanced management of contaminated soil to ensure proper stockpiling and storage is incidental to the LSP Services item. The LSP shall adequately characterize subsurface conditions prior to backfill in areas where contaminated material has been excavated. The Engineer shall approve the locations of the testing sites prior to the sampling.

ITEM 180.03 (Continued)

Contaminated soil, sediment and/or groundwater shall be handled in accordance with all applicable state and federal statutes, regulations and policies. The LSP shall adequately characterize contaminated media for comparison to the requirements of the MCP. 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. The LSP shall maintain written records in a clear and concise format which tracks the excavation, stockpiling, analysis and reuse/disposal of all suspect contaminated soils, sediments and groundwater. These records shall be up-to-date and available to the Engineer on a bi-weekly basis. The LSP shall review and summarize the laboratory data from any analyses performed on contaminated media. A report shall be delivered to the Engineer outlining the material sampling methods, laboratory analysis results 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, penalties and enforcement requirements imposed by applicable regulatory agencies for failure to meet regulatory and contract timeframes. No compensation will be provided for such fines, penalties 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 Department before submittal to the DEP, except if an imminent hazard condition exists as defined in 309 CMR 4.03(4)(b).

ITEM 180.03 (Continued)

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.

In order to maintain compliance with the MCP 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. 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), semivolatile 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. LSP hours related to soil/sediment disposal (disposal characterization, landfill acceptance, disposal package preparation, etc.) shall be incidental to disposal items.

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. Laboratory testing related to soil/sediment disposal (disposal characterization, landfill acceptance, disposal package preparation, etc.) shall be incidental to disposal items.

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.

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:

ITEMS 181.11 through 181.14 (Continued)

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).

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.

ITEMS 181.11 through 181.14 (Continued)

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.

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.

ITEMS 181.11 through 181.14 (Continued)

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.

ITEMS 181.11 through 181.14 (Continued)

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.

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.

ITEMS 181.11 through 181.14 (Continued)

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.

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.

ITEMS 181.11 through 181.14 (Continued)

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 and Industries Regulations, (DLI) including but not limited to:

453 CMR 6.00 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.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Measurement and payment will be at the contract unit price per Lump Sum for Item 182.1 as specified above including all materials, tools, equipment and labor to complete the inspecting and testing of the asbestos suspected material.

All costs in the connection with the protection of general public, private property, and all costs associated with the proper inspecting and testing of the material shall be included in the price and no additional compensation will be allowed.

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 and Industries Regulations, (DLI) including but not limited to:

453 CMR 6.00 Removal, Containment and Encapsulation of Asbestos

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

ITEM 182.2 (Continued)

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 and Industries. 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 Abatement Supervisor and Asbestos Abatement Project Designer as required by 453 CMR 6.00.

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.

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

ITEM 182.2 (Continued)

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 DLI certification of proposed Supervisors and Foreman responsible for asbestos work.
1. 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 DLI, EPA and OSHA standards.
2. 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.

ITEM 182.2 (Continued)

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 by the FOOT for the complete removal and disposal of the asbestos containing material.

BASIS OF PAYMENT

Payment will be at the contract unit price per FOOT for Item 182.2, as specified above including all materials, tools, equipment and labor necessary to complete the work specified above.

All costs in connection with the protection of the general public, private property and all costs associated with the proper disposal of the material removed shall be included in the price and no additional compensation will be allowed.

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 objects 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.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

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 203.6 SPECIAL MANHOLE – 6' DIAMETER EACH

The work under this Item shall conform to the relevant provisions of Section 200 of the Standard Specifications, and the following:

The work under this Item shall include furnishing and installing special manholes as shown on the construction details.

Manholes shall be built with 6'inside diameter as shown on the construction details.

METHOD OF MEASUREMENT

Item 203.6 will be measured for payment by the Each special manhole – 6' diameter, furnished and installed, regardless of depth, complete in place.

BASIS OF PAYMENT

Item 203.6 will be paid for at the Contract unit price per Each, which price shall include furnishing, installation, concrete collars, all labor, materials, tools, equipment, and all incidental costs required to complete the work.

Extra depth excavation below the proposed bottom of structure to obtain a stable foundation will be paid for as Class B Trench Excavation. When directed, the castings of drainage structures on roadways opened to traffic will be set to a temporary grade, and the unit will be considered complete in place and paid for at the contract unit price for the type of structure involved. At such time as the casting or structure and casting is adjusted to final grade the work shall be done and payment made under the provisions of Subsection 220: Adjustment, Rebuilding and Remodeling of Drainage Structures.

If the material for backfill is obtained from borrow it will be paid for at the contract unit price per cubic yard or ton for the kind of borrow required.

Frames and covers will be paid for separately under the appropriate bid Item.

ITEM 223.1 FRAME AND GRATE (OR COVER) REMOVED AND STACKED EACH

The work under this Item shall conform to the relevant provisions of Subsection 220 of the Standard Specifications, and the following:

Frames and Grate (or Cover)(s) determined to be in good condition that are proposed to be replaced, as required by the Engineer will be removed and stacked under Item 223.1. The work under this Item shall include the removal of these frames and grates or covers as shown on the plans, or as required by the Engineer.

Frames and grates or covers determined to be in good condition that are not reused on the project shall be delivered to the Town of Egremont Highway Department, 171 Egremont Plain Road, Egremont, MA 01230. No additional payment shall be made for transporting castings. Frame and Grate (or Cover)(s) deemed to be unsuitable for reuse shall become property of the Contractor and disposed in an acceptable manner.

METHOD OF MEASUREMENT

Item 223.1 will be measured for payment by the Each frame and grate (or cover) removed and stacked.

BASIS OF PAYMENT

Item 223.1 will be paid for at the Contract unit price per Each, which price shall include removal, stacking, furnishing and placing of steel plates and gravel borrow, final removal of steel plates, all labor, materials, tools, equipment, and all incidental costs required to complete the work.

ITEM 235.24 24 INCH DRAINAGE PIPE FLARED END - OPTION EACH

Work to be done under this Item shall conform to the relevant provisions of Subsection 230 of the Standard Specifications and the following:

The work under this Item shall include furnishing and installing 24 inch drainage pipe flared end.

The Drainage Pipe Flared End-Option shall match the type, class and size of the Drainage Pipe – Option for the pipe to be installed under Item 234.24.

METHOD OF MEASUREMENT

Item 235.24 will be measured for payment according to the provisions of Subsection 230.80 of the Standard Specifications.

BASIS OF PAYMENT

Item 235.24 will be paid for according to the provisions of Subsection 230.81 of the Standard Specifications.

ITEM 402.13 PAVEMENT MILLING MULCH FOR SHOULDERS FOOT

Work to be done shall conform to the relevant provisions of Subsection 769 of the Standard Specifications and the following:

The work consists of earthworks to install pavement millings mulch for shoulders at the edge of pavement. The existing shoulder shall be prepared for pavement milling mulch as necessary and directed by the Engineer. The work shall consist of excavation and leveling shoulder area to be mulched. The excavation and leveling of shoulder shall be pushed back down slope on embankment and/or excavated and disposed of on-site level and compacted as directed by the Engineer. Milling mulch shall be graded and compacted to a width of 3 feet and a depth of 4 inches level with the edge of the pavement, top of edging or curb or as directed by the Engineer. No geotextile fabric under the pavement millings shall be installed.

MATERIALS

Pavement milling mulch shall be smaller than the Standard 1-1/2 inch sieve.

The on-site recycling of pavement millings sourced from the project is encouraged. All pavement milling mulch for shoulders will be accepted based on visual inspection by the Engineer. Mulch material greater than 1 ½ inch shall be removed off-site by the Contractor.

METHOD OF MEASUREMENT

Item 402.13 will be measured per FOOT in the longitudinal direction parallel to the edge of road, complete in place.

BASIS OF PAYMENT

Item 402.13 will be paid per FOOT of material installed which price includes materials, excavation, grading and leveling and disposing on site, compacting and all incidental costs required to complete the work to the satisfaction of the Engineer.

ITEM 470.2 HOT MIX ASPHALT BERM, TYPE A - MODIFIED FOOT

Work under this Item shall conform to the relevant provisions of Subsection 470 of the Standard Specifications, and the following:

CONSTRUCTION

Hot Mix Asphalt Berm, Type A – Modified, shall be furnished and placed be means of an approved extrusion machine in conformance with the dimensions and at the locations shown on the Plans.

METHOD OF MEASUREMENT

Item 470.2 will be measured for payment by the Foot of hot mix asphalt berm, Type A – modified, furnished and placed, complete in place.

BASIS OF PAYMENT

Item 470.2 will be paid for at the Contract unit price per Foot, which price shall include, furnishing, placement, all labor, materials, tools, equipment, and all incidental costs required to complete the work.

ITEM 620.136	**GUARDRAIL, TL-3 STIFFENING WITH HALF POST SPACING**	**FOOT**
ITEM 620.138	**GUARDRAIL, TL-3 STIFFENING WITH QUARTER POST SPACING**	**FOOT**

Work to be completed under these Items shall conform to the relevant provisions of Subsection 601 of the Standard Specifications, and the following:

This work shall consist of the construction of guardrail stiffening applications in accordance with these specifications and in close conformity with the lines and grades shown on the plans, sketch details or established by the Engineer.

MATERIALS

Materials shall meet the requirements specified in the following Subsections of Division III, Materials:
Guardrail M8.07.0
Guardrail Delineator M9.30.7

The contractor shall provide a detailed list of all system components for maintenance purposes. No work shall commence under these items until the Engineer has received all documentation.

CONSTRUCTION METHODS

Posts
Posts shall be set plumb, in hand or mechanically dug holes, or driven, then backfilled with acceptable material placed in layers and thoroughly compacted.

If driven, the posts shall be provided with suitable driving caps and equipment used which will prevent battering or injury of posts. Posts damaged or distorted as result of driving shall be removed, discarded, and replaced with approved posts re-driven in-place without any additional compensation.

Posts set in areas of hot mix asphalt or cement concrete surfacing shall conform to Standard Drawing No. 400.5.1 Special Posts, of the MassDOT Construction Standards without any additional compensation.

ITEMS 620.136 and 620.138 (Continued)

Guardrail Panel

The rail shall be erected in a smooth continuous rail conforming to the required line and grade. All rail elements and splices shall be per the plans. The rail shall make full contact at each splice. All bolts, except where otherwise required at expansion joints shall be drawn tight. Bolts through expansion joints shall be drawn up as tightly as possible without being too tight to prevent the rail elements from sliding past one another longitudinally.

Guardrail delineators shall be installed at intervals as indicated on the plans. Retroreflective sheeting shall conform to the following colors:

a. White on the upstream face in the right shoulder.
b. Yellow on the upstream face in the left shoulder.
c. Red on the downstream (wrong-way travel direction) face within 1,000 ft upstream of a median break of a divided highway or interchange.

METHOD OF MEASUREMENT

Guardrail, TL-3 stiffening with half post spacing will be measured per foot for a minimum 50 foot for guardrail stiffening application. Additional lengths, as required by the Engineer for face of fixed (non-breakaway) object protections, shall be measured and installed at 12.5-foot half post panel stiffening increments.

Guardrail, TL-3 stiffening with quarter post spacing will be measured per foot for a minimum 62.5 lineal foot for guardrail stiffening application. Additional lengths, as required by the Engineer for face of fixed (non-breakaway) object protections, shall be measured and installed at 12.5-foot quarter post panel stiffening increments.

BASIS OF PAYMENT

Guardrail, TL-3 stiffening will be paid for at the contract unit price under each item of the contract based on the measurements as determined by the engineer. The contract prices shall include all material, labor and equipment required or incidental to the satisfactory completion of work.

Guardrail, TL-3 stiffening with half post spacing will be paid for at the contract price per lineal feet, complete in place, including posts, offset blocks, panels and connecting hardware.

Guardrail, TL-3 stiffening with quarter post spacing will be paid for at the contract price per lineal feet, complete in place, including posts, offset blocks, panels and connecting hardware.

Guardrail delineators shall be considered incidental to the cost of the guardrail.

The use of special post under standard detail 400.5.1, where necessary or directed by the Engineer, shall be incidental to the work with no additional compensation.

Class B Rock Excavation, if necessary, will be paid for under Item 144.

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 Subsection 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 698.3 GEOTEXTILE FABRIC FOR SEPARATION SQUARE YARD

The work under this Item shall conform to the relevant provisions of Section 600 of the Standard Specifications and the following:

The work under this Item shall consist of furnishing and installing geotextile fabric below the bedding for the modified rockfill slope and around the crushed stone for Walls 1, 2, 3, 4, 5, and 6 as shown on the plans.

MATERIALS

Geotextile Fabric for Separation shall conform to subsection M9.50.0 of the MassDOT Standard Specifications and AASHTO M288.

The geotextile fabric shall conform to the requirements of AASHTO M 288, Class 1, and must be on the MassDOT QCML. Construction and installation shall be in accordance with AASHTO M 288 (including the Appendix) and the following.

CONSTRUCTION

Fabric shall be placed in intimate contact with the gravel borrow subbase or crushed stone. Seams shall be overlapped by at least two feet. If the Contractor elects to sew seams instead of overlap, colored thread must be used. The Contractor shall take care not to allow more than two weeks of exposure to direct sunlight. Fabric rolls shall not be dropped more than two feet.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Geotextile fabric for separation will be paid for at the Contract unit price per square yard, which price shall include all labor, materials, equipment and incidental costs required to complete the work.

No separate payment shall be made for overlapping material but all costs in connection therewith shall be included in the Contract unit price bid.

ITEM 740. ENGINEER'S FIELD OFFICE AND EQUIPMENT (TYPE A) MONTH

Work under this Item shall conform to the relevant provisions of Section 740 and the following:

Three computers system, printer system, a 4-foot smart level, and a digital camera meeting the requirements set forth below including installation, maintenance, power, paper, disks and other supplies shall be provided at the Engineer's Office:

All equipment shall be UL approved and Energy Star compliant.

The Computer System shall meet the following minimum criteria or better:

RAM:	8 GB
Hard disk:	500GB, 7200RPM
Monitor:	24" LCD with Built-in speakers, 1600 x 1050 at 24 bit true color
DVD-RW/CD-RW:	Combo drive including DVD ± RW
Network Adapter:	10/100 Mbit/s
USB Ports:	6 USB 3.0 ports
Mouse:	Optical mouse with scroll, MS-Mouse compliant
OS:	Windows 8, Professional with all security updates
Web Browser:	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.
Flash drives:	2 - 32GB USB 3.0
Internet access:	High speed internet access with router.

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)
- Reduction/enlargement capability
- Ability to copy and print 11" x 17" paper size
- email and network pc connectivity
- Microsoft and Apple compatability
- ability to overwrite latent images on hard drive
- 600 x 600 dpi capability
- 30 pages per minute print speed (color),
- 4 Paper Trays Standard (not including the bypass tray)
- Automatic duplexing
- Finisher with staple functions
- Standard Ethernet. Print Controller
- Scan documents to PDF, PC and USB
- ability to print with authenticated access protection

Contractor must supply a maintenance contract for next day service, and all supplies (toner, staples, paper) necessary to meet estimated monthly usage.

ITEM 740. (Continued)

A Digital Camera shall meet the following minimum criteria or better:

Resolution:	14 Megapixel
Optical Zoom:	5x
Waterproof:	to a depth of 33ft (10m)
Shockproof:	up to 6.6ft (2m)
Freezeproof:	14°F (-10°C)
Memory:	8 GB SD Card
USB Port:	USB 2.0 with PC cable
Screen:	2.7+ inch LCD with scratch-resistance and anti-reflectance
Battery Power:	2 rechargeable batteries and a battery charger
Carrying Case:	Rain-proof with shoulder strap

The Engineer's Field Office and the equipment included herein including the computer system, printer and camera 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.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

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 751.7 COMPOST BLANKET CUBIC YARD

The work under this Item shall conform to the relevant provisions of Subsection 751 and M1.06.0 Compost of the Standard Specifications and the following:

Work shall consist of furnishing and pneumatically applying compost as a thin mulch blanket (1/2- 1 inch depth) over prepared soil to provide temporary soil stabilization and organic matter for plant growth.

SUBMITTALS AND MATERIALS

No materials shall be delivered until the required submittals have been approved by the Engineer. Delivered materials shall match the approved samples. Approval of test results does not constitute final acceptance.

Contractor shall submit to the Engineer samples and certified test results no sooner than 60 days prior to application of compost. Vender certification that material delivered meets the test results shall be submitted if requested.

Compost shall meet the requirements for M1.06.0: Compost, Type 2, as referenced in the MassDOT– Highway Division Standard Specifications for Highways and Bridges, Division III: Materials Specifications, latest edition.

The Engineer shall approve the Contractor's equipment for application.

CONSTRUCTION METHODS

Application of compost material shall not begin until the Engineer has approved the site and soil conditions. Soil preparation shall be as specified under the applicable item for soil placement or for seeding. The Contractor shall notify the Engineer when areas are ready for inspection and application of compost.

Compost blanket shall be pneumatically applied (blown on) to a minimum depth of one half to one inch. Where shown on the plans or when directed by the Engineer depth may be increased to provide berms for sediment control or to otherwise prevent slope erosion.

When compost blanket is proposed with seeding, seed shall be broadcast and shall occur in conjunction with compost blanket, as specified under the relevant item for seeding.

When compost blanket is proposed for areas with planting, compost (and seed if applicable) shall be applied after planting. If compost and seed occur prior to planting, areas shall be regraded and compost and seed reapplied to the satisfaction of the Engineer and at the Contractor’s expense.

ITEM 751.7 (Continued)

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 751.7 will be measured and paid for at the Contract unit price per Cubic Yard which price shall include all labor, materials, equipment, and all incidental costs required to complete the work of pneumatically applying compost.

Surface preparation of substrate receiving compost blanket shall be compensated under the applicable item for placement of loam, sand, ordinary borrow, wetland soil, topsoil rehandled and spread, tilled existing soil, or other specified substrate.

Seeding, if utilized, will be compensated for under the appropriate seeding items.

ITEM 751.765 COMPOST AND SEED OVER MODIFIED ROCK CUBIC YARD

The work under this Item shall conform to the relevant provisions of Subsection 751, 767, and 765 of the Standard Specifications and the following.

Work shall consist of furnishing and pneumatically applying compost in conjunction with the specified native seed on designated areas of modified rock and achieving satisfactory establishment of seeded species as specified herein.

QUALIFICATIONS

Compost application and 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.

MATERIAL AND SUBMITTALS

Compost

Compost shall meet the relevant provisions for Type 2 Compost, found in Section M1.06 of the Supplemental Standard Specifications.

The Engineer shall approve the Contractor's equipment for application.

Seed Mix

Seed Mixes and Submittals shall be per the item(s) for the permanent seed mix. Mix shall be: Item 765.411 Seeding – Short Grassland Mix.

SEEDING SEASON

The season for seeding 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%.

CONSTRUCTION METHODS

Method of application and equipment to be used shall be reviewed and approved by the Engineer prior to placement of material.

ITEM 751.765 (Continued)

Placement of Compost

Compost shall be placed as shown on the Plans and in the Detail and as required by the Engineer. Material shall be placed so that settled material is at or slightly below the surface plane of the stone. The Contractor shall ensure that there will be adequate quantity, including adjustment for settlement.

For purposes of estimation, required compost quantities should be 300 cubic yards per acre to achieve the target depth.

Seeding

For areas smaller than half an acre, unless otherwise approved by the Engineer, seeding shall be done by broadcast method. Seeding shall be done in conjunction with or immediately following Compost application. Alternative seeding methods must be submitted and approved by the Engineer 14 days in advance of compost and seed application.

Hydroseeding

Hydroseeding may be used for sites over half an acre in size or when the rock slope does not permit safe application via a broadcasting method. Hydroseed shall be per the manufacturer's directions and as follows.

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.

When Seeding Occurs after Application of Compost or after December 1

When seeding is done more than 3 days after Compost application or when Compost is applied after December 1, seeding rate shall be increased by 50%.

Over-Seeding

Large extents of bare area (greater than 5-6 feet and depending on modified rock slope conditions) shall be over-seeded with the specified mix during the appropriate season for seeding. Rates, methods, and submittals shall be as specified under the relevant Seed Mix Item and Materials above.

Over-seeding, mulch, watering, and all work for over-seeding shall be incidental.

ITEM 751.765 (Continued)

Determining Satisfactory Establishment

A reasonably well-established stand of the specified seeded species as determined by the Engineer and the MassDOT Landscape Architect or designated Specialist will be required for Final Acceptance. The expectation is that an acceptable number and variety of the desired permanent seeded species will be visible. For seeding with compost over modified rock this shall generally be:

- A minimum of 50% coverage by the specified permanent seeded species after one growing season (considered June-September 15). Of that percentage, generally, depending on the mix species:
  - At least 2 types of permanent seeded grass species shall be visible.
  - At least 2 species of wildflowers shall be visible.
- There will be no more than 25% coverage by weed species.
- 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 (ex., clover) due to using an incorrect or modified mix or due to failure to clean the hydroseeding tank if a hydroseeder is used.

Invasive and aggressive weeds (such as mugwort, vetch, knapweed, and chicory) must be cut, pulled with roots removed, or treated with herbicide by a licensed and approved applicator prior to going to seed for Interim Acceptance. Weed removal shall be coordinated with MassDOT Landscape Architect. No herbicides shall be used without approval and coordination with MassDOT Landscape Design Section.

Acceptance of Seeding and Establishment Work

Conditional Acceptance shall be based on approval of seed mix submittals and proper application of seed as specified herein.

Final Acceptance of Seed 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. Otherwise, Contractor shall forego the payment for Final Acceptance. All remediation shall be at the contractor's expense.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Compost and Seed for Modified Rock will be measured and paid for at the Contract unit price per Cubic Yard which price shall include all labor, materials, equipment, site preparation, and all incidental costs required to complete the work.

Native Seed Mix shall be compensated at the bid price per the specified seed mix item by pound.

Schedule of payment shall be as follows:

60% upon approval of Compost application and Conditional Acceptance of seeding as specified above

40% upon Final Acceptance of Seed Establishment

ITEM 755.77 SNAKE BIOLOGIST HOUR

The work under this item shall be for services of a Biologist with qualifications pertaining to the protection of the state-listed snake populations as identified by the Massachusetts Division of Fisheries and Wildlife's (DFW) Natural Heritage & Endangered Species Program (NHESP), hereafter referred to as the "Biologist".

The Biologist shall demonstrate knowledge and expertise to coordinate and oversee all work associated with the State-listed Snake Protection Plan as defined herein, as shown on the Plans and these specifications, and as required by permits. The Biologist shall not be from the same company as the Contractor.

For all onsite work, the Biologist shall sign in and sign out with the Engineer.

QUALIFICATIONS

Refer to Item 755.771 State-Listed Snake Protection Plan for required qualifications for the Snake Biologist. If there are any questions regarding biologist qualifications, please contact the MassDOT Wildlife Unit (David Paulson, Wildlife Unit Supervisor, David.J.Paulson@dot.state.ma.us; cell: 857-262-3378).

SCOPE OF WORK

In the event of discrepancies with the applicable permits, the Biologist shall submit a Request for Information (RFI) to the Engineer.

General

The Biologist shall be responsible for the following:

- Review and have a comprehensive knowledge of the environmental permits relevant to state-listed species, Snake Protection Plan, and specific work being done so as to ensure compliance throughout the duration of the contract.
- Identify and inform the Contractor and Resident Engineer of unique site conditions which may require adjustments to the schedule, design, or construction methods. For example, wildlife nesting, illegal dumping, or presence of state-listed species.
- Identify and inform the Contractor and Resident Engineer of any sediment or erosion control problems observed within mitigation areas.
- Advise so as to avoid impacts to adjacent areas and protected species.
- Participate in necessary meetings as required by permits and when requested by the Engineer.

ITEM 755.77 (Continued)

Pre-Construction Site Walk and Contractor Education

Following surveying, flagging, and staking of all relevant boundaries and elevations by the Contractor, the Snake Biologist shall walk the site with the Resident Engineer, the Contractor, and a representative from the MassDOT Wildlife Unit, to review existing and proposed conditions, recommend changes if necessary, and approve the following: location, boundaries, and timing of the tree clearing, trimming, and excavation, location of staging areas, methods of storing materials and equipment, and other appurtenant work.

The Snake Biologist shall also meet with the Contractor on-site supervisor and project manager, the Resident Engineer, and NHESP and MassDOT Wildlife Unit representatives, and any other representatives as identified by the Engineer to review the Protection Plan and outline best practices to ensure the protection of state-listed species. This meeting shall be held prior to the commencement of tree clearing, excavation, and other appurtenant work.

Construction Oversight

If the protected species is observed on the project site during construction activities, the Snake Biologist shall be contacted immediately and shall schedule a site visit. **Construction activities are to cease until the established procedures are implemented according to the Protection Plan and signed off on by the Biologist.** The Biologist shall visit the site as needed to determine if construction activities in the vicinity of the observed species may resume.

Monitoring Reports

Monitoring reports shall be prepared to document each site visit and to ensure compliance with all permitting and contract requirements. Monitoring Reports shall cover all requirements as outlined in the environmental permits and the following:

- Date and location of all state-listed species that are encountered
- Description of subsequent actions and recommendation for a corrective plan of action if needed.
- Description of the viability, health, and vigor of state-listed species within the project limits.
- Description of remedial measures taken to ensure criteria are met.
- A conclusion regarding the success of the project relative to the permitting and contract requirements.

ITEM 755.77 (Continued)

METHOD OF MEASUREMENT

Item 755.77 will be measured for payment by the Hour for on-site service provided by the Biologist.

Work shall include all inspections, photos, submittals, and associated tasks for construction and restoration oversight, narratives for Conditional and Final Acceptance, Request for Certificate of Compliance (Partial or Full) if required, documentation required for permits, and all other work specified above. Payment shall not include travel time or time spent off-site on reports. Decimal Pay Limits will be 0.25 hours.

BASIS OF PAYMENT

Item 755.77 will be paid for at the Contract unit price per Hour, or fraction thereof, which price shall include time spent on-site to perform the work as described above, all labor, materials, tools equipment, and all incidental costs required to complete the work. Reports and photo documentation are required for payment.

Work associated with the development of the State-listed Snake Protection Plan shall be paid for under Item 755.771 State-Listed Snake Protection Plan.

ITEM 755.771 STATE-LISTED SNAKE PROTECTION PLAN LUMP SUM

This section outlines the requirements of the Massachusetts Division of Fisheries and Wildlife's (DFW) Natural Heritage and Endangered Species Program (NHESP) for projects that occur in the vicinity of state-listed snake populations. The work to be done consists of the development of a Snake Protection Plan, in accordance with the NHESP Letter regarding the reconstruction of Mount Washington Road (Phase 1) in Egremont, Massachusetts. Compliance with NHESP's letter is the responsibility of the Contractor.

Snake Biologist

The Contractor shall submit the qualifications of a Snake Biologist (Biologist) to the Resident Engineer and the MassDOT Wildlife and Endangered Species Unit (Wildlife Unit, David Paulson) *at least* 60 days prior to any start of work. Once approved by MassDOT Wildlife, the qualifications must be sent to NHESP (Tim McGuire) for review and approval. This is required prior to the development of the Snake Protection Plan.

The Snake Biologist must have prior experience in state-listed snake identification, snake biology, handling of state-listed snakes, and the implementation of construction-related snake protection measures. If there are any questions regarding the biologist qualifications, please contact the MassDOT Wildlife Unit.

Contact information for MassDOT Wildlife Unit and NHESP is provided on the next page.

Snake Protection Plan prepared by Snake Biologist

Prior to any work, the Contractor shall submit a Snake Protection Plan, prepared by the Biologist, to the Resident Engineer and MassDOT Wildlife Unit for review and approval. Said Protection Plan must then be submitted to NHESP and approved in writing prior to the start of work. The Protection Plan will be developed for the work occurring within NHESP Priority Habitat only.

At a minimum, the Snake Protection Plan shall include:

- The Conditions required in the NHESP Letter, with the protection plan for work within NHESP Priority Habitat only.
- A Scientific Collection Permit application with Biologist contact information obtained from NHESP to handle state-listed species.
- The biologist is to be on-call and notified immediately should any snakes enter the work zone. Work shall temporarily cease until the snake is removed from the work zone.
- Tree clearing for the *entire* project must occur from **November 1 to April 14**, outside of the active season for snakes
- **No stockpiling** can occur within NHESP Priority Habitat for Rare Species
- If mesh erosion controls are used, the mesh opening must be greater than 2 inches or less than ¼ inch. The use of mesh erosion controls meeting this requirements should be minimized, and non-mesh materials should be used when feasible.
- Anticipated schedule of operations for project
- Description of any proposed barriers at the limit of work to isolate snakes from the work zone and to keep construction personnel outside of unpermitted sensitive areas.

ITEM 755.771 (Continued)

- Description of snake monitoring protocols to ensure species individuals are not harmed by work activities.
- The biologist can temporarily cease work to maximize protection of state-listed species and allow for additional search time
- Construction personnel training/education on the snake protection plan
    - The Biologist shall provide the construction foreperson snake identification, guidance, and their direct line of contact. All construction, landscaping, and other sub-contractors associated with the Project shall be informed in writing of the likely presence of State-listed Species on the Property and what measures (observation and injury protection) should be implemented to minimize direct harm to State-listed Species.
- No wildlife shall be removed from the Property without approval from the Biologist or the Division except as necessary to receive veterinary treatment in the case of harm during construction.
- Monitoring reports to NHESP for each site visit

NHESP and MassDOT Wildlife staff are available for further guidance and consultation on the development of the Snake Protection Plan

MassDOT and NHESP Contact Information

- MassDOT Wildlife and Endangered Species Unit:
  David Paulson, Wildlife and Endangered Species Unit Supervisor
  David.J.Paulson@dot.state.ma.us; cell: 857-262-3378
- NHESP: Timothy McGuire, Endangered Species Review Biologist/MassDOT Liaison
  Timothy.McGuire2@mass.gov; phone: 508-389-6366

BASIS OF PAYMENT

Item 755.771 will be paid for at the Contract Lump Sum price, which price shall include preparation of the Scientific Collection Permit Application and Snake Protection Plan by the Biologist, including any necessary coordination between MassDOT/NHESP and the Biologist, all labor, materials, tools, equipment, and all incidental costs required to complete the work.

Upon approval of the Biologist by the Resident Engineer and NHESP, a payment of 30% of the Lump Sum shall be paid. The remaining 70% shall be paid in 10% increments distributed equally throughout the remaining period of the contract.

The implementation of the Snake Protection Plan will be paid on an hourly basis under Item 755.77 Snake Biologist.

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 756.1 WELL WATER QUALITY TESTING LUMP SUM

This item is provided as a contingency for the water quality testing of any water wells encountered on the project site. The project site shall be investigated thoroughly at the beginning of construction. All wells within the project limits and/or on abutting properties shall have a water quality test performed with the resulting data recorded and provided to the Town of Egremont.

BASIS OF PAYMENT

Item 756.1 will be paid for at the Contract Lump Sum price, which price shall include testing, record keeping, all labor, materials, tools, equipment, and all incidental costs required to complete the work.

ITEM 765.411 SEEDING – SHORT GRASSLAND MIX SQUARE YARD

The work under this item shall conform to the relevant provisions of Subsection 765 of the Standard Specifications and the following:

The work shall consist of planting and establishing a stand of grass in the areas of composted mulch over modified rockfill as 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.

All seeding shall be done by a company having a minimum of five years of experience with native grass establishment. Prior to beginning work, the seeding Contractor shall furnish proof of qualifications to the Engineer for approval. Proof of qualifications includes, if requested, providing documentation (photos and contacts) to demonstrate knowledge and expertise with native seeding and proof of having completed successful native seeding projects.

Seeding shall be done within 48 hours of final grading. Mulch for seed shall be Compost Blanket or hydromulch as specified below, and shall be incidental to this item.

SEEDING SEASON

Seeding seasons shall be April 1 through May 15 and October 1 through December 1 for dormant seeding. ***Seeding that occurs outside of these periods, shall be increased by 50%.***

MATERIALS

Seed

Samples and Submittals

1) Certificate of Materials. 60 days prior to ordering, the Contractor shall submit to the Engineer the manufacturer or supplier's notarized Certificate of Materials. This document shall not be used as proof of purchase, proof of material delivered, or proof of material seeded, but simply to verify supplier availability of seed listed on the date certified. The species listed shall match those specified on the plans or herein, however, cultivars may vary due to availability. Substantial substitutions or changes in the mix from that specified on the plans or herein shall be approved by MassDOT Landscape Design Section.

2) Seed Tag Certification. All seed lots have a seed analysis tag as required by State and Federal law. The contractor shall submit seed tags for each bag of seed used on the project site or ensure that each tag is photo documented by the Engineer. Number of tags shall match number of bags sent by the supplier to meet rate of Pure Live Seed specified on the plans. Tag must include: kind and variety of seed; lot number; origin of seed; net weight; % purity; germination; dormant seed; germination test date; inert matter; weed, noxious and other crop seed; and name and address of company responsible for the analysis. Seeding may be considered unacceptable for payment if no tags are submitted.

ITEM 765.411 (Continued)

3) Certificate of Compliance. Prior to payment, contractor shall submit a bill of lading or a signed, dated and notarized Certificate of Compliance from the Supplier that serves as proof of purchase. This document shall include kind and variety of seed, lot number, net weight shipped, date of sale, invoice number under which seed was purchased, and name and address of Supplier or Manufacturer. All information must be included on the notarized form, including lot number and net weight shipped for specified job. This information shall match Seed Tag Certification and quantity of seed applied on the job. Seeding may be considered unacceptable for payment if information is incomplete.

4) Seed Sample. Contractor may be asked, prior to seeding, to submit a seed sample for testing.

Quantities specified are Pure Live Seed (PLS). Greater quantities of ordered seed may be required to achieve actual specified seeding rates. Pure Live Seed is defined as the fraction of pure seed species within the mix that, by standard seed testing practices, will germinate. This is determined by multiplying the percent of seed purity by the percent of seed germination.

Seed mix shall be a custom blend as shown on the plans or shall be as specified below. Seed cultivars shall be those that are as regional to New England or the local ecotype as possible.

Any species substitutions shall be with a species having similar characteristics and native to New England. Substantial changes in the mix shall be approved by MassDOT Landscape Design Section.

ITEM 765.411 (Continued)

765.411 Short Grassland Mix

Botanical Name	Common Name	% Mix By Weight (PLS)
Grass		
Schizachyrium scoparium	Little Bluestem	55.0%
Elymus virginicus	Virginia Wild Rye	27.6%
Festuca rubra	Creeping Red Fescue	7.0%
Agrostis perennans	Upland Bentgrass	1.5%
Eragrostis spectabilis 'RI Ecotype'	Purple Lovegrass 'RI Ecotype'	1.5%
Dichanthelium clandestinum 'Tioga'	Deertongue grass 'Tioga'	1.0%
		93.6%
Herb/Forb		
Chamaecrista fasciculata	Partridge Pea	3.0%
Penstemon digitalis	Beard-tongue	1.5%
Achillea millefolium	Common Yarrow	0.4%
Solidago nemoralis	Grey Goldenrod	0.3%
Aster laevis NY Ecotype	Smooth Aster NY Ecotype	0.2%
Pycnanthemum tenuifolium	Slender Mountain Mint	0.2%
Aster lateriflorus	Calico Aster	0.2%
Solidago bicolor	White Goldenrod	0.2%
Aster pilosus	Heath Aster	0.2%
Zizia aurea	Golden Alexanders	0.1%
Euthamia graminifolia	Grass-leaved Goldenrod	0.1%
		6.4%
Seeding Rate: 15.0 lbs PLS/Acre		**100.0%**

ITEM 765.411 (Continued)

Herbaceous Species may be substituted with similar species native to Massachusetts if those specified are not available. Please check with MassDOT Landscape Design on grass substitutions.

Seeding Rate

Apply this mix at 15 lbs PLS/acre.

Add 30 lbs/acre of a cover crop. For a cover crop use either grain oats (1 Jan to 31 July) or grain rye (1 Aug to 31 Dec). Cover crop shall be incidental to seeding item.

Fertilizer

No fertilizers shall be applied.

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.

Mulch

Mulch for seeding and topdressing shall be incidental to this item. Mulch shall be:

- Compost Blanket meeting the material and submittal requirements of Item 751.7, Compost Blanket and as specified below under Seeding and Mulching or
- Hydromulch per the manufacturer’s recommendation. Mulch for hydroseeding shall be wood fiber only.

Photo Documentation

Contractor shall submit photo documentation to the Engineer and Landscape Design Section. Each photo shall be date stamped. Photos shall be submitted after the following stages of construction:

- Soil preparation
- Seed and hydromulch/compost blanket
- Germination
- Grass establishment after one full growing season (growing season is June-September)

ITEM 765.411 (Continued)

CONSTRUCTION

Surface Preparation

Soil preparation and seeding shall occur only when the bed is in a friable condition, not muddy or hard. 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 smooth and even finish corresponding to the required grades.

When seeding over existing or compacted soil, surface will be prepared by raking or tracking to a depth of 2 inches prior to seeding and prior to Compost Blanket (when applicable).

Surface preparation shall be compensated for under Item 751.7 Compost Blanket.

Surface preparation shall be approved by the Engineer prior to seeding.

Seeding over Various Substrates

Loam: Seeding shall occur within 48 hours of site preparation to prevent loss of topsoil. Seeding shall be hydroseeding or broadcast as specified below.

Compost Blanket: Compost Blanket shall be applied as specified under that item. Seed should be 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% and area shall be hydromulched.***

Compost Mulch over Modified Rock: Compost Mulch shall be applied as specified under that item and shall be such that only the voids in the rock are filled so that seed has an organic substrate for germination. Seed shall be broadcast after compost application. No hydromulch is required.

Seeding Methods

No seeding or surface preparation work shall be done if soils are muddy or dry and compacted.

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 (e.g., sawdust, rice, kitty litter, or clean damp sand) to achieve an even distribution. 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.

To ensure seed to soil contact with broadcasting of seed, seed shall be tracked or rolled with a weighted roller.

All broadcast seeding shall be followed by hydromulching unless seeding is done as part of Compost Blanket and as specified above.

ITEM 765.411 (Continued)

Hydroseeding shall include hydromulch.

Hydromulching shall be per the Standard Specifications and per the manufacturer's directions.

After seeding and mulching, water seeded areas to moisten soil to a depth of at least 2 inches.

Seed and Grass Care

During Germination: Contractor shall care for seeded areas as determined necessary by the Engineer and the MassDOT Landscape Architect. Care may include irrigation and weed control as necessary for germination.

During Establishment: Following germination of seeded species, the contractor shall maintain the stand of grasses to ensure healthy growth. Work shall include mowing or weed-whacking for weed control, irrigation if necessary, and monitoring for invasive plants.

Watering shall provide uniform coverage without eroding soil or grassed surfaces. Treatment of invasive plants shall be per the direction of MassDOT Landscape Architect.

The Contractor shall provide all labor, equipment, materials, and water required for establishment. Contractor shall water all seeded areas as necessary to a depth of 2 inches or greater.

Over-seeding

If there are areas of bare ground greater than 2-3 feet in diameter, these areas shall be over-seeded with the specified mix. Over-seeding application rates and methods shall be the same as those listed above. After seeding, areas shall be mulched with straw mulch or ¼ - ½ inch Compost Topsoil and watered with a fine mist to moisten soil to a depth of at least 2 inches.

Areas that are invaded by weeds shall be mowed as low as possible and over-seeded as directed. Soil that is compacted shall be raked or roughened prior to over-seeding. Following over-seeding, soil shall be lightly tamped to ensure seed to soil contact. Over-seeding and mulch for over-seeding shall be incidental to this item.

ESTABLISHMENT

Native upland grasses and forbs will not look like turf grass. Many of the native grasses are bunch type grasses and will not form a uniform growth or have a sod-type appearance. Seeded area shall show general uniform growth of the seeded species throughout the area. Areas with significant gaps of bare soil, generally greater than 2-3 feet in diameter, will require over-seeding.

A well-established stand of grasses at the end of one full growing season (June-September), as determined by the Engineer and the MassDOT Landscape Architect, will be required for acceptance. At least 80-90 percent of the grass established shall be the seeded species and any invasive or aggressive weeds (mugwort, ragweed, or knapweed) shall have been cut or managed.

ITEM 765.411 (Continued)

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 765.411 will be measured for payment by the square yard after one full growing season (June-September) has elapsed between seed application and inspection and upon approval of establishment by the Engineer and the MassDOT Landscape Architect.

Item 765.411 will be paid for at the Contract unit price per Square Yard upon receipt of required submittals as specified above and upon approval of established stand of grass as specified above.

This price shall include seeding, rolling to ensure seed-to-soil contact, care during germination and establishment, irrigation, mulching, over-seeding, labor, materials, equipment, photo documentation, and all incidental costs required to complete the work. Site preparation, including raking, tilling, removal of debris and stones, and other work to the prepare site for seeding shall be compensated for under Item 751.7 Compost Blanket or item 751.765 Compost and Seed over Modified Rock.

Application and care of native seed mix will be paid for separately under Item 765.635 Native Seeding and Establishment.

ITEM 765.635 NATIVE SEEDING AND ESTABLISHMENT SQUARE YARD

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

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%.

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)

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.

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.

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.

ITEM 765.635 (Continued)

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.

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.

ITEM 765.635 (Continued)

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.

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.

ITEM 765.635 (Continued)

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.

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 the 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.

ITEM 765.635 (Continued)

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 barrier 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. 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. **If mesh materials are used, the mesh openings need to be either less than ¼ inch or greater than 2 inches. The Contractors attention is directed to the NHESP letter dated March 13, 2024 regarding further restrictions on the use of mesh construction materials.**

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, 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, silt fence shall be used in addition to compost filter tubes and straw bales and shall be incidental to the 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. 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.

ITEM 767.121 (Continued)

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.

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.

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. **If mesh materials are used, the mesh openings need to be either less than ¼ inch or greater than 2 inches per the requirements of the NHESP letter dated March 13, 2024.**

Tubes shall be tamped, but not trenched, to ensure good contact with soil. When reinforcement is necessary, tubes shall be stacked as shown on the detail 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 by 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.

ITEM 767.121 (Continued)

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.

Silt Fence

Materials and Installation shall be per Section 670.40 and 670.60 of the Standard Specifications and the following:

Silt 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 in 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.

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 and continues to provide effective water and sediment control, 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.

ITEM 767.121 (Continued)

Regardless of site context, nonbiodegradable material and components of the sediment barriers, including photo-biodegradable fabric, plastic netting, nylon twine, and silt fence, shall be removed and disposed off-site by the Contractor.

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 off-site by the Contractor. Areas of trenching shall be raked smooth and disturbed soils stabilized with a seed mix matching adjacent seeding or existing grasses (i.e., lawn or native grass mix).
- Silt fence, stakes, and other debris shall be removed and disposed off-site. 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.

Silt fence, when used in conjunction with compost filter tubes or straw bales, will be incidental to this Item.

Additional barrier, such as double or triple stacking of compost filter tubes, will be paid for 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:	less than ¼ inch or greater than 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

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 minimum 8” wooden stakes. Longer stakes shall be used where loose soils or other conditions obligate, as required by the Engineer.

CONSTRUCTION METHODS

Area shall be seeded prior to installation of jute netting.

Installation shall 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.

ITEM 767.9 (Continued)

Jute netting shall be anchored in place with vertically driven metal staples. The staples shall be driven in until their tops are flush 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.

Contractor shall reseed all trenched and otherwise disturbed areas with 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 797.001	**SERVICEBERRY – SHADBLOW 4-5 FEET FURNISHED AND DELIVERED**	**EACH**
ITEM 797.002	**MAPLE – RED 2-2.5 INCH CALIPER FURNISHED AND DELIVERED**	**EACH**
ITEM 797.003	**OAK – WHITE 2-2.5 INCH CALIPER FURNISHED AND DELIVERED**	**EACH**

The work under these Items shall conform to the relevant provisions of Subsection 771 of the Standard Specifications and the following:

The work under these Items shall consist of only the furnishing and delivery of plants to the Town of Egremont. The Town shall be responsible for planting and care of the plants following approval by the Engineer at the delivery site.

The plants shall be delivered by the Contractor to one of the following locations.

French Park
65 Prospect Lake Road
Egremont, MA 01230

Town Hall
171 Egremont Plain Road (Route 71)
Egremont, MA 01258

The Contractor shall coordinate with the Town as to the final location for delivery. The Contractor shall provide a minimum of 30 days written notice to the Town and the Engineer prior to the delivery of the plants. The delivery shall be completed during planting seasons as established in Subsection 771.61.

Following delivery to the site, the Engineer shall inspect the plants. The Contractor shall be responsible for pruning, care, watering and other relevant maintence outlined in Subsection 771 until the plants have been approved by the Engineer at the delivery site. Cost of replacement plants rejected by the Engineer at the site shall be borne by the Contractor.

METHOD OF MEASUREMENT

Items 797.001, 797.002, and 797.003 will be measured for payment by the Each respective plant furnished and delivered, as accepted by the Engineer.

BASIS OF PAYMENT

Items 797.001, 797.002, and 797.003 will be paid for at the respective Contract unit price per Each, which prices shall include furnishing and delivering all plants, including any required replacements, all labor, materials, tools, equipment, and all incidental costs required to complete the work.

ITEM 810.1 COORDINATION OF UTILITY DISCONNECTS LUMP SUM

The work consists of coordinating utility service disconnects during the construction of the retaining walls, as needed. Electric service interruptions must be coordinated ahead of time with the Town of Egremont, affected property owners, and electric and/or telephone service providers. Measures must be taken to limit the length of time electric service is disconnected to the fullest extent possible. Advance notice of the estimated time of disconnect must be provided.

BASIS OF PAYMENT

Item 810.1 will be paid for at the Contract Lump Sum price, which price shall include coordination, all labor, materials, tools, equipment, and all incidental costs required to complete the work. The Contractor will be responsible to pay for any costs associated with the disconnects charged by the utility companies.

ITEM 813.811 SERVICE CONNECTION (UNDERGROUND) LUMP SUM

The work under this Item shall conform to the relevant provisions of Subsection 813 of the Standard Specifications, and the following:

The work under this item shall consist of removing and relocating the existing underground utility service connections from the relocated utility pole UP 65/8.

The proposed utility pole will be installed approximately 3 feet south of the existing pole, as shown on the Contract Drawings. The contractor shall locate the existing underground service and add fittings to re-direct all conduit lines to the location where the new utility pole is installed. New conduit risers and necessary wiring shall be installed and connected to the newly relocated utility poles and power lines. The conduit risers shall meet National Grid Standards (Schedule 80 Polyvinyl chloride (PVC), or galvanized steel per direction of Nation Grid).

Other conduit material shall be Schedule 80 polyvinyl chloride (PVC) plastic conduit.

The work shall include all excavation and backfill, compaction, conduit, fittings, concrete encasement and materials or any other requirements set by the respective utility company, local codes and guidelines.

The work associated with disconnecting power and reconnecting power services to the building should be performed at a time convenient to the property owner, preferred to be during normal working hours at a time agreed upon with the property owner. No additional compensation will be made for work done beyond normal work hours. The actual time of day or evening for the disconnecting and reconnecting will be agreed upon between MassDOT, National Grid and the property owner during construction. Electric service must be maintained at all other times during construction.

A licensed electrician is required to make the service connection at the building. The Contractor is responsible for coordination with National Grid and property owner. The property owners contact information will be provided to the Contractor after the bid is awarded.

Service connections shown on the plans are approximate only. The Contractor shall determine exact locations from the servicing utility, arrange to complete the service connections, and be responsible for all charges incidental thereto. All service connections within the National Grid franchise must be installed in accordance with National Grid Specifications for Electrical Installations, to be found at the following link:
https://gridforce.my.site.com/electric/s/article/Electric-Specifications

The Contractor can use the information below to initiate service requests with National Grid.
https://gridforce.my.site.com/electric/s/
Phone #: 1 (800) 375-7405

ITEM 813.811 (Continued)

BASIS OF PAYMENT

Item 813.811 will be paid for at the Contract Lump Sum price, which price shall include removing and relocating the existing underground utility service connections, all labor, materials, tools, equipment, and all incidental costs required to complete the work.

The work associated with the removal of the utility pole, transferring wiring to the new utility pole and supplying and installing the new utility pole shall be the responsibility of the respective utility companies and shall not be paid for under this Item.

ITEM 816.81 TEMPORARY TRAFFIC CONTROL SIGNAL LUMP SUM

The work to be done under this Item shall conform to the relevant provisions of Subsections 800, 815, and 900 of the Standard Specification, and the following:

The work shall consist of furnishing all necessary labor, materials, and equipment required to furnish, install, maintain, operate, rewire, reprogram, remove and reset as necessary a portable temporary traffic control signal system with 30-day battery backup and related work at the locations shown on the plans or as directed by the Engineer. Any location shown on the plans are approximate and the exact locations will be established by the Engineer in the field.

The work shall include the residential driveway temporary signal (also known as Driveway Assistance Device) as shown in the plans. All work requiring the use of a residential driveway temporary signal shall be conducted in accordance with FHWA Interim Approval IA-23.

MATERIALS

The components of the system shall include, but are not limited to portable signal trailers, signal heads, detection equipment, communication equipment, pedestrian push buttons, pedestrian signal heads, solar power array, battery backup, and all cables, wiring, and appurtenant equipment necessary for a fully operational temporary traffic control system in accordance with the plans and these specifications. The temporary traffic signal system shall meet the requirements of the MUTCD, including Interim Approval IA-23 as applicable, and appear on the Departments Qualified Traffic Control Materials List. All equipment and materials shall remain the property of the Contractor at the completion of the project.

Signal heads shall have 12 inch diameter lenses. The system shall have a built-in conflict monitor to prevent the display of conflicting indications, an emergency pre-emption system, be capable of providing adequate phasing to serve expected traffic movements as shown in the plans.

CONSTRUCTION METHODS

Public Alerts

The Contractor shall alert all abutters along the project site of the initial setup of the temporary traffic control signal as well as any changes to the signal setups, a minimum of one week prior to any changes to traffic patterns. The Contractor shall provide the Engineer with copies of the written correspondence.

Operation and Programming

Operation of temporary traffic control signals shall be initiated only in the Engineer’s presence. The Contractor shall provide all equipment and program all timing in accordance with the plans. The Contractor shall coordinate schedules of all required personnel and MassDOT to assure their mutual presence on the site. Communication between both ends of the temporary lane closure shall be maintained.

ITEM 816.81 (Continued)

The Contractor shall ensure compatibility of pre-emption equipment with the existing equipment installed in Town operated emergency vehicles.

The plans assume the work zone will encompass only one residential driveway. The Contractor may elect to create a work zone that covers more than one residential driveway, if approved by the Engineer. Additional residential driveway temporary signals shall be provided at no additional cost to the Department.

The Contractor shall not park vehicles within the limits of the one-way alternating traffic flow.

The temporary traffic control signal equipment installed must support the logging of pedestrian data. Coordination with the traffic signal installer/contractor shall be made ahead of time to ensure the traffic signal can keep record of the number of pedestrian calls. Regular coordination shall be scheduled to retrieve this data prior to the recorded data being deleted or overwritten. Data containing the number of pedestrian calls the traffic controller has served throughout the construction timeline shall be provided to MassDOT.

BASIS OF PAYMENT

Item 816.81 will be paid for at the Contract Lump Sum price, which price shall include furnishing, installation, maintenance, rewiring, reprograming, removal and resetting during the project, final removal, all labor, materials, tools, equipment, and all incidental costs required to complete the work.

Included in this Item is all necessary items needed to complete the installation, removal and reinstallation at each required location. In the event of any malfunction, all costs associated with signal repairs shall be included in the lump sum bid for Item 816.81, with no additional cost.

ITEM 859.1 REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS DAY

The work under this Item shall conform the relevant provisions of Subsection 850 of the Standard Specifications and the following:

Work under this item consists of furnishing, installing, maintaining in proper operating conditions, and removing reflectorized drums, and any necessary ballast, equipped with sequential flashing warning lights.

MATERIALS

Reflectorized drums shall be listed on the MassDOT Qualified Traffic Control Equipment List.

Reflective sheeting on drums shall meet or exceed ASTM D4956 Type VIII. All drums shall be maintained in a satisfactory manner including the removal of oils, dirt, and debris that may cause reduced retroreflectivity.

The Contractor shall use one of the following sequential flashing warning light systems unless otherwise approved by the Engineer:

1. Empco-Lite LWCSD.
2. pi-Lit® Sequential Barricade-Style Lamp; or
3. Unipart Dorman SynchroGUIDE.

Sequential flashing warning lights shall be secured to reflectorized drums per the light manufacturer's specifications.

CONSTRUCTION METHODS

The first ten (10) drums in any merging or shifting taper as designated in the Temporary Traffic Control Plan shall be equipped with sequential flashing warning lights. These lights shall be operating, at a minimum, between dusk and dawn when the taper is deployed.

The successive flashing of the sequential warning lights shall occur from the upstream end of the merging or shifting taper to the downstream end of the taper in order to identify the desired vehicle path. Each warning light in the sequence shall be flashed at a rate of not less than 55, nor more than 75 times per minute.

Warning lights shall be powered off when drums are not deployed in a taper.

ITEM 859.1 (Continued)

METHOD OF MEASUREMENT

A group of ten (10) reflectorized drums with sequential flashing warning lights is considered one (1) unit and will be measured by the day. Each period of up to 24 hours during which this unit is in use will be measured as one day regardless of the number of times that the drums are positioned, repositioned, removed, or returned to service.

BASIS OF PAYMENT

Reflectorized Drums with Sequential Flashing Warning Lights will be paid for at the contract unit price per day, which shall include full compensation for furnishing, positioning, repositioning, and removing the group of ten (10) drums as directed by the Engineer.

ITEM 874.4 TRAFFIC SIGN REMOVED AND STACKED EACH

The work under this Item shall conform to the relevant provisions of Subsection 828 of the Standard Specifications and the following:

CONSTRUCTION METHODS

The Contractor shall carefully remove all existing traffic signs and street name signs, attachment hardware, and sign support posts as shown on the plans included in this Contract and as required by the Engineer. Signs and sign posts determined to be in good condition at the time of construction shall be removed and stacked and delivered to the Egremont Highway Department, 171 Egremont Plain Road, Egremont, MA 01230, at the discretion of the Engineer. Signs and sign posts determined not to be in good condition at the time of construction shall become the property of the Contractor and shall be disposed of properly off the site.

METHOD OF MEASUREMENT

Item 874.4 will be measured for payment by the Each traffic sign removed and stacked, as approved by the Engineer.

BASIS OF PAYMENT

Item 874.4 will be paid for at the Contract unit price per Each, which price shall include removal, stacking, removal and disposal of existing sign posts, disposal of unwanted signs, all labor, materials, tools, equipment, and all incidental costs required to complete the work.

ITEM 901.1 PRECAST CONCRETE WALL PANELS EACH

Soldier Pile Walls shall be constructed with recommended sequence of construction listed on SPL Retaining Wall Details Sheet 1 in plans.

General.

The work under this Item consists of fabricating, transporting and installing Precast Concrete Wall Panels and includes all necessary labor, materials, and equipment to complete the work as shown on the Plans including but not limited to the concrete, epoxy coated reinforcing steel, form liners, concrete penetrant / sealer, neoprene bearing pads, weep holes with geotextile fabric & wire screen, bracing, nonshrink grout for utility penetrations, joint material, joint sealer, threaded inserts, and hardware. The work shall conform with the MassDOT Standard, Supplemental, and Interim Specifications and the requirements of the current AASHTO LRFD Bridge Construction Specifications, supplemented by the current relevant provisions of the latest edition of PCI MNL-116 (The Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products), except as noted herein.

QUALITY ASSURANCE

A. General.

Quality Assurance includes all the planned and systematic actions necessary to provide confidence that a product or facility will perform satisfactorily in service. It is an all-encompassing term that includes Quality Control (performed by the Fabricator) and Acceptance (performed by MassDOT). Quality Control is the system used by the Contractor and Fabricator to monitor and assess their production processes at the plant facility and installation activities at the project site to ensure that the final product will meet the specified level of quality. Acceptance includes all factors used by MassDOT to determine the corresponding value for the product. MassDOT Acceptance inspection at the plant facility is intended as a means of evaluation of compliance with contract requirements. Contractor and Fabricator Quality Control activities and MassDOT Acceptance activities shall remain independent from one another. MassDOT Acceptance activities shall not replace Fabricator Quality Control activities.

B. Fabricator Quality Control.

Quality Control shall be performed by the Fabricator to ensure that the product is fabricated in conformance with the specifications herein. The Fabricator shall maintain a Quality Control system to monitor, assess, and adjust placement and fabrication processes to ensure the Precast Concrete Element(s) meet the specified level of quality, through sufficient Quality Control sampling, testing, inspection, and corrective action (where required). The Fabricator's Quality Control system shall address all key activities during the placement and fabrication and shall be performed in conformance with the Fabricator's NPCA or PCI Certification. Quality Control documentation shall meet the requirements of the *Fabricator Quality Control – Documentation* section below. Upon request, Fabricator Quality Control documentation shall be provided to the MassDOT Plant Inspector.

1. Plant.

Prior to the fabrication of Precast Concrete Elements, the Fabricator's precast concrete plant shall obtain the following:

(a) Certification by the National Precast Concrete Association (NPCA) Plant Certification Program or Precast/Prestressed Concrete Institute (PCI) Plant Certification Program, for the applicable types of Precast Concrete Element(s) being fabricated
(b) MassDOT Prequalification
(c) MassDOT Mix Design Approval

All concrete for a given Precast Concrete Element shall be produced by a single company and plant, unless otherwise approved by the Engineer.

ITEM 901.1 (Continued)

2. Personnel.

The Fabricator shall provide adequate training for all QC personnel in accordance with NPCA or PCI certification. There shall be sufficient personnel trained and certified to perform the tests listed under Subsection M4.02.13, Part D. At a minimum, the Fabricator's Quality Control Personnel shall maintain the following qualifications and certifications:

(a) QC Manager with an active NETTCP Field Technician or ACI Concrete Field Testing Technician – Grade I certification or higher, and a minimum of 4 years continuous experience in the manufacture of Precast Concrete Elements for state transportation departments. The QC Manager shall be on site while the batch plant is producing and placing concrete for MassDOT projects.
(b) A Technician/Inspector having the Precast/Prestressed Concrete Institute (PCI) Technician/Inspector Level I or NorthEast Transportation Training and Certification Program (NETTCP) Precast Concrete Inspector, or higher.

The Contractor shall submit to the Engineer a copy of the Fabricator's Quality Control Personnel required qualifications, as specified above.

3. Laboratory.

The Fabricator shall provide a room of sufficient size to house all equipment and to adequately perform all testing. The room shall have either a separate moisture storage room or curing box for concrete cylinders, and it shall be thermostatically controlled to maintain temperatures consistent with AASHTO T 23. It shall include a desk and file cabinet for proper record keeping, and have good lighting and ventilation. This room shall be kept for testing and quality control and not used for any other purpose. An additional desk and file cabinet shall be provided for exclusive use of the Engineer. No exception from these requirements will be allowed without the express written permission of the Engineer.

4. Testing Equipment.

At a minimum, the Fabricator's plant facility shall have the following testing equipment:

(a) Air Content Meter Type A or B: AASHTO T 152
(b) Air Content Meter Volumetric Method: AASHTO T 196 (Required for Lightweight Concrete)
(c) Slump Cone: AASHTO T 119
(d) Cylinder Molds AASHTO M 205
(e) Concrete Testing Machine: AASHTO T 22
(f) Screening Sieve: AASHTO T 27, AASHTO T 11
(g) Curing Box: AASHTO T 23
(h) Spread Test Base Plate for Self-Consolidating Concrete (SCC): ASTM C1611
(i) All other equipment prescribed by AASHTO and ASTM standards for the tests to be performed by the Fabricator as specified

5. Inspection.

Quality Control personnel shall monitor and inspect the fabrication of each Precast Concrete Element. Quality Control personnel shall report all inspection activities on Quality Control Inspection Reports and non-conformances on Non-Conformance Reports (NCRs) throughout the entire fabrication process, as speciefied herein.

ITEM 901.1 (Continued)

6. Temperature Monitoring.

At a minimum, the Fabricator shall monitor, record, and report the temperatures of the form, ambient temperatures surrounding the concrete, and temperatures of the concrete continuously, without interruption as specified below:

(a) Prior to placement of concrete to verify that $Ti \geq 50°F$.
(b) Immediately after placement to verify that $T_i \geq 50°F$ is maintained.
(c) Throughout the entire duration of the curing cycle, at regular intervals not to exceed one hour until 100% Design Strength (f'_c) is attained and concrete has cooled to within 40°F of the ambient temperature surrounding the Precast Concrete Element.

At a minimum, the temperature measuring devices shall record and report the temperature of the concrete to the nearest 2°F. At least two temperature sensors (thermocouples) shall be positioned to record the maximum and minimum anticipated concrete temperatures. The anticipated minimum temperature shall be measured with one or more thermocouples at a distance no greater than 2 inches from the surface of the thinnest section. The anticipated maximum temperature shall be measured with one or more thermocouples at the center of the thickest section. Proposed temperature measurement locations shall be submitted to the Engineer for approval. Temperature recording devices shall be located within the curing enclosure and calibrated as required by PCI MNL-116 Section 4.18.4. Maximum heat increase and cool down rates shall comply with PCI MNL-116, Section 4.19. The Contractor shall furnish temperature logs recorded at a minimum frequency of once per hour to the Inspector as required, with each post-pour QC inspection report.

7. Sampling and Testing.

At a minimum, the Fabricator shall perform random Quality Control sampling and testing as specified in *Table 1: Quality Control Sampling and Testing*. The Fabricator shall perform additional Quality Control sampling and testing on concrete that has been retempered with admixtures or hold-back water during fabrication. Test Specimens shall conform to the requirements of Section M4.02.13 of the MassDOT Standard and Supplemental Specifications and AASHTO R 60, with the exception of the Stripping (80% f'_c) set of cylinders. Stripping (80 % f'_c) cylinders shall be cured in the same location and environment as the Precast Elements they represent. If approved by the Engineer, compressive strength cylinder match curing equipment, that maintains the same concrete conditions that the corresponding Precast Element is exposed to, may be utilized in lieu of Stripping (80 % f'_c) field cured cylinders, with the use of thermocouples, controllers, and heaters.

ITEM 901.1 (Continued)

Table 1: Quality Control Sampling and Testing

Quality Characteristic	Test Method	Sample Size	Specification Limit	Lot Size [(c)]	Sublot Size [(d)]	Frequency	Point of Sampling
Slump (in.) [(a)]	AASHTO T 119	Per AASHTO	≤ 8 in. or as approved by the Engineer	Total Quantity of Concrete (cy) produced on a Contract, per Type of Element fabricated, per Mix Design	20 cy	One (1) per Sublot or fraction thereof	Point of Discharge
Air Content (%)	AASHTO T 152	Per AASHTO	5% ≤ % ≤ 8%				
Temperature (°F)	AASHTO T 309	Per AASHTO	50°F ≤ °F ≤ 90°F				
Compressive Strength (psi)	AASHTO T 22 AASHTO T 23	Stripping Cylinders: One (1) set of Three (3) 4 x 8 in.	≥ 80% f'c at Stripping				
		7-day Cylinders: One (1) set of Three (3) 4 x 8 in.	For Information at 7 days				
		28-day Cylinders: One (1) set of Three (3) 4 x 8 in.	≥ 100% f'c at 28 days				
		56-day Cylinders: One (1) set of Three (3) 4 x 8 in.	≥ 100% f'c at 56 days [(b)]				

Notes:

(a) Self-consolidating concrete (SCC) shall meet the requirements of M4.02.17.
(b) 56-day Compressive Strength test specimens shall require testing only when 28-day Compressive Strength test specimens have failed to meet Design Strength (f'_c).
(c) Lot shall be defined as a specific quantity of material from a single source, produced or placed by the same controlled process.
(d) Sublot shall be defined as an equal division or part of a Lot from which a sample of material is obtained in order to assess the Quality Characteristics of the Lot.

8. Certificate of Compliance.

The Fabricator shall provide a Certificate of Compliance in accordance with Standard Specifications, Division I, Section 6.01, stating that QC test cylinders have achieved the design strength, f'_c. A Certificate of Compliance shall accompany each shipment and shall be presented to the MassDOT Resident Engineer or designee upon delivery to the site.

ITEM 901.1 (Continued)

9. Documentation.

At a minimum, the Fabricator shall maintain a filing system for the following QC records and documentation. All QC records and documentation shall be made available to MassDOT upon the request of the Department.

(a) Current MassDOT Approved Mix Design Sheet(s) and Approval Letter(s)
(b) PCI or NPCA Certification
(c) Current Qualifications and Certifications for QC Manager(s) and QC Technician(s)
(d) Most current set of Approved Shop Drawings
(e) Approved Placement, Finishing and Curing Plan
(f) Approved Dunnage Plan
(g) Fabricator Certificate of Compliance for each fabricated Precast Concrete Element
(h) Admixture Manufacturer's Certification of Compliance for each approved Admixture
(i) Completed QC Inspection Report for each fabricated Precast Concrete Element
(j) Identification Number for each fabricated Precast Concrete Element
(k) Time and date of casting of each fabricated Precast Concrete Element
(l) Date of stripping of each fabricated Precast Concrete Element
(m) Batch Ticket Printout reporting the quantity of concrete produced for each batch of concrete produced
(n) Concrete temperature records for each Precast Concrete Element fabricated
(o) QC Test Report Forms for each sublot of concrete produced
(p) Non-Conformance Reports (NCRs)
(q) Documentation of Repairs (if applicable)

C. Acceptance.

MassDOT will perform Acceptance inspection, sampling, and testing during fabrication and installation, to evaluate the quality and degree of compliance of the fabricated Precast Concrete Element to MassDOT specifications. Additionally, MassDOT Inspectors will monitor the Fabricator's Quality Control activities to ensure the Fabricator is properly administering Quality Control in conformance with the Fabricator's NPCA or PCI Certification. Acceptance inspection and test results not meeting MassDOT specifications will result in Non-conformance Reports (NCR) being issued by MassDOT to the Fabricator or Contractor for corrective action. Final Acceptance for the fabricated Precast Concrete Elements shall be determined by MassDOT.

1. Inspection.

A MassDOT Inspector will be assigned to perform Acceptance activities during fabrication, which includes the inspection of the materials, work procedures, and Precast Concrete Elements. At least seven (7) days prior to the scheduled start of fabrication, the Fabricator shall contact the MassDOT Research and Materials Section (RMS) to provide notice of the scheduled fabrication start date. The Fabricator shall complete the following activites prior to notifying MassDOT RMS of the scheduled start date:

(a) Receive approval for all submitted Fabricator cement concrete mix designs from the MassDOT Research and Materials Section for the current year, as specified under the *Mix Design* section and *Table 3: Trial Batch Sampling Testing for New Mix Designs*. Self-consolidating concrete shall meet the requirements of M4.02.17.
(b) Receive approval for the submitted Fabricator Placement, Finishing, and Curing Plan from the MassDOT Research and Materials Section, as specified under the *Placement, Finishing, and Curing Plan* section.
(c) Receive Engineer of Record approved shop drawings from the MassDOT Research and Materials Section as specified under the *Shop Drawings* section.
(d) Participate in the pre-production meeting, as described under the *Pre-Production Meeting* section (if required).

ITEM 901.1 (Continued)

Prior to the start of fabrication, the Fabricator shall review the fabrication schedule with the MassDOT Inspector. Fabrication shall only proceed when:

(a) The QC Inspector and MassDOT Inspector are present to inspect the Precast Concrete Element(s) being fabricated.
(b) The QC Manager is present at the Fabricator's plant.

The Fabricator shall grant access to all required areas of the Fabricator's plant to the MassDOT Inspector, during the hours of fabrication. Fabrication without MassDOT Inspector access to required areas is prohibited, and will result in the rejection of the fabricated Precast Concrete Element(s).

Additionally, the MassDOT Inspector will monitor the adequacy of the Fabricator's Quality Control activities. MassDOT Inspector Acceptance activities performed at the Fabricator's plant shall remain independent from the Fabricator, and does not replace the Fabricator's required Quality Control activities.

2. Sampling and Testing.

At a minimum, the MassDOT Inspector will perform random Acceptance sampling and testing for each Sublot of concrete produced as specified in *Table 2: Acceptance Sampling and Testing.* The MassDOT Inspector will also perform Acceptance sampling and testing on concrete that has been retempered with admixtures or hold-back water during production. Test Specimens will conform to the requirements of Section M4.02.13 of the MassDOT Standard and Supplemental Specifications and AASHTO R 60.

Table 2: Acceptance Sampling and Testing

Quality Characteristic	Test Method	Sample Size	Specification Limit	Lot Size [c]	Sublot Size [d]	Frequency	Point of Sampling
Slump (in.) [a]	AASHTO T 119	Per AASHTO	≤ 8 in. or as approved by the Engineer	Total Quantity of Concrete (cy) produced on a Contract, per Type of Element fabricated, per Mix Design	20 cy	One (1) per Sublot or fraction thereof	Point of Discharge
Air Content (%)	AASHTO T 152	Per AASHTO	5% ≤ % ≤ 8%				
Temperature (°F)	AASHTO T 309	Per AASHTO	50°F ≤ °F ≤ 90°F				
Compressive Strength (psi)	AASHTO T 22 AASHTO T 23	7-day Cylinders: One (1) set of Three (3) 4 x 8 in.	For Information at 7 days				
		28-day Cylinders: One (1) set of Three (3) 4 x 8 in.	≥ 100% f'c at 28 days				
		56-day Cylinders: One (1) set of Three (3) 4 x 8 in.	≥ 100% f'c at 56 days [b]				

ITEM 901.1 (Continued)

Notes:

(a) Self-consolidating concrete (SCC) shall meet the requirements of M4.02.17.
(b) 56-day Compressive Strength test specimens shall require testing only when 28-day Compressive Strength test specimens have failed to meet Design Strength (f'_c).
(c) Lot shall be defined as a specific quantity of material from a single source, produced or placed by the same controlled process.
(d) Sublot shall be defined as an equal division or part of a Lot from which a sample of material is obtained in order to assess the Quality Characteristics of the Lot.

MATERIALS

A. Materials.

Materials shall meet the following specifications (if applicable):

General	M4.00.00
Portland Cement	M4.01.0
Blended Hydraulic Cements	M4.01.1
Fly Ash	M4.01.2
Cement Concrete	M4.02.00
Cement	M4.02.01
Cement Mortar	M4.02.15
Aggregates	M4.02.02
Lightweight Aggregates	M4.02.03
Water	M4.02.04
Cement Concrete Additives	M4.02.05
Proportioning	M4.02.06
Mixing and Delivery	M4.02.10
Test Specimens	M4.02.13
Mortar for Filling Keyways	M4.04.0
Slag	AASHTO M 302
High Performance Cement Concrete	M4.06.1
Self-Consolidating Concrete (SCC)	M4.02.17
Controlled Density Fill – Non-Excavatable	M4.08.0
Reinforcing Bars	M8.01.0
Epoxy Coated Reinforcing Bars	M8.01.7
Galvanized Reinforcing Bars	M8.01.8
Welded Wire Reinforcement	M8.01.2
Mechanical Reinforcing Bar Splicer	M8.01.9
Lifting Devices	PCI MNL-116
Corrugated Metal Pipe	AASHTO M 36

1. Cement Concrete Mix Design.

The cement concrete shall be comprised of specified proportions of water and MassDOT approved aggregates, cement, supplementary cementitious materials (SCMs), and admixtures to form a homogenous composition. Cement concrete for Precast Concrete Elements shall meet the requirements of M4.06.1 High Performance Cement Concrete, with the exception that the "Total Cementitious Content" specified shall be considered the "Maximum Allowable Cementitious Content". When used, self-consolidating concrete (SCC) shall meet the requirements of M4.02.17.

ITEM 901.1 (Continued)

Prior to production of cement concrete, the Fabricator shall report and submit all proposed mix design formulations and its constituent materials onto the MassDOT Cement Concrete Mix Design Sheet to the MassDOT Research and Materials Section for review and approval. All mix design yields shall be designed for 1.0 cubic yards of concrete, with an allowable tolerance of +/- 1.0 %. All liquids incorporated into the proposed mix design(s) shall include both water and admixtures in the liquid mass calculation.

During production of cement concrete, the Fabricator shall not alter the previously approved mix design formulation or its constituent materials. Proposed alterations in source, type, batch quantity, or gradation to any of the constituent materials of the previously approved mix design formulation shall require a new MassDOT Mix Design Sheet submission to the MassDOT Research and materials Section for review and approval. Fabrication shall not occur without prior MassDOT mix design approval.

The Fabricator shall notify MassDOT RMS to schedule trial batch testing for the new mix design(s). Trial batch testing shall meet the following requirements:

(a) Performed by a qualified laboratory and/or AASHTO accredited laboratory.
(b) Performed and/or sampled in the presence of a MassDOT Inspector.
(c) Meet the requirements as specified in *Table 3: Trial Batch Sampling Testing for New Mix Designs*. Self-consolidating concrete (SCC) shall meet M4.02.17.

Failure to perform all of the required trial batch testing or provide MassDOT RMS trial batch test results within the Specification Limits (as specified in Table 3) will result in the disqualification of the Fabricator's proposed mix design(s).

Table 3: Trial Batch Sampling and Testing for New Mix Designs

Quality Characteristic	Test Method	Sample Size	Specification Limit	Performed By
Slump [(a)]	AASHTO T 119	Per AASHTO	Max. 8 inches or as approved by the Engineer	Quality Control
Air Content (AC)	AASHTO T 152	Per AASHTO	$5\% \leq AC \leq 8\%$	Quality Control
Temperature (°F)	AASHTO T 309	Per AASHTO	$50°F \leq °F \leq 90°F$	Quality Control
Compressive Strength [(b)]	AASHTO T 22 AASHTO T 23	28-day Cylinders: One (1) set of Three (3) 4 x 8 in.	Lab Mixed $f'_{cr} = 1.3\ f'_c$ at 28 days Batch Mixed $f'_{cr} = 1.2\ f'_c$ at 28 days	MassDOT
Alkali-Silica Reaction (ASR) [(d)]	ASTM C 1567	Per ASTM	M4.02.00	Quality Control
Resistance to Chloride Ion Penetration Chloride Ion Penetration [(e)]	AASHTO T 358 [(f)]	28-day Cylinders: One (1) set of Three (3) 4 x 8 in.	Resistivity ≥ 21 kΩ-cm at 28 days	MassDOT
Freeze/Thaw Durability [(c)]	AASHTO T 161 (Procedure A)	Per AASHTO	Relative Dynamic Modulus of Elasticity after 300 cycles ≥ 80%	Quality Control

ITEM 901.1 (Continued)

Notes:

(a) Self-consolidating concrete (SCC) shall meet the requirements of M4.02.17.
(b) Trial batch compressive strength testing shall be performed by MassDOT. Laboratory mixed trial batch compressive strength results shall achieve 130% Design Strength (f'_c). Batch-mixed trial batch compressive results shall achieve 120% f'_c. Acceptance will be based on compressive strength testing performed by MassDOT.
(c) If an AASHTO accredited laboratory is preparing the trial batch test specimens, MassDOT Acceptance presence is not required. If the Fabricator is preparing the trial batch test specimens, MassDOT Acceptance presence is required during trial batch test specimen preparation.
(d) Alkali Silica Reaction (ASR) testing shall meet the requirements of M4.02.00. Independent laboratories performing ASR testing shall be listed on the MassDOT Quality Construction Materials List (QCML).
(e) Calcium nitrite shall be removed from mix designs containing the admixture and replaced by an equivalent quantity of water when preparing Chloride Ion Penetration resistance trial batch test specimens.
(f) The Wenner probe tip spacing "a" shall be 1.5.

2. Vertical Adjustment Assembly.

Vertical Adjustment Assembly details and material requirements shall be as shown on the plans. Alternate devices may be used provided that they are adjustable and can support the anticipated loads. The design of the leveling devices, with necessary calculations, shall be submitted to the Engineer of Record for approval.

3. Grout.

Grout used for shear keys, vertical adjustment assembly voids, and hand holes shall be in accordance with M4.04.0.

4. Reinforcement.

All reinforcing steel shall be epoxy coated Grade 60 unless otherwise noted on the plans. Mechanical reinforcing bar splicers shall be epoxy coated.

5. Threaded Inserts.

Threaded inserts are permissible to facilitate forming the keyway pours and as shown on the plans. Threaded inserts shall be hot dip galvanized or made of stainless steel. The number of threaded inserts shall be minimized, and the inserts shall not come in contact with the reinforcing steel.

6. Corrugated Metal Pipe.

Corrugated Metal Pipe to be used for forming voids as specified on the plans shall be fabricated from steel and shall have a protective metallic coating of zinc (galvanizing).

CONSTRUCTION METHODS – PLANT FABRICATION

A. Shop Drawings.

Prior to performing any work under this Section, the Contractor shall receive approval for all shop drawings for the Precast Concrete Element being worked on and any special Contract requirements, provided that a complete shop drawing package is provided. The Contractor shall not order materials or begin work before receiving approved shop drawings. MassDOT will reject Precast Concrete Elements that deviate from the approved drawings or are fabricated prior to receiving written approval of the shop drawings. The Contractor shall bear full responsibility and costs for all materials ordered or work performed prior to the approval of the shop drawings or written authorization from MassDOT.

ITEM 901.1 (Continued)

Contractor shall submit scaled shop drawings to the Engineer of Record for review and approval. Upon approval, the Engineer of Record will forward two (2) sets of scaled, full size (minimum 24x36") paper copies of the Approved (or Approved As Noted) shop drawings to the MassDOT Director of Research and Materials. Calculations are not to be included in any submittal to the Research and Materials Section. An approval stamp shall appear on every shop drawing sheet. Wet-stamping or wet-signing is not required, provided that the stamp and reviewer name are legible. The Fabricator's name and address shall appear on each sheet.

Resubmittal of "Approved as Noted" shop drawings is not necessary for minor revisions, provided that the correction can be clearly understood and is unambiguous without possibility of misinterpretation. Shop drawings with questions or comments that require a response and/or additional information from the Fabricator must be resubmitted.

Detailed shop drawings shall be prepared in accordance with the relevant provisions of Subsection 5.02 and shall, at a minimum, contain the following:

(a) Number and type and/or piece mark of the precast concrete element including overall length, width and height.
(b) Skew angle.
(c) Location, size and geometry of all steel reinforcement, including mechanical reinforcing bar splicers to be used for connecting Precast Concrete Elements together in the field.
(d) Location and details of all inserts, anchors, Vertical Adjustment Assemblies, and any other items required to be cast into the Precast Concrete Elements (whether detailed on the plans by the Engineer of Record or provided for the Contractor's convenience). Precast Concrete Elements shall not be fired or drilled into for attachment purposes. All hardware shall be galvanized except as noted.
(e) Locations and details of the lifting devices, including supporting calculations, type and amount of any additional reinforcing required for lifting. The Fabricator shall design all lifting devices based on the no cracking criteria in Chapter 8 of the PCI Design Handbook (7^{th} edition).
(f) The minimum compressive strength required prior to handling the precast concrete element.

The shop drawings shall not include procedures for placement, finishing, and curing of concrete. These details shall be included in the Placement, Finishing and Curing Plan that is to be submitted to MassDOT Research and Materials Section as described under *Placement, Finishing, and Curing Plan*.

B. Fabrication.

All Precast Concrete Elements shall be fabricated in accordance with the latest edition of PCI MNL-116 as modified herein.

C. Placement, Finishing and Curing Plan.

At least 30 days prior to start of fabrication, the Contractor shall submit the Fabricator's proposed Placement, Finishing and Curing Plan to the Engineer for approval by MassDOT Research and Materials Section. This shall be an independent submittal, separate from the fabrication shop drawings. The Placement, Finishing and Curing Plan shall include the following:

(a) Method of Mixing
(b) Method of Placement
(c) Method of Consolidation
(d) Method of Finishing
(e) Method of Initial Curing
(f) Method of Intermediate Curing
(g) Method of Final Curing
(h) Moisture Retention Materials and Equipment (water spray equipment, saturated covers, sheet materials, liquid membrane-forming compounds, accelerated curing equipment, etc.)

ITEM 901.1 (Continued)

(i) Cylinder Curing Methods, Location, and Environmental Control (temperature, humidity, etc.)
(j) Temperature Monitoring, Recording, and Reporting

D. Dunnage Plan Shop Drawings.

At least 30 days prior to the start of fabrication, the Contractor shall submit proposed Dunnage Plan Shop Drawings to the Engineer of Record for review and approval. This shall be an independent submittal, separate from the fabrication shop drawings. Upon approval, the Engineer of Record will forward two (2) sets of scaled, full size (minimum 24"x36") paper copies of the Approved (or Approved As Noted) Dunnage Plan to the MassDOT Director of Research and Materials. Calculations are not to be included in any submittal to the Research and Materials Section. The Dunnage Plan shall include the following:

(a) Proposed layout of the Precast Concrete Elements for storage in yard and during shipping
(b) Support and blocking point locations
(c) Support and blocking materials

E. Pre-Production Meeting.

The Contractor shall notify the MassDOT Research and Materials Section to determine if a pre-production meeting will be required to review the specification, shop drawings, curing plan, schedule, and discuss any specific requirements. The meeting shall be held prior to scheduling a MassDOT Inspector (refer to Section *Quality Assurance – Precast Concrete, C. Acceptance, A. Inspection*), and at least seven (7) days prior to the scheduled casting of any Precast Concrete Element or control section. The Contractor shall schedule the meeting, which shall include representatives of the Fabricator and MassDOT.

F. Reinforcement.

The reinforcing bars shall be installed in accordance with Section 901.62 of the Supplemental Specifications, including tolerances for cover and horizontal spacing of bars. Components of mechanical reinforcing bar splicers shall be set with the tolerances shown on the plans. The reinforcing bars and mechanical reinforcing bar splicers shall be assembled into a rigid cage that will maintain its shape in the form and which will not allow individual reinforcing bars to move during the placement of concrete. This cage shall be secured in the form so that the clearances to all faces of the concrete, as shown on the plans, shall be maintained.

Where reinforcing bars are to protrude from one Precast Concrete Element in order to mate with reinforcing bar splicers in a second precast concrete element, the fabricator shall set the reinforcing bars and the reinforcing bar splicers with a template in order to ensure proper fit up within the tolerances specified on the plans.

G. Tolerances.

Fabrication shall comply with tolerances specified on the plans. Tolerances for steel reinforcement placement shall be in accordance with 901.62. In the absence of specifications on the plans, tolerances shall comply with the latest version of the PCI MNL 135, Precast Tolerance Manual.

H. Forms.

Concrete shall be cast in rigidly constructed forms, which will maintain the Precast Concrete Elements within specified tolerances to the shapes, lines and dimensions shown on the approved fabrication drawings. Forms shall be constructed from flat, smooth, non-absorbent material and shall be sufficiently tight to prevent the leakage of the plastic concrete. When wood forms are used, all faces in contact with the concrete shall be laminated or coated with a non-absorbent material. All worn or damaged forms, which cause irregularities on the concrete surface or damage to the concrete during form removal, shall be repaired or replaced before being reused. Any defects or damage of more than "Category 2, Minor Defects" made to the concrete, due to form work, stripping or handling, shall be subject to repair or rejection, as defined in the Repairs and Replacement section. If threaded inserts are cast into the elements for support of formwork, the inserts shall be recessed a minimum of 1 inch and shall be plugged after use with a grout of the same color as that of the precast cement concrete.

ITEM 901.1 (Continued)

I. Mixing of Concrete.

The concrete shall be proportioned and mixed in conformance with the Fabricator's MassDOT approved mix design and M4.02.10 Mixing and Delivery Fabrication shall not occur without prior MassDOT mix design approval. The Fabricator shall provide copies of batch tickets to the MassDOT Plant Inspector. The MassDOT Plant Inspector will verify if the batch ticket quantities are within the tolerances of the Fabricator's MassDOT approved mix design.

J. Placement of Concrete.

Prior to the placement of concrete, the temperature of the forms shall be greater than or equal to 50°F. Quality Control inspection shall be performed by the Fabricator as specified in the *Fabricator Quality Control* section. Placement of the concrete shall not proceed until the MassDOT Plant Inspector is present to perform inspection and begin monitoring Fabricator Quality Control inspection activities, and is in compliance with specifications. The MassDOT Plant Inspector shall inspect and accept the placement of the reinforcing steel prior to the placement of concrete into the forms. The Fabricator shall verify all materials and equipment required for protecting and curing the concrete are readily available and meet the requirements of the *Final Curing Methods* section below. All items encased in the concrete shall be accurately placed in the position shown on the Plans and firmly held during the placing and setting of the concrete. Clearance from the forms shall be maintained by supports, spacers, or hangers and shall be of approved shape and dimension.

During placement, the concrete shall maintain a concrete temperature range between 50°F and 90°F. The Fabricator shall minimize the time to concrete placement (measured from start of mixing to completion of placement). In no event shall time to placement exceed 90 minutes. The Fabricator shall perform additional Quality Control sampling and testing on concrete that has been retempered with admixtures or hold-back water during the placement of the concrete as specified in the *Fabricator Quality Control* section above. Delays or shutdowns of over 30 minutes shall not be allowed during the continuous filling of individual forms.

K. Consolidation of Concrete.

Suitable means shall be used for placing concrete to prevent segregation or displacement of reinforcing steel or forms. The concrete shall be thoroughly consolidated by external or internal vibrators or a combination of both. Vibrators shall not be used to move concrete within the forms. Vibrators shall be used as specified in 901.63C and as directed by the Engineer. Concrete shall be placed and consolidated in a way that minimizes the presence of surface voids or bug holes on the formed surfaces. When used, self-consolidating concrete (SCC) shall meet the requirements of M4.02.17.

L. Finishing of Concrete.

The finish of the Precast Concrete Elements shall be as indicated on the plans. Where Precast Concrete Elements have keyways for grout or closure pours, the surfaces of these shear keys shall be abrasive blasted prior to shipment. The Fabricator may utilize a surface retarder with water blast, sandblast, or a combination of both to achieve the desired keyway finish. At a minimum, the profile of the keyway surfaces shall be similar to that of 60 grit sand paper. The exposed reinforcing steel in the precast slab shall be protected from damage during the cleaning of the keyways. Damaged epoxy coating of steel reinforcement shall be repaired, and the reinforcing steel shall be cleaned as directed by the Engineer.

The Fabricator shall permanently mark each precast concrete element with its type and/or piece mark, date of casting, and supplier identification either by stamp markings in fresh concrete, waterproof paint, or other approved means on a surface that will not be exposed after assembly.

ITEM 901.1 (Continued)

M. Exposed Surfaces of Precast Concrete Elements.

As soon as conditions permit, before the concrete has fully hardened, all dirt, laitance, and loose aggregate shall be removed from the exposed concrete surfaces. Contractor shall not allow foot traffic on the uncured concrete until it has reached sufficient strength to prevent damage.

N. Exposed Surfaces of Closure Pour Shear Keys.

The closure pour shear key cast in the sides of the beam flanges shall have an exposed aggregate finish. The closure pour reinforcing steel and its coating shall not be damaged by the process for creating the exposed aggregate surface. Fabricator may utilize a surface retarder with water blast, abrasive blast, or a combination of both to achieve the desired shear key finish. The abrasive blast shall use oil free compressed air. The profile of the shear key surfaces shall be similar to that of 60 grit sand paper.

O. Initial Curing Methods.

After the placement of concrete and prior to concrete finishing, the Fabricator shall initiate initial curing methods when the concrete surface begins to dry, to reduce moisture loss from the surface. Application of one or more of the following initial curing methods shall occur immediately after the bleed water sheen has disappeared.

1. Fogging.

Fogging nozzles shall atomize water into a fog-like mist. The fog spray shall be directed and remain visibly suspended above the concrete surface, to increase the humidity of the air and reduce the rate of evaporation. Water from fogging shall not be worked into the surface during finishing operations and shall be removed or allowed to evaporate prior to finishing.

2. Liquid-applied Evaporation Reducers

Evaporation reducers shall be sprayed onto the freshly placed concrete surface to produce an effective monomolecular film that reduces the risk of plastic-shrinkage cracking and rate of evaporation of the bleed water from the concrete surface. Evaporation reducers shall be applied in accordance with manufacturer's recommendations.

P. Intermediate Curing Methods.

The Fabricator shall initiate intermediate curing methods if concrete finishing has taken place prior to the concrete reaching final set. The freshly finished concrete surface shall be protected from moisture loss, by the continuation of initial curing methods (fogging and evaporation reducers) until final curing methods are applied or by the use of liquid membrane-forming curing compounds (see *Liquid Membrane-Forming Compounds for Curing* section).

Q. Final Curing Methods.

The Fabricator shall initiate and apply final curing methods to the concrete immediately after the following conditions are met:

(a) Completion of concrete finishing
(b) Final set of concrete
(c) Concrete has hardened sufficiently enough to prevent surface damage

ITEM 901.1 (Continued)

During fabrication of Precast Concrete Elements, the Fabricator shall maintain the required concrete temperature ranges throughout the entire duration of the final curing method cycle as specified herein. Controlled and gradual termination of the final curing method shall occur after all specified conditions are met. The concrete temperature shall be reduced at a rate not to exceed 36°F per hour until the concrete temperature is within 20°F of the ambient temperature outside of the final curing method enclosure. The Fabricator shall maintain a minimum concrete temperature of 40°F until 100% f'c is attained (see *Handling and Storage* section below).

1. Water Spray Curing.

All exposed concrete surfaces shall remain moist with a continuous fine spray of water throughout the entire duration of the final curing method cycle (see *Table 4: Final Curing Method Cycle for Water Spray*).

Table 4: Final Curing Method Cycle for Water Spray

Sustained Concrete Temperature	Final Curing Method Cycle Duration	Compressive Strength
50°F ≤ °F ≤ 90°F	≥ Five (5) days	≥ 80% f'_c

2. Saturated Covers for Curing.

All exposed concrete surfaces shall remain moist with a continuous application of saturated covers throughout the entire duration of the final curing method cycle (see *Table 5: Final Curing Method Cycle for Saturated Covers*). Saturated covers shall be allowed to dry thoroughly before removal to provide uniform, slow drying of the concrete surface.

Table 5: Final Curing Method Cycle for Saturated Covers

Sustained Concrete Temperature	Final Curing Method Cycle Duration	Compressive Strength
50°F ≤ °F ≤ 90°F	≥ Three (3) days	≥ 80% f'_c

Saturated covers, such as burlap, cotton mats, and other coverings of absorbent materials shall meet the requirements of AASHTO M 182, Class 3. Saturated covers shall be in good condition, free from holes, tears, or other defects that would render it unsuitable for curing concrete. Saturated covers shall be dried to prevent mildew when storing. Prior to application, saturated covers shall be thoroughly rinsed in water and free of harmful substances that are deleterious or cause discoloration to the concrete. Saturated covers shall have sufficient thickness and proper positioning onto the concrete surface to maximize moisture retention.

Saturated covers shall contain a sufficient amount of moisture to prevent moisture loss from the surface of the concrete. Saturated covers shall be kept continuously moist so that a film of water remains on the concrete surface throughout the entire duration of the final curing method cycle. The Fabricator shall not permit the saturated covers to dry and absorb water from the concrete. Use of polyethylene film (see *Polyethylene Film* section) may be applied over the saturated cover to potentially decrease the need for continuous watering.

3. Sheet Materials for Curing.

All exposed concrete surfaces shall remain moist with a continuous application of curing sheet materials throughout the entire duration of the final curing method cycle (see *Table 6: Final Curing Method Cycle for Curing Sheet Materials*).

ITEM 901.1 (Continued)

Table 6: Final Curing Method Cycle for Sheet Materials

Sustained Concrete Temperature	Final Curing Method Cycle Duration	Compressive Strength
50°F ≤ °F ≤ 90°F	≥ Three (3) days	≥ 80% f'_c

Sheet Materials used for curing, such as polyethylene film, white burlap-polyethylene sheeting, and reinforced paper shall meet the requirements of ASTM C171 and the specifications herein. Sheet materials shall inhibit moisture loss and reduce temperature rise in concrete exposed to radiation from the sun during the final curing method cycle. Adjoining covers shall overlap not less than 12 inches. All edges of the covers shall be secured to maintain a moist environment.

(a) Polyethylene Film.

Polyethylene film shall meet the requirements of ASTM C171, consist of a single sheet manufactured from polyethylene resins, be free of visible defects, and have a uniform appearance. Careful considerations shall be taken by the Fabricator to prevent the film from tearing during storage and application, so as to not disrupt the continuity of the film (polyethylene film reinforced with glass or other fibers is more durable and less likely to be torn). The Fabricator shall monitor the application of the film to prevent uneven spots from appearing (mottling) on the concrete surface, due to variations in temperature, moisture content, or both. The Fabricator shall prevent mottling from occurring on the concrete surface by applying additional water under the film or applying a combination of polyethylene film bonded to absorbent fabric to the concrete surface to retain and evenly distribute the moisture.

Immediately following final finishing, polyethylene film shall be placed over the surface of the fresh concrete surface, so as to not damage the surface of the concrete and shall be placed and weighted so that it remains in contact with the concrete throughout the entire duration of the final curing method cycle. The film shall extend beyond the edges of the concrete surface. The film shall be placed flat on the concrete surface, avoiding wrinkles, to minimize mottling. Edges of adjacent polyethylene film shall overlap a minimum of 6 inches and be tightly sealed with the use of sand, wood planks, pressure-sensitive tape, mastic, or glue to maintain close contact with the concrete surface, retain moisture, and prevent the formation of air pockets throughout the entire duration of the final curing method cycle.

(b) White Burlap-Polyethylene Sheeting

White burlap-polyethylene sheeting shall meet the requirements of ASTM C171, be securely bonded to the burlap so to avoid separation of the materials during handling and curing of the concrete, and be applied in the same manner as the polyethylene film.

(c) Reinforced Impervious Paper.

Reinforced impervious paper shall meet the requirements of ASTM C171, consist of two sheets of kraft paper cemented together with a bituminous adhesive and reinforced with embedded cords or strands of fiber running in both directions, and be white in color. Reinforced impervious paper shall be treated to prevent tearing when wetted and dried.

Reinforced impervious paper can be reused so long as it is effective in retaining moisture on the concrete surface. The Fabricator shall visually inspect the reinforced impervious paper for all holes, tears, and pin holes from deterioration of the paper through repeated use by holding the paper up to the light. The paper shall be discarded and prohibited from use when the moisture is no longer retained.

After the concrete has hardened sufficiently to prevent surface damage, the concrete surface shall be thoroughly wetted prior to the application of the reinforced impervious paper, and be applied in the same manner as the polyethylene film.

ITEM 901.1 (Continued)

4. Liquid Membrane-Forming Compounds for Curing.

All exposed concrete surfaces shall remain moist with a continuous application of liquid membrane-forming compounds throughout the entire duration of the final curing method cycle (see *Table 7: Final Curing Method Cycle for Liquid Membrane-Forming Compounds*).

Table 7: Final Curing Method Cycle for Liquid Membrane-Forming Compounds

Sustained Concrete Temperature	Final Curing Method Cycle Duration	Compressive Strength
50°F ≤ °F ≤ 90°F	≥ Seven (7) days	≥ 80% f'_c

Liquid membrane-forming compounds shall meet the requirements of ASTM C 1315, Type I, Class A and shall exhibit specific properties, such as alkali resistance, acid resistance, adhesion-promoting quality, and resistance to degradation by ultraviolet light, in addition to moisture-retention capabilities. Liquid membrane-forming compounds shall consist of waxes, resins, chlorinated rubber, or other materials to reduce evaporation of moisture from concrete. Liquid membrane-forming compounds shall be applied in accordance with the manufacturer's recommendations.

Liquid membrane-forming compounds shall be applied immediately after the disappearance of the surface water sheen following final finishing. All exposed surfaces shall be wetted immediately after form removal and kept moist to prevent absorption of the compound, allowing the curing membrane to remain on the concrete surface for proper membrane moisture retention. The concrete shall reach a uniformly damp appearance with no free water on the surface prior to the application of the compound.

If patching or finishing repairs are to be performed prior to the application of the compound, the Precast Concrete Element shall be covered temporarily with saturated covers until the repairs are completed and the compound is applied. Only areas being repaired shall be uncovered during this period. While the saturated covers are removed to facilitate the patching process, the work shall continue uninterrupted. If for any reason the work is interrupted, saturated covers shall be placed onto the uncovered concrete surface, until the work continues and is completed, at which time the curing compound shall be applied to the repaired area.

Careful considerations shall be made by the Fabricator to determine if the evaporation rate is exceeding the rate of bleeding, thus causing the surface to appear dry even though bleeding is still occurring. Under such conditions, the application of liquid membrane-forming compounds to the concrete surface shall be delayed, in order to prevent bleed water from being sealed below the concrete surface and avert map cracking of the membrane films, reduction in moisture-retention capability, and reapplication of the compound. To diagnose and prevent this condition, the Fabricator shall place a transparent plastic sheet over a test area of the uncured and unfinished concrete surface and shall determine if any bleed water accumulates under the plastic.

The compound shall be applied in two applications at right angles to each other to ensure uniform and more complete coverage. On very deeply textured surfaces, the surface area to be treated shall be at least twice the surface area of a troweled or floated surface. In such cases, two separate applications may be needed, each at 200 ft^2/gal., with the first being allowed to become tacky before the second is applied.

The curing compound shall be applied by power sprayer, using appropriate wands and nozzles with pressures between 25 and 100 psi. For very small areas such as repairs, the compound shall be applied with a wide, soft-bristled brush or paint roller. The compound shall be stirred or agitated before use and applied uniformly in accordance with the manufacturer's recommended rate. The Fabricator shall verify the application rates are in accordance with the manufacturer's recommended rate.

When the concrete surface is to receive paint, finishes, or toppings that require positive bond to the concrete, it is critical that the curing procedures and subsequent coatings, finishes, or toppings be compatible to achieve the necessary bond

ITEM 901.1 (Continued)

After the termination of the final curing method cycle has occured, liquid membrane-forming compounds shall be removed by blast-cleaning from any concrete surface that is to receive paint, finishes, plastic concrete from secondary pour, grout, or any other toppings that require bonding to the concrete surface. These surfaces shall be further blast-cleaned to remove the cement matrix down to exposed aggregate to ensure proper bonding to the material. The method used to remove the curing compound shall not damage the reinforcement and coating. Compounds are prohibited on any concrete surface that will have a penetrating or coating type treatment such as a sealer, stain, or waterproofing membrane applied to it.

5. Accelerated Curing.

Accelerated curing shall use live steam or radiant heat with moisture in accordance with PCI MNL-116 as modified herein. The concrete temperature shall meet the maximum heat increase and cool down rates as specified herein. Concrete temperature monitoring shall meet the requirements of the *Temperature Monitoring* section. Excessive and fluctuating rates of heating and cooling shall be prohibited. The concrete temperature shall not exceed 158°F at any time. The Fabricator shall meet the following accelerated curing sequencing and requirements.

(a) Initial Delay Period.

The initial delay period shall be defined as the duration immediately following the placement of the concrete and the attainment of initial set of the concrete. The Fabricator shall determine the time of initial set in accordance with AASHTO T 197 specifications. Throughout the entire duration of the preset period, initial curing shall be implemented. The temperature increase period (see *Temperature Increase Period* section) shall not occur until initial set of the concrete is attained. During the initial delay period, the concrete temperature shall meet the following requirements:

i. Concrete temperature rate of increase shall not exceed 10°F per hour.
ii. Total concrete temperature increase shall not exceed 40°F higher than the placement concrete temperature or 100°F, whichever is less

(b) Temperature Increase Period.

The temperature increase period shall be defined as the duration immediately following the completion of the initial delay period (after initial set) and immediately prior to the start of the constant maximum temperature period. Application of steam to the enclosure shall not occur until the initial delay period is complete. After the initial delay period is complete, all exposed concrete surfaces shall be cured in a moist environment where the concrete temperature increases at a rate not to exceed 36°F per hour.

(c) Constant Maximum Temperature Period.

The constant maximum temperature period shall be defined as the duration immediately following the completion of the temperature increase period and immediately prior to the start of the temperature decrease period. After the temperature increase period is complete, all exposed concrete surfaces shall be cured in a moist environment at a controlled and constant elevated temperature throughout the entire duration of the constant maximum temperature period. Termination of the constant maximum temperature period and the start of the termination decrease period shall occur after all specified conditions are met (see *Table 8: Constant Maximum Temperature Period*).

Table 8: Constant Maximum Temperature Period

Sustained Concrete Temperature	Constant Maximum Temperature Period	Compressive Strength
120°F ≤ °F ≤ 158°F	6 hrs ≤ Time ≤ 48 hrs	≥ 80% f'_c

ITEM 901.1 (Continued)

(d) Temperature Decrease Period.

After the constant maximum temperature period is complete, the concrete temperature shall be cured in a moist environment at a controlled and reduced rate not to exceed 36°F per hour until the concrete temperature is within 20°F of the ambient temperature outside of the curing enclosure.

R. Stripping.

The Fabricator shall not strip forms or handle the Precast Concrete Element until Quality Control compressive strength cylinders attain a minimum compressive strength of 80% Design Strength (f'_c) or the value indicated on the approved drawings has been achieved. After removal from the form, all exposed concrete surfaces shall continue to be cured in conformance with the *Final Curing Methods* sections until completion.

S. Handling and Storage of Precast Concrete Elements.

Precast Concrete Elements may be exposed to temperatures below freezing (32°F) when the chosen curing cycle has been completed, provided that the following conditions are met:

(a) Precast Concrete Elements are protected from precipitation with polyethylene curing covers until 100% f'_c is attained
(b) Precast Concrete Elements maintain a minimum concrete temperature of 40°F until 100% f'_c is attained

Precast Concrete Elements damaged during handling and storage will be repaired or replaced at MassDOT's direction at no cost to MassDOT. Precast Concrete Elements shall be lifted at the designated points by approved lifting devices embedded in the concrete and in accordance with proper lifting and handling procedures. Storage areas shall be smooth and well compacted to prevent damage due to differential settlement. Precast Concrete Elements shall be supported on the ground by means of continuous blocking, in accordance with the approved dunnage plan.

Precast Concrete Elements shall be loaded on a trailer with blocking as described above, in accordance with the approved dunnage plan. Shock-absorbing cushioning material shall be used at all bearing points during transportation of the Precast Concrete Elements. Blocking shall be provided at all locations of tie-down straps. Precast Concrete Elements stored prior to shipment shall be inspected by the Contractor prior to being delivered to the site to identify damage that would be cause for repair or rejection.

T. Repairs and Replacement.

In the event defects are identified, they shall be classified in the following categories and a non-conformance report (NCR) shall be filed if required. The NCR shall be submitted to MassDOT for review. Defects in all categories shall be documented by plant Quality Control personnel and made available to MassDOT upon request. Any required repairs shall utilize materials listed on the MassDOT QCML.

Where noted, defects shall be repaired according to the PCI Northeast Region Guidelines for Resolution of Non-Conformances in Precast Concrete Elements, Report Number PCINE-18-RNPCBE. Please note that reference to PCINE-18-RNPCBE is made for repair details only. In the case of conflicts with this Special Provision, this Special Provision shall govern.

1. Category 1, Surface Defects.

Category 1 defects do not need to be repaired, and an NCR does not need to be filed. Surface defects are defined as the following:

(a) Surface voids or bug holes that are less than 5/8-inch in diameter and less than ¼-inch deep, except when classified as Category 4
(b) Cracks less than or equal to 0.006 inches wide
(c) Cracks less than or equal to 0.125 inches wide on surfaces that will receive a field-cast concrete overlay

ITEM 901.1 (Continued)

2. Category 2, Minor Defects.

Category 2 defects shall be repaired, but an NCR does not need to be filed. Minor defects are defined as the following:

(a) Spalls, honeycombing, surface voids that are less than 2 inches deep and have no dimension greater than 12 inches
(b) Cracks less than or equal to 0.016 inches that will not receive a concrete overlay
(c) Broken or spalled corners that will be covered by field-cast concrete

Minor defects shall be repaired according to PCINE-18-RNPCBE. Cracks shall be sealed according to the PCI Repair Procedure #14 in PCINE-18-RNPCBE.

3. Category 3, Major Defects.

For Category 3 defects, the Fabricator shall prepare an NCR that documents the defect and describes the proposed repair procedure. The NCR shall be submitted to MassDOT for approval prior to performing the repair. Major defects are defined as the following:

(a) Spalls, honeycombing and surface voids that are deeper than 2 inches or have any dimension greater than 12 inches, when measured along a straight line
(b) Concentrated area of defects consisting of four or more Category 2 Defects within a 4-square foot area.
(c) Exposed reinforcing steel
(d) Cracks greater than 0.016 inches and less than or equal to 0.060 inches in width that will not receive a concrete overlay
(e) Bearing area spalls with dimensions not exceeding 3 inches
(f) Cracks, spalls and honeycombing that will be encased in cast in place concrete need not be repaired, but the limits and location of the defects shall be documented with an NCR

Upon MassDOT approval, defects and cracks shall be repaired according to PCINE-18-RNPCBE and this specification. All repairs shall be completed at the expense of the Contractor.

4. Category 4, Rejectable Defects.

Rejectable defects as determined by the MassDOT Inspector, RMS, and Engineer may be cause for rejection. Fabricator may submit an NCR with a proposed repair procedure, requesting approval. Some rejectable defects are defined as the following:

(a) Surface defects on more than 5% of the surface area which will be exposed to view after installation
(b) Minor defects that in total make up more than 5% of the surface area of the unit
(c) Cracks greater than 0.060 inches in width except as noted in Category 1
(d) Elements fabricated outside of the specified tolerances
(e) MassDOT compressive strength testing that does not meet the specified Design Strength, f'_c

U. Loading.

Prior to the Fabricator loading the Precast Element on to the truck for shipping, the Fabricator shall provide the MassDOT Plant Inspector and RMS a minimum seven (7) days' notice of the Fabricator's intent to load the Precast Element. Inspection by the MassDOT Plant Inspector shall take place while the element is still on dunnage in the yard. The element shall not be loaded onto the truck until the MassDOT Plant Inspector has performed the inspection.

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V. Shipping.

Prior to shipment, the Fabricator shall perform the following actions and provide the required documentation to the MassDOT Plant Inspector:

(a) Precast Concrete Elements shall remain at the Fabricator's plant for a minimum of 7 days after cast date.
(b) QC Inspection Reports shall be signed by the Quality Control Manager and provided to the MassDOT Plant Inspector.
(c) QC Compressive Strength Test Report Forms attaining Design Strength, f'c for the Precast Concrete Element's representative Sublot shall be generated by the Fabricator and provided to the MassDOT Plant Inspector.
(d) Certificate of Compliance shall be generated by the Fabricator as described under the Fabricator Quality Control section and provided to the MassDOT Plant Inspector.
(e) All MassDOT RMS approved Corrective Actions submitted on the Non-Conformance Reports (NCR), shall be verified to have been completed by the MassDOT Plant Inspector and Quality Control Manager.
(f) All NCRs shall be signed off by the Quality Control Manager, MassDOT Inspector and MassDOT RMS.

W. Delivery.

Upon Delivery, the following documentation shall be provided to the MassDOT Resident Engineer or designee:

(a) QC Compressive Strength Test Report Forms attaining Design Strength, f'c for the Precast Concrete Element's representative sublot.
(b) Certificate of Compliance generated by the Fabricator as described under the Fabricator Quality Control section.
(c) QC Inspection Reports signed by the Quality Control Manager.

The Contractor shall inspect Precast Concrete Elements upon receipt at the site. Precast Concrete Elements damaged during delivery shall be repaired or replaced at MassDOT's direction at no cost to MassDOT.

CONSTRUCTION METHODS – FIELD CONSTRUCTION

A. General.

All of the Contractor's field personnel involved in the erection and assembly of the Precast Concrete Elements shall have knowledge of and follow the approved Erection Procedure and Quality Control Plan for Precast Concrete Element Assembly.

Prior to installation, the following documentation shall be reviewed and confirmed by the MassDOT Resident Engineer or designee:

(a) QC Compressive Strength Test Report Forms attaining Design Strength, f'c for the Precast Concrete Element's representative sublot.
(b) Certificate of Compliance generated by the Fabricator as described under the Fabricator Quality Control section.
(c) QC Inspection Reports signed by the Quality Control Manager.

Field construction staff shall verify that the Resident Engineer has accepted all Precast Concrete Elements prior to installation.

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B. Erection Procedure and Quality Control Plan for Precast Concrete Element Assembly.

Prior to the erection, the Contractor shall submit an Erection Procedure and a Quality Control Plan for Precast Concrete Element Assembly for approval by the Engineer. This submittal shall include computations and drawings for the transport, hoisting, erection and handling of the Precast Concrete Elements. The Erection Procedure and Quality Control Plan for Precast Concrete Element Assembly shall be prepared and stamped by a Professional Engineer registered in the Commonwealth of Massachusetts with working knowledge of the Contractor's equipment, approved shop drawings, and materials to build the wall. The Erection Procedure and Quality Control Plan for Precast Concrete Element Assembly shall, at a minimum, include the following:

1. Erection Procedure

The Erection Procedure shall be prepared to conform to the requirements of 960.61, Erection and the applicable sections in Chapter 8 of the PCI Design Handbook (seventh edition) for handling, erection, and bracing requirements. At a minimum, the Erection Procedure shall provide:

(a) Minimum concrete compressive strength for handling the Precast Concrete Elements.
(b) Concrete stresses during handling, transport, and erection.
(c) Crane capacities, pick radii, sling geometry, and lifting hardware.
(d) Verification that the equipment can handle all pick loads and weights with the required factor of safety.
(e) Evaluation of construction sequence and evaluation of any geometric conflicts in the lifting of the Precast Concrete Elements and setting them as shown on the plans.
(f) Design of crane supports including verification of subgrade for support.
(g) Location and design of all temporary bracing that will be required during erection.

Non-shrink grout and concrete materials, approved by the Engineer, shall be placed as shown on the plans. Fill joints, keyways, and voids, in strict accordance with the specifications and manufacturer's recommendations and instructions.

For footings, approach slabs and highway guardrail transitions, once these Precast Concrete Elements have been set to the correct horizontal and vertical alignment, the void between them and the supporting soil shall be filled with Controlled Density Fill – Non-Excavatable to the limits as shown on the plans. Add additional grout ports in the footings to facilitate the bedding process if required.

Joints shall be filled flush to the top with non-shrink grout, and any vertical misalignment between adjacent elements shall be feathered out on a slope of 1 to 12.

Curing of grout or concrete shall be performed in strict accordance with the specifications and manufacturer's recommendations. Filling shall not be completed in cold weather when either the ambient temperature or the precast member's temperature is below the manufacturer's recommendation. No localized heating of either the precast members or of the air surrounding the element will be permitted in an attempt to reach application temperatures.

If the joints or voids are not filled within five days after the Precast Elements are erected, the Contractor shall cover and protect the openings from weather and debris until they are filled.

2. Quality Control Plan for Precast Concrete Element Assembly

The Quality Control Plan for Precast Concrete Element Assembly is a document prepared and submitted by the Contractor prior to the start of work which requires the Contractor to identify and detail the sequence of construction in accordance with the project schedule and which clearly identifies all stages of field construction. The assembly procedures for the Precast Concrete Elements shall be submitted on full size 24"x36" sheets. This document will be treated as a Construction Procedure and will be reviewed by both the Designer and the District Construction Office. The approval of this document will serve as a guideline for setting interim concrete and grout strengths and curing procedures to allow construction to proceed without waiting for the final in-service strengths to be achieved.

The following list details the minimum criteria that should be included in the Quality Control Plan for Precast Concrete Element Assembly:

ITEM 901.1 (Continued)

(a) A detailed schedule showing the sequence of operations that the Contractor will follow. The schedule shall include a timeline for installation of all major elements of the wall accounting for the installation of temporary works and cure times of grouts or closure pour concrete and other selected materials.
(b) Calculations that support the schedule outlined above should be included verifying that the selected materials have adequate interim strength to proceed from one step to another. Final material strengths are not normally required until the bridge is opened to vehicular traffic. The minimum factor of safety of two (2) will be required for the interim strength of grouts and closure pour concrete before construction is allowed to proceed to subsequent steps. The factor of safety is applied to the service loads that are supported by the elements and materials during various stages of construction. For example, if the Contractor calculates that the grout between the precast pier cap and pier wall requires a strength of 100 psi to support the dead load of the beams in the next step, a cylinder break of 200 psi will be required prior to allowing the pier cap to be loaded with the beams. The required strength of materials for subsequent construction stages shall also be calculated and the material strength verified.
(c) The Contractor is responsible for determining the center of gravity for all elements. Special care shall be used for unusual elements that are not symmetric. These elements may require special lifting hardware to allow for installation in a plumb or flat position.
(d) Plan of the work area, depicting items such as temporary earth support, utilities within the immediate vicinity of the work, drainage structures, etc. The Contractor shall coordinate the various subcontractors that will need to occupy the same area and shall ensure that there are no conflicts. For example, if the Contractor is having different Subcontractors prepare and submit plans for temporary earth support and demolition, and the earth support is required to be installed prior to the demolition, it shall be the Contractor's responsibility to ensure that the Quality Control Plan for Precast Concrete Element Assembly submission allows both operations to be performed without field modification.
(e) Details of all equipment that shall be employed for the construction of the wall.
(f) Methods of providing temporary support of the elements. Include methods of adjusting and securing the element after placement.
(g) Vertical Adjustment Assemblies to be used as a means of setting precast concrete elements to the correct elevations.
(h) Procedures for controlling the overall horizontal dimensions and the vertical elevations as each precast concrete element is erected by using the tolerance limits of the joints as detailed on the plans.
(i) Methods for curing grout.
(j) Proposed methods for installing non-shrink grout and the sequence and equipment for the grouting operation.
(k) Methods for sealing the keyways in preparation for filling with non-shrink grout, including the use of backer rods. The Contractor shall not assume that the backer rods will restrain the pressure from the grout in vertical grout joints. Provide additional forming to retain the backer rod.

C. Survey and Layout.

Working points, working lines, and benchmark elevations shall be established prior to placement of all elements. The Contractor is responsible for field survey as necessary to complete the work. MassDOT reserves the right to perform additional independent survey. If discrepancies are found, the Contractor may be required to verify previous survey data.

ITEM 901.1 (Continued)

D. Preparation of Closure Pour Keyways.

Immediately prior to erecting the Precast Concrete Elements, the closure pour shear keys shall be cleaned at the job site of all dust, dirt, carbonation, laitance, and other potentially detrimental materials which may interfere with the bonding of the closure pour concrete and precast concrete using a high-pressure water blast. The exposed reinforcing steel in the precast concrete shall be protected from damage during the cleaning of the keyways. Damaged epoxy coating of steel reinforcement shall be repaired, and the reinforcing steel shall be cleaned as directed by the Engineer. The surfaces of the shear keys shall be wetted so that the surfaces shall have a Saturated Surface Dry (SSD) condition for at least 24 hours prior to the placement of the closure pour concrete.

E. Erection.

The elements shall be placed in the sequence and according to the methods outlined in the Erection Procedure and Quality Control Plan for Precast Concrete Element Assembly. As the erection proceeds, the Contractor shall constantly monitor the assembly to ensure that the precast concrete element is within proper horizontal and vertical location and tolerances prior to releasing it from the crane and setting the next unit. The Contractor may use shims to maintain proper setting tolerances.

The concrete elements shall be lifted only by the lifting devices, and the utmost care shall be taken to prevent distortion of the elements during handling, transportation or storage.

Suitable spreaders shall be used during lifting so that only a vertical pull will be made on the lifting device. A non-vertical lifting force may be permitted if prior written approval is given by the Engineer. This approval will be contingent on the Contractor demonstrating by calculations, prepared by a Professional Engineer registered in Massachusetts, that the elements will not be damaged by the non-vertical lifting force and by documentation that the capacity of the lifting devices is adequate for the non-vertical lifting force.

Precast components shall be pre-bed with non-shrink grout thicker than shim stacks prior to placing other precast elements on top of them.

After all Precast Concrete Elements have been placed, the actual overall dimensions of the structure both horizontal and vertical, as laid out shall not deviate from the nominal dimensions shown on the plans beyond a tolerance of +0 inches and -1 inches. Once the layout of Precast Concrete Elements has been accepted by the Engineer, the Contractor shall cut all lifting devices off below the surfaces of the elements.

F. Filling of Blockouts for Lifting Devices and Threaded inserts.

If the blockouts in the Precast Concrete Elements where the lifting devices were located will be exposed and visible after assembly is complete, the Contractor shall fill these blockouts with Cement Mortar (M4.02.15) or grout.

After the formwork has been removed, all threaded inserts that have been cast into the precast concrete for support of the formwork shall be filled with a grout of the same color as that of the precast concrete.

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METHOD OF MEASUREMENT

Item 901.1 will be measured for payment by the Each precast concrete wall panel furnished, fabricated, and erected, complete in place, as approved by the Engineer.

The quantity of panels measured for payment will be determined by dividing the precast wall height for each section between piles by 2 feet, regardless of the actual size and quantity of panels installed.

BASIS OF PAYMENT

Item 901.1 will be paid for at the Contract unit price per Each, which price shall include furnishing, fabricating, and erecting all precast concrete elements including concrete, reinforcing steel, form liners, concrete penetrant / sealer, neoprene bearing pads, weep holes with geotextile fabric & wire screen, bracing, nonshrink grout for utility penetrations, joint material, joint sealer, threaded inserts, hardware, and all labor, materials, tools, equipment, and all incidental costs required to compete the work.

ITEM 912.101 ROCK DOWELS FOOT

The work under this Item shall include:

1. Furnishing of all labor, materials, and equipment to install and perform proof testing on untensioned, cement-grouted rock dowels at locations, inclinations, and lengths chosen by the Rock Mechanics Engineer.
2. Rock dowels will be continuous No. 9, Grade 75 steel all thread bar, untensioned, cement grouted the full-length in rock, with anchorage hardware as described in these Specifications, shown on the Drawings, and/or as directed by the engineer.
3. All-thread bars, bearing plates, washers and hex nuts shall be hot-dip galvanized.
4. No. 9, Grade 75 rock dowels shall generally be at least 15 feet long plus the stickup; however, the Contractor shall be prepared to install No. 9 rock dowels up to 20 feet long.
5. Actual need for and number of dowels required shall be determined after completing the rock cut shown on the drawings.
6. Rock dowel load testing and acceptance criteria shall be in accordance with Post-Tensioning Institute (PTI) recommendations and these Specifications.

The work shall include drilling rock dowel holes; providing, installing and grouting the dowels in the drilled holes; proof testing of rock dowels, and providing grout break laboratory test results and drill logs. The Contractor shall furnish all labor, materials and equipment for completing the work.

The Contractor is responsible for the construction means and methods and control of the process of the work. This includes the construction sequence, the safety of the workers, temporary handrails, work area access, barriers, lifting of materials and construction equipment into and out of the work area, temporary bracing of formwork, and other methods, techniques, sequences, or procedures required to perform the work.

DEFINITIONS

1. Rock Dowel: Refer to the Materials Section 1.00.
2. Anchorage Hardware: Includes bearing plates, flat and beveled washers, and hex nuts.
3. Alignment Load (AL): A nominal load maintained on the rock dowel to keep the testing equipment in position. It typically varies between 5 and 25 percent of the design load, and 10 percent is common.
4. Design Load (DL): The anticipated maximum axial load to be carried by the rock dowel. For No. 9, Grade 75 all threadbar, the Design Load is 42.5 kips.

REFERENCES

1. ASTM International (ASTM)

   (a) ASTM A36 Standard Specification for Carbon Structural Steel

   (b) ASTM A47 Standard Specification for Ferritic Malleable Iron Castings

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(c) ASTM A108 Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished

(d) ASTM A123 Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

(e) ASTM A153 Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware

(f) ASTM A536 Standard Specification for Ductile Iron Castings

(g) ASTM A615 Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

(h) ASTM A722 Standard Specification for High-Strength Steel Bars for Prestressed Concrete

(i) ASTM A767 Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement

(j) ASTM A775 Standard Specification for Epoxy-Coated Steel Reinforcing Bars

(k) ASTM A780 Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings

(l) ASTM C39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens

(m) ASTM C109 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50 mm] Cube Specimens)

(n) ASTM C150 Standard Specification for Portland Cement

(o) ASTM D3963 Standard Specification for Fabrication and Jobsite Handling of Epoxy-Coated Steel Reinforcing Bars

(p) ASTM F432 Standard Specification for Roof and Rock Bolts and Accessories

(q) ASTM F436 Standard Specification for Hardened Steel Washers

2. Post Tensioning Institute (PTI)

(a) PTI DC35.1-14 Recommendations for Prestressed Rock and Soil Anchors

(b) PTI M50.1-98 Acceptance Standards for Post-Tensioning Systems

(c) PTI TAB.1-06 Post-Tensioning Manual-Sixth Edition

3. American Concrete Institute (ACI)

(a) ACI 305R-10 Guide to Hot Weather Concreting

(b) ACI 306R-10 Guide to Cold Weather Concreting

4. American Welding Society (AWS)

(a) AWS D1.4 Structural Welding Code for Reinforcing Steel

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5. U.S. Army Corps of Engineers (USACE)
   (a)CRD-C 400-63 Requirements for Water for Use in Mixing Curing Concrete
   (b) EM-385-1-1 Safety and Health Requirements Manual
6. U.S. Military Specification
   (a) MIL-P-21035B Paint, High Zinc Dust Content, Galvanizing Repair

QUALITY ASSURANCE

1. Installation of rock dowels shall be in accordance with the recommendations of the manufacturer and PTI DC35.1-14. When such recommendations differ from the requirements of this Section, the more stringent requirement shall govern.
2. Installation and testing of the dowels shall be performed in the presence of the Engineer. The Engineer shall determine whether the dowels satisfy the requirements of the Contract Documents.
3. The minimum compressive strength of two-inch grout cubes or 2” by 4” or 4” by 6” cylinders, molded, cured, and tested in accordance with ASTM C109 or ASTM C39, as applicable, shall be 3,000 psi at 7 days, and 6,000 psi at 28 days. The Contractor shall be responsible for sampling, curing, and breaking of grout test cubes or cylinders for determining mix design, and all testing shall be done by an independent laboratory approved by the Owner or Engineer.

QUALIFICATIONS

1. Rock dowel thread bar and appurtenant hardware shall be a standard product of a company regularly engaged in their manufacture. The manufacturer shall be listed on the MassDOT Qualified Construction Materials List (QCML).
2. Rock dowel installer shall be experienced in the Work of this section with a minimum of 2 years of experience installing cement-grouted rock dowels and shall demonstrate at least 2 projects where similar dowels or anchors were successfully installed.
3. Foreman shall have a minimum of 5 years of experience supervising and installing cement-grouted rock dowels and shall demonstrate at least 5 projects where similar dowels or anchors were successfully installed..

DELIVERY, STORAGE, AND HANDLING

1. Materials shall be suitably wrapped, packaged or covered at the factory or shop to prevent being affected by dirt, water, oil, grease, and rust.
2. Materials shall be protected against abrasion or damage during shipment and handling.
3. Materials stored at the site shall be placed on a well-supported platform and covered with plastic or other approved material. Materials shall be protected from adjacent construction operations.

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4. Steel damaged by abrasion, cuts, nicks, heavy corrosions, pitting, welds or weld spatter shall be rejected and removed from the site.
5. The cement grout shall be stored and installed at a temperature ranging between 40- and 75-degrees Fahrenheit. ACI 305R-10 Recommendations shall be followed when the ambient air temperature is 75 degrees Fahrenheit or above. ACI 305R-10 Recommendations shall be followed when the ambient air temperature is 40 degrees Fahrenheit or below.
6. Heated storage facilities shall be provided at the work site to meet these criteria during cold weather conditions.

PREPARATORY MEETING

Prior to commencing any work involving rock dowels, the Contractor, including all field personnel to be involved in drilling or installation of the rock dowels, shall meet with representatives of the Owner to review the plans and specifications, work plans, and submittals. Drilling may commence upon approval of all required Submittals and after the completion of the Preparatory Meeting.

SUBMITTALS

Submittals shall be provided by the Contractor for the Engineer's review and approval. The Contractor will not be allowed to begin dowel installation until all submittal requirements are satisfied and found acceptable by the Engineer. All submittals shall be provided at least 15 days prior to initiating work unless otherwise indicated herein.

1. Work Plan: Contractor will submit a Work Plan that includes shop drawings, a detailed description of rock dowel assembly, installation procedures, sequence, and schedule. Specifically, the Work Plan shall include the following:

   (a) Catalog cuts, brochures, or other descriptive literature describing the equipment to be used for drilling holes for rock dowels, and equipment to be used for handling, installing, and grouting the rock dowels.
   (b) Description of drilling equipment shall include rod sizes and bit diameter.
   (c) Include method and equipment to be used for checking angle and alignment of rock dowel holes.
   (d) Details of how rock dowels will be installed on the slope, including a description of work platform(s) and other equipment.
   (e) Rock dowel details, including thread bar, couplings, plate, nut, washers, grout tubes, grout socks, centralizers, and the geometry of the fully assembled dowel.
   (f) Cement grout mixture proportions, including test reports demonstrating that the proposed grout mixture will meet the specified requirements and a description of how the proportions of grout ingredients will be measured in the field.
   (g) Cement grouting procedures, including procedures to dry-pack "bird's beak" voids after cement grout has set.

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(h) Details of storage facilities that will be used to protect rock dowels and rock dowel components against damage and maintain the rock dowels and components at proper temperatures during extreme weather conditions.

(i)Qualifications, experience record, and at least two references for installer and foreman in charge of rock dowel installations.

(j) Calibration data, including a graph of torque versus tension for each torque wrench to be used. Torque wrenches shall have been calibrated within the 30 calendar days prior to the start of work at the site.

(k) Descriptions of stressing jacks, gages, load cells, or other devices for measuring stressing load, certified calibration records for each set of jacking equipment taken within 90 days of beginning the work, and current testing curves for stress measurement gages.

(l) A written plan describing the procedures and ancillary equipment that will be used for anchorage testing. The use of wood cribbing shall be minimized.

(m) A schedule that shows broad work activities, and major milestones and durations. The schedule shall be in the form of a Gantt bar chart, providing clear definitions of activity descriptions, appropriate interactivity linkages (predecessor/successor relationships), beginning/end dates, and critical-path activities. The schedule shall be submitted as a pdf.

2. Test Reports and Certificates for Rock Dowel Materials

(a) Mill reports and a certificate from the manufacturer stating chemical properties, ultimate strength, yield strength, modulus of elasticity, for each heat or lot of steel delivered to the site. This requirement applies to the all-thread bars, anchorage hardware, and couplers.

(b) The use of secondary steel shall not be permitted for the all-thread bars, anchorage hardware, or couplers.

(c) Written certification for the corrosion protection (hot dip galvanizing) material, along with the manufacturer's recommended product for field touch-up of mars and cut ends shall be submitted with the delivery of the all-thread bars, anchorage hardware, and couplers.

3. Daily Reports

(a) Submit records of the quantity and locations of installed rock dowels, results of proof tests completed, and any difficulties encountered in drilling or installing rock dowels at the end of each work shift, or prior to commencing the next shift.

(b) Submit logs for each rock dowel hole drilled at least weekly during construction.

MATERIALS

General

Each rock dowel shall consist of a galvanized steel all-thread bar, centralizers, bearing plate, washers, and hex nut that are furnished new and without defects. Defective materials will be rejected by the Engineer and shall be removed from the site by the Contractor.

ITEM 912.101 (Continued)

Steel All-Thread Bar

Steel all-thread bar shall be nominal 1.125-inch-diameter (No. 9 bar) conforming to ASTM A615 Grade 75 and shall have a continuous hot rolled pattern of threadlike deformations along its entire length.

Corrosion Protection

1. All-thread bar shall be hot-dip galvanized in accordance with ASTM A767. Corrosion protection shall not gall the threads or prevent installation of nuts or couplers.
2. All bearing plate, washers, couplers and hex nuts shall be hot-dip galvanized in accordance with ASTM A767.

Bearing Plates

Steel bearing plates shall conform to ASTM A36. Bearing plates shall be minimum ½-inch-thick flat steel, square in shape, providing a minimum 81 square-inch area for each dowel and with a hole drilled and sized to allow at least a 15-degree skew from normal to the plate in all directions.

Steel Couplers

Steel couplers may be used to field assemble No. 9 rock dowels longer than 10 feet and shall conform to ASTM A108. Steel couplers shall be compatible with the threadbar to be coupled and capable of developing 100 percent of the minimum specified ultimate tensile strength of the Grade 75 steel.

Washers

1. Washers for use with threaded dowels shall ensure that there is continuous load transfer between the tightened hex nut and the bearing plate.
2. Two beveled washers and one flat washer shall be provided with each rock dowel.
3. Beveled washers shall be compatible with the Grade 75 threadbar and conform to either ASTM A47 or ASTM A536.
4. Flat steel washers shall conform to the requirements of ASTM F436.

Hex Nuts

1. Hex nuts shall have hexagonal heads of the heavy-duty type and shall be compatible with the Grade 75 steel threadbar. Nuts shall permit a 5-degree misalignment between the bar and bearing plate and still support at least 100 percent of the minimum specified ultimate tensile strength of the Grade 75 steel.
2. Hex nuts shall conform to ASTM A108.
3. Hex nuts shall be sized to fit over galvanized threadbar without damaging the corrosion protection.
4. For Hex nuts used on threaded portions of rock dowels, nuts shall develop an ultimate strength of not less than 125 percent of the minimum yield strength of the rock dowels.

ITEM 912.101 (Continued)

Centralizers

1. Centralizers shall be plastic or other approved material which is nondetrimental to Grade 75 steel. Wood shall not be used.
2. The centralizer shall be able to support the rock dowel in the drill hole and position the rock dowel so a minimum of 0.5 inch of grout cover is provided and the dowel is centered in the drilled hole.
3. Centralizers shall permit grout to freely flow up the drill hole.
4. Each rock dowel shall include at least three centralizers placed no more than 6 feet apart.

Alternate Options

1. In lieu of washers and hex nuts, the Contractor may propose to use a dished plate with either a domed hex nut or a hex nut and spherical washer.
2. Spherical washers (if used) shall conform to ASTM A536 and shall require the same corrosion protection as beveled washers.
3. Domed nuts shall meet the same requirements as hex nuts.

Cement Grout, Mortar, And Appurtenances

1. General
   (a) Cement grout mixture proportions shall be the responsibility of the Contractor. Grout shall consist of a homogenous, pumpable, stable mixture of Portland cement water, and admixtures (if used).
   (b) The water content shall be the minimum necessary for proper placement, but the water-cement ratio shall not exceed 0.45 by weight. Final proportions of materials shall be based on results of tests made on sample mixtures of grout.
   (c) The minimum compressive strength of two-inch grout cubes or 2” by 4” or 4” by 6” cylinders, molded, cured, and tested in accordance with ASTM C109 or ASTM C39, as applicable, shall be 3,000 psi at 7 days, and 6,000 psi at 28 days. The Contractor shall be responsible for sampling, curing, and breaking of grout test cubes or cylinders for determining mix design, and all testing shall be done by an independent laboratory approved by the Owner or Engineer.
2. Grout/Cement Materials
   (a) Portland cement shall be ASTM C150, Type I, II, or III.
3. Water
   (a) Water for mixing cement grout shall meet the requirements of USACE CRD-C 400-63.
   (b) Water temperature prior to mixing shall be between 50- and 70-degrees Fahrenheit. During periods of cold or hot temperatures, water shall be heated or cooled before mixing grout.

ITEM 912.101 (Continued)

4. Other Admixtures

   (a) Admixtures, which control bleed, reduce water content and retard set, may be used in the grout if recommended by the grout manufacturer, subject to the approval of the Engineer. Any admixtures used shall be compatible with the Grade 75 steel and shall be dosed and mixed in accordance with the manufacturer's recommendations.

5. Grout Tubes

   (a) Grout tubes shall be polyethylene tubing or as recommended by the rock dowel manufacturer/supplier. Inside diameter of grout tubes shall be adequate for the proposed grout mix. Tubes shall be able to withstand the expected grouting pressure.

6. Grout Socks

   (a) Grout socks shall consist of Williams Form Engineering grout socks S5Z-01 or approved equivalent.

7. Pre-Blended Grout

   (a) At the Contractor's option, a pre-blended grout mix such as Target Products, Ltd. 1117 Grout (Silica Fume Anchor Bolt Grout) may be proposed for approval by the Engineer.
   (b) Pre-blended grout, if used, shall be proportioned and mixed in accordance with the manufacturer's recommendations to achieve the required compressive strengths.

8. Dry-Pack Mortar

   (c) Dry-pack mortar shall consist of one part ASTM C150 Type I or Type I/II Portland cement, 2-½ parts sand that will pass the No. 16 (1.18 millimeter) sieve, and sufficient water to produce a mixture that will just stick together while being molded into a ball with the hands. Mortar should not exude water but leave the hands damp when handled.

Drilling Equipment

1. Holes may be advanced by rotary, percussion, rotary/percussion, down-hole hammer, or using other drilling methods suitable for advancing drill tools of the required diameter to the depths specified.
2. Drilling equipment shall be capable of drilling at the inclinations required, as shown in the Drawings.
3. If drilling equipment will be suspended, consideration shall be given to reduced reaction force.

ITEM 912.101 (Continued)

Grouting Equipment

1. Grout Mixer: The grout mixer shall be a high-speed, high-shear, colloidal type grout mixer capable of continuous mechanical mixing that will produce uniform and thoroughly mixed grout which is free of lumps and undispersed cement.
2. Measuring Devices: Contractor shall provide devices capable of measuring the relative proportions of grout ingredients such that each batch of grout is consistent with the approved mix design.
3. Grout Pump: The grout pump shall be of the positive displacement type. It shall be capable of pumping at all flow rates below 20 gallons per minute and shall be capable of pumping at a pressure of at least 50 psi at zero flow rate. The pumping equipment shall have a pressure gage capable of measuring pressures of at least 150 psi.
4. Material Safety: Portland cement and prepackaged grout containing Portland cement is a respiratory and skin irritant. Contractor shall adhere to Section No. 6 of EM 385-1-1 and workers shall be equipped with respirators and skin protection while handling dry cement. The manufacturer's recommended safety equipment and instructions shall be used.

Testing Equipment

1. The Contractor shall supply the following testing equipment:
2. A hydraulic jack and pump of the type typically used for testing rock dowels with a rated capacity greater than the maximum test load. Provide a hydraulic jack with a stroke length at least 1 inch greater than the theoretical elastic elongation of the tendon steel at the maximum test load, but not less than 6 inches.
3. One pressure gage to measure the pressure in the hydraulic jack. Gage shall have graduations of 50 psi or smaller. The pump, hydraulic jack, and the pressure gage have been calibrated as a unit within 90 days of the beginning of rock dowel testing. Calibration shall be traceable to the National Institute of Standards and Technology (NIST).
4. Two displacement gages that can measure movement in increments of 0.001 inch or less with a minimum 4-inch range of travel. If the elastic elongation of the tendon steel at the maximum test load will exceed 4.0 inches, provide displacement gages with a sufficient range of travel, or provide multiple displacement gages that can be arranged in series to allow the continuous measurement of the displacement of the anchor head.
5. A jack chair that can transfer 166 percent of the Design Load.
6. Recalibration of the testing equipment is required at six-month intervals throughout the period of use, after rough handling, or after damage to and/or repair or replacement of any component, or as requested by the Engineer.

ITEM 912.101 (Continued)

CONSTRUCTION PROCEDURES

General

1. All the equipment used in handling and placing the rock dowels shall be such that it does not damage the steel or corrosion protection coating.
2. Each rock dowel shall be inspected prior to insertion into the hole. Any damage to rock dowel or rock dowel heads shall be repaired prior to insertion, or, if determined by the Engineer to be not repairable, shall be replaced.
3. Minor damage to galvanized coatings shall be repaired by applying a compound meeting the requirements of MIL-P-21035B in accordance with ASTM A780 or as recommended by the rock dowel manufacturer.
4. Installation and testing of rock dowels shall be in accordance with PTI Recommendations and the provisions of this Section.
5. The construction sequence shall be in accordance with the methods approved in the plans and submittals. No deviation from the approved methods specified herein or presented on approved submittals shall be made without written approval from the Owner or Engineer.

Drilling

1. Just prior to drilling holes for rock dowels, the area shall be inspected and scaled as required for safety and to provide an adequate face to seat the bearing plate.
2. Holes for rock dowels holes shall be drilled to the minimum depths and at the minimum inclinations shown on the drawings and as directed by the Rock Mechanics Engineer. Locations of the holes shall be laid out by the Contractor based on locations specified by the Rock Mechanics Engineer. Final locations shall be subject to approval by the Owner's Engineer. Holes should be laid out after the rock excavation is completed.
3. The minimum hole diameter for rock dowels (No. 9 bars) is 2.125 inches.
4. No holes shall be drilled within 15 feet (horizontal and vertical) of a grouted hole until the grout has set at least 12 hours. The Contractor is responsible for developing a drilling sequence to comply with this requirement.
5. Care shall be taken while drilling to avoid damage to existing structures or intact bedrock.
6. Upon completion of drilling, holes shall be blown clear with compressed air introduced at the back of the hole to remove all drill cuttings, water, sludge, and debris.
7. The Contractor shall prepare a log for each hole. The log shall include the depth and thickness of any soft zones, depth and thickness of any voids encountered, location(s) where drilling fluid escapes to the ground surface, and any other pertinent information as requested by the Owner or Engineer.
8. The Contractor shall be responsible for each drilled hole until the rock dowel has been installed, grouted, and accepted.

ITEM 912.101 (Continued)

Installation Of Rock Dowels

1. Rock dowels shall be installed in accordance with the recommendations of the manufacturer and PTI Recommendations.
2. The rock dowel assembly shall be installed into the hole, without difficulty, as soon as possible after cleaning the hole with compressed air.
3. Installation of rock dowels shall be completed (complete rock dowel assembly installed, and the hole grouted from the back to the collar of the hole) the same day the holes are drilled. In some cases, and upon direction of the Engineer, rock mass conditions may dictate that rock dowels will need to be installed immediately after the hole is drilled.
4. Do not install rock dowels in holes that have not been drilled (or which do not remain open) to the full design depth.
5. Based on the drill logs and consultation with the Engineer, determine if individual anchors are to be installed with or without grout socks.

Cement Grouting

1. All rock dowels shall use single stage grouting from the bottom of the hole in a manner that will prevent air voids. Top off holes as necessary to maintain the grout level equal with the collar of the hole until it achieves an initial set. If grout level cannot be maintained, use grout socks.
2. ACI 305R-10 Recommendations shall be followed when the ambient air temperature is 75 degrees Fahrenheit or above.
3. ACI 305R-10 Recommendations shall be followed when the ambient air temperature is 40 degrees Fahrenheit or below.
4. The “bird’s beak” void shall be completely filled with dry-pack mortar or anchor grout. Dry pack mortar should be placed in 6-inch lifts beginning at the back of the hole, with each lift compacted by rodding. Use care not to damage the rock dowel when rodding.
    (a) For rock dowels that will be proof tested, dry pack mortar shall not be placed until testing has been completed.
    (b) For all other dowels, placement of dry pack mortar shall occur only after the cement grout has achieved an initial set.

Dowel Proof Testing

1. General
    (a) Provision shall be made by the Contractor for conducting proof tests on 5 percent of the rock dowels installed, or a minimum of 3 rock dowels. Anchors to be tested will be selected and observed by the Engineer.
    (b) Cement grouted rock dowels shall be tested following a period of time not less than seven days after the installation has been completed. Minimum compressive strength of the cement grout at time of testing shall be at least 3,000 psi.

ITEM 912.101 (Continued)

(c) Use the reference gage to check the production gage on at least one test per day.

(d) For all tests, the maximum test load shall not exceed 80 percent of the ultimate strength of the threadbar or the yield strength of the thread bar.

2. Testing Equipment Setup

(a) Position the hydraulic jack and other necessary items (such as the jack chair) over the anchor tendon and parallel to its axis. A bar extension may be coupled to the threadbar to facilitate testing, provided the extension is of the same diameter and grade of steel as the threadbar and that the coupler meets the requirements of this Section.

(b) Apply the alignment load to hold the jack in place.

(c) Set the displacement gages after applying the alignment load. Support the displacement gage on a tripod or other support device that is independent of the rock dowel and the structure. Position the displacement gage so that its axis is parallel to the axis of the anchor tendon within 5 degrees. Check that the stem of the displacement gage is free to move over its entire measurement range.

(d) If the tip of the displacement gage is placed against the threadbar, only one gage is required. If the displacement gage is positioned against a plate secured to the threadbar (or extension), two gages are required on opposite sides of the plate so that tilting of the plate (such as may be caused by compression of cribbing) is not mistakenly interpreted as displacement.

3. Proof Test

(a) The proof test shall be performed by incrementally loading the rock dowel in accordance with the following schedule. The anchor movements shall be measured from the alignment load and recorded to the nearest 0.001 inches with respect to an independent fixed reference point at each increment of load. The alignment load is a nominal load maintained on the anchor to keep the testing equipment in position. The test load shall be monitored with the production gauge. At load increments other than the maximum test load, the load shall be held just long enough to obtain the movement reading. The alignment load shall be determined during testing but shall be sufficient to seat the bearing plate prior to proceeding with the proof and performance tests.

(b) Anchorage Test Schedule (where AL is the alignment load and DL is the design load):

AL
0.25 DL
0.50 DL
0.75 DL
1.00 DL
1.20 DL
1.33 DL

ITEM 912.101 (Continued)

(c) The maximum test load (1.33 DL) shall be held for 10 minutes. The load-hold period shall start as soon as the maximum test load is applied. Anchor movement, with respect to an independent fixed reference, shall be measured at 1, 2, 3, 4, 5, 6, and 10 minutes.

(d) If the anchor movement between 1 minute and 10 minutes exceeds 0.04 inch, the maximum test load shall be held for an additional 50 minutes and the movement readings shall be taken at 20, 30, 40, 50, and 60 minutes, and at intermediate intervals as may be requested by the Engineer. Upon completion of the creep test return to the AL and record the anchor movement.

(e) Test records for each anchorage test shall be submitted to the Engineer.

4. Acceptance of Rock Dowel

Acceptance of rock dowels shall be determined by the Engineer, based on the following:

(f) The rock dowel is constructed in general accordance with these Specifications.

(g) The rock dowel holds the maximum test load and it meets the acceptance criteria for creep movement.

Creep Movement

Creep movement of a rock dowel is the displacement of the anchor head under a relatively constant load during the hold period of the test. However, it does not include the creep displacement of the tendon itself.

The acceptance criteria for rock dowels subject to proof or performance testing is no more than 0.04 inches of creep movement between the 1- and 10-minute displacement readings, or no more than 0.08 inches of creep movement between the 6- and 60-minute displacement readings. Rock dowels which do meet this criterion shall be rejected and replaced.

Rock dowels which do not pass the proof test shall be cut off flush with the ground surface and the hole shall be sealed with a minimum 3-inch-thick mortar patch. Failed rock dowels shall be replaced at no additional cost to the Owner.

5. Install beveled washers, flat washer, and hex nut on threadbar. Exposed ends (i.e., tails) of rock dowels shall be cut off after hex nuts have been tightened to the required torque. The minimum tail length shall be equal to one bar diameter. For galvanized bars, the exposed end shall be patched by applying a compound meeting the requirements of MIL-P-21035B in accordance with ASTM A780 or as recommended by the rock dowel manufacturer.

ITEM 912.101 (Continued)

METHOD OF MEASUREMENT

Item 912.101 will be measured for payment by the Foot of rock dowels furnished and installed, complete in place and accepted by the Engineer.

Rock dowels abandoned due to contractor operation, or which do not meet the testing requirements will not be measured for payment.

Rock dowels abandoned at the direction of the Engineer because of difficult ground conditions (excessive voids, caving conditions) will be measured as a two-foot-long completed rock dowel, regardless of the actual depth drilled or length of bar installed.

BASIS OF PAYMENT

The Contractor will pay for acceptable quantities at the contract unit price. This price shall include full compensation for all labor, materials, submittals and equipment required to install and proof test the rock dowels.

Item 912.101 will be paid for at the Contract unit price per Foot, which price shall include, furnishing and installation of all rock dowel materials including galvanized threadbar, anchorage and connection hardware; centralizers; cement grout, all labor and equipment required to complete safety scaling, drill holes, install, and grout rock dowels (including backfilling “birds beaks”), furnishing and installing grout socks on up to 10 percent of the rock dowels, furnishing calibrated stressing and measuring equipment, proof testing of selected anchors in accordance with the Specifications; furnishing the necessary materials and labor to seal abandoned holes with a mortar patch, and all labor, materials, tools, equipment, and all incidental costs required to complete the work.

ITEM 912.102 ROCK MECHANICS ENGINEER HOUR

The work under this Item shall be for professional services of a geotechnical engineer or geological engineer, and herein referred to as "Rock Mechanics Engineer".

For this project, applicable rock mechanics work is for: Item 121 Class A Rock Excavation, Item Number 121.1 Rock Scaling, and Item 912.101 Rock Dowels.

The Rock Mechanics Engineer shall demonstrate knowledge and expertise to assess the stability of the temporary and final rock cuts, and coordinate and oversee all work associated with rock scaling and the design, installation and testing of passive rock dowels.

The Rock Mechanics Engineer shall not be from the same company as the company responsible for rock excavation, rock scaling, and installing and testing passive rock dowels.

The Rock Mechanics Engineer shall be approved by the Engineer. The Resident Engineer shall be present on-site to oversee the replication processes per MassDOT standard requirements.

QUALIFICATIONS

The Rock Mechanics Engineer shall have a minimum of five (5) years of experience with evaluation of rock slope stability and the design, construction and testing of grouted rock dowels. The Rock Mechanics Engineer shall be a licensed Professional Engineer in the State of Massachusetts.

SUBMITTALS

A. Qualifications

Within sixty (60) days following the Notice to Proceed, the Contractor shall provide proof of qualifications for the Rock Mechanics Engineer to the Resident Engineer for approval. Submittals shall include, but not be limited to, the following:

1. Resume of the individual in charge of all rock slope evaluation and design of passive rock dowels.
2. Resume of any personnel working under the direction of the Rock Mechanics Engineer who will perform on-site rock slope evaluation or observation of passive rock dowel installation or testing.
3. Narrative describing the company, its expertise, technical qualifications and experience with rock slope evaluatons and rock dowel design and installation observation.
4. At least three (3) references from prior work of a similar nature completed in the last five (5) years and by the individuals who will perform the work. Provide contact information for each reference including address, phone number and email.
5. A summary of each reference project including nature of the work, project size, dates, and period of construction and monitoring, methodologies used, and summary of success (or not) in terms of meeting performance objectives. Summary shall include a minimum of one before and one after photo for each project.

ITEM 912.102 (Continued)

B. Documentation and Reports

Rock Cut Construction Oversight: Rock Mechanics Engineer, or their designee, shall provide documentation of temporary rock cut stability and post-construction slope condition to the

Resident Engineer for review, including the information noted below. Documentation shall include photos that are clear and legible. Photos are incidental to this item.

1. Rock Cut Configuration: Provide brief assessment with photos, including documentation of the temporary rock cut during construction and the final excavation as shown on the contract drawings. The assessment shall include estimation of rock cut angle, the direction and dipping angle of major fractures within the rock, and the presence of rock blocks which may be unstable. Include recommendations for stabilizing rock blocks using dowels or for providing temporary protection of the roadway during non-working hours.
2. Rock Block Configuration: Documentation shall include the approximate length and width of rock blocks identified as potentially requiring stabilization. The intent of these measurements is to identify the surface area and volume of each individual block requiring stabilization.

Rock cut construction documentation and reports shall be submitted to the Resident Engineer with Request for Conditional Acceptance and for the Order of Conditions and other regulatory permits as required.

Rock Scaling Construction Oversight: Rock Mechanics Engineer, or their designee, shall provide documentation of pre-scaling and post-scaling slope condition to the Resident Engineer for review, including the information noted below. Documentation shall include photos that are clear and legible. Photos are incidental to this item.

1. Limits of scaling
2. Scaling methods
3. Type and location of temporary barriers used to prevent scaled rock from entering the eastbound lane of Mount Washington Road
4. Number of scaling crew members and hours spent scaling
5. Quantity of scaled material

Rock Dowel Design: Rock Mechanics Engineer shall provide design of rock dowels for the purpose of stabilizing individual rock blocks identified during construction that are too large to scale or that may destabilize the slope if scaled. Rock dowel design should indicate the following:

1. Drill hole diameter
2. Drill hole location
3. Drill hole length (bond & free-stress)
4. Anchor bar diameter
5. Centralizer type and spacing
6. Dowel head assembly and lock-off procedure
7. Passive Rock Dowel Design Load & Lock-off Load
8. Construction details including test locations

ITEM 912.102 (Continued)

Rock Dowel Construction Oversight: Rock Mechanics Engineer, or their designee, shall perform continuous oversight of all passive rock anchor installation and testing. Passive rock dowel construction oversight should provide documentation of the following for each anchor:

1. Drill start date
2. Grout date
3. Drill hole diameter
4. Drill hole location
5. Drill hole length (bond & free-stress)
6. Anchor bar diameter

For all rock dowel tests, provide documentation of the testing data.

SCOPE OF WORK

General

In the event of discrepancies, the Rock Mechanics Engineer shall submit a Request for Information (RFI) to the Resident Engineer.
The Rock Mechanics Engineer shall be responsible for the following:

1. Observe temporary and final rock cut and the existing rock cut for the presence of unstable blocks of rock requiring stabilization or scaling and provide recommendations for stabilization, scaling, and/or roadway protection, as applicable.
2. Observe rock scaling.
3. Design passive rock dowels to support unstable rock blocks that are too large to scale or that could further destabilize the new or existing rock cut.
4. Observe installation and testing of rock dowels.

METHOD OF MEASUREMENT

Item 912.102 Rock Mechanics Engineer will be measured for payment by Hour.

Work shall include all inspections, photos, submittals, and associated tasks for rock cut oversight, passive rock dowel design and passive rock dowel installation and testing. Decimal Pay Limits will be 0.25 hours.

Item 912.102 will be measured for payment by the Hour of professional services rendered for Rock Mechanics Engineer.

Decimal Pay Limits will be 0.25 hours.

BASIS OF PAYMENT

Item 912.102 will be paid for at the Contract unit price per Hour, which price shall include professional services, all inspections, photos, submittals, and associated tasks required for rock cut oversight, passive rock dowel design, and passive rock dowel installation and testing, and all labor, materials, tools, equipment, and all incidental costs required to complete the work.

ITEM 942.145 GALVANIZED STEEL PILE HP 14 X 89 FOOT

This work under this Item shall consist of furnishing and installing piles within the preaugered holes at the locations and elevations shown in the plans. The Contractor will be responsible for furnishing piling of sufficient length to obtain the pile top elevations and required rock socket length shown in the plans. The piles shall be galvanized in accordance with the "Hot Dip Galvanized Coating for Steel Piles" section under construction methods in this specification.

The Contractor shall submit to the Engineer, for approval, a schedule of the length of piles they propose to order, and the schedule shall designate the respective location of the piles. The scheduled length shall comprise the length required to meet the elevations in the plans plus any extra length that may be necessary to provide fresh heading or to accommodate any changes to pile elevations due to field conditions.

MATERIALS

General:

Steel piles shall consist of structural steel shapes of the section shown on the plans. The steel shall confirm to the requirements of ASTM A572, grade 50 ksi.

Length of Steel H Piles:

When the proposed length is 60 ft or less, the pile shall be furnished in a single piece of the required length.

Storage and Handling of Piles:

Special care shall be used in the storage and handling of piles to avoid damage.

CONSTRUCTION METHODS

The Contractor shall submit to the engineer for approval, a description of the proposed equipment being used to install the piles.

The piles shall be temporarily braced during the installation of the concrete encasement around the pile to keep the piles plumb and in the correct horizontal position. The Contractor shall submit their method of temporary bracing for approval by the Engineer.

The piles shall be installed as close as possible to the center of the preaugered hole. The pile center may be shifted up to 1.50" in any direction from the center of the hole as needed to adjust for any misalignment of the preaugered pile hole.

Where piles must be extended, the spliced connection shall be a continuous full penetration butt-weld. The butt-welding shall be made to develop the full strength of the pile, both in bearing and in bending. Butt-weld splicing of piles other than as shown on the plans will not be permitted without express written consent of the Engineer.

ITEM 942.145 (Continued)

Hot Dip Galvanized Coating For Steel Piles

A. General

Fabricated steel shall be galvanized as indicated on the plans. All fabrication shall be completed prior to surface preparation and the application of any coating.

When grinding, drilling or any other operation produces steel turnings, filings, shavings, etc. the contractor shall completely clean all areas of all accumulation prior to the end of the work shift.

Locations of field applied studs shall require masking or removal of galvanizing and paint prior to welding.

The Engineer shall provisionally accept the shop coated items before shipment to the jobsite but final acceptance of the coating system will occur after erection of the coated items, and after all required repairs and coating application has been completed.

The contractor shall be responsible for failure and damage of all applied coating. Failures include but are not limited to, visible corrosion, blistering, checking, cracking, or delamination (peeling) and loss of gloss and color of the coating system. Damage includes but is not limited to damage from installation of the piles or damage from installation of the wall panels or from external agents, such as scraping, vandalism, debris impacts, and collisions. The extent and method of repair must be approved by the Engineer.

B. Galvanizing

The following shall be hot dipped galvanized in accordance with Section M7 of these Specifications:

1. All wall Piles.

2. Hardware and miscellaneous steel components.

Galvanized members requiring shop fabrication and assembly shall be cut, welded, and/or drilled prior to galvanizing. Bearing members to be milled shall be galvanized prior to milling. A thin layer of a rust inhibitor shall be applied to the milled surface. Material to be painted shall not be quenched after galvanizing.

Where material is required to be welded after galvanizing, the steel shall be masked 3 inches on each side of the weld center line. Prior to field welding the masked surface shall be cleaned in accordance with SSPC-SP11. After welding the area shall be repaired in accordance with ASTM A780 “Repair of Hot Dip Galvanizing” section 4.2.2, “Paints Containing Zinc Dust” and Annex 2. Repair paint shall meet M7.04.11 and application shall be in accordance with the manufacturer’s recommendations.

Damaged galvanized surfaces shall be repaired in accordance with ASTM A780 “Repair of Hot Dip Galvanizing” section 4.2.2 Paints Containing Zinc Dust “High Zinc Dust Content”. The paint shall be applied to achieve a minimum dry film thickness of 3 mils and not more than 5 mils. Repair paint shall meet M7.04.11 and application shall be in accordance with the manufacturer’s recommendations.

ITEM 942.145 (Continued)

The contractor shall provide protection of the adjacent coating in areas that will be field welded. After welding, the weld areas shall be prepared in accordance with SSPC-SP-11.

METHOD OF MEASUREMENT

Item 942.145 will be measured for payment by the Foot of Galvanized Steel Pile HP 14 x 89 furnished and installed, measured from the tip of the pile to the top of the pile, complete in place and accepted by the Engineer.

BASIS OF PAYMENT

Item 942.145 will be paid for at the Contract unit price per Foot, which price shall include furnishing, installation, galvanizing, all labor, materials, tools, equipment, and all incidental costs required to complete the work.

No payment will be made for the cut-off of steel piles.

All costs for splicing piles shall be included in the contract unit price per foot.

ITEM 945.101	**DRILLED SHAFT EXCAVATION 3.0 FOOT DIAMETER**	**FOOT**
ITEM 945.200	**ROCK SOCKET EXCAVATION 2.5 FOOT DIAMETER**	**FOOT**
ITEM 945.301	**OBSTRUCTION EXCAVATION 3.0 FOOT DIAMETER**	**FOOT**
ITEM 945.500	**DRILLED SHAFT 2.5 FOOT DIAMETER**	**FOOT**
ITEM 945.501	**DRILLED SHAFT 3.0 FOOT DIAMETER**	**FOOT**

The work under these Items shall conform to the relevant provisions of Subsection 945 of the Standard Specifications, and the following:

The work to be done under these Items incudes all labor, material and equipment required to drill the holes at all pile locations to the depths and diameter shown in the plans, remove any obstructions encoutered, furnish and install the concrete encasement around the pile, and to furnish, install, and remove the temporary casing during or after concrete placement at the locations and to the limits shown in the plans. A permanent casing may be used at no additional cost.

All labor, material and equipment required to drill the pile hole within limits of soil to the depth and diameter shown in the plans is included under Item 945.101.

All labor, material and equipment required to drill the pile rock socket to the depth and diameter shown in the plans is included under Item 945.200.

All labor, material and equipment required to remove or drill through any obstructions encountered while drilling holes for the piles is included under Item 945.301.

All labor, material and equipment required to furnish and install the concrete encasement around the pile within the limits of the rock socket and soil drill hole is included under Items 945.500 and 945.501.

MATERIALS

Modify Section 945.40 as follows:

Reinforcing steel, epoxy coated reinforcing bars, galvanized reinforcing bars, mechanical reinforcing bar splicer, and cross hole sonic testing access pipes are not required.

The temporary casing type shall be selected by the contractor and submitted to the engineer for approval.

ITEMS 945.101 through 945.501 (Continued)

CONSTRUCTION METHODS

Modify Section 945.51 as follows:

Temporary casings shall extend into the weathered rock not being used as part of the effective rock socket length. Permanent casings, if used at no additional cost, shall not extend into the limits of the effective rock socket length and will need to be partially removed by cutting or other methods within the limits of the lagging and wall panels.

Delete note 9. Reinforcing and testing is not required.

Modify note 11 to remove the requirements for grout placement in test tubes. Testing is not required.

Delete Section 945.52:

Borings are not required.

Delete Section 945.53:

Trial drilled shaft is not required.

Modify Section 945.56A as follows:

Load tests are not required to verify the tip elevations.

Modify Section 945.57B as follows:

The drilled shafts are not end bearing. Up to 3 in. of loose or disturbed material is allowed at the hole bottom.

Modify Section 945.57C as follows:

Remove reinforcing requirments from note 3.

Delete note 5.

Delete Section 945.58:

Steel reinforcement is not required.

Modify Section 945.59 as follows:

Delete all references to steel reinforcing.

ITEMS 945.101 through 945.501 (Continued)

Delete Section 945.60

Testing is not required.

Delete Section 945.61

Load tests are not required.

Modify Section 945.62 as follows:

Defective drilled shafts will not be determined based on load testing since testing is not required. A drilled shaft is considered defective if it is installed in a manner that prevents proper installation of the pile or precast panels as shown in the plans.

METHOD OF MEASUREMENT

Modify Section 945.80 as follows:

Trial drilled shafts are not required.

The concrete encasement around the pile does not require reinforcement. Drilled shaft cement concrete, of the diameter and length shown in the plans, will be measured for payment on a length basis by the foot of completed drilled shaft concrete of the diameter shown in the plans measured along the centerline of the shaft from the bottom of the rock socket or shaft excavation to the top of the completed shaft or as indicated on the plans. Measurement shall be to the nearest 0.1 ft.

Permanent casings are not required but may be used at no additional cost and will not be measured for payment. They are incidental to the cost of the drilled shafts.

The temporary casing will not be measured for payment. It is incidental to the cost of the drilled shafts.

CSL access pipes are not required.

CSL sonic testing is not required.

Osterberg load cell axial load test is not required.

Conventional axial load testing is not required.

ITEMS 945.101 through 945.501 (Continued)

BASIS OF PAYMENT

Modify Section 945.81 as follows:

Trial drilled shafts are not required.

The concrete encasement around the pile does not require reinforcement. Drilled shaft cement concrete, of the diameter and length shown on the plans, will be paid at the contract unit price per foot of completed drilled shaft. Payment for drilled shafts shall be considered full compensation for all cement concrete, labor, materials, equipment, and all other incidentals necessary to complete the drilled shaft. This payment shall include all cement concrete that extends into rock sockets, if any. If a larger diameter drilled shaft than that specified on the plans is constructed at the Contractor's option, no additional compensation will be provided to perform this oversized drilled shaft construction.

Permanent casings are not required but may be used at no additional cost and are incidental to the cost of the drilled shafts.

The temporary casing is incidental to the cost of the drilled shafts.

CSL access pipes are not required.

CSL sonic testing is not required.

Osterberg load cell axial load test is not required.

Conventional axial load testing is not required.

ITEM 950.2 LAGGING FOR DOWNHILL WALLS 1 TO 3 SQUARE FOOT
ITEM 950.3 LAGGING FOR UPHILL WALLS 4 TO 6 SQUARE FOOT

This work shall consist of designing, furnishing, and installing lagging to retain the existing earth and construction surcharges during excavation for the walls and during installation of the geotextile fabric, crushed stone, and concrete panels. Lagging shall be installed where indicated on the plans, where directed, or as needed to support the existing earth and construction surcharges until the permanent wall structure is finished. The contractor may leave the lagging in place or remove it. This also includes, designing, furnishing, installing, and removing temporary earth support as needed to support the bottom of excavation elevation difference between adjacent panel bays or as needed for any other reason for wall construction not supported by the lagging. The work under this Item shall conform to the requirements stipulated below. For those component parts where no specific requirement is stipulated, the work will be considered incidental and there will be no payment.

MATERIALS

The contractor shall select the material to use for the lagging with the limitations stated below and submit to the Engineer for approval.

Lagging material shall not deflect more than 1" at midspan under service loads.

The lagging material used for Walls 1 to 3, if left in place, shall have the same service life as the other wall components and shall not degrade to the point where it will cause settlement voids behind the concrete panels prior to the end of the wall's service life.

Lumber lagging is not allowed to be left in place for Walls 1 to 3. Untreated lumber lagging is allowed for Walls 4 to 6, whether left in place or removed, and shall be sound spruce, douglas fir, white or yellow lodgepole or ponderosa pine, or western hemlock plank. A specific lumber finish is not required since the lumber is not visible once the precast panels are installed. Lumber shall conform to the requirements of AASHTO M168.

Steel sheeting shall be in accordance with Standard Specification M8.05.4.

Steel plates and steel shapes shall be in accordance with Subsection 960 and M8.05.0.

Galvanizing, if required to provide the required service life, shall be in accordance with the "Hot Dip Galvanized Coating for Steel Piles" section under the special provision for Item 942.145.

Other lagging materials not listed here may also be used if they meet the limitations specified herein and provide the required structural capacity.

Lagging materials shall be new if being left in place.

The contractor shall select the temporary earth support type.

ITEMS 950.2 and 950.3 (Continued)

CONSTRUCTION METHODS

The contractor shall select the lagging type, with the limitations specified in the materials section, and submit to the engineer for approval. The contractor shall also determine whether the lagging is left in place or removed.

The contractor shall design the lagging to resist all loads during the temporary condition when the concrete panels are not installed, including but not limited to earth pressure and construction surcharges. The concrete panels will provide structural support for the final wall condition. The lagging design with supporting calculations shall be stamped by an Engineer licensed in Massachusetts in accordance with Section 5.00 of the Standard Specifications and submitted to the Engineer for approval.

The contractor shall submit working drawings for the lagging stamped by an Engineer licensed in Massachusetts in accordance with Section 5.00 of the Standard Specifications. The contractor shall also submit erection and installation descriptions.

Lagging shall withstand all pressures to which it may be subjected, shall prevent flow of soil into the space in which the concrete panels will be installed, and shall be attached to the piles as needed to prevent them from sliding down during top-down excavation and installation of the lagging.

A small gap, 1/2” maximum, shall be provided between each piece of lagging to allow water to drain into the drainage material between the front of the lagging and the rear of the concrete panels. The gap shall not allow earth to seep through the lagging. Install the separation geotextile as soon as possible to prevent soil seepage.

Work shall not be started until all materials and equipment necessary for their construction are either on the work site or satisfactorily available for immediate use as required. Sufficient labor and equipment shall be employed to insure the completion of the excavation in the shortest time possible.

All lagging cut-off and removal will become the property of the Contractor and shall be removed by the Contractor from the site.

The responsibility for the exact satisfactory construction and maintenance of lagging complete in place shall rest with the Contractor. Any work done which in the performance of incidental construction is not acceptable for the intended purpose shall be either repaired or removed and reconstructed by the Contractor at their expense.

The contractor shall submit working drawings for the lagging stamped by an Engineer licensed in Massachusetts in accordance with Section 5.00 of the Standard Specifications. The contractor shall also submit erection and installation descriptions.

ITEMS 950.2 and 950.3 (Continued)

METHOD OF MEASUREMENT

Items 950.2 and 950.3 will be measured for payment by the Square Foot of respective lagging for downhill walls designed, furnished, and installed, complete in place.

BASIS OF PAYMENT

Items 950.2 and 950.3 will be paid for at the respective Contract unit price per Square Foot, which prices shall include designing, furnishing, installation, temporary earth support, lagging removal, all labor, materials, tools, equipment, and all incidental costs required to complete the work.

ITEM 991.11 CONTROL OF WATER – STRUCTURE NO. 1 LUMP SUM
ITEM 991.12 CONTROL OF WATER – STRUCTURE NO. 2 LUMP SUM

Work under these Items shall be done in accordance with the Standard Specifications and the following:

Work under these Items shall consist of the control of water during the construction of the pipes, manholes, headwall, retaining walls, and any other associated work.

Location No. 1 shall be for the work at the stream crossing at approximately STA 220+00.
Location No. 2 shall be for the work at the stream crossing at approximately STA 227+00.

CONSTRUCTION METHODS

The Contractor shall install and maintain temporary measures for the containment of the water flow, the collection of siltation and debris due to construction activities and the maintenance of drainage through the culvert and pipe systems upstream and downstream throughout the construction period. Temporary control measures used may include, but not be limited to, pumping, the use of berms, sandbagged or stone dikes and dams, sediment basins, crushed stone, paved or unpaved waterways, bypass pumping and other devices or methods which meet the requirements of this section and the approval of the Engineer.

The Contractor shall be responsible for the removal and legal disposal of all temporary structures or devices away from the site, the regrading of affected areas, reloaming and seeding of slopes and other incidental work required for the restoration of these areas as required by the Engineer.

The work for control of water shall be conducted in accordance with environmental permits. Amendments to permits for the purposes of control of water shall be the responsibility of the Contractor. Control of Water shall be designed and installed in a manner that minimizes temporary impacts to Land Under Water (LUW) and does not result in any permanent impacts to LUW. LUW impacts shall not exceed the areas shown on the plans and as approved in the environmental permits.

SUBMITTALS

The Contractor shall submit a "Schedule of Operations" defining and detailing the methods for control of water and type of installation to be used to the Engineer for acceptance and approval prior to construction.

ITEMS 991.11 and 991.12 (Continued)

BASIS OF PAYMENT

Items 991.11 and 991.12 will be paid for at the respective Contract Lump Sum prices, which prices shall include furnishing, installation, maintenance, and final removal and disposal of temporary measures for the control of water, regrading, restoration of the site, all labor, materials, tools, equipment, and all incidental costs required to complete the work.

No additional compensation will be made for compost filter tubes or bales of hay for dewatering, excavation, crushed stone, restoration of affected areas associated with the control of water, or costs associated with amending permits for control of water.

END OF DOCUMENT
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DOCUMENT A00802

DETAIL SHEETS

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THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
TEN PARK PLAZA – BOSTON, MA

PRELIMINARY ESTIMATE OF QUANTITIES – DETAIL SHEET

City/Town: Egremont **Year:** 2025

Station: 200+00 – 262+00 Mount Washington Road **Class:** Rural Major Collector

Type: Reconstruction and Related Work **Date:** July 2025

Earth Excavation	13,800 CY	Gravel for Driveway	240 CY
Class A Trench Excavation	790 CY	Gravel for Roadway, Curb, Berm, Modified Rockfill	6,810 CY
Class B Trench Excavation	230 CY	Dense Graded Crushed Stone for Subbase	1,820 CY
Class A Rock Excavation	1,710 CY	Bridge Excavation	1,070 CY
Full Depth Pavement Reconstruction Area	16,370 SY		

PAVEMENT NOTES

PROPOSED RESURFACING MILLING & OVERLAY AREA = 178 SY

SURFACE: 1.5” SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
ASPHALT EMULSION FOR TACK COAT OVER
1.5” PAVEMENT FINE MILLING

PROPOSED FULL DEPTH CONSTRUCTION (4 FT WIDE AND GREATER) AREA = 16,320 SY

SURFACE: 1.5” SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
ASPHALT EMULSION FOR TACK COAT OVER

INTERMEDIATE: 1.75” SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER
ASPHALT EMULSION FOR TACK COAT OVER

BASE: 3.5” SUPERPAVE BASE COURSE 37.5 (SBC-37.5) OVER

SUBBASE: 4.0” DENSE GRADED CRUSHED STONE FOR SUB-BASE OVER
8.0” GRAVEL BORROW – TYPE B (COMPACTED)

PROPOSED FULL DEPTH CONSTRUCTION (LESS THAN 4 FT WIDE) AREA = 53 SY

SURFACE: 1.5” SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
ASPHALT EMULSION FOR TACK COAT OVER

INTERMEDIATE: 1.75” SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER
ASPHALT EMULSION FOR TACK COAT OVER

BASE: 6.0” HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE OVER

SUBBASE: 8.0” GRAVEL BORROW – TYPE B (COMPACTED)

**PROPOSED HOT MIX ASPHALT DRIVEWAY &
HOT MIX ASPHLAT PULL-OFF AREA AREA = 580 SY**

SURFACE: 4.0” HOT MIX ASPHALT PAVEMENT (M3.07.0) PLACED IN TWO LAYERS:
1.5" SURFACE COURSE OVER
2.5" INTERMEDIATE COURSE OVER

SUBBASE: 8" GRAVEL BORROW - TYPE B

ITEM 101. CLEARING AND GRUBBING

Street	Station Start	Station End	LT/RT
Mount Washington Rd	200+00	200+57	Left
Mount Washington Rd	200+48	203+57	Left
Mount Washington Rd	203+75	214+49	Left
Mount Washington Rd	214+55	217+02	Left
Mount Washington Rd	217+22	223+05	Left
Mount Washington Rd	223+30	224+85	Left
Mount Washington Rd	227+34	237+74	Left
Mount Washington Rd	238+28	254+00	Left
Mount Washington Rd	260+00	260+25	Left
Mount Washington Rd	200+00	201+24	Right
Mount Washington Rd	201+46	242+81	Right
Mount Washington Rd	243+00	245+34	Right
Mount Washington Rd	246+98	260+61	Right

ITEM 102. SELECTIVE CLEARING AND THINNING

Street	Station Start	Station End	LT/RT
Mount Washington Rd	201+41	202+17	Right
Mount Washington Rd	213+80	216+36	Right
Mount Washington Rd	216+72	217+76	Right
Mount Washington Rd	218+04	218+41	Right
Mount Washington Rd	220+32	221+08	Right
Mount Washington Rd	231+34	232+36	Right
Mount Washington Rd	241+79	242+24	Right
Mount Washington Rd	243+54	245+34	Right
Mount Washington Rd	247+00	250+80	Right
Mount Washington Rd	251+09	254+45	Right
Mount Washington Rd	254+74	255+55	Right
Mount Washington Rd	259+30	260+26	Right
Mount Washington Rd	260+55	260+61	Right
Mount Washington Rd	202+86	203+64	Left
Mount Washington Rd	203+69	210+97	Left
Mount Washington Rd	211+95	212+68	Left
Mount Washington Rd	221+74	223+05	Left
Mount Washington Rd	223+30	224+85	Left
Mount Washington Rd	226+26	226+80	Left
Mount Washington Rd	227+10	227+61	Left
Mount Washington Rd	256+30	258+52	Left

ITEM 121.1 ROCK SCALING

This item to be used for rock scaling approximately STA 254+00 to STA 260+00.

ITEM 141. CLASS A TRENCH EXCAVATION

This item is to be used to support existing pipe removal, the construction of the stone masonry retaining wall at 214 Mount Washington Road, and for the construction of proposed drainage headwalls.

ITEM 146. DRAINAGE STRUCTURE REMOVED

Street	Station	Lt/Rt	Type
Mount Washington Rd	203+40	Left	CB
Mount Washington Rd	204+48	Left	DI
Mount Washington Rd	209+69	Left	DI
Mount Washington Rd	213+46	Left	DI
Mount Washington Rd	216+23	Left	DI
Mount Washington Rd	231+06	Left	DI
Mount Washington Rd	236+60	Left	DI
Mount Washington Rd	238+58	Left	DI
Mount Washington Rd	240+84	Left	DI
Mount Washington Rd	245+22	Left	DI

ITEM 201. CATCH BASIN

This item is to be used for proposed catch basins as shown on the Construction Plans and as directed by the Engineer.

	ID	Street	Station	Lt/Rt
CB	1	Mount Washington Rd	203+34	Left
CBCI	2	Mount Washington Rd	204+68	Left
CB	3	Mount Washington Rd	204+78	Right
CBCI	4	Mount Washington Rd	209+50	Left
CBCI	5	Mount Washington Rd	209+90	Left
CB	6	Mount Washington Rd	213+75	Right
CB	7	Mount Washington Rd	223+32	Left
CB	8	Mount Washington Rd	236+50	Right
CB	9	Mount Washington Rd	238+75	Right
CB	10	Mount Washington Rd	240+71	Right
CB	11	Mount Washington Rd	240+93	Right
CB	12	Mount Washington Rd	254+08	Left
CB	13	Mount Washington Rd	259+49	Right
CB	14	Mount Washington Rd	260+49	Right
CB	15	Mount Washington Rd	212+18	Right

ITEM 202. MANHOLE

This item is to be used for proposed manholes as shown on the Construction Plans and as directed by the Engineer.

	ID	Street	Station	Lt/Rt
DMH	1	Mount Washington Rd	202+20	Right
DMH	2	Mount Washington Rd	203+34	Right
DMH	15	Mount Washington Rd	208+20	Right
DMH	16	Mount Washington Rd	209+84	Right
DMH	17	Mount Washington Rd	212+25	Right
DMH	5	Mount Washington Rd	213+65	Right
DMH	6	Mount Washington Rd	223+30	Left
DMH	7	Mount Washington Rd	224+25	Left
DMH	8	Mount Washington Rd	236+90	Right
DMH	9	Mount Washington Rd	238+90	Right
DMH	10	Mount Washington Rd	240+85	Right
DMH	11	Mount Washington Rd	254+60	Left
DMH	12	Mount Washington Rd	260+41	Right

ITEM 203.6 SPECIAL MANHOLE – 6' DIAMETER

	ID	Street	Station	Lt/Rt
DMH	3	Mount Washington Rd	204+68	Right
DMH	14	Mount Washington Rd	219+85	Left
DMH	13	Mount Washington Rd	219+95	Left
DMH	4	Mount Washington Rd	209+84	Left

ITEM 209.1 DROP INLET, TYPE DF

	ID	Street	Station	Lt/Rt
DI	1	Mount Washington Rd	202+00	Left
DI	17	Mount Washington Rd	204+90	Left
DI	18	Mount Washington Rd	208+00	Left
DI	2	Mount Washington Rd	209+84	Left
DI	19	Mount Washington Rd	212+25	Left
DI	3	Mount Washington Rd	213+65	Left
DI	4	Mount Washington Rd	216+55	Left
DI	5	Mount Washington Rd	217+90	Left
DI	6	Mount Washington Rd	223+12	Left
DI	7	Mount Washington Rd	224+25	Left
DI	9	Mount Washington Rd	231+20	Left
DI	10	Mount Washington Rd	236+90	Left
DI	11	Mount Washington Rd	238+90	Left
DI	12	Mount Washington Rd	240+85	Left
DI	13	Mount Washington Rd	245+60	Left
DI	14	Mount Washington Rd	250+95	Left
DI	15	Mount Washington Rd	254+60	Left
DI	16	Mount Washington Rd	260+41	Left

ITEM 234.12 12 INCH DRAINAGE PIPE – OPTION

This item is to be used as shown on the Construction Plans and as directed by the Engineer.

Street	Station Start	Lt/Rt	to	Station End	Lt/Rt
Mount Washington Rd	202+00	Left		202+20	Right
Mount Washington Rd	202+20	Right		203+34	Right
Mount Washington Rd	203+34	Left		203+34	Left
Mount Washington Rd	204+68	Left		204+68	Right
Mount Washington Rd	204+68	Right		204+78	Right
Mount Washington Rd	209+50	Left		209+84	Left
Mount Washington Rd	209+84	Left		209+90	Left
Mount Washington Rd	212+18	Right		212+25	Right
Mount Washington Rd	213+65	Right		213+75	Right
Mount Washington Rd	223+32	Left		223+30	Left
Mount Washington Rd	236+50	Right		236+90	Right
Mount Washington Rd	238+75	Right		238+90	Right
Mount Washington Rd	240+71	Right		240+85	Right
Mount Washington Rd	240+85	Right		240+93	Right
Mount Washington Rd	254+08	Left		254+60	Left
Mount Washington Rd	259+49	Right		260+41	Right
Mount Washington Rd	260+49	Right		260+41	Right

ITEM 234.15 15 INCH DRAINAGE PIPE – OPTION

Street	Station Start	Lt/Rt	to	Station End	Lt/Rt
Mount Washington Rd	203+34	Right		204+68	Right
Mount Washington Rd	204+90	Left		204+68	Right
Mount Washington Rd	223+12	Left		223+30	Left
Mount Washington Rd	223+30	Left		224+25	Left
Mount Washington Rd	225+45	Left		225+61	Right

ITEM 234.18 18 INCH DRAINAGE PIPE – OPTION

Street	Station Start	Lt/Rt	to	Station End	Lt/Rt
Mount Washington Rd	204+68	Right		204+68	Right
Mount Washington Rd	208+00	Left		208+20	Right
Mount Washington Rd	208+20	Right		209+84	Right
Mount Washington Rd	209+84	Left		209+84	Left
Mount Washington Rd	209+84	Left		209+84	Right
Mount Washington Rd	209+84	Right		209+84	Right
Mount Washington Rd	212+25	Left		212+25	Right
Mount Washington Rd	212+25	Right		213+65	Right
Mount Washington Rd	213+65	Left		213+65	Right
Mount Washington Rd	216+55	Left		216+55	Right
Mount Washington Rd	217+90	Left		217+90	Right
Mount Washington Rd	224+25	Left		224+25	Left
Mount Washington Rd	224+25	Left		224+25	Right
Mount Washington Rd	231+06	Left		231+20	Right
Mount Washington Rd	250+95	Left		250+95	Right
Mount Washington Rd	254+60	Left		254+60	Left
Mount Washington Rd	254+60	Left		254+60	Right
Mount Washington Rd	260+42	Left		260+42	Left
Mount Washington Rd	260+42	Right		260+42	Right

ITEM 234.24 24 INCH DRAINAGE PIPE – OPTION

Street	Station Start	Lt/Rt	to	Station End	Lt/Rt
Mount Washington Rd	213+65	Right		213+65	Right
Mount Washington Rd	238+90	Left		238+90	Right
Mount Washington Rd	238+90	Right		238+90	Right
Mount Washington Rd	240+85	Left		240+85	Right
Mount Washington Rd	240+85	Right		240+85	Right
Mount Washington Rd	245+55	Left		245+55	Right

ITEM 234.30 30 INCH DRAINAGE PIPE – OPTION

Street	Station Start	Lt/Rt	to	Station End	Lt/Rt
Mount Washington Rd	236+90	Left		236+90	Right
Mount Washington Rd	236+90	Right		236+90	Right

ITEM 234.36 36 INCH DRAINAGE PIPE – OPTION

Street	Station Start	Lt/Rt	to	Station End	Lt/Rt
Mount Washington Rd	219+95	Left		219+95	Right

ITEM 235.24 24 INCH DRAINAGE PIPE FLARED END – OPTION

Street	Station	Lt/Rt
Mount Washington Rd	245+60	Right

ITEM 241.42 42 INCH REINFORCED CONCRETE PIPE

Street	Station Start	Lt/Rt	to	Station End	Lt/Rt
Mount Washington Rd	226+96	Left		227+12	Right

ITEM 241.48 48 INCH REINFORCED CONCRETE PIPE

Street	Station Start	Lt/Rt	to	Station End	Lt/Rt
Mount Washington Rd	219+95	Left		219+85	Left
Mount Washington Rd	219+85	Left		219+85	Right

ITEM 258. STONE FOR PIPE ENDS

Street	Station	Lt/Rt
Mount Washington Rd	204+70	Right
Mount Washington Rd	209+84	Right
Mount Washington Rd	213+65	Right
Mount Washington Rd	216+55	Right
Mount Washington Rd	217+90	Right
Mount Washington Rd	219+85	Right
Mount Washington Rd	224+25	Right
Mount Washington Rd	225+61	Right
Mount Washington Rd	227+12	Right
Mount Washington Rd	231+20	Right
Mount Washington Rd	236+90	Right
Mount Washington Rd	238+90	Right
Mount Washington Rd	240+85	Right
Mount Washington Rd	250+95	Right
Mount Washington Rd	254+60	Right
Mount Washington Rd	260+41	Right
Mount Washington Rd	202+00	Left
Mount Washington Rd	204+90	Left
Mount Washington Rd	208+00	Left
Mount Washington Rd	209+84	Left
Mount Washington Rd	212+25	Left
Mount Washington Rd	219+85	Left
Mount Washington Rd	219+95	Left
Mount Washington Rd	223+12	Left
Mount Washington Rd	231+20	Left
Mount Washington Rd	250+95	Left
Mount Washington Rd	254+60	Left
Mount Washington Rd	260+41	Left

ITEM 402.13 PAVEMENT MILLING MULCH FOR SHOULDERS

Street	Station Start	Lt/Rt	to	Station End	Lt/Rt
Mount Washington Rd	210+00	Left		212+27	Left
Mount Washington Rd	213+55	Left		213+71	Left
Mount Washington Rd	214+18	Left		216+67	Left
Mount Washington Rd	217+13	Left		218+00	Left
Mount Washington Rd	218+00	Left		221+25	Left
Mount Washington Rd	223+89	Left		225+41	Left
Mount Washington Rd	225+89	Left		253+50	Left
Mount Washington Rd	242+02	Right		243+00	Right
Mount Washington Rd	244+92	Right		248+11	Right

ITEM 415.2 PAVEMENT FINE MILLING

Street	Station Start	Station End
Mount Washington Rd	200+00	200+40
	261+60	262+00

ITEM 431. HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE

This item is to be used for box widening less than 4 ft wide.

Street	Station Start	to	Station End
Mount Washington Rd	200+00		200+40
Mount Washington Rd	261+60		262+00

ITEM 450.22 SUPERPAVE SURFACE COURSE – 9.5 (SSC-9.5)

This item is to be used as surface course for full depth reconstruction (Item 402.), mill and overlay (Item 415.2), and box widening less than 4 ft wide (Item 431.)

Street	Station Start	to	Station End
Mount Washington Rd	200+00		200+40
Mount Washington Rd	200+40		261+60
Mount Washington Rd	261+60		262+00

ITEM 450.31 SUPERPAVE INTERMEDIATE COURSE – 12.5 (SIC-12.5)

This item is to be used as intermediate course for full depth reconstruction (Item 402.) and box widening less than 4 ft wide (Item 431.).

Street	Station Start	to	Station End
Mount Washington Rd	200+00		200+40
Mount Washington Rd	200+40		261+60
Mount Washington Rd	261+60		262+00

ITEM 450.42 SUPERPAVE BASE COURSE – 37.5 (SBC-37.5)

This item is to be used as base course for full depth reconstruction (Item 402.)

Street	Station Start	to	Station End
Mount Washington Rd	200+40		261+60

ITEM 470.2 HOT MIX ASPHALT BERM, TYPE A - MODIFIED

Street	Station Start	Lt/Rt	to	Station End	Lt/Rt
Mount Washington Rd	210+24	Right		213+78	Right
Mount Washington Rd	232+01	Right		240+97	Right
Mount Washington Rd	254+99	Right		260+52	Right

ITEM 504. GRANITE CURB TYPE VA4 – STRAIGHT

Street	Station Start	Lt/Rt	to	Station End	Lt/Rt
Mount Washington Rd	200+51	Left		203+37	Left
Mount Washington Rd	203+83	Left		210+00	Left
Mount Washington Rd	212+27	Left		213+55	Left
Mount Washington Rd	221+25	Left		223+35	Left
Mount Washington Rd	214+32	Left		214+53	Left

ITEM 630.2 HIGHWAY GUARD RMOVED AND DISCARDED

Street	Station Start	Lt/Rt	to	Station End	Lt/Rt
Mount Washington Rd	200+00	Right		201+35	Right
Mount Washington Rd	201+63	Right		216+57	Right
Mount Washington Rd	218+57	Right		231+09	Right
Mount Washington Rd	233+05	Right		242+15	Right
Mount Washington Rd	250+68	Right		263+58	Right

ITEM 685. STONE MASONRY WALL IN CEMENT MORTAR

This item is for construction of stone masonry wall at 214 Mount Washington Road driveway.

ITEM 702. HOT MIX ASPHALT SIDEWALK OR DRIVEWAY

This item is to be used for the construction of asphalt driveway as shown on the Construction Plans and as directed by the Engineer.

ID	Street	Station	Lt/Rt	House
1	Mount Washington Rd	200+40	LT	232
2	Mount Washington Rd	201+50	RT	229
3	Mount Washington Rd	203+64	LT	226
4	Mount Washington Rd	214+00	LT	214
5	Mount Washington Rd	217+00	LT	210
-	Mount Washington Rd	220+00	LT	
6	Mount Washington Rd	223+50	LT	206
7	Mount Washington Rd	225+50	LT	200
8	Mount Washington Rd	243+25	RT	

ITEM 711. BOUND REMOVED AND RESET

For removing and resetting bound at STA 246+76 LT and for other bounds encountered during construction.

ITEM 715. RURAL MAILBOX REMOVED AND RESET

Street	Station	Lt/Rt	House #
Mount Washington Rd	200+51	Left	232
Mount Washington Rd	201+24	Right	229
Mount Washington Rd	225+89	Left	200

Additional units to be used as required by the Engineer.

ITEM 751.7 COMPOST BLANKET

Street	Station Start	Station End	Lt/Rt
Mount Washington Rd	200+00	200+53	Left
Mount Washington Rd	200+00	201+33	Right
Mount Washington Rd	200+46	203+48	Left
Mount Washington Rd	201+55	243+10	Right
Mount Washington Rd	203+74	214+15	Left
Mount Washington Rd	214+12	217+00	Left
Mount Washington Rd	217+05	223+40	Left
Mount Washington Rd	223+33	225+58	Left
Mount Washington Rd	225+80	262+00	Left
Mount Washington Rd	243+05	262+00	Right

ITEM 767.121 SEDIMENT CONTROL BARRIER

Street	Station Start	Lt/Rt	to	Station End	Lt/Rt
Mount Washington Rd	200+00	Right		201+13	Right
Mount Washington Rd	201+70	Right		201+85	Right
Mount Washington Rd	204+53	Right		204+85	Right
Mount Washington Rd	209+68	Right		209+99	Right
Mount Washington Rd	213+48	Right		213+82	Right
Mount Washington Rd	216+34	Right		216+73	Right
Mount Washington Rd	217+74	Right		218+05	Right
Mount Washington Rd	219+00	Right		220+39	Right
Mount Washington Rd	224+09	Right		226+59	Right
Mount Washington Rd	226+95	Right		227+38	Right
Mount Washington Rd	229+00	Right		242+91	Right
Mount Washington Rd	243+00	Right		264+59	Right

ITEM 783.046 SERVICEBERRY – SHADBLOW 4-5 FEET

Station	
222+23	Left
222+43	Left
222+64	Left

ITEM 813.811 SERVICE CONNECTION (UNDERGROUND)

Item for the removal and relocation of the existing underground utility service connection for Utility Pole 65/8.

ITEM 832. WARNING - REGULATORY AND ROUTE MARKER – ALUMINUM PANEL (TYPE-A)

This item is to be used for proposed Warning Signs as shown on Traffic Signs & Pavement Markings Plans.

Street	Station	Lt/Rt	Designation
Mount Washington Rd	200+50	Right	R2-1(25)
Mount Washington Rd	224+60	Left	R2-1(25)
Mount Washington Rd	224+60	Right	R2-1(30)
Mount Washington Rd	238+50	Left	R2-1(30)
Mount Washington Rd	238+50	Right	R2-1(40)
Mount Washington Rd	260+50	Left	W8-14
Mount Washington Rd	233+39	Right	W1-1R
Mount Washington Rd	242+00	Left	W1-1L
Mount Washington Rd	234+16	Left	W1-8L
Mount Washington Rd	234+16	Left	W1-8R
Mount Washington Rd	234+96	Left	W1-8L
Mount Washington Rd	234+96	Left	W1-8R
Mount Washington Rd	235+74	Left	W1-8L
Mount Washington Rd	235+74	Left	W1-8R
Mount Washington Rd	236+51	Left	W1-8L
Mount Washington Rd	236+51	Left	W1-8R
Mount Washington Rd	237+29	Left	W1-8L
Mount Washington Rd	237+29	Left	W1-8R
Mount Washington Rd	238+06	Left	W1-8L
Mount Washington Rd	238+06	Left	W1-8R
Mount Washington Rd	238+86	Left	W1-8L
Mount Washington Rd	238+86	Left	W1-8R
Mount Washington Rd	239+65	Left	W1-8L
Mount Washington Rd	239+65	Left	W1-8R
Mount Washington Rd	240+44	Left	W1-8L
Mount Washington Rd	240+44	Left	W1-8R
Mount Washington Rd	241+22	Left	W1-8L
Mount Washington Rd	241+22	Left	W1-8R

ITEM 853.2 TEMPORARY BARRIER (TL-2)
ITEM 853.21 TEMPORARY BARRIER REMOVED AND RESET

Temporary barriers required for work zones for rock cut slope STA 254+00 – STA 260+00 LT, SPL retaining wall construction, and during full depth reconstruction.

ITEM 854.036 TEMPORARY PAVING MARKINGS - 6 INCH (TAPE)

This item is to be applied in 4-foot strips at 40-foot intervals for the length of the project corridor for temporary yellow centerline on surface course before final pavement markings are applied.

Street	Station Start	Lt/Rt	to	Station End	Lt/Rt
Mount Washington Rd	200+00	Left		262+00	Left
Mount Washington Rd	200+00	Right		262+00	Right

ITEM 874.4 TRAFFIC SIGN REMOVED AND STACKED

Street	Station	Lt/Rt	Designation
Mount Washington Road	200+50	Right	R2-1(25)
Mount Washington Road	219+52	Left	W11-19A
Mount Washington Road	223+08	Right	R2-1(30)
Mount Washington Road	238+61	Left	R2-1(30)
Mount Washington Road	238+67	Right	R2-1(40)
Mount Washington Road	260+52	Left	"Falling Rock Zone"

ITEM 910. STEEL REINFORCEMENT FOR STRUCTURES

This item to be used for construction of drainage headwalls and for stepped up footing at Stone Masonry Wall at 214 Mount Washington Road.

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DOCUMENT A00808

PROJECT UTILITY COORDINATION FORM

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Project Utilities Coordination (PUC) Form

CONTACTS AND GENERAL UTILITY INFORMATION

Printed: 6/24/2024

City/Town:	Project File #:	PUC Completed by:	Utility Pole Set:	
Egremont	608547	Justin Daigle	National Grid	
Route/Street:	**Resident Engineer:**	**Mass DOT PM:**	**Scheduled Ad Date:**	**Total Poles Relocated:**
Mount Washington Road	*TBD*	Adam Kiel	11/29/2025	39

Consultant:	Contact:	Cell #	Office #	Email
CHA Companies	John Morgan Jr., PE PTOE	(781) 589-5278	(781) 982-5437	jmorgan@chacompanies.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
National Grid (TRC)	Obi Cortes	(508) 298-1500	(508) 298-1024	OCortes@trccompanies.com	X		X				X		X		X
Fiber Connect	Adam Chait	(413) 822-6130		Adam@bfcma.com	X		X				X		X		X
Local Linx	Jason Wing		(603) 812-1090	jason.wing@locallinx.com	X		X				X		X		X
Verizon	Steve Klaubert	(508) 337-7779	(413) 246-9792	sklaubert@pike.com	X		X				X		X		X
National Grid	Sandra Annis		(413) 531-8982	Sandra.Annis@nationalgrid.com											
Verizon	Paul Styspeck	(413) 787-1845	(413) 575-7058	paul.m.styspeck@verizon.com											

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 Egremont. The information provided is the best available information prior to project advertisement.

Proposal No. 608547-132397

A00808 - 3

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

6/24/2024
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 and Utility are working on-site - but NOT in the same vicinity	Contractor Concurrent	Potential Access Restraint (Yes/No)	Reason/Note (optional)
Phase 1	C		Enabling' work by the Contractor - **Note 90 day lead time due to supply shortages** Site clearing and pole locations surveyed. (DOT will stake pole locations within 10 workdays of being notified clearing has been completed. National Grid will need 10 days after the staking for the poles to clear their DIG-SAFE). A field site meeting shall be held for confirmation of sufficient clearing and pole locations 30 days prior to first utility relocation but after poles have been staked. Additionally, the following work should all be completed prior to the field meeting. * Station 203+34 - Set CB-1 prior to relocation of UP 97/37 * Station 204+90 - Set DI - 17 prior to Prop UP-1 (96 1/2 / 36 1/2) * Station 209+50 - Set CB-4 prior to Prop UP-2 (94 1/2 / 34 1/2) * Station 211+00 - Set retaining wall and associated riprap with 48" caisson (per NGrid detail) prior to UP 94 & 93 * Station 223+12 - Set DI-6 prior to Prop UP-4 (86 1/2 / 26 1/2) * Station 224+39 - Cut slope left of road to subgrade for proposed UP 86/26 * Station 233+50 - Complete cut slope left prior to setting of pole 81/21 * Station 235+00 - Complete cut slope left prior to setting of Prop UP-6 (80 1/2 / 20 1/2) * Station 256+00 to 259+00 - Complete ledge/ditch cut prior to setting poles in cut							
			UTILITY OPERATIONS - Pole Set Permanent Overhead Relocations							
Task: 1			***Utility Co. - National Grid***							
		U	Poles / Anchors	60	X			X	Yes	
		U	Primary Conductor	35	X			X	Yes	
		U	Secondary / Neutral Conductor	10	X			X	Yes	
		U	Services / Outages	5	X			X	Yes	
		U	Equipment	5	X			X	Yes	
		U	Tree Trimming	5	X			X	Yes	
			Sub-Total	**120**						
Task: 2			***Utility Co. - Fiber Connect***							
		U	Total of 8,500ft, 49 Poles effected. 33 R&R Poles, 9 Prop Poles, 7 RET poles	9	X			X	Yes	
		U	Total of 3 customer serving enclosures to be moved and rebuilt	2	X			X	Yes	
								X	Yes	
			Sub-Total	**11**						
Task: 3			***Utility Co. - Local Linx***							
		U	Total of 8,500ft, 49 poles affected. 33 R&R Poles, 9 Proposed Poles, 7 RET Poles.	9	X			X	Yes	
			Sub-Total	**9**						
Task: 4			***Utility Co. - Verizon***							
		U	Verizon to place PAG's & new strand	10	X			X	Yes	
		U	Verizon to splice in slack to copper cables, remove non working drops, place new terminals	8	X			X	Yes	
		U	Verizon Line transfer all cables, drops & terminals to new poles, new drops	26	X			X	Yes	
		U	Place conduit & transfer drop to new P8	2	X			X	Yes	
		U	Verizon to trim out/remove copper cable slack, remove terminals	6	X			X	Yes	
		U	Remove PAG's & strand	3	X			X	Yes	
		U	Remove old anchors & poles	14	X			X	Yes	
			Sub-Total	**69**						

Proposal No. 608547-132397

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	Concurrent Utilities	Contractor Off-Site	Contractor Concurrent	Potential Access Restraint (Yes/No)	Reason/Note (optional)
				Utility working with no other Utilities in vicinity	Utility working with other Utilities on site	No Contractor physical construction operations on-site (while Utility	Contractor and Utility are working on-site - but NOT in the same vicinity		
	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 and underground conduit installations however, typically have 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. Any costs associated with these tasks are deemed to be incidental to the project.							
	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.							

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DOCUMENT A00820

Massachusetts Department of Transportation
Conditions of Custody

REQUEST FOR RELEASE OF MASSDOT AUTOCAD FILES FORM
(Only to be used following award of contract)

City/Town: EGREMONT Project File Number: 608547

Contract Number: 132397

Project Description: Reconstruction of Mount Washington Road (Phase I)

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 A00830

ARMY CORPS OF ENGINEERS

Permit Application

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August 19, 2025

Mr. Dan Vasconcelos
Regulatory Division, Department of the Army
New England District, Corps of Engineers
696 Virginia Road
Concord, Massachusetts 01742

Re: Application for Pre-Construction Notification
Reconstruction of Mount Washington Road (Phase I)
Egremont, Massachusetts
MassDOT Project #608547

The Town of Egremont, in conjunction with the Massachusetts Department of Transportation – Highway Division (MassDOT), respectfully submits this a Pre-Construction Notification (PCN) application for the Reconstruction of Mount Washington Road (Phase I) in Egremont, MA.

The proposed 1.2-mile-long reconstruction of Mount Washington Road aims to improve bicycle accommodations and restore pavement condition. Improvements include roadway reconstruction with minor widening, stormwater drainage updates, erosion repair and guardrail and safety improvements along the corridor. Jurisdictional impacts will result from the replacement of two culverts that convey intermittent streams under the roadway.

The proposed culvert replacements will permanently impact 360 square feet of Water of the United States (WOTUS) and 245 linear feet of Bank/OHW. The proposed replacements will also temporarily impact 327 square feet of WOTUS and 100 linear feet of Bank/OHW. No permanent or temporary impacts to Vegetated Wetlands are proposed as part of the project.

The proposed project received an Order of Conditions from the Egremont Conservation Commission on January 24, 2025. The Order of Conditions was amended on August 1, 2025. Although the project area occurs in a mapped Outstanding Resource Water, the intermittent streams do not have a direct hydrologic connection to Karner Brook and are not considered a tributary to the Outstanding Resource Water. Furthermore, the intermittent streams are not considered jurisdictional under the Wetlands Protection Act. No individual 401 Water Quality Certification is required for this project.

If you have questions or require additional information, please contact me at (978) 429-1772 or at melissa.lenker@state.ma.us. We look forward to working with you on this project.

Sincerely,

Melissa Lenker

Melissa Lenker
Wetlands & Water Resources Unit Supervisor
MassDOT, Highway Division

cc: Marie Brazie, Town of Egremont
Matthew Lundsted, Comprehensive Environmental Inc.
Ellen Mosher, CHA Companies
John Morgan, CHA Companies
Andrew Valcovic, CHA Companies
Erica Larner, MassDOT
Adam Kiel, MassDOT

Enclosures: Pre-Construction Notification Application

RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE 1) EGREMONT, MASSACHUSETTS

Pre-Construction Notification Permit Application

Project No:
608547

Prepared by:

Massachusetts Department of Transportation – Highway Division
Comprehensive Environmental Inc.
CHA Companies

August 19, 2025

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ENG Form 4345

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Attachments

Attachment A Figures
Figure 1 USGS Locus Map
Figure 2 Locus Map
Figure 3 NHESP Habitat Areas
Figure 4 Sensitive Areas
Figure 5 FEMA National Flood Hazard Layer
Figure 6 FIRM Map
Attachment B Photographic Log
Attachment C Wetland Delineation Report
Attachment D Project Plans
Attachment E Wildlife Documentation
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ENG Form 4345

U.S. Army Corps of Engineers (USACE), New England District (NAE)

PRE-CONSTRUCTION NOTIFICATION (PCN)

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332.

Principal Purpose The information provided will be used in evaluating activities under Pre-Construction Notification procedures within New England.

Routine Uses This information may be shared with other federal, state, and local government agencies during the application review process. Submission

Disclosure of requested information is voluntary. However, if information is not provided the PCN application cannot be fully evaluated nor can USACE render a permit decision.

Instructions The applicant must complete ALL required sections of this document before their submission to USACE. The PCN submission to USACE shall include one set of drawings which show the location and character of the proposed activity, statements that address each required field below, and documentation that supports each field (e.g., emails, letters, description/narrative, phone calls, surveys, reports, etc.). Electronic submissions to the following address are strongly preferred: cenae-r-ma@usace.army.mil. The email subject line shall contain the following: General Permit #, PCN, City/Town, and date submitted. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY USACE)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME
First - Marie Middle - Last - Brazie
Company - Town of Egremont
E-mail Address - tegremont@egremont-ma.gov

8. AUTHORIZED AGENT'S NAME AND TITLE (*agent is not required*)
First - Ellen Middle - Last - Moshier
Company - CHA Consulting, Inc
E-mail Address - EMoshier@chasolutions.com

6. APPLICANT'S ADDRESS:
Address- 171 Egremont Plain Road (Route 71)
City - Egremont State - MA Zip - 01258 Country -

9. AGENT'S ADDRESS:
Address- 141 Longwater Drive, Suite 104
City - Norwell State - MA Zip - 0206 Country -

7. APPLICANT'S PHONE NOs. with AREA CODE
a. Residence b. Business c. Fax d. Mobile
413 528-0182 413-528-546

10. AGENT'S PHONE NOs. with AREA CODE
a. Residence b. Business c. Fax d. Mobile
781-792-220

STATEMENT OF AUTHORIZATION

11. I hereby authorize, Ellen Moshier to act on my behalf as my agent in the processing of this general permit PCN application and to furnish, upon request, supplemental information in support of this general permit PCN application.

Mary Brazie 8/21/25
SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME or TITLE (*see instructions*)
Reconstruction of Mount Washington Road (Phase 1), MassDOT Project 608547

13. NAME OF WATERBODY, IF KNOWN (*if applicable*)
unnamed intermittent stream

14. PROPOSED ACTIVITY STREET ADDRESS (*if applicable*)
Mount Washington Road
City: Egremont State: MA Zip: 01258

15. LOCATION OF PROPOSED ACTIVITY (*see instructions*)
Latitude: 42.160102 °N Longitude: -73.471273 °W

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (*see instructions*)

State Tax Parcel ID: Municipality: Egremont

Section: Township: Range:

17. DIRECTIONS TO THE SITE.

Impacts occur at two proposed culvert replacements located near Station 220 and Station 227. Station 220 is located on the ROW adjacent to 210 Mount Washington Road. Station 227 is located on the ROW adjacent to 200 Mount Washington Road. To travel to the site from Egremont Town Hall, drive south 5.9 miles towards MA-71E. Turn left towards MA-71 E. Turn right onto

18. IDENTIFY THE SPECIFIC GENERAL PERMIT(S) YOU PROPOSE TO USE:

GP 23. LINEAR TRANSPORTATION PROJECTS AND WETLAND/STREAM CROSSINGS

19. DESCRIPTION OF PROPOSED GENERAL PERMIT ACTIVITY (*see instructions*)

The proposed 1.2 mile roadway reconstruction project is intended to rehabilitate poor/failing pavement and improve safety conditions for vehicular and pedestrian travel. Improvements include roadway reconstruction with minor widening, stormwater drainage updates, erosion repair and guardrail and safety improvements along the corridor. General Permit activities include the replacement of two (2) existing culverts carrying unnamed intermittent streams under Mount Washington Road. Direct impacts

20. DESCRIPTION OF PROPOSED MITIGATION MEASURES (*see instructions*)

The proposed culvert replacements will meet the MA Stream Crossing Standards to the maximum extent practicable. Furthermore, temporary areas of impact to WOTUS will be restored following construction. Given the steep slopes of the intermittent streams, no impact or minimal impact to aquatic organism passage is anticipated as part of the project. Erosion and sediment controls will be used to avoid and minimize sediment transport into aquatic resource areas.

21. PURPOSE OF GENERAL PERMIT ACTIVITY (*Describe the reason or purpose of the project, see instructions*)

The reconstructed roadway is proposed in efforts to rehabilitate the roadway and improve safety along the corridor. The reconstructed roadway will eliminate the risk caused by poor pavement, lack of shoulders, currently obsolete guardrails leading to steep drop offs, and a poor drainage system resulting in advanced erosion along roadsides. Also, Mount Washington Road does not currently provide mobility or access for pedestrians, bicyclists, or transit users, but it is used as a route for local

22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by Proposed General Permit Activity (*see instructions*)

Area (square feet)	Length (linear feet)	Volume (cubic yards)	Duration	Purpose
360	245		Permanent	Culvert replacements
327	100		Temp (2 weeks)	Culvert replacements

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site.

23. List any other GP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project on any related activity (*see instructions*)

N/A

24. If the proposed activity will result in the loss of aquatic resources that exceed those identified in the New England District Compensatory Mitigation Thresholds, explain how the compensatory mitigation requirement will be satisfied. (*see instructions*)

The proposed culvert replacements will permanently impact approximately 245 linear feet of OHW/WOTUS. However, the interior of the culverts do not contain bank habitat and are not believed to be suitable for aquatic organism passage.

25. Is Any Portion of the General Permit Activity Already Complete? ☐ Yes ☒ No If Yes, describe the completed work:

26. List the name(s) of any species listed as endangered or threatened under the Endangered Species Act that might be affected by the proposed GP activity or utilize the designated critical habitat that might be affected by the proposed GP activity. (*see instructions*)

Northern Long-eared Bat (Myotis septentrionalis) - Endangered - NLAA
Tricolored Bat (Perimyotis subflavus) - Proposed Endangered - NLAA

27. List any historic properties that have the potential to be affected by the proposed GP activity or include a vicinity map indicating the location of the historic property or properties. Attach relevant project information, along with any responses received from project notifications to this submittal. (*see instructions*)

No National Register listed or eligible properties within Area of Potential Affect. See attached Section 106 documentation.

28. For a proposed GP activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, identify the Wild and Scenic River or the "study river":

No National Wild and Scenic Rivers in the project area

29. If the proposed GP activity also requires permission from the USACE pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, have you submitted a written request for section 408 permission from the USACE district having jurisdiction over that project? ☐ Yes ☐ No

If "yes", please provide the date your request was submitted to the USACE District:

30. Does the activity require a 401 Water Quality Certification (WQC)? If so, specify the type of 401 WQC that is required (general or individual). In cases where an individual 401 WQC is required, provide the date the 401 WQC certification request was submitted to the certifying authority and their contact information.

No individual 401 WQC. Amended Order of Conditions issued on 8/1/2025. Intermittent streams not WPA jurisdictional.

31. If the terms of the GP(s) you want to use require additional information to be included in the PCN (i.e. sampling and analysis plan), please include that information in this space or provide it on an additional sheet of paper marked Block 30. (*see instructions*)

Please see project narrative and attachments.

32. I certify that the information in this pre-construction notification is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent.

Mary Beazie — SIGNATURE OF APPLICANT

8/21/25 — DATE

Moshier, Ellen — SIGNATURE OF AGENT

Digitally signed by Moshier, Ellen
DN: cn=Moshier, Ellen, ou=NO-NMA96, email=EMoshier@chasolutions.com
Date: 2025.08.21 08:44:43 -04'00'

DATE

The Pre-Construction Notification must be signed by the person who desires to undertake the proposed activity (applicant) and, if the statement in block 11 has been filled out and signed, the authorized agent.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

Instructions for Preparing a

Department of the Army

General Permit (GP) Pre-Construction Notification (PCN)

Blocks 1 through 4. To be completed by the U.S. Army Corps of Engineers.

Block 5. Applicant' Name. Enter the name and the e-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the PCN, please attach a sheet of paper with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the PCN. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant Telephone Number(s). Please provide the telephone number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, consultant, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where they can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by the applicant, if an agent is to be employed.

Block 12. Proposed General Permit Activity Name or Title. Please provide a name identifying the proposed GP activity, e.g., Windward Marina, Rolling Hills Subdivision, or Smith Commercial Center.

Block 13. Name of Waterbody. Please provide the name (if it has a name) of any stream, lake, marsh, or other waterway to be directly impacted by the GP activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Activity Street Address. If the proposed GP activity is located at a site having a street address (not a box number), enter it in Block 14.

Block 15. Location of Proposed Activity. Enter the latitude and longitude of where the proposed GP activity is located. Indicate whether the project location provided is the center of the project or whether the project location is provided as the latitude and longitude for each of the "corners" of the project area requiring evaluation. If there are multiple sites, please list the latitude and longitude of each site (center or corners) on a separate sheet of paper and mark as Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality where the site is located.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide a description of the location of the proposed GP activity, such as lot numbers, tract numbers, or you may choose to locate the proposed GP activity site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed GP activity site if known. If there are multiple locations, please indicate directions to each location on a separate sheet of paper and mark as Block 17.

Block 18. Identify the Specific General Permit(s) You Propose to Use. List the number(s) of the General Permit(s) you want to use to authorize the proposed activity (e.g., GP 4).

Block 19. Description of the Proposed General Permit Activity. Describe the proposed GP activity, including the direct and indirect adverse environmental effects of the proposed activity. The description of the proposed activity should be sufficiently detailed for USACE to determine that the adverse environmental effects of the activity will be no more than minimal. Identify the materials to be used in construction, as well as the methods by which the work is to be done.

Provide drawings to show that the proposed GP activity complies with the terms of the applicable GP(s). Drawings should contain sufficient detail to provide an illustrative description of the proposed GP activity, but do not need to be detailed engineering plans. The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 19.

Block 20: Description of Proposed Mitigation Measures. Describe any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed GP activity. The description of any proposed mitigation measures should be sufficiently detailed for USACE to determine how the measures would avoid and minimize adverse environmental effects. If adverse effects exceed the New England District compensatory mitigation thresholds, you must document how compensatory mitigation would be satisfied in Block 24.

Block 21. Purpose of General Permit Activity. Describe the purpose and need for the proposed GP activity. What will it be used for and why? Also include a brief description of any related activities associated with the proposed project. Provide the approximate dates you plan to begin and complete all work.

Block 22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by the Proposed General Permit Activity. For discharges of dredged or fill material into Waters of the U.S., provide the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained by the proposed GP activity. For structures or work in Navigable Waters of the U.S. subject to Section 10 of the Rivers and Harbors Act of 1899, provide the amount of navigable waters filled, dredged, occupied by one or more structures (e.g., aids to navigation, mooring buoys) by the proposed GP activity. The area of impact includes the structures or fills with direct or indirect effects to waters of the U.S. The length of impact includes the length of a stream, including is banks, that are directly affected by the structures or fills. The duration of impact should be identified as temporary (xx days) or permanent. The impact purpose should briefly describe what structure or fill is responsible for the impact.

Block 23. Identify Any Other General Permit(s), Regional General Permit(s), or Individual Permit(s) Used to Authorize Any Part of Proposed Activity or Any Related Activity. List any other GP(s) or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. For linear projects, list other separate and distant crossings of waters and wetlands authorized by these GPs that do not require PCNs. If more space is needed, attach an extra sheet of paper marked Block 23.

Block 24. Compensatory Mitigation Statement for Losses Greater Than the New England District Compensatory Mitigation Thresholds. New England District requires compensatory mitigation at a minimum one for one replacement ratio or greater for all aquatic resource losses that require a PCN and exceed the New England District Compensatory Mitigation Thresholds, unless USACE determines in writing that either some other form of mitigation is more environmentally appropriate or the adverse environmental effects of the proposed GP activity are no more than minimal without compensatory mitigation, and provides an activity specific waiver of this requirement. Describe the proposed compensatory mitigation for wetland losses greater than the New England District Compensatory Mitigation Thresholds or provide an explanation of why USACE should not require wetland compensatory mitigation for the proposed GP activity. If more space is needed, attach an extra sheet of paper marked Block 24.

Block 25. Is Any Portion of the General Permit Activity Already Complete? Describe any work that has already been completed for the GP activity.

Block 26. List the Name(s) of Any Species Listed As Endangered or Threatened under the Endangered Species Act that Might be Affected by the General Permit Activity. If you are not a federal agency, and if any listed species or designated critical habitat might be affected or is in the vicinity of the proposed GP activity, or if the proposed GP activity is located in designated critical habitat, list the name(s) of those endangered or threatened species that might be affected by the proposed GP activity or utilize the designated critical habitat that might be affected by the proposed GP activity. If you are a Federal agency, and the proposed GP activity requires a PCN, you must provide documentation demonstrating compliance with Section 7 of the Endangered Species Act.

Block 27. List Any Historic Properties that Have the Potential to be Affected by the General Permit Activity. If you are not a federal agency, and if any historic properties have the potential to be affected by the proposed GP activity, list the name(s) of those historic properties that have the potential to be affected by the proposed GP activity. Provide all relevant documentation about these historic properties in the PCN submittal. If you are a Federal agency, and the proposed GP activity requires a PCN, you must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

Block 28. List the Wild and Scenic River or Congressionally Designated Study River if the General Permit Activity Would Occur in such a River. If the proposed GP activity will occur in a river in the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" under the Wild and Scenic Rivers Act, provide the name of the river. For a list of Wild and Scenic Rivers and study rivers, please visit http://www.rivers.gov/

Block 29. General Permit Activities that also Require Permission from the USACE Under 33 U.S.C. 408. If the proposed GP activity also requires permission from the USACE under 33 U.S.C. 408 because it will temporarily or permanently alter, occupy, or use a USACE federal authorized civil works project, indicate whether you have submitted a written request for section 408 permission from the USACE district having jurisdiction over that project.

Block 30. 401 Water Quality Certification. As described above, specify if the activity requires a 401 WQC from the certifying authority.

Block 31. Other Information Required For General Permit Pre Construction Notifications. The terms of some of the General Permits include additional information requirements for preconstruction notifications:

* Maintenance – information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals.
* Temporary Construction, Access, and Dewatering – a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions.
* Repair of Uplands Damaged by Discrete Events – documentation, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration.
* Commercial Shellfish Aquaculture Activities – (1) a map showing the boundaries of the project area, with latitude and longitude coordinates for each corner of the project area; (2) the name(s) of the species that will be cultivated during the period this GP is in effect; (3) whether canopy predator nets will be used; (4) whether suspended cultivation techniques will be used; and (5) general water depths in the project area (a detailed survey is not required).Dredging – (1) a proposed sampling and analysis plan shall be provided to USACE for approval prior to its execution. Pre-application meetings are encouraged.
* Beach Nourishment – sediment grain size should be determined for the length of the beach where nourishment is proposed. The frequency and locations of sediment sampling shall be sufficient to identify the sediment composition of the beach profile. This data shall be consolidated to generate a sediment gradation curve for each sampled transect. Each sampled transect should also be identified on the project plans (drawings).

If more space is needed, attach an extra sheet of paper marked Box 31.

Block 32. Signature of Applicant or Agent. The PCN must be signed by the person proposing to undertake the GP activity, and if applicable, the authorized party (agent) that prepared the PCN. The signature of the person proposing to undertake the GP activity shall be an affirmation that the party submitting the PCN possesses the requisite property rights to undertake the GP activity (including compliance with special conditions, mitigation, etc.).

DELINEATION OF WETLANDS, OTHER SPECIAL AQUATIC SITES, AND OTHER WATERS

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current wetland delineation manual and regional supplement published by the USACE. The permittee may ask the USACE to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the USACE does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. The 60-day PCN review period will not start until a delineation has been completed.

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross Section Map. Identify each illustration with a figure or attachment number. For linear projects (e.g. roads, subsurface utility lines, etc.) gradient drawings should also be included. Please submit one copy of all drawings on 8½ x 11 inch plain white paper (electronic submissions preferred). Use the fewest number of sheets necessary for your drawings or illustrations. Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross section). While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.

ADDITIONAL INFORMATION AND REQUIREMENTS

For proposed GP activities that involve discharges into waters of the United States, water quality certification from the State, Tribe, or EPA must be obtained or waived. Some States, Tribes, or EPA have issued water quality certification for one or more GPs. Please check the New England District website to see if water quality certification has already been issued for the GP(s) you wish to use. For proposed GP activities in coastal states, state Coastal Zone Management Act consistency concurrence must be obtained, or a presumption of concurrence must occur. Some States have issued Coastal Zone Management Act consistency concurrences for one or more GPs. Please check the New England District website to see if Coastal Zone Management Act consistency concurrence has already been issued for the GP(s) you wish to use.

Project Narrative

1.0 Introduction

The Mount Washington Road project in Egremont, MA is a 1.2-mile roadway reconstruction project with the goal of improving bicycle accommodations, restoring pavement conditions, as well as upgrading stormwater drainage. The project limits begin at the town line of Mount Washington and Egremont and end approximately 2,000-feet before the Jug End intersection. A project locus map is attached as in **Attachment A**, **Figure 1.** The Town of Egremont is filing this Pre-Construction Notification (PCN) jointly with the Massachusetts Department of Transportation Highway Division (MassDOT).

Within these project limits, the Karner Brook flows in proximity with Mount Washington Road with a few intermittent stream crossings intersecting the roadway as well as nearby Vegetated Wetlands, which are outside of the project limits and will not be impacted by the proposed work. Two (2) unnamed intermittent streams are conveyed by culvert under Mount Washington Road. Both culverts are proposed to be placed due to age and structural deficiencies.

The reconstructed roadway is proposed to rehabilitate the roadway and improve safety along the corridor. The reconstructed roadway will eliminate the risk caused by poor pavement, lack of shoulders, currently obsolete guardrails leading to steep drop offs, and a poor drainage system resulting in advanced erosion along roadsides. Also, Mount Washington Road does not currently provide mobility or access for pedestrians, bicyclists, or transit users, but it is used as a route for local organized cycling events and by bicycling enthusiasts. Improvement and installation of the shoulder will promote or expand bicycle facilities to the nearby state forests and recreational areas. Additionally, with the improvement of the drainage system along the roadway, water quality will be enhanced.

2.0 Existing Conditions

Mount Washington Road is a two-lane bituminous concrete roadway, approximately 3.5 miles in length. Within the project limits, average pavement width is 22-feet and narrows down to 20-feet in some locations, posing a threat to both drivers and bicyclists when present as there are no existing shoulders or white line strips along edges of roadways, and poor pavement conditions. Existing guardrails and end treatments are not compliant with current safety standards, some considered obsolete adjacent to steep drop-offs. In its current state, the existing corridor has been observed as a risk to both roadway users and bicyclists due to the slim roadway, poor pavement condition, as well as erosion due to a poor drainage system.

Mount Washington Road, beginning at the Mount Washington town line, has very steep and mountainous topography, slowly dropping in elevation towards the Jug End Road eastern project limit. The roadway context is rural natural forest, low density residential, agricultural, and open space. The road is functionally classified as a Rural Major Collector, and the current drainage system consists of country drainage, swales, and drop-inlets that discharge into steep vegetated roadside slopes.

Culverts
Two unnamed intermittent streams cross Mount Washington Road near Station 220 and Station 227 flowing southerly and dissipating prior to reaching Karner Brook. No vegetated wetlands were observed adjacent to the streams nor as a hydrologic connection to Karner Brook. The stream located near Station 220 is a shallow United States Geological Survey (USGS) mapped intermittent stream with a drainage basin of approximately 29 acres. This stream is conveyed under Mount Washington Road through a 36" CMP which connects to a 42" steel pipe. At Station 227, the stream is unmapped but observed to be intermittent with a drainage basin of 26 acres. and is currently conveyed through a 36" CMP. Both streams have an estimated bankfull width of approximately 3 feet and an average depth of less than 0.5 feet. The streams flow downhill through steep, mountainous terrain with slopes ranging from 15 - 45%[1]. According to the USDA Web Soil Survey, mapped soils are exclusively the Taconic-Macomber association on a mountain flank side slope with depth to bedrock ranging from 11 to 20 inches. The steep slopes, lesser hydrology, and frequently exposed ledge suggest that neither stream would support habitat for aquatic organisms. The stream crossings are proposed to be replaced as part of the project. The existing stream crossings can be seen in the Photographic Log included as **Attachment B**.

Environmental Constraints
Natural Heritage and Endangered Species Program (NHESP) Priority Habitat of Rare Species PH970 and Estimated Habitat of Rare Species EH734 are located from STA 200+00 to STA 217+20.

The entirety of the project is within the Karner Brook watershed, which is considered a Class A Outstanding Resource Water (ORW) (for Zones A, B and C Surface Water Protection Areas) and is designated as an Area of Critical Environmental Concern (ACEC). The brook runs west to east along the 1.2-mile project area of Mount Washington Road.

Jurisdictional Resource Areas
There are six series of delineated stream banks adjacent to Karner Brook. These series were delineated previously by others at an unknown date. On December 14, 2023, a wetland scientist from Comprehensive Environmental Inc. (CEI) reviewed the previous wetland lines and re-delineated. Bank delineation was flagged based on observations of Mean Annual High-Water Line (MAHWL) which included the following series and locations: FB Series at Sta. 219+65, E-B Series at Sta. 219+75, C-B Series at Sta. 227+00, D-B Series at Sta. 227+00, B-B series at Sta. 235+50, and A-B Series at Sta. 253+85. MAHWL is coincident with Ordinary High Water (OHW). The full wetland delineation report is found in **Attachment C**.

3.0 Proposed Conditions

This project features a full depth reconstruction of Mount Washington Road, which currently experiences severe pavement deterioration. Profile adjustments and horizontal curve adjustments are proposed to improve driver safety. Asphalt berm and curb treatments will be installed, also increasing user safety. Soldier pile retaining walls, with heights ranging from 4-10 feet, will be constructed on both the uphill and downhill sides of the project to support the updated profile geometry. Guardrail will be upgraded along the entirety of the project. The entire

[1] USDA Web Soil Survey

drainage system will be upgraded, with new catch basins, drain manholes, inlet, and outlet locations being constructed. Sediment control barriers are proposed to be installed adjacent to wetland resource areas during construction to mitigate impacts to resource areas.

All above work will be performed in accordance to MassDOT Standard Specifications. The following section provides construction details and highlights the general construction sequence and timing of earthmoving activities. Specific construction phases are undetermined at this time and will be determined by means and methods of the contractor at the time of construction. However, with long, linear projects and active road systems, the construction sequence is typically applied to a discrete segment(s) of roadway, and construction is completed for one or more segments, depending on the number of construction spreads, before work is begun on the next segment(s). The equipment, and any staging, stockpile, and laydown areas will be determined by means and methods of the contractor at the time of construction. The need for temporary access roads is not anticipated.

Minor Clearing
Clearing operations will include the removal of trees, shrubby vegetation, and other organic materials within the construction workspace. Clearing methods employed will be dependent on vegetation density and topography. Vegetative clearing will be conducted either by hand or with mechanized cutting equipment. Prior to the commencement of clearing activities, the limits of clearing will be identified in accordance with the construction drawings. All construction activities and ground disturbance will be confined to the workspace as depicted on the construction drawings. Vegetation will be removed and disposed of offsite in approved locations in accordance with MassDOT Standard Specifications.

Grading, Excavation & Storm Drainage Repair/Replacement
During this phase of construction, grading and excavation will take place to prepare for; roadway profile and horizontal curve adjustments, roadway widening, the repair/replacement/installation of stormwater drainage structures and stone-lined swales, and the installation of proposed solider pile retaining walls. If suitable topsoil is found, it will be removed and stockpiled in approved upland areas. The stockpiled topsoil will be protected with compost filter tubes and/or temporarily seeded until ready for use on an as needed basis.
Old pavement (bituminous concrete) will be milled from the upper road layers and excavation for full depth roadway construction will be performed along Mount Washington Road across the roadway. Pavement may be discarded in environmentally appropriate locations as designated by MassDOT and/or approved by local and state regulatory agencies.

Culvert Replacements
The intermittent stream crossing located near Sta 220 is proposed to be replaced with two sections of pipe that connect at an angle. The proposed crossing consists of a 48” diameter, 12 foot long Reinforced Concrete Pipe (RCP) which is connected by a drainage manhole to another 48” diameter, 36 foot long RCP. The angled design is intended to bypass the existing crossing to allow flow to be maintained during portions of the construction of the new culvert. The existing 36” crossing is proposed to be removed. A concrete endwall with stone is proposed at the outlet of the crossing to dissipate water velocity. The existing stone masonry headwall at

the culvert inlet will be retained. A 2 foot section of new 36” RCP will connect to the existing headwall and the proposed manhole as shown in the culvert profile plan.

The intermittent stream crossing located near Sta 227 is proposed to be replaced with a 42” diameter, 46 foot long Reinforced Concrete Pipe (RCP) in a similar alignment. The new culvert will outlet through the face of a new soldier pile and lagging retaining wall on the south side of the road. The existing 36” crossing is proposed to be removed. Stone is proposed at the outlet of the crossing to dissipate water velocity.

Road Construction/Drainage Repair/Replacement
Full depth pavement construction is proposed predominantly for Mount Washington Road although pavement mill and overlay and box widening is proposed for some sections. Following excavation and upgrades to the drainage system, the proposed curb line will be defined, the preparation of the sub-foundation of the roadway and road widening will be completed, and the various layers of the road base will be installed. This generally includes a layer of gravel borrow overlain by a second layer of dense graded crushed stone. A base course of hot mix asphalt underlies the actual road surface that is composed of an intermediate and surface course of asphalt pavement. Thermoplastic pavement markings will be applied as the final step in roadway construction.

Site Stabilization
The final phase of the project is the restoration and stabilization of all exposed surfaces. Side slopes/road aprons will be overlain with compost blanket and milling mulch. All tie-in slopes are proposed to be a maximum slope of 2:1. However, the modified rockfill slopes are steeper than 2:1 and are proposed in 14 areas; Sta. 200+20 to Sta. 201+22, Sta. 202+15 to Sta. 203+15, Sta. 202+30 to Sta. 202+70, Sta. 210+13 to Sta. 210+43, Sta. 211+84 to Sta. 212+00, Sta. 212+75 to Sta. 212+91, Sta. 212+75 to Sta. 212+75, Sta. 213+30 to Sta. 213+75, Sta. 214+90 to Sta. 215+10, Sta. 217+80 to Sta. 218+15, Sta. 219+20 to Sta. 219+36, Sta. 227+75 to Sta. 231+10, Sta. 239+00 to Sta. 240+60, and Sta. 247+15 to Sta. 247+70. In the event that weather conditions prevent final restoration with vegetation, temporary erosion and sedimentation control measures will be employed until the weather is suitable for final cleanup. A final inspection will ensure that the project site is cleared of all project debris and that vegetation is well established or erosion and sedimentation controls are functioning properly. Erosion controls will not be removed until the site is stabilized and the final inspection is complete.

Monitoring and Maintenance
The contractor shall conduct follow-up inspections of all disturbed areas after the first and second growing seasons to determine the success of revegetation. Revegetation shall be considered successful if the vegetative cover is sufficient to prevent the erosion of soils on the disturbed workspace. Sufficient coverage is defined when vegetation has a uniform 75% vegetative coverage. If sufficient vegetative cover has not been achieved or if there are excessive invasive/noxious weeds after two full growing seasons, the Project Manager, Superintendent, or Environmental Inspector will be consulted to determine the need for additional restoration measures. A final inspection will ensure that the project site is cleared of all project debris and that erosion and sedimentation controls are functioning properly. Erosion and sediment controls measures will not be removed until the final inspection is complete.

Mitigation
Erosion and sedimentation control measures will be installed, delineating the proposed work limits. These will not be removed until the site is stabilized with the above compost blankets and milling mulch and a final inspection is complete. After work is complete, the contractor shall conduct follow-up inspections of all disturbed areas after the first and second growing seasons to determine the success of revegetation. Revegetation shall be considered successful if the vegetative cover is sufficient to prevent the erosion of soils on the disturbed workspace. Sufficient coverage is defined when vegetation has a uniform 75% vegetative coverage. If sufficient vegetative cover has not been achieved or if there are excessive invasive/noxious weeds after two full growing seasons, the Project Manager, Superintendent, or Environmental Inspector will be consulted to determine the need for additional restoration measures. A final inspection will ensure that the project site is cleared of all project debris and that the erosion sedimentation controls are functioning properly.

4.0 Wetland Impacts

The proposed culvert replacements will permanently impact 360 square feet of Water of the United States (WOTUS) and 245 linear feet of Bank. The proposed replacements will also temporarily impact 327 square feet of WOTUS and 100 linear feet of Bank. No permanent or temporary impacts to Vegetated Wetlands are proposed as part of the project.

Wetland Resource	Permanent	Temporary
Bank/OHW	245 LF	100 LF
WOTUS	360 SF	327 SF

The permanent impacts are a result of the reconstruction of the two culvert pipes. Temporary impacts are a result of the necessary control of water (e.g. cofferdams, bypass pumps, etc.) in order to temporarily divert flows during the reconstruction of the two culvert pipes.

5.0 Wetland Replication and Restoration

No impacts to Vegetated Wetland are proposed as part of this project. Therefore, no Vegetated Wetland replication or restoration is proposed as part of this project.

6.0 Sediment Control

Measures will be taken to minimize sedimentation/siltation into the adjacent wetland resource areas and the surrounding community during construction activities. Erosion control measures will delineate limits of work. Approximately 4,700 linear feet of erosion control will be installed throughout the project. Implementation of accepted and usual methods of sedimentation erosion control will be used at the site during all phases of construction. Erosion control during construction will include:

- Compost filter tubes will be placed as shown on the drawings to protect wetland resource areas.
- Compost filter tubes will be staked in place. This will ensure that the filter tubes stay in direct contact with the ground and maintain effective performance.
- Compost blankets will be placed on side slopes as shown on plans to protect the side slopes from erosion

- Catch basins receiving stormwater run-off from the project area will be protected with silt sacks during construction to capture sediment before entering the storm drain system.
- Erosion control devices will be inspected weekly and after each significant rainfall event.
- Any entrapped silt or other materials will be removed. Compost filter tubes and other devices will be replaced as necessary to remain at maximum efficiency.
- Erosion control devices will remain in place locally until disturbed surfaces have been stabilized with the final vegetative cover in the area of disruption.
- Any necessary temporary soil storage will be placed in a specified staging area and be surrounded by compost filter socks, or an approved erosion control method.

7.0 Dewatering

Dewatering operations, if necessary during construction, will prevent silt-laden runoff or discharge from entering wetlands and resources areas untreated. Siltation barriers consisting of compost filter tubes will be placed to protect wetland resources areas. Runoff from dewatering will be treated through a temporary sedimentation basin, dewatering bag, or equivalent prior to discharge. Outflow of runoff shall not be permitted to flow directly into wetlands or resource areas.

8.0 Stormwater Management

There will be no new discharges associated with this roadway reconstruction project. A complete Stormwater Report, including supporting calculations, Operation and Management Plan and stormwater checklist, can be sent upon request. Compliance with the Massachusetts Stormwater Standards are summarized below:

Standard 1. No New Untreated Discharges

The project has been designed to fully comply with Standard 1. No new stormwater system conveyances will discharge untreated runoff into the resource or buffer areas or cause erosion in the onsite resource area. All closed drainage systems have pre-treatment via deep sump catch basins and drainage inlets. Stone for pipe ends outlet protection is equipped at discharge points and new vegetated and stone-lined swales are proposed to be constructed with check dams. A list of existing stormwater outlets is located in Table 1 of the Narrative within the Stormwater Management Report. The project is in full compliance with this standard.

Standard 2. Peak Rate Attenuation

The project scope includes reconstructing the existing roadway. The result will be approximately a 9,462 SF (0.22 acre) increase in impervious surfaces over the 1.2-mile-long project. This is an approximately 6% increase in total project impervious area. Therefore, the roadway reconstruction will yield a negligible increase in flow from the over 200-acre project watershed which discharges exclusively to Karner Brook via wooded hillsides. The project is in full compliance with this standard. A table of proposed condition peak rates is shown under “Standard 2: Peak Rate Attenuation” in the Stormwater Management Report.

Standard 3. Recharge

The project has been designed to comply with Standard 3. Recharge to groundwater is limited due to right-of-way constraints and steep, rocky terrain. As a result of these constraints, no volume-based structural infiltrative practices are proposed as part of the project. However,

required groundwater recharge calculations are minimal due to existing poorly drained soils (See Section 5: Stormwater Management Calculations). Open drainage has been proposed to the extent practicable to maximize project infiltrative capacity.

Standard 4. Water Quality
The project has been designed to comply with Standard 4 to the maximum extent possible. Most of the existing closed drainage system within the project corridor will be replaced. The existing system consists of aging drop inlets and catch basin structures with little or no sumps connected to downstream structures with corrugated metal pipes. The proposed closed drainage system improves upon the existing system by reducing pipe slopes and providing stone for pipe ends at outlets to reduce downstream erosion. All proposed catch basins will have 4-foot-deep sumps in order to provide TSS removal for pretreatment of existing discharges to adjacent hillsides.

Standard 5. Land Uses with Higher Potential Pollutant Loads
The project is not a land use or an area with higher potential pollutant loads. Therefore, the standard is not applicable for this project.

Standard 6. Critical Areas
According to MassGIS information, the entirety of the project is located within the Karner Brook watershed, which is considered a Class A ORW and is designated as an ACEC. Larger BMP options recommended for Standard #6 such as bioretention areas were considered, but feasibility was limited due to right-of-way constraints and steep, rocky terrain. The project provides groundwater recharge through the use of open drainage to the maximum extent practicable. Deep sump catch basins are proposed, which provides pretreatment of existing discharges. Infiltration retention of stormwater runoff is promoted through the use of both stone-lined drainage swales and vegetation-lined drainage swales. These swales include the installation of check dams. Additionally, provisions on source control, pollution prevention, and deicing chemical restrictions have been included. See Section 3: Long-Term Pollution Prevention Plan. Standard #6 has been met to the maximum extent practicable

Standards 7. Redevelopments and Other Projects Subject to the Standards Only to the Maximum
Extent Practicable
The project is a redevelopment and the design is subject to meet Stormwater Management Standards #2, #3, #4, and #6 to the maximum extent practicable. Standard #5 is not applicable to this project. The project complies fully with Standards #1, #8, #9, and #10.

Standard 8. Construction Period Pollution Prevention and Erosion and Sedimentation Control
The implementation of erosion and sediment controls during construction is considered a standard practice for all MassDOT projects. Erosion and sediment controls will be installed before any land disturbance begins and will remain in place for the duration of the project. The erosion and sediment controls for the project are shown on the project plans and include sediment control barriers and filters at drain inlets. The Project disturbs one or more acres of land; therefore, the project contractor will request coverage under the NPDES Construction

General Permit (CGP) and develop a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP follows the requirements of this standard and is in compliance with the NPDES CGP.

Standard 9. Operation & Maintenance Plan
An Operation and Maintenance plan has been customized to fit the design of the road improvements and will follow the town's standard procedures. Provisions to maintain runoff control devices have been assured through structural, non-structural, and construction management approaches. See "Section 3: Long-Term Pollution Prevention Plan." The project is in full compliance with the standard.

Standard 10. Prohibition of Illicit Discharges
The design plans submitted with this report have been designed in full compliance with Standard 10. The Operation and Maintenance plan required by Standard 9 includes measures to prevent illicit discharges. Illicit discharges will be discontinued where the elimination of these discharges will not result in stormwater damages to contributing parcels. An Illicit Discharge Compliance Statement is included within the Stormwater Report.

9.0 Fisheries and Wildlife/Natural Heritage Endangered Species/Vernal Pools

The project is located within the Karner Brook ACEC, which is also recognized as an ORW for water supply as well as a DFW Coldwater Fisheries Resource as shown in **Attachment A**, **Figure 4.** The proposed project is located within a FEMA Zone C receiving minimal flooding and is not within any areas of the 100-year flood plain as shown on the FEMA map in Attachment A, **Figure 5.**

A portion of this project is located within/nearby a Priority Habitat of Rare Species and an Estimated Habitat of Rare Wildlife as shown on the map provided by the MassMapper Online Data Viewer in Attachment A, **Figure 3**. Please see **Attachment D** for the Natural Heritage & Endangered Species (NHESP) response for Massachusetts Endangered Species Act (MESA) concerns. Priority Habitat 970 and Estimated Habitat 734 for the Endangered Reptile (Data Sensitive Species) are within Phase 1's limits. Provided the letter of determination conditions are fully implemented and there are no changes to the project plans, the project will not result in a Take of state-listed species. There are approximately 1.955 acres of priority habitat throughout the project work limits.

Stream Crossing Standards
The stream crossing standards were met to the maximum extent practicable. The sections below describe compliance of the proposed intermittent stream crossings at Station 220 and Station 227 with the Massachusetts Stream Crossing Standards.

Culvert at STA 220
*Drainage Area = 29 acres***

*Upstream average slope 36%***

Downstream average slope 30%

Classification- Intermittent steep mountain stream

1. ***Crossing Span**- Bankfull width- average bankfull width = 3'; 1.2 bankfull = 3.6'*

   a. *Proposed Span- 4'* ***(fully meets)***

2. ***Openness****- Existing OR = 7.06 sf/ 61 lf = 0.11'* ***(substandard)***

   Proposed OR = 12.57 sf/54 lf = 0.23' ***(substandard but improvement over existing)***

3. ***Embedment****- Embedment as defined by the standards is not practical given the existing site conditions. Lacking connectivity to Karner Brook and given the existing steep slopes, access by fish to the crossing is unlikely. The likely wildlife "users" will be small terrestrial critters and micro- or macro-invertebrates who, if they are able to traverse the steep slopes upstream and downstream, will find the gentler slope of the crossing more manageable. In addition, the substrate of the upstream reference reach is mostly large boulders (those that are large enough to not cascade down the mountain slope) and ledge. Downstream substrate is a combination of the same larger material as well as what appears to be historical erosion control material placements and debris (roadside protection, previous failed pipe lengths and wood debris). The hydrologic source of flow appears to be nearly equal parts groundwater seep and runoff (runoff being the larger portion during storms). Ledge is shallow at this location so the proposed reinforced concrete pipe (RCP) will most closely match the dominant substrate, being ledge).* ***(substandard but impractical)***

4. ***Substrate****- As noted above, the RCP most closely matches the dominant substrate of reference reaches which are large boulder and ledge.* ***(fully meets)***

5. ***Water Depth and Velocity****- The hydraulic capacity of the pipe meets MassDOT sizing criteria and is an increase in size from 36" diameter to 48" diameter. Matching reference reach slope, velocity and profile is impractical given the steep nature of the upstream and downstream reaches. The proposed gentler slope crossing Mount Washington Road will provide better crossing conditions for wildlife and AOP.* ***(fully meets)***

6. ***Stream Profile and Alignment****- As noted above, meeting the slope of the upstream and downstream reaches is not practical. The gentler slope and outlet protection will help prevent erosion. The proposed offset alignment using no-sump manholes is intended to facilitate the handling of any existing or storm flows during construction (addressing time-of-year).* ***(fully meets)***

Culvert at STA 227

*Drainage Area = 26 acres***

*Upstream average slope 32%***

Downstream average slope 27%

Classification- Intermittent steep mountain stream

1. ***Crossing Span****- Bankfull width- average bankfull width = 3'; 1.2 bankfull = 3.6'*

   a. *Proposed Span- 3.5'* ***(fully meets)***

2. ***Openness****- Existing OR = 7.06 sf/ 57 lf = 0.12'* ***(substandard)***

Proposed OR = 9.62 sf/46 lf = 0.21' ***(substandard but improvement over existing)***

3. ***Embedment****- Embedment as defined by the standards is not practical given the existing site conditions. Lacking connectivity to Karner Brook and given the existing steep slopes, access by fish to the crossing is unlikely. The likely wildlife "users" will be small terrestrial critters and micro- or macro-invertebrates who, if they are able to traverse the steep slopes upstream and downstream, will find the gentler slope of the crossing more manageable. In addition, the substrate of the upstream reference reach is mostly large boulders (those that are large enough to not cascade down the mountain slope) and ledge. Downstream substrate is a combination of the same larger material as well as what appears to be historical erosion control material placements and debris (roadside protection, previous failed pipe lengths and wood debris). The hydrologic source of flow appears to be nearly equal parts groundwater seep and runoff (runoff being the larger portion during storms). Ledge is shallow at this location so the proposed reinforced concrete pipe (RCP) will most closely match the dominant substrate, being ledge).* ***(substandard but impractical)***
4. ***Substrate****- As noted above, the RCP most closely matches the dominant substrate of reference reaches which are large boulder and ledge.* ***(fully meets)***
5. ***Water Depth and Velocity****- The hydraulic capacity of the pipe meets MassDOT sizing criteria and is an increase in size from 36" diameter to 42" diameter. Matching reference reach slope, velocity and profile is impractical given the steep nature of the upstream and downstream reaches. The proposed gentler slope crossing Mount Washington Road will provide better crossing conditions for wildlife and AOP.* ***(fully meets)***
6. ***Stream Profile and Alignment****- As noted above, meeting the slope of the upstream and downstream reaches is not practical. The gentler slope and outlet protection will help prevent erosion.* ***(fully meets)***

***Note that these size drainage areas and steep mean slopes are far outside the normal data ranges for USGS StreamStats.*

10.0 Alternatives Analysis

Alternatives

Alternatives to the proposed cross section for Phase 1 were considered in order to avoid impacts to existing residential properties which would include extensive rock cut and tree clearing.

Roadway Width Alternative

Widening to a preferred 28-foot-wide roadway would be proposed down existing steep slopes to the south and up existing steep slopes to the north. As a result of this, the length of retaining walls would increase to approximately 2,400 feet. Also, the average exposed face height of the proposed retaining wall would increase to 8-10 feet. These increases in length and height of the retaining walls represent significant project costs. The width of the existing ROW and the location of the existing roadway is variable throughout the site. Implementing 28-foot-wide roadway construction within this phase's limits with the necessary retaining wall construction would require permanent ROW impacts at approximately Sta. 207+00 Right to Sta. 208+00

Right, Sta. 219+00 Right to Sta. 220+00 Right, and Sta. 220+00 Left to Sta. 221+50 Left. This additional pavement widening and retaining wall construction would further increase the impervious surface for the roadway. It would also require the removal of existing mature vegetation along the south edge of the roadway. This would reduce the vegetated buffer to Karner Brook which runs along the southern edge of the roadway at the bottom of the wooded hillside throughout this segment. This is noteworthy since Karner Brook, a Coldwater Fishery, is designated as an Outstanding Resource Water as mentioned previously. This option was not chosen.

Vertical Alignment Alternative

In terms of vertical alignment, an alternative to the proposed curve was considered to provide a K value of 64 by lengthening the curve from 490 feet to 640 feet. In doing so, the roadway would have to be raised about an additional two feet at the midpoint of the curve. This would result in increasing the height and size of the proposed retaining wall at Sta. 204+75 to Sta. 212+75 along the entire length of the vertical curve. This increase of height and size of retaining walls leads to more material and construction costs. This option was not chosen.

Another alternative to the proposed vertical alignment included regarding the roadway, providing a 10% slope from the PVI at Sta. 202+89.97 to the PVI at Sta 207+25. This would require lowering the existing grade at the driveway for 226 Mount Washington Road (approximately Sta. 203+50 Left). The driveway entrance for this property would need to be lowered about one and a half feet and regraded. The existing driveway is already excessively steep with a grade of greater than 15% up from the roadway. This option was not chosen.

Similar to the above, an alternative to the proposed vertical alignment to provide a 10% slope from the PVI at Sta. 236+55 to the PVI at Sta 245+36.86 would require raising the existing grade at the driveway at approximately Sta. 243+20 Right. The driveway entrance for this property would need to be raised about three and a half feet and regraded which would result in a driveway with a grade of greater than 15% down from the roadway. Overall, this alternative would result in excessive cut/fill ranging from a maximum cut of about 2.25 feet at approximately Sta. 237+50 to a maximum fill of about 3.5 feet at approximately Sta. 243+00. This option was not chosen.

Bicyclist Accommodation

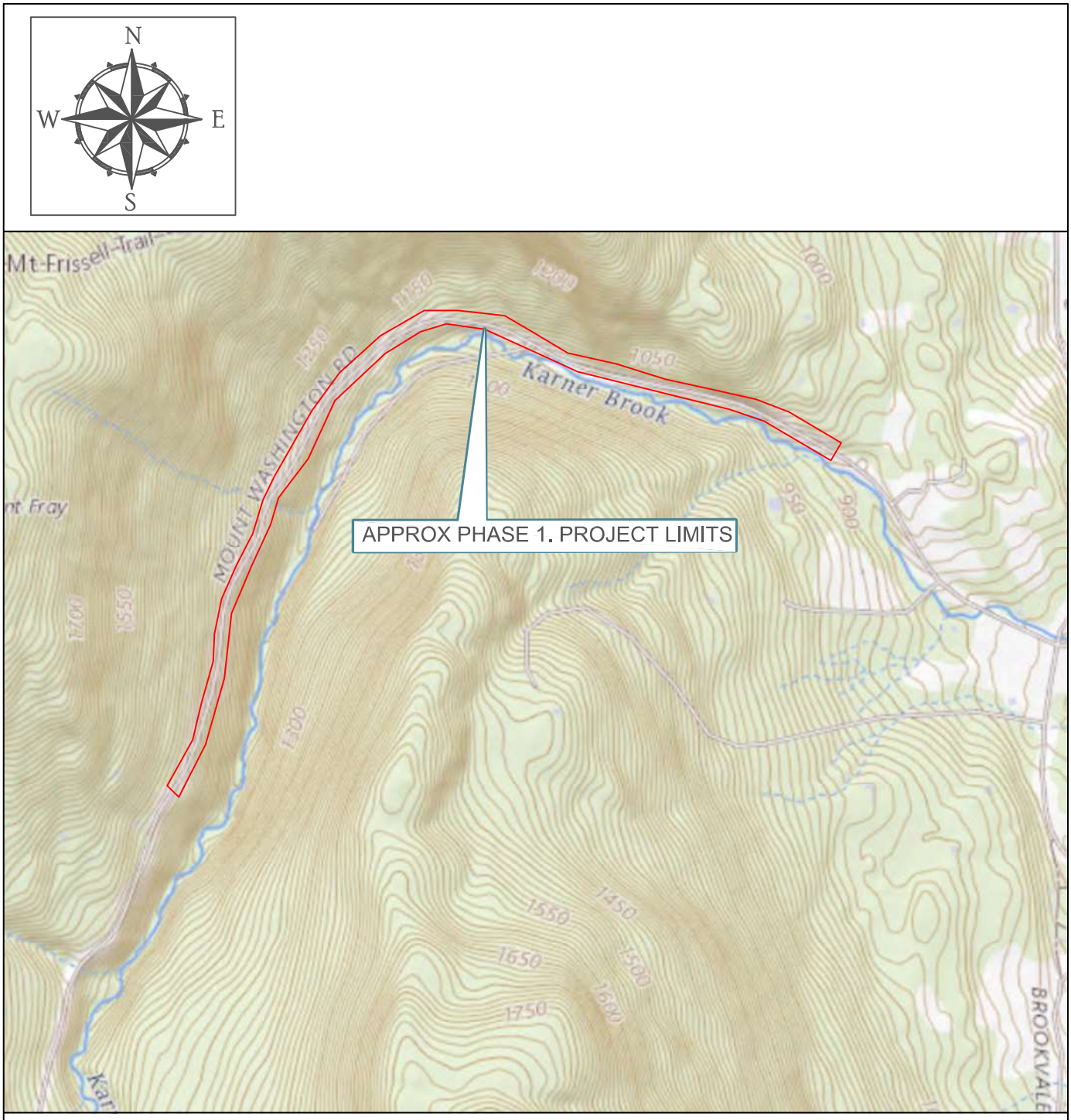
To accommodate for bicyclists, outside shoulder 5-foot bicycle lanes along both sides of roadway was an alternative that was explored, totaling a 30-foot-wide roadway. This would impose impacts to existing residential properties due to extensive rock cutting and tree clearing, including areas with steep slopes to the south and up existing steep slopes to the north. As a result of this, the proposed length of retaining wall would increase to approximately 2,500 feet. Also, the average exposed face height of the proposed retaining wall would increase to 10-12 feet. The increase in length and height of retaining wall represent significant project costs. The width of the existing ROW and the location of the existing roadway is variable throughout this phase's corridor. Construction of a 30-foot-wide roadway with five-foot shoulders for bicycles with necessary retaining wall construction would require permanent ROW impacts at approximately Sta. 207+00 Right to Sta. 208+00 Right, Sta. 219+00 Right to Sta. 220+00 Right, and Sta. 220+00 Left to Sta. 221+50 Left. This additional roadway widening and retaining wall

construction would also require the removal of existing mature vegetation along the south edge of the roadway. This would reduce the vegetated buffer to Karner Brook which runs along the southern edge of the roadway at the bottom of the wooded hillside throughout the site and therefore was not chosen.

11.0 Summary

This proposed Mount Washington Road Phase 1 project involves numerous improvements to the roadway and pedestrian safety, including drainage improvements and profile and horizontal curve adjustments. Efforts have been made to minimize these impacts within these resource areas including; installing erosion and sedimentation control measures delineating cleared and grubbed areas, installing solider pile retaining walls to aid in possible future erosion, slightly narrowing the existing impervious roadway in some areas within the resource areas, and implementing 2:1 tie in slopes and steeper modified rockfill slopes as necessary in regraded areas.

Attachment A Figures



100 0 100 200

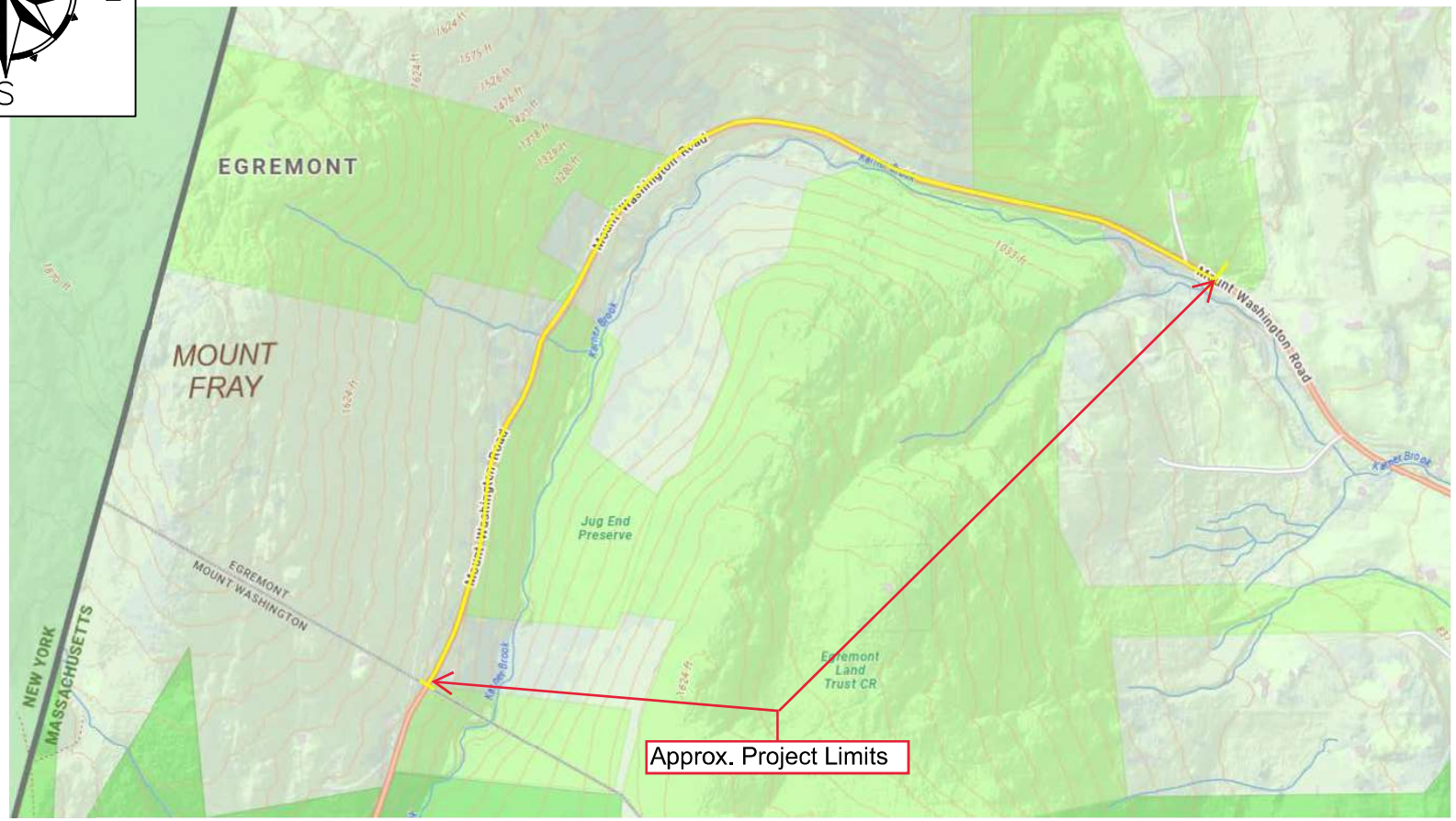
SCALE 1" = 100'

GENERAL NOTES

1. Locus map based on USGS 7.5x7.5 Grid US Topo Map of Egremont, MA from the USGS map webstore: http://www.store.usgs.gov
2. Locus map is not to scale

Figure 1
USGS LOCUS MAP
PROJECT NO. 608547
MOUNT WASHINGTON ROAD
RECONSTRUCTION PHASE 1
SPENCER, MA

COMPREHENSIVE ENVIRONMENTAL INCORPORATED
41 MAIN STREET
BOLTON, MA 01740



GENERAL NOTES

1. LOCUS MAP BASED ON USGS TOPOGRAPHY IMAGE
2. LOCUS SCALE IS APPROXIMATE
3. LOCUS MAP BASED ON NAD83 AND NAVD88.

MassMapper

FIGURE 2: LOCUS MAP

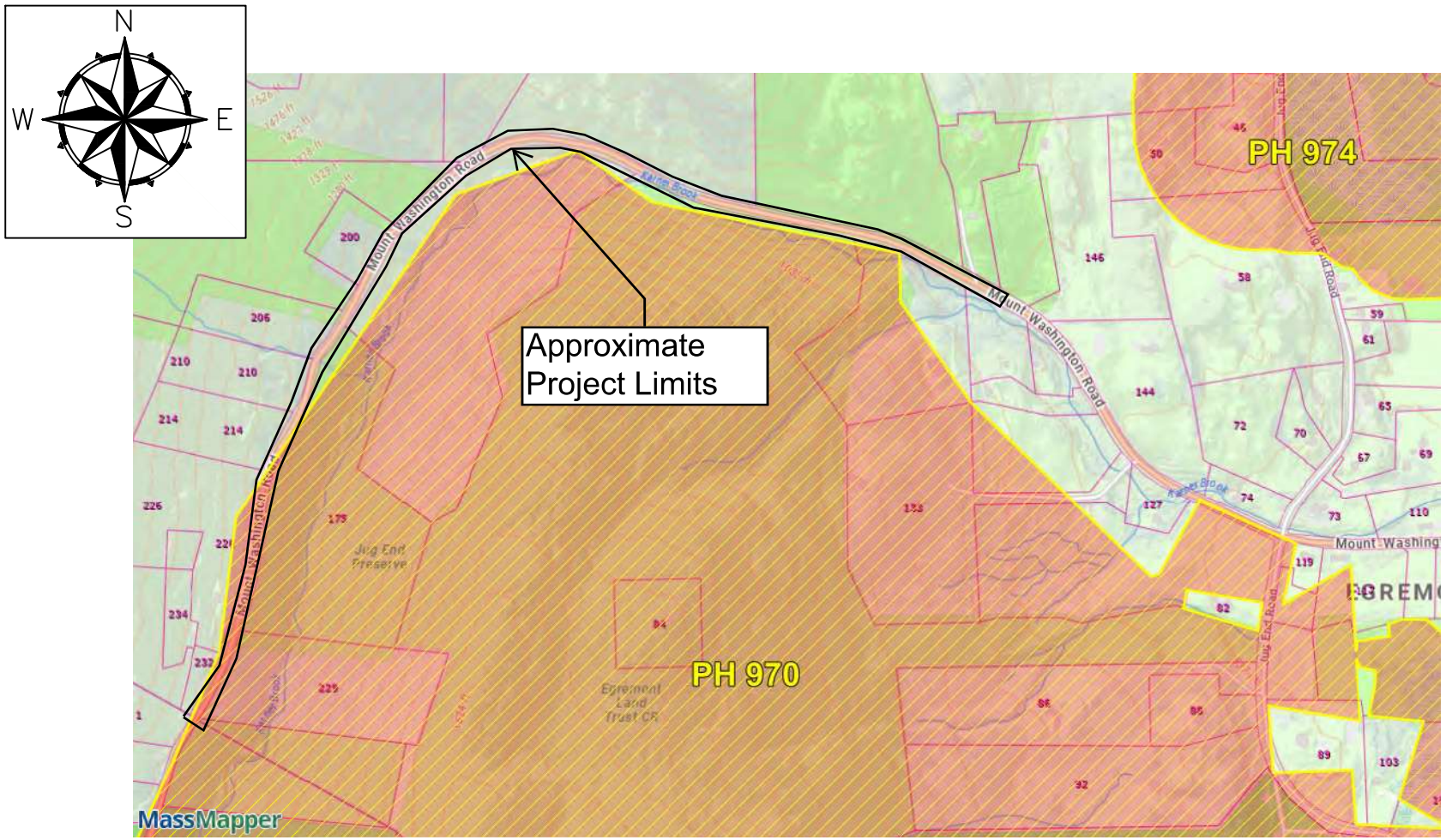
MOUNT WASHINGTON ROAD

RECONSTRUCTION - EGREMONT

MASSDOT 608547

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

41 MAIN STREET
BOLTON, MA 01740



Legend

NHESP Priority Habitats of Rare Species

NHESP Estimated Habitats of Rare Wildlife

FIGURE 3 - NHESP Habitat Areas

MOUNT WASHINGTON ROAD

RECONSTRUCTION

MASSDOT 608547- Egremont

MassMapper maps.massgis.digital.mass.gov

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

41 MAIN STREET
BOLTON, MA 01740

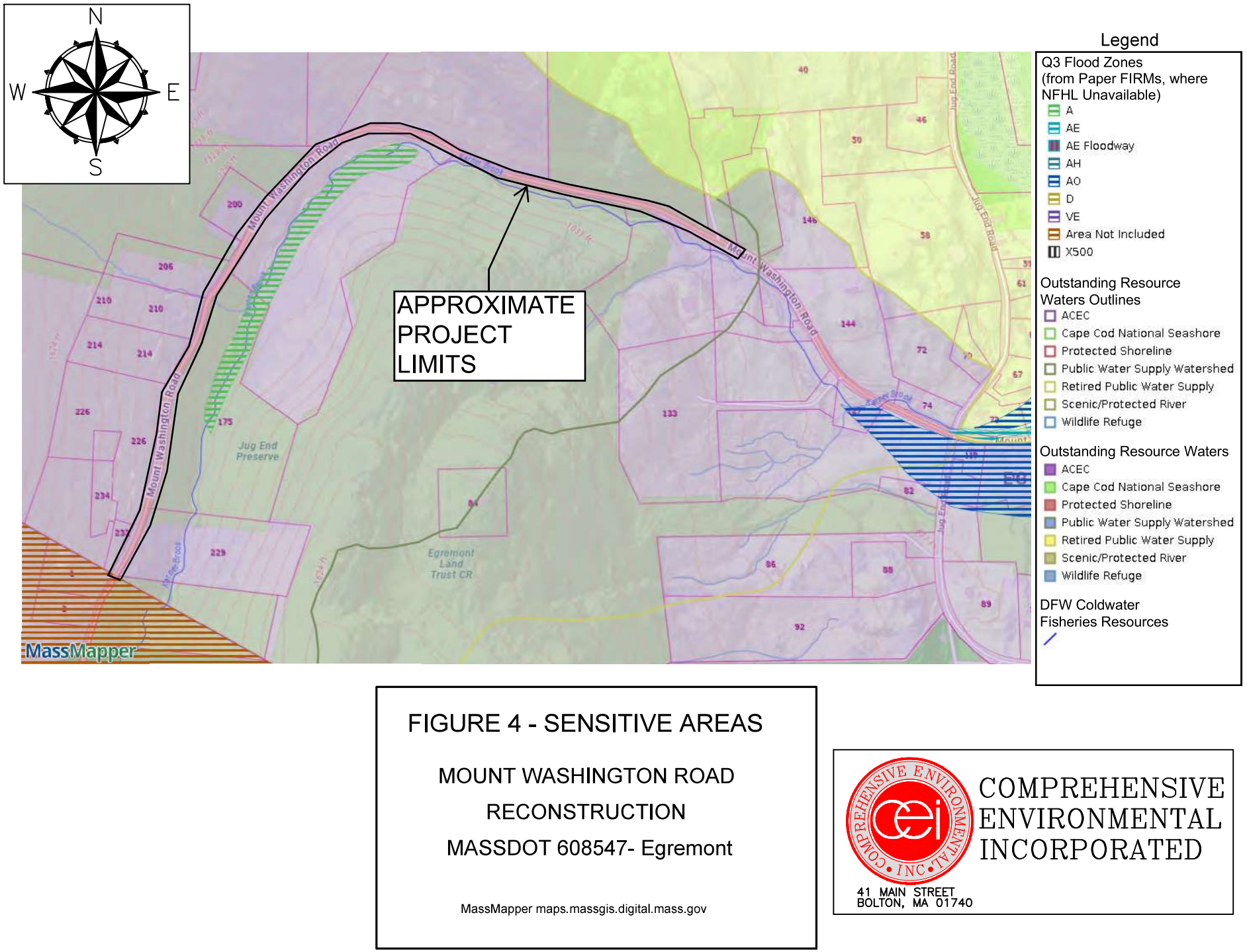


FIGURE 4 - SENSITIVE AREAS

MOUNT WASHINGTON ROAD

RECONSTRUCTION

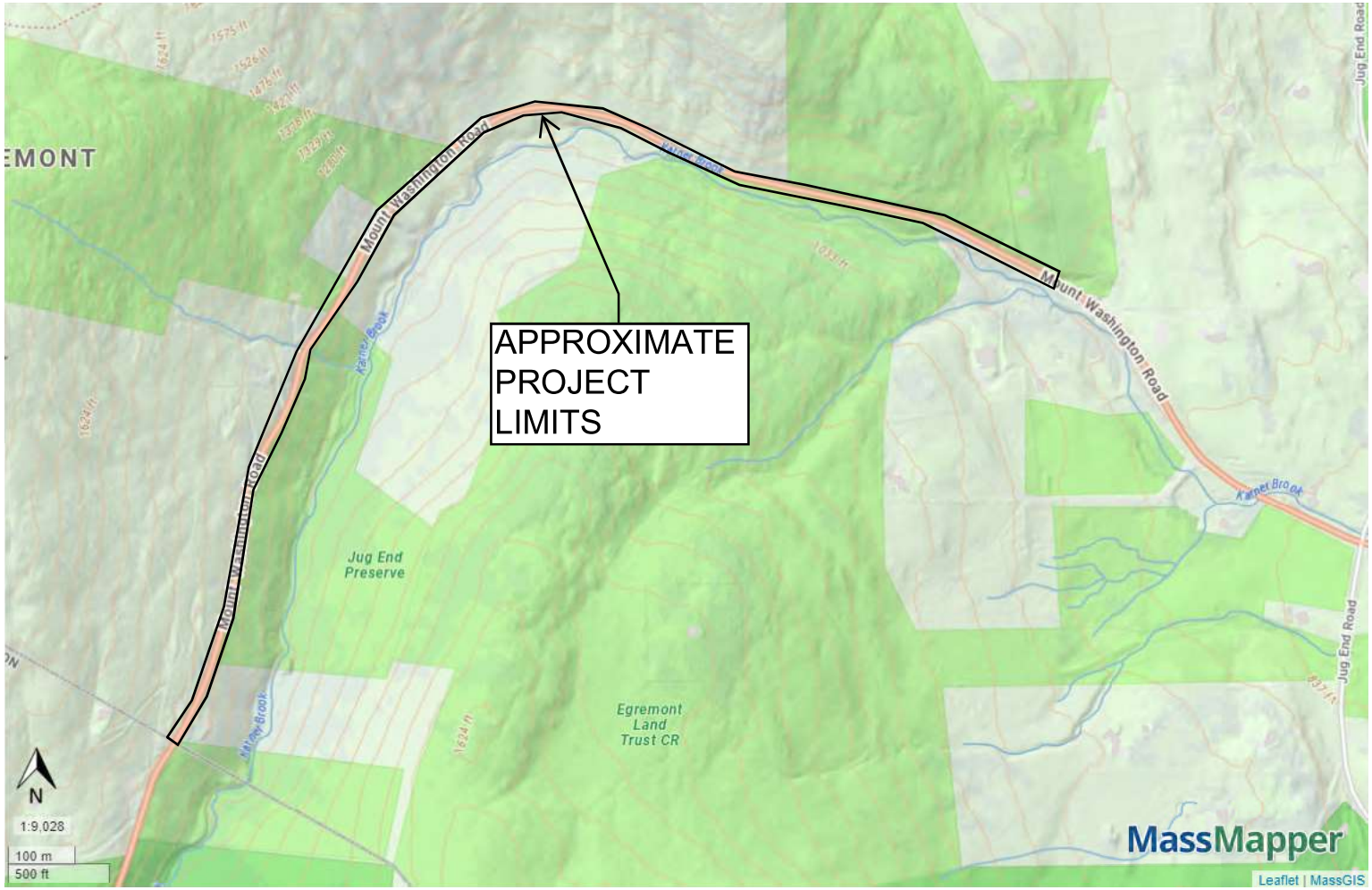
MASSDOT 608547- Egremont

MassMapper maps.massgis.digital.mass.gov

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

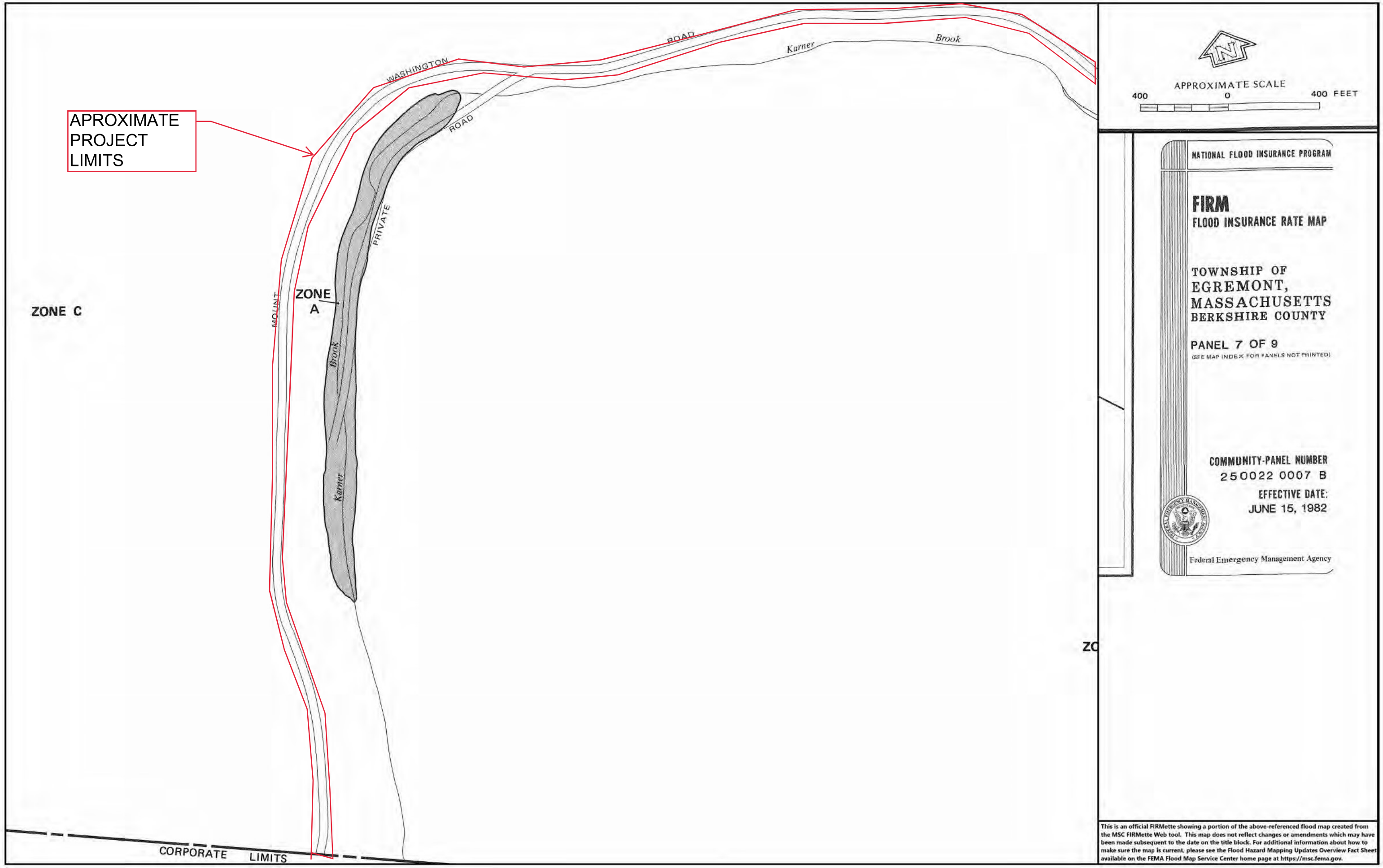
41 MAIN STREET
BOLTON, MA 01740

FIGURE 5 - FEMA National Flood Hazard Layer



FEMA National Flood Hazard Layer
Polygons
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area Not Included

FIGURE 6 - FIRM MAP



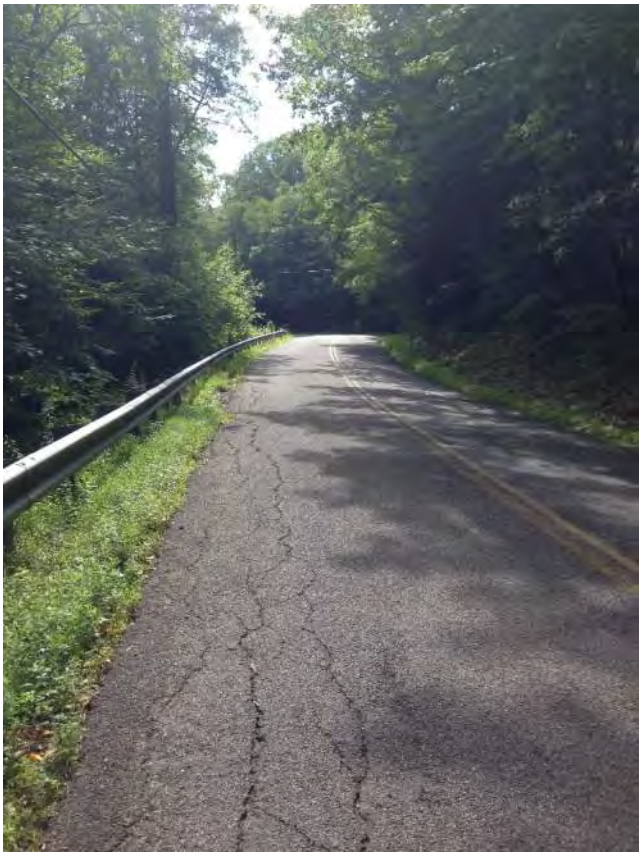
Proposal No. 608547-132397

Attachment B Photographic Log

MASSDOT 608547 EGREMONT
PHOTOS



View east from Mount Washington into Egremont (Project start)



View west from approximately Station 222+00

MASSDOT 608547 EGREMONT
PHOTOS



View east from approximately Station 217+00



View east from approximately Station 238+50

MASSDOT 608547 EGREMONT
PHOTOS



Karner Brook looking west approximately Station 250+00



View west from approximately Station 261+00

Egremont: Pipe at Sta. 220



PIPE INLET



PIPE OUTLET



UPSTREAM FLOW



INSIDE PIPE

Egremont: Pipe at Sta. 227

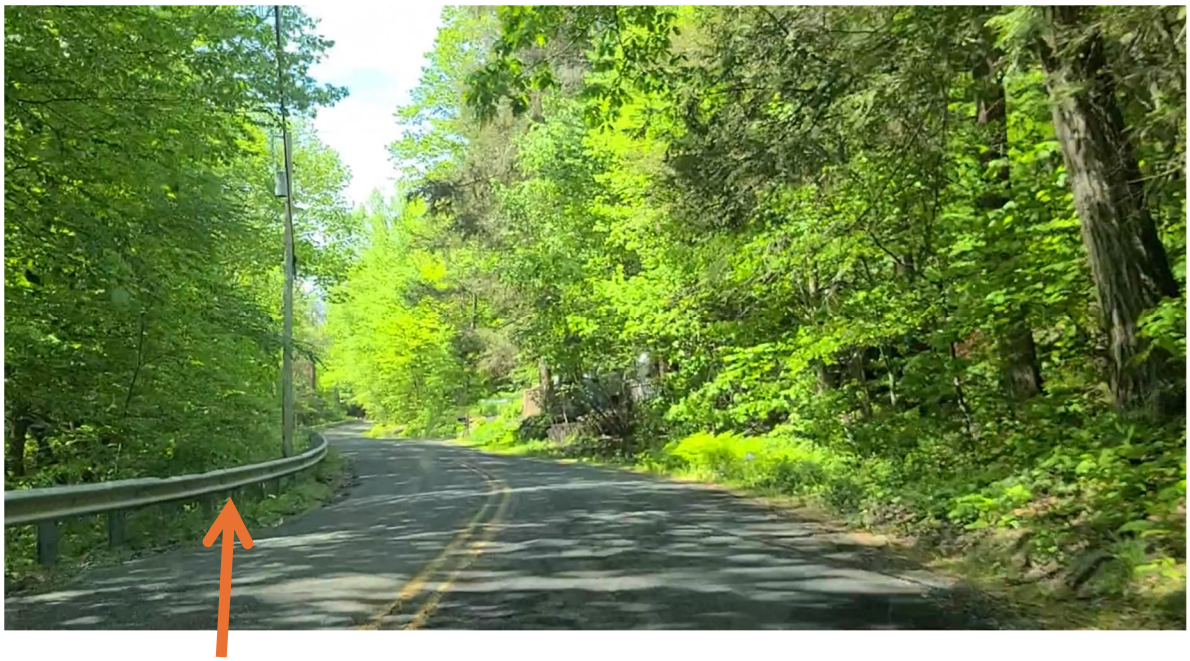


PIPE INLET



UPSTREAM CHANNEL

`



PIPE OUTLET IS NOT ACCESSIBLE DUE TO EXTREME SLOPE

Attachment C Wetland Delineation Report

Wetland Delineation Report

Mount Washington Road
Egremont, MA

December 14, 2023

Prepared For:

Massachusetts Department of Transportation
Highway Division
10 Park Plaza- Room 7360
Boston, MA 02116

CHA Consulting Inc.
141 Longwater Drive
Norwell, MA 02061

Prepared By:

Comprehensive Environmental Inc.
41 Main Street
Bolton, MA 01740

1. Introduction

A wetland delineation was conducted along Mount Washington Road in Egremont, MA on December 14, 2023. Wetland resource areas protectable under the *Massachusetts Wetlands Protection Act* (M.G.L. c. 131, s. 40), the implementing *Regulations* (310 CMR 10.00), and the Town of Egremont *Open Space and Recreation Plan were* identified and characterized. The delineation included the boundary of Bordering Vegetated Wetlands (BVW) and Bank along Karner Brook and several unnamed streams. The delineation was marked in the field with sequentially numbered pink flagging tape. The following narrative provides a general site description, wetland delineation methodology, and description of delineated wetland resource areas.

2. Methodology

Wetland resource areas were delineated in conformance with the *Massachusetts Handbook of Delineation of Bordering Vegetated Wetlands* (2022; the Handbook) through observation of vegetative communities, soil characteristics and indications of wetlands hydrology. Visual observations were used to determine wetlands hydrology, including typical indicators such as water marks, water-stained leaves, trees with shallow root systems, drift lines and drainage patterns. Small observational plots were used to document the characteristics of the BVW areas as described by Appendix B of the Handbook.

3. General Site Description

The assessed section of Mount Washington Road stretches from the Egremont and Mount Washington Town boundary to 150 Mount Washington Road, a distance of approximately 1.18 miles. The delineated wetland resource areas along this section of roadway include two areas with Bordering Vegetated Wetlands (BVW) and Bank (and associated Riverfront Area) along Karner Brook as well as two small stream crossings with Bank, as seen on project plan sheets in the NOI narrative and as described below:

- The first area of BVW and Bank is located at the eastern end of the project along Karner Brook starting near 150 Mount Washington Road. The area surrounding the brook is predominantly forested but includes some single-family homes. Topography of the site is steeply sloped southeast towards Karner Brook. This area was delineated using the A and B series of flags with flags B-WF-10 through B-WF-12 and B-WF-23 through B-WF-28 representing BVW and flags A-B-1 through A-B-10, B-B-0 through B-B-9, B-B-13 through B-B-22 and B-B-29 through B-B-30 representing bank.
- The second area of Bank is located at an unnamed intermittent stream crossing on the western end of the assessed section near 206 Mount Washington Road. The area to the northwest of the crossing is a single-family home but the remaining surrounding area is upland forest. Topography is steeply sloped east towards Karner Brook. This area was delineated using the C and D series of flags with flags C-B-1 through C-B-8 and D-B-1 through D-B-6 representing Bank.
- The third area of Bank is located at an unnamed tributary crossing near 210 Mount Washington Road. The eastern side of the crossing is entirely forested. The western side of the crossing is a mix of forest and single-family homes. Topography is steeply sloped east towards Karner Brook. This area was delineated using the E and F series of flags with flags E-B-1 through E-B-8 and F-B-1 through F-B-6 representing Bank.

4. Description of Wetland Resource Areas

4.1 Bordering Vegetated Wetlands (BVW)

- Pockets of shallow emergent marsh exist within the floodplain of Karner Brook (flags B-WF-10 through B-WF-12 and B-WF-23 through B-WF-28). A dense canopy dominated by red maple (*Acer rubrum*) covers the BVW but also includes gray birch (*Betula populifolia*), eastern hemlock (*Tsuga canadensis*) and American elm (*Ulmus americana*). Saplings from the canopy, silky dogwood (*Swida amomum*) and highbush blueberry (*Vaccinium corymbosum*) comprise the understory. The herbaceous stratum includes jewelweed (*Impatiens capensis*), northern lady fern (*Athyrium angustum*), sedges (*Carex* spp.), sensitive fern (*Onoclea sensibilis*) and royal fern (*Osmunda regalis*).

4.2 Soils

According to USDA soil surveys (Map MA003), very stoney and very steep Taconic-Macomber association (932E) under lays the majority of the site but pockets of very stoney and very steep Lanesboro-Dummerston association (931E) are also present.

4.3 Bank

Bank was delineated in the field using signs of annual mean high-water mark.

- Karner Brook ranges from approximately four to twenty feet high and had several feet of substantial flow during the delineation. The banks are vegetated with upland species (flags A-B-1 through A-B-10, B-B-0 through B-B-9, B-B-13 through B-B-22 and B-B-29 through B-B-30).
- The unnamed intermittent stream crossing near 206 Mount Washington Road has steep banks with a channel that range from two to eight feet wide. Moderate flow was present during the delineation (flags C-B-1 through C-B-8 and D-B-1 through D-B-6).
- The unnamed tributary near 210 Mount Washington Road is a high gradient mountain stream with steeply sloped banks vegetated with upland species (flags E-B-1 through E-B-8 and F-B-1 through F-B-6).

4.4 Description of Adjacent Uplands

The upland canopy surrounding Karner Brook a predominantly a mix of by white pine (*Pinus strobus*) and red oak (*Quercus rubra*). Saplings from the canopy, multiflora rose (*Rosa multiflora*), white ash (*Fraxinus americana*), Morrow's honeysuckle (*Lonicera morrowii*) and mountain laurel (*Kalmia latifolia*) comprise the understory. The herbaceous stratum includes raspberry (*Rubus idaeus*), wintergreen (*Gaultheria procumbens*), upland grasses (*Festuca* spp.), striped pipsissewa (*Chimaphila maculata*), princess pine (*Dendrolycopodium obscurum*) and Canada goldenrod (*Solidago canadensis*). Asian bittersweet (*Celastrus orbiculatus*) was also present in the vine layer.

Attachment A

MassDEP Bordering Vegetated Wetland (310 CMR 10.55)
Delineation Field Data Forms

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: Mount Washington Road City/Town: Egremont Sampling Date: 12/14/2023

Applicant/Owner: Town of Egremont Sampling Point or Zone: B-UPL-1

Investigator(s): I. Church Latitude / Longitude: 42.160393, -73.469553

Soil Map Unit Name: 932E- Taconic-Macomber association, steep very stony NWI or DEP Classification: NC

Are climatic/hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks)

Are Vegetation [ ], Soil [ ] , or Hydrology [ ] significantly disturbed? (If yes, explain in Remarks)

Are Vegetation [ ], Soil [ ] , or Hydrology [ ] naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes [ ]	No [✓]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soils criterion met?	Yes [ ]	No [✓]	
Wetlands hydrology present?	Yes [ ]	No [✓]	

Remarks, Photo Details, Flagging, etc.:

Flags B-WF-10 through B-WF-12 and B-WF-23 through B-WF-28 are representative of BVW boundary. Flags A-B-1 through A-B-10, B-B-0 through B-B-9, B-B-13 through B-B-22, B-B-29 through B-B-30, C-B-1 through C-B-8, D-B-1 through D-B-6, E-B-1 through E-B-8 and F-B-1 through F-B-6 represent Bank.

HYDROLOGY

Field Observations:			
Surface Water Present?	Yes [ ]	No [✓]	Depth (inches)_____
Water Table Present?	Yes [ ]	No [✓]	Depth (inches)_____
Saturation Present (including capillary fringe)?	Yes [ ]	No [✓]	Depth (inches)_____

Wetland Hydrology Indicators

Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
[ ] Water-stained leaves	[ ] Hydrological records	[ ] Direct observation of inundation
[ ] Evidence of aquatic fauna	[ ] Free water in a soil test hole	[ ] Drainage patterns
[ ] Iron deposits	[ ] Saturated soil	[ ] Drift lines
[ ] Algal mats or crusts	[ ] Water marks	[ ] Scoured areas
[ ] Oxidized rhizospheres/pore linings	[ ] Moss trim lines	[ ] Sediment deposits
[ ] Thin muck surfaces	[ ] Presence of reduced iron	[ ] Surface soil cracks
[ ] Plants with air-filled tissue (aerenchyma)	[ ] Woody plants with adventitious roots	[ ] Sparsely vegetated concave surface
[ ] Plants with polymorphic leaves	[ ] Trees with shallow root systems	[ ] Microtopographic relief
[ ] Plants with floating leaves	[ ] Woody plants with enlarged lenticels	[ ] Geographic position (depression, toe of slope, fringing lowland
[ ] Hydrogen sulfide odor		

Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

Form Revised July 2023

Sampling Point B-UPL-1

VEGETATION – Use both common and scientific names of plants.

Tree Stratum Plot size 30'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	38.0	Yes	Yes
2. red oak	Quercus rubra	FACU	20.5	Yes	No
3. gray birch	Betula populifolia	FAC	3.0	No	Yes
4.					
5.					
6.					
7.					
8.					
9.					

61.5 = Total Cover

Shrub/Sapling Stratum Plot size 15'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	20.5	Yes	Yes
2. gray birch	Betula populifolia	FAC	10.5	Yes	Yes
3. eastern hemlock	Tsuga canadensis	FACU	3.0	No	Yes
4.					
5.					
6.					
7.					
8.					
9.					

34.0 = Total Cover

Herb Stratum Plot size 5'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Canada goldenrod	Solidago canadensis	FACU	38.0	Yes	No
2. raspberry	Rubus idaeus	FACU	20.5	Yes	No
3. common plantain	Plantago major	FACU	10.5	No	No
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

69.0 = Total Cover

Sampling Point B-UPL-1

VEGETATION – continued.

Woody Vine Stratum Plot size 30'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Asian bittersweet	Celastrus orbiculatus	UPL	3.0	Yes	No
2.					
3.					
4.					
			3.0 = Total Cover		

Rapid Test: Do all dominant species have an indicator status of OBL or FACW? Yes ☐ No ☑

Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species?
	7	3	Yes ☐ No ☑

Prevalence Index:	Total % Cover (all strata)	Multiply by:	Result
OBL species	0	X 1	= 0.00
FACW species	0	X 2	= 0.00
FAC species	72	X 3	= 216.00
FACU species	93	X 4	= 370.00
UPL species	3	X 5	= 15.00
Column Totals	(A) 167.5		(B) 601
Prevalence Index	B/A = 3.59		Is the Prevalence Index ≤ 3.0? Yes ☐ No ☑

Wetland vegetation criterion met? Yes ☐ No ☑

Definitions of Vegetation Strata

Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height

Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall

Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall

Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

Sampling Point B-UPL-1

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0-4	10YR 3/3	100.00					gravelly loam	
4-18+	10YR 4/6	100.00					loam	with stoney inclusions

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators (Check all that apply)		**Indicators for Problematic Hydric Soils**
☐ Histosol (A1)	☐ Polyvalue Below Surface (S8)	☐ 2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Thin Dark Surface (S9)	☐ 5 cm Mucky Peat or Peat (S3)
☐ Black Histic (A3)	☐ Loamy Gleyed Matrix (F2)	☐ Iron-Manganese Masses (F12)
☐ Hydrogen Sulfide (A4)	☐ Depleted Matrix (F3)	☐ Mesic Spodic (A17)
☐ Stratified Layers (A5)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	
☐ Sandy Mucky Mineral (S1)		
☐ Sandy Gleyed Matrix (S4)		
☐ Sandy Redox (S5)		☐ Other (Include Explanation in Remarks)
☐ Stripped Matrix (S6)		
☐ Dark Surface (S7)		

Restrictive Layer (if observed) Type: _____ Depth (inches): _____

Remarks:

Hydric Soils criterion met? **Yes** ☐ **No** ☑

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: Mount Washington Road City/Town: Egremont Sampling Date: 12/14/2023

Applicant/Owner: Town of Egremont Sampling Point or Zone: B-UPL-2

Investigator(s): I. Church Latitude / Longitude: 42.160418, -73.469811

Soil Map Unit Name: 932E- Taconic-Macomber association, steep very stony NWI or DEP Classification: NC

Are climatic/hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks)

Are Vegetation [ ], Soil [ ] , or Hydrology [ ] significantly disturbed? (If yes, explain in Remarks)

Are Vegetation [ ], Soil [ ] , or Hydrology [ ] naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes [ ]	No [✓]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soils criterion met?	Yes [ ]	No [✓]	
Wetlands hydrology present?	Yes [ ]	No [✓]	

Remarks, Photo Details, Flagging, etc.:

Flags B-WF-10 through B-WF-12 and B-WF-23 through B-WF-28 are representative of BVW boundary. Flags A-B-1 through A-B-10, B-B-0 through B-B-9, B-B-13 through B-B-22, B-B-29 through B-B-30, C-B-1 through C-B-8, D-B-1 through D-B-6, E-B-1 through E-B-8 and F-B-1 through F-B-6 represent Bank.

HYDROLOGY

Field Observations:			
Surface Water Present?	Yes [ ]	No [✓]	Depth (inches)_____
Water Table Present?	Yes [ ]	No [✓]	Depth (inches)_____
Saturation Present (including capillary fringe)?	Yes [ ]	No [✓]	Depth (inches)_____

Wetland Hydrology Indicators

Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
[ ] Water-stained leaves	[ ] Hydrological records	[ ] Direct observation of inundation
[ ] Evidence of aquatic fauna	[ ] Free water in a soil test hole	[ ] Drainage patterns
[ ] Iron deposits	[ ] Saturated soil	[ ] Drift lines
[ ] Algal mats or crusts	[ ] Water marks	[ ] Scoured areas
[ ] Oxidized rhizospheres/pore linings	[ ] Moss trim lines	[ ] Sediment deposits
[ ] Thin muck surfaces	[ ] Presence of reduced iron	[ ] Surface soil cracks
[ ] Plants with air-filled tissue (aerenchyma)	[ ] Woody plants with adventitious roots	[ ] Sparsely vegetated concave surface
[ ] Plants with polymorphic leaves	[ ] Trees with shallow root systems	[ ] Microtopographic relief
[ ] Plants with floating leaves	[ ] Woody plants with enlarged lenticels	[ ] Geographic position (depression, toe of slope, fringing lowland
[ ] Hydrogen sulfide odor		

Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

Form Revised July 2023

Sampling Point B-UPL-2

VEGETATION – Use both common and scientific names of plants.

Tree Stratum Plot size 30'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	38.0	Yes	Yes
2. red oak	Quercus rubra	FACU	20.5	Yes	No
3. gray birch	Betula populifolia	FAC	10.5	No	Yes
4.					
5.					
6.					
7.					
8.					
9.					

69.0 = Total Cover

Shrub/Sapling Stratum Plot size 15'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	38.0	Yes	Yes
2. gray birch	Betula populifolia	FAC	20.5	Yes	Yes
3.					
4.					
5.					
6.					
7.					
8.					
9.					

58.5 = Total Cover

Herb Stratum Plot size 5'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Canada goldenrod	Solidago canadensis	FACU	38.0	Yes	No
2. raspberry	Rubus idaeus	FACU	20.5	Yes	No
3. royal fern	Osmunda regalis	OBL	3.0	No	Yes
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

61.5 = Total Cover

Sampling Point B-UPL-2

VEGETATION – continued.

Woody Vine Stratum Plot size 30'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Asian bittersweet	Celastrus orbiculatus	UPL	3.0	Yes	No
2.					
3.					
4.					
		3.0 = Total Cover			

Rapid Test: Do all dominant species have an indicator status of OBL or FACW? Yes ☐ No ☑

Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species?
	7	3	Yes ☐ No ☑

Prevalence Index:	Total % Cover (all strata)	Multiply by:	Result
OBL species	3	X 1	= 3.00
FACW species	0	X 2	= 0.00
FAC species	107	X 3	= 321.00
FACU species	79	X 4	= 316.00
UPL species	3	X 5	= 15.00
Column Totals	(A) 192		(B) 655
Prevalence Index	B/A = 3.41		Is the Prevalence Index ≤ 3.0? Yes ☐ No ☑

Wetland vegetation criterion met? Yes ☐ No ☑

Definitions of Vegetation Strata

Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height

Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall

Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall

Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

Sampling Point B-UPL-2

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0-4	10YR 3/3	100.00					gravelly loam	
4-18+	10YR 4/6	100.00					loam	with stoney inclusions

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators (Check all that apply)		**Indicators for Problematic Hydric Soils**
☐ Histosol (A1)	☐ Polyvalue Below Surface (S8)	☐ 2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Thin Dark Surface (S9)	☐ 5 cm Mucky Peat or Peat (S3)
☐ Black Histic (A3)	☐ Loamy Gleyed Matrix (F2)	☐ Iron-Manganese Masses (F12)
☐ Hydrogen Sulfide (A4)	☐ Depleted Matrix (F3)	☐ Mesic Spodic (A17)
☐ Stratified Layers (A5)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	
☐ Sandy Mucky Mineral (S1)		
☐ Sandy Gleyed Matrix (S4)		
☐ Sandy Redox (S5)		☐ Other (Include Explanation in Remarks)
☐ Stripped Matrix (S6)		
☐ Dark Surface (S7)		

Restrictive Layer (if observed) Type: _____ Depth (inches): _____

Remarks:

Hydric Soils criterion met? **Yes** ☐ **No** ☑

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: Mount Washington Road City/Town: Egremont Sampling Date: 12/14/2023

Applicant/Owner: Town of Egremont Sampling Point or Zone: B-WET-1

Investigator(s): I. Church Latitude / Longitude: 42.160059, -73.469595

Soil Map Unit Name: 932E- Taconic-Macomber association, steep very stony NWI or DEP Classification: NC

Are climatic/hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? (If yes, explain in Remarks)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [✓] No [ ]
Hydric Soils criterion met?	Yes [✓]	No [ ]	
Wetlands hydrology present?	Yes [✓]	No [ ]	

Remarks, Photo Details, Flagging, etc.:

Flags B-WF-10 through B-WF-12 and B-WF-23 through B-WF-28 are representative of BVW boundary. Flags A-B-1 through A-B-10, B-B-0 through B-B-9, B-B-13 through B-B-22, B-B-29 through B-B-30, C-B-1 through C-B-8, D-B-1 through D-B-6, E-B-1 through E-B-8 and F-B-1 through F-B-6 represent Bank.

HYDROLOGY

Field Observations:			
Surface Water Present?	Yes [ ]	No [✓]	Depth (inches)
Water Table Present?	Yes [✓]	No [ ]	Depth (inches) 2.00
Saturation Present (including capillary fringe)?	Yes [✓]	No [ ]	Depth (inches) 0.00

Wetland Hydrology Indicators

Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
[ ] Water-stained leaves	[ ] Hydrological records	[ ] Direct observation of inundation
[ ] Evidence of aquatic fauna	[✓] Free water in a soil test hole	[✓] Drainage patterns
[ ] Iron deposits	[✓] Saturated soil	[ ] Drift lines
[ ] Algal mats or crusts	[ ] Water marks	[ ] Scoured areas
[ ] Oxidized rhizospheres/pore linings	[ ] Moss trim lines	[ ] Sediment deposits
[ ] Thin muck surfaces	[ ] Presence of reduced iron	[ ] Surface soil cracks
[ ] Plants with air-filled tissue (aerenchyma)	[ ] Woody plants with adventitious roots	[ ] Sparsely vegetated concave surface
[ ] Plants with polymorphic leaves	[ ] Trees with shallow root systems	[ ] Microtopographic relief
[ ] Plants with floating leaves	[ ] Woody plants with enlarged lenticels	[ ] Geographic position (depression, toe of slope, fringing lowland
[✓] Hydrogen sulfide odor		

Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):

Adjacent to small channel off of Karner Brook.

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

Form Revised July 2023

Sampling Point B-WET-1

VEGETATION – Use both common and scientific names of plants.

Tree Stratum Plot size 30'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	63.0	Yes	Yes
2. red oak	Quercus rubra	FACU	10.5	No	No
3. eastern hemlock	Tsuga canadensis	FACU	3.0	No	Yes
4. American elm	Ulmus americana	FACW	3.0	No	Yes
5.					
6.					
7.					
8.					
9.					

79.5 = Total Cover

Shrub/Sapling Stratum Plot size 15'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	38.0	Yes	Yes
2. American elm	Ulmus americana	FACW	10.5	No	Yes
3.					
4.					
5.					
6.					
7.					
8.					
9.					

48.5 = Total Cover

Herb Stratum Plot size 5'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. royal fern	Osmunda regalis	OBL	38.0	Yes	Yes
2. northern lady fern	Athyrium angustum	FAC	20.5	Yes	Yes
3. sedges	Carex spp.	OBL	10.5	No	Yes
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

69.0 = Total Cover

Sampling Point B-WET-1

VEGETATION – continued.

Woody Vine Stratum Plot size _____

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1.					
2.					
3.					
4.					
			0.0 = Total Cover		

Rapid Test: Do all dominant species have an indicator status of OBL or FACW? Yes ☐ No ☑

Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants		Do wetland indicator plants make up ≥ 50% of dominant plant species?
	4	4		Yes ☑ No ☐
Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species	49	X 1	= 48.50
	FACW species	14	X 2	= 27.00
	FAC species	122	X 3	= 364.50
	FACU species	14	X 4	= 54.00
	UPL species	0	X 5	= 0.00
	Column Totals	(A) 197		(B) 494
	Prevalence Index	B/A = 2.51		Is the Prevalence Index ≤ 3.0? Yes ☑ No ☐

Wetland vegetation criterion met? Yes ☑ No ☐

Definitions of Vegetation Strata

Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height

Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall

Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall

Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

Sampling Point B-WET-1

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0-8	10YR 2/1	100.00					muck	
8-18+	10YR 5/1	100.00					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators (Check all that apply)		**Indicators for Problematic Hydric Soils**
☐ Histosol (A1)	☐ Polyvalue Below Surface (S8)	☐ 2 cm Muck (A10)
☑ Histic Epipedon (A2)	☐ Thin Dark Surface (S9)	☐ 5 cm Mucky Peat or Peat (S3)
☐ Black Histic (A3)	☐ Loamy Gleyed Matrix (F2)	☐ Iron-Manganese Masses (F12)
☐ Hydrogen Sulfide (A4)	☐ Depleted Matrix (F3)	☐ Mesic Spodic (A17)
☐ Stratified Layers (A5)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	
☐ Sandy Mucky Mineral (S1)		
☐ Sandy Gleyed Matrix (S4)		
☐ Sandy Redox (S5)		☐ Other (Include Explanation in Remarks)
☐ Stripped Matrix (S6)		
☐ Dark Surface (S7)		

Restrictive Layer (if observed) Type: _____ Depth (inches): _____

Remarks: Sedges only consisted of early growth with no seed heads or other determinate features, not yet possible to determine species.

Hydric Soils criterion met? **Yes** ☑ **No** ☐

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: Mount Washington Road City/Town: Egremont Sampling Date: 12/14/2023

Applicant/Owner: Town of Egremont Sampling Point or Zone: B-WET-2

Investigator(s): I. Church Latitude / Longitude: 42.160072, -73.469892

Soil Map Unit Name: 932E- Taconic-Macomber association, steep very stony NWI or DEP Classification: NC

Are climatic/hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? (If yes, explain in Remarks)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [✓] No [ ]
Hydric Soils criterion met?	Yes [✓]	No [ ]	
Wetlands hydrology present?	Yes [✓]	No [ ]	

Remarks, Photo Details, Flagging, etc.:

Flags B-WF-10 through B-WF-12 and B-WF-23 through B-WF-28 are representative of BVW boundary. Flags A-B-1 through A-B-10, B-B-0 through B-B-9, B-B-13 through B-B-22, B-B-29 through B-B-30, C-B-1 through C-B-8, D-B-1 through D-B-6, E-B-1 through E-B-8 and F-B-1 through F-B-6 represent Bank.

HYDROLOGY

Field Observations:			
Surface Water Present?	Yes [ ]	No [✓]	Depth (inches)
Water Table Present?	Yes [✓]	No [ ]	Depth (inches) 3.00
Saturation Present (including capillary fringe)?	Yes [✓]	No [ ]	Depth (inches) 0.00

Wetland Hydrology Indicators

Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
[ ] Water-stained leaves	[ ] Hydrological records	[ ] Direct observation of inundation
[ ] Evidence of aquatic fauna	[✓] Free water in a soil test hole	[ ] Drainage patterns
[ ] Iron deposits	[✓] Saturated soil	[ ] Drift lines
[ ] Algal mats or crusts	[ ] Water marks	[ ] Scoured areas
[ ] Oxidized rhizospheres/pore linings	[ ] Moss trim lines	[ ] Sediment deposits
[ ] Thin muck surfaces	[ ] Presence of reduced iron	[ ] Surface soil cracks
[ ] Plants with air-filled tissue (aerenchyma)	[ ] Woody plants with adventitious roots	[ ] Sparsely vegetated concave surface
[ ] Plants with polymorphic leaves	[ ] Trees with shallow root systems	[ ] Microtopographic relief
[ ] Plants with floating leaves	[ ] Woody plants with enlarged lenticels	[ ] Geographic position (depression, toe of slope, fringing lowland
[✓] Hydrogen sulfide odor		

Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):

Adjacent to small channel off of Karner Brook.

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

Form Revised July 2023

Sampling Point B-WET-2

VEGETATION – Use both common and scientific names of plants.

Tree Stratum Plot size 30'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	63.0	Yes	Yes
2. red oak	Quercus rubra	FACU	10.5	No	No
3. eastern hemlock	Tsuga canadensis	FACU	10.5	No	Yes
4. gray birch	Betula populifolia	FAC	3.0	No	Yes
5.					
6.					
7.					
8.					
9.					

87.0 = Total Cover

Shrub/Sapling Stratum Plot size 15'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	38.0	Yes	Yes
2. American elm	Ulmus americana	FACW	20.5	Yes	Yes
3. eastern hemlock	Tsuga canadensis	FACU	3.0	No	Yes
4.					
5.					
6.					
7.					
8.					
9.					

61.5 = Total Cover

Herb Stratum Plot size 5'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. northern lady fern	Athyrium angustum	FAC	20.5	Yes	Yes
2. royal fern	Osmunda regalis	OBL	10.5	Yes	Yes
3. sensitive fern	Onoclea sensibilis	FACW	3.0	No	Yes
4. sedges	Carex spp.	OBL	3.0	No	Yes
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

37.0 = Total Cover

Sampling Point B-WET-2

VEGETATION – continued.

Woody Vine Stratum Plot size _____

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1.					
2.					
3.					
4.					
			0.0 = Total Cover		

Rapid Test: Do all dominant species have an indicator status of OBL or FACW? Yes ☐ No ☑

Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants		Do wetland indicator plants make up ≥ 50% of dominant plant species?
	5	5		Yes ☑ No ☐
Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species	14	X 1	= 13.50
	FACW species	24	X 2	= 47.00
	FAC species	125	X 3	= 373.50
	FACU species	24	X 4	= 96.00
	UPL species	0	X 5	= 0.00
	Column Totals	(A) 185.5		(B) 530
	Prevalence Index	B/A = 2.86		Is the Prevalence Index ≤ 3.0? Yes ☑ No ☐

Wetland vegetation criterion met? Yes ☑ No ☐

Definitions of Vegetation Strata

Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height

Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall

Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall

Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

Sampling Point B-WET-2

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0-10	10YR 2/1	100.00					muck	
10-18+	10YR 5/1	100.00					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators (Check all that apply)		**Indicators for Problematic Hydric Soils**
☐ Histosol (A1)	☐ Polyvalue Below Surface (S8)	☐ 2 cm Muck (A10)
☑ Histic Epipedon (A2)	☐ Thin Dark Surface (S9)	☐ 5 cm Mucky Peat or Peat (S3)
☐ Black Histic (A3)	☐ Loamy Gleyed Matrix (F2)	☐ Iron-Manganese Masses (F12)
☐ Hydrogen Sulfide (A4)	☐ Depleted Matrix (F3)	☐ Mesic Spodic (A17)
☐ Stratified Layers (A5)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	
☐ Sandy Mucky Mineral (S1)		
☐ Sandy Gleyed Matrix (S4)		
☐ Sandy Redox (S5)		☐ Other (Include Explanation in Remarks)
☐ Stripped Matrix (S6)		
☐ Dark Surface (S7)		

Restrictive Layer (if observed) Type: _____ Depth (inches): _____

Remarks: Sedges only consisted of early growth with no seed heads or other determinate features, not yet possible to determine species.

Hydric Soils criterion met? **Yes** ☑ **No** ☐

Attachment B

Photo Log



Figure 1. Well defined banks of Karner Brook near flag series A.



Figure 2. Well defined banks of Karner Brook near flag series B.



Figure 3. Downgradient view of monitoring plot B-WET-1.



Figure 4. Downgradient view of monitoring plot B-WET-2.



Figure 5. Upgradient view of monitoring plot B-UPL-1.



Figure 6. Upgradient view of monitoring plot B-UPL-2.



Figure 7. Downstream view of the 206 Mount Washington Road crossing, flag series D.



Figure 8. Upstream view of the 210 Mount Washington Road crossing, flag series E.



Figure 9. Downstream side of the 210 Mount Washington Road crossing, flag series F.

Attachment D Project Plans

Proposal No. 608547-132397

A00830 - 68

608547_ACOE PLANS.DWG Plotted on 13-Aug-2025 5:22 PM

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.13), STA 214+44 TO STA 221+60, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 221+60 TO STA 227+85, OFFSET RT

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	1	4
PROJECT FILE NO.	608547		

PERMITTING PLAN - 1

LIMIT OF TEMP IMPACTS
WATERS OF THE U.S. AREA = 50 SQUARE FEET (TEMP)
BANK LENGTH = 21 LINEAR FEET (TEMP)
PERM IMPACTS DUE TO CULVERT REMOVAL
WATERS OF THE U.S. AREA = 185 SQUARE FEET (PERM)
BANK LENGTH = 125 LINEAR FEET (PERM)

LANDS N/F
CLAUDE J. BORENZWEIG & LOUISE A. FELDMAN
BK: 1774 PG: 345
(008-0601.0)
210 MOUNT WASHINGTON ROAD

100 BANK BUFFER

PROP HMA PULL-OFF AREA
PROP TEMP EASEMENT
BEGIN PROP SOLDIER PILE RETAINING WALL STA. 220+25
PROP MODIFIED ROCKFILL SLOPE
PROP COMPOST & SEED OVER MODIFIED ROCK
STA. 220+30 TO STA. 220+39
PROP CLEARING AND GRUBBING
STA. 217+22 TO STA. 223+05

ELMER D. CHRISTINE
BK:2358 PG:58
(008-0601.A)
206 MOUNT WASHINGTON ROAD

PROP COMPOST BLANKET & SEED (TYP)
END PROP SOLDIER PILE RETAINING WALL STA. 221+26
PROP CLEARING LIMIT (TYP)
PROP SLOPE LIMIT (TYP)
PROP TEMPORARY EASEMENT
PROP SERVICBERRY - SHADBUSH 4-5 FEET (3 EA)
END PROP VERTICAL GRANITE CURB TYPE VA4 STA. 223+35
PROP PERMANENT EASEMENT
PROP MILLING MULCH (TYP)
BEGIN PROP VERTICAL GRANITE CURB TYPE VA4 STA. 221+25
PROP SAWCUT
PROP TEMPORARY EASEMENT
EGREMONT LAND TRUST, INC.
BK:1407 PG:121
(008-0122.A)
PROP PERMANENT EASEMENT
PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)
PROP CLEARING AND GRUBBING
STA. 223+30 TO STA. 224+85
PROP STONE LINED SWALE W/ CHECK DAMS
STA. 223+49 TO STA. 224+38

INV:36" CMP
EL=1224.1'
REM EX 36" CMP/ 42" STEEL PIPE
PROP 48" RCP
RET
PROP DMH
△=27°00'13"
R=485.00'
L=228.58'
T=116.45'
B-14
PRC +89.02
B-121
△=12°31'59"
R=1600.00'
L=349.99'
T=175.70'
B-15
B-122
B-123
B-124
B-125
PROP VGC (TYPE VA4)
PROP HMA DWY-6
PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION
PT +39.00
INV:12" CMP
EL=1189.8'
1838 COUNTY LAYOUT
ASPHALT DRIVE
SEPTIC TRENCH
BENCHMARK: MAG NAIL SET IN UTIL BASE EL=1221.38'
BOS
TOS
PROP COMPOST BLANKET & SEED (TYP)
R&D GUARDRAIL
1838 COUNTY LAYOUT
PROP TEMPORARY EASEMENT
PROP PERMANENT EASEMENT
PROP SLOPE LIMIT (TYP)
PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)
PROP SEDIMENT BARRIER
STA. 219+00 TO STA. 220+39
PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS
LIMIT OF TEMP IMPACTS
WATERS OF THE U.S. AREA = 27 SQUARE FEET (TEMP)
BANK LENGTH = 17 LINEAR FEET (TEMP)
THE NATURE CONSERVANCY
BK:2222 PG:202
(007-0764.0)
PROP CLEARING AND GRUBBING
STA. 201+46 TO STA. 242+81
BEGIN PROP SOLDIER PILE RETAINING WALL
STA. 221+60
PROP EOP
PROP SLOPE LIMIT (TYP)
PROP CLEARING LIMIT (TYP)
PROP MILLING MULCH (TYP)
PROP TEMPORARY EASEMENT
PROP TEMPORARY EASEMENT
EGREMONT WATER DEPARTMENT
BK:988 PG:315
(008-0937.0)
PROP SEDIMENT BARRIER
STA. 224+09 TO STA. 226+59
PROP SOLDIER PILE WALL OUTLET W/ STONE FOR PIPE ENDS
INV:12" CMP
EL=1176.5'
CONTINUED ON SHEET NO. 2

E-B-1 E-B-8 E-B-2 E-B-7 E-B-3 E-B-4 E-B-5 E-B-6
F-B-1 F-B-2 F-B-3 F-B-4 F-B-5 F-B-6
OHW FLOW STONE HEADWALL FEDERAL WETLANDS STONE HORSE TROUGH

NOTE: TRIMMING OF TREES NOTED AS RET WITHIN THE LIMIT OF TRIMMING IS TO BE LIMITED TO MINIMUM TRIMMING NEED FOR UTILITY RELOCATIONS.

-------- LIMIT OF CLEARING & GRUBBING
---------- LIMIT OF SELECTIVE CLEARING, THINNING, & TRIMMING

0 20 50 100
SCALE: 1" = 40'

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 221+60 TO STA 227+85, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 227+85 TO STA 229+88, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (HALF POST SPACING) (ITEM 620.136), STA 229+88 TO STA 230+38, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 230+38 TO STA 231+63, OFFSET RT

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	2	4
PROJECT FILE NO.	608547		

PERMITTING PLAN - 2

608547_ACOE PLANS.DWG Plotted on 13-Aug-2025 5:25 PM

N

C-B-1
C-B-7
C-B-2
C-B-6
C-B-3
C-B-4
C-B-5
B-126
B-127
B-128
B-129
B-130
D-B-1
D-B-2
D-B-3
D-B-4
D-B-5
D-B-6
FLOW
OHW
100' BANK BUFFER
FEDERAL WETLANDS
STONE HEADWALL
SPRING FED WATER WELL
1 STORY WOOD MODULAR HOME
SEPTIC CHAMBERS
PVC
RET
BOS
TOS
1838 COUNTY LAYOUT
MT. WASHINGTON ROAD (PUBLIC)
PROP PERMANENT EASEMENT
PROP TEMPORARY EASEMENT
PROP PERMANENT EASEMENT
PROP CLEARING AND GRUBBING STA. 227+34 TO STA. 237+74
PROPOSED MODIFIED ROCKFILL SLOPE
PROP COMPOST & SEED OVER MODIFIED ROCK
STA. 227+75 TO STA. 231+10
EGREMONTLAND TRUST, INC.
BK:1407 PG:121
(008-0122.A)
PROP MOD ROCK APRON (TYP)
PROP MILLING MULCH (TYP)
LIMIT OF TEMP IMPACTS
WATERS OF THE U.S. AREA =190 SQUARE FEET (TEMP)
BANK LENGTH = 40 LINEAR FEET (TEMP)
REM EXIST HEADWALL
PROP CEM CONC HEADWALL
(MASSDOT STD. 206.6.0)
REM EXIST 36" CMP
PROP 46 FT - 42" RCP
PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)
PROP CLEARING LIMIT (TYP)
PROP SLOPE LIMIT (TYP)
REM 28" OAK
REM 30" FIR
STUMPS TO REMAIN IN PLACE
PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)
RET 24" HEMLOCK
PROP COMPOST BLANKET & SEED (TYP)
SAWCUT
PROP HMA DWY-7
RET 30" OAK
RET WALL
RET 30" OAK
R&R MB
PC +16.57
PC-2
Δ=21°23'49"
R=750.00'
L=280.09'
T=141.69'
PT +96.66
PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION
PROP EOP
N48°13'44"E
304.34'
REM DI
N26°49'55"E
177.57'
CONTINUED ON SHEET NO. 1
PROP EOP
PROP CLEARING LIMIT (TYP)
BEGIN PROP SOLDIER PILE RETAINING WALL STA. 226+25
PROP CLEARING AND GRUBBING STA. 201+46 TO STA. 242+81
PROP SEDIMENT BARRIER STA. 224+09 TO STA. 226+59
PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS
END PROP SOLDIER PILE RETAINING WALL STA. 225+41
PROP MODIFIED ROCKFILL SLOPE
PROP COMPOST & SEED OVER MODIFIED ROCK
STA. 225+30 TO STA. 225+44
R&D GUARDRAIL
END PROP SOLDIER PILE RETAINING WALL STA. 227+97
PROP SLOPE LIMIT (TYP)
EGREMONT WATER DEPARTMENT
BK: 988 PG: 315
(008-0937.0)
PROP SOLDIER PILE WALL OUTLET W/ STONE FOR PIPE ENDS
PERM IMPACTS DUE TO CULVERT REMOVAL
WATERS OF THE U.S. AREA = 175 SQUARE FEET (PERM)
BANK LENGTH = 120 LINEAR FEET (PERM)
LIMIT OF TEMP IMPACTS
WATERS OF THE U.S. AREA = 60 SQUARE FEET (TEMP)
BANK LENGTH = 22 LINEAR FEET (TEMP)
PROP SEDIMENT BARRIER STA. 226+95 TO STA. 227+38
PROP MILLING MULCH (TYP)
PROP TEMPORARY EASEMENT
PROP SEDIMENT BARRIER STA. 229+00 TO STA. 242+91
PROP COMPOST BLANKET & SEED (TYP)
PROP TEMPORARY EASEMENT
PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

NOTE: TRIMMING OF TREES NOTED AS RET WITHIN THE LIMIT OF TRIMMING IS TO BE LIMITED TO MINIMUM TRIMMING NEED FOR UTILITY RELOCATIONS.

- - - - - - - - LIMIT OF CLEARING & GRUBBING
---------- LIMIT OF SELECTIVE CLEARING, THINNING, & TRIMMING

0 20 50 100
SCALE: 1" = 40'

EGREMONT
MOUNT WASHINGTON ROAD

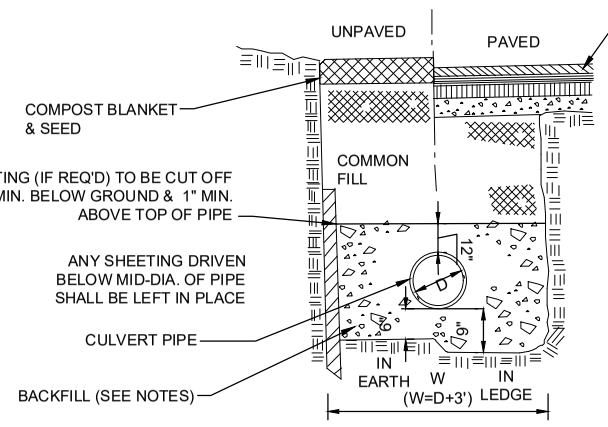
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP/TAP-0031(021)X	3	4
PROJECT FILE NO.	608547		

PERMITTING PLANS
DETAILS AND
CULVERT CROSS SECTION

Proposal No. 608547-132397

608547_ACOE DETAILS & CROSS SECTION.DWG Plotted on 13-Aug-2025 5:31 PM

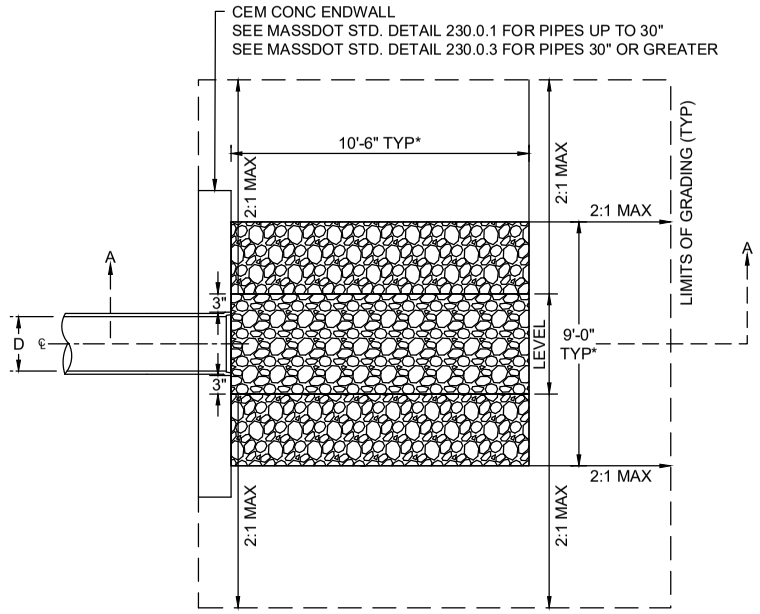
A00830 - 70



NOTES:
1. COMMON FILL MATERIAL TO CONSIST OF GRANULAR MATERIAL CONTAINING NO STONES LARGER THAN 6" IN GREATEST DIMENSION.
2. BACKFILL WITH SELECT MATERIAL CONTAINING NO STONES LARGER THAN 3" IN GREATEST DIMENSION TO 12" OVER PIPE FOR SEWER AND DRAIN PIPES.
3. PROVIDE SCREENED GRAVEL BEDDING TO MID PIPE DIAMETER FOR SANITARY SEWERS AND WHERE GROUNDWATER IS ENCOUNTERED AS DIRECTED BY THE ENGINEER.
4. REMOVE UNSUITABLE MATERIAL BELOW GRADE IF ENCOUNTERED, TO SUITABLE DEPTHS AS DIRECTED BY ENGINEER AND REPLACE WITH CLEAN GRANULAR FILL.
5. BACKFILL SHALL BE PLACED IN LIFTS OF A MINIMUM OF 6 INCHES
6. ALL TRENCH CONSTRUCTION TO CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
7. COMPACT FILL AND TAMP TO 93% MAX. DENSITY UNLESS OTHERWISE SPECIFIED.

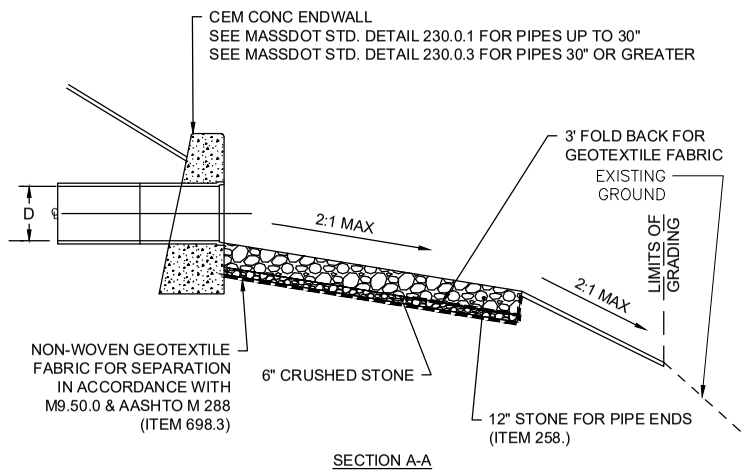
TYPICAL PIPE CULVERT TRENCH CROSS SECTION

NOT TO SCALE



*SEE PLANS FOR SIZING. STONE FOR PIPE ENDS AT STA. 219+85 RT AND STA. 227+12 RT ARE MODIFIED.

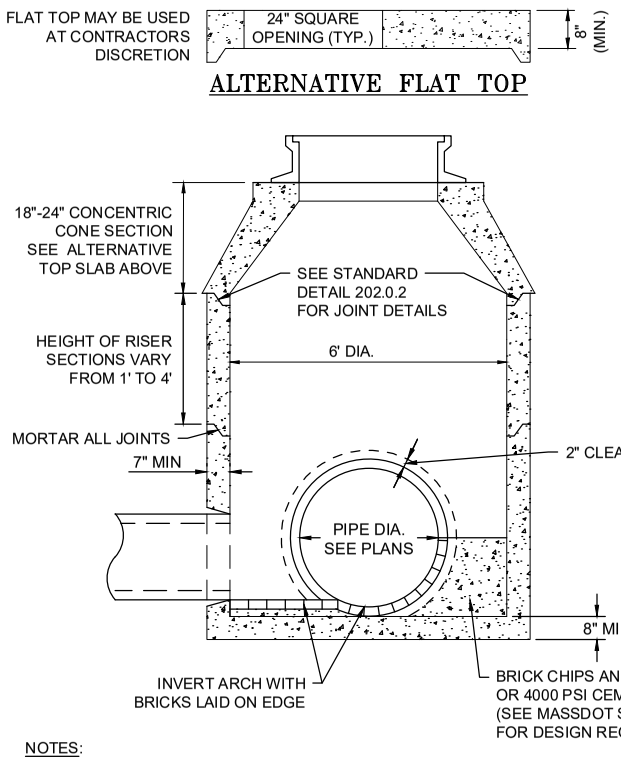
PLAN VIEW



SECTION A-A

ENDWALL & STONE FOR PIPE ENDS

NOT TO SCALE



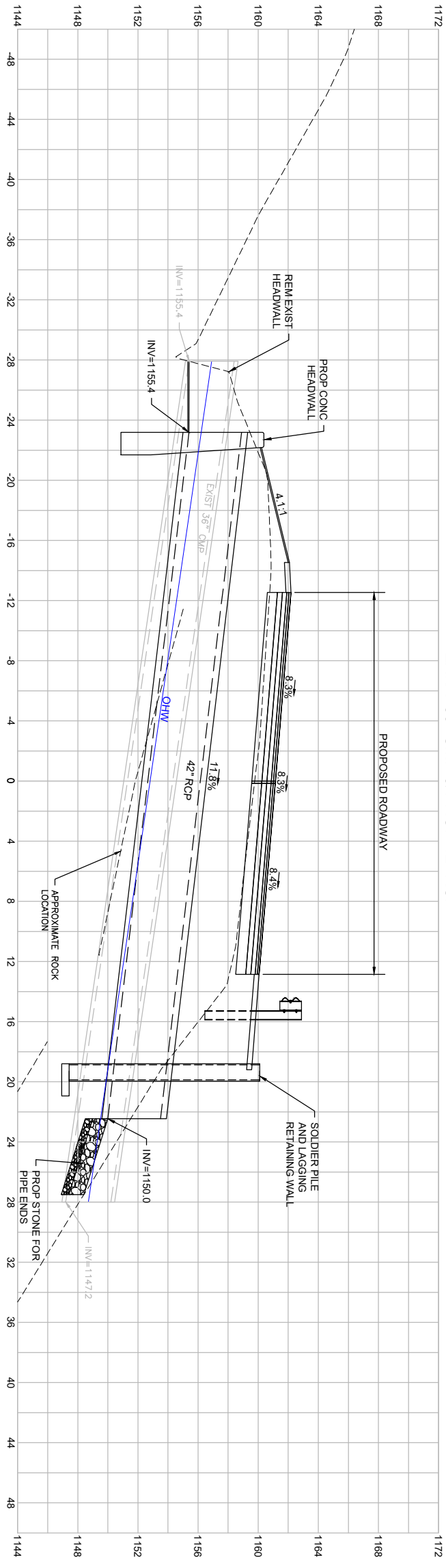
ALTERNATIVE FLAT TOP

NOTES:
1. ALL SPECIAL MANHOLES SHALL CONFORM TO MASSDOT CONSTRUCTION STANDARD 202.0.2 EXCEPT AS SHOWN ABOVE.
2. MANUFACTURE TO MEET OR EXCEED: ASTM C-478 & ASTM M199 SPECIFICATIONS.
3. STEEL REINFORCEMENT TO MEET OR EXCEED HS-20 LOADING AND CONFORM TO ASTM A 185 SPEFICIFATIONS.
4. MANHOLE STEPS (NOT SHOWN) SHALL MEET LATEST OSHA REGULATIONS AND ASTM C497.

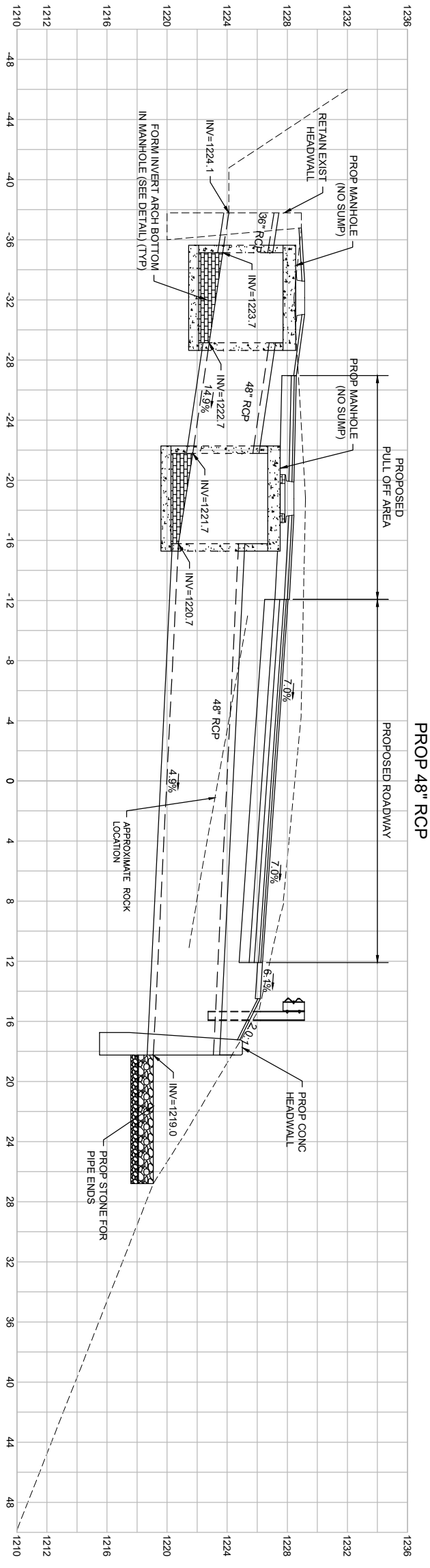
SPECIAL MANHOLE – 6' DIAMETER

NOT TO SCALE

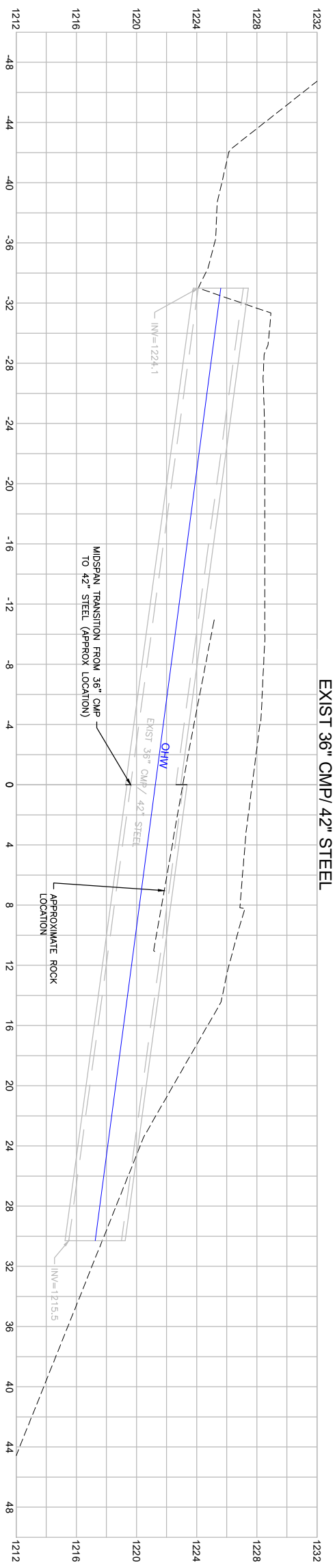
STA 227+05.07
EXIST 36" CMP & PROP 42" RCP



STA 219+86.92
PROP 48" RCP



STA 219+94.03
EXIST 36" CMP/ 42" STEEL



EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP/TAP-0031(021)X	4	4
	PROJECT FILE NO. 608547		

PERMITTING PLANS
CULVERT PROFILES

HOR. SCALE IN FEET
VER. SCALE IN FEET
4 0 4 8

608547_CORRIDOR.DWG Plotted on 14-Aug-2025 1:42 PM

Attachment E Wildlife Documentation

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: 03/20/2025 19:03:42 UTC
Project code: 2025-0072019
Project Name: 608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)

Federal Nexus: yes
Federal Action Agency (if applicable): Federal Highway Administration

Subject: Federal agency coordination under the Endangered Species Act, Section 7 for '608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)'

Dear Hana Isihara:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on March 20, 2025, for '608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)' (here forward, Project). This project has been assigned Project Code 2025-0072019 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements may not be complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. 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 IPaC or the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (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 determination to remain valid. Note that conservation measures for northern long-eared bat and tricolored bat may differ. If both bat species are present in the action area and the key suggests more conservative measures for one of the species for your Project, the Project may need to apply***

the most conservative measures in order to avoid adverse effects. If unsure which conservation measures should be applied, please contact the appropriate Ecological Services Field Office.

Determination for the Northern Long-Eared Bat and Tricolored Bat

Based on your IPaC submission and a standing analysis completed by the Service, you determined the proposed Project will have the following effect determinations:

Species	Listing Status	Determination
Northern Long-eared Bat (*Myotis septentrionalis*)	Endangered	NLAA
Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	NLAA

Federal agencies must consult with U.S. Fish and Wildlife Service under section 7(a)(2) of the Endangered Species Act (ESA) when an action *may affect* a listed species. 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 and when 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 NE or NLAA determination from the key to confirm that the determination is still accurate.

Unless the Service advises you within 15 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that consultation on the Action is complete for northern long-eared bat and/or tricolored bat and no further action is necessary unless either of the following occurs:

- new information reveals effects of the action that may affect the northern long-eared bat or tricolored bat in a manner or to an extent not previously considered; or,
- the identified action is subsequently modified in a manner that causes an effect to the northern long-eared bat or tricolored bat that was not considered when completing the determination key.

15-Day Review Period

As indicated above, the Service will notify you within 15 calendar days if we determine that this proposed Action does not meet the criteria for a “may affect, not likely to adversely affect” (NLAA) determination for the northern long-eared bat and/or tricolored bat. If we do not notify you within that timeframe, you may proceed with the Action under the terms of the NLAA concurrence provided here. This verification period allows the identified Ecological Services Field Office to apply local knowledge to evaluation of the Action, as we may identify a small subset of actions having impacts that we did not anticipate when developing the key. In such cases, the identified Ecological Services Field Office may request additional information to verify the effects determination reached through the Northern Long-eared Bat and Tricolored Bat DKey.

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Bog Turtle *Glyptemys muhlenbergii* Threatened
- Monarch Butterfly *Danaus plexippus* Proposed Threatened

You may coordinate with our Office to determine whether the Action may affect the species and/or critical habitat listed above. Note that reinitiation of consultation would be necessary if a new species is listed or critical habitat designated that may be affected by the identified action before it is complete.

If you have any questions regarding this letter or need further assistance, please contact the New England Ecological Services Field Office and reference Project Code 2025-0072019 associated with this Project.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)

2. Description

The following description was provided for the project '608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)':

> 608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)
>
> Mount Washington Rd, from the Mount Washington line to Undermountain Road (Route 41), is a two-lane bituminous concrete roadway, approximately 3.5 miles in length. Average pavement width is 22 feet. AADT is 900 vpd with 6% trucks. There is steep and challenging topography as the roadway climbs in elevation toward the Mt. Washington line. Drainage system consists of country drainage, swales, drop-inlets, and cross culverts with direct discharge into Karner Brook. Existing guard rail, end treatments and transitions at bridges are not compliant with current safety standards. Roadway crosses over 4 MassDOT inventoried bridge culverts (E-08-007, -008, -009, -010). One structure is currently reduced to one lane, but is undergoing replacement in 2016. These structures vary in span from 12 ft - 25 ft. Roadway context is rural natural with forest, low density residential, agricultural, and open space. The roadway provides direct access to Mt. Everett State Reservation, Mt. Washington State Forest, Camp High Rock (YMCA), Bash Bish Falls, and is also a bus route for Mount Washington students to access regional schools. The road is used for local organized cycling events and is one of only four access routes to the town. Town proposes roadway reconstruction (maybe reclamation) with minor widening to 26 ft; plus associated drainage, guard rail & safety improvements to maintain safe and reliable access between Egremont and Mount Washington for all users.
>
> Monarch Butterfly: Proposed Threatened Species only. The project action will not have an intentional take on the species and therefore will not jeopardize the continued existence of the proposed species.
> Bog Turtle: 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.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.15636075,-73.47460112447715,14z


MOUNT WASHINGTON RD
Mount Fray
Mount Whitbeck
1400
1450
1500
1550
1600
1650

DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect, but not likely to adversely affect” for a least one species covered by this determination key.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

   Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

   Yes

7. FHWA, FRA, and FTA have completed a range-wide programmatic consultation for transportation- related actions within the range of the Indiana bat, northern long-eared bat and tricolored bat.

   Does your proposed action fall within the scope of this programmatic consultation?

   Note: If you are unsure, but your action is transportation related, please select "Yes" and use the FHWA, FRA, FTA Assisted Determination Key (FHWA DKey) in IPaC to determine if the programmatic consultation is applicable to your action. Return to this key and answer ‘no’ to this question if it is not.

   No

8. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

   Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

   Yes

9. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

   No

10. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

    No

11. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

12. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

    No

13. Does the action area contain (1) talus or (2) anthropogenic or naturally formed rock shelters or crevices in rocky outcrops, rock faces or cliffs?

    No

14. Will the action cause effects to a bridge?

    Note: Covered bridges should be considered as bridges in this question.

    Yes

15. Has a site-specific bridge assessment following USFWS guidelines been completed?

    Note: For information on conducting a bridge/structure assessment, please see Appendix K in the USFWS' Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines at:https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines Additional resources can be found at: https://www.fws.gov/media/bats-and-transportation-structures-references-and-additional-resources and a training video is located at: https://www.youtube.com/watch?v=iuFwkT7q8Ws.

    Yes

16. Was evidence of bat use found during the bridge assessment?

    No

    SUBMITTED DOCUMENTS

    - *608547_Egremont-bat_acoustic_report_Rev1.pdf https://ipac.ecosphere.fws.gov/project/3COCBE3LXFEAXAAAYSAR7AJJCM/projectDocuments/159050007*

17. Did you coordinate with your local Ecological Services Field Office (ESFO) and receive approval of the bridge assessment results? If NO, please contact the appropriate local ESFO before completing this determination key.

    Yes

18. Will the action result in effects to a culvert or tunnel at any time of year?

    No

19. Are trees present within 1000 feet of the action area?

    Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

20. Does the action include the intentional exclusion of bats from a building or structure?

    Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

    No

21. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats?**

    No

22. Will the action cause construction of one or more new roads open to the public?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    No

23. Will the action include or cause any construction or other activity that is reasonably certain to increase average daily traffic permanently or temporarily on one or more existing roads?

    Note: For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.). .

    No

24. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    No

25. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

    Note: For information regarding NSF/ANSI 60 please visit https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects

    No

26. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

    No

27. Will the action include drilling or blasting?

    No

28. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

    No

29. Will the proposed action involve the use of herbicides or other pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

    No

30. Will the action include or cause activities that are reasonably certain to cause chronic or intense nighttime noise (above current levels of ambient noise in the area) in suitable summer habitat for the northern long-eared bat or tricolored bat during the active season?

    Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time. Sources of chronic or intense noise that could cause adverse effects to bats may include, but are not limited to: road traffic; trains; aircraft; industrial activities; gas compressor stations; loud music; crowds; oil and gas extraction; construction; and mining.

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

31. Does the action include, or is it reasonably certain to cause, the use of permanent or temporary artificial lighting within 1000 feet of suitable northern long-eared bat or tricolored bat roosting habitat?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

32. Will the action cause an increase in the extent of suitable forested habitat exposed to artificial lighting?

    No

33. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

    Yes

34. Will the proposed action occur exclusively in an already established and currently maintained utility right-of-way?

    No

35. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

    Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property.

    No

36. Does the project intersect with the 0- 9.9% forest density category?

    Automatically answered
    No

37. Does the project intersect with the 10.0- 19.9% forest density category map?

    Automatically answered
    No

38. Does the project intersect with the 20.0- 29.9% forest density category map?

    Automatically answered
    No

39. Does the project intersect with the 30.0- 100% forest density category map?

    Automatically answered
    Yes

40. Will the action cause trees to be cut, knocked down, or otherwise brought down across an area greater than 100 acres in total extent?

    No

41. Will the proposed action result in the use of prescribed fire?

    Note: If the prescribed fire action includes other activities than application of fire (e.g., tree cutting, fire line preparation) please consider impacts from those activities within the previous representative questions in the key. This set of questions only considers impacts from flame and smoke.

    No

42. Does the action area intersect the northern long-eared bat species list area?

    Automatically answered
    Yes

43. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

    Automatically answered
    No

44. [Semantic] Is the action area located within 150 feet of a documented northern long-eared bat roost site?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

45. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?
    If unsure, answer "Yes."

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

46. Are any of the trees proposed for cutting or other means of knocking down, bringing down, topping, or trimming suitable for northern long-eared bat roosting (i.e., live trees and/or snags ≥3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities)?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

47. Will any tree cutting/trimming or other knocking or bringing down of trees occur during the **Fall Swarming season** for northern long-eared bats in the action area?

    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines

    No

48. Will any tree cutting/trimming or other knocking or bringing down of trees occur during the **Spring Staging** season for northern long-eared bats in the action area?

    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    No

49. Will any tree cutting/trimming or other knocking or bringing down of trees occur during the **Summer Occupancy season** for northern long-eared bats in the action area?

    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    No

50. Does the action area intersect the tricolored bat species list area?

    Automatically answered
    Yes

51. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

52. Is suitable summer habitat for the tricolored bat present within 1000 feet of project activities?
    (If unsure, answer ""Yes."")

    Note: If there are trees within the action area that may provide potential roosts for tricolored bats (e.g., clusters of leaves in live and dead deciduous trees, Spanish moss (Tillandsia usneoides), clusters of dead pine needles of large live pines) answer ""Yes."" For a complete definition of suitable summer habitat for the tricolored bat, please see Appendix A in the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    Yes

53. Do any of the trees proposed for cutting or other means of knocking down, bringing down, topping, or trimming provide potential roosts for tricolored bats (e.g., clusters of leaves in live and dead deciduous trees, Spanish moss (*Tillandsia usneoides*), clusters of dead pine needles of large live pine trees)?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

54. Will any tree cutting/trimming or other knocking or bringing down of trees be conducted during the Spring Staging Season for tricolored bat?
    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    No

55. Will any tree cutting/trimming or other knocking or bringing down of trees be conducted during the Fall Swarming Season for tricolored bat?

    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines .

    No

56. Will any tree cutting/trimming or other knocking or bringing down of trees be conducted during the Pup Season for tricolored bat?

    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    No

57. Do you have any documents that you want to include with this submission?

    No

PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

2.1

IPAC USER CONTACT INFORMATION

Agency: Massachusetts Department of Transportation
Name: Hana Isihara
Address: 10 Park Plaza
City: Boston
State: MA
Zip: 02116
Email hana.l.isihara@dot.state.ma.us
Phone: 6178964454

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

March 13, 2024

Julia Hoogeboom
Massachusetts Department of Transportation - Highway Division, Environmental Services
10 park plaza
Boston, MA 02116

RE: Applicant: Julia Hoogeboom
Project Location: Mount Washington Road from Egremont Town Line to 2000 feet before Jug End Road
Project Description: 608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)
NHESP File No.: 24-17251

Dear Applicant:

The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") received the MESA Project Review Checklist and supporting documentation for review pursuant to the Massachusetts Endangered Species Act (MESA) (MGL c.131A) and its implementing regulations (321 CMR 10.00).

The MESA is administered by the Division, and prohibits the Take of state-listed species. The Take of state-listed species is defined as "in reference to animals…harm…kill…disrupt the nesting, breeding, feeding or migratory activity…and in reference to plants…collect, pick, kill, transplant, cut or process…Disruption of nesting, breeding, feeding, or migratory activity may result from, but is not limited to, the modification, degradation, or destruction of Habitat" of state-listed species (321 CMR 10.02).

The Division has determined that this Project, as currently proposed, will occur **within** the actual habitat of the following species:

Scientific Name	Common Name	Taxonomic Group	State Status
Data Sensitive	Data Sensitive	Data Sensitive Vertebrate	Endangered

"Data Sensitive Species" are highly susceptible to collection and are therefore of high concern to Natural Heritage. Information about these species (including presence/absence) cannot be released to anyone (especially including release to third parties or published) unless such release is agreed to in writing by the Natural Heritage Program (See Massachusetts Public Records law: M.G.L. chapter 66 section 17D).

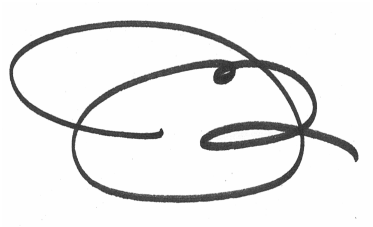
This species and their habitats are protected in accordance with the MESA.

Based on the information provided and the information contained in our database, the Division finds that a portion of this project, as currently proposed, **must be conditioned** to avoid a prohibited Take of state-listed species (321 CMR 10.18(2)(a)). **To avoid a prohibited Take of state-listed species, the conditions attached to this letter must be met.**

Provided the attached conditions are fully implemented and there are no changes to the project plans, this project will not result in a Take of state-listed species. We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. This determination is a final decision of the Division of Fisheries and Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with the Division pursuant to the MESA. This project may be subject to further review if no physical work is commenced within five years from the date of issuance of this determination, or if there is a change to the project.

Please note that this determination addresses only the matter of state-listed species and their habitats. If you have any questions regarding this letter please contact Melany Cheeseman, Endangered Species Review Assistant, at Melany.Cheeseman@mass.gov, (508) 389-6357.

Sincerely,



Jesse Leddick
Assistant Director

cc: david paulson, Massachusetts Department of Transportation
Julia Hoogeboom, Massachusetts Department of Transportation

Attachment: List of Conditions

List of Conditions

Applicant: Julia Hoogeboom
Project Location: Mount Washington Road from Egremont Town Line to 2000 feet before Jug End Road
Project Description: 608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)
NHESP File No.: 24-17251
Heritage Hub Form ID: RC-84122
Approved Plan: Town of Egremont Mount Washington Road Reconstruction Phase 1
Plan date: December 2023 Revised Date: N/A

To avoid a prohibited Take of state-listed species, the following condition(s) must be met:

1. **Limits of Work:** No work or alteration to the soil, surface, or vegetation shall occur outside of the limits of work shown on the site plan unless otherwise approved in writing in advance by the Division.

2. **Rare Vertebrate Protection Plan**. Should any work be conducted during the active season, the Applicant is required to conduct such work under the supervision of a qualified biologist and the Division-approved "Snake Protection Plan" (SPP).
   a. The SPP is approved with the following additions/changes:
   1.Stockpiled materials shall be stored on mats such as double stacked pallets or similar materials, whenever possible. This allows the materials to be moved using the upper pallet while leaving the ground-contact pallet undisturbed.
   2.Contracts for the project shall stipulate that the qualified biologist may direct or temporarily halt onsite work to maximize protection of state-listed species and allow for additional sweeps/searches.
   b. A MESA Commercial Scientific Collection Permit must be obtained from the Division to handle state-listed species. The permit application should provide a description of the qualifications of the biologist(s) proposed to implement the plan relative to state-listed vertebrates.
   1.As part of the application, the biologist can update/modify/revise the SPP.
   2.The qualified biologist shall have the responsibility and obligation to increase or modify (but not decrease) the search area, hours of effort, days of effort and or approaches to maximize detection of state-listed species based on actual field conditions observed. In such a circumstance, the qualified biologist shall notify the Division as soon as possible of the deviation, and the reason for deviating from, the approved protocol.

3. **Mesh Construction Materials**. Mesh materials are addressed in the SPP. The following adds to the bullet points in the SPP. Mesh materials must be excluded from Project implementation unless otherwise approved in writing by the Division.
   1.No presence, stockpiling, or use of permanent or temporary mesh materials with a nominal opening between 1/4" and 2" shall be permitted, unless otherwise approved in writing by the Division or fully encased in a non-penetrable wrap or surface (e.g., poured concrete over rebar mesh).
   2.Netless rolled erosion control products may be utilized whenever mesh materials are necessary. Authorized materials include (1) standard, black silt fencing (i.e., 36-in wide, tightly woven), (2) orange safety fencing (aka barrier or snow fencing) with nominal 2" or greater openings installed tightly between supports *and* with a 6" minimum gap along the ground, and (3) chain-link fencing with 2" or greater openings and installed with a 6" minimum gap along the ground.

4. **Use of Native Species:** Unless otherwise approved in writing by the Division, all seed and plantings not thereafter maintained as lawn shall be native to the County as provided in The Vascular Plants of Massachusetts: A County Checklist, First Revision (Dow Cullina, Connolly, Sorrie & Somers, 2011).

5. **Restoration or Stabilization:** The Division does not approve of the planting of state-listed species, even if the seeds are sourced outside of Massachusetts. Please carefully review seed mixes at the time of purchase as the specific composition and mixes change within a year (https://www.mass.gov/info-details/list-of-endangered-threatened-and-special-concern-species#plants).

6. **Work Timing**.
   1.Inactive season: Work conducted between November 1 and April 14 may proceed without restrictions.
   2.Active season: Work conducted between April 15 and October 31, even if initiated earlier, must be conducted under the direct supervision of a Division-approved biologist in accordance with the SPP.

7. **Compliance Report:** Within thirty (30) days of the completion of work or as otherwise approved by the Division, the Applicant shall submit a brief written report to the Division documenting compliance with the condition(s) required herein, including representative photographs or supplemental documentation as necessary.

8. **Authorization Duration:** This authorization is valid for 5 years from the date of issuance. Work may be completed at any time during this 5-year period in compliance with the conditions herein. Thereafter, the Applicant must re-file pursuant to the MESA.

Attachment F Cultural Resource Documentation

RECEIVED
JUN 16 2023
MASS. HIST. COMM
RC.700049

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

After review of MHC files and the materials you submitted, it has been determined that this project is unlikely to affect significant historic or archaeological resources.

Brona Simon 7/17/23
Brona Simon Date
Executive Director
State Historic Preservation Officer
Massachusetts Historical Commission

Project Name:	Reconstruction of Mt. Washington Road (608547)
Location /Address:	Mount Washington Road
City/Town:	Egremont
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 -Lead Federal Agency
Corps	Sections 401 & 404 permits

Project Description (narrative):
The Massachusetts Department of Transportation, Highway Division (MassDOT) in cooperation with the Town of Egremont proposes to expend federal funds to complete roadway improvements along Mt. Washington Road from the Mt. Washington Town Line easterly to approx. 2,000' east of its intersection with Jug End Road.

To improve the roadway conditions of Mt. Washington Road, MassDOT will resurface or rehabilitate the roadway pavement, upgrade the existing drainage systems, install new granite curbs, guardrails, and soldier pile retaining walls, upgrade the existing drainage structures, restripe the roadway, and remove and reset selected stone walls. New modified rock slopes will also be installed along selected areas of the roadway corridor. Other work will include tree trimming, clearing and grubbing, installing erosion control measures, and grading.

Temporary easements will be required for reconstructing driveways, constructing retaining walls, removing and resetting stone walls, grading, installing erosion control measures, and, clearing and grubbing. There will also be permanent easements to access and/or maintain utility poles, overhead wires, modified rock slopes, and drainage structures. Any proposed work outside the roadway layout will be on previously disturbed land or slopes.

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

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

APPENDIX A (continued)

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 no listed properties within or adjacent to the project area.

A review of the MHC-Inventory revealed that the project area is adjacent to the circa 1835, MHC-Inventoried Philo Curtis House (EGR.110), which is located at 175 Mt. Washington Road. The house has been altered with new additions and replacement windows, doors, and cladding; therefore, it does not appear to retain the historic or architectural significance necessary for listing in the NR.

A review of the MHC's archaeological maps in 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, utility, and drainage work and unfavorable conditions (slope).

What is the total acreage of the project area?

			Productive Resources:		
Woodland		acres			
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 corridor runs through forested land and areas developed residential 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 form: MHH **Date:** 6/12/2023

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.

CULTURAL RESOURCES PROJECT RECORD

City/Town: Egremont
Project #: 608547
Date Cleared: 6/9/2023
Project Name: Reconstruction of Washington Rd. Phase 1
Date Filed: 6/9/2023
Finding Under Review ☐
FHWA to MHC:
Project Type: Highway Reconstr - Minor Widening
Early Coord. Letter Sent: ☑
Review: Section 106 (PA)
Reviewer: MHH
Finding: Stip VB - No historic properties affected
Comment Received: ☐ MHC ☐ LHC
Consultant:
Comments:

Determination based on: ☑ Scope of Work ☑ Plans ☑ Inventory ☐ Site Visit ☐ Archaeological Survey
Attach appropriate documentation for checked items

Projects Requiring No Massachusetts SHPO Review

Programmatic Agreement, Appendix 1 (check all that apply) :

☐ 1) Interstate bridge or roadway projects
☐ 2) Resurfacing, repair existing roadways
* ☐ 3) Reconstruction on existing roadway
* ☐ 4) Roadway geometrics, intersections
* ☐ 5) Curbs and sidewalks
☐ 6) Pavement markings, rumble strips, etc
☐ 7) Curbs, sidewalks (MAAB, ADA)
* ☐ 8) Removal of trees
☐ 9) Landscaping
☐ 10) Utilities
☐ 11) Railroad crossing
☐ 12) Stream stabilization and restoration
☐ 13) Wetland mitigation area
* ☐ 14) Bridge (NR "Not Eligible" or "Conditionally Not Eligible")
* ☐ 15) Bridge (concrete slab post 1900, steel stringer)
☐ 16) Bridge (less than 20' span)
* ☐ 17) Highway safety improvement
☐ 18) Drainage system element
* ☐ 19) Traffic signal, safety improvement
* ☐ 20) Intelligent Transportation System project
☐ 21) Rest area, maintenance facility
* ☐ 22) Bicycle, pedestrian lane, path or facility
☐ 23) Lighting system
☐ 24) Sign
☐ 25) Hazardous waste
☐ 26) Highway fencing
☐ 27) Emergency repair
☐ 28) Erosion control
☐ 29) Noise barrier

* National Register eligibility evaluation required

-OR-

No Historic Properties Affected
Programmatic Agreement Stipulation V.B. (check one):

☑ No NR listed or -eligible properties within Area of Potential Effect
☐ No effect on National Register listed or -eligible properties

Reviewer's Initials: MHH JMH

CULTURAL RESOURCES PROJECT RECORD

Summary of MassDOT Highway Division Finding
(Appendix 1 and Section V.B. Projects only)

Project Description
The Massachusetts Department of Transportation, Highway Division (MassDOT) in cooperation with the Town of Egremont proposes to expend federal funds to complete roadway improvements along Mt. Washington Road from the Mt. Washington Town Line easterly to approx. 2,000' east of its intersection with Jug End Road.

To improve the roadway conditions of Mt. Washington Road, MassDOT will resurface or rehabilitate the roadway pavement, upgrade the existing drainage systems, install new granite curbs, guardrails, and soldier pile retaining walls, upgrade the existing drainage structures, restripe the roadway, and remove and reset selected stone walls. New modified rock slopes will also be installed along selected areas of the roadway corridor. Other work will include tree trimming, clearing and grubbing, installing erosion control measures, and grading.

Temporary easements will be required for reconstructing driveways, constructing retaining walls, removing and resetting stone walls, grading, installing erosion control measures, and, clearing and grubbing. There will also be permanent easements to access and/or maintain utility poles, overhead wires, modified rock slopes, and drainage structures. Any proposed work outside the roadway layout will be on previously disturbed land or slopes.

Recorded/Identified Cultural Resources Within/Adjacent to Project Area:
A review of the National Register of Historic Places revealed no listed properties within or adjacent to the project area.

A review of the MHC-Inventory revealed that the project area is adjacent to the circa 1835, MHC-Inventoried Philo Curtis House (EGR.110), which is located at 175 Mt. Washington Road. The house has been altered with new additions and replacement windows, doors, and cladding; therefore, it does not appear to retain the historic or architectural significance necessary for listing in the NR.

A review of the MHC's archaeological maps in 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, utility, and drainage work and unfavorable conditions (slope).

On behalf of MassDOT, CHA sent an early coordination letter (dated December 1, 2020) to the Egremont Historical Commission, and Comprehensive Environmental, Inc. sent an early coordination letter (dated June 30, 2021) to the MHC. No response has been received to date from either Commission.

The project work is exempt from Stockbridge-Munsee THPO review and Mashpee THPO review under the conditions of the 2017 MOUs (amended) with the tribes. Per the Corps permit, PNFs were submitted to the BUAR, NTHPO, and ATHPO.

MassDOT's CRU staff has determined that this project satisfies the conditions outlined in Stipulation V.B. -no NR-listed or -eligible properties within the Area of Potential Effect. No further review is required, and all documentation in support of this finding has been placed on file at MassDOT.

Reviewer's Initials: _____

Hafferty, Mary H. (DOT)

From: postmaster@MassMail.State.MA.US
To: tcrm2@wampanoagtribe-nsn.gov; thpo@wampanoagtribe-nsn.gov
Sent: Friday, June 9, 2023 4:50 PM
Subject: Relayed: Mt. Washington Rd. Project, Egremont (608547)

Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:

tcrm2@wampanoagtribe-nsn.gov (tcrm2@wampanoagtribe-nsn.gov)

thpo@wampanoagtribe-nsn.gov (thpo@wampanoagtribe-nsn.gov)

Subject: Mt. Washington Rd. Project, Egremont (608547)

Hafferty, Mary H. (DOT)

From: Hafferty, Mary H. (DOT)
Sent: Friday, June 9, 2023 4:50 PM
To: thpo@wampanoagtribe-nsn.gov; tcrm2@wampanoagtribe-nsn.gov
Cc: Harwood, Jameson (DOT)
Subject: Mt. Washington Rd. Project, Egremont (608547)
Attachments: Egremont, Ph. 1 (608547) -Signed PNF.pdf; Egremont -PNF HWY Plans.pdf; Egremont -PNF Maps.pdf

Tracking:

Recipient	Delivery
thpo@wampanoagtribe-nsn.gov	
tcrm2@wampanoagtribe-nsn.gov	
Harwood, Jameson (DOT)	Delivered: 6/9/2023 4:50 PM

Dear Ms. Washington,

MassDOT is submitting the enclosed information regarding the above-noted project to the Wampanoag Tribe of Gay Head (Aquinnah) to meet the Section 106 consultation requirements of the Federal Highway Administration (FHWA) and the US Army Corps of Engineers. As the project will be supported in part with federal funds, FHWA is the lead federal agency. Please submit any written comments or concerns regarding historic or archaeological properties that may be affected by this project to Carrie Lavallee, P.E., Chief Engineer, Massachusetts Department of Transportation, 10 Park Plaza, Boston, MA 02116-3973, Attn: Jameson Harwood.

Best regards,
Mary

Mary Hafferty
Cultural Resources Specialist
***MassDOT* – Highway Division**
10 Park Plaza – Room 7360
Boston, MA 02116
781-801-0057 (cell)

Hafferty, Mary H. (DOT)

From: Hafferty, Mary H. (DOT)
Sent: Friday, June 9, 2023 4:50 PM
To: tashtesook@aol.com
Cc: Harwood, Jameson (DOT)
Subject: Mt. Washington Rd. Project, Egremont (608547)
Attachments: Egremont, Ph. 1 (608547) -Signed PNF.pdf; Egremont -PNF HWY Plans.pdf; Egremont -PNF Maps.pdf

Tracking:

Recipient	Delivery
tashtesook@aol.com	
Harwood, Jameson (DOT)	Delivered: 6/9/2023 4:50 PM

Dear Mr. Brown,

MassDOT is submitting the enclosed information regarding the above-noted project to the Narragansett Tribe to meet the Section 106 consultation requirements of the Federal Highway Administration (FHWA) and the US Army Corps of Engineers. As the project will be supported in part with federal funds, FHWA is the lead federal agency. Please submit any written comments or concerns regarding historic or archaeological properties that may be affected by this project to Carrie Lavallee, P.E., Chief Engineer, Massachusetts Department of Transportation, 10 Park Plaza, Boston, MA 02116-3973, Attn: Jameson Harwood.

Best regards,
Mary

Mary Hafferty
Cultural Resources Specialist
***MassDOT* – Highway Division**
10 Park Plaza – Room 7360
Boston, MA 02116
781-801-0057 (cell)

Hafferty, Mary H. (DOT)

From: postmaster@MassMail.State.MA.US
To: tashtesook@aol.com
Sent: Friday, June 9, 2023 4:50 PM
Subject: Relayed: Mt. Washington Rd. Project, Egremont (608547)

Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:

tashtesook@aol.com (Tashtesook@aol.com)

Subject: Mt. Washington Rd. Project, Egremont (608547)

Hafferty, Mary H. (DOT)

From: Hafferty, Mary H. (DOT)
Sent: Friday, June 9, 2023 4:50 PM
To: Robinson, David S (EEA)
Cc: Harwood, Jameson (DOT)
Subject: Mt. Washington Rd. Project, Egremont (608547)
Attachments: Egremont, Ph. 1 (608547) -Signed PNF.pdf; Egremont -PNF HWY Plans.pdf; Egremont -PNF Maps.pdf

Tracking:

Recipient	Delivery
Robinson, David S (EEA)	Delivered: 6/9/2023 4:50 PM
Harwood, Jameson (DOT)	Delivered: 6/9/2023 4:50 PM

Dear Mr. Robinson,

MassDOT is submitting the enclosed information regarding the above-noted project to the BUAR to meet the Section 106 consultation requirements of the Federal Highway Administration (FHWA) and the US Army Corps of Engineers. As the project will be supported in part with federal funds, FHWA is the lead federal agency. Please submit any written comments or concerns regarding historic or archaeological properties that may be affected by this project to Carrie Lavallee, P.E., Chief Engineer, Massachusetts Department of Transportation, 10 Park Plaza, Boston, MA 02116-3973, Attn: Jameson Harwood.

Best regards,
Mary

Mary Hafferty
Cultural Resources Specialist
***MassDOT* – Highway Division**
10 Park Plaza – Room 7360
Boston, MA 02116
781-801-0057 (cell)

Hafferty, Mary H. (DOT)

From: Microsoft Outlook
To: Robinson, David S (EEA)
Sent: Friday, June 9, 2023 4:50 PM
Subject: Delivered: Mt. Washington Rd. Project, Egremont (608547)

Your message has been delivered to the following recipients:

Robinson, David S (EEA) (David.S.Robinson@mass.gov)

Subject: Mt. Washington Rd. Project, Egremont (608547)

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: Reconstruction of Mt. Washington Road (608547)

Location /Address: Mount Washington Road

City/Town: Egremont

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 -Lead Federal Agency
Corps	Sections 401 & 404 permits

Project Description (narrative):
The Massachusetts Department of Transportation, Highway Division (MassDOT) in cooperation with the Town of Egremont proposes to expend federal funds to complete roadway improvements along Mt. Washington Road from the Mt. Washington Town Line easterly to approx. 2,000' east of its intersection with Jug End Road.

To improve the roadway conditions of Mt. Washington Road, MassDOT will resurface or rehabilitate the roadway pavement, upgrade the existing drainage systems, install new granite curbs, guardrails, and soldier pile retaining walls, upgrade the existing drainage structures, restripe the roadway, and remove and reset selected stone walls. New modified rock slopes will also be installed along selected areas of the roadway corridor. Other work will include tree trimming, clearing and grubbing, installing erosion control measures, and grading.

Temporary easements will be required for reconstructing driveways, constructing retaining walls, removing and resetting stone walls, grading, installing erosion control measures, and, clearing and grubbing. There will also be permanent easements to access and/or maintain utility poles, overhead wires, modified rock slopes, and drainage structures. Any proposed work outside the roadway layout will be on previously disturbed land or slopes.

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

APPENDIX A (continued)

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 no listed properties within or adjacent to the project area.

A review of the MHC-Inventory revealed that the project area is adjacent to the circa 1835, MHC-Inventoried Philo Curtis House (EGR.110), which is located at 175 Mt. Washington Road. The house has been altered with new additions and replacement windows, doors, and cladding; therefore, it does not appear to retain the historic or architectural significance necessary for listing in the NR.

A review of the MHC's archaeological maps in 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, utility, and drainage work and unfavorable conditions (slope).

What is the total acreage of the project area?

			Productive Resources:		
Woodland		acres			
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 corridor runs through forested land and areas developed residential 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 form: MHH **Date:** 6/9/2023

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.

USPS TRACKING #

9590 9402 6125 0209 0535 53

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United States
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• Sender: Please print your name, address, and ZIP+4® in this box•

massDOT
Massachusetts Department of Transportation
Highway Division
Environmental Services
10 Park Plaza, Rm 7360, Boston, MA 02116

Attn: Jameson Harwood

Egrement Project # 608547 - MHC PNF

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Brona Simon, SHPO
MA Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

RECEIVED
JUN 16 2023
MASS. HIST. COMM.

9590 9402 6125 0209 0535 53

2. Article Number *(Transfer from service label)*
7018 0680 0000 6908 8559

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☒ Agent
☐ Addressee

B. Received by *(Printed Name)* OLA
C. Date of Delivery 6/16/23

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

MHC PNF
Egrement 608547
6/12/2023

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ ail Restricted Delivery
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

Attachment G Specifications

ENVIRONMENTAL PERMITTING

An Order of Conditions (DEP#153-0240) has been obtained from the Egremont 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 1 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 1 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.

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION FILE NUMBER SIGN

This project is subject to Massachusetts General Laws, Chapter 131, Section 40 as amended. Signs shall be in accordance with the latest MassDOT Construction Standards. All costs for the manufacture, erection, maintenance, moving, and removal of the signs shall be absorbed by the contractor with no additional compensation other than the contract unit prices.

For this project the Massachusetts Department of Environmental Protection File Number is 153-0240.

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. MassDOT, on behalf of FHWA, submitted a Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key Consultation through Information for Planning and Consultation (IPaC) and generated a May Affect, Not Likely to Adversely Affect (NLAA) determination (see **Document USFWS NLAA**). 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 AMMs

- 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 July 9, 2024 MassDOT Highway Division Environmental Services conducted a northern long-eared bat summer presence/absence survey, in accordance with the 2024 survey guidelines. The survey did confirm the presence of NLEB and/or TCB. If work is proposed by the Contractor past July 9, 2029, additional review is required by the MassDOT Highway Division's Environmental Services Section, and additional review and restrictions may be required by the USFWS.

Lighting AMMs

- Direct temporary lighting away from suitable habitat during the active season: **April 15 to October 31**
- When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable.

Tree Removal AMMs

- *If additional cutting is proposed by the Contractor that is outside the scope of this contract, additional review is required by the MassDOT Highway Division's Environmental Services Section, and additional review and restrictions may be required by the USFWS.*
- Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).
- No tree cutting, trimming, or removal of trees and/or woody vegetation >3-inch in diameter shall be conducted between **April 15 to October 31**
- The Contractor shall ensure all personnel working in on the project site are aware of all environmental commitments related to NLEB and/or TCB, including the **TOY** restriction. If this restriction needs to be waived at any location(s) the Resident Engineer shall send a locus map of

the proposed work to MassDOT Highway Division's Environmental Services Section for review and a determination if the restriction can be waived.

Bridge AMMs

- On July 9, 2024, MassDOT Highway Division Environmental Services, conducted a northern long-eared bat bridge/structure bat assessment, in accordance with the USFWS guidelines. The assessment did not find presence of, or evidence of use by bats, and as stated within the guidelines, the assessment is valid for two years. If bridge work is not complete before July 9, 2026, assessment of the bridge for the presence of, or evidence of use by, bats shall be completed by the MassDOT Wildlife Unit prior to continuing bridge work. The Contractor shall notify the MassDOT Wildlife Unit no later than fourteen (14) days prior to July 9, 2026 to provide adequate time for inspection. If bats are found to be present, or, if there is evidence of bat usage, work at the bridge shall not commence until after the MassDOT Wildlife Unit has completed coordination with the US Fish and Wildlife Service to determine the appropriate follow up or mitigation actions.

DRAINAGE

It shall be the responsibility of the Contractor to make certain that the drainage construction sequence avoids disturbances and/or damage to the project area. Disturbances and damage can include erosion and slope impacts, environmental impacts, resource area impacts, flooding, icing, and freezing, improper sediment control, and any condition that would deem travel through the project area unsafe, impede operations through the corridor, or result in damage to the project area, private property and surrounding natural area. Safe roadway travel must be maintained. Functional drainage operations must be maintained throughout the removal of the existing drainage system and the construction of the proposed drainage system. Collection and acceptable discharge, as approved by the Engineer, of roadway runoff must be maintained at all times. It shall be the responsibility of the Contractor to ensure that the means and methods of construction can meet these requirements.

The Contractor shall submit a drainage sequencing and construction plan to MassDOT for approval prior to starting drainage work. The plan shall include a full construction staging sequence and include any temporary means necessary for completing the work. Any damages accrued during the drainage construction process as a result of failure to adhere to these requirements to the project area, surrounding area, abutting properties, and/or roadway users shall be the Contractor's liability.

It shall be the responsibility of the Contractor to make certain that all new drainage systems operate efficiently before final acceptance of the work.

All drainage castings in new pavement areas shall be installed at base or binder course grade, as directed by the Engineer, and reset to proposed finish surface grade prior to placement of the pavement surface course.

Removal of debris and sediment deposited in drainage structures prior to final acceptance shall be removed by the contractor at no cost to MassDOT.

ITEM 101.	**CLEARING AND GRUBBING**	**ACRE**
ITEM 102.	**SELECTIVE CLEARING AND THINNING**	**ACRE**
ITEM 102.1	**TREE TRIMMING**	**FEET**

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

The Contractors attention is directed to the project specific restrictions on tree and vegetation removal as outlined in the Massachusetts Division of Fisheries and Wildlife letter dated June 21, 2024 and in the special provisions under Item 755.771 State-Listed Snake Protection Plan. The Contractor shall conduct all tree and vegetation clearing, grubbing, thinning and trimming in accordance with the environmental permits.

ITEM 697.1 **SILT SACK** **EACH**

The work to be done under this Item shall include furnishing and installing sediment collection sacks in all drainage structures within the limits of work during construction operations for the protection of the environment as specified by the following:

CONSTRUCTION METHODS

All drainage structures within the limits of work shall have sediment collection sacks installed and maintained in good working condition until the completion of all construction activities within the drainage collection area of each drainage structure. Sediment collection sacks shall be replaced if damaged, if no longer working properly and/or as directed by the Engineer.

Refer to construction plan details showing the sediment collection sack device. The Contractor shall be responsible for field measuring all existing and new drainage structures to ensure that the proper size sediment collection sack is provided for each structure.

MATERIALS

The sediment collection sack shall be manufactured from a woven polypropylene fabric with an oil-absorbent pillow insert or made completely from an oil-absorbent fabric with a woven pillow insert that meets or exceeds the following specifications.

PROPERTIES	TEST METHOD	UNITS
Grab Tensile Strength	ASTM D-4632	265 LBS
Grab Tensile Elongation	ASTM D-4632	20%
Puncture	ASTM D-4833	135 LBS
Mullen Burst	ASTM D-3786	420 PS
Trapezoid Tear	ASTM D-4533	45 LBS
UV Resistance	ASTM D-4355	90% Apparent Opening Size
	ASTM D-4751	20 US SIEVE
Flow Rate	ASTM D-4491	200 GAL/MIN/SQ FT
Permittivity	ASTM D-4491	1.5 SEC-1

METHOD OF MEASUREMENT

Furnishing and installing or replacing sediment collection sacks will be paid for at the Contract unit price per each for Item 697.1 Silt Sack which includes all labor, materials, equipment, tools, and other incidentals necessary to complete the work. Sediment collection sacks that become ineffective or damaged shall be replaced and paid for separately under this Item.

BASIS OF PAYMENT

Payment for this work will be made on a per each basis, which shall include all labor, tools, and equipment necessary to complete the work. Removal and disposal of sediment sacks at the completion of the project shall be considered incidental to this Item.

ITEM 698.3 GEOTEXTILE FABRIC FOR SEPARATION SQUARE YARD

The work under this Item shall conform to the relevant provisions of Section 600 of the Standard Specifications and the following:

The work under this Item shall consist of furnishing and installing geotextile fabric below the bedding for the modified rockfill slope and around the crushed stone for Walls 1, 2, 3, 4, 5, and 6 as shown on the plans.

MATERIALS

Geotextile Fabric for Separation shall conform to subsection M9.50.0 of the MassDOT Standard Specifications and AASHTO M288.

The geotextile fabric shall conform to the requirements of AASHTO M 288, Class 1, and must be on the MassDOT QCML. Construction and installation shall be in accordance with AASHTO M 288 (including the Appendix) and the following.

CONSTRUCTION

Fabric shall be placed in intimate contact with the gravel borrow subbase or crushed stone. Seams shall be overlapped by at least two feet. If the Contractor elects to sew seams instead of overlap, colored thread must be used. The Contractor shall take care not to allow more than two weeks of exposure to direct sunlight. Fabric rolls shall not be dropped more than two feet.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Geotextile fabric for separation will be paid for at the Contract unit price per square yard, which price shall include all labor, materials, equipment and incidental costs required to complete the work.

No separate payment shall be made for overlapping material but all costs in connection therewith shall be included in the Contract unit price bid.

ITEM 751.7 COMPOST BLANKET CUBIC YARD

REV. 2024.08.10 (REV. DATE TO BE REMOVED BY MASSDOT CONTRACTS

The work under this Item shall conform to the relevant provisions of Subsection 751 and M1.06.0 Compost of the Standard Specifications and the following:

Work shall consist of furnishing and pneumatically applying compost as a thin mulch blanket (1/2- 1 inch depth) over prepared soil to provide temporary soil stabilization and organic matter for plant growth.

SUBMITTALS AND MATERIALS

No materials shall be delivered until the required submittals have been approved by the Engineer. Delivered materials shall match the approved samples. Approval of test results does not constitute final acceptance.

Contractor shall submit to the Engineer samples and certified test results no sooner than 60 days prior to application of compost. Vender certification that material delivered meets the test results shall be submitted if requested.

Compost shall meet the requirements for M1.06.0: Compost, Type 2, as referenced in the MassDOT– Highway Division Standard Specifications for Highways and Bridges, Division III: Materials Specifications, latest edition.
The Engineer shall approve the Contractor's equipment for application.

CONSTRUCTION METHODS

Application of compost material shall not begin until the Engineer has approved the site and soil conditions. Soil preparation shall be as specified under the applicable item for soil placement or for seeding. The Contractor shall notify the Engineer when areas are ready for inspection and application of compost.

Compost blanket shall be pneumatically applied (blown on) to a minimum depth of one half to one inch. Where shown on the plans or when directed by the Engineer depth may be increased to provide berms for sediment control or to otherwise prevent slope erosion.

When compost blanket is proposed with seeding, seed shall be broadcast and shall occur in conjunction with compost blanket, as specified under the relevant item for seeding.

When compost blanket is proposed for areas with planting, compost (and seed if applicable) shall be applied after planting. If compost and seed occur prior to planting, areas shall be regraded and compost and seed reapplied to the satisfaction of the Engineer and at the Contractor’s expense.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 751.7 will be measured and paid for at the Contract unit price per Cubic Yard which price shall include all labor, materials, equipment, and all incidental costs required to complete the work of pneumatically applying compost.

Surface preparation of substrate receiving compost blanket shall be compensated under the applicable item for placement of loam, sand, ordinary borrow, wetland soil, topsoil rehandled and spread, tilled existing soil, or other specified substrate.

Seeding, if utilized, will be compensated for under the appropriate seeding items.

ITEM 751.765 COMPOST AND SEED OVER MODIFIED ROCK CUBIC YARD

REV. 2024.01.01 (REV. DATE TO BE REMOVED BY CONTRACTS).

GENERAL

The work under this Item shall conform to the relevant provisions of Subsection 751, 767, and 765 of the Standard Specifications and the following.

Work shall consist of furnishing and pneumatically applying compost in conjunction with the specified native seed on designated areas of modified rock and achieving satisfactory establishment of seeded species as specified herein.

QUALIFICATIONS

Compost application and 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.

MATERIAL AND SUBMITTALS

Compost

Compost shall meet the relevant provisions for Type 2 Compost, found in Section M1.06 of the Supplemental Standard Specifications.

The Engineer shall approve the Contractor's equipment for application.

Seed Mix

Seed Mixes and Submittals shall be per the item(s) for the permanent seed mix. Mix shall be: Item 765.411 Seeding – Low Upland Mix.

SEEDING SEASON

The season for seeding 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%.

CONSTRUCTION METHODS

Method of application and equipment to be used shall be reviewed and approved by the Engineer prior to placement of material.

Placement of Compost

Compost shall be placed as shown on the Plans and in the Detail and as required by the Engineer. Material shall be placed so that settled material is at or slightly below the surface plane of the stone. The Contractor shall ensure that there will be adequate quantity, including adjustment for settlement.

For purposes of estimation, required compost quantities should be 300 cubic yards per acre to achieve the target depth.

Seeding

For areas smaller than half an acre, unless otherwise approved by the Engineer, seeding shall be done by broadcast method. Seeding shall be done in conjunction with or immediately following Compost application. Alternative seeding methods must be submitted and approved by the Engineer 14 days in advance of compost and seed application.

Hydroseeding

Hydroseeding may be used for sites over half an acre in size or when the rock slope does not permit safe application via a broadcasting method. Hydroseed shall be per the manufacturer's directions and as follows.

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.

When Seeding Occurs after Application of Compost or after December 1

When seeding is done more than 3 days after Compost application or when Compost is applied after December 1, seeding rate shall be increased by 50%.

Over-Seeding

Large extents of bare area (greater than 5-6 feet and depending on modified rock slope conditions) shall be over-seeded with the specified mix during the appropriate season for seeding. Rates, methods, and submittals shall be as specified under the relevant Seed Mix Item and Materials above.

Over-seeding, mulch, watering, and all work for over-seeding shall be incidental.

Determining Satisfactory Establishment

A reasonably well-established stand of the specified seeded species as determined by the Engineer and the MassDOT Landscape Architect or designated Specialist will be required for Final Acceptance. The expectation is that an acceptable number and variety of the desired permanent seeded species will be visible. For seeding with compost over modified rock this shall generally be:

- A minimum of 50% coverage by the specified permanent seeded species after one growing season (considered June-September 15). Of that percentage, generally, depending on the mix species:
    - At least 2 types of permanent seeded grass species shall be visible.
    - At least 2 species of wildflowers shall be visible.
- There will be no more than 25% coverage by weed species.
- 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 (ex., clover) due to using an incorrect or modified mix or due to failure to clean the hydroseeding tank if a hydroseeder is used.

Invasive and aggressive weeds (such as mugwort, vetch, knapweed, and chicory) must be cut, pulled with roots removed, or treated with herbicide by a licensed and approved applicator prior to going to seed for Interim Acceptance. Weed removal shall be coordinated with MassDOT Landscape Architect. No herbicides shall be used without approval and coordination with MassDOT Landscape Design Section.

Acceptance of Seeding and Establishment Work

Conditional Acceptance shall be based on approval of seed mix submittals and proper application of seed as specified herein.

Final Acceptance of Seed 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. Otherwise, Contractor shall forego the payment for Final Acceptance. All remediation shall be at the contractor's expense.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Compost and Seed for Modified Rock will be measured and paid for at the Contract unit price per Cubic Yard which price shall include all labor, materials, equipment, site preparation, and all incidental costs required to complete the work.

Native Seed Mix shall be compensated at the bid price per the specified seed mix item by pound.

Schedule of payment shall be as follows:

60% upon approval of Compost application and Conditional Acceptance of seeding as specified above

40% upon Final Acceptance of Seed Establishment

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. On February 17, 2022, EPA issued the current NPDES Construction General Permit (CGP) for construction activity. The Contractor shall be fully responsible for compliance with the CGP. Should a fine or penalty 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 U.S. 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. The Contractor is advised that, 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 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. It is the responsibility of the Contractor to prepare the SWPPP to meet the requirements of the most recently issued CGP. 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 (reference to Part 9.1.1 of the 2012 CGP).

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, 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)

Included in the CGP conditions is the requirement for inspection of all erosion controls and site conditions on a weekly basis as well as after each incidence of rainfall exceeding 0.25 inches and/or 3.25 inches of snow in twenty-four hours. For multi-day storms, EPA requires that an inspection must be performed during or after the first day of the event and after the end of the event. The CGP requires that inspections be performed by a qualified individual. 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 Engineer must approve the contractor's inspector. 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 General Permit. Work associated with performance of inspections is not included under this Item. The Standard Specifications require adequate erosion control for the duration of the Contract. This Item addresses acceptable completion of the SWPPP, any revisions/amendments required during construction, and preparation of monthly reports. In addition, any erosion controls beyond those specified in bid items elsewhere in this contract which are selected by the Contractor to facilitate and/or address the Contractor's schedule, methods and prosecution of the work shall be considered incidental to this item.

This Item addresses acceptable completion of the SWPPP, any revisions/amendments required during construction, and preparation of monthly reports. In addition, any erosion controls beyond those specified in bid items elsewhere in this contract which are selected by the Contractor to facilitate and/or address the Contractor's schedule, methods and prosecution of the work shall be considered incidental to this item.

The Contractor is advised 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,

ITEM 756. (Continued)

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 Engineer's Final Estimate. The permittee is required to use EPA's electronic NOI system or "eNOI system" to prepare and submit NOT. The electronic NOT form can be found at https://www.epa.gov/npdes/stormwater-discharges-construction-activities#ereporting . If you are given approval by the EPA Regional Office to use a paper NOT, you must complete the form in Appendix K of the 2017 CGP.

BASIS OF PAYMENT

Payment for all work under this Item shall be made at the contract unit price, lump sum, which shall include all work detailed above, including Plan preparation, required revisions, revisions/addenda during construction, monthly reports and filing fees.

Payment of fifty (50) % of the contract price shall be made upon acceptance of the Stormwater Pollution Prevention plan. Payment of forty (40) % of the contract price shall be made in equal installments for implementation of the Stormwater Pollution Prevention plan. Payment of the final ten (10) % of the contract price shall be paid upon satisfactory submissions of a Notice of termination (NOT) when final stabilization has been achieved.

ITEM 765.411 SEEDING – LOW UPLAND MIX SQUARE YARD

The work under this item shall conform to the relevant provisions of Section 765 of the Standard Specifications and the following:

The work shall consist of planting and establishing a stand of grass in the areas of composted mulch over modified rockfill as 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.

All seeding shall be done by a company having a minimum of five years of experience with native grass establishment. Prior to beginning work, the seeding Contractor shall furnish proof of qualifications to the Engineer for approval. Proof of qualifications includes, if requested, providing documentation (photos and contacts) to demonstrate knowledge and expertise with native seeding and proof of having completed successful native seeding projects.

Seeding shall be done within 48 hours of final grading. Mulch for seed shall be Compost Blanket or hydromulch as specified below, and shall be incidental to this item.

SEEDING SEASON

Seeding seasons shall be April 1 through May 15 and October 1 through December 1 for dormant seeding. ***Seeding that occurs outside of these periods, shall be increased by 50%.***

MATERIALS

Seed

Samples and Submittals

1) Certificate of Materials. 60 days prior to ordering, the Contractor shall submit to the Engineer the manufacturer or supplier's notarized Certificate of Materials. This document shall not be used as proof of purchase, proof of material delivered, or proof of material seeded, but simply to verify supplier availability of seed listed on the date certified. The species listed shall match those specified on the plans or herein, however, cultivars may vary due to availability. Substantial substitutions or changes in the mix from that specified on the plans or herein shall be approved by MassDOT Landscape Design Section.

2) Seed Tag Certification. All seed lots have a seed analysis tag as required by State and Federal law. The contractor shall submit seed tags for each bag of seed used on the project site or ensure that each tag is photo documented by the Engineer. Number of tags shall match number of bags sent by the supplier to meet rate of Pure Live Seed specified on the plans. Tag must include: kind and variety of seed; lot number; origin of seed; net weight; % purity; germination; dormant seed; germination test date; inert matter; weed, noxious and other crop seed; and name and address of company responsible for the analysis. Seeding may be considered unacceptable for payment if no tags are submitted.

ITEM 765.411 (Continued)

3) Certificate of Compliance. Prior to payment, contractor shall submit a bill of lading or a signed, dated and notarized Certificate of Compliance from the Supplier that serves as proof of purchase. This document shall include kind and variety of seed, lot number, net weight shipped, date of sale, invoice number under which seed was purchased, and name and address of Supplier or Manufacturer. All information must be included on the notarized form, including lot number and net weight shipped for specified job. This information shall match Seed Tag Certification and quantity of seed applied on the job. Seeding may be considered unacceptable for payment if information is incomplete.

4) Seed Sample. Contractor may be asked, prior to seeding, to submit a seed sample for testing.

Quantities specified are Pure Live Seed (PLS). Greater quantities of ordered seed may be required to achieve actual specified seeding rates. Pure Live Seed is defined as the fraction of pure seed species within the mix that, by standard seed testing practices, will germinate. This is determined by multiplying the percent of seed purity by the percent of seed germination.

Seed mix shall be a custom blend as shown on the plans or shall be as specified below. Seed cultivars shall be those that are as regional to New England or the local ecotype as possible.

Any species substitutions shall be with a species having similar characteristics and native to New England. Substantial changes in the mix shall be approved by MassDOT Landscape Design Section.

Item 765.411 Seeding – Low Upland Mix

	Botanical Name	Common Name	% PLS By Weight
Grass			
	Schizachyrium scoparium 'Albany Pine'	Little Bluestem 'Albany Pine'	52.0%
	Elymus virginicus	Virginia Wild Rye	20.00%
	Festuca rubra	Creeping Red Fescue	10.0%
	Panicum clandestinum ‘Tioga’	Deer Tongue ‘Tioga’	5.00%
	Agrostis perennans	Upland Bentgrass	4.00%
	Juncus tenuis	Path Rush	1.0%
			92.0%
Herb/Forb			
	Chamaecrista fasciculata	Partridge Pea	4.10%
	Penstemon digitalis	Beard-tongue	2.00%
	Solidago nemoralis	Grey Goldenrod	0.5%
	Solidago caesia	Woodland Goldenrod	0.5%
	Aster cordifolius	Blue Wood Aster	0.3%
	Aster laevis	Smooth Aster	0.2%
	Pycnanthemum tenuifolium	Slender Mountain Mint	0.2%
	Baptisia tinctoria	Wild Indigo	0.20%
			8.0%
			100.00%

ITEM 765.411 (Continued)

Herbaceous Species may be substituted with similar species native to Massachusetts if those specified are not available. Please check with MassDOT Landscape Design on grass substitutions.

Seeding Rate

Apply this mix at 20 lbs PLS/acre on areas of less than 3:1 slope and 60 lbs PLS on areas of greater than 3:1 slope.

Add 30 lbs/acre of a cover crop. For a cover crop use either grain oats (1 Jan to 31 July) or grain rye (1 Aug to 31 Dec). Cover crop shall be incidental to seeding item.

Fertilizer

No fertilizers shall be applied.

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.

Mulch

Mulch for seeding and topdressing shall be incidental to this item. Mulch shall be:

- Compost Blanket meeting the material and submittal requirements of Item 751.7, Compost Blanket and as specified below under Seeding and Mulching or
- Hydromulch per the manufacturer’s recommendation. Mulch for hydroseeding shall be wood fiber only.

Photo Documentation

Contractor shall submit photo documentation to the Engineer and Landscape Design Section. Each photo shall be date stamped. Photos shall be submitted after the following stages of construction:

- Soil preparation
- Seed and hydromulch/compost blanket
- Germination
- Grass establishment after one full growing season (growing season is June-September)

ITEM 765.411 (Continued)

CONSTRUCTION

Surface Preparation

Soil preparation and seeding shall occur only when the bed is in a friable condition, not muddy or hard. 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 smooth and even finish corresponding to the required grades.

When seeding over existing or compacted soil, surface will be prepared by raking or tracking to a depth of 2 inches prior to seeding and prior to Compost Blanket (when applicable).

Surface preparation shall be compensated for under Item 751.7 Compost Blanket.

Surface preparation shall be approved by the Engineer prior to seeding.

Seeding over Various Substrates

Loam: Seeding shall occur within 48 hours of site preparation to prevent loss of topsoil. Seeding shall be hydroseeding or broadcast as specified below.

Compost Blanket: Compost Blanket shall be applied as specified under that item. Seed should be 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% and area shall be hydromulched.***

Compost Mulch over Modified Rock: Compost Mulch shall be applied as specified under that item and shall be such that only the voids in the rock are filled so that seed has an organic substrate for germination. Seed shall be broadcast after compost application. No hydromulch is required.

Seeding Methods

No seeding or surface preparation work shall be done if soils are muddy or dry and compacted.

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 (e.g., sawdust, rice, kitty litter, or clean damp sand) to achieve an even distribution. 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.

To ensure seed to soil contact with broadcasting of seed, seed shall be tracked or rolled with a weighted roller.

All broadcast seeding shall be followed by hydromulching unless seeding is done as part of Compost Blanket and as specified above.

ITEM 765.411 (Continued)

Hydroseeding shall include hydromulch.

Hydromulching shall be per the Standard Specifications and per the manufacturer's directions.

After seeding and mulching, water seeded areas to moisten soil to a depth of at least 2 inches.

Seed and Grass Care

During Germination: Contractor shall care for seeded areas as determined necessary by the Engineer and the MassDOT Landscape Architect. Care may include irrigation and weed control as necessary for germination.

During Establishment: Following germination of seeded species, the contractor shall maintain the stand of grasses to ensure healthy growth. Work shall include mowing or weed-whacking for weed control, irrigation if necessary, and monitoring for invasive plants.

Watering shall provide uniform coverage without eroding soil or grassed surfaces. Treatment of invasive plants shall be per the direction of MassDOT Landscape Architect.

The Contractor shall provide all labor, equipment, materials, and water required for establishment. Contractor shall water all seeded areas as necessary to a depth of 2 inches or greater.

Over-seeding

If there are areas of bare ground greater than 2-3 feet in diameter, these areas shall be over-seeded with the specified mix. Over-seeding application rates and methods shall be the same as those listed above. After seeding, areas shall be mulched with straw mulch or ¼ - ½ inch Compost Topsoil and watered with a fine mist to moisten soil to a depth of at least 2 inches.

Areas that are invaded by weeds shall be mowed as low as possible and over-seeded as directed. Soil that is compacted shall be raked or roughened prior to over-seeding. Following over-seeding, soil shall be lightly tamped to ensure seed to soil contact. Over-seeding and mulch for over-seeding shall be incidental to this item.

ESTABLISHMENT

Native upland grasses and forbs will not look like turf grass. Many of the native grasses are bunch type grasses and will not form a uniform growth or have a sod-type appearance. Seeded area shall show general uniform growth of the seeded species throughout the area. Areas with significant gaps of bare soil, generally greater than 2-3 feet in diameter, will require over-seeding.

A well-established stand of grasses at the end of one full growing season (June-September), as determined by the Engineer and the MassDOT Landscape Architect, will be required for acceptance. At least 80-90 percent of the grass established shall be the seeded species and any invasive or aggressive weeds (mugwort, ragweed, or knapweed) shall have been cut or managed.

ITEM 765.411 (Continued)

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 765.411 will be measured for payment by the square yard after one full growing season (June-September) has elapsed between seed application and inspection and upon approval of establishment by the Engineer and the MassDOT Landscape Architect.

Item 765.411 will be paid for at the Contract unit price per Square Yard upon receipt of required submittals as specified above and upon approval of established stand of grass as specified above.

This price shall include seeding, rolling to ensure seed-to-soil contact, care during germination and establishment, irrigation, mulching, over-seeding, labor, materials, equipment, photo documentation, and all incidental costs required to complete the work. Site preparation, including raking, tilling, removal of debris and stones, and other work to the prepare site for seeding shall be compensated for under Item 751.7 Compost Blanket or item 751.765 Compost and Seed over Modified Rock.

Application and care of native seed mix will be paid for separately under Item 765.635 Native Seeding and Establishment.

ITEM 765.635 NATIVE SEEDING AND ESTABLISHMENT SQUARE YARD

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

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%.

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.

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.

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.

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.

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.

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.

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 the 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.

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 barrier 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. 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.

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.

The Contractors attention is directed to the NHESP letter dated June 21, 2024 regarding further restrictions on the use of mesh construction materials.

When required by permits, 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, silt fence shall be used in addition to compost filter tubes and straw bales and shall be incidental to the 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. 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.

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 soil. When reinforcement is necessary, tubes shall be stacked as shown on the detail 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 by 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)

Silt Fence

Materials and Installation shall be per Section 670.40 and 670.60 of the Standard Specifications and the following:

Silt 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 in 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.

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 and continues to provide effective water and sediment control, 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 silt 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 off-site by the Contractor. Areas of trenching shall be raked smooth and disturbed soils stabilized with a seed mix matching adjacent seeding or existing grasses (i.e., lawn or native grass mix).
- Silt fence, stakes, and other debris shall be removed and disposed off-site. 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.

Silt fence, when used in conjunction with compost filter tubes or straw bales, will be incidental to this Item.

Additional barrier, such as double or triple stacking of compost filter tubes, will be paid for 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**

REV. 2022.02.01 (REV. DATE TO BE REMOVED BY CONTRACTS)

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

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 minimum 8” wooden stakes. Longer stakes shall be used where loose soils or other conditions obligate, as required by the Engineer.

CONSTRUCTION METHODS

Area shall be seeded prior to installation of jute netting.

Installation shall 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 flush 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.

Contractor shall reseed all trenched and otherwise disturbed areas with 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 797.001	**OAK – PIN 2-2.5 INCH CALIPER FURNISHED AND DELIVERED**	**EACH**
ITEM 797.002	**MAPLE – RED 2-2.5 INCH CALIPER FURNISHED AND DELIVERED**	**EACH**
ITEM 797.003	**OAK – WHITE 2-2.5 INCH CALIPER FURNISHED AND DELIVERED**	**EACH**

Work shall conform to the relevant provisions of Subsections 771 of the Standard Specifications and the following:

The work under this item shall consist of only the furnishing and delivery of trees to the Town of Egremont. The Town shall be responsible for planting the trees.

The trees shall be delivered by the Contractor to one of the following locations.

French Park
65 Prospect Lake Road
Egremont, MA 01230

Town Hall
171 Egremont Plain Road (Route 71)
Egremont, MA 01258

The Contractor shall coordinate with the Town as to the final location for delivery. The Contractor shall provide a minimum of 30 days written notice to the Town and the Engineer prior to the delivery of the trees. The delivery shall be completed during planting seasons as established in subsection 771.61.

METHOD OF MEASUREMENT

The quantity of plants to be paid for will be the number of living trees of specified kinds and sizes furnished, delivered, and accepted.

BASIS OF PAYMENT

The quantity of trees measured as provided above will be paid for at the contract unit prices per each. The unit price per planting item shall include furnishing and delivering all trees, including replacements, and for all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this section.

ITEM 991.1 CONTROL OF WATER – STRUCTURE NO. 1 LUMP SUM

Work under these items shall be done in accordance with the Standard Specifications and the following:

Work in this section shall consist of the control of water during the construction of the drainage pipes, manholes, headwall and any other associated work at the stream crossing at approximately STA 220+00.

CONSTRUCTION METHODS

The Contractor shall install and maintain temporary measures for the containment of the water flow, the collection of siltation and debris due to construction activities and the maintenance of drainage through the culvert and pipe systems upstream and downstream throughout the construction period. Temporary control measures used may include, but not be limited to, pumping, the use of berms, sandbagged or stone dikes and dams, sediment basins, crushed stone, paved or unpaved waterways, bypass pumping and other devices or methods which meet the requirements of this section and the approval of the Engineer.

The Contractor shall be responsible for the removal and legal disposal of all temporary structures or devices away from the site, the regrading of affected areas, reloaming and seeding of slopes and other incidental work required for the restoration of these areas as required by the Engineer.

The work for control of water shall be conducted in accordance with environmental permits. Amendments to permits for the purposes of control of water shall be the responsibility of the Contractor.

SUBMITTALS

The Contractor shall submit a "Schedule of Operations" defining and detailing the methods for control of water and type of installation to be used to the Engineer for acceptance and approval prior to construction.

METHOD OF MEASUREMENT

Control of water will be measured for payment as one lump sum unit for each location.

BASIS OF PAYMENT

Control of water will be paid for at the Contract lump sum price at each location which shall include all labor, materials, equipment and incidental costs required to complete the work in accordance with the plans and specifications.

No additional compensation will be made for compost filter tubes or bales of hay for dewatering, excavation, crushed stone, restoration of affected areas associated with the control of water, or costs associated with amending permits for control of water.

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DOCUMENT A00831

ARMY CORPS OF ENGINEERS

GENERAL PERMIT

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Regulatory Division
Transportation & Utility Section
File No. NAE-2025-01859

Mary Brazie
Town of Egremont
171 Egremont Plain Road
Egremont, Massachusetts 01258
Via Email: tegremont@egremont-ma.gov

Erica Larner
MassDOT – Highway Division
10 Park Plaza
Boston, Massachusetts 02116
Via Email: erica.n.larner@dot.state.ma.us

Dear Ms. Brazie and Ms. Larner:

This letter is in response to the application you submitted to the U.S. Army Corps of Engineers (USACE), New England District, on August 22, 2025, for a Department of the Army general permit verification. We have assigned this project file number NAE-2025-01859, which you should reference in all correspondence with this office.

A review of the information provided indicates the proposed work includes the permanent discharge of fill material within 360 square feet below the Ordinary High Water (OHW) marks of two unnamed intermittent streams associated with the reconstruction of 1.2 miles of Mount Washington Road, at Latitude 42.156210º and Longitude -73.468590º, in Egremont, Berkshire County, Massachusetts. At Station 220, an existing 36” corrugated metal pipe (CMP) which connects to a 42” steel pipe conveying the road over the first intermittent stream will be removed and replaced with a new crossing consisting of a 2’ section of 36” Reinforced Concrete Pipe (RCP) connected via manhole to 12’ section of 48” RCP connected via a second manhole to a 36’ section of 48” RCP. A concrete end wall and stone are proposed at the outlet of the crossing to dissipate water velocity. The existing stone masonry headwall at the culvert inlet will be retained. At Station 227, an existing 36” CMP conveying the road over the second intermittent stream will be removed and replaced with a 42” RCP in a similar alignment. The new culvert will outlet through the face of a new soldier pile and lagging retaining wall on the south side of the road. Stone is proposed at the outlet of the crossing to dissipate water velocity. The project also includes temporary impacts within 327 square feet below OHW due to temporary construction access and dewatering. The work is shown on the enclosed plans titled “EGREMONT MOUNT WASHINGTON ROAD,” on four sheets dated 8/13/2025.

Based on the information you have provided, we verify that the activity is authorized under General Permit 23 of the June 2, 2023, federal permit known as the Massachusetts General Permits (GPs). If the extent of the project area and/or nature of the authorized impacts to waters are modified, a revised application must be submitted to this office for written approval before work is initiated. You can find a copy of these permits at: https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/.

Any deviation from the terms and conditions of the permit, or your submitted plans, may subject the permittee to the enforcement provisions of our regulations. Therefore, in the event changes to this project are contemplated, it is recommended you coordinate with this office prior to proceeding with the work. This office must approve any changes before you undertake them. You must perform this work in compliance with the terms and conditions of the GPs listed above, and also in compliance with the following special conditions:

Project Specific Special Conditions:

1. The permittee shall complete and return the enclosed Work-Start Notification Form to this office at least two weeks prior to the anticipated construction start date.

2. The permittee shall complete and return the enclosed Completion Certification Form to this office at least one month following the completion of the authorized work.

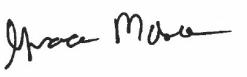
3. All construction shall be completed in accordance with the limits of construction and construction sequences detailed on the enclosed plan drawings, titled "EGREMONT MOUNT WASHINGTON ROAD," on four sheets, and dated 8/13/2025. If you change the plans or construction methods for work within or adjacent to the unnamed intermittent streams, please contact us immediately to discuss modification of this authorization. USACE must approve any changes before you undertake them.

This verification is valid until June 1, 2028. You must commence or be under contract to commence the work authorized herein by June 1, 2028 and complete the work by June 1, 2029. If not, you must contact this office to determine the need for further authorization before beginning or continuing the activity. It is recommended that you contact this office before this authorization expires to discuss if permit reissuance is a possibility.

This GP verification and any associated authorizations does not preclude the necessity to obtain any other federal, state, or local permits, licenses, and/or certifications, which may be required.

If you have any questions related to this verification or have issues accessing documents referenced in this letter, please contact Dan Vasconcelos, Project Manager at 978-318-8653, or by email at daniel.b.vasconcelos@usace.army.mil. This agency continually strives to improve our customer service. To better serve you, please complete the Customer Service Survey located at: https://regulatory.ops.usace.army.mil/customer-service-survey/.

Sincerely,



Grace Moses
Chief, Technical Support Branch
Regulatory Division

Enclosures

cc (w/enclosures):
Ellen Moshier, CHA Consulting, Inc. (via EMoshier@chasolutions.com)
Melissa Lenker, MassDOT (via melissa.lenker@dot.state.ma.us)

Work-Start Notification Form

File Number: NAE-2025-01859 State: Massachusetts County: Berkshire

Permittee: Town of Egremont, Mary Brazie and MassDOT – Highway Division
Date Verification Issued: 8/28/2025
Project Manager: Dan Vasconcelos

At least two weeks prior to commencing the activity authorized by this permit, sign this certification and return it to the following address:

US ARMY CORPS OF ENGINEERS
New England District
Attn: Dan Vasconcelos
696 Virginia Road
Concord, MA 01742
or
daniel.b.vasconcelos@usace.army.mil
978-318-8653

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers (USACE) representative. Failure to comply with any terms or conditions of this authorization may result in the USACE suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

The people (e.g. contractor) listed below will do the work, and they understand the permit's conditions and limitations.

Contractor Name/Contractor Firm: _____
Business Address: _____
_____
Contractor Phone and Email: _____

Proposed Construction Dates: Start: _____ Finish: _____

_____ _____
Signature of Permittee Date

U.S. Army Corps of Engineers (USACE)

CERTIFICATION OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT

For use of this form, see Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, and Section 103 of the Marine Protection, Research, and Sanctuaries Act; the proponent agency is CECW-COR.

Form Approved - OMB No. 0710-0003 Expires 2027-10-31

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-0003, is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PURPOSE: This form is used by recipients of U.S. Army Corps of Engineer Regulatory permits to certify compliance with the permit terms and conditions.

Your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the U.S. Army Corps of Engineers, New England District, Regulatory Office.

The certification can be submitted by email at daniel.b.vasconcelos@usace.army.mil or by mail at the below address:

U.S. Army Corps of Engineers
New England District Office
Street Address: 696 Virginia Road
City: Concord State: MA Zip Code: 01742

COMPLETED BY THE CORPS

Corps Action Number: NAE-2025-01859

Permit Type: General Permit

General Permit Number and Name (*if applicable*): 23

Name of Permittee: Mary Brazie (Town of Egremont) and Erica Larner (MassDOT)

Project Name: Mount Washington Road Reconstruction

Project Location (*physical address*): Mount Washington Road
Egremont, Massachusetts

PERMITTEE'S CERTIFICATION

Date Work Started: _____

Date Work Completed: _____

Enclose photographs showing the completed project (*if available*).

I _____ hereby certify that the work authorized by the above referenced permit has been completed in accordance with all of the permit terms and conditions, and that any required compensatory mitigation has been completed in accordance with the permit conditions.

Name	Date	Signature

Proposal No. 608547-132397

A00831 - 8

608547_ACOE PLANS.DWG Plotted on 13-Aug-2025 5:22 PM

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.13), STA 214+44 TO STA 221+60, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 221+60 TO STA 227+85, OFFSET RT

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	1	4
PROJECT FILE NO.	608547		

PERMITTING PLAN - 1

LIMIT OF TEMP IMPACTS
WATERS OF THE U.S. AREA = 50 SQUARE FEET (TEMP)
BANK LENGTH = 21 LINEAR FEET (TEMP)
PERM IMPACTS DUE TO CULVERT REMOVAL
WATERS OF THE U.S. AREA = 185 SQUARE FEET (PERM)
BANK LENGTH = 125 LINEAR FEET (PERM)

LANDS N/F
CLAUDE J. BORENZWEIG & LOUISE A. FELDMAN
BK: 1774 PG: 345
(008-0601.0)
210 MOUNT WASHINGTON ROAD

100 BANK BUFFER

E-B-1, E-B-8, E-B-2, E-B-7, E-B-3, E-B-4, E-B-5, E-B-6
OHW
FLOW
STONE HEADWALL
FEDERAL WETLANDS
INV:36" CMP
EL=1224.1'
REM EX 36" CMP/
42" STEEL PIPE
PROP 48" RCP
RET
PROP HMA PULL-OFF AREA
PROP TEMP EASEMENT
BEGIN PROP SOLDIER PILE RETAINING WALL STA. 220+25
PROP MODIFIED ROCKFILL SLOPE
PROP COMPOST & SEED OVER MODIFIED ROCK
STA. 220+30 TO STA. 220+39
PROP PERMANENT EASEMENT
PROP MILLING MULCH (TYP)
STONE HORSE TROUGH
PROP DMH
12'
220
B-14
△=27°00'13"
R=485.00'
L=228.58'
T=116.45'
PRC +89.02
221
B-15
TOS
PROP CLEARING AND GRUBBING
STA. 217+22 TO STA. 223+05
ELMER D. CHRISTINE
BK:2358 PG:58
(008-0601.A)
206 MOUNT WASHINGTON ROAD
PROP COMPOST BLANKET & SEED (TYP)
END PROP SOLDIER PILE RETAINING WALL STA. 221+26
PROP CLEARING LIMIT (TYP)
PROP SLOPE LIMIT (TYP)
BEGIN PROP VERTICAL GRANITE CURB TYPE VA4 STA. 221+25
B-121
△=2°31'59"
R=1600.00'
L=349.99'
T=175.70'
222
B-122
B-123
PROP TEMPORARY EASEMENT
PROP SERVICBERRY - SHADBUSH 4-5 FEET (3 EA)
END PROP VERTICAL GRANITE CURB TYPE VA4 STA. 223+35
PROP SAWCUT
ASPHALT DRIVE
PROP VGC (TYPE VA4)
223
PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION
B-124
PROP TEMPORARY EASEMENT
EGREMONT LAND TRUST, INC.
BK:1407 PG:121
(008-0122.A)
PROP PERMANENT EASEMENT
PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)
PROP CLEARING AND GRUBBING
STA. 223+30 TO STA. 224+85
PROP STONE LINED SWALE W/ CHECK DAMS
STA. 223+49 TO STA. 224+38
INV:12" CMP
EL=1189.8'
TOS
1838 COUNTY LAYOUT
PROP HMA DWY-6
224
PT +39.00
B-125
225
N26°49'
177.
CONTINUED ON SHEET NO. 2

MT. WASHINGTON ROAD
(PUBLIC)

BENCHMARK:
MAG NAIL SET
IN UTIL BASE
EL=1221.38'
BOS
PROP COMPOST BLANKET & SEED (TYP)
1838 COUNTY LAYOUT
R&D GUARDRAIL
PROP TEMPORARY EASEMENT
PROP PERMANENT EASEMENT
PROP SLOPE LIMIT (TYP)
PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)
PROP SEDIMENT BARRIER
STA. 219+00 TO STA. 220+39
PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS
F-B-5, F-B-2, F-B-1, F-B-6
FEDERAL WETLANDS
LIMIT OF TEMP IMPACTS
WATERS OF THE U.S. AREA = 27 SQUARE FEET (TEMP)
BANK LENGTH = 17 LINEAR FEET (TEMP)
THE NATURE CONSERVANCY
BK:2222 PG:202
(007-0764.0)
PROP COMPOST BLANKET & SEED (TYP)
BEGIN PROP SOLDIER PILE RETAINING WALL STA. 221+60
PROP CLEARING AND GRUBBING STA. 201+46 TO STA. 242+81
PROP EOP
PROP SLOPE LIMIT (TYP)
PROP CLEARING LIMIT (TYP)
PROP MILLING MULCH (TYP)
PROP TEMPORARY EASEMENT
MECO R/
NET&T 27
PROP TEMPORARY EASEMENT
EGREMONT WATER DEPARTMENT
BK:988 PG:315
(008-0937.0)
PROP SEDIMENT BARRIER
STA. 224+09 TO STA. 226+59
PROP SOLDIER PILE WALL OUTLET W/ STONE FOR PIPE ENDS
INV:
EL=1176.5'

NOTE: TRIMMING OF TREES NOTED AS RET WITHIN THE LIMIT OF TRIMMING IS TO BE LIMITED TO MINIMUM TRIMMING NEED FOR UTILITY RELOCATIONS.

– – – – – – – – LIMIT OF CLEARING & GRUBBING
———————— LIMIT OF SELECTIVE CLEARING, THINNING, & TRIMMING

0 20 50 100
SCALE: 1" = 40'

Proposal No. 608547-132397

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 221+60 TO STA 227+85, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 227+85 TO STA 229+88, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (HALF POST SPACING) (ITEM 620.136), STA 229+88 TO STA 230+38, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 230+38 TO STA 231+63, OFFSET RT

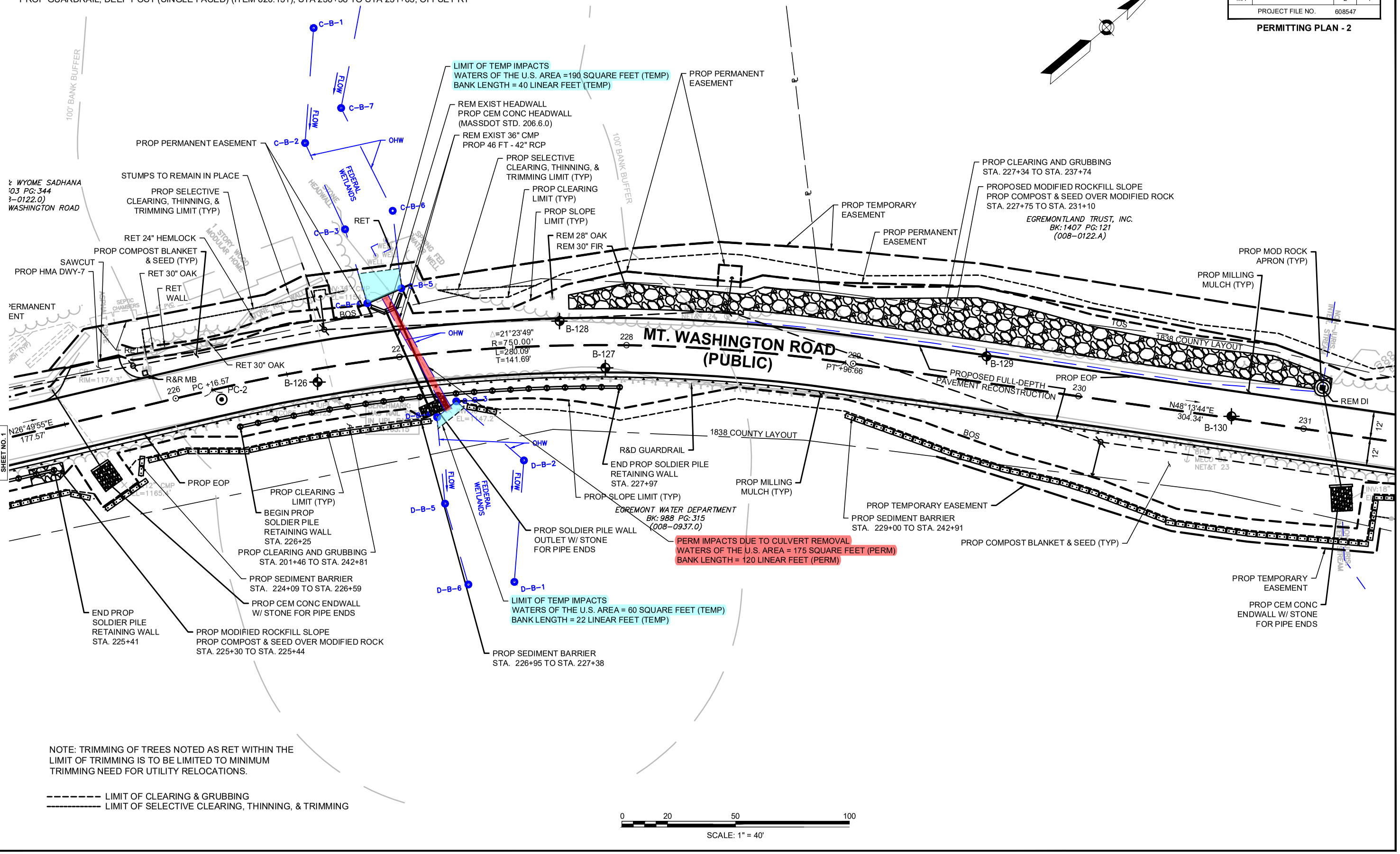
EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	2	4
PROJECT FILE NO.	608547		

PERMITTING PLAN - 2

608547_ACOE PLANS.DWG Plotted on 13-Aug-2025 5:25 PM

A00831 - 9

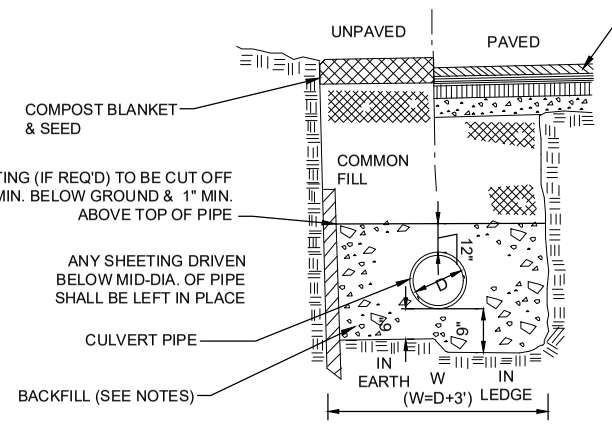


NOTE: TRIMMING OF TREES NOTED AS RET WITHIN THE LIMIT OF TRIMMING IS TO BE LIMITED TO MINIMUM TRIMMING NEED FOR UTILITY RELOCATIONS.

- - - - - - - - LIMIT OF CLEARING & GRUBBING
---------- LIMIT OF SELECTIVE CLEARING, THINNING, & TRIMMING

0 20 50 100
SCALE: 1" = 40'

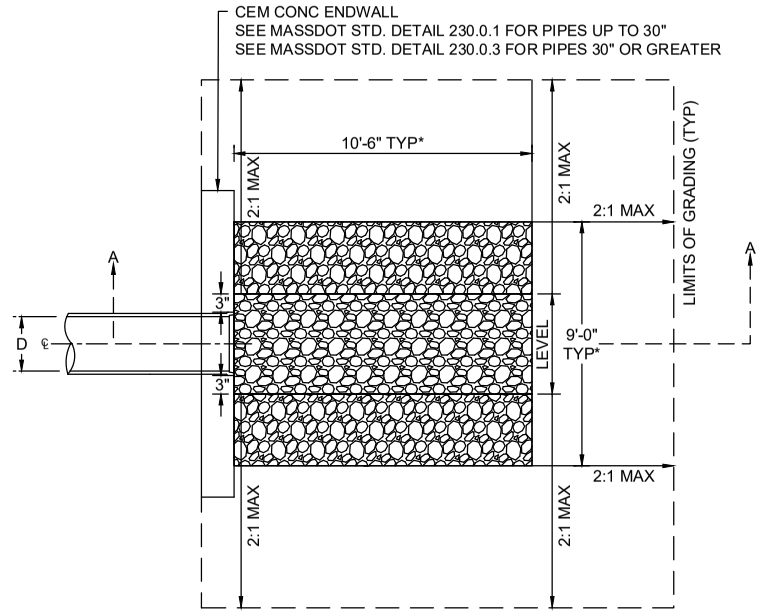
608547_ACOE DETAILS & CROSS SECTION.DWG Plotted on 13-Aug-2025 5:31 PM
Proposal No. 608547-132397
A0831 - 10



NOTES:
1. COMMON FILL MATERIAL TO CONSIST OF GRANULAR MATERIAL CONTAINING NO STONES LARGER THAN 6" IN GREATEST DIMENSION.
2. BACKFILL WITH SELECT MATERIAL CONTAINING NO STONES LARGER THAN 3" IN GREATEST DIMENSION TO 12" OVER PIPE FOR SEWER AND DRAIN PIPES.
3. PROVIDE SCREENED GRAVEL BEDDING TO MID PIPE DIAMETER FOR SANITARY SEWERS AND WHERE GROUNDWATER IS ENCOUNTERED AS DIRECTED BY THE ENGINEER.
4. REMOVE UNSUITABLE MATERIAL BELOW GRADE IF ENCOUNTERED, TO SUITABLE DEPTHS AS DIRECTED BY ENGINEER AND REPLACE WITH CLEAN GRANULAR FILL.
5. BACKFILL SHALL BE PLACED IN LIFTS OF A MINIMUM OF 6 INCHES
6. ALL TRENCH CONSTRUCTION TO CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
7. COMPACT FILL AND TAMP TO 93% MAX. DENSITY UNLESS OTHERWISE SPECIFIED.

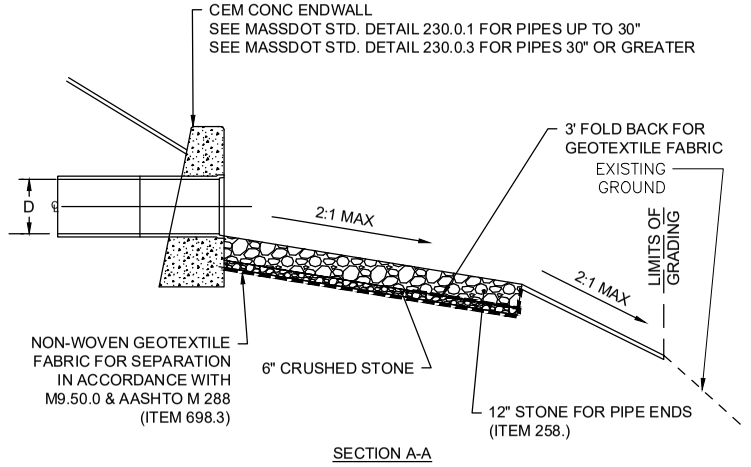
TYPICAL PIPE CULVERT TRENCH CROSS SECTION

NOT TO SCALE



*SEE PLANS FOR SIZING. STONE FOR PIPE ENDS AT STA. 219+85 RT AND STA. 227+12 RT ARE MODIFIED.

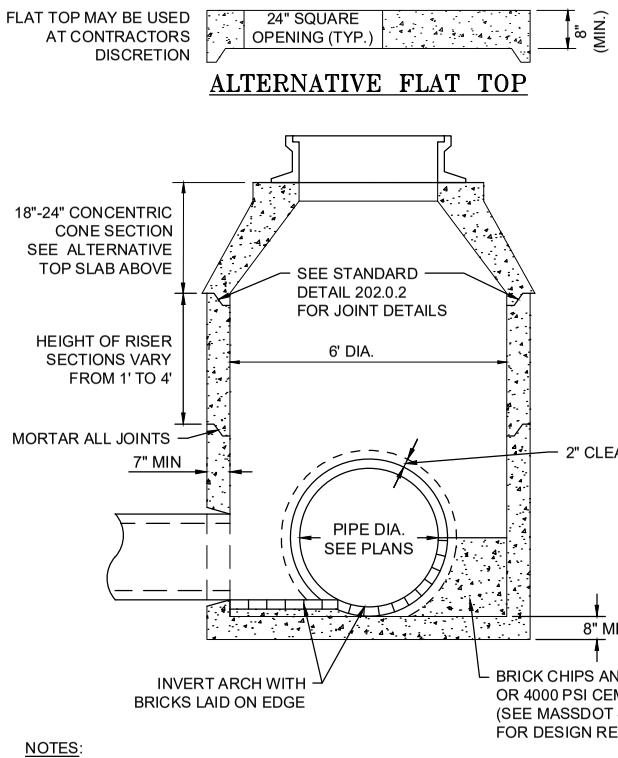
PLAN VIEW



SECTION A-A

ENDWALL & STONE FOR PIPE ENDS

NOT TO SCALE

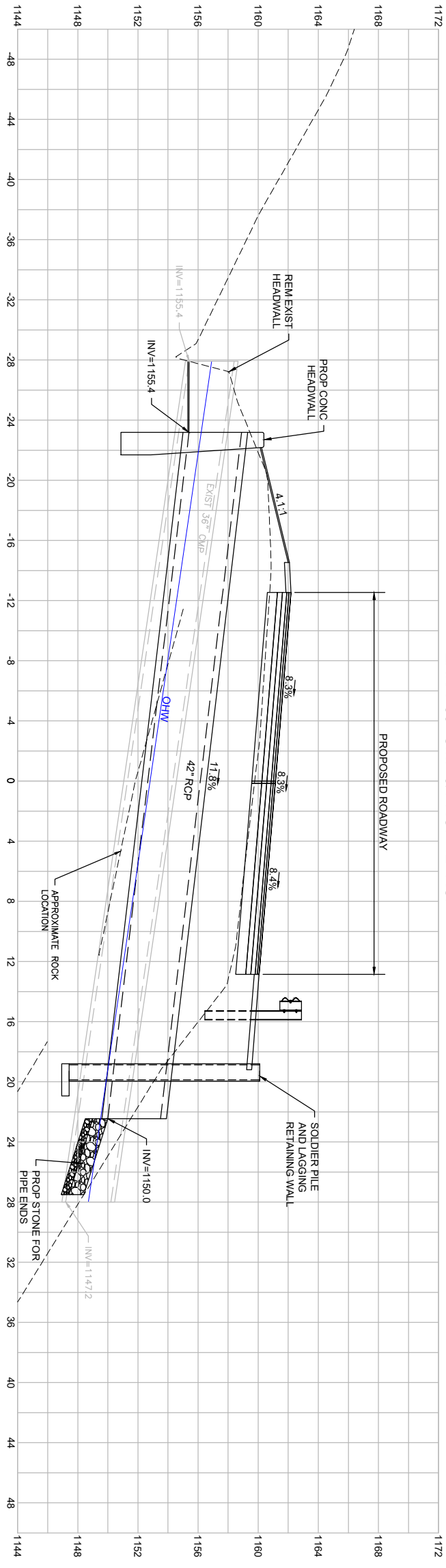


NOTES:
1. ALL SPECIAL MANHOLES SHALL CONFORM TO MASSDOT CONSTRUCTION STANDARD 202.0.2 EXCEPT AS SHOWN ABOVE.
2. MANUFACTURE TO MEET OR EXCEED: ASTM C-478 & ASTM M199 SPECIFICATIONS.
3. STEEL REINFORCEMENT TO MEET OR EXCEED HS-20 LOADING AND CONFORM TO ASTM A 185 SPEFICIFATIONS.
4. MANHOLE STEPS (NOT SHOWN) SHALL MEET LATEST OSHA REGULATIONS AND ASTM C497.

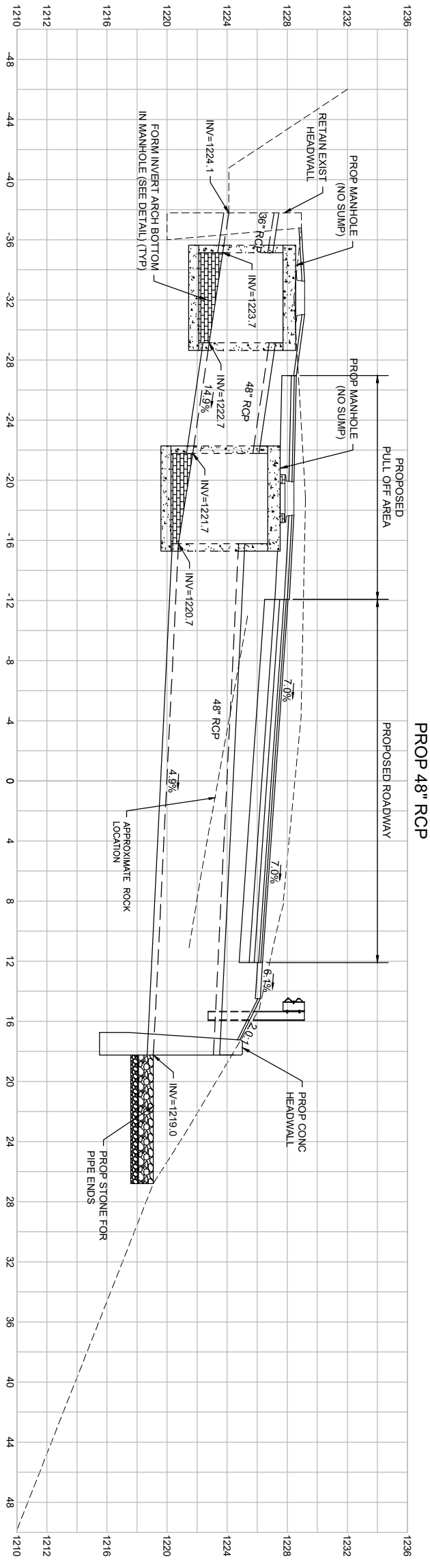
SPECIAL MANHOLE – 6' DIAMETER

NOT TO SCALE

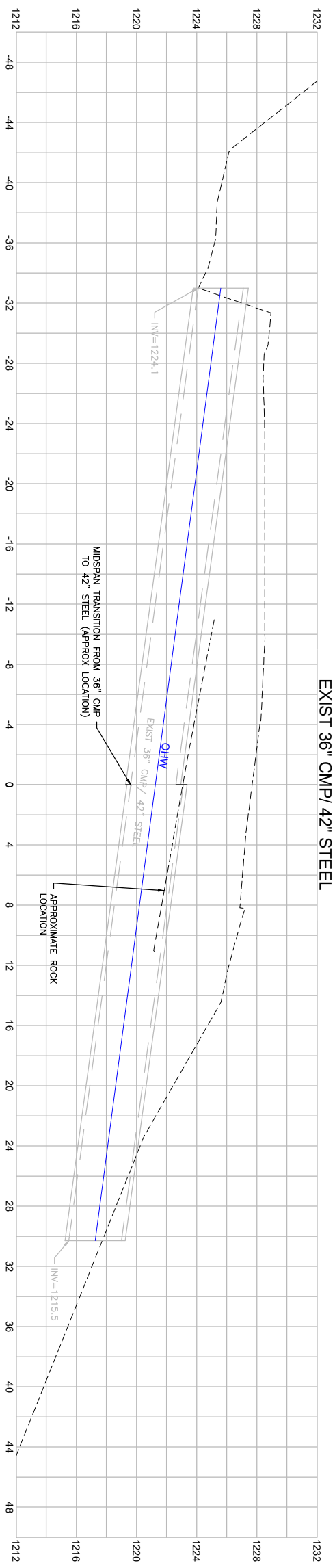
STA 227+05.07
EXIST 36" CMP & PROP 42" RCP



STA 219+86.92
PROP 48" RCP



STA 219+94.03
EXIST 36" CMP/ 42" STEEL



EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP/TAP-0031(021)X	4	4
	PROJECT FILE NO. 608547		

PERMITTING PLANS
CULVERT PROFILES

HOR. SCALE IN FEET
VER. SCALE IN FEET
4 0 4 8

608547_CORRIDOR.DWG Plotted on 14-Aug-2025 1:42 PM

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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: 03/20/2025 19:03:42 UTC
Project code: 2025-0072019
Project Name: 608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)

Federal Nexus: yes
Federal Action Agency (if applicable): Federal Highway Administration

Subject: Federal agency coordination under the Endangered Species Act, Section 7 for '608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)'

Dear Hana Isihara:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on March 20, 2025, for '608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)' (here forward, Project). This project has been assigned Project Code 2025-0072019 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements may not be complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. 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 IPaC or the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (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 determination to remain valid. Note that conservation measures for northern long-eared bat and tricolored bat may differ. If both bat species are present in the action area and the key suggests more conservative measures for one of the species for your Project, the Project may need to apply***

the most conservative measures in order to avoid adverse effects. If unsure which conservation measures should be applied, please contact the appropriate Ecological Services Field Office.

Determination for the Northern Long-Eared Bat and Tricolored Bat

Based on your IPaC submission and a standing analysis completed by the Service, you determined the proposed Project will have the following effect determinations:

Species	Listing Status	Determination
Northern Long-eared Bat (*Myotis septentrionalis*)	Endangered	NLAA
Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	NLAA

Federal agencies must consult with U.S. Fish and Wildlife Service under section 7(a)(2) of the Endangered Species Act (ESA) when an action *may affect* a listed species. 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 and when 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 NE or NLAA determination from the key to confirm that the determination is still accurate.

Unless the Service advises you within 15 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that consultation on the Action is complete for northern long-eared bat and/or tricolored bat and no further action is necessary unless either of the following occurs:

- new information reveals effects of the action that may affect the northern long-eared bat or tricolored bat in a manner or to an extent not previously considered; or,
- the identified action is subsequently modified in a manner that causes an effect to the northern long-eared bat or tricolored bat that was not considered when completing the determination key.

15-Day Review Period

As indicated above, the Service will notify you within 15 calendar days if we determine that this proposed Action does not meet the criteria for a “may affect, not likely to adversely affect” (NLAA) determination for the northern long-eared bat and/or tricolored bat. If we do not notify you within that timeframe, you may proceed with the Action under the terms of the NLAA concurrence provided here. This verification period allows the identified Ecological Services Field Office to apply local knowledge to evaluation of the Action, as we may identify a small subset of actions having impacts that we did not anticipate when developing the key. In such cases, the identified Ecological Services Field Office may request additional information to verify the effects determination reached through the Northern Long-eared Bat and Tricolored Bat DKey.

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Bog Turtle *Glyptemys muhlenbergii* Threatened
- Monarch Butterfly *Danaus plexippus* Proposed Threatened

You may coordinate with our Office to determine whether the Action may affect the species and/or critical habitat listed above. Note that reinitiation of consultation would be necessary if a new species is listed or critical habitat designated that may be affected by the identified action before it is complete.

If you have any questions regarding this letter or need further assistance, please contact the New England Ecological Services Field Office and reference Project Code 2025-0072019 associated with this Project.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)

2. Description

The following description was provided for the project '608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)':

> 608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)
>
> Mount Washington Rd, from the Mount Washington line to Undermountain Road (Route 41), is a two-lane bituminous concrete roadway, approximately 3.5 miles in length. Average pavement width is 22 feet. AADT is 900 vpd with 6% trucks. There is steep and challenging topography as the roadway climbs in elevation toward the Mt. Washington line. Drainage system consists of country drainage, swales, drop-inlets, and cross culverts with direct discharge into Karner Brook. Existing guard rail, end treatments and transitions at bridges are not compliant with current safety standards. Roadway crosses over 4 MassDOT inventoried bridge culverts (E-08-007, -008, -009, -010). One structure is currently reduced to one lane, but is undergoing replacement in 2016. These structures vary in span from 12 ft - 25 ft. Roadway context is rural natural with forest, low density residential, agricultural, and open space. The roadway provides direct access to Mt. Everett State Reservation, Mt. Washington State Forest, Camp High Rock (YMCA), Bash Bish Falls, and is also a bus route for Mount Washington students to access regional schools. The road is used for local organized cycling events and is one of only four access routes to the town. Town proposes roadway reconstruction (maybe reclamation) with minor widening to 26 ft; plus associated drainage, guard rail & safety improvements to maintain safe and reliable access between Egremont and Mount Washington for all users.
>
> Monarch Butterfly: Proposed Threatened Species only. The project action will not have an intentional take on the species and therefore will not jeopardize the continued existence of the proposed species.
> Bog Turtle: 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.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.15636075,-73.47460112447715,14z


MOUNT WASHINGTON RD
Mount Fray
Karner Brook
Mount Whitbeck

DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect, but not likely to adversely affect” for a least one species covered by this determination key.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

   Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

   Yes

7. FHWA, FRA, and FTA have completed a range-wide programmatic consultation for transportation- related actions within the range of the Indiana bat, northern long-eared bat and tricolored bat.

   Does your proposed action fall within the scope of this programmatic consultation?

   Note: If you are unsure, but your action is transportation related, please select "Yes" and use the FHWA, FRA, FTA Assisted Determination Key (FHWA DKey) in IPaC to determine if the programmatic consultation is applicable to your action. Return to this key and answer ‘no’ to this question if it is not.

   No

8. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

   Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

   Yes

9. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

   No

10. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

    No

11. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

12. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

    No

13. Does the action area contain (1) talus or (2) anthropogenic or naturally formed rock shelters or crevices in rocky outcrops, rock faces or cliffs?

    No

14. Will the action cause effects to a bridge?

    Note: Covered bridges should be considered as bridges in this question.

    Yes

15. Has a site-specific bridge assessment following USFWS guidelines been completed?

    Note: For information on conducting a bridge/structure assessment, please see Appendix K in the USFWS' Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines at:https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines Additional resources can be found at: https://www.fws.gov/media/bats-and-transportation-structures-references-and-additional-resources and a training video is located at: https://www.youtube.com/watch?v=iuFwkT7q8Ws.

    Yes

16. Was evidence of bat use found during the bridge assessment?

    No

    SUBMITTED DOCUMENTS

    - *608547_Egremont-bat_acoustic_report_Rev1.pdf https://ipac.ecosphere.fws.gov/project/3COCBE3LXFEAXAAAYSAR7AJJCM/projectDocuments/159050007*

17. Did you coordinate with your local Ecological Services Field Office (ESFO) and receive approval of the bridge assessment results? If NO, please contact the appropriate local ESFO before completing this determination key.

    Yes

18. Will the action result in effects to a culvert or tunnel at any time of year?

    No

19. Are trees present within 1000 feet of the action area?

    Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

20. Does the action include the intentional exclusion of bats from a building or structure?

    Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

    No

21. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats?**

    No

22. Will the action cause construction of one or more new roads open to the public?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    No

23. Will the action include or cause any construction or other activity that is reasonably certain to increase average daily traffic permanently or temporarily on one or more existing roads?

    Note: For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.). .

    No

24. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    No

25. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

    Note: For information regarding NSF/ANSI 60 please visit https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects

    No

26. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

    No

27. Will the action include drilling or blasting?

    No

28. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

    No

29. Will the proposed action involve the use of herbicides or other pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

    No

30. Will the action include or cause activities that are reasonably certain to cause chronic or intense nighttime noise (above current levels of ambient noise in the area) in suitable summer habitat for the northern long-eared bat or tricolored bat during the active season?

    Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time. Sources of chronic or intense noise that could cause adverse effects to bats may include, but are not limited to: road traffic; trains; aircraft; industrial activities; gas compressor stations; loud music; crowds; oil and gas extraction; construction; and mining.

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

31. Does the action include, or is it reasonably certain to cause, the use of permanent or temporary artificial lighting within 1000 feet of suitable northern long-eared bat or tricolored bat roosting habitat?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

32. Will the action cause an increase in the extent of suitable forested habitat exposed to artificial lighting?

    No

33. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

    Yes

34. Will the proposed action occur exclusively in an already established and currently maintained utility right-of-way?

    No

35. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

    Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property.

    No

36. Does the project intersect with the 0- 9.9% forest density category?

    Automatically answered
    No

37. Does the project intersect with the 10.0- 19.9% forest density category map?

    Automatically answered
    No

38. Does the project intersect with the 20.0- 29.9% forest density category map?

    Automatically answered
    No

39. Does the project intersect with the 30.0- 100% forest density category map?

    Automatically answered
    Yes

40. Will the action cause trees to be cut, knocked down, or otherwise brought down across an area greater than 100 acres in total extent?

    No

41. Will the proposed action result in the use of prescribed fire?

    Note: If the prescribed fire action includes other activities than application of fire (e.g., tree cutting, fire line preparation) please consider impacts from those activities within the previous representative questions in the key. This set of questions only considers impacts from flame and smoke.

    No

42. Does the action area intersect the northern long-eared bat species list area?

    Automatically answered
    Yes

43. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

    Automatically answered
    No

44. [Semantic] Is the action area located within 150 feet of a documented northern long-eared bat roost site?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

45. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?
    If unsure, answer "Yes."

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

46. Are any of the trees proposed for cutting or other means of knocking down, bringing down, topping, or trimming suitable for northern long-eared bat roosting (i.e., live trees and/or snags ≥3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities)?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

47. Will any tree cutting/trimming or other knocking or bringing down of trees occur during the **Fall Swarming season** for northern long-eared bats in the action area?

    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines

    No

48. Will any tree cutting/trimming or other knocking or bringing down of trees occur during the **Spring Staging** season for northern long-eared bats in the action area?

    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    No

49. Will any tree cutting/trimming or other knocking or bringing down of trees occur during the **Summer Occupancy season** for northern long-eared bats in the action area?

    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    No

50. Does the action area intersect the tricolored bat species list area?

    Automatically answered
    Yes

51. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

52. Is suitable summer habitat for the tricolored bat present within 1000 feet of project activities?
    (If unsure, answer ""Yes."")

    Note: If there are trees within the action area that may provide potential roosts for tricolored bats (e.g., clusters of leaves in live and dead deciduous trees, Spanish moss (Tillandsia usneoides), clusters of dead pine needles of large live pines) answer ""Yes."" For a complete definition of suitable summer habitat for the tricolored bat, please see Appendix A in the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    Yes

53. Do any of the trees proposed for cutting or other means of knocking down, bringing down, topping, or trimming provide potential roosts for tricolored bats (e.g., clusters of leaves in live and dead deciduous trees, Spanish moss (*Tillandsia usneoides*), clusters of dead pine needles of large live pine trees)?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

54. Will any tree cutting/trimming or other knocking or bringing down of trees be conducted during the Spring Staging Season for tricolored bat?
    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    No

55. Will any tree cutting/trimming or other knocking or bringing down of trees be conducted during the Fall Swarming Season for tricolored bat?

    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines .

    No

56. Will any tree cutting/trimming or other knocking or bringing down of trees be conducted during the Pup Season for tricolored bat?

    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    No

57. Do you have any documents that you want to include with this submission?

    No

PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

2.1

IPAC USER CONTACT INFORMATION

Agency: Massachusetts Department of Transportation
Name: Hana Isihara
Address: 10 Park Plaza
City: Boston
State: MA
Zip: 02116
Email hana.l.isihara@dot.state.ma.us
Phone: 6178964454

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

DOCUMENT A00860

MASSACHUSETTS

DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF INTENT

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Notice of Intent (NOI)

Egremont, Massachusetts
Reconstruction of Mount Washington Road (Phase I)
MassDOT Project 608547

May 2024

Prepared For:
Town of Egremont
171 Egremont Plain Road (Route 71)
Egremont, Massachusetts 01258

Prepared By:
Comprehensive Environmental Inc.
41 Main Street
Bolton, Massachusetts 01740

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PART A – WPA Form 3

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

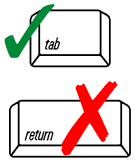
Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Egremont
City/Town

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

Mt Washington Rd, from Mt Washington Townline to 2,000-feet west of Jug End Road
a. Street Address

Egremont
b. City/Town

01230
c. Zip Code

Latitude and Longitude:

42.160102
d. Latitude

-73.471273
e. Longitude

N/A
f. Assessors Map/Plat Number

N/A
g. Parcel /Lot Number

2. Applicant:

a. First Name

b. Last Name

Town of Egremont
c. Organization

171 Egremont Plain Road (Route 71)
d. Street Address

Egremont
e. City/Town

MA
f. State

01258
g. Zip Code

(413) 528-0182
h. Phone Number

(413) 528-5465
i. Fax Number

tegremont@egremont-ma.gov
j. Email Address

3. Property owner (required if different from applicant): ☐ Check if more than one owner

a. First Name

b. Last Name

c. Organization

d. Street Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

4. Representative (if any):

Matthew
a. First Name

Lundsted
b. Last Name

Comprehensive Environmental Inc.
c. Company

41 Main Street
d. Street Address

Bolton
e. City/Town

MA
f. State

01740
g. Zip Code

(800) 725-2550x305

i. Fax Number

mlundsted@ceiengineers.com
j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

fee exempt
a. Total Fee Paid

fee exempt
b. State Fee Paid

fee exempt
c. City/Town Fee Paid

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

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A. General Information (continued)

6. General Project Description:

The Mount Washington Road project in Egremont, MA is a 1.2 mile is proposed with the intention of rehabilitating poor/failing pavement and improvement of safety conditions for vehicular and pedestrian travel. Improvements include roadway reconstruction with minor widening, stormwater drainage updates, erosion repair and guardrail and safety improvements along the corridor.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

1. ☐ Single Family Home
2. ☐ Residential Subdivision
3. ☐ Commercial/Industrial
4. ☐ Dock/Pier
5. ☐ Utilities
6. ☐ Coastal engineering Structure
7. ☐ Agriculture (e.g., cranberries, forestry)
8. ☒ Transportation
9. ☐ Other

7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1. ☒ Yes ☐ No

If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

10.53(3f): Maintenance and improvements of existing public roadways widening less than a single lane

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

N/A-roadway
a. County

b. Certificate # (if registered land)

c. Book

d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

1. ☐ Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
2. ☒ Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Massachusetts Department of Environmental Protection
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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☒ Bank	32.87 LF (1. linear feet)	32.87 LF (2. linear feet)
b. ☐ Bordering Vegetated Wetland	1. square feet	2. square feet
c. ☐ Land Under Waterbodies and Waterways	1. square feet 3. cubic yards dredged	2. square feet

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. ☐ Bordering Land Subject to Flooding	1. square feet 3. cubic feet of flood storage lost	2. square feet 4. cubic feet replaced
e. ☐ Isolated Land Subject to Flooding	1. square feet 2. cubic feet of flood storage lost	3. cubic feet replaced
f. ☒ Riverfront Area	Karner Brook (1. Name of Waterway (if available) - **specify coastal or inland**)	

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☒ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: 394,200 SF (square feet)

4. Proposed alteration of the Riverfront Area:

a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.
107,964 SF	74,317 SF	33,647 SF

5. Has an alternatives analysis been done and is it attached to this NOI? ☒ Yes ☐ No

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☒ Yes ☐ No

3. ☐ Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Note: for coastal riverfront areas, please complete **Section B.2.f**. above.

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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
f. ☐ Coastal Banks	1. linear feet	
g. ☐ Rocky Intertidal Shores	1. square feet	
h. ☐ Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. ☐ Land Under Salt Ponds	1. square feet 2. cubic yards dredged	
j. ☐ Land Containing Shellfish	1. square feet	
k. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above 1. cubic yards dredged	
l. ☐ Land Subject to Coastal Storm Flowage	1. square feet	

4. ☐ Restoration/Enhancement

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5. ☐ Project Involves Stream Crossings

a. number of new stream crossings

b. number of replacement stream crossings

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C. Other Applicable Standards and Requirements

☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

   a. ☒ Yes ☐ No

   If yes, include proof of mailing or hand delivery of NOI to:

   Natural Heritage and Endangered Species Program
   Division of Fisheries and Wildlife
   1 Rabbit Hill Road
   Westborough, MA 01581

   2/1/2023
   b. Date of map

   If *yes*, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

   c. Submit Supplemental Information for Endangered Species Review*

      1. ☒ Percentage/acreage of property to be altered:

         (a) within wetland Resource Area — 0 acres in RA/ 0% of the total site (percentage/acreage)

         (b) outside Resource Area — 1.955 acres outside RA/ 21% of the total site (percentage/acreage)

      2. ☒ Assessor's Map or right-of-way plan of site

2. ☒ Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **

   (a) ☒ Project description (including description of impacts outside of wetland resource area & buffer zone)

   (b) ☒ Photographs representative of the site

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see https://www.mass.gov/ma-endangered-species-act-mesa-regulatory-review).
Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.
** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.

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C. Other Applicable Standards and Requirements (cont'd)

(c) ☐ MESA filing fee (fee information available at https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review).
Make check payable to "Commonwealth of Massachusetts - NHESP" and ***mail to NHESP*** at above address

*Projects altering **10 or more acres** of land, also submit:*

(d) ☐ Vegetation cover type map of site

(e) ☐ Project plans showing Priority & Estimated Habitat boundaries

(f) OR Check One of the Following

1. ☐ Project is exempt from MESA review.
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, https://www.mass.gov/service-details/exemptions-from-review-for-projectsactivities-in-priority-habitat; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2. ☐ Separate MESA review ongoing. a. NHESP Tracking # b. Date submitted to NHESP

3. ☒ Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

a. ☒ Not applicable – project is in inland resource area only b. ☐ Yes ☐ No

If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:

South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: dmf.envreview-south@mass.gov

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: dmf.envreview-north@mass.gov

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.

c. ☐ Is this an aquaculture project? d. ☐ Yes ☒ No

If yes, include a copy of the Division of Marine Fisheries Certification Letter (M.G.L. c. 130, § 57).

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C. Other Applicable Standards and Requirements (cont'd)

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

a. ☒ Yes ☐ No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.

Karner Brook Watershed
b. ACEC

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?

a. ☒ Yes ☐ No

6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?

a. ☐ Yes ☒ No

7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?

a. ☒ Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:

1. ☐ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)

2. ☒ A portion of the site constitutes redevelopment

3. ☐ Proprietary BMPs are included in the Stormwater Management System.

b. ☐ No. Check why the project is exempt:

1. ☐ Single-family house

2. ☐ Emergency road repair

3. ☐ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)

2. ☒ Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.

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Egremont
City/Town

D. Additional Information (cont'd)

3. ☐ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.

4. ☐ List the titles and dates for all plans and other materials submitted with this NOI.

Egremont, MA - Mount Washington Road (608547) Construction Plan
a. Plan Title

CHA
b. Prepared By

John G. Morgan Jr.
c. Signed and Stamped by

May 2024
d. Final Revision Date

e. Scale

f. Additional Plan or Document Title

g. Date

5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.

6. ☒ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.

7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.

8. ☒ Attach NOI Wetland Fee Transmittal Form

9. ☒ Attach Stormwater Report, if needed.

E. Fees

1. ☒ Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

Fee Exempt
2. Municipal Check Number

3. Check date

Fee Exempt
4. State Check Number

5. Check date

6. Payor name on check: First Name

7. Payor name on check: Last Name

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Egremont
City/Town

F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

Mary Drange, Office Admin
1. Signature of Applicant

6/5/24
2. Date

3. Signature of Property Owner (if different)

4. Date

Master Plumber
5. Signature of Representative (if any)

6/5/24
6. Date

For Conservation Commission:
Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:
One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

PART B – Notice of Intent Narrative

1.0 INTRODUCTION

The Mount Washington Road project in Egremont, MA is a 1.2-mile roadway reconstruction project with the goal of improving bicycle accommodations, restoring pavement conditions, as well as upgrading stormwater drainage. The project limits begin at the town line of Mount Washington and Egremont and end approximately 2,000-feet before the Jug End intersection. A project locus map is attached as **Figure 1.** The town of Egremont is the applicant for this Notice of Intent (NOI).

Within these project limits, the Karner Brook flows in proximity with Mount Washington Road with a few intermittent stream crossings intersecting the roadway as well as nearby Bordering Vegetated Wetlands (BVW). Permitting is therefore required including this NOI which will illustrate the impacts to resource areas within the project limits including the 100-foot buffer zone, the 200' Riverfront Area to the Karner Brook, and Bank. In accordance with 301 CMR 11.00: Massachusetts Environmental Policy Act (MEPA) Regulations, a MEPA review is required as the following threshold was exceeded: 11.03(6)(b)(2b) – cut five or more living public shade trees of 14 inches in diameter at breast height. As a result, an Environmental Notification Form (ENF) will be filed for this project as well. Natural Heritage and Endangered Species Program (NHESP) Priority Habitat of Rare Species PH970 and Estimated Habitat of Rare Species EH734 are located from STA 200+00 to STA 217+20 and therefore, will be reviewed by NHESP.

The proposed work is defined as both a redevelopment and new development project as it will aim to improve the existing Mount Washington Road conditions. Maintenance and improvements to Mount Washington Road that are described later in this narrative are necessary as some roadway features need upgrades/repair. This includes outdated guardrails and end treatments, poor pavement conditions, narrow corridor, and erosion due to poor drainage systems.

Due to the described maintenance and improvements to Mount Washington Road, the proposed work qualifies as a limited project as it meets the following standard:

10.53(3)f …maintenance and improvement of existing public roadways, but limited to widening less than a single lane, adding shoulders, correcting substandard intersections, and improving inadequate drainage systems.

1.1 Project Goal

The reconstructed roadway is proposed in efforts to rehabilitate the roadway and improve safety along the corridor. The reconstructed roadway will eliminate the risk caused by poor pavement, lack of shoulders, currently obsolete guardrails leading to steep drop offs, and a poor drainage system resulting in advanced erosion along roadsides. Also, Mount Washington Road does not currently provide mobility or access for pedestrians, bicyclists, or transit users, but it is used as a route for local organized cycling events and by bicycling enthusiasts. Improvement and installation of the shoulder will promote or expand bicycle facilities to the nearby state forests

and recreational areas. Additionally, with the improvement of the drainage system along the roadway, water quality will be enhanced.

Photos documenting existing conditions are provided in **Appendix A.**

1.2 Existing Conditions and Project Background

Mount Washington Road is a two-lane bituminous concrete roadway, approximately 3.5 miles in full length. Within the project limits, average pavement width is 22-feet and narrows down to 20-feet in some locations, posing a threat to both drivers and bicyclists when present as there are no existing shoulders or white line strips along edges of roadways, and poor pavement conditions. Existing guardrails and end treatments are not compliant with current safety standards, some considered obsolete adjacent to steep drop-offs. In its current state, the existing corridor has been observed as a risk to both roadway users and bicyclists due to the slim roadway, poor pavement condition, as well as erosion due to a poor drainage system.

Mount Washington Road, beginning at the Mount Washington town line, has very steep and mountainous topography, slowly dropping in elevation towards the Jug End Road eastern project limit. The roadway context is rural natural forest, low density residential, agricultural, and open space. The road is functionally classified as a Rural Major Collector, and the current drainage system consists of country drainage, swales, drop-inlets, and cross culverts with direct discharge into Karner Brook. The proposed project will occur adjacent to the properties listed in **Appendix F**.

The entirety of the project is within the Karner Brook watershed, which is considered a Class A Outstanding Resource Water (ORW) (for Zones A, B and C Surface Water Protection Areas) and is designated as an Area of Critical Environmental Concern (ACEC). The brook runs west to east along the 1.2-mile project area of Mount Washington Road, with portions of the road project within the 100-foot buffer zone to Bordering Vegetated Wetlands (BVW), Bank, and 200' Riverfront Area to Karner Brook.

There are two series of BVWs within 100 feet of the project work limits and six series of delineated stream banks adjacent to the Karner Brook. These series were delineated previously by others at an unknown date. On December 14th, 2023, a wetland scientist from Comprehensive Environmental Inc. (CEI) went in the field to review the previous wetland lines and re-delineated BVW areas accordingly. The BVW areas are located along the southern edge (Wetland Series B-WF-23 to B-WF-28 at Sta. 236+25 and Wetland Series B-WF-10 to B-WF-12 at Sta. 245+90 Right) of Mount Washington Road. Bank delineation was flagged based on observations of Mean Annual High-Water Line (MAHWL) which included the following series and locations: F-B Series at Sta. 219+65, E-B Series at Sta. 219+75, C-B Series at Sta. 227+00, D-B Series at Sta. 227+00, B-B series at Sta. 235+50, and A-B Series at Sta. 253+85. The BVW and bank/MAHWL delineations are shown in the project plans found in **Appendix B**. All information pertaining to CEI's wetland delineation field results such as site descriptions,

wetland resource area descriptions, dominant/non dominant species present, MassDEP BVW delineation field data forms, and photos are provided in detail in **Appendix E**.

The roadway provides direct access to Mt. Everett State Reservation, Mt. Washington State Forest, Camp High Rock (YMCA), Bash Bish Falls, and is also a bus route for Mount Washington students to access regional schools. The road is used for local organized cycling events and is one of only four access routes to the town. In addition, Mount Washington Road is the only road in Massachusetts that gives access to the town of Mount Washington. The project proposes roadway reconstruction with minor widening to 24 feet; plus, associated drainage, guardrail, and safety improvements to maintain safe and reliable access between Egremont and Mount Washington for all users.

1.3 Project Description

The project proposes a full depth reconstructed roadway, with 6 ¾ inches of pavement, over 4-inches of dense grade, over 8-inches of gravel. The pavement surface will be widened to provide a minimum 24-foot paved roadway. The 20-foot travel way will consist of two 10-foot opposite lanes of traffic, each flanked by 2-foot shoulders. The design calls for improved banking and cross sections around curves, and new guardrail will be installed along downward slopes. In addition, to reduce the impacts of construction and possible erosion in the future, soldier-pile retaining walls from a varying 4 to10 foot height and modified rock fill slopes will be put in place throughout the Mount Washington Road corridor. Selected public shade trees will be trimmed/removed to construct these wall foundations.

The project will also upgrade the current drainage system by expanding on the closed drainage system that will tie in with new curbing, cross culverts, catch basins, and drainage manholes. Stormwater will follow similar existing drainage paths. However, the new system will be collecting runoff using the new catch basins, as well as various sized stone-lined swales/ditches with check dams.

2.0 DESCRIPTION OF PROPOSED WORK

This project features a full depth reconstruction of Mount Washington Road, which currently experiences severe pavement deterioration. Profile adjustments and horizontal curve adjustments are proposed to improve driver safety. Asphalt berm and curb treatments will be installed, also increasing user safety. Soldier pile retaining walls, with heights ranging from 4-10 feet, will be constructed on both the uphill and downhill sides of the project to support the updated profile geometry. Guardrail will be upgraded along the entirety of the project. The entire drainage system will be upgraded, with new catch basins, drain manholes, inlet, and outlet locations being constructed. Sediment Control Barriers are proposed to be installed adjacent to wetland resource areas during construction to mitigate impacts to resource areas.

All above work will be performed in accordance to MassDOT Standard Specifications. The following section provides construction details and highlights the general construction sequence

and timing of earthmoving activities. Specific construction phases are undetermined at this time and will be determined by means and methods of the contractor at the time of construction. However, with long, linear projects and active road systems, the construction sequence is typically applied to a discrete segment(s) of roadway, and construction is completed for one or more segments, depending on the number of construction spreads, before work is begun on the next segment(s). The equipment, and any staging, stockpile, and laydown areas will be determined by means and methods of the contractor at the time of construction and as stated before, will be in accordance with MassDOT Standard Specifications. The need for temporary access roads is not anticipated.

2.1 Erosion & Sediment Control/Drainage System Protection

Measures will be taken to minimize sedimentation/siltation into the adjacent wetland resource areas, corresponding buffer zones, and the surrounding community during construction activities. Erosion control measures will delineate limits of work. Approximately 4,700 linear feet of erosion control will be installed throughout the project. Implementation of accepted and usual methods of sedimentation erosion control will be used at the site during all phases of construction. Erosion control during construction will include:

- Compost filter tubes will be placed as shown on the drawings to protect wetland resource areas.
- Compost filter tubes will be staked in place. This will ensure that the filter tubes stay in direct contact with the ground and maintain effective performance.
- Compost blankets will be placed on side slopes as shown on plans to protect the side slopes from erosion
- Catch basins receiving stormwater run-off from the project area will be protected with silt sacks during construction to capture sediment before entering the storm drain system.
- Erosion control devices will be inspected weekly and after each significant rainfall event. Any entrapped silt or other materials will be removed. Compost filter tubes and other devices will be replaced as necessary to remain at maximum efficiency.
- Erosion control devices will remain in place locally until disturbed surfaces have been stabilized with the final vegetative cover in the area of disruption.
- Any necessary temporary soil storage will be placed in a specified staging area and be surrounded by compost filter socks, or an approved erosion control method.

2.2 Minor Clearing

Clearing operations will include the removal of trees, shrubby vegetation and other organic materials within the construction workspace. Clearing methods employed will be dependent on vegetation density and topography. Vegetative clearing will be conducted either by hand or with mechanized cutting equipment. Prior to the commencement of clearing activities, the limits of

clearing will be identified in accordance with the construction drawings. All construction activities and ground disturbance will be confined to the workspace as depicted on the construction drawings. Vegetation will be removed and disposed of offsite in approved locations in accordance with MassDOT Standard Specifications. All minor clearing will be classified as permanent impacts.

2.3 Grading, Excavation & Strom Drainage Repair/Replacement

During this phase of construction, grading and excavation will take place to prepare for; roadway profile and horizontal curve adjustments, roadway widening, the repair/replacement/installation of stormwater drainage structures and stone-lined swales, and the installation of proposed solider pile retaining walls. If suitable topsoil is found, it will be removed and stockpiled in approved upland areas. The stockpiled topsoil will be protected with compost filter tubes and/or temporarily seeded until ready for use on an as needed basis.

Old pavement (bituminous concrete) will be milled from the upper road layers and excavation for full depth roadway construction will be performed along Mount Washington Road across the roadway. Pavement may be discarded in environmentally appropriate locations as designated by MassDOT and/or approved by local and state regulatory agencies.

2.4 Road Construction/Drainage Repair/Replacement

Full depth pavement construction is proposed predominantly for Mount Washington Road although pavement mill and overlay and box widening is proposed for some sections. Following excavation and upgrades to the drainage system, the proposed curb line will be defined, the preparation of the sub-foundation of the roadway and road widening will be completed, and the various layers of the road base will be installed. This generally includes a layer of gravel borrow overlain by a second layer of dense graded crushed stone. A base course of hot mix asphalt underlies the actual road surface that is composed of an intermediate and surface course of asphalt pavement. Thermoplastic pavement markings will be applied as the final step in roadway construction.

2.5 Site Stabilization

The final phase of the project is the restoration and stabilization of all exposed surfaces. Side slopes/road aprons will be overlain with compost blanket and milling mulch. All tie-in slopes are proposed to be a maximum slope of 2:1. However, the modified rockfill slopes are steeper than 2:1 and are proposed in 14 areas; Sta. 200+20 to Sta. 201+22, Sta. 202+15 to Sta. 203+15, Sta. 202+30 to Sta. 202+70, Sta. 210+13 to Sta. 210+43, Sta. 211+84 to Sta. 212+00, Sta. 212+75 to Sta. 212+91, Sta. 212+75 to Sta. 212+75, Sta. 213+30 to Sta. 213+75, Sta. 214+90 to Sta. 215+10, Sta. 217+80 to Sta. 218+15, Sta. 219+20 to Sta. 219+36, Sta. 227+75 to Sta. 231+10, Sta. 239+00 to Sta. 240+60, and Sta. 247+15 to Sta. 247+70. In the event that weather conditions prevent final restoration with vegetation, temporary erosion and sedimentation control measures will be employed until the weather is suitable for final cleanup. A final inspection will

ensure that the project site is cleared of all project debris and that vegetation is well established or erosion and sedimentation controls are functioning properly. Erosion controls will not be removed until the site is stabilized and the final inspection is complete.

2.6 Monitoring and Maintenance

The contractor shall conduct follow-up inspections of all disturbed areas after the first and second growing seasons to determine the success of revegetation. Revegetation shall be considered successful if the vegetative cover is sufficient to prevent the erosion of soils on the disturbed workspace. Sufficient coverage is defined when vegetation has a uniform 75% vegetative coverage. If sufficient vegetative cover has not been achieved or if there are excessive invasive/noxious weeds after two full growing seasons, the Project Manager, Superintendent, or Environmental Inspector will be consulted to determine the need for additional restoration measures.

A final inspection will ensure that the project site is cleared of all project debris and that erosion and sedimentation controls are functioning properly. ESC measures will not be removed until the final inspection is complete, and a certificate of compliance is issued.

2.7 Compliance with Standard 310 CMR 10.54(4)

The proposed work will involve minor work to existing Bank. There will be 32.87 LF of permanent impacts to the Bank due to grading to construct new headwalls along with stones at pipe ends and within swales. This work will improve the existing poor drainage systems.

2.8 Compliance with Standard 310 CMR 10.55(4)

The proposed work involves both redevelopment within a previously degraded 100-foot buffer to the Bordering Vegetated Wetlands and new development. There will be 15,460 SF of temporary impacts to the 100-foot buffer due to full-depth reclamation within the existing roadway footprint. These are considered minor exempt. There will be 19,342 SF of permanent impacts to the 100-foot buffer, including grading, clearing, and selective clearing/trimming activities but not within the wetlands themselves, therefore conforming to this performance standard. This work will improve existing roadway conditions including poor pavement conditions, slim corridor, and erosion due to poor drainage systems. No proposed work will destroy or otherwise impair any portion of said area.

2.9 Compliance with Standard 310 CMR 10.58(5)

The proposed work involves both redevelopment within a previously degraded 200-foot Riverfront Area and new development. There will be temporary impacts to the 200-foot Riverfront Area due to full-depth reclamation within the existing roadway footprint. These are considered minor exempt. There will be 107,964 SF of permanent impacts to the 200-foot Riverfront Area, including grading, clearing, and selective clearing/trimming activities. This work in new development will improve existing roadway conditions including poor pavement

conditions, slim corridor, and erosion due to poor drainage systems. This project will conform to the following redevelopment performance standards to the Maximum Extent Possible (MEP);

(a) Proposed work shall result in an improvement over existing conditions of the capacity of the Riverfront Area to protect interests identified in the Wetlands Protection Act. This includes full-depth pavement reconstruction with upgraded stormwater structures.
(b) A Stormwater Management Report is included in **Appendix C**.
(c) Proposed work will be slightly closer to the Karner brook than the existing conditions within the 200-foot Riverfront Area due to roadway widening to improve bicyclist safety incorporating 2-foot shoulders on both sides of the roadway. The majority of the resurfaced roadway will be constructed within the existing roadway's footprint.
(d) Work is proposed to be done within the 200-foot Riverfront boundary and therefore will be in accordance with 10.58(f).
(e) A portion of proposed work will exceed the amount of degraded area. Full depth reclamation will occur within the existing roadway's footprint. However, grading, clearing, and selective clearing/trimming activities are proposed in new development but are necessary to construct a wider roadway with new drainage structures.

(f)This project's restoration of previously degraded Riverfront Area is allowed in spite of 310 CMR 10.58(5)(c), (d), and (e) at a ratio in square feet of at least 1:1 of restored area to area of alteration not conforming to the criteria. Restoration will include:

1. removal of all debris, retaining most trees and other mature vegetation;

2. grading to a topography which reduces runoff and increases infiltration;

3. coverage by topsoil at a depth consistent with natural conditions at the site; and

4. seeding and planting with an erosion control seed mixture, followed by plantings of herbaceous and woody species appropriate to the site;

(g) Mitigation is proposed within the 200-foot Riverfront boundary. There will be temporary impacts due to paving within the existing roadway footprint, however, these are considered minor exempt. As mentioned previously, the permanent impacts within new development total 107,964 SF. Tie-in slopes will have a maximum slope of 2:1 and modified rockfill slopes will be steeper than 2:1 and are proposed at various locations. Erosion and sedimentation control measures will be installed and inspected until site is stabilized.

(h) No further alteration or mitigation is proposed after reconstruction of Mount Washington Road is complete, except to maintain the area previously restored or mitigated.

An Operation and Maintenance (O&M) for Stormwater Controls Plan is located in **Appendix C**.

2.10 Alternatives

Alternatives to the proposed cross section for Phase 1 were considered in order to avoid impacts to existing residential properties which would include extensive rock cut and tree clearing.

Roadway Width Alternative:

Widening to a preferred 28-foot-wide roadway would be proposed down existing steep slopes to the south and up existing steep slopes to the north. As a result of this, the length of retaining walls would increase to approximately 2,400 feet. Also, the average exposed face height of the proposed retaining wall would increase to 8-10 feet. These increases in length and height of the retaining walls represent significant project costs. The width of the existing ROW and the location of the existing roadway is variable throughout the site. Implementing 28-foot-wide roadway construction within this phase's limits with the necessary retaining wall construction would require permanent ROW impacts at approximately Sta. 207+00 Right to Sta. 208+00 Right, Sta. 219+00 Right to Sta. 220+00 Right, and Sta. 220+00 Left to Sta. 221+50 Left. This additional pavement widening and retaining wall construction would further increase the impervious surface for the roadway. It would also require the removal of existing mature vegetation along the south edge of the roadway. This would reduce the vegetated buffer to Karner Brook which runs along the southern edge of the roadway at the bottom of the wooded hillside throughout this segment. This is noteworthy since Karner Brook, a Coldwater Fishery, is designated as an Outstanding Resource Water as mentioned previously. This option was not chosen.

Vertical Alignment Alternative:

In terms of vertical alignment, an alternative to the proposed curve was considered to provide a K value of 64 by lengthening the curve from 490 feet to 640 feet. In doing so, the roadway would have to be raised about an additional two feet at the midpoint of the curve. This would result in increasing the height and size of the proposed retaining wall at Sta. 204+75 to Sta. 212+75 along the entire length of the vertical curve. This increase of height and size of retaining walls leads to more material and construction costs. This option was not chosen.

Another alternative to the proposed vertical alignment included regarding the roadway, providing a 10% slope from the PVI at Sta. 202+89.97 to the PVI at Sta 207+25. This would require lowering the existing grade at the driveway for 226 Mount Washington Road (approximately Sta. 203+50 Left). The driveway entrance for this property would need to be lowered about one and a half feet and regraded. The existing driveway is already excessively steep with a grade of greater than 15% up from the roadway. This option was not chosen.

Similar to the above, an alternative to the proposed vertical alignment to provide a 10% slope from the PVI at Sta. 236+55 to the PVI at Sta 245+36.86 would require raising the existing grade at the driveway at approximately Sta. 243+20 Right. The driveway entrance for this property would need to be raised about three and a half feet and regraded which would result in a driveway with a grade of greater than 15% down from the roadway. Overall, this alternative would result in excessive cut/fill ranging from a maximum cut of about 2.25 feet at

approximately Sta. 237+50 to a maximum fill of about 3.5 feet at approximately Sta. 243+00. This option was not chosen.

Bicyclist Accommodation:

To accommodate for bicyclists, outside shoulder 5-foot bicycle lanes along both sides of roadway was an alternative that was explored, totaling a 30-foot-wide roadway. This would impose impacts to existing residential properties due to extensive rock cutting and tree clearing, including areas with steep slopes to the south and up existing steep slopes to the north. As a result of this, the proposed length of retaining wall would increase to approximately 2,500 feet. Also, the average exposed face height of the proposed retaining wall would increase to 10-12 feet. The increase in length and height of retaining wall represent significant project costs. The width of the existing ROW and the location of the existing roadway is variable throughout this phase's corridor. Construction of a 30-foot-wide roadway with five-foot shoulders for bicycles with necessary retaining wall construction would require permanent ROW impacts at approximately Sta. 207+00 Right to Sta. 208+00 Right, Sta. 219+00 Right to Sta. 220+00 Right, and Sta. 220+00 Left to Sta. 221+50 Left. This additional roadway widening and retaining wall construction would also require the removal of existing mature vegetation along the south edge of the roadway. This would reduce the vegetated buffer to Karner Brook which runs along the southern edge of the roadway at the bottom of the wooded hillside throughout the site and therefore was not chosen.

3.0 ACTIVITIES SUBJECT TO MASSACHSUETTS WETLANDS PROTECTION ACT (WPA) REGULATIONS

Work associated with the project will take place within Areas Subject to Protection and Jurisdiction under the Massachusetts Wetlands Protection Act (M.G.L. ch.131 s.40) and its regulations at 310 CMR 10.00 (the Act), as well as the Town of Egremont's local bylaws. The project has been designed to support the interests of the Act. Proposed work constitutes review as a Redevelopment Project under the Stormwater Management Standards. Impacts to regulated areas for the proposed project are limited to the 100-foot buffer zone to BVW, Bank, and 200-foot Riverfront Area to Karner Brook. There are permanent impacts within these regulated areas where clearing and grubbing will occur as these areas will be replaced with stones at pipe ends and within swales, headwalls, milling mulch, compost blankets, and soldier pile retaining walls. A summary of these impacts are illustrated in the tables shown in the section below.

3.1 Description of Activities within Regulated Areas:

The table below highlights the existing impervious areas within the limits of work.

Table 1. Existing Resource Area Within Project Limits	
WPA Resource Area	**Existing Impervious**
100-Foot Buffer to BVW	15,460 SF
Bank	0 LF
0-100 Foot Riverfront Area	47,663 SF
100-200 Foot Riverfront Area	15,111 SF
Total Riverfront Area	62,774 SF

The table below highlights the impervious increase compared to the existing roadway.

Table 2. Proposed Resource Area Alterations Within Project Limits		
WPA Resource Area	**Proposed Impervious**	**Impervious Increase (New Development)**
100-Foot Buffer to BVW	16,470 SF	1,010 SF (Increase)
Bank	0 LF	0 LF

0-100 Foot Riverfront Area	53,130 SF	5,466 SF (Increase)
100-200 Foot Riverfront Area	15,995 SF	885 SF (Increase)
Total Riverfront Area	69,125 SF	6,351 SF (Increase)

The table below highlights the proposed permanent and temporary impacts due to paving, grading, clearing, selective clearing/trimming activities. Proposed work done to Riverfront Area in redevelopment areas are shown for reference but are to be considered minor exempt.

Table 3. Resource Area Impact Summary – Proposed (Perm.) Within Project Limits		
WPA Resource Area	**Proposed Permanent (New Development)**	**Proposed Temporary (Redevelopment)**
100-Foot Buffer to BVW	19,342 SF	15,460 SF
Bank	32.87 LF	0 LF
0-100 Foot Riverfront Area	74,317 SF	0 SF (minor exempt)
100-200 Foot Riverfront Area	33,647 SF	0 SF (minor exempt)
Total Riverfront Area	107,964 SF	0 SF (minor exempt)

Portions of the project are located within the 100-foot Buffer Zone to BVW, Bank, and 200' Riverfront Area adjacent to the Karner Brook. Existing impervious area totals 15,460 SF of pavement within the 100-foot buffer zone and 62,774 SF of pavement within the Total Riverfront Area. The project proposes 1,010 SF of increased impervious paved area within the 100-foot buffer zone and 6,351 SF of increased impervious area within the Total Riverfront Area. This increase in impervious area is due to the proposed roadway widening. Additionally, the regrading of side slopes will occur in areas where clearing and grubbing is necessary. In these areas, existing grass and woody vegetation are present. These areas will be replaced with compost blankets, milling mulch, stones at pipe ends and within swales, headwalls, and soldier pile retaining walls and are therefore considered permanent impacts. This includes 19,342 SF of permanent impacts to the 100-foot buffer zone, 32.87 LF of Bank, and 107,964 SF to the Total Riverfront.

The proposed soldier pile retaining wall construction, guardrails, drainage upgrades, sediment control barriers, curbing, compost blanket and milling mulch installation, pavement mill and overlay, stones at pipe ends, headwalls, and clearing and grubbing will fall within the 100-foot buffer to the identified BVW, Bank, as well as the Total Riverfront Area. No dredging is proposed as no work is proposed within the Karner Brook. The project will not discharge fill materials or impair or destroy any part of the wetland areas, and will not significantly impact them. The footprint of the roadway will be slightly altered but the neighboring wetlands are not anticipated to be impacted.

In accordance with 301 CMR 11.00: Massachusetts Environmental Policy Act (MEPA) Regulations, a MEPA review is required if one or more review thresholds are met or are exceeded within MEPA jurisdiction. For this proposed project, only one threshold was exceeded: 11.03(6)(b)(2b) – cut five or more living public shade trees of 14 inches in diameter at breast height (43 trees proposed). As a result, an Environmental Notification Form (ENF) will be filed for this project. The project is also located within the Karner Brook ACEC, which is also recognized as an ORW for water supply as well as a DFW Coldwater Fisheries Resource as shown in **Figure 4.** The proposed project is located within a FEMA Zone C receiving minimal flooding and is not within any areas of the 100-year flood plain as shown on the FEMA map in **Figure 5.**

A portion of this project is located within/nearby a Priority Habitat of Rare Species and an Estimated Habitat of Rare Wildlife as shown on the map provided by the MassMapper Online Data Viewer in **Figure 3**. Please see **Appendix D** for the Natural Heritage & Endangered Species (NHESP) response for Massachusetts Endangered Species Act (MESA) concerns. Priority Habitat 970 and Estimated Habitat 734 for the Endangered Reptile (Data Sensitive Species) are within Phase 1's limits. Provided the letter of determination conditions are fully implemented and there are no changes to the project plans, the project will not result in a Take of state-listed species. There are 0 acres of priority habitat within the Riverfront Area and approximately 1.955 acres of priority habitat throughout the project work limits. A copy of this NOI has been submitted to the Division of Fisheries & Wildlife and further design coordination will be completed if deemed necessary by the Division. Within the 100-foot BVW buffer, Bank,

and 200' Riverfront Area, there is no proposed work within the NHESP Priority Habitats. A map of these areas within the limits of the NHESP Priority Habitats are depicted in **Figure 3**.

3.2 Proposed Mitigation Measures

As a result of the proposed work, the following illustrates all resource areas that will be impacted along with the proposed mitigation measures that will be implemented.

Within the 100-foot buffer area to BVW at both crossings, there will be 19,342 SF of permanent impacts due to paving, grading, clearing, and selective clearing/trimming activities:

- Tie-in slopes will have a maximum slope of 2:1 and modified rockfill slopes will be steeper than 2:1 and are proposed at various locations.
- Erosion and sedimentation control measures will be installed, delineating the proposed work limits. These will not be removed until the site is stabilized with the above compost blankets and milling mulch, a final inspection is complete, and a certificate of compliance is issued.

Within Bank, there will be 32.87 LF of permanent impacts due to grading activities:

- Erosion and sedimentation control measures will be installed, delineating the proposed work limits. These will not be removed until the site is stabilized with the above compost blankets and milling mulch, a final inspection is complete, and a certificate of compliance is issued.

Within the 200' Riverfront Area, there will be 107,964 SF of permanent impacts due to paving, grading, clearing, and selective clearing/trimming activities:

- Tie-in slopes will have a maximum slope of 2:1 and modified rockfill slopes will be steeper than 2:1 and are proposed at various locations
- Erosion and sedimentation control measures will be installed, delineating the proposed work limits. These will not be removed until the site is stabilized with the above compost blankets and milling mulch, a final inspection is complete, and a certificate of compliance is issued.

After work is complete, the contractor shall conduct follow-up inspections of all disturbed areas after the first and second growing seasons to determine the success of revegetation. Revegetation shall be considered successful if the vegetative cover is sufficient to prevent the erosion of soils on the disturbed workspace. Sufficient coverage is defined when vegetation has a uniform 75% vegetative coverage. If sufficient vegetative cover has not been achieved or if there are excessive invasive/noxious weeds after two full growing seasons, the Project Manager, Superintendent, or Environmental Inspector will be consulted to determine the need for additional restoration measures. A final inspection will ensure that the project site is cleared of all project debris and that the erosion sedimentation controls are functioning properly.

4.0 DEP Stormwater Standards and Report

There will be no new discharges associated with this roadway reconstruction project. A complete Stormwater Report is included in **Appendix C** along with supporting calculations, O&M Plan and stormwater checklist.

Standard 1. No New Untreated Discharges
The project has been designed to fully comply with Standard 1. No new stormwater system conveyances will discharge untreated runoff into the resource or buffer areas or cause erosion in the onsite resource area. All closed drainage systems have pre-treatment via deep sump catch basins and drainage inlets. Stone for pipe ends outlet protection is equipped at discharge points and new vegetated and stone-lined swales are proposed to be constructed with check dams. A list of existing stormwater outlets is located in **Table 1** of the **Narrative** within the Stormwater Management Report. The project is in full compliance with this standard.

Standard 2. Peak Rate Attenuation
The project scope includes reconstructing the existing roadway. The result will be approximately a 9,462 SF (0.22 acre) increase in impervious surfaces over the 1.2-mile-long project. This is an approximately 6% increase in total project impervious area. Therefore, the roadway reconstruction will yield a negligible increase in flow from the over 200-acre project watershed which discharges exclusively to Karner Brook via wooded hillsides. The project is in full compliance with this standard. A table of proposed condition peak rates is shown under "**Standard 2: Peak Rate Attenuation**" in the Stormwater Management Report.

Standard 3. Recharge
The project has been designed to comply with Standard 3. Recharge to groundwater is limited due to right-of-way constraints and steep, rocky terrain. As a result of these constraints, no volume-based structural infiltrative practices are proposed as part of the project. However, required groundwater recharge calculations are minimal due to existing poorly drained soils (See **Section 5: Stormwater Management Calculations**). Open drainage has been proposed to the extent practicable to maximize project infiltrative capacity.

Standard 4. Water Quality
The project has been designed to comply with Standard 4 to the maximum extent possible. Most of the existing closed drainage system within the project corridor will be replaced. The existing system consists of aging drop inlets and catch basin structures with little or no sumps connected to downstream structures with corrugated metal pipes. The proposed closed drainage system improves upon the existing system by reducing pipe slopes and providing stone for pipe ends at outlets to reduce downstream erosion. All proposed catch basins will have 4-foot-deep sumps in order to provide TSS removal for pretreatment of existing discharges to adjacent hillsides.

Standard 5. Land Uses with Higher Potential Pollutant Loads

The project is not a land use or an area with higher potential pollutant loads. Therefore, the standard is not applicable for this project.

Standard 6. Critical Areas
According to MassGIS information, the entirety of the project is located within the Karner Brook watershed, which is considered a Class A Outstanding Resource Water (ORW) and is designated as an Area of Critical Environmental Concern (ACEC). Larger BMP options recommended for Standard #6 such as bioretention areas were considered, but feasibility was limited due to right-of-way constraints and steep, rocky terrain. The project provides groundwater recharge through the use of open drainage to the maximum extent practicable. Deep sump catch basins are proposed, which provides pretreatment of existing discharges. Infiltration retention of stormwater runoff is promoted through the use of both stone-lined drainage swales and vegetation-lined drainage swales. These swales include the installation of check dams. Additionally, provisions on source control, pollution prevention, and deicing chemical restrictions have been included. See Section 3: Long-Term Pollution Prevention Plan. Standard #6 has been met to the maximum extent practicable

Standards 7. Redevelopments and Other Projects Subject to the Standards Only to the Maximum Extent Practicable
The project is a redevelopment and the design is subject to meet Stormwater Management Standards #2, #3, #4, and #6 to the maximum extent practicable. Standard #5 is not applicable to this project. The project complies fully with Standards #1, #8, #9, and #10.

Standard 8. Construction Period Pollution Prevention and Erosion and Sedimentation Control
The implementation of erosion and sediment controls (ESC) during construction is considered a standard practice for all MassDOT projects. ESC will be installed before any land disturbance begins and will remain in place for the duration of the project. The ESCs for the project are shown on the project plans and include sediment control barriers and filters at drain inlets.

The Project disturbs one or more acres of land; therefore, the project contractor will request coverage under the NPDES Construction General Permit (CGP) and develop a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP follows the requirements of this standard and is in compliance with the NPDES CGP.

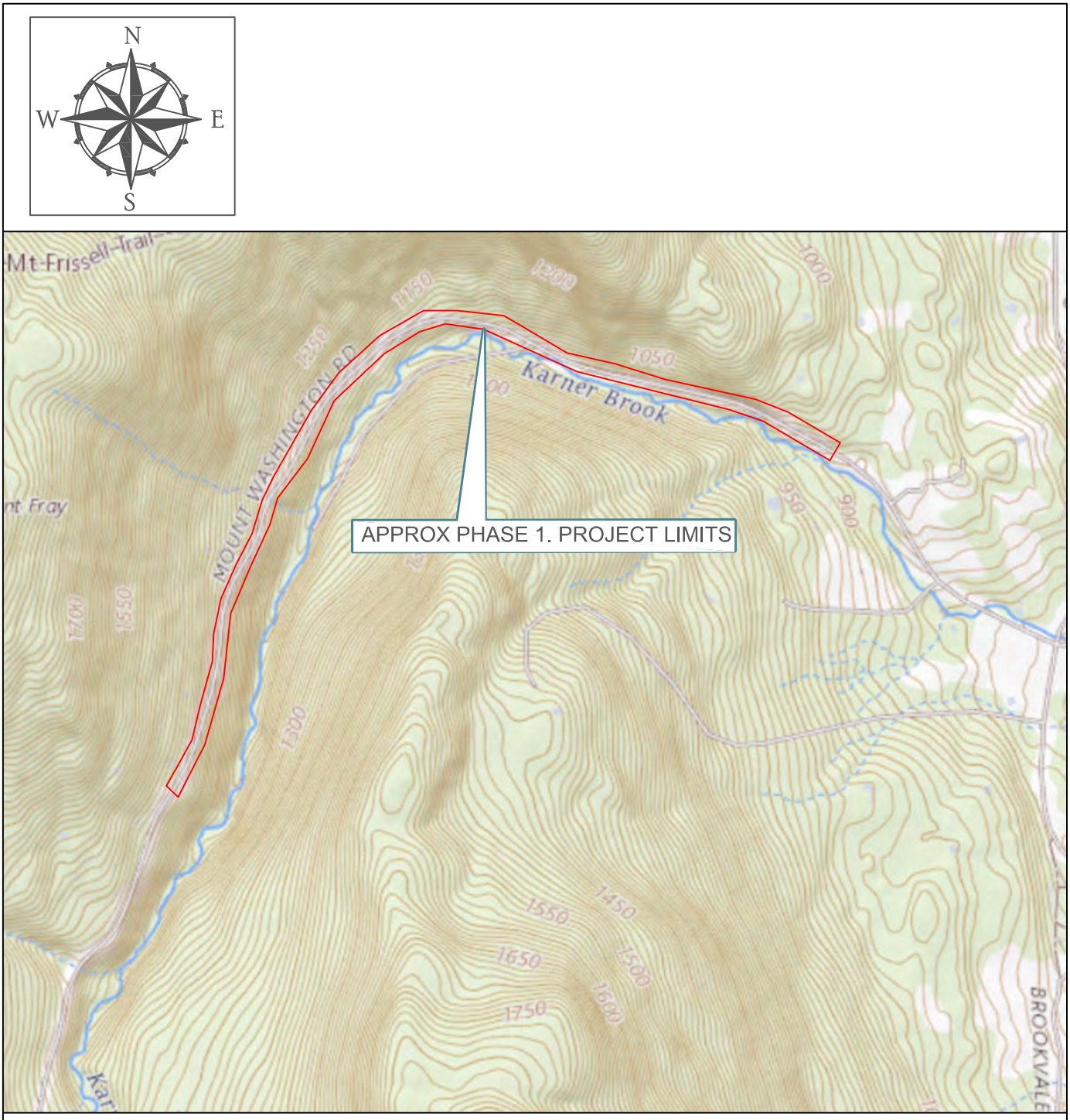
Standard 9. Operation & Maintenance Plan
An Operation and Maintenance plan has been customized to fit the design of the road improvements and will follow the town's standard procedures. Provisions to maintain runoff control devices have been assured through structural, non-structural, and construction management approaches. See **"Section 3: Long-Term Pollution Prevention Plan."** The project is in full compliance with the standard.

Standard 10. Prohibition of Illicit Discharges
The design plans submitted with this report have been designed in full compliance with Standard 10. The Operation and Maintenance plan required by Standard 9 includes measures to prevent

illicit discharges. Illicit discharges will be discontinued where the elimination of these discharges will not result in stormwater damages to contributing parcels. An Illicit Discharge Compliance Statement is included within the Stormwater Report. See **"Section 4: Stormwater Management Checklist."**

Summary: This proposed Mount Washington Road Phase 1 project involves numerous improvements to the roadway and pedestrian safety, including drainage improvements and profile and horizontal curve adjustments. To conduct these improvements, work is required within the 100-foot BVW buffer, Bank, and 200' Riverfront Area to the Karner Brook. Efforts have been made to minimize these impacts within these resource areas including; installing erosion and sedimentation control measures delineating cleared and grubbed areas, installing solider pile retaining walls to aid in possible future erosion, slightly narrowing the existing impervious roadway in some areas within the resource areas, and implementing 2:1 tie in slopes and steeper modified rockfill slopes as necessary in regraded areas. Within the 200' River Front area to Karner Brook (the largest of the resource areas), impervious area is increased in the proposed roadway layout by 6,351 SF due to roadway widening. MassDOT respectfully requests that the Egremont Conservation Commission find this project and proposed mitigation measures adequately protective of the interests identified in the WPA and issue an Order of Conditions approving the work described in this NOI and shown on the accompanying plans.

Figures

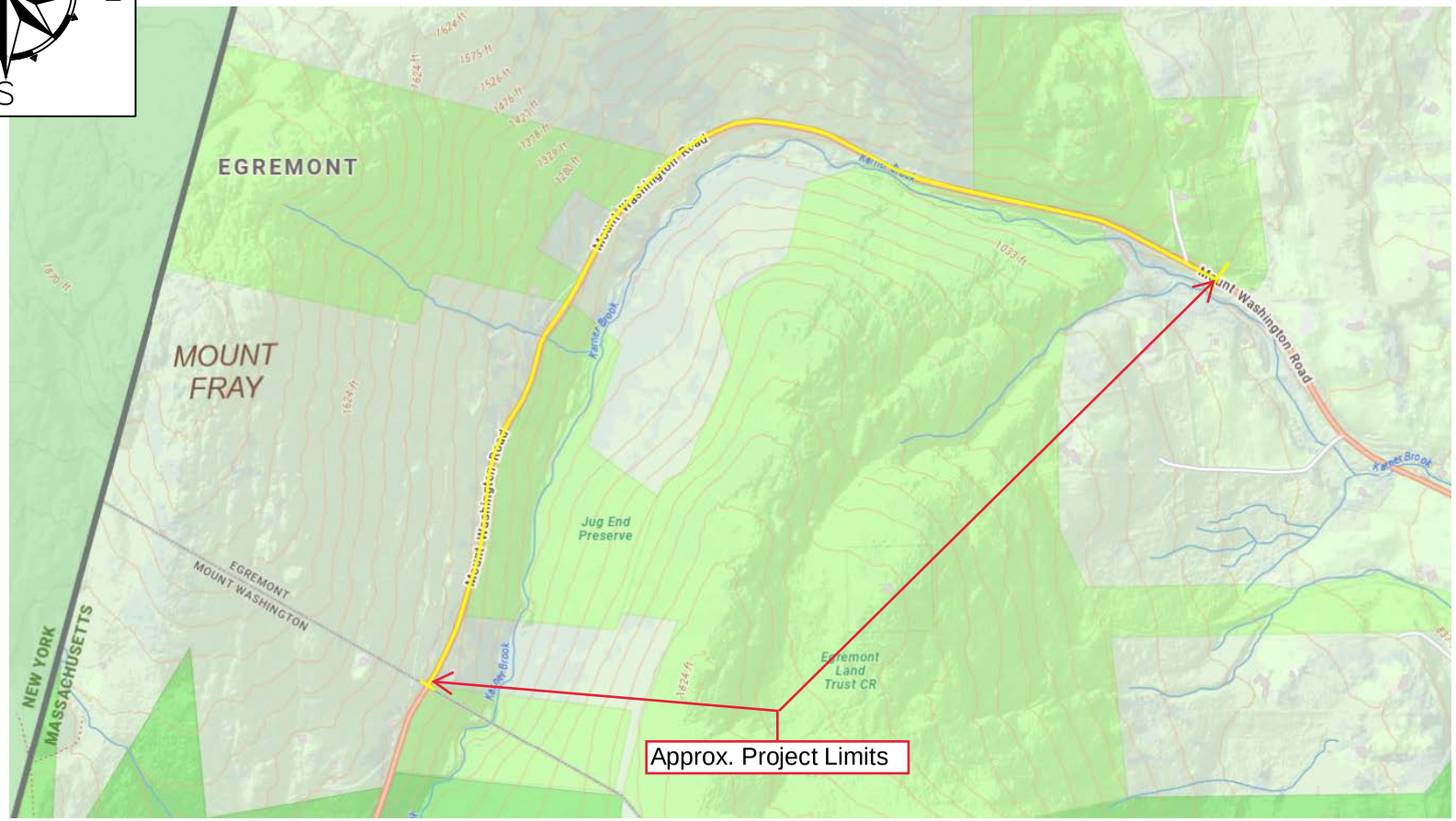


GENERAL NOTES

1. Locus map based on USGS 7.5x7.5 Grid US Topo Map of Egremont, MA from the USGS map webstore: http://www.store.usgs.gov
2. Locus map is not to scale

Figure 1
USGS LOCUS MAP
PROJECT NO. 608547
MOUNT WASHINGTON ROAD
RECONSTRUCTION PHASE 1
SPENCER, MA

COMPREHENSIVE ENVIRONMENTAL INCORPORATED
41 MAIN STREET
BOLTON, MA 01740



GENERAL NOTES

1. LOCUS MAP BASED ON USGS TOPOGRAPHY IMAGE
2. LOCUS SCALE IS APPROXIMATE
3. LOCUS MAP BASED ON NAD83 AND NAVD88.

MassMapper

FIGURE 2: LOCUS MAP

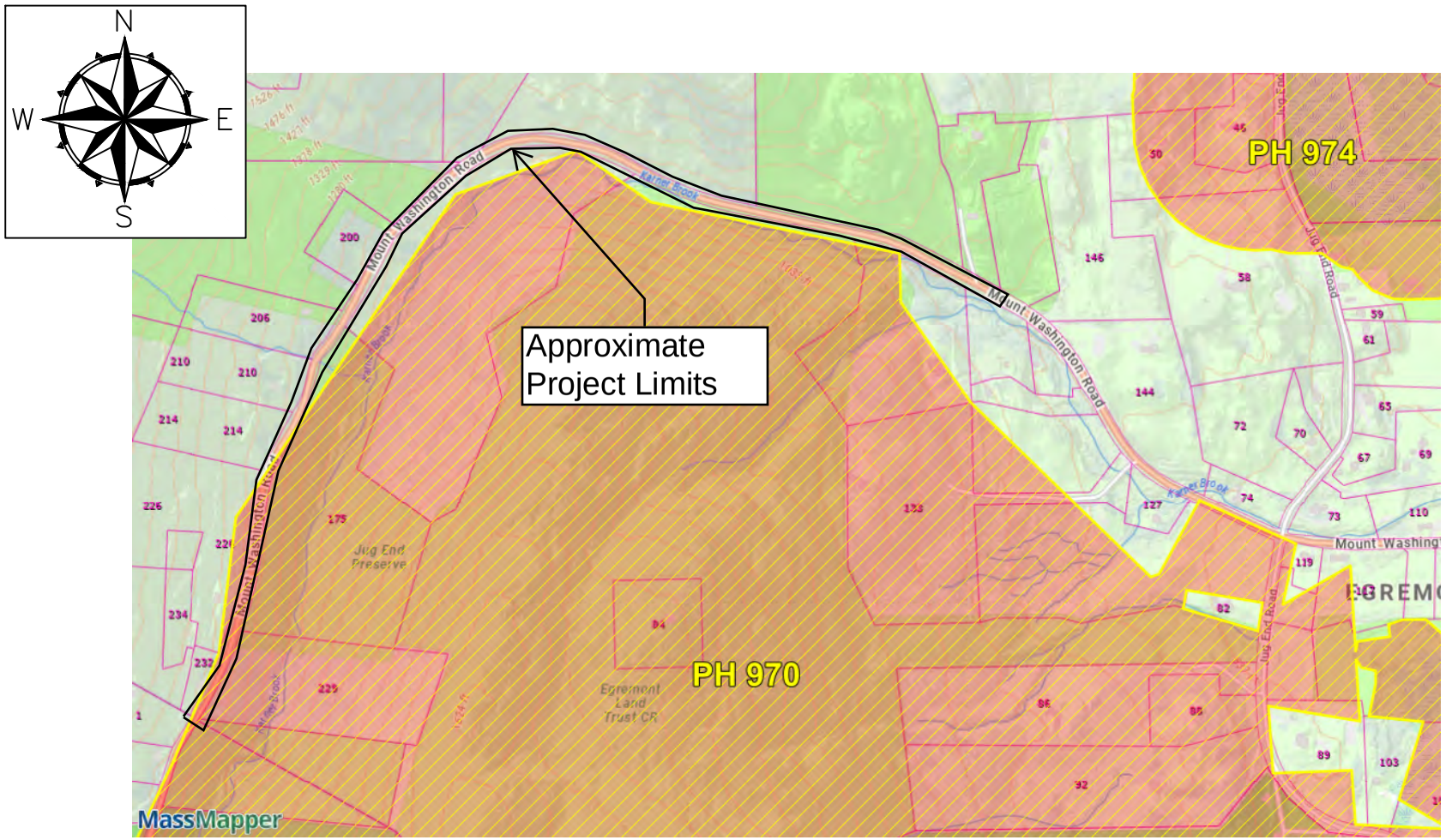
MOUNT WASHINGTON ROAD

RECONSTRUCTION - EGREMONT

MASSDOT 608547

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

41 MAIN STREET
BOLTON, MA 01740



Legend

NHESP Priority Habitats of Rare Species

NHESP Estimated Habitats of Rare Wildlife

FIGURE 3 - NHESP Habitat Areas

MOUNT WASHINGTON ROAD

RECONSTRUCTION

MASSDOT 608547- Egremont

MassMapper maps.massgis.digital.mass.gov

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

41 MAIN STREET
BOLTON, MA 01740

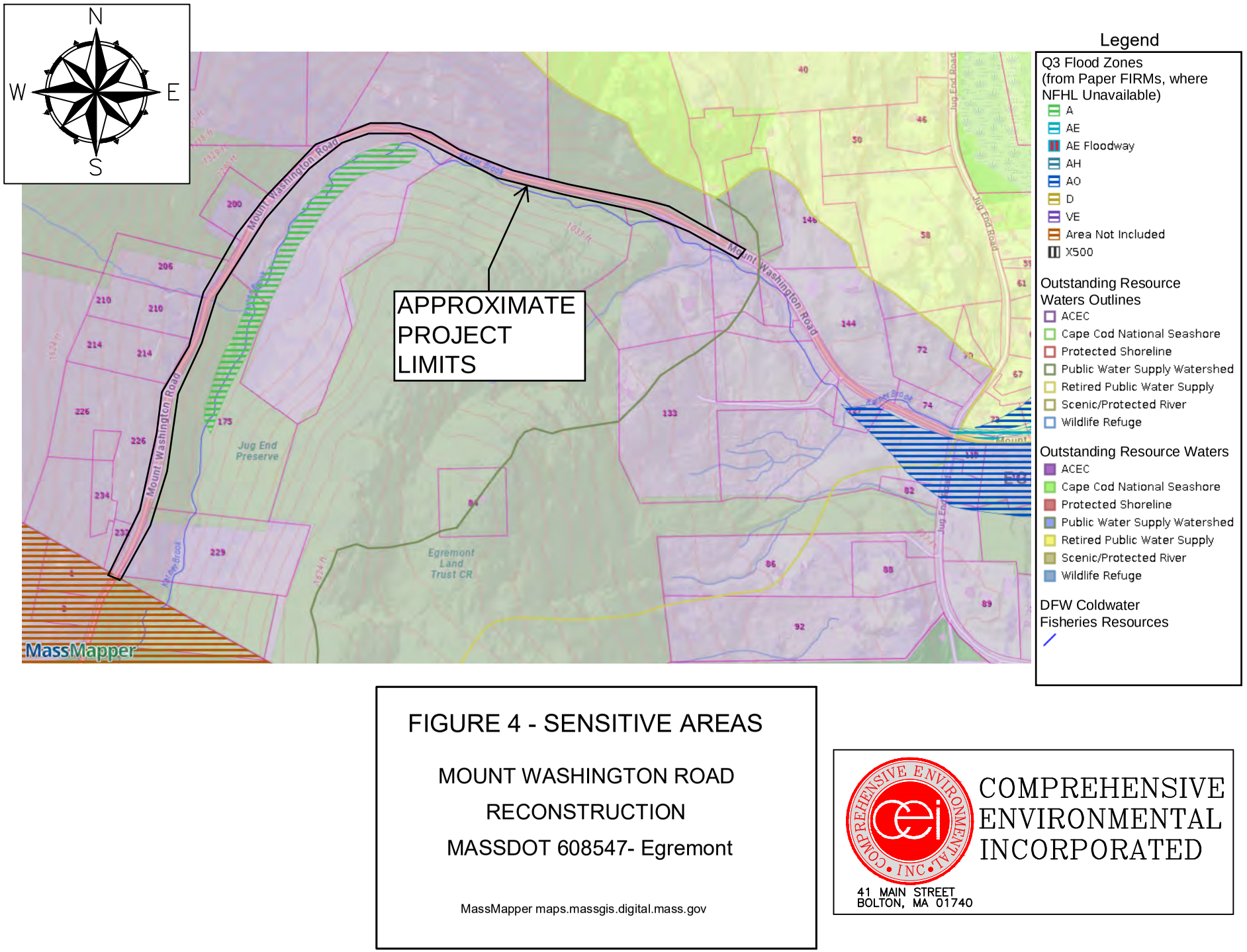


FIGURE 4 - SENSITIVE AREAS

MOUNT WASHINGTON ROAD

RECONSTRUCTION

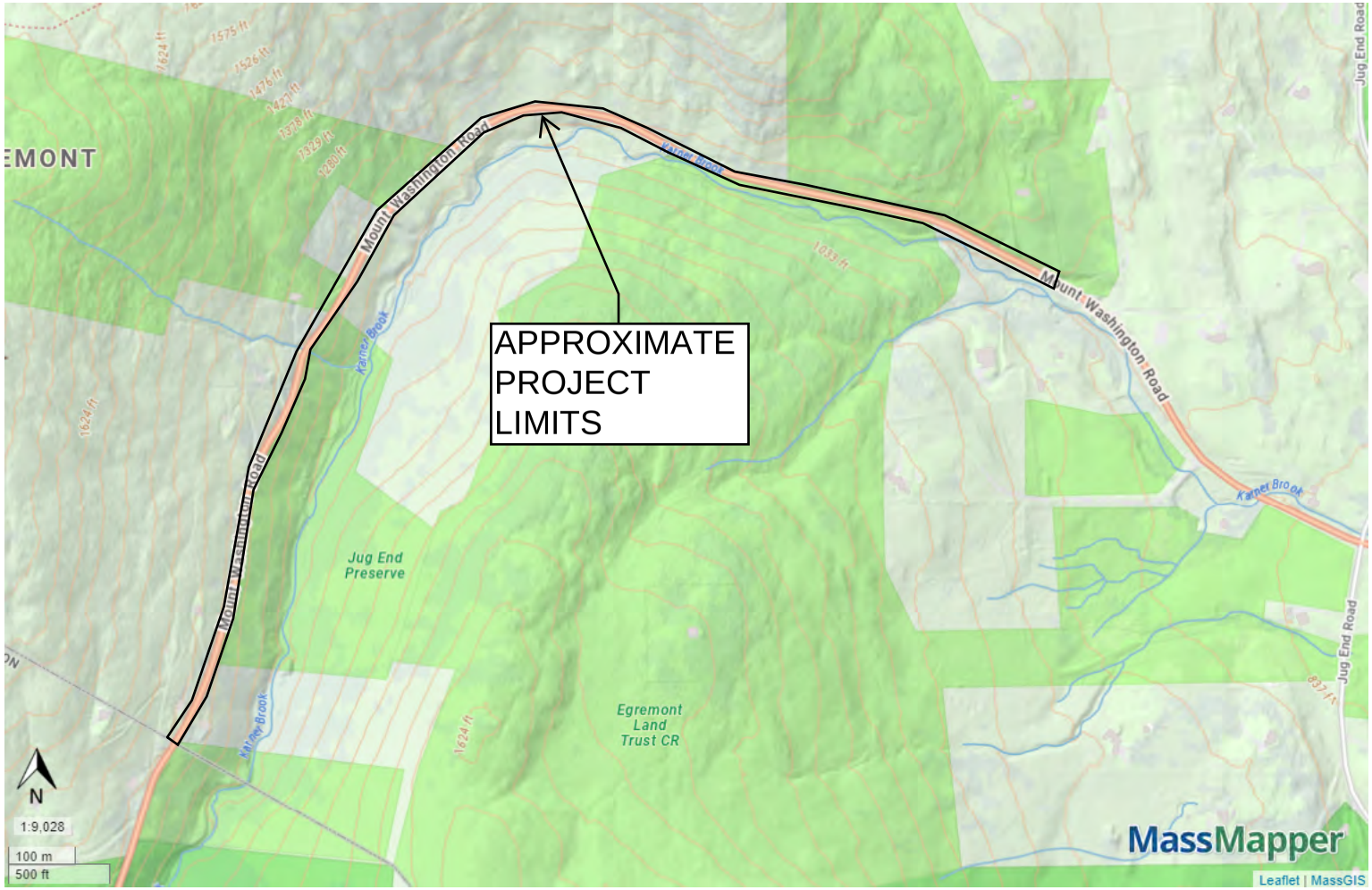
MASSDOT 608547- Egremont

MassMapper maps.massgis.digital.mass.gov

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

41 MAIN STREET
BOLTON, MA 01740

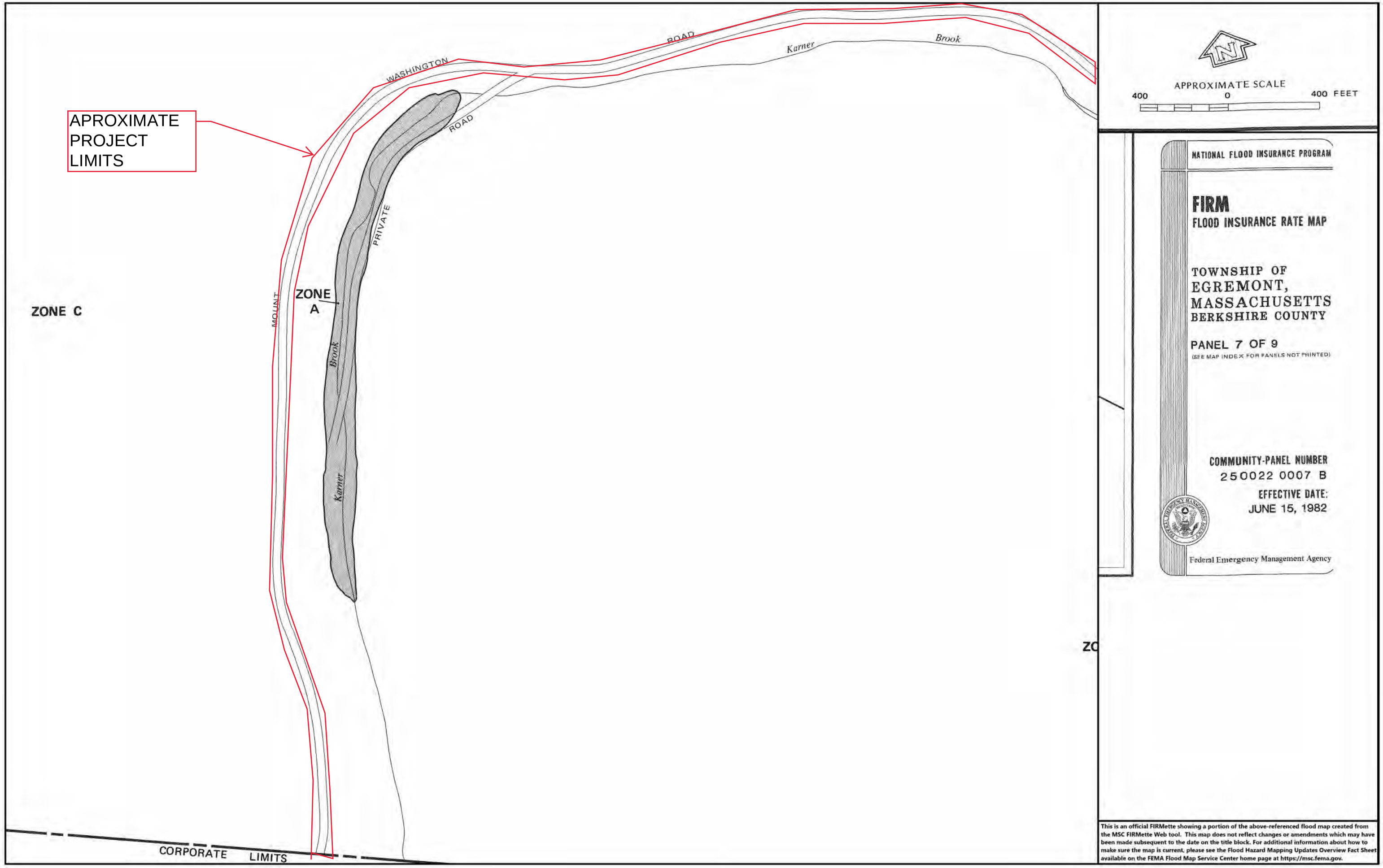
FIGURE 5 - FEMA National Flood Hazard Layer



FEMA National Flood Hazard Layer
Polygons

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area Not Included

FIGURE 6 - FIRM MAP



Proposal No. 608547-132397

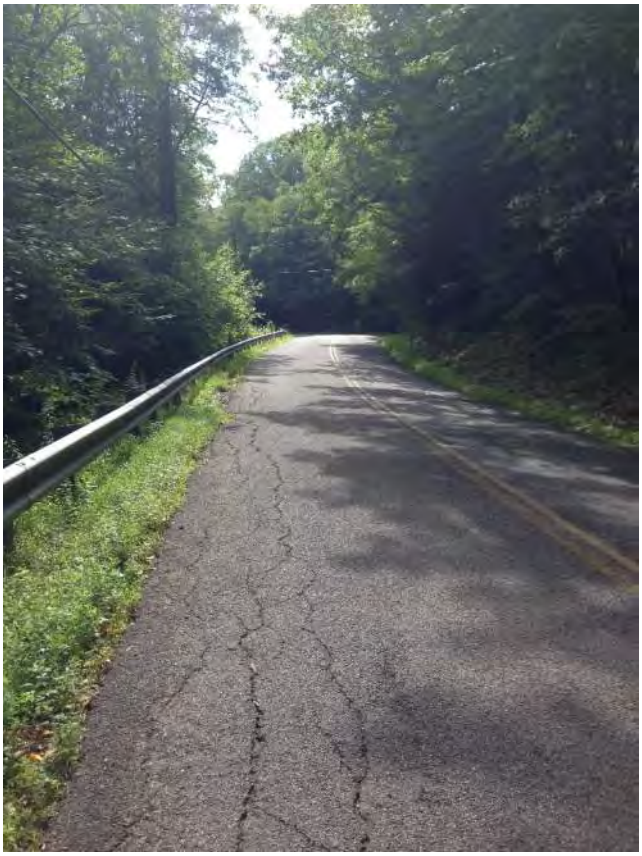
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Appendix A – Project Site Photos

MASSDOT 608547 EGREMONT
Appendix A - PHOTOS



View east from Mount Washington into Egremont (Project start)



View west from approximately Station 222+00

MASSDOT 608547 EGREMONT
Appendix A - PHOTOS



View east from approximately Station 217+00



View east from approximately Station 238+50

MASSDOT 608547 EGREMONT
Appendix A - PHOTOS



Karner Brook looking west approximately Station 250+00



View west from approximately Station 261+00

Appendix B – Project Plans

Proposal No. 608547-132397

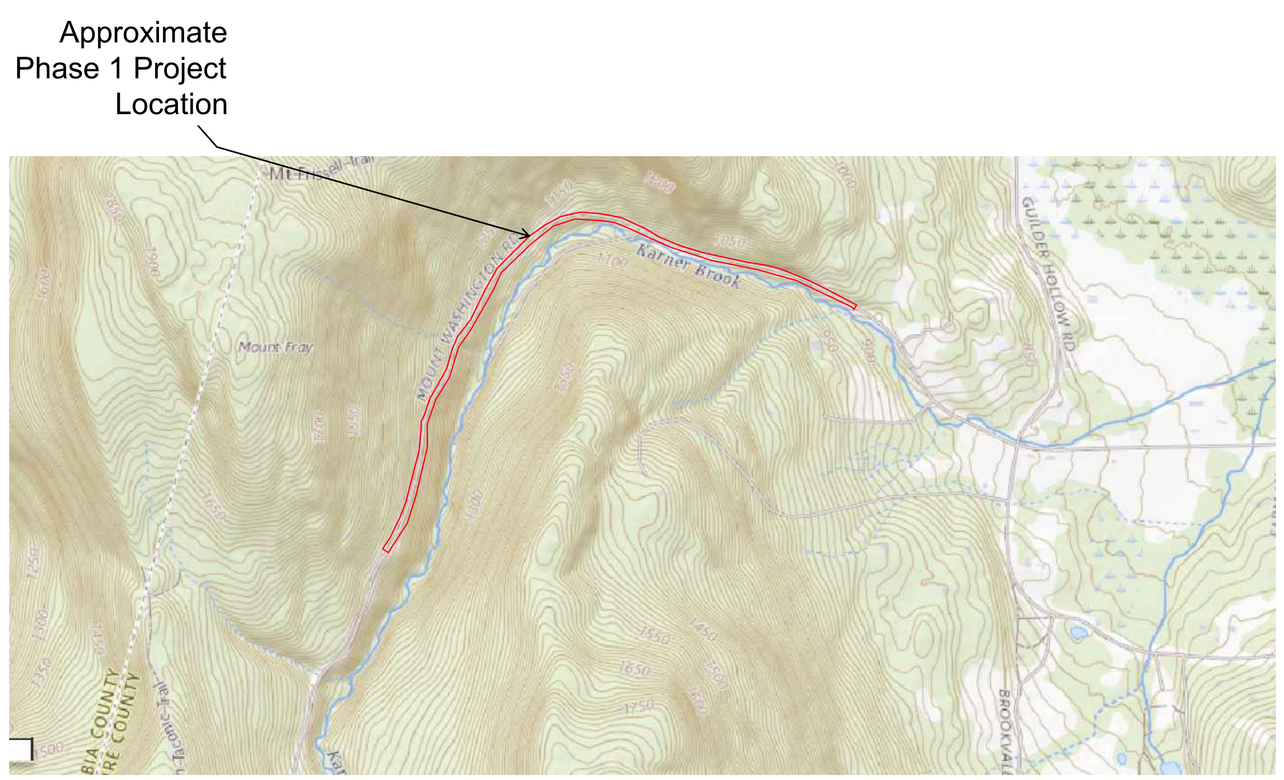
EGREMONT.DWG Plotted on 6-Nov-2023 3:25 PM

A00860 - 44

TOWN OF EGREMONT

MOUNT WASHINGTON ROAD RECONSTRUCTION PHASE 1 EGREMONT, MA

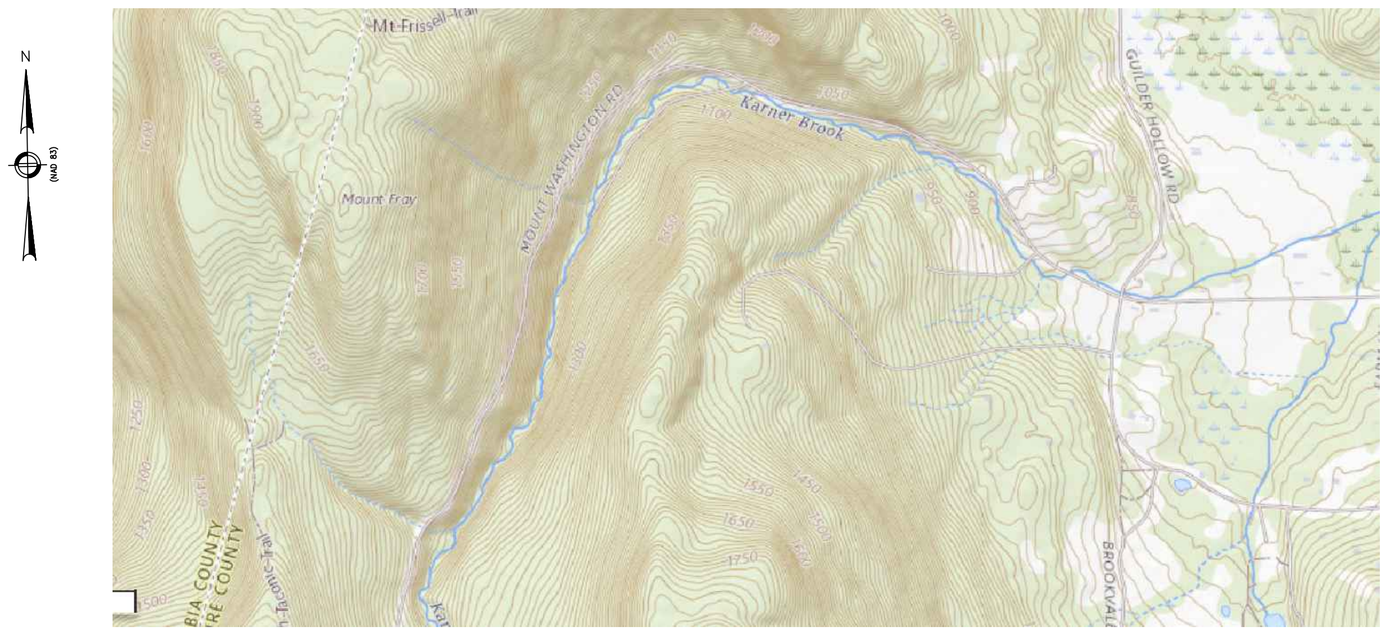
MAY 2024



LOCUS MAP
(not to scale)

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2	CONSTRUCTION PLAN-02
3	CONSTRUCTION PLAN-03
4	CONSTRUCTION PLAN-04
5	CONSTRUCTION PLAN-05
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KEY PLAN
(not to scale)

EGREMONT

PERMITTING PLANS

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
10 PARK PLAZA BOSTON, MASS

HIGHWAY GUARD DETAILS

PROP TRANSITION TO NCHRP 350 GUARDRAIL (ITEM 628.21), STA 200+00 TO STA 200+34 RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 200+34 TO STA 200+90, OFFSET RT
PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 200+90 TO STA 201+28, OFFSET RT
PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 201+81 TO STA 202+19, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 202+19 TO STA 203+10, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 203+10 TO STA 212+75, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

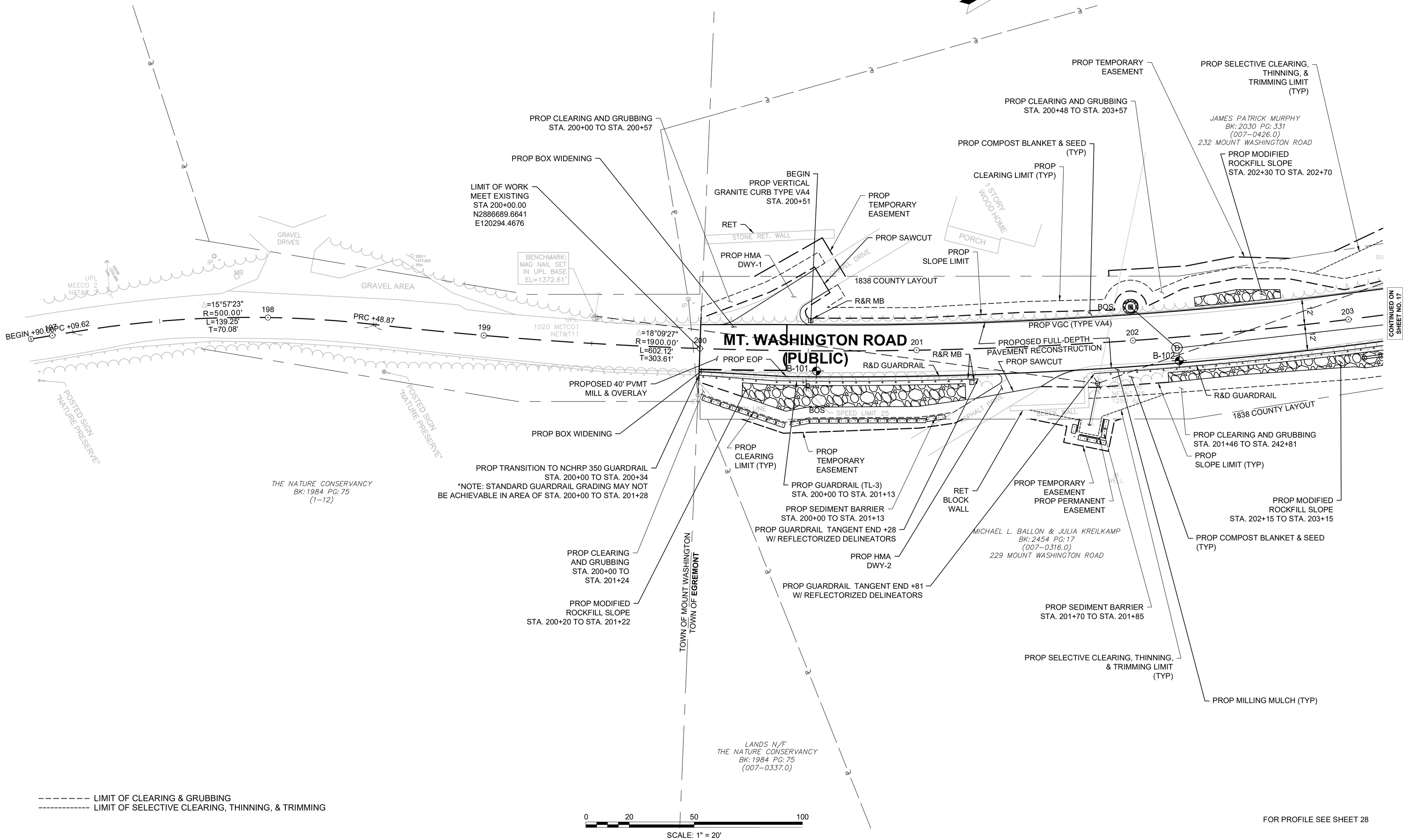
DRAINAGE DETAILS

SEE SHEET 73

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	16	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 1



---------- LIMIT OF CLEARING & GRUBBING
---------- LIMIT OF SELECTIVE CLEARING, THINNING, & TRIMMING

0 20 50 100
SCALE: 1" = 20'

FOR PROFILE SEE SHEET 28

608547_HD(CP).DWG Plotted on 17-May-2024 10:42 AM

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 202+19 TO STA 203+10, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 203+10 TO STA 212+75, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

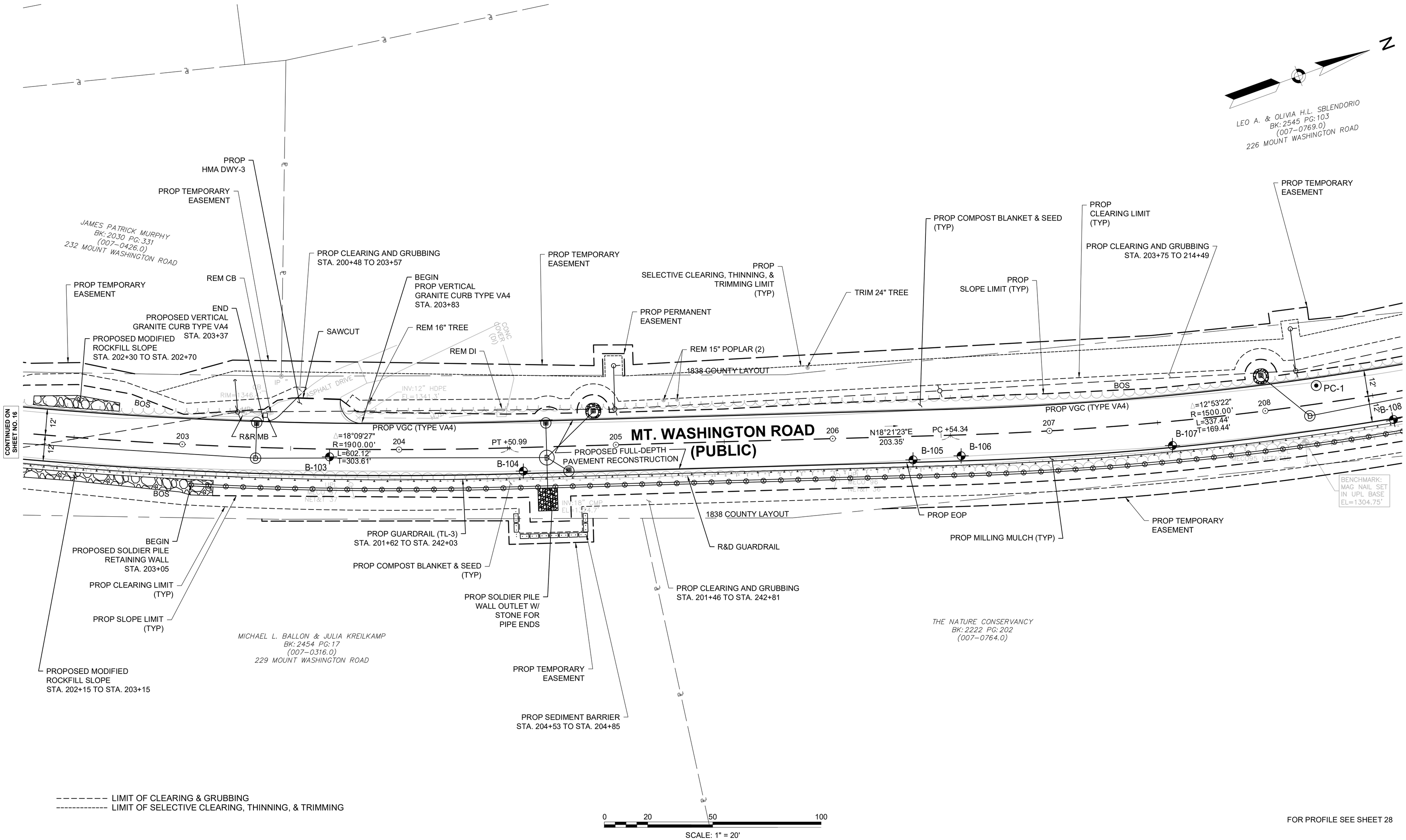
DRAINAGE DETAILS

SEE SHEET 74

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	17	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 2



FOR PROFILE SEE SHEET 28

608547_HD(CP).DWG Plotted on 17-May-2024 10:42 AM

Proposal No. 608547-132397

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 203+10 TO STA 212+75, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 212+75 TO STA 214+30, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 214+30 TO STA 216+75, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET 75

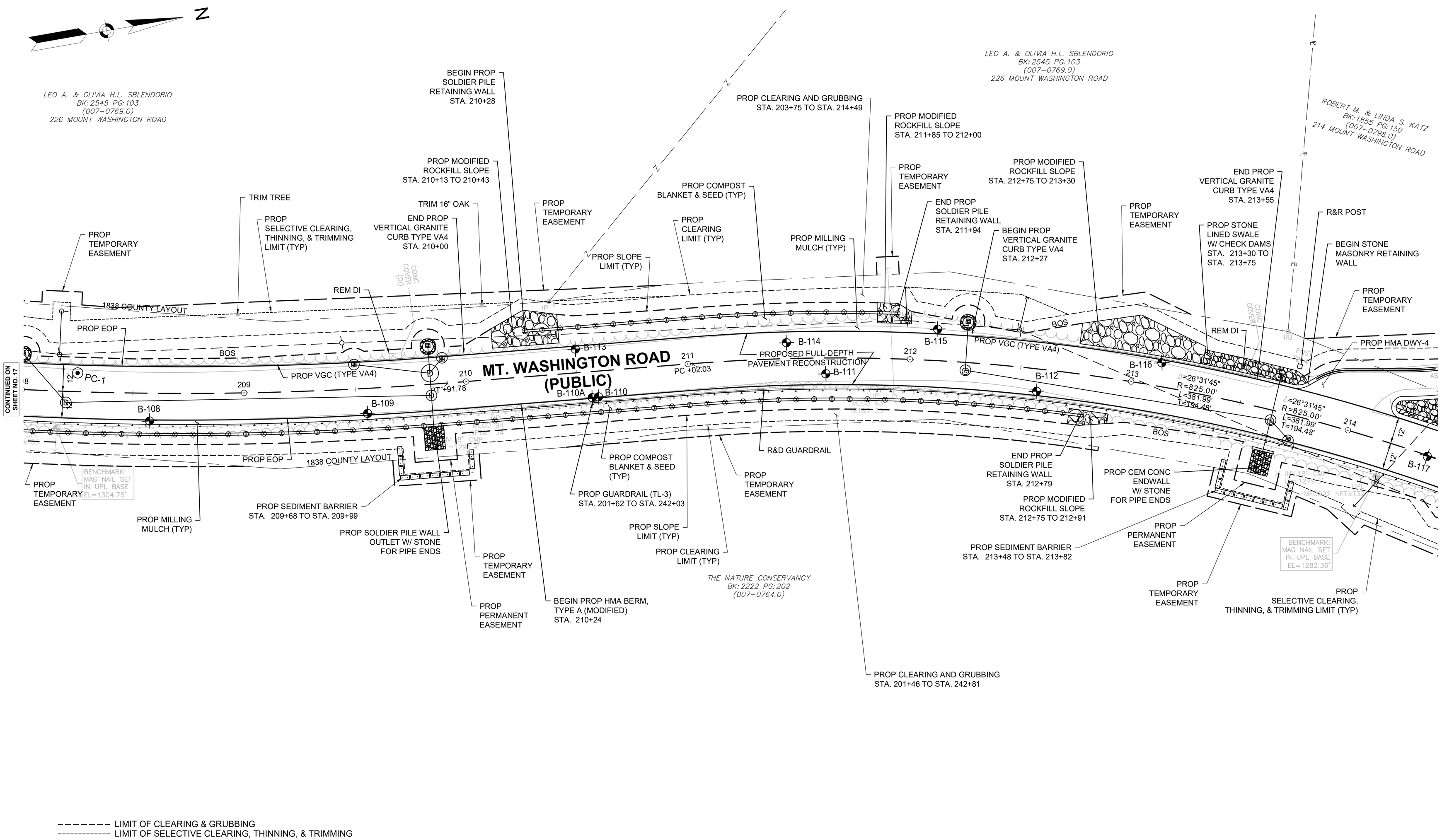
EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	18	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 3

608547_HD(CP).DWG Plotted on 17-May-2024 10:43 AM

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FOR PROFILE SEE SHEETS 28-29

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 212+75 TO STA 214+30, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 214+30 TO STA 216+75, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 216+75 TO STA 221+60, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

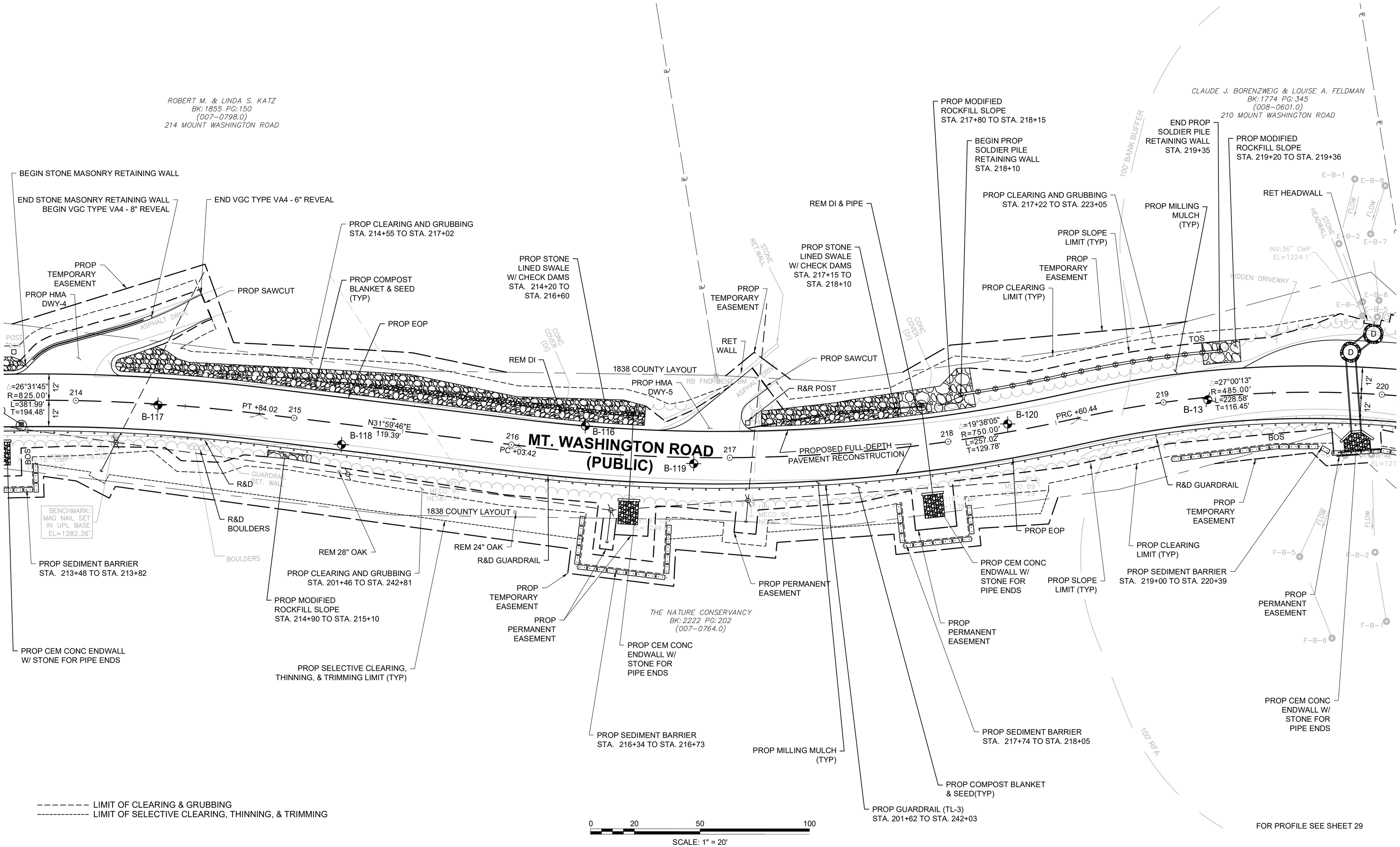
DRAINAGE DETAILS

SEE SHEET 76

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	19	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 4



HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 216+75 TO STA 221+60, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 221+60 TO STA 227+85, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

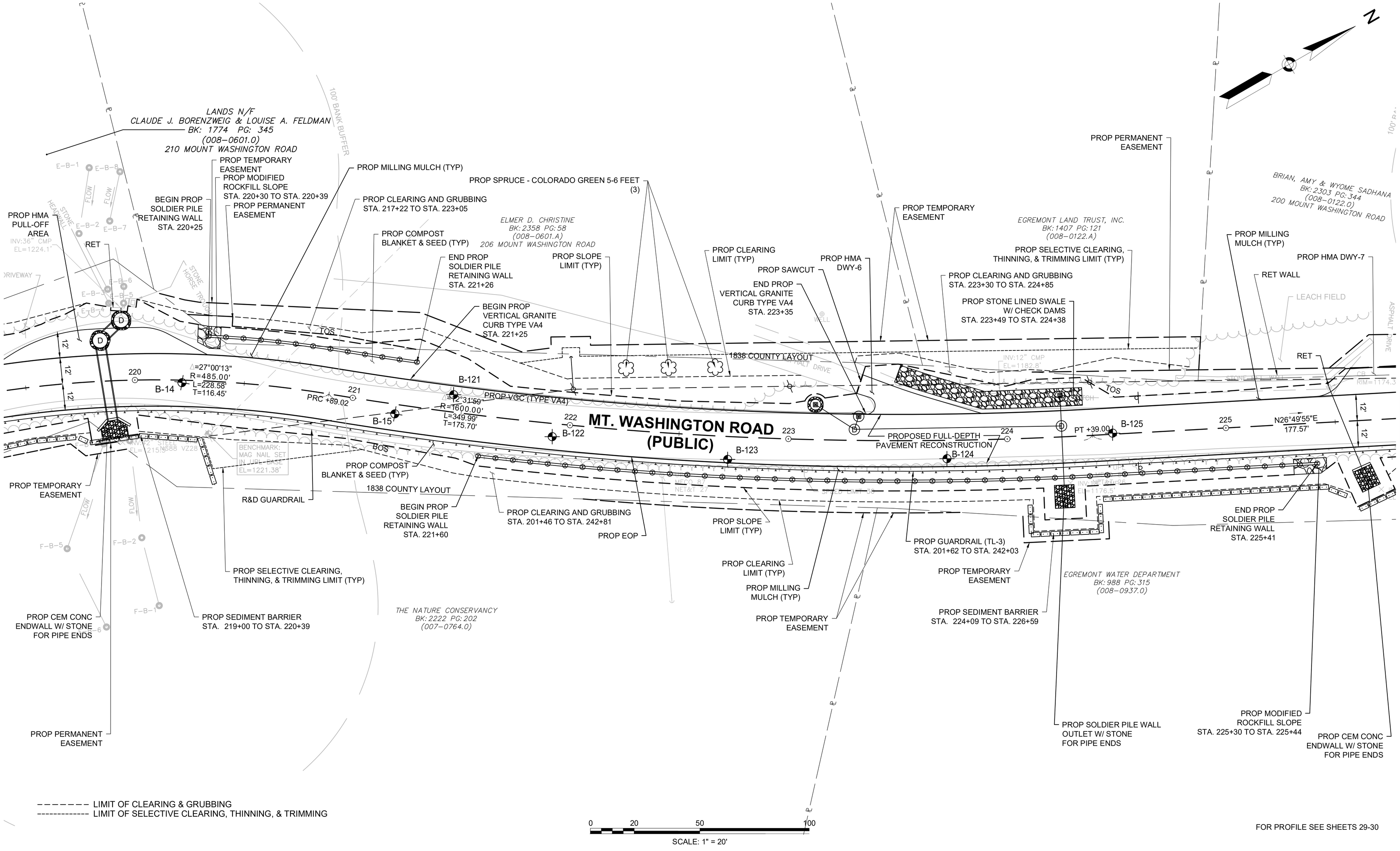
DRAINAGE DETAILS

SEE SHEET 77

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	20	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 5



HIGHWAY GUARD DETAILS

PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 221+60 TO STA 227+85, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 227+85 TO STA 232+00, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

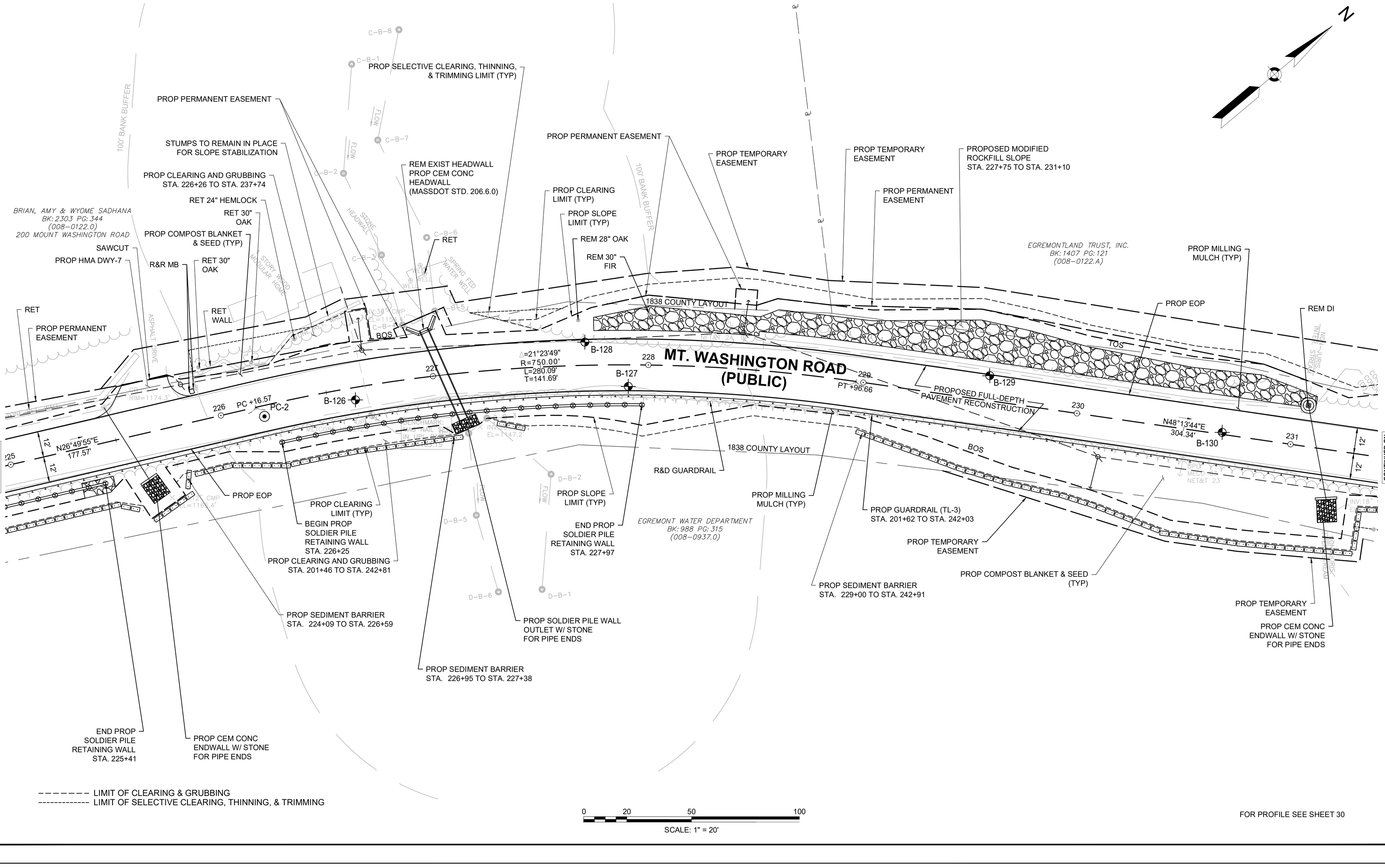
SEE SHEET 78

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	21	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 6

608547_HD(CP).DWG Plotted on 17-May-2024 10:43 AM



FOR PROFILE SEE SHEET 30

HIGHWAY GUARD DETAILS

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PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 234+00 TO STA 239+50, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

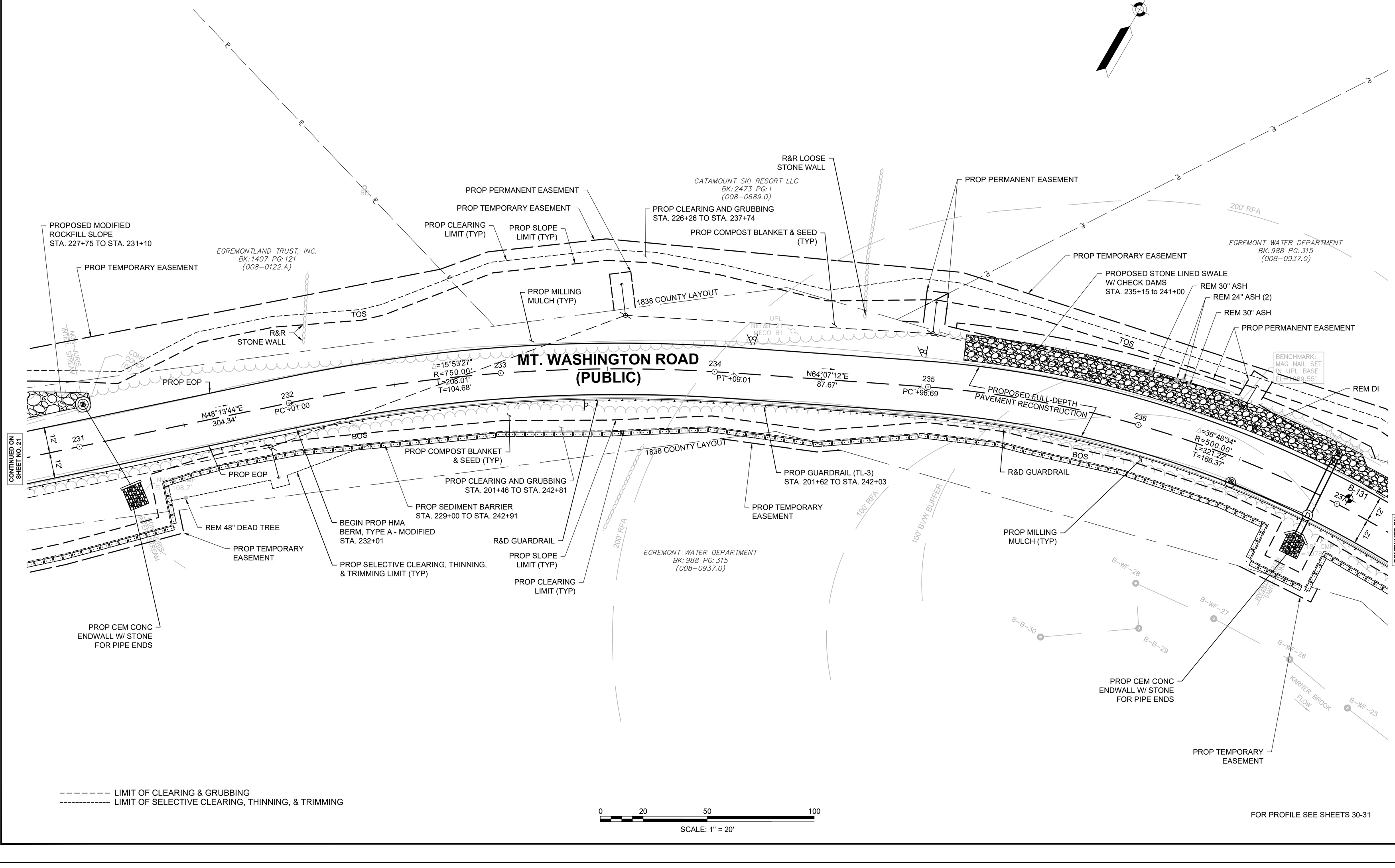
SEE SHEET 79

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	22	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 7

608547_HD(CP).DWG Plotted on 17-May-2024 10:43 AM



LIMIT OF CLEARING & GRUBBING
LIMIT OF SELECTIVE CLEARING, THINNING, & TRIMMING

0 20 50 100
SCALE: 1" = 20'

FOR PROFILE SEE SHEETS 30-31

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 234+00 TO STA 239+50, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 239+50 TO STA 241+65, OFFSET RT
PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 241+65 TO STA 242+03, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

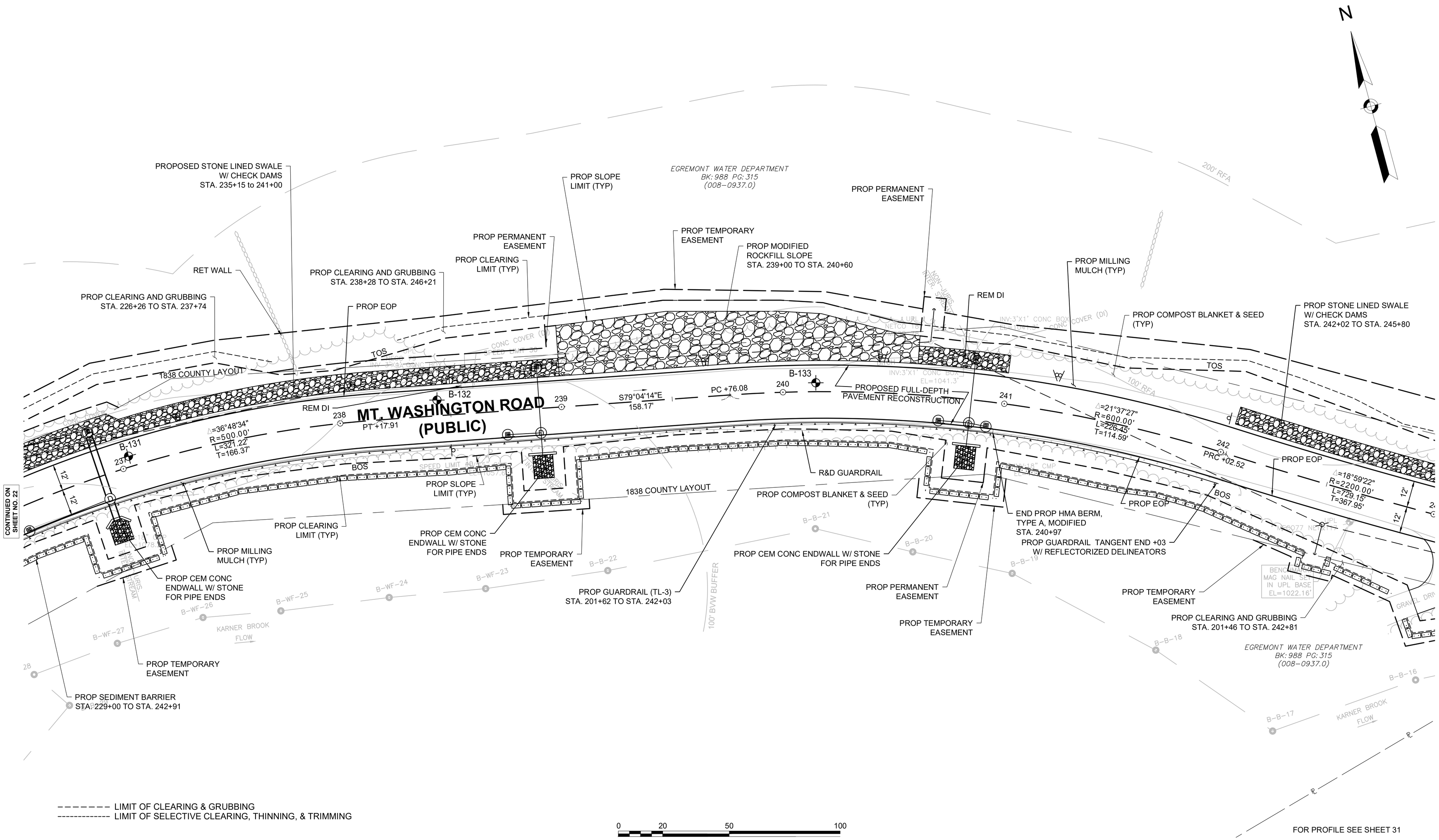
SEE SHEET 80

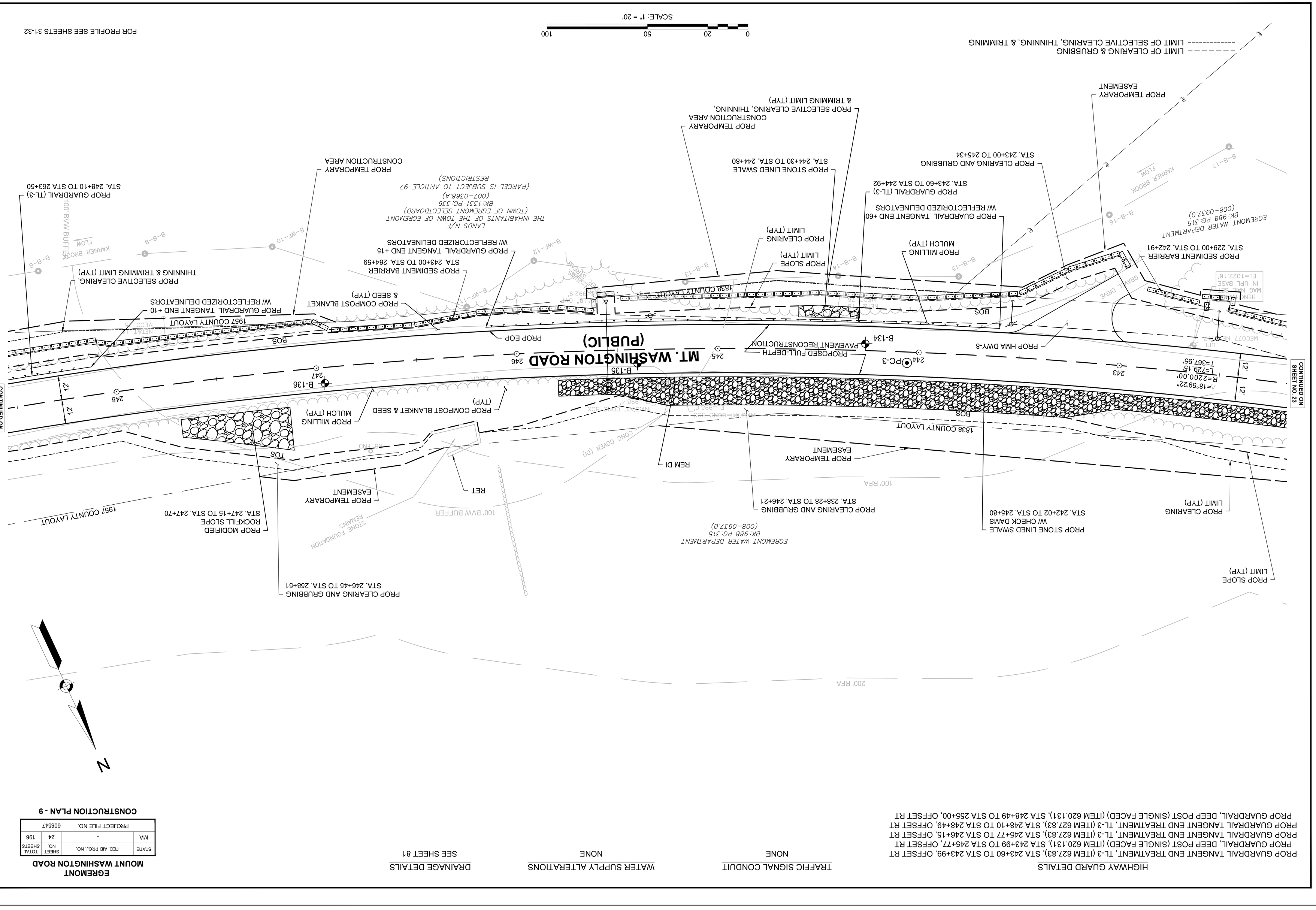
EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	23	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 8

608547_HD(CP).DWG Plotted on 17-May-2024 10.44 AM





SCALE: 1" = 20'

0 20 50 100

FOR PROFILE SEE SHEETS 31-32

HIGHWAY GUARD DETAILS

PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 243+60 TO STA 243+99, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 243+99 TO STA 245+77, OFFSET RT
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TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

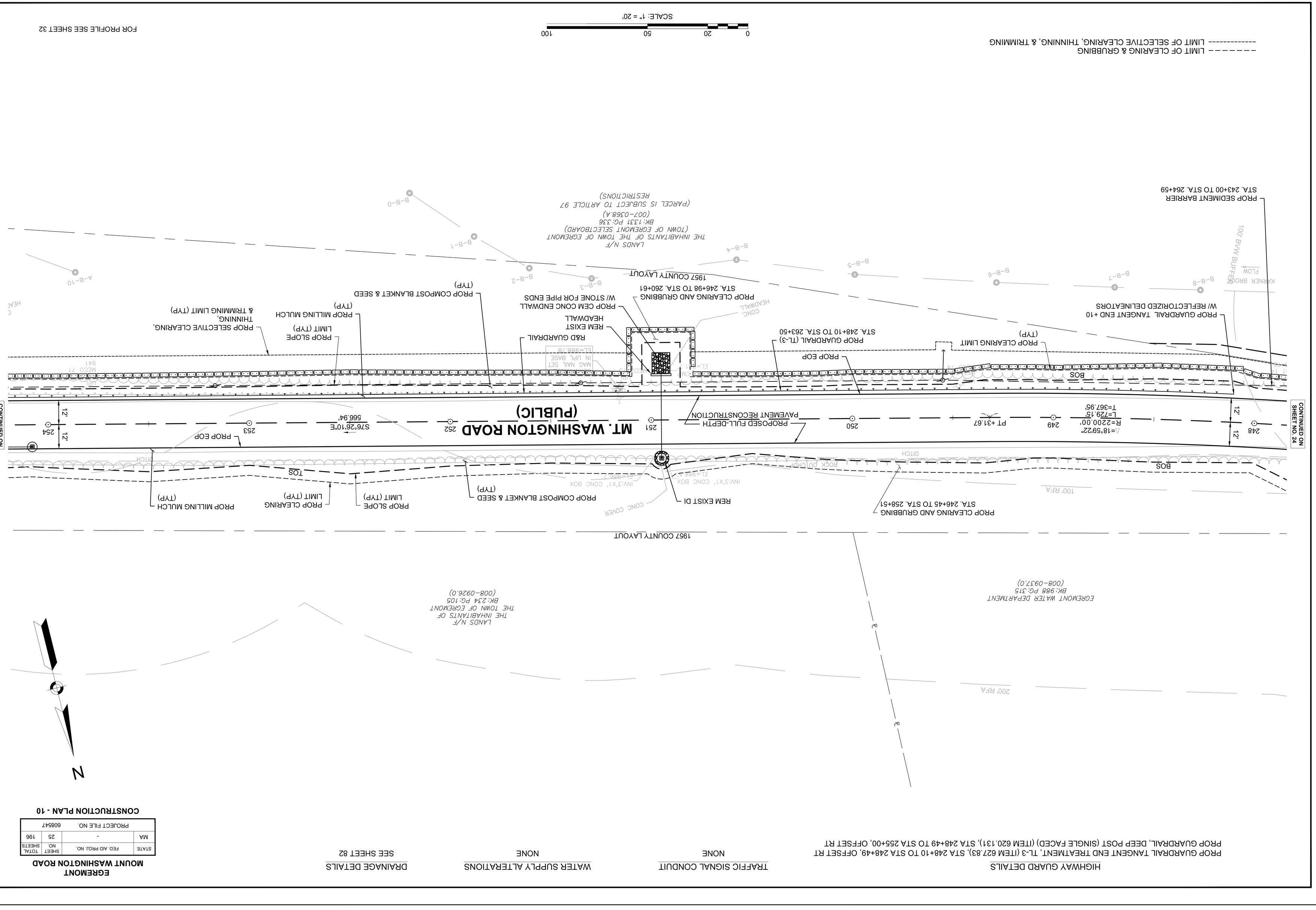
SEE SHEET 81

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	24	196
PROJECT FILE NO. 608547			

CONSTRUCTION PLAN - 9

608547_HD(CP).DWG Plotted on 17-May-2024 10:44 AM



0 20 50 100

SCALE: 1" = 20'

FOR PROFILE SEE SHEET 32

LIMIT OF CLEARING & GRUBBING
LIMIT OF SELECTIVE CLEARING, THINNING, & TRIMMING

HIGHWAY GUARD DETAILS
PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 248+10 TO STA 248+49, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 248+49 TO STA 255+00, OFFSET RT

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE SHEET 82

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	25	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 10

Proposal No. 608547-132397

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 248+49 TO STA 255+00, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 255+00 TO STA 257+50, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 257+50 TO STA 263+12, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET 83

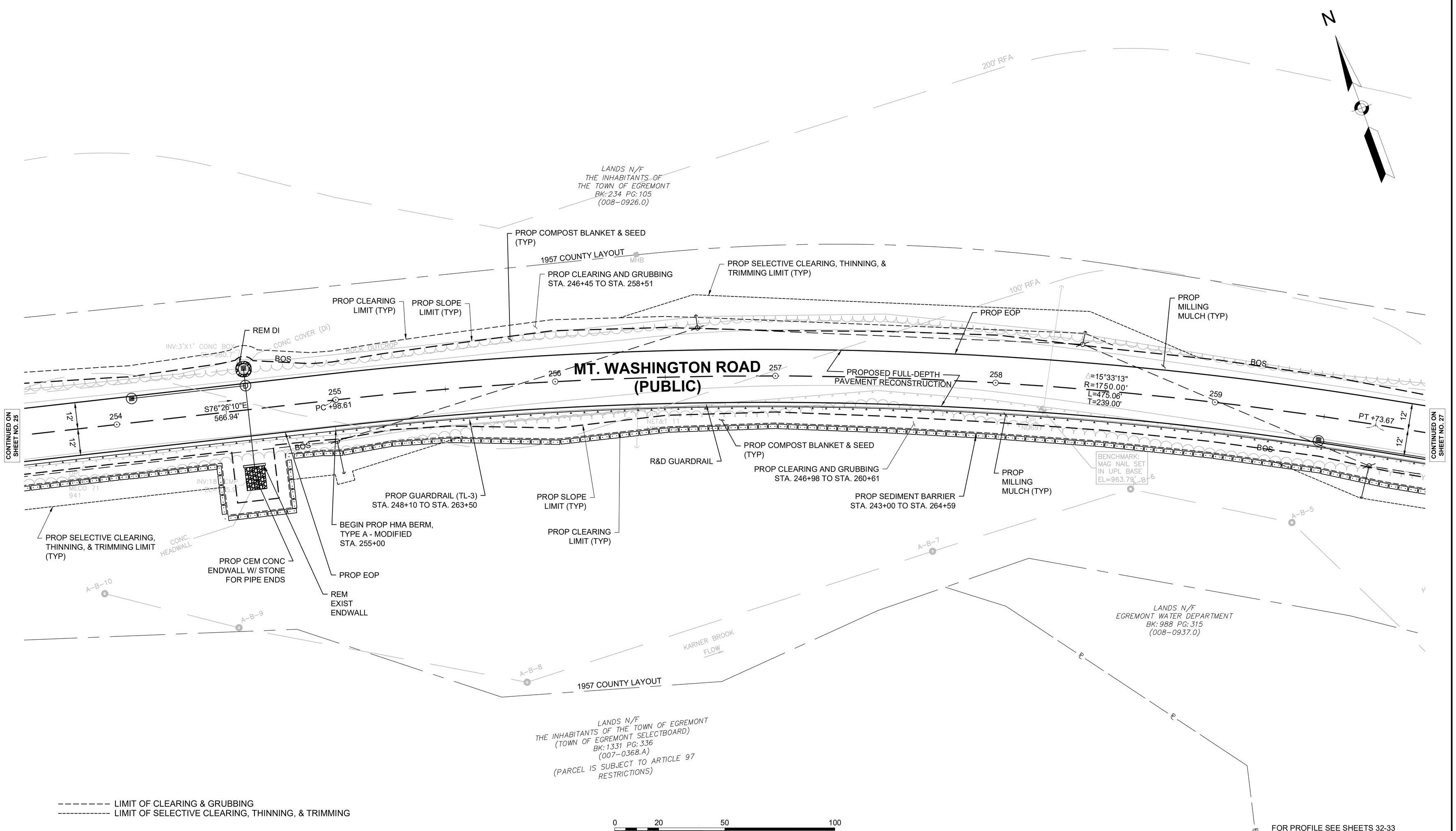
EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	26	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 11

608547_HD(CP).DWG Plotted on 17-May-2024 10:44 AM

A00860 - 55



Proposal No. 608547-132397

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 257+50 TO STA 263+12, OFFSET RT
PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 263+12 TO STA 263+50, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET 84

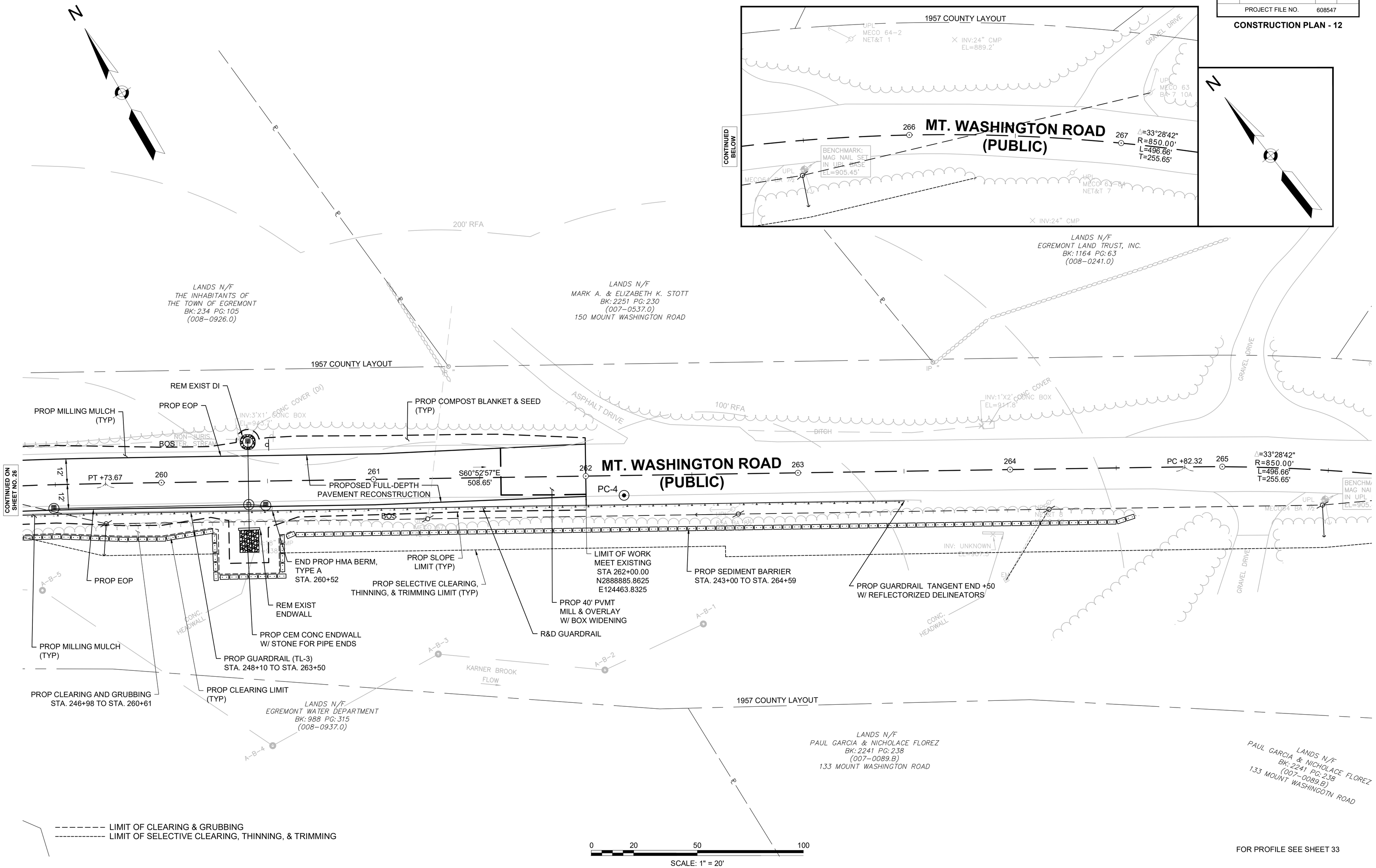
EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	27	196
PROJECT FILE NO.	608547		

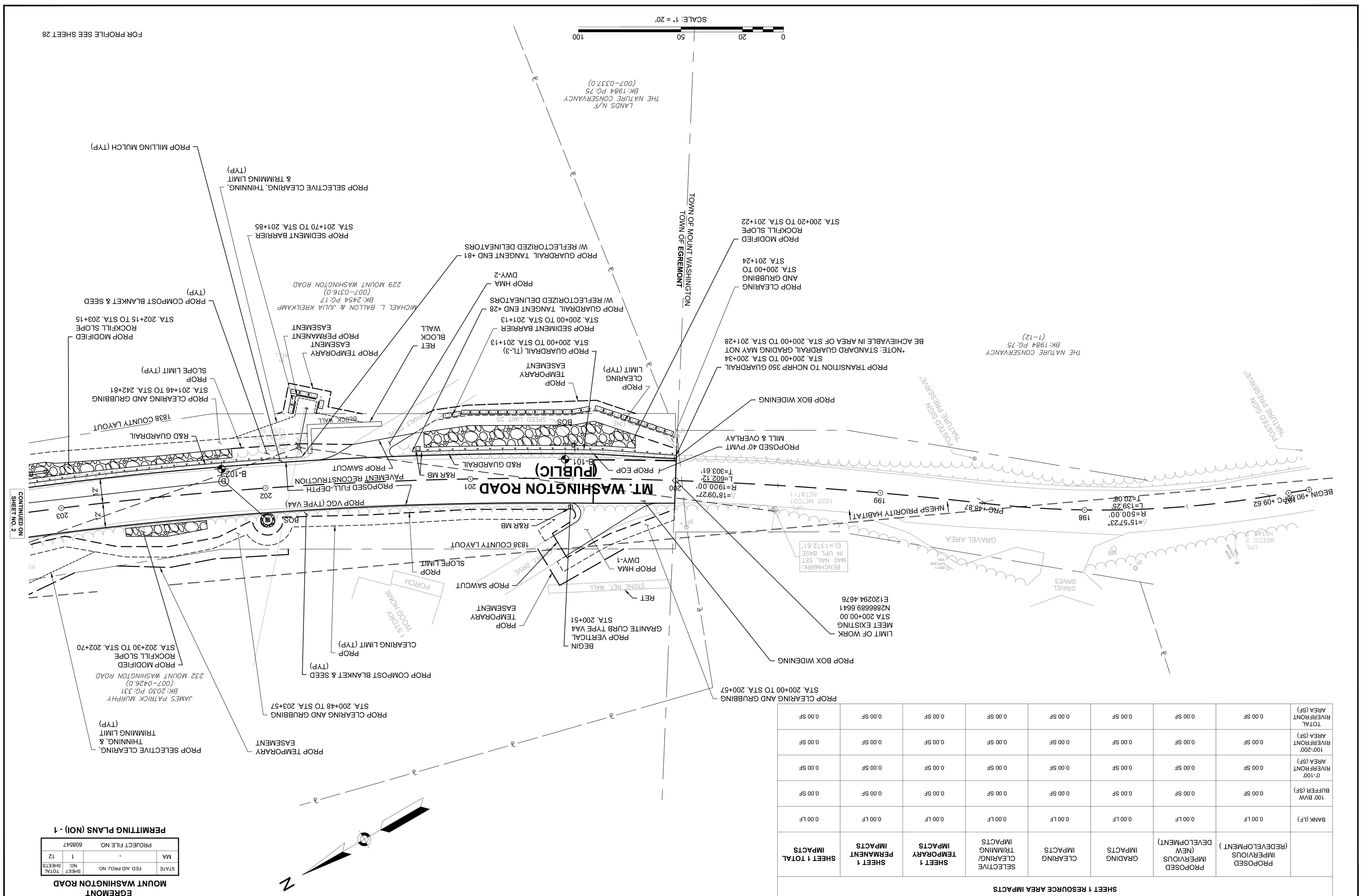
CONSTRUCTION PLAN - 12

608547_HD(CP).DWG Plotted on 17-May-2024 10:44 AM

A00860 - 56



FOR PROFILE SEE SHEET 33



	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	SHEET 1 TEMPORARY IMPACTS	SHEET 1 PERMANENT IMPACTS	SHEET 1 TOTAL IMPACTS
SHEET 1 RESOURCE AREA IMPACTS								
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
100'-200' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
TOTAL RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	1	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 1

608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:36 AM

Proposal No. 608547-132397

608547_HDPERMITTING).DWG Plotted on 17-May-2024 10:36 AM

FOR PROFILE SEE SHEET 28

SCALE: 1" = 20'

0 20 50 100

MT. WASHINGTON ROAD (PUBLIC)

1838 COUNTY LAYOUT

PROP VGC (TYPE VA4)

PROP EOP

PROP TEMPORARY EASEMENT

PROP MILLING MULCH (TYP)

R&D GUARDRAIL

PROP CLEARING AND GRUBBING STA. 201+46 TO STA. 242+81

PROP SEDIMENT BARRIER STA. 204+53 TO STA. 204+85

PROP TEMPORARY EASEMENT

PROP SOLDIER PILE WALL OUTLET W/ STONE FOR PIPE ENDS

PROP COMPOST BLANKET & SEED (TYP)

PROP GUARDRAIL (TL-3) STA. 201+62 TO STA. 242+03

BEGIN PROPOSED SOLDIER PILE RETAINING WALL STA. 203+05

PROP CLEARING LIMIT (TYP)

PROP SLOPE LIMIT (TYP)

PROPOSED MODIFIED ROCKFILL SLOPE STA. 202+15 TO STA. 203+15

THE NATURE CONSERVANCY
BK: 2222 PG: 202
(007-076A.0)

MICHAEL L. BALLON & JULIA KREILKAMP
BK: 2454 PG: 17
(007-031G.0)
229 MOUNT WASHINGTON ROAD

BENCHMARK:
MAG NAIL SET
IN UPL BASE
EL=1304.75'

B-108

B-107

B-106

B-105

B-104

B-103

PC-1

PC +54.34

N18°21'23"E
203.35'

PT +50.99

Δ=12°53'22"
R=1500.00'
L=337.44'
T=169.44'

Δ=18°09'27"
R=1900.00'
L=602.12'
T=303.61'

203

204

205

206

207

208

R&R MB

BOS

12'

CONTINUED ON SHEET NO. 3

CONTINUED ON SHEET NO. 1

REM 15" POPLAR (2)

REM DI

REM 16" TREE

SAWCUT

PROP VERTICAL GRANITE CURB TYPE VA4 STA. 203+83

BEGIN PROP CLEARING AND GRUBBING STA. 200+48 TO 203+57

PROP TEMPORARY EASEMENT

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

PROP PERMANENT EASEMENT

TRIM 24" TREE

PROP SLOPE LIMIT (TYP)

PROP CLEARING LIMIT (TYP)

PROP CLEARING AND GRUBBING STA. 203+75 TO 214+49

PROP TEMPORARY EASEMENT

PROP COMPOST BLANKET & SEED (TYP)

NHESP PRIORITY HABITAT

PROP TEMPORARY EASEMENT

REM CB

END PROPOSED VERTICAL GRANITE CURB TYPE VA4 STA. 203+37

PROPOSED MODIFIED ROCKFILL SLOPE STA. 202+30 TO STA. 202+70

PROP TEMPORARY EASEMENT

JAMES PATRICK MURPHY
BK: 2030 PG: 331
(007-042G.0)
232 MOUNT WASHINGTON ROAD

PROP HMA DWY-3

LEO A. & OLIVIA H.L. SBLENDORIO
BK: 2545 PG: 103
(007-076G.0)
226 MOUNT WASHINGTON ROAD

N

SHEET 2 RESOURCE AREA IMPACTS							
	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	SHEET 2 TEMPORARY IMPACTS	SHEET 2 PERMANENT IMPACTS	SHEET 2 TOTAL IMPACTS
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
100'-200' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
TOTAL RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF

EGREMONT
MOUNT WASHINGTON ROAD

PERMITTING PLANS (NOI) - 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	2	12
PROJECT FILE NO. 608547			

SHEET 3 RESOURCE AREA IMPACTS

	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	SHEET 3 TEMPORARY IMPACTS	SHEET 3 PERMANENT IMPACTS	SHEET 3 TOTAL IMPACTS
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
100'-200' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
TOTAL RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF

SCALE: 1" = 20'

0 20 50 100

FOR PROFILE SEE SHEETS 28-29

CONTINUED ON SHEET NO. 2

CONTINUED ON SHEET NO. 4

MT. WASHINGTON ROAD (PUBLIC)

PROP EOP

PROP VGC (TYPE VA4)

PROP HMA DWY-4

PROP EOP

1838 COUNTY LAYOUT

BOS

REM DI

CONC COVER (DI)

PROP TEMPORARY EASEMENT

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

TRIM TREE

PROP TEMPORARY EASEMENT

PROP MILLING MULCH (TYP)

PROP SEDIMENT BARRIER STA. 209+68 TO STA. 209+99

PROP SOLDIER PILE WALL OUTLET W/ STONE FOR PIPE ENDS

BENCHMARK: MAG NAIL SET IN UPL BASE EL=1304.75'

209

210

211

212

213

214

PT +91.78

PC +02.03

PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION

PROP VGC (TYPE VA4)

REM DI

BOS

RAR POST

PROP STONE LINED SWALE W/ CHECK DAMS STA. 213+30 TO STA. 213+75

BEGIN STONE MASONRY RETAINING WALL

PROP TEMPORARY EASEMENT

END PROP VERTICAL GRANITE CURB TYPE VA4 STA. 213+55

PROP TEMPORARY EASEMENT

PROP MODIFIED ROCKFILL SLOPE STA. 212+75 TO 213+30

BEGIN PROP VERTICAL GRANITE CURB TYPE VA4 STA. 212+27

END PROP SOLDIER PILE RETAINING WALL STA. 211+94

PROP MILLING MULCH (TYP)

PROP MODIFIED ROCKFILL SLOPE STA. 211+85 TO 212+00

PROP TEMPORARY EASEMENT

PROP CLEARING LIMIT (TYP)

PROP COMPOST BLANKET & SEED (TYP)

PROP CLEARING LIMIT (TYP)

PROP SLOPE LIMIT (TYP)

PROP CLEARING AND GRUBBING STA. 203+75 TO STA. 214+49

PROP TEMPORARY EASEMENT

TRIM 16" OAK

END PROP VERTICAL GRANITE CURB TYPE VA4 STA. 210+00

PROP MODIFIED ROCKFILL SLOPE STA. 210+13 TO 210+43

BEGIN PROP SOLDIER PILE RETAINING WALL STA. 210+28

PROP TEMPORARY EASEMENT

BEGIN PROP HMA BERM, TYPE A (MODIFIED) STA. 210+24

PROP TEMPORARY EASEMENT

PROP CLEARING AND GRUBBING STA. 201+48 TO STA. 242+81

R&D GUARDRAIL

PROP GUARDRAIL (TL-3) STA. 201+62 TO STA. 242+03

PROP SLOPE LIMIT (TYP)

PROP SEDIMENT BARRIER STA. 213+48 TO STA. 213+82

PROP TEMPORARY EASEMENT

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

PROP MODIFIED ROCKFILL SLOPE STA. 212+75 TO 212+91

END PROP SOLDIER PILE RETAINING WALL STA. 212+79

BENCHMARK: MAG NAIL SET IN UPL BASE EL=1282.36'

PROP TEMPORARY EASEMENT

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

BOS

12'

12'

=26°31'45" R=825.00' T=381.99' L=194.48'

=26°31'45" R=825.00' T=381.99' L=194.48'

NHESP PRIORITY HABITAT

THE NATURE CONSERVANCY BK: 2222 PG: 202 (007-0764.0)

LEO A. & OLIVIA H.L. SBLENDORIO BK: 2545 PG: 103 (007-0769.0) 226 MOUNT WASHINGTON ROAD

LEO A. & OLIVIA H.L. SBLENDORIO BK: 2545 PG: 103 (007-0769.0) 226 MOUNT WASHINGTON ROAD

ROBERT M. & LINDA S. KATZ BK: 1856 PG: 150 (007-0798.0) 214 MOUNT WASHINGTON ROAD

N

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	3	12
PROJECT FILE NO. 608547			

PERMITTING PLANS (NOI) - 3

608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:36 AM

SHEET 4 RESOURCE AREA IMPACTS

	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	**SHEET 4 TEMPORARY IMPACTS**	**SHEET 4 PERMANENT IMPACTS**	**SHEET 4 TOTAL IMPACTS**
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
100'-200' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
TOTAL RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF

N

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	4	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 4

BEGIN STONE MASONRY RETAINING WALL
END STONE MASONRY RETAINING WALL
BEGIN VGC TYPE VA4 - 8" REVEAL
END VGC TYPE VA4 - 6" REVEAL
PROP CLEARING AND GRUBBING STA. 214+55 TO STA. 217+02
PROP TEMPORARY EASEMENT
PROP HMA DWY-4
PROP SAWCUT
PROP COMPOST BLANKET & SEED (TYP)
PROP EOP
ASPHALT DRIVE
POST
CONTINUED ON SHEET NO. 3
△=26°31'45"
R=825.00'
L=381.99'
T=194.48'
12'
214
B-117
PT +84.02
215
N31°59'46"E
119.39'
B-118
216
PC +03.42
B-116
MT. WASHINGTON ROAD
(PUBLIC)
B-119
217
BOS
BENCHMARK: MAG NAIL SET IN UPL BASE EL=1282.36'
R&D
R&D BOULDERS
BOULDERS
GUARDRAIL RET. WALL
1838 COUNTY LAYOUT
REM 28" OAK
REM 24" OAK
R&D GUARDRAIL
PROP SEDIMENT BARRIER STA. 213+48 TO STA. 213+82
PROP CLEARING AND GRUBBING STA. 201+46 TO STA. 242+81
PROP MODIFIED ROCKFILL SLOPE STA. 214+90 TO STA. 215+10
PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS
PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)
PROP TEMPORARY EASEMENT
PROP PERMANENT EASEMENT
PROP SEDIMENT BARRIER STA. 216+34 TO STA. 216+73
PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS
PROP MILLING MULCH (TYP)
PROP PERMANENT EASEMENT
THE NATURE CONSERVANCY
BK:2222 PG:202
(007-0764.0)
ROBERT M. & LINDA S. KATZ
BK:1855 PG:150
(007-0798.0)
214 MOUNT WASHINGTON ROAD
PROP STONE LINED SWALE W/ CHECK DAMS STA. 214+20 TO STA. 216+60
REM DI
REM DI & PIPE
PROP TEMPORARY EASEMENT
RET WALL
STONE RETWALL
PROP STONE LINED SWALE W/ CHECK DAMS STA. 217+15 TO STA. 218+10
CONC COVER (D1)
PROP HMA DWY-5
RB FNDR&EMT SM
ASPHALT DRIVE
PROP SAWCUT
R&R POST
PROP PERMANENT EASEMENT
PROP SEDIMENT BARRIER STA. 217+74 TO STA. 218+05
PROP COMPOST BLANKET & SEED(TYP)
PROP GUARDRAIL (TL-3) STA. 201+62 TO STA. 242+03
PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION
△=19°38'05"
R=750.00'
L=257.02'
T=129.78'
218
B-120
PRC +60.44
219
PROP MODIFIED ROCKFILL SLOPE STA. 217+80 TO STA. 218+15
BEGIN PROP SOLDIER PILE RETAINING WALL STA. 218+10
PROP CLEARING AND GRUBBING STA. 217+22 TO STA. 223+05
PROP CLEARING LIMIT (TYP)
PROP SLOPE LIMIT (TYP)
PROP TEMPORARY EASEMENT
PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS
PROP SLOPE LIMIT (TYP)
PROP PERMANENT EASEMENT
NHESP PRIORITY HABITAT
100' BANK BUFFER
CLAUDE J. BORENZWEIG & LOUISE A. FELDMAN
BK:1774 PG:345
(008-0601.0)
210 MOUNT WASHINGTON ROAD
END PROP SOLDIER PILE RETAINING WALL STA. 219+35
PROP MODIFIED ROCKFILL SLOPE STA. 219+20 TO STA. 219+36
PROP MILLING MULCH (TYP)
RET HEADWALL
STONE HEADWALL
FLOW
INV:36" CMP EL=1224.1'
HIDDEN DRIVEWAY
TOS
△=27°00'13"
R=485.00'
L=228.58'
T=116.45'
220
B-13
BOS
R&D GUARDRAIL
PROP TEMPORARY EASEMENT
PROP CLEARING LIMIT (TYP)
PROP SEDIMENT BARRIER STA. 219+00 TO STA. 220+39
PROP PERMANENT EASEMENT
PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS
100' RFA
CONTINUED ON SHEET NO. 5
FOR PROFILE SEE SHEET 29

0 20 50 100
SCALE: 1" = 20'

Proposal No. 608547-132397

608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:37 AM

A00860 - 60

SCALE: 1" = 20'

0 20 50 100

FOR PROFILE SEE SHEETS 29-30

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

PROP SEDIMENT BARRIER STA. 219+00 TO STA. 220+39

PROP PERMANENT EASEMENT

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

PROP TEMPORARY EASEMENT

R&D GUARDRAIL

1838 COUNTY LAYOUT

BEGIN PROP SOLDIER PILE RETAINING WALL STA. 220+30 TO STA. 220+39

PROP MODIFIED ROCKFILL SLOPE

PROP TEMPORARY EASEMENT

PROP PERMANENT EASEMENT

PROP HMA PULL-OFF AREA

RET

RET

PROP COMPOST BLANKET & SEED (TYP)

END PROP SOLDIER PILE RETAINING WALL STA. 221+26

BEGIN PROP VERTICAL GRANITE CURB TYPE VA4 STA. 221+25

PROP CLEARING AND GRUBBING STA. 217+22 TO STA. 223+05

PROP SLOPE LIMIT (TYP)

PROP CLEARING LIMIT (TYP)

PROP MILLING MULCH (TYP)

PROP SPRUCE - COLORADO GREEN 5-6 FEET (3)

PROP CLEARING AND GRUBBING STA. 201+46 TO STA. 242+81

PROP EOP

PROP GUARDRAIL (TL-3) STA. 201+62 TO STA. 242+03

PROP TEMPORARY EASEMENT

PROP SEDIMENT BARRIER STA. 224+09 TO STA. 226+59

PROP TEMPORARY EASEMENT

PROP SOLDIER PILE WALL OUTLET W/ STONE FOR PIPE ENDS

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

PROP MODIFIED ROCKFILL SLOPE STA. 225+30 TO STA. 225+44

END PROP SOLDIER PILE RETAINING WALL STA. 225+41

PROP TEMPORARY EASEMENT

PROP PERMANENT EASEMENT

PROP HMA DWY-7

PROP MILLING MULCH (TYP)

RET WALL

RET

PROP SAWCUT

PROP HMA DWY-6

END PROP VERTICAL GRANITE CURB TYPE VA4 STA. 223+35

PROP CLEARING AND GRUBBING STA. 223+30 TO STA. 224+85

PROP STONE LINED SWALE W/ CHECK DAMS STA. 223+49 TO STA. 224+38

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

PROP TEMPORARY EASEMENT

PROP PERMANENT EASEMENT

PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION

PROP VGC (TYPE VA4)

PROP COMPOST BLANKET & SEED (TYP)

BEGIN PROP SOLDIER PILE RETAINING WALL STA. 221+60

1838 COUNTY LAYOUT

PROP EOP

PROP SLOPE LIMIT (TYP)

PROP CLEARING LIMIT (TYP)

PROP MILLING MULCH

FOR PROFILE SEE SHEET 30

SCALE: 1" = 20'

0 20 50 100

NHESP PRIORITY HABITAT

END PROP SOLDIER PILE RETAINING WALL STA. 225+41

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

PROP SEDIMENT BARRIER STA. 224+09 TO STA. 226+59

PROP SOLDIER PILE WALL OUTLET W/ STONE FOR PIPE ENDS

PROP SEDIMENT BARRIER STA. 226+95 TO STA. 227+38

PROP TEMPORARY EASEMENT

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

PROP COMPOST BLANKET & SEED (TYP)

PROP SEDIMENT BARRIER STA. 229+00 TO STA. 242+91

PROP GUARDRAIL (TL-3) STA. 201+62 TO STA. 242+03

PROP MILLING MULCH (TYP)

EGREMONT WATER DEPARTMENT BK: 988 PG: 315 (008-0937.0)

END PROP SOLDIER PILE RETAINING WALL STA. 227+97

PROP SLOPE LIMIT (TYP)

PROP CLEARING LIMIT (TYP) BEGIN PROP SOLDIER PILE RETAINING WALL STA. 226+25 PROP CLEARING AND GRUBBING STA. 201+46 TO STA. 242+81

PROP EOP

CONTINUED ON SHEET NO. 5

CONTINUED ON SHEET NO. 7

1838 COUNTY LAYOUT

R&D GUARDRAIL

MT. WASHINGTON ROAD (PUBLIC)

PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION

B-129 B-130 B-126 B-127 B-128

N48°13'44"E 304.34'

N26°49'55"E 177.57'

PC +16.57

PT +96.66

Δ=21°23'49" R=750.00' L=280.09' T=141.69'

REM DI

PROP EOP

PROP MILLING MULCH (TYP)

EGREMONT LAND TRUST, INC. BK: 1407 PG: 121 (008-0122.A)

PROP PERMANENT EASEMENT

PROP TEMPORARY EASEMENT

PROPOSED MODIFIED ROCKFILL SLOPE STA. 227+75 TO STA. 231+10

100' BANK BUFFER

REM 30" FIR

REM 28" OAK

PROP SLOPE LIMIT (TYP)

PROP CLEARING LIMIT (TYP)

REM EXIST HEADWALL PROP CEM CONC HEADWALL (MASSDOT STD. 206.6.0)

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

STUMPS TO REMAIN IN PLACE FOR SLOPE STABILIZATION

PROP CLEARING AND GRUBBING STA. 226+26 TO STA. 237+74

RET 24" HEMLOCK

RET 30" OAK

PROP COMPOST BLANKET & SEED (TYP)

SAWCUT

PROP HMA DWY-7

RET WALL

RET 30" OAK

R&R MB

RET

PROP PERMANENT EASEMENT

BRIAN, AMY & WYONE SADHANA BK: 2303 PG: 344 200 MOUNT WASHINGTON ROAD (008-0122.0)

ASPHALT DRIVE

STONE HEADWALL

SPRING FED WATER WELL

STORY MAP HOUSE

FLOW

GRADING IMPACTS

BANK IMPACTS

	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS DEVELOPMENT (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	SHEET 6 TEMPORARY IMPACTS	SHEET 6 PERMANENT IMPACTS	SHEET 6 TOTAL IMPACTS
SHEET 6 RESOURCE AREA IMPACTS								
BANK (LF)	0.00 LF	0.00 LF	20.92 LF	0.00 LF	0.00 LF	0.00 LF	20.92 LF	20.92 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
100'-200' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
TOTAL RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF

N

PERMITTING PLANS (NOI) - 6

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	6	12
PROJECT FILE NO. 608547			

EGREMONT
MOUNT WASHINGTON ROAD

608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:37 AM

SHEET 7 RESOURCE AREA IMPACTS								
	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	SHEET 7 TEMPORARY IMPACTS	SHEET 7 PERMANENT IMPACTS	SHEET 7 TOTAL IMPACTS
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	3448.89 SF	225.60 SF	2612.88 SF	885.07 SF	0.00 SF	3448.89 SF	3723.55 SF	7172.44 SF
0'-100' RIVERFRONT AREA (SF)	2106.39 SF	163.83 SF	831.45 SF	901.78 SF	0.00 SF	0.00 SF	1897.06 SF	1897.06 SF
100'-200' RIVERFRONT AREA (SF)	5043.40 SF	210.29 SF	7962.37 SF	2348.21 SF	0.00 SF	0.00 SF	10520.88 SF	10520.88 SF
TOTAL RIVERFRONT AREA (SF)	7149.79 SF	374.12 SF	8793.83 SF	3249.99 SF	0.00 SF	0.00 SF	12417.94 SF	12417.94 SF

IMPERVIOUS (NEW DEVELOPMENT) 0–100 FT RIVERFRONT AREA

IMPERVIOUS (NEW DEVELOPMENT) 100–200 FT RIVERFRONT AREA

GRADING IMPACTS 0–100 FT RIVERFRONT AREA

GRADING IMPACTS 100–200 FT RIVERFRONT AREA

CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

CLEARING IMPACTS 100–200 FT RIVERFRONT AREA

IMPERVIOUS (REDEVELOPMENT) 100 FT BVW BUFFER

IMPERVIOUS (NEW DEVELOPMENT) 100 FT BVW BUFFER

GRADING IMPACTS 100 FT BVW BUFFER

CLEARING IMPACTS 100 FT BVW BUFFER

N

EGREMONT
MOUNT WASHINGTON ROAD

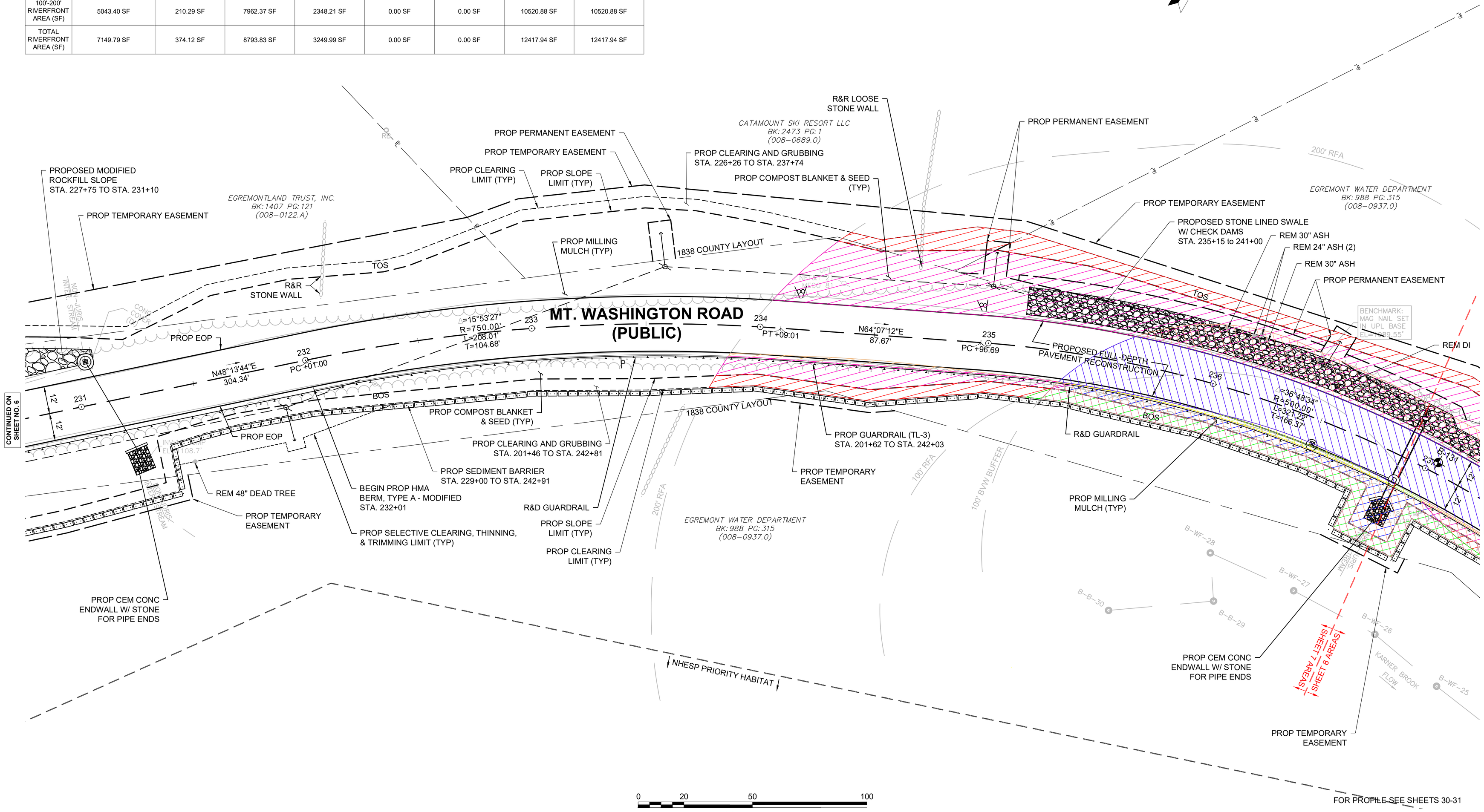
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	7	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 7

608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:37 AM

Proposal No. 608547-132397

A00860 - 63



SHEET 8 RESOURCE AREA IMPACTS								
	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	**SHEET 8 TEMPORARY IMPACTS**	**SHEET 8 PERMANENT IMPACTS**	**SHEET 8 TOTAL IMPACTS**
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	5761.50 SF	63.20 SF	3539.00 SF	1488.59 SF	0.00 SF	5761.50 SF	5090.78 SF	10852.29 SF
0'-100' RIVERFRONT AREA (SF)	10462.04 SF	505.98 SF	8881.58 SF	3460.41 SF	0.00 SF	0.00 SF	12847.97 SF	12847.97 SF
100'-200' RIVERFRONT AREA (SF)	2978.23 SF	38.98 SF	7081.51 SF	2386.24 SF	0.00 SF	0.00 SF	9506.73 SF	9506.73 SF
TOTAL RIVERFRONT AREA (SF)	13440.27 SF	544.95 SF	15963.10 SF	5846.65 SF	0.00 SF	0.00 SF	22354.70 SF	22354.70 SF

IMPERVIOUS (NEW DEVELOPMENT) 0–100 FT RIVERFRONT AREA

IMPERVIOUS (NEW DEVELOPMENT) 100–200 FT RIVERFRONT AREA

IMPERVIOUS (REDEVELOPMENT) 100 FT BVW BUFFER

GRADING IMPACTS 0–100 FT RIVERFRONT AREA

GRADING IMPACTS 100–200 FT RIVERFRONT AREA

IMPERVIOUS (NEW DEVELOPMENT) 100 FT BVW BUFFER

CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

CLEARING IMPACTS 100–200 FT RIVERFRONT AREA

GRADING IMPACTS 100 FT BVW BUFFER

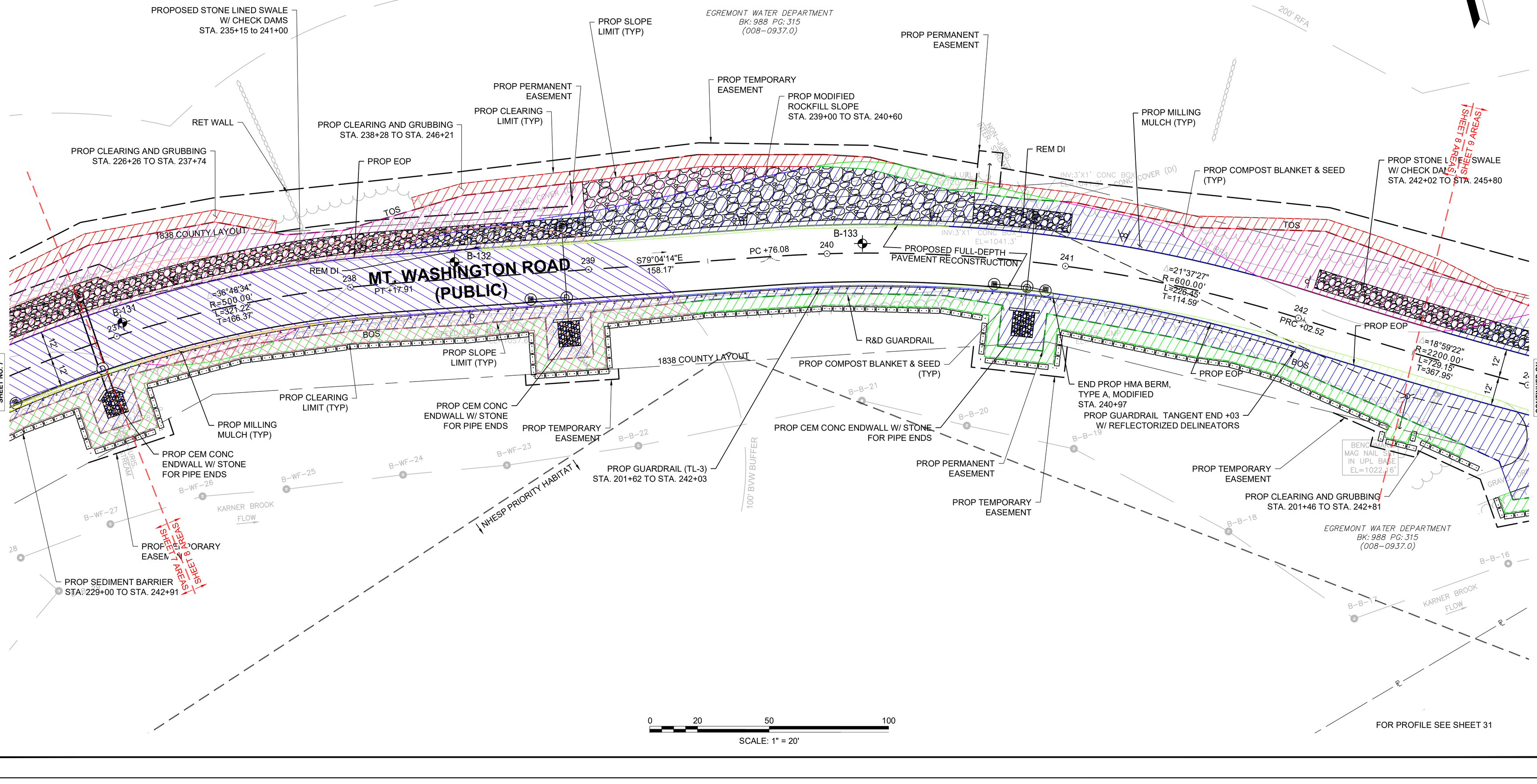
CLEARING IMPACTS 100 FT BVW BUFFER

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	8	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 8

608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:37 AM



Proposal No. 608547-132397

A00860 - 64

SHEET 9 RESOURCE AREA IMPACTS								
	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	**SHEET 9 TEMPORARY IMPACTS**	**SHEET 9 PERMANENT IMPACTS**	**SHEET 9 TOTAL IMPACTS**
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	6249.34 SF	721.10 SF	7715.40 SF	1404.45 SF	686.97 SF	6249.34 SF	10527.93 SF	16777.27 SF
0'-100' RIVERFRONT AREA (SF)	12713.38 SF	946.38 SF	15565.62 SF	3714.04 SF	1506.86 SF	0.00 SF	21732.91 SF	21732.91 SF
100'-200' RIVERFRONT AREA (SF)	14.19 SF	0.00 SF	1242.96 SF	778.17 SF	0.00 SF	0.00 SF	2021.13 SF	2021.13 SF
SHEET 9 RIVERFRONT AREA (SF)	12727.57 SF	946.38 SF	16808.58 SF	4492.21 SF	1506.86 SF	0.00 SF	23754.04 SF	23754.04 SF

IMPERVIOUS (NEW DEVELOPMENT) 0–100 FT RIVERFRONT AREA

IMPERVIOUS (NEW DEVELOPMENT) 100–200 FT RIVERFRONT AREA

IMPERVIOUS (REDEVELOPMENT) 100 FT BVW BUFFER

IMPERVIOUS (NEW DEVELOPMENT) 100 FT BVW BUFFER

GRADING IMPACTS 0–100 FT RIVERFRONT AREA

GRADING IMPACTS 100–200 FT RIVERFRONT AREA

GRADING IMPACTS 100 FT BVW BUFFER

CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

CLEARING IMPACTS 100–200 FT RIVERFRONT AREA

CLEARING IMPACTS 100 FT BVW BUFFER

SELECTIVE CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

SELECTIVE CLEARING IMPACTS 100–200 FT RIVERFRONT AREA

SELECTIVE CLEARING IMPACTS 100 FT BVW BUFFER

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	9	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 9

608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:38 AM

Proposal No. 608547-132397

A00860 - 65

N

PROP SLOPE LIMIT (TYP)

SHEET 8 AREAS

SHEET 9 AREAS

PROP CLEARING LIMIT (TYP)

PROP STONE LINED SWALE W/ CHECK DAMS STA. 242+02 TO STA. 245+80

EGREMONT WATER DEPARTMENT BK: 988 PG: 315 (008–0937.0)

PROP CLEARING AND GRUBBING STA. 238+28 TO STA. 246+21

100' RFA

PROP TEMPORARY EASEMENT

REM DI

1838 COUNTY LAYOUT

BOS

CONC COVER (DI)

100' BVW BUFFER

RET

PROP CLEARING AND GRUBBING STA. 246+45 TO STA. 258+51

STONE FOUNDATION REMAINS

PROP MODIFIED ROCKFILL SLOPE STA. 247+15 TO STA. 247+70

PROP TEMPORARY EASEMENT

1957 COUNTY LAYOUT

SHEET 8 AREAS

SHEET 9 AREAS

TOS

PROP MILLING MULCH (TYP)

PROP COMPOST BLANKET & SEED (TYP)

CONTINUED ON SHEET NO. 8

12'

12'

Δ=18°59'22"
R=2200.00'
L=729.15'
T=367.95'

243

244 PC-3

245

246

247

248

B-136

B-135

B-134

PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION

PROP HMA DWY-8

MT. WASHINGTON ROAD (PUBLIC)

PROP EOP

BOS

1838 COUNTY LAYOUT

1957 COUNTY LAYOUT

PROP GUARDRAIL TANGENT END +10 W/ REFLECTORIZED DELINEATORS

PROP COMPOST BLANKET & SEED (TYP)

PROP SELECTIVE CLEARING, THINNING & TRIMMING LIMIT (TYP)

BENCH MAG NAIL IN UPL BASE EL=1022.16'

GRAVEL DRIVE

PROP SEDIMENT BARRIER STA. 229+00 TO STA. 242+91

PROP MILLING MULCH (TYP)

PROP SLOPE LIMIT (TYP)

PROP CLEARING LIMIT (TYP)

PROP SEDIMENT BARRIER STA. 243+00 TO STA. 264+59

PROP GUARDRAIL TANGENT END +15 W/ REFLECTORIZED DELINEATORS

PROP GUARDRAIL TANGENT END +60 W/ REFLECTORIZED DELINEATORS

PROP GUARDRAIL (TL-3) STA. 243+60 TO STA 244+92

PROP GUARDRAIL (TL-3) STA. 248+10 TO STA 263+50

EGREMONT WATER DEPARTMENT BK: 988 PG: 315 (008–0937.0)

KARNER BROOK FLOW

B–B–16

B–B–15

B–B–14

B–B–13

B–WF–12

B–WF–11

B–WF–10

B–B–9

B–B–8

B–B–7

LANDS N/F THE INHABITANTS OF THE TOWN OF EGREMONT (TOWN OF EGREMONT SELECTBOARD) BK: 1331 PG: 336 (007–0368.A) (PARCEL IS SUBJECT TO ARTICLE 97 RESTRICTIONS)

PROP TEMPORARY CONSTRUCTION AREA

PROP TEMPORARY CONSTRUCTION AREA

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

PROP CLEARING AND GRUBBING STA. 243+00 TO 245+34

PROP STONE LINED SWALE STA. 244+30 TO STA. 244+80

PROP TEMPORARY EASEMENT

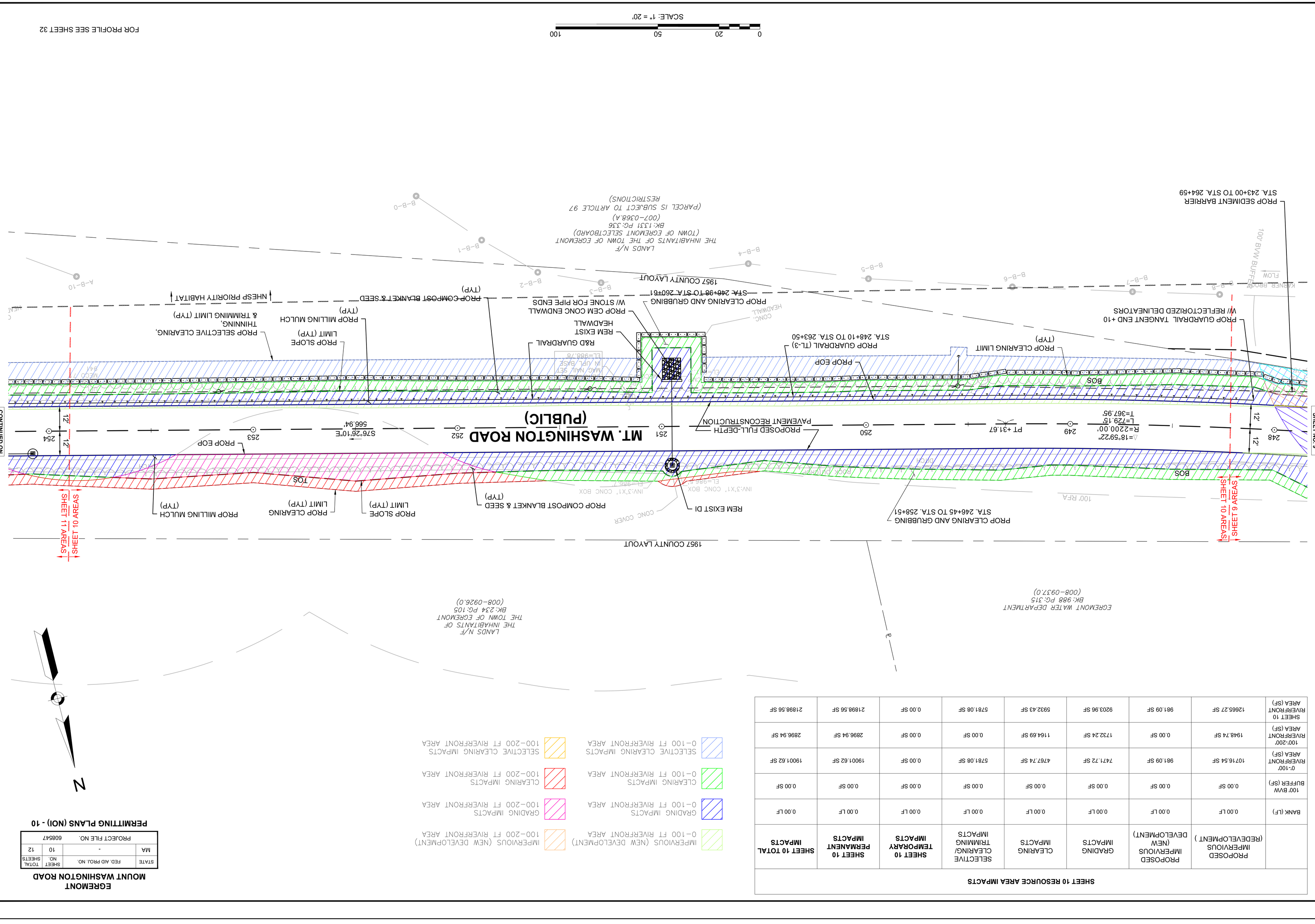
NHESP PRIORITY HABITAT

100' BVW BUFFER

0 20 50 100

SCALE: 1" = 20'

FOR PROFILE SEE SHEETS 31-32



SHEET 10 RESOURCE AREA IMPACTS

	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	SHEET 10 TEMPORARY IMPACTS	SHEET 10 PERMANENT IMPACTS	SHEET 10 TOTAL IMPACTS
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	10716.54 SF	981.09 SF	7471.72 SF	4767.74 SF	5781.08 SF	0.00 SF	19001.62 SF	19001.62 SF
100'-200' RIVERFRONT AREA (SF)	1948.74 SF	0.00 SF	1732.24 SF	1164.69 SF	0.00 SF	0.00 SF	2896.94 SF	2896.94 SF
SHEET 10 RIVERFRONT AREA (SF)	12665.27 SF	981.09 SF	9203.96 SF	5932.43 SF	5781.08 SF	0.00 SF	21898.56 SF	21898.56 SF

PERMITTING PLANS (NOI) - 10

EGREMONT MOUNT WASHINGTON ROAD			
PROJECT FILE NO. 608547			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	10	12

SHEET 11 RESOURCE AREA IMPACTS								
	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	**SHEET 11 TEMPORARY IMPACTS**	**SHEET 11 PERMANENT IMPACTS**	**SHEET 11 TOTAL IMPACTS**
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	6626.99 SF	2290.36 SF	4560.39 SF	3006.39 SF	2449.12 SF	0.00 SF	12306.26 SF	12306.26 SF
100'-200' RIVERFRONT AREA (SF)	4915.93 SF	635.82 SF	3470.49 SF	2166.07 SF	1341.55 SF	0.00 SF	7613.93 SF	7613.93 SF
SHEET 11 RIVERFRONT AREA (SF)	11542.92 SF	2926.18 SF	8030.88 SF	5172.46 SF	3790.67 SF	0.00 SF	19920.19 SF	19920.19 SF

IMPERVIOUS (NEW DEVELOPMENT) 0–100 FT RIVERFRONT AREA

IMPERVIOUS (NEW DEVELOPMENT) 100–200 FT RIVERFRONT AREA

GRADING IMPACTS 0–100 FT RIVERFRONT AREA

GRADING IMPACTS 100–200 FT RIVERFRONT AREA

CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

CLEARING IMPACTS 100–200 FT RIVERFRONT AREA

SELECTIVE CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

SELECTIVE CLEARING IMPACTS 100–200 FT RIVERFRONT AREA

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	11	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 11

N

200' RFA

LANDS N/F
THE INHABITANTS OF
THE TOWN OF EGREMONT
BK:234 PG:105
(008–0926.0)

PROP COMPOST BLANKET & SEED (TYP)

1957 COUNTY LAYOUT

MHB

PROP CLEARING AND GRUBBING STA. 246+45 TO STA. 258+51

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

SHEET 10 AREAS / SHEET 11 AREAS

PROP CLEARING LIMIT (TYP)

PROP SLOPE LIMIT (TYP)

REM DI

INV:3'X1' CONC. BOX

CONC. COVER (DI)

INV:4'X2' CONC. BOX

100' RFA

PROP EOP

PROP MILLING MULCH (TYP)

SHEET 11 AREAS / SHEET 12 AREAS

BOS

MT. WASHINGTON ROAD
(PUBLIC)

256

257

PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION

258

△=15°33'13"
R=1750.00'
L=475.06'
T=239.00'

259

255

PC +98.61

S76°26'10"E
566.94'

254

12'

12'

PT +73.67

CONTINUED ON SHEET NO. 10

CONTINUED ON SHEET NO. 12

BOS

R&D GUARDRAIL

PROP COMPOST BLANKET & SEED (TYP)

PROP CLEARING AND GRUBBING STA. 246+98 TO STA. 260+61

PROP GUARDRAIL (TL-3) STA. 248+10 TO STA. 263+50

PROP SLOPE LIMIT (TYP)

NHESP PRIORITY HABITAT

PROP SEDIMENT BARRIER STA. 243+00 TO STA. 264+59

PROP MILLING MULCH (TYP)

BENCHMARK:
MAG NAIL SET
IN UPL BASE
EL=963.79'

B–6

A–B–5

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

CONC. HEADWALL

BEGIN PROP HMA BERM, TYPE A - MODIFIED STA. 255+00

PROP CLEARING LIMIT (TYP)

A–B–7

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

PROP EOP

REM EXIST ENDWALL

A–B–10

A–B–9

KARNER BROOK FLOW

A–B–8

1957 COUNTY LAYOUT

LANDS N/F
EGREMONT WATER DEPARTMENT
BK:988 PG:315
(008–0937.0)

LANDS N/F
THE INHABITANTS OF THE TOWN OF EGREMONT
(TOWN OF EGREMONT SELECTBOARD)
BK:1331 PG:336
(007–0368.A)
(PARCEL IS SUBJECT TO ARTICLE 97 RESTRICTIONS)

FOR PROFILE SEE SHEETS 32-33

0 20 50 100

SCALE: 1" = 20'

608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:38 AM

Proposal No. 608547-132397

A00860 - 67

SHEET 12 RESOURCE AREA IMPACTS

	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	**SHEET 12 TEMPORARY IMPACTS**	**SHEET 12 PERMANENT IMPACTS**	**SHEET 12 TOTAL IMPACTS**
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	5038.10 SF	578.81 SF	2166.28 SF	672.55 SF	3113.55 SF	0.00 SF	6531.19 SF	6531.19 SF
100'-200' RIVERFRONT AREA (SF)	209.71 SF	0.00 SF	1086.89 SF	0.00 SF	0.00 SF	0.00 SF	1086.89 SF	1086.89 SF
SHEET 12 RIVERFRONT AREA (SF)	5247.82 SF	578.81 SF	3253.17 SF	672.55 SF	3113.55 SF	0.00 SF	7618.08 SF	7618.08 SF

IMPERVIOUS (NEW DEVELOPMENT) 0–100 FT RIVERFRONT AREA

GRADING IMPACTS 0–100 FT RIVERFRONT AREA

CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

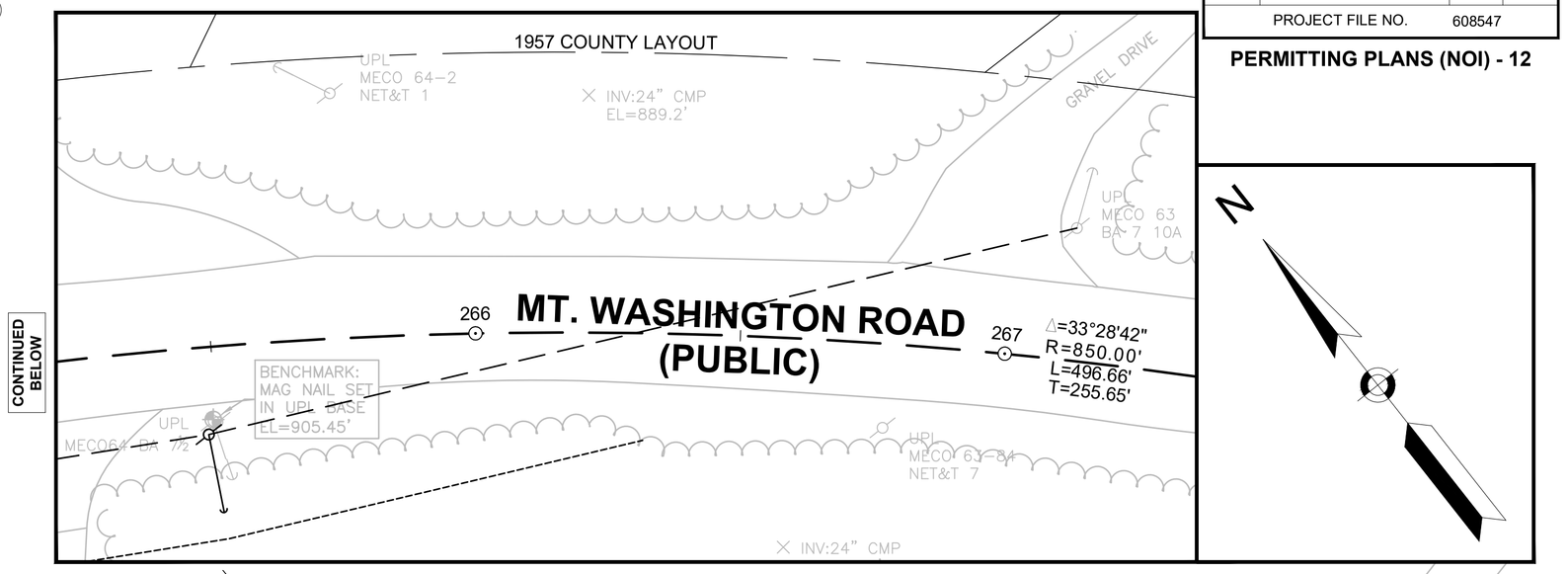
SELECTIVE CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

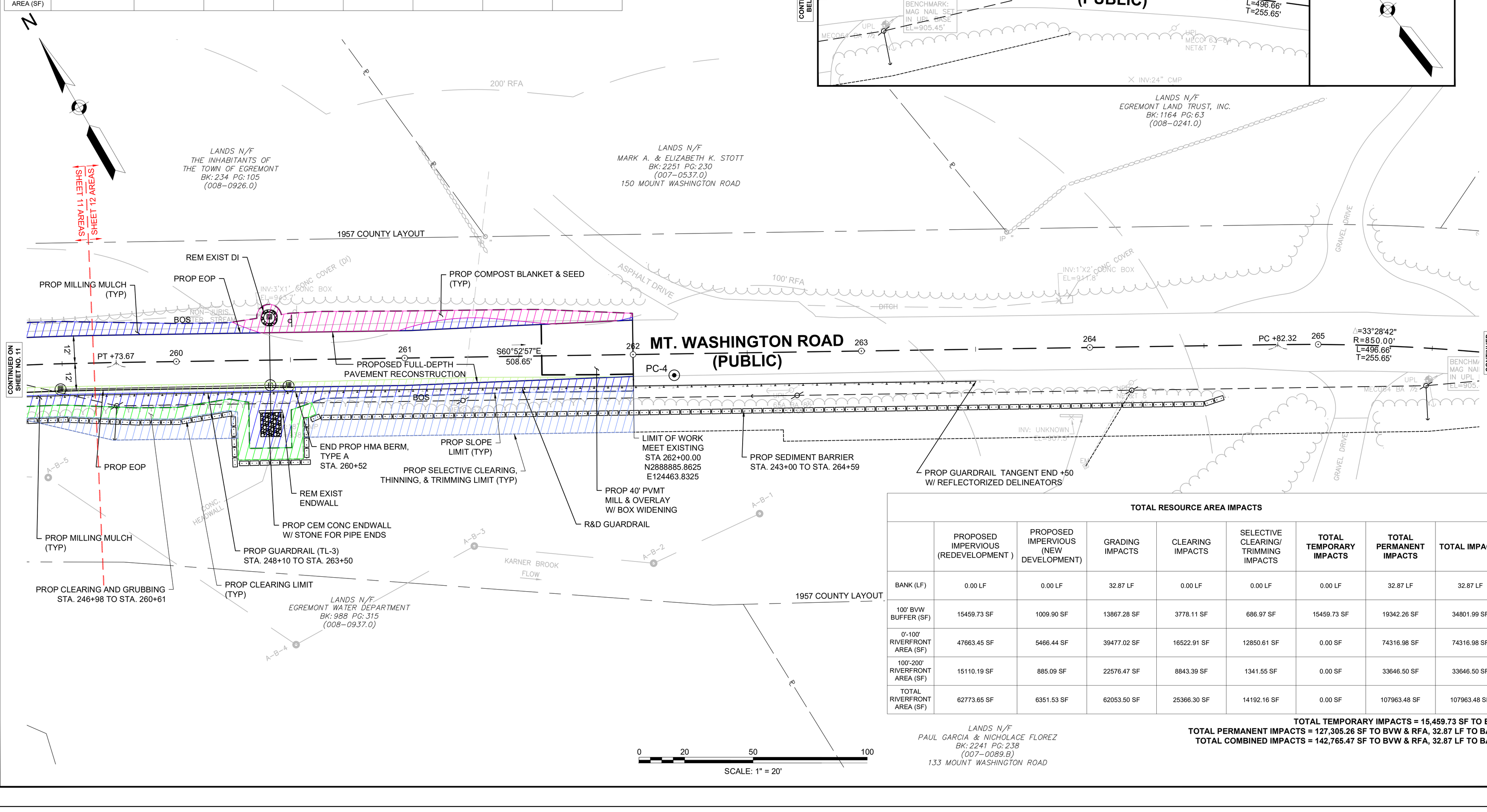
GRADING IMPACTS 100–200 FT RIVERFRONT AREA

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	12	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 12





TOTAL RESOURCE AREA IMPACTS

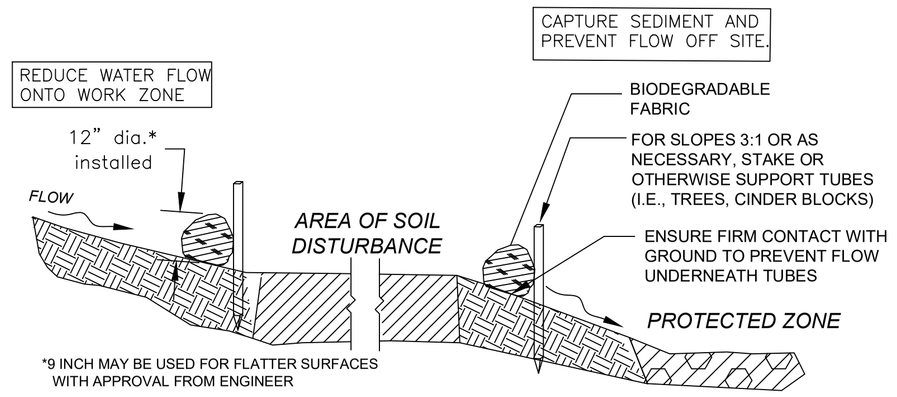
	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	**TOTAL TEMPORARY IMPACTS**	**TOTAL PERMANENT IMPACTS**	**TOTAL IMPACTS**
BANK (LF)	0.00 LF	0.00 LF	32.87 LF	0.00 LF	0.00 LF	0.00 LF	32.87 LF	32.87 LF
100' BVW BUFFER (SF)	15459.73 SF	1009.90 SF	13867.28 SF	3778.11 SF	686.97 SF	15459.73 SF	19342.26 SF	34801.99 SF
0'-100' RIVERFRONT AREA (SF)	47663.45 SF	5466.44 SF	39477.02 SF	16522.91 SF	12850.61 SF	0.00 SF	74316.98 SF	74316.98 SF
100'-200' RIVERFRONT AREA (SF)	15110.19 SF	885.09 SF	22576.47 SF	8843.39 SF	1341.55 SF	0.00 SF	33646.50 SF	33646.50 SF
TOTAL RIVERFRONT AREA (SF)	62773.65 SF	6351.53 SF	62053.50 SF	25366.30 SF	14192.16 SF	0.00 SF	107963.48 SF	107963.48 SF

TOTAL TEMPORARY IMPACTS = 15,459.73 SF TO BVW
TOTAL PERMANENT IMPACTS = 127,305.26 SF TO BVW & RFA, 32.87 LF TO BANK
TOTAL COMBINED IMPACTS = 142,765.47 SF TO BVW & RFA, 32.87 LF TO BANK

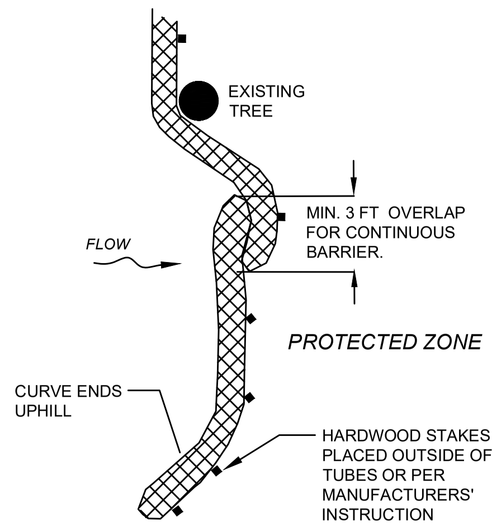
608547_HD\PERMITTING\.DWG Plotted on 17-May-2024 10:38 AM

608547_HD(DETAIL).DWG Plotted on 17-May-2024 11:06 AM

Proposal No. 608547-132397



SECTION



PLACE TUBE ALONG CONTOURS AND PERPENDICULAR TO FLOW.

PLACE AS CLOSE TO LIMIT OF SOIL DISTURBANCE AS POSSIBLE

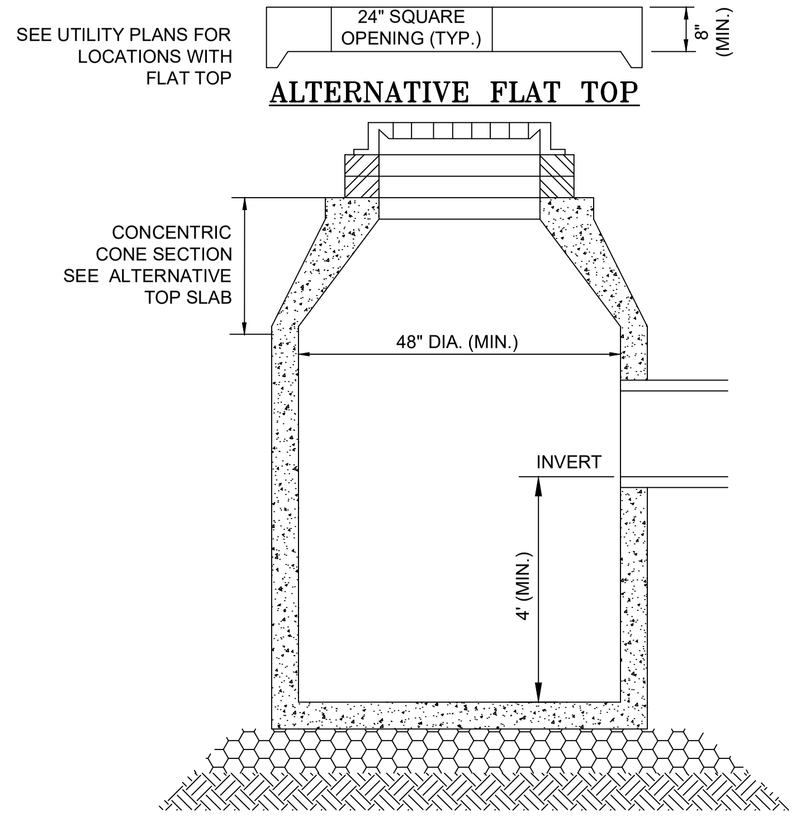
ADJUST LOCATION AS REQUIRED FOR OPTIMUM EFFECTIVENESS. DO NOT INSTALL IN WATERWAYS.

PLACE STAKES AS NEEDED TO SECURE TUBES IN PLACE.

PLAN VIEW

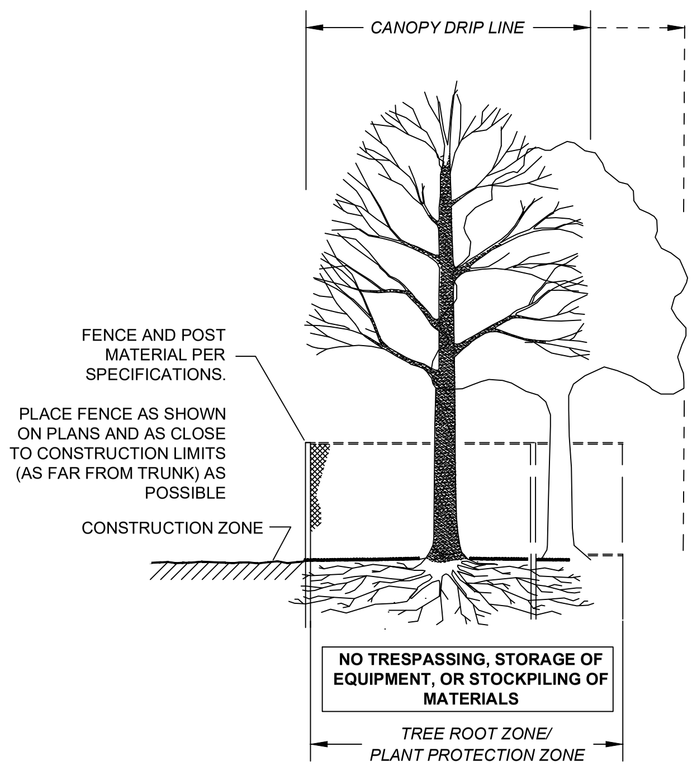
SEDIMENT BARRIERS – COMPOST FILTER TUBES

NOT TO SCALE

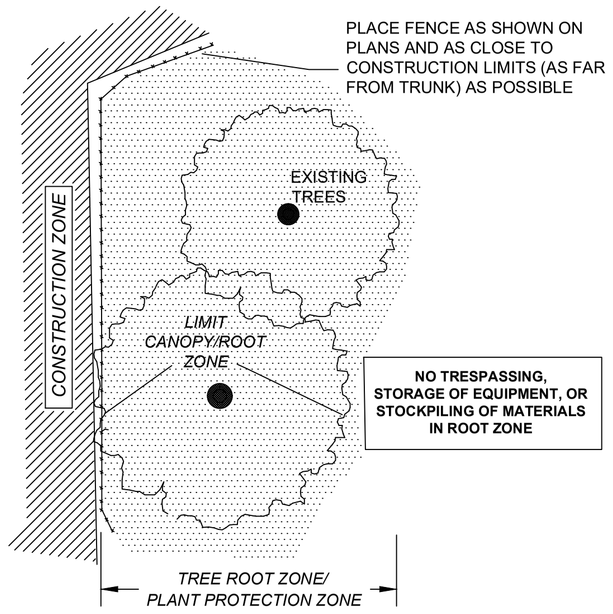


CATCH BASIN DETAIL

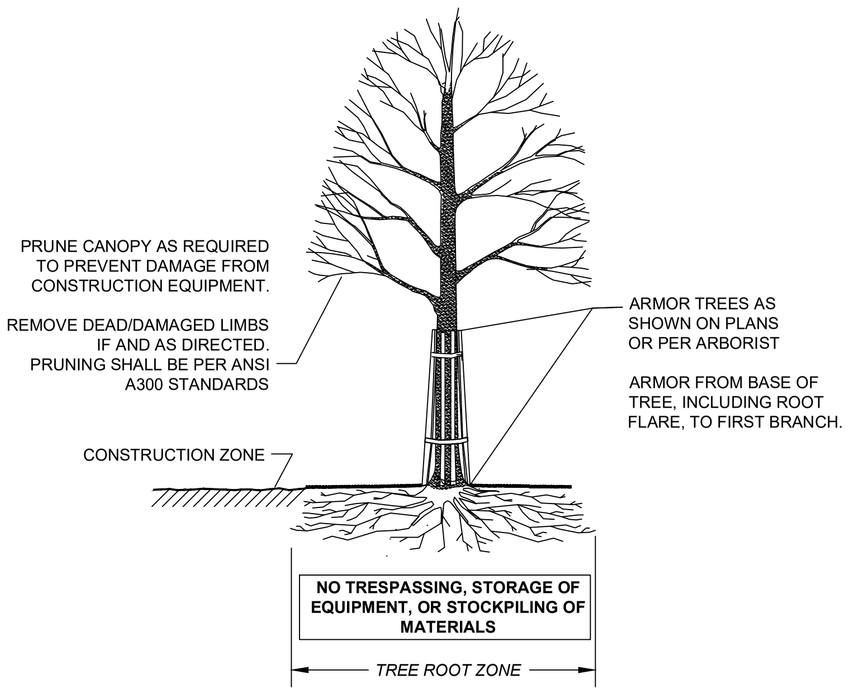
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SECTION - FENCE PROTECTION OF ROOT ZONE



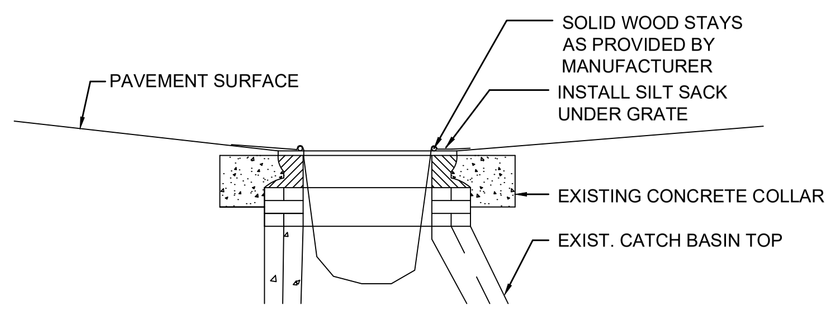
PLAN VIEW - FENCE PROTECTION OF ROOT ZONE



SECTION - TRUNK ARMORING & PRUNING

TREE PROTECTION DETAILS

NOT TO SCALE



NOTES:

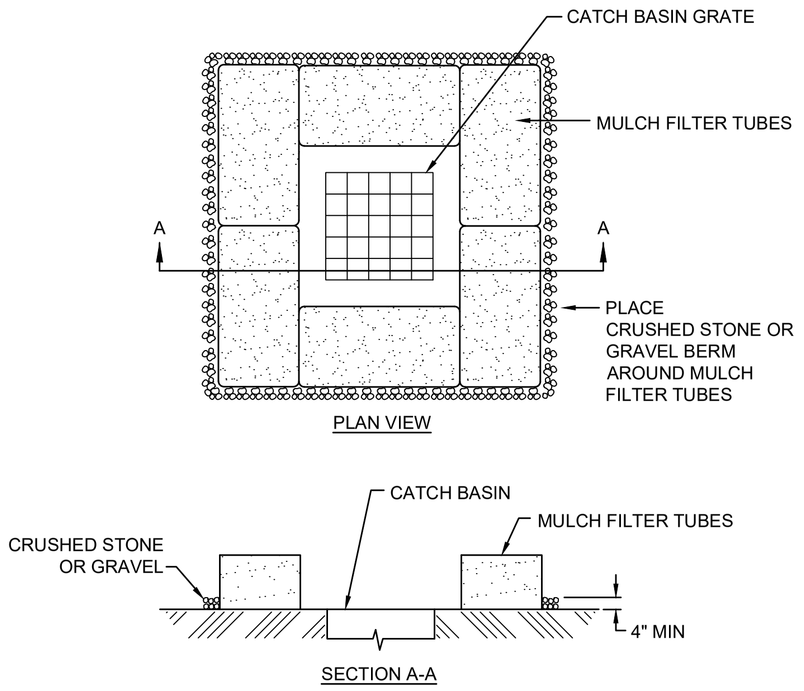
1. REMOVE ACCUMULATED SEDIMENTS AS REQUIRED TO MAINTAIN DRAINAGE.
2. INSPECT FABRIC EVERY WEEK DURING CONSTRUCTION.

SILT SACK

608547_HD(DETAIL).DWG Plotted on 17-May-2024 11:06 AM

Proposal No. 608547-132397

A00860 - 70



NOTES:
1. SURROUND STREET DRAINAGE STRUCTURE INLET WITH MULCH FILTER TUBES PRIOR TO CONSTRUCTION AND MAINTAIN UNTIL CONSTRUCTION IS COMPLETED. ACCUMULATED SEDIMENTS SHALL BE REMOVED.
2. 4" MIN GRAVEL BERM AROUND BOTTOM OF MULCH FILTER TUBES.

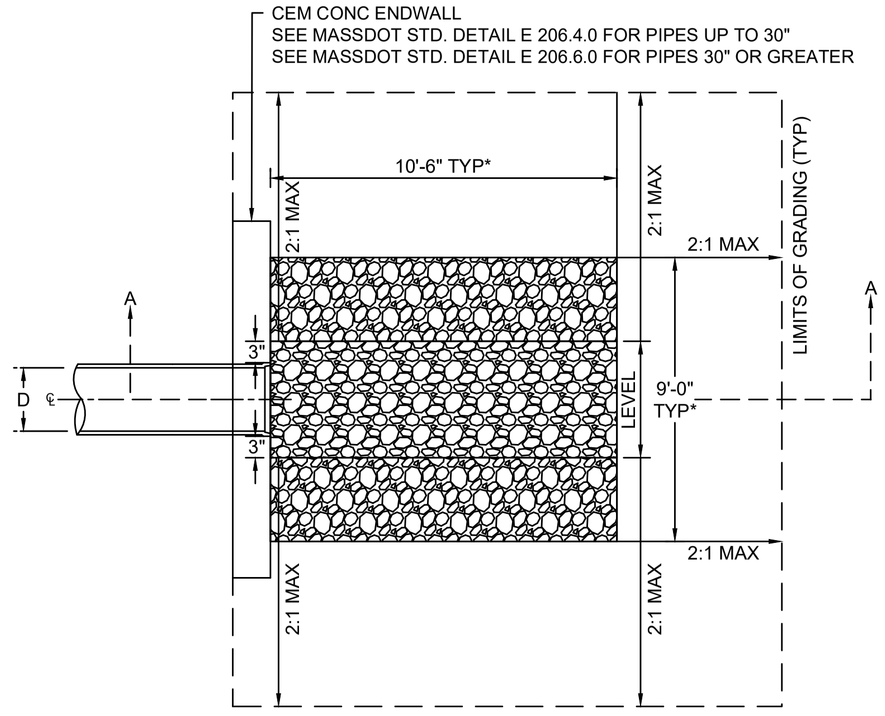
OFF ROADWAY CATCH BASIN/DROP INLET EROSION CONTROL MEASURE

NOT TO SCALE

NOTES:
1. SET SPACING OF CHECK DAMS SUCH THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM. MINIMUM SPACING OF 25'.
2. EXTEND THE STONE A MINIMUM OF 18" BEYOND THE DITCH BANKS.

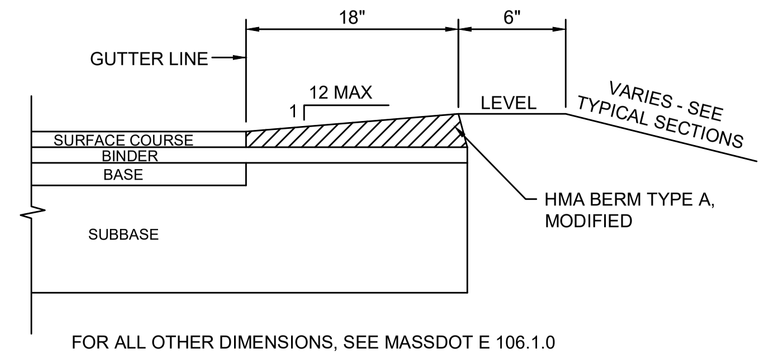
STONE CHECK DAM DETAIL

NOT TO SCALE



*SEE PLANS FOR SIZING. STONE FOR PIPE ENDS AT STA. 219+85 RT AND STA. 227+12 RT ARE MODIFIED.

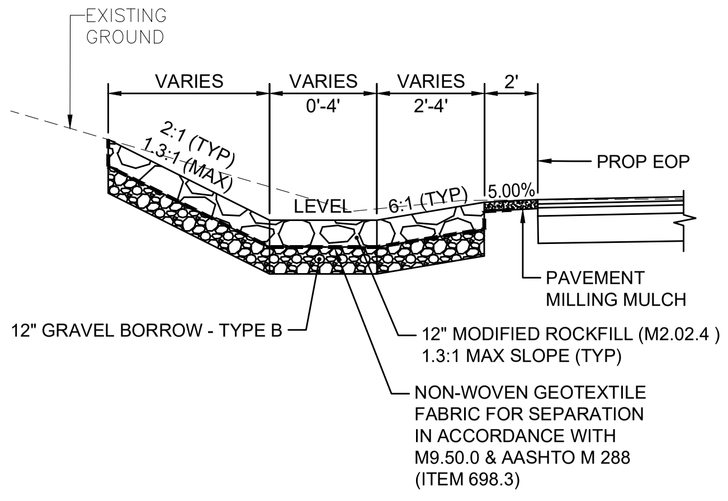
PLAN VIEW



FOR ALL OTHER DIMENSIONS, SEE MASSDOT E 106.1.0

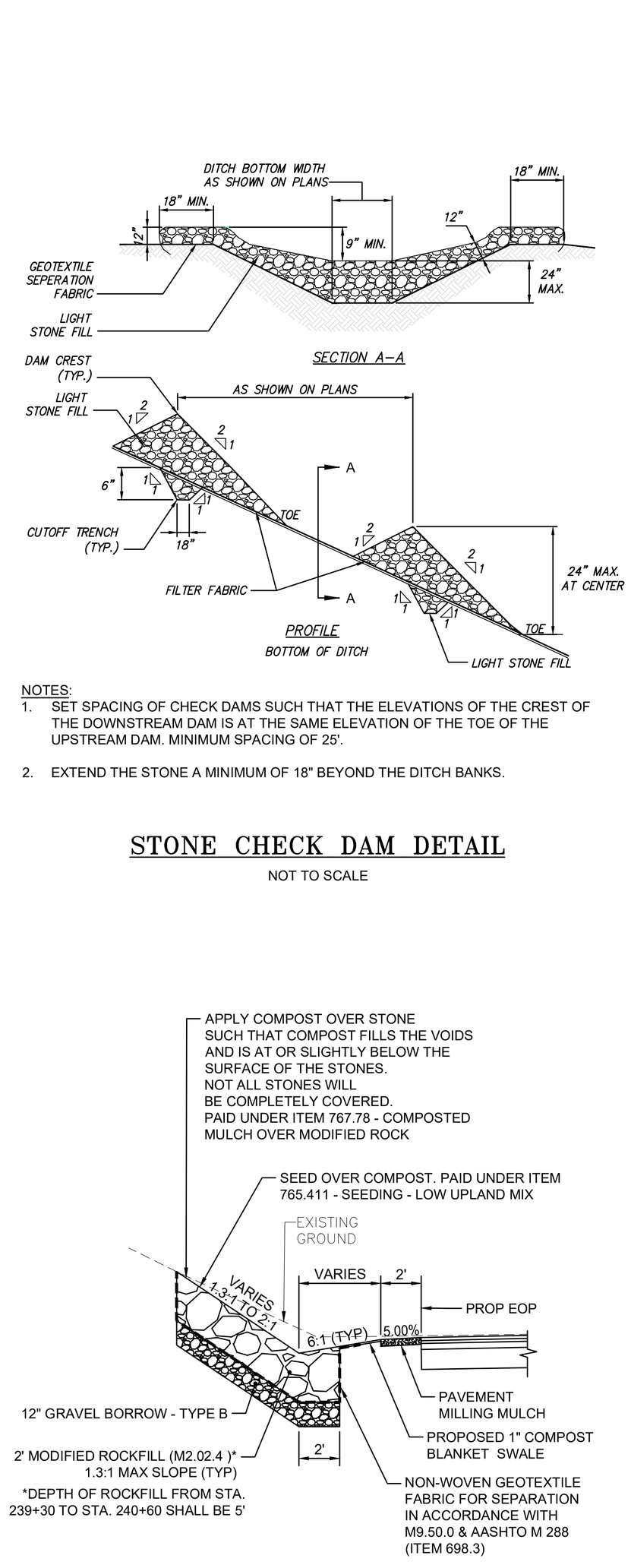
HOT MIX ASPHALT BERM, TYPE A – MODIFIED

NOT TO SCALE



STONE LINED SWALE DETAIL

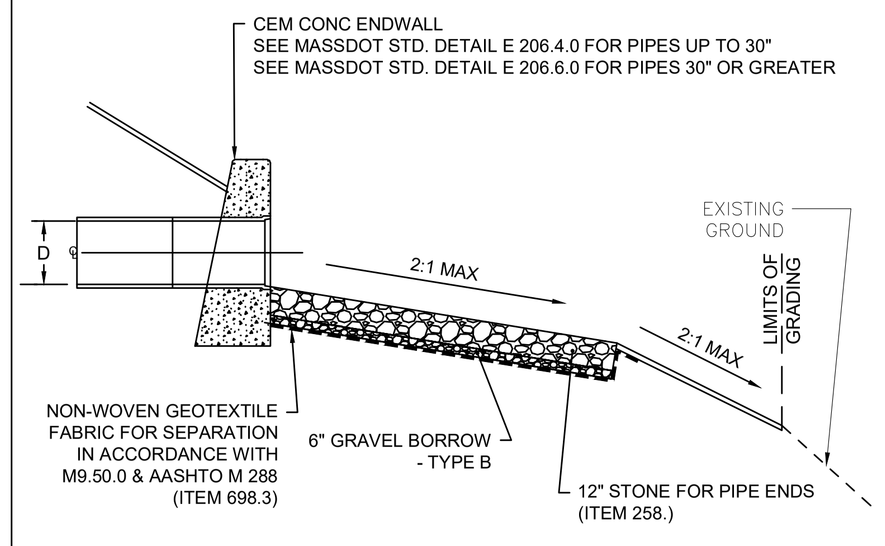
NOT TO SCALE



SECTION ON UPHILL SLOPE

TYPICAL MODIFIED ROCKFILL DETAIL WITH COMPOST AND SEED

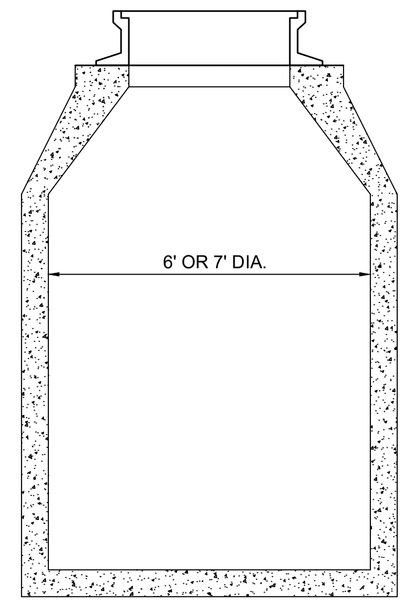
NOT TO SCALE



SECTION A-A

ENDWALL & STONE FOR PIPE ENDS

NOT TO SCALE



NOTES:
1. ALL STANDARD MANHOLES SHALL CONFORM TO MASSDOT CONSTRUCTION STANDARD E 202.4.0 EXCEPT AS SHOWN ABOVE.

SPECIAL MANHOLE – 6' DIAMETER
SPECIAL MANHOLE – 7' DIAMETER

NOT TO SCALE

Appendix C –
Stormwater Drainage Report and O&M

STORMWATER MANAGEMENT REPORT

Reconstruction and Related Work
Along Mount Washington Road
From Mount Washington/Egremont Town Line
To 150 Mount Washington Road
Phase 1

Egremont, Massachusetts
Project File No. 608547

Prepared for:

Town of Egremont
PO Box 368
171 Egremont Plain Road
South Egremont, MA 01258

Prepared by:

June 2024

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Section 1

Narrative

1.1 EXECUTIVE SUMMARY

Purpose and Need

The Mount Washington Road Phase 1 Reconstruction Project in Egremont, MA is a 1.2-mile corridor improvement project to be constructed (MassDOT Project #608547) with the goal of reconstructing the existing roadway to improve pavement condition and drainage. The project is needed to improve roadway conditions and safety for all roadway users along Mount Washington Road from the Egremont town line to 150 Mount Washington Road.

Existing Conditions

Mount Washington Road is a two-lane rural major collector. Within the project limits, Mount Washington Road provides an east-west connection between the communities of Mount Washington and Great Barrington. This section of Mount Washington Road is the only connection to other communities in Massachusetts from Mount Washington without crossing into Connecticut or New York. The posted speed limits on Mount Washington Road vary from 25 to 40 mph.

The existing cross section of Mount Washington Road consists of two travel lanes with narrow paved shoulders. Within the project limit, Mount Washington Road begins as approximately 21.5 feet wide at the Egremont town line and ends as approximately 24.5 feet wide at the end of project limit adjacent to 150 Mount Washington Road. Lane widths vary throughout the project corridor from 10 to 11 feet on average. There are marked shoulders throughout the project which are approximately 1 foot wide. Passing along this portion of the corridor is prohibited. Guardrail is provided along most of the roadway on the southern side adjacent to steep slopes and Karner Brook. The existing pavement surface along Mount Washington Road is in poor condition. Longitudinal and transverse cracking, potholes, patching, edge failure and rutting are the primary deficiencies exhibited along Mount Washington Road.

There are no intersections within the project limits. Most of the signage along the roadway is in fair to poor condition, with many of the signs needing to be replaced. Land use in the project corridor is rural residential with only 8 residences adjacent to the project.

Stormwater runoff along Mount Washington Road is currently managed through a combination of non-point discharge by country drainage and collection and point discharge via roadside ditches and closed drainage systems. Many areas of intended country drainage do not function as intended due to steep roadway grades and sediment aggradation under existing guardrail. This results in erosion undermining the edge of pavement on the downhill side of the roadway. There are seventeen (17) existing discharge points identified within the project limits. A summary of these discharge points is provided in Table 1 on the following page.

Table 1 – Stormwater Outlets

Station (Outlet #)	Pipe Size	Discharge Location
204+70 ± Rt (1)	18" CMP (Existing) 18" RCP (Proposed)	Wooded Hillside to Karner Brook
209+84 ± Rt (2)	18" CMP (Existing) 18" RCP (Proposed)	Wooded Hillside to Karner Brook
213+65 ± Rt (3)	18" CMP (Existing) 24" RCP (Proposed)	Wooded Hillside to Karner Brook
216+55 ± Rt (4)	18" CMP (Existing) 18" RCP (Proposed)	Wooded Hillside to Karner Brook
217+90 ± Rt (5)	18" CMP (Existing) 18" RCP (Proposed)	Wooded Hillside to Karner Brook
219+85 ± Rt (6)	36" CMP / 42" Steel (Exist) 36" CMP / 48" RCP (Prop)	Wooded Hillside to Karner Brook
224+25 ± Rt (7)	12" / 18" CMP (Existing) 18" RCP (Proposed)	Wooded Hillside to Karner Brook
225+65 ± Rt (8)	12" CMP (Existing) 15" RCP (Proposed)	Wooded Hillside to Karner Brook
227+20 ± Rt (9)	36" CMP (Existing) 42" RCP (Proposed)	Wooded Hillside to Karner Brook
231+20 ± Rt (10)	18" CMP (Existing) 18" RCP (Proposed)	Wooded Hillside to Karner Brook
236+90 ± Rt (11)	18" CMP (Existing) 30" RCP (Proposed)	Wooded Hillside to Karner Brook
238+90 ± Rt (12)	15" CMP (Existing) 24" RCP (Proposed)	Wooded Hillside to Karner Brook
240+85 ± Rt (13)	18" CMP (Existing) 24" RCP (Proposed)	Wooded Hillside to Karner Brook
245+60 ± Rt (14)	18" CMP (Existing) 24" RCP(Proposed)	Wooded Hillside to Karner Brook
250+95 ± Rt (15)	18" CMP (Existing) 18" RCP (Proposed)	Wooded Hillside to Karner Brook
254+60 ± Rt (16)	18" CMP (Existing) 18" RCP (Proposed)	Wooded Hillside to Karner Brook
260+40 ± Rt (17)	18" CMP (Existing) 18" RCP (Proposed)	Wooded Hillside to Karner Brook

The lack of properly placed drainage infrastructure and poorly graded shoulders results in excess stormwater runoff flowing along the edge of pavement causing erosion and deterioration of the edge of roadway. It also causes stormwater runoff or snow melt to sheet flow across the roadway causing icy conditions during winter months.

Proposed Improvements

1. Modified Geometry

The proposed roadway follows the existing alignment with areas of widening while minimizing impacts to adjacent properties. Only minor grade adjustments are proposed for geometric modifications.

a. Proposed Pavement Improvement Program

The existing pavement surface along Mount Washington Road is in poor condition. Longitudinal and transverse cracking, potholes, patching, edge failure and rutting are the primary deficiencies exhibited along Mount Washington Road. The pavement core samples revealed a range in pavement thickness varying from 4.0 inches to 7.0 inches throughout the project corridor. Pavement reconstruction is recommended throughout the Mount Washington Road corridor. 6.75 inches of new pavement will be placed on top of new gravel and crushed stone sub-base as follows: 1.5 inches SUPERPAVE surface course over 1.75 inches SUPERPAVE intermediate course over 3.5 inches SUPERPAVE base course.

b. Proposed Cross Section

The proposed Mount Washington Road roadway will consist of 10-foot-wide travel lanes and 2-foot-wide shoulders in both directions resulting in a 24-foot-wide roadway. Vertical granite curb is also proposed in places along the north side of the roadway. Superelevation is proposed for significant portions of the roadway.

2. Safety Enhancements

Roadway improvements along Mount Washington Road will create a widened travel way for vehicles. The corridor width will accommodate 10-foot travel ways with 2-foot-wide shoulders. Drainage improvements will be made to remove stormwater runoff from the roadway and reduce chances for icing during the winter. Solid white edge lines will be painted to better define the travel way.

Existing traffic signs that are in poor condition, or that are not warranted, will be removed or replaced as needed. New signs conforming to the provisions of the MUTCD and MassDOT will be installed. These signs will be consistent with the proposed roadway design. Thermoplastic pavement markings are proposed to delineate the traveled ways.

3. Proposed Drainage Improvements

The drainage will be improved by replacing the existing closed drainage system with appropriately sized pipes and basins. Additional drainage structures are proposed in critical areas. The proposed roadside ditches will have increased storage and stone protection where necessary. Stone outlet protection is proposed at each outlet to prevent erosion of the steep side slope.

4. Work by Others

There are overhead telephone, electrical and cable lines running between utility poles along the length of the project. Utility poles will need to be relocated due to the proposed roadway widening. The work required to relocate utility poles and overhead wires is proposed to be done by the respective utility purveyors.

1.2 OBJECTIVE OF STORMWATER CALCULATIONS

The purpose of this stormwater analysis is to examine the stormwater runoff from the proposed site based upon the Stormwater Management Policy as revised in February 2008. In addition, the design uses BMPs to the extent practicable to reduce source runoff and remove suspended solids.

Stormwater management will be provided according to latest policy established by the Massachusetts Department of Environmental Protection Stormwater Management Policy as revised, and the applicable requirements of the Town of Egremont. The goal of the stormwater management system design on this project is to provide water quality improvements and protect the surrounding area from any potential flooding and/or environmental impacts associated with the unmitigated condition.

1.3 METHODOLOGY

To evaluate the potential impacts associated with the construction of the proposed roadway, post-development condition hydrographs were generated for the site using a type III rainfall distribution. The 24-hour rainfall amounts for the 2-, 10-, 25-, 50-, and 100-year design storms in Egremont, Massachusetts are 3.13, 5.09, 6.31, 7.22, and 8.20 inches, respectively.

Runoff curve numbers and times of concentration were computed using standard NRCS TR-55 methodology. Additionally, peak stormwater flows and hydrographs for the existing and post-development conditions were computed using HydroCAD (Version 10.10) stormwater modeling software.

Based on a review of the USDA NRCS Web Soil Survey of Berkshire County, Massachusetts, soils within the study watershed are steep and rocky. A summary of the soil composition is shown in Table 2 on the following page and surficial mapping is included in Figure 3 –Soil Map.

Table 2 - Soil Analysis Summary

USDA Map Symbol	Soil Name	Hydrologic Soil Group
931E	Lanesboro-Dummerston association, steep, very stony	C
932C	Taconic-Macomber association, rolling, very stony	D
932E	Taconic-Macomber association, steep, very stony	D

The USDA Natural Resource Conservation Service (NRCS), as part of their soil classification system, assigns each soil series to a hydrologic soil group (HSG). The HSG is a four-letter index (A-D) that is intended to show the relative potential for a soil to generate runoff. HSG D soils have a very slow infiltration rate and thus a high runoff potential when thoroughly wet. These soils have a very slow rate of water transmission. HSG C Soils have a slow infiltration rate when thoroughly wet. These soils consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission. HSG D soils are most prevalent in the project area.

1.4 COMPLIANCE WITH STORMWATER MANAGEMENT STANDARDS

The following is an explanation on how the proposed project meets the Stormwater Management Standards as prepared by the Massachusetts Department of Environmental Protection, Revised February 2008. Please refer to the Stormwater Checklist and Certification in Section 4 for additional documentation related to the site.

Standard 1: No New Untreated Discharges - No new stormwater system conveyances will discharge untreated runoff into the resource or buffer areas or cause erosion in the onsite resource area. All closed drainage systems have pre-treatment via deep sump catch basins and drainage inlets. Stone for pipe ends outlet protection is equipped at discharge points and new vegetated and stone-lined swales are proposed to be constructed with check dams. The project is in full compliance with this standard.

Standard 2: Peak Rate Attenuation –The project scope includes reconstructing the existing roadway. The result will be approximately a 9,462 SF (0.22 acre) increase in impervious surfaces over the 1.2-mile-long project. This is an approximately 6% increase in the total project impervious area. Therefore, the roadway reconstruction will yield a negligible increase in flow from the over 200 acre project watershed which discharges exclusively to Karner Brook via wooded hillsides. The project is in full compliance with this standard.

Station (Outlet #)	Pipe Size	Peak Flow Rate 2-Year Post (cfs)
204+70 ± Rt (1)	18” RCP	5.6
209+84 ± Rt (2)	18” RCP	10.0
213+65 ± Rt (3)	24” RCP	16.9
216+55 ± Rt (4)	18” RCP	13.9
217+90 ± Rt (5)	18” RCP	4.9
219+85 ± Rt (6)	36” CMP / 48” RCP	47.6
224+25 ± Rt (7)	18” RCP	6.2
225+65 ± Rt (8)	15” RCP	1.3
227+20 ± Rt (9)	42” RCP	33.2
231+20 ± Rt (10)	18” RCP	9.7
236+90 ± Rt (11)	30” RCP	30.4
238+90 ± Rt (12)	24” RCP	16.5
240+85 ± Rt (13)	24” RCP	16.7
245+60 ± Rt (14)	24” RCP	15.9
250+95 ± Rt (15)	18” RCP	9.3
254+60 ± Rt (16)	18” RCP	8.9
260+40 ± Rt (17)	18” RCP	5.2

Standard 3: Recharge – Recharge to groundwater is limited due to right-of-way constraints and steep, rocky terrain. As a result of these constraints, no volume-based structural infiltrative practices are proposed as part of the project. However, required groundwater

recharge calculations are minimal due to existing poor drainage soils (See Section 5: Stormwater Management Calculations). Open drainage has been proposed to the extent practicable to maximize project infiltrative capacity.

Standard 4: Water Quality - Most of the existing closed drainage system within the project corridor will be replaced. The existing system consists of aging drop inlets and catch basin structures with little or no sumps connected to downstream structures with corrugated metal pipes. The proposed closed drainage system improves upon the existing system by reducing pipe slopes and providing stone for pipe ends at outlets to reduce downstream erosion. All proposed catch basin will have 4-foot-deep sumps in order to provide TSS removal for pretreatment of existing discharges to adjacent hillsides.

Standard 5: Land Uses with Higher Pollutant Loads – The project is not a land use with higher potential pollutant loads. Therefore, the standard is not applicable for this project.

Standard 6: Critical Areas – The entirety of the project is located within the Karner Brook watershed, which is considered a Class A Outstanding Resource Water (ORW) and is designated as an Area of Critical Environmental Concern (ACEC). Larger BMP options recommended for Standard #6 such as bioretention areas were considered, but feasibility was limited due to right-of-way constraints and steep, rocky terrain. The project provides groundwater recharge through the use of open drainage to the maximum extent practicable. Deep sump catch basins are proposed, which provides pretreatment of existing discharges. Infiltration retention of stormwater runoff is promoted through the use of both stone-lined drainage swales and vegetation-lined drainage swales. These swales include the installation of check dams. Additionally, provisions on source control, pollution prevention, and de-icing chemical restrictions have been included. See Section 3: Long-Term Pollution Prevention Plan. Standard #6 has been met to the maximum extent practicable

Standard 7: Redevelopment and Other Projects Subject to the Standards only to the maximum extent practicable – The project is a redevelopment and the design is subject to meet Stormwater Management Standards #2, #3, #4, and #6 to the maximum extent practicable. Standards #5 is not applicable to this project. The project does comply fully with Standards #1, #8, #9, and #10.

Standard 8: Construction Period Pollution Prevention Plan and Erosion and Sedimentation Control - The Contractor will be required to obtain a NPDES Construction General Permit prior to the start of construction.

Standard 9: Operation and Maintenance Plan - An Operation and Maintenance plan has been customized to fit the design of the road improvements. Provisions to maintain runoff control devices have been assured through structural, non-structural, and construction management approaches. See Section 3: Long-Term Pollution Prevention Plan. The project is in full compliance with the standard.

Standard 10: Prohibition of Illicit Discharges – The Operation and Maintenance plan required by Standard 9 includes measures to prevent illicit discharges. Illicit discharges will

be discontinued where the elimination of these discharges will not result in stormwater damages to contributing parcels. An Illicit Discharge Compliance Statement is included within this report. See Section 4: Stormwater Management Checklist. The project is in full compliance with this standard.

1.5 BEST MANAGEMENT PRACTICES (BMPs)

A system of deep sump catch basins and drainage channels will be used to treat stormwater runoff. See Section 5: Stormwater Management Calculations. A description of the devices incorporated is indicated below.

1. DEEP SUMP CATCH BASINS

Deep sump catch basins will be constructed throughout the project limits. A total of 14 deep sump catch basins are proposed. Deep sump catch basins are modified versions of inlet structures typically installed on highways. The deep sumps, with a 4 ft minimum, are all proposed to be placed "off-line", that is they don't have inlet pipes. Deep sumps provide capacity for sediment accumulation and can serve as pretreatment for other downstream BMPs.

2. CONVENTIONAL DRAINAGE CHANNELS

A conventional drainage channel is primarily used for the conveyance of stormwater. The channel is designed for non-erosive velocities. Check dams may be employed to reduce the energy of the discharge. The channel may be used in flat slope conditions and allows for ease of maintenance and observations of channel conditions. Drop inlets are utilized throughout the proposed channels.

1.6 LOW IMPACT DEVELOPMENT (LID) MEASURES

As outlined on page 3 of 8 of the stormwater checklist, low impact development techniques were evaluated for use on this project. The following is an explanation of how the project employs LID techniques or why it could not be incorporated into this project.

No Disturbance to Wetland Resource Areas

The project includes roadway that passes through the buffer zone of bordering vegetated wetlands (BVW) adjacent to Karner Brook resulting in temporary grading impacts. The project does not result in direct impacts to BVW or to channel banks of Karner Brook.

Reduced Impervious Area

This project increases the total impervious area by approximately 9,462 SF (0.22 acres) which is primarily associated with widening in the western portion of the project and driveway reconstruction. While the project as a whole has increased impervious coverage, there is reduced impervious coverage within the Karner Brook buffer zone at the eastern end of the project.

Minimizing disturbance to existing trees and shrubs

This project minimizes disturbance to existing vegetation by grading to meet existing conditions as quickly as possible at the limit of work. Retaining walls are also proposed in many locations. Tree protection is included in the plans to minimize disturbance to existing trees.

Use of "country drainage" versus curb and gutter conveyance and pipe

Country drainage has been incorporated in the project to the maximum extent practical. This will include regrading roadway shoulders throughout the project corridor which have aggraded over time and thus no longer allow sheet flow off the pavement as intended.

1.7 CLOSED DRAINAGE SYSTEMS

The closed drainage system infrastructure was designed to collect and convey the 2-year frequency design storm event via open channel flow. Refer to the calculations in Section 2.

Hydraulic design was completed using Manning's full flow capacity equation for circular pipe with a typical n-value of 0.013 for concrete, 0.021 for corrugated metal, 0.030 for grass lined channels, or 0.041 for stone lined channels.

$$\mathbf{Q = 1.49/n\ AR^{2/3}\ S^{1/2}}$$

n is coefficient depending on channel roughness
A is area of flow
R is the hydraulic radius
S is the channel slope

Gutter flow and catch basin inlet capacity was calculated using Hydraulic Engineering Circular 22 (HEC-22), Third Edition – Urban Drainage Design Manual. Pavement spread was limited to 7 feet (2-foot shoulder width plus 5 feet of travel lane) for a rural major collector arterial with a design speed less than or equal to 45 mph.

1.8 SUMMARY OF STORMWATER CALCULATIONS

The overall project will result in a net increase of impervious surfaces of approximately 9,462 square feet (0.22 acres) over the 1.2-mile corridor. Stormwater runoff is primarily treated by deep sump catch basins (25% TSS removal).

To guard against possible impacts from the proposed improvements, erosion and sedimentation control measures will be incorporated into the sequence of construction. Erosion/sedimentation control installations include placement of compost filter tubes around disturbed areas and silt sacks at storm drainage inlet points. On-going stabilization of disturbed areas should be completed as the work progresses. Restoration/stabilization measures include seeding, mulching, and placement of stabilization fabric where required. The Owner is aware that the project will be subject to the United States Environmental Protection Agency (EPA) Phase II Stormwater Program for land disturbances greater than one acre. The Contractor will be required to file a NPDES Construction General Permit.

1.9 CONCLUSION

The primary goal of the Mount Washington Road Reconstruction Project is to reconstruct the roadway to improve pavement condition. The project is needed to improve roadway conditions and safety for all roadway users along Mount Washington Road from the Egremont town line to 150 Mount Washington Road. In addition to the reconstructed roadway, the Town seeks to improve drainage and safety along the corridor. This report, to include all associated calculations, has been prepared to illustrate that the proposed improvements meet the required standards for this redevelopment project to the maximum extent practicable.

1.10 REFERENCES

1. Commonwealth of Massachusetts, Department of Environmental Protection, Office of Coastal Zone Management. Stormwater Management Policy Handbook. Volumes 1&2, 1997 (DEP Stormwater Management Policy 1997).

2. Commonwealth of Massachusetts, Department of Environmental Protection, Stormwater Management Standards Handbook. Volumes 1-3 February 2008 (DEP Stormwater Management Policy 2008).

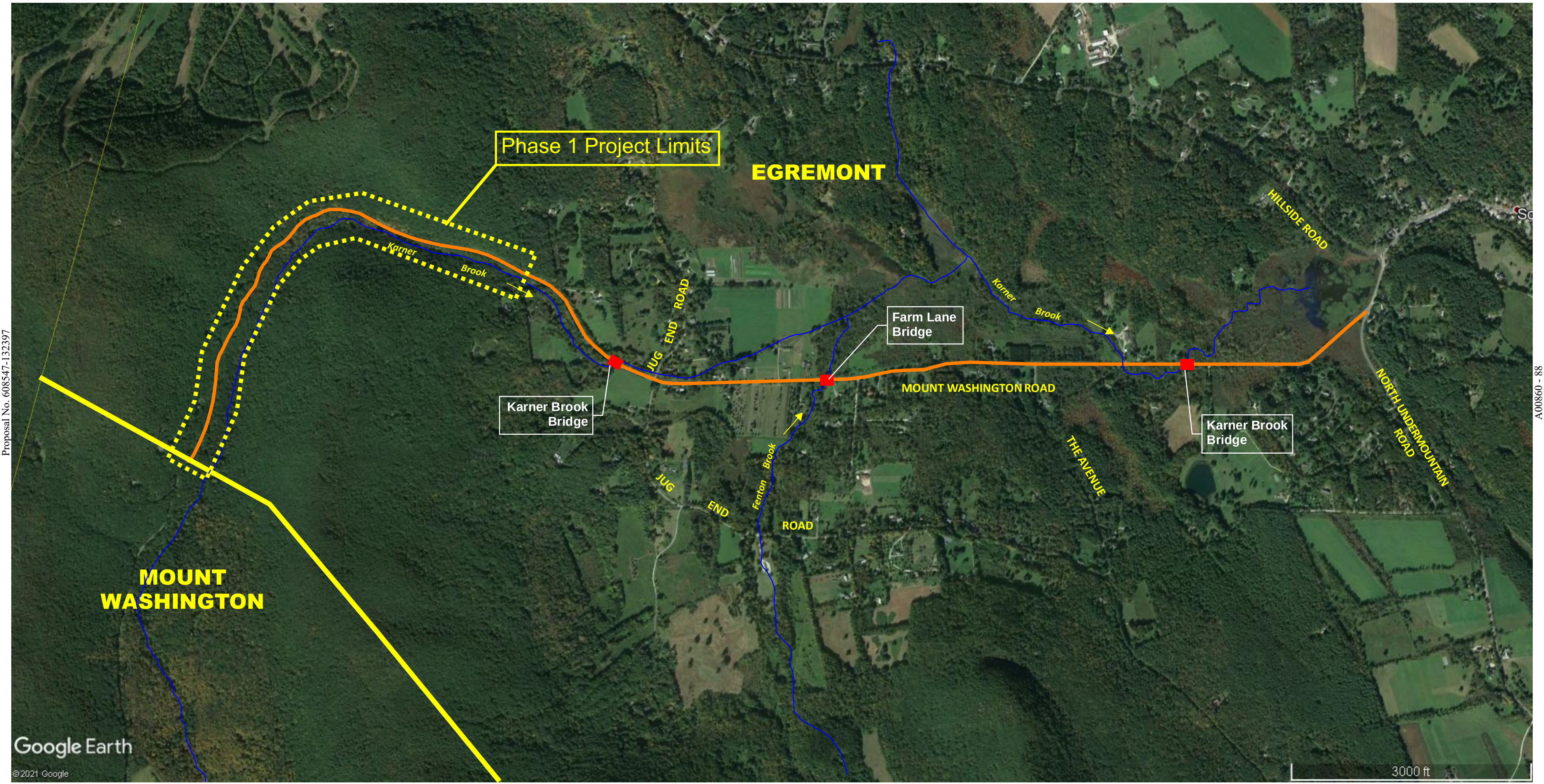
3. Commonwealth of Massachusetts, Department of Environmental Protection. 310 CMR 10.00: Massachusetts Wetlands Protection Act Regulations. 2008.

4. Commonwealth of Massachusetts, Department of Environmental Protection. 314 CMR 6.00: Massachusetts Groundwater Quality Standards. 1990.

5. Commonwealth of Massachusetts, Department of Environmental Protection. 314 CMR 9.00: Massachusetts Water Quality Regulations 2008.

Section 1 .11

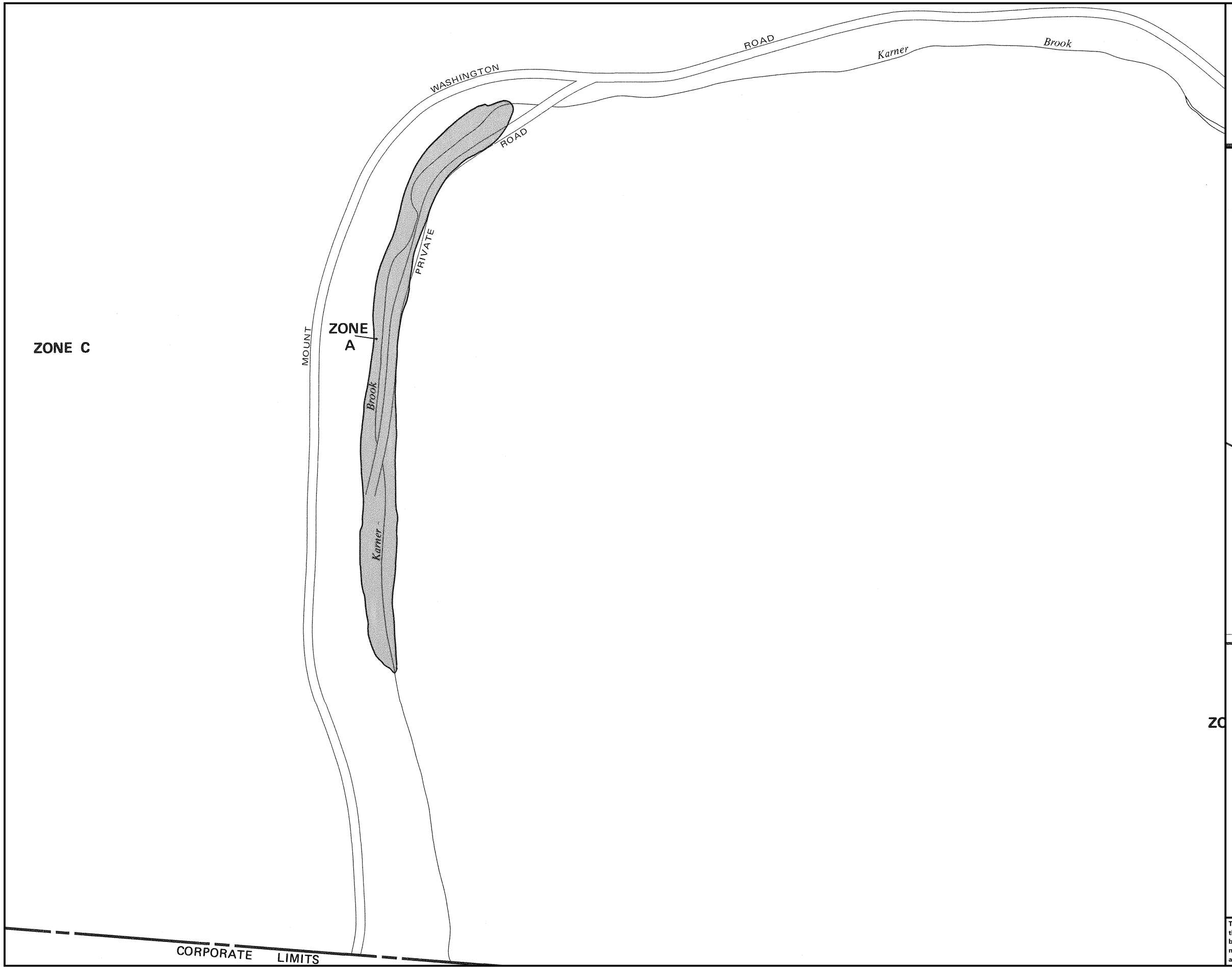
Figures



Proposal No. 608547-132397

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Proposal No. 608547-132397



N

APPROXIMATE SCALE

400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWNSHIP OF
EGREMONT,
MASSACHUSETTS
BERKSHIRE COUNTY

PANEL 7 OF 9

(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
250022 0007 B

EFFECTIVE DATE:
JUNE 15, 1982

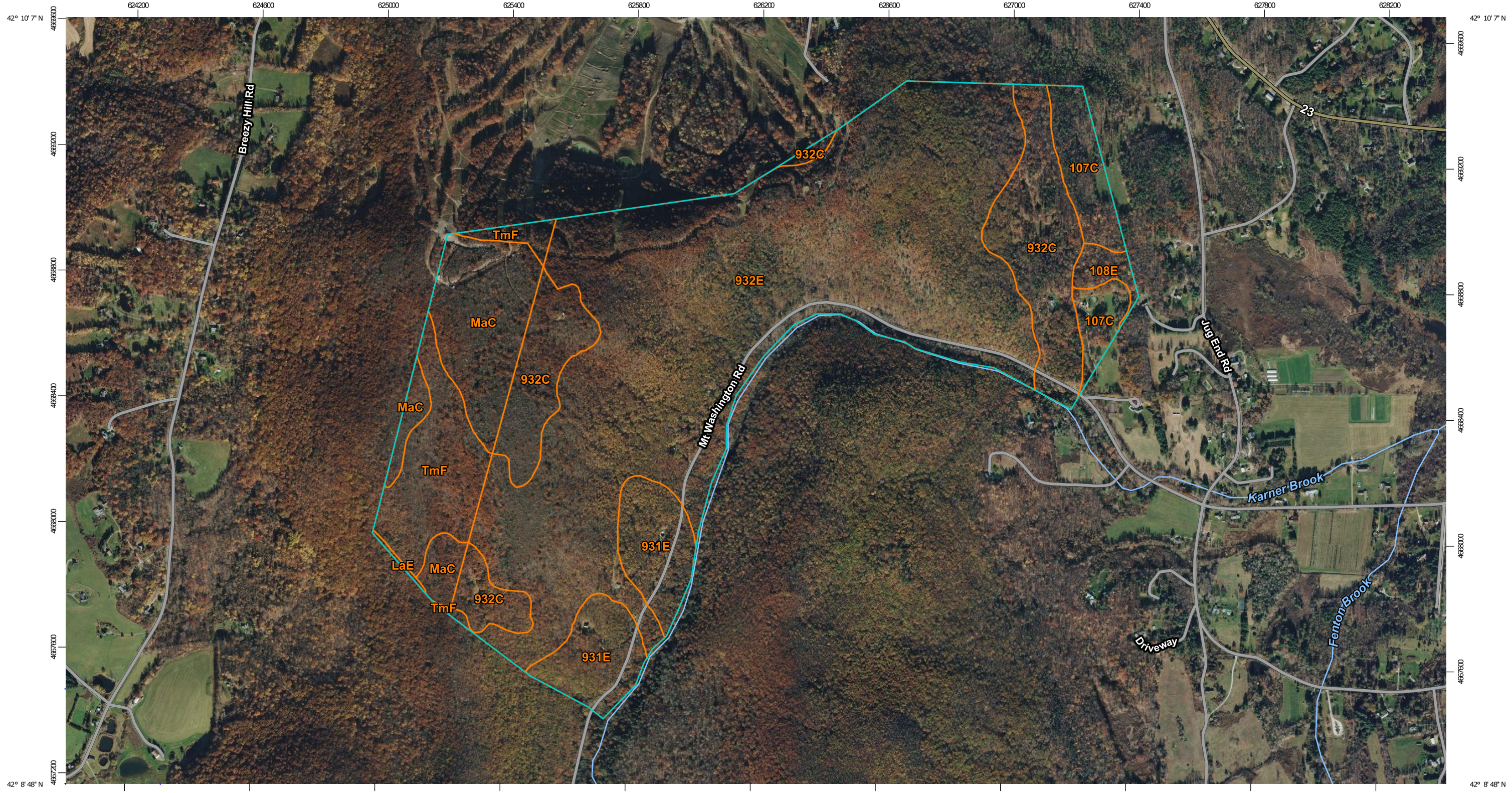
Federal Emergency Management Agency

ZO

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

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Soil Map—Berkshire County, Massachusetts, and Columbia County, New York
(Mount Washington Road - Egremont, MA (Phase 1))



Map Scale: 1:11,900 if printed on B landscape (17" x 11") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

USDA **Natural Resources Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

8/11/2022
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Proposal No. 608547-132397

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Proposal No. 608547-132397

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MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:15,800 to 1:25,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Berkshire County, Massachusetts
Survey Area Data: Version 16, Sep 2, 2021

Soil Survey Area: Columbia County, New York
Survey Area Data: Version 17, Sep 1, 2021

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 15, 2021—Nov 8, 2021

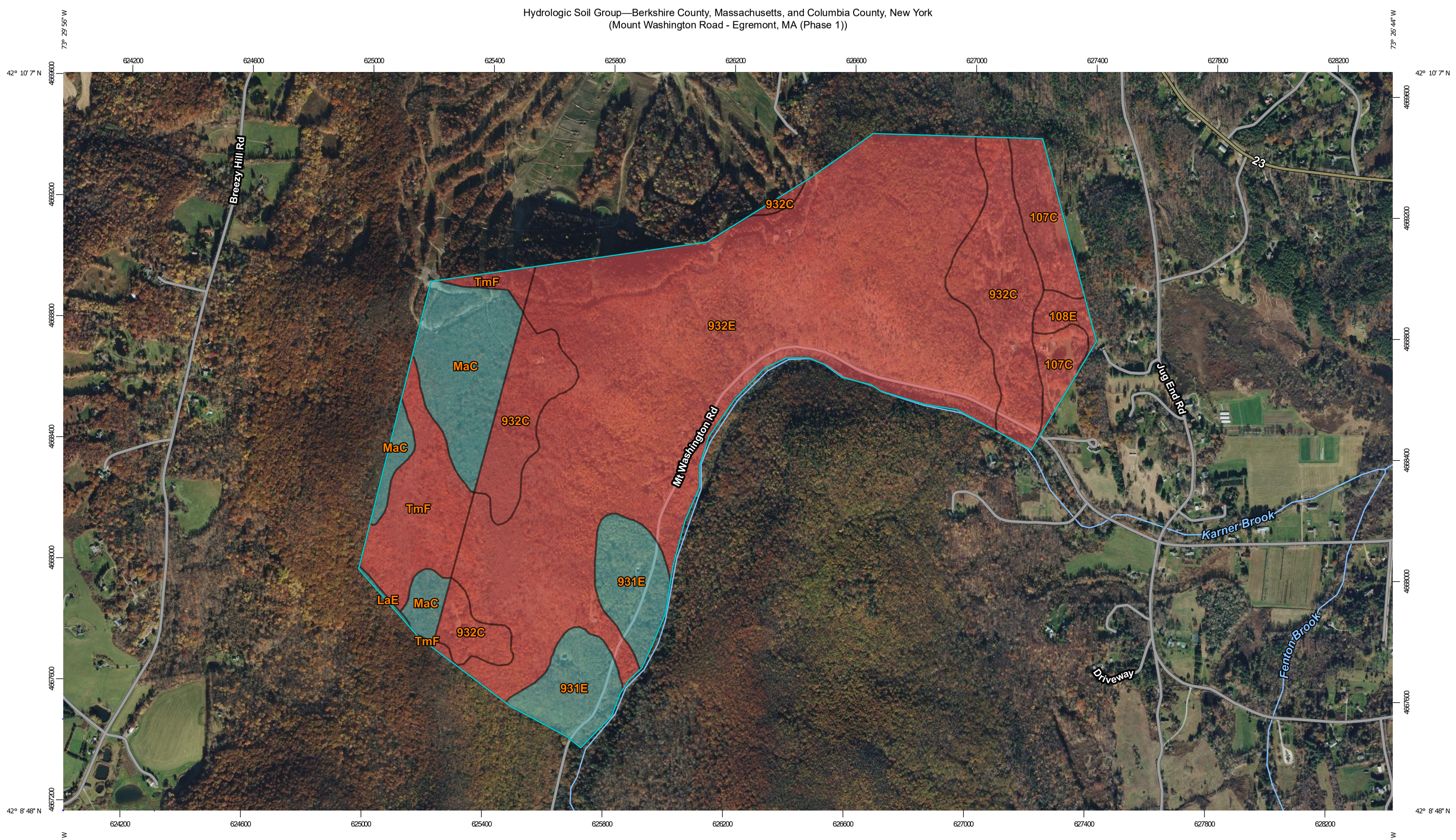
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
107C	Farmington loam, 3 to 15 percent slopes, rocky	25.6	4.4%
108E	Farmington-Rock outcrop complex, 15 to 35 percent slopes	5.6	1.0%
931E	Lanesboro-Dummerston association, steep, very stony	42.0	7.2%
932C	Taconic-Macomber association, rolling, very stony	79.2	13.7%
932E	Taconic-Macomber association, steep, very stony	337.6	58.3%
Subtotals for Soil Survey Area		**490.0**	**84.6%**
Totals for Area of Interest		**579.0**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
LaE	Lanesboro channery silt loam, steep, stony	0.6	0.1%
MaC	Macomber-Taconic association, strongly sloping, rocky	49.4	8.5%
TmF	Taconic-Macomber association, very steep, very rocky	38.9	6.7%
Subtotals for Soil Survey Area		**89.0**	**15.4%**
Totals for Area of Interest		**579.0**	**100.0%**

Hydrologic Soil Group—Berkshire County, Massachusetts, and Columbia County, New York
(Mount Washington Road - Egremont, MA (Phase 1))



Map Scale: 1:11,900 if printed on B landscape (17" x 11") sheet.

N

0 150 300 600 900 Meters

0 500 1000 2000 3000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

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Proposal No. 608547-132397

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MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:15,800 to 1:25,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 15, 2021—Nov 8, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
107C	Farmington loam, 3 to 15 percent slopes, rocky	D	25.6	4.4%
108E	Farmington-Rock outcrop complex, 15 to 35 percent slopes	D	5.6	1.0%
931E	Lanesboro-Dummerston association, steep, very stony	C	42.0	7.2%
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Totals for Area of Interest			**579.0**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Section 2

Hydrologic & Hydraulic Calculations

PAVEMENT DRAINAGE ANALYSIS

Egremont - Mount Washington Road

MassDOT Project #:	608547			
CHA Project #:	31380			
By:	KDT			
Date:	December 21, 2022			
10-Year Design Storm Depth =	5.09	inches	3.13	= 2-Year Design Storm Depth
2-Year Design Rainfall Intensity =	4.81	in/hr	3.41	= 10-min Tc
Manning's Roughness Coefficient (n) =	0.015			
Grate Length (L) =	2.0	feet		
Grate Width (W) =	2.0	feet		
Splash-over Velocity (V_o) =	4.5	feet per second (per HEC 22 Chart 5B for 30 Degree Tilt-bar Grate)		

Equations per HEC 22 Chapter 4 (Pavement Drainage) Revised August 2013

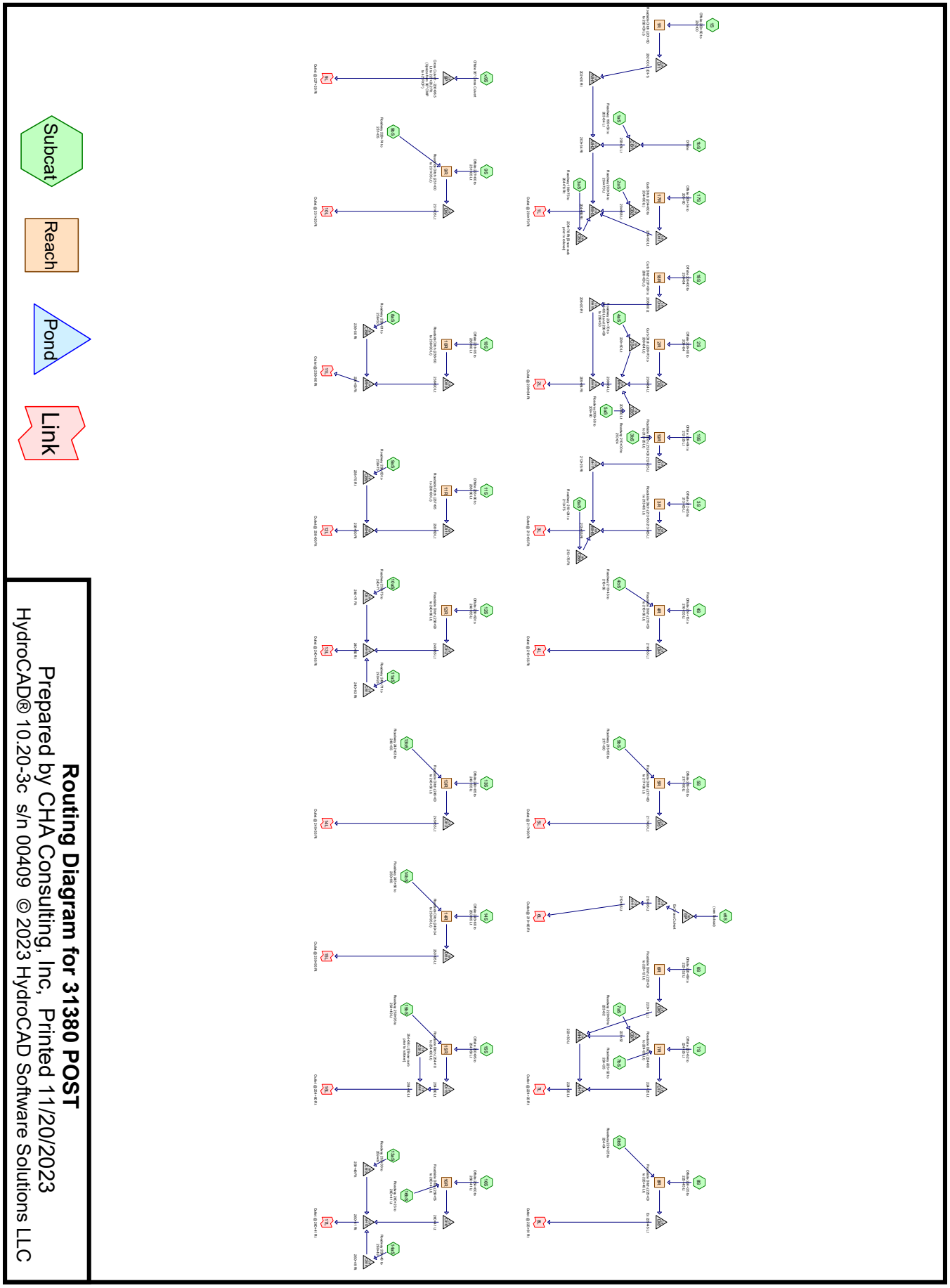
Eq. 4-2	T =	$[(Q * n) / (0.56 * (S_x^{1.67}) * (S_L^{0.5}))]^{0.375}$	
Eq. 4-13	V =	$(1.11 / n) * (S_L^{0.5}) * (S_x^{1.67}) * (T^{0.67})$	
Eq. 4-18	R_f =	$1 - 0.09 * (V - V_o)$	[Cannot exceed 1]
Eq. 4-19	R_s =	$1 / [1 + (0.15 * V^{1.8}) / (S_x * L^{2.3})]$	
Eq. 4-16	E_o =	$1 - (1 - (W / T))^{2.67}$	
Eq. 4-20	E =	$R_f * E_o + R_s * (1 - E_o)$	

C	A			Q	Q_b	Q_T	S_L	S_x	T	d	V	R_f	R_s	E_o	E	Q_i	Q_b	
Coeff	Area	Allowable Spread	Station	Flow (Tributary)	Flow (Bypass)	Flow (Total)	Longitudinal Slope	Cross Slope	Width of Flow	Depth of Flow	Velocity	Frontal Flow Ratio	Side Flow Ratio	Gutter Flow Ratio	Inlet Efficiency	Flow (Inlet)	Flow (Bypass)	Allowable Bypass
	acres	ft		cfs	cfs	cfs	%	%	ft	in	ft/s				%	cfs	cfs	cfs
Westbound (Left)																		
	0.106	7.0	203+34	1.60		1.60	9.223%	2.00%	5.56	1.33	5.16	0.941	0.033	0.696	66.5%	1.06	0.54	0.48
0.90	0.037	7.0	204+70	0.16	0.54	0.70	11.000%	2.00%	3.94	0.95	4.48	1.000	0.042	0.849	85.5%	0.60	0.10	0.21
0.90	0.229	7.0	209+50	0.99	0.10	1.09	1.408%	2.80%	5.55	1.87	2.52	1.000	0.148	0.697	74.2%	0.81	0.28	0.33
0.90	0.022	7.0	209+90	0.10	0.28	0.38	1.000%	1.59%	5.67	1.08	1.47	1.000	0.206	0.687	75.1%	0.28	0.09	0.11
0.90	0.134	7.0	223+32	0.58		0.58	9.559%	2.80%	3.06	1.03	4.41	1.000	0.060	0.941	94.5%	0.55	0.03	0.17
Eastbound (Right)																		
0.90	0.193	7.0	213+75	0.84		0.84	8.043%	5.40%	2.40	1.56	5.34	0.924	0.080	0.992	91.7%	0.77	0.07	0.25
0.90	0.247	7.0	236+50	1.07	0.00	1.07	7.774%	6.00%	2.48	1.79	5.76	0.887	0.078	0.987	87.6%	0.94	0.13	0.32
0.90	0.124	7.0	238+75	0.54	0.13	0.67	10.980%	6.00%	1.95	1.40	5.82	0.881	0.076	1.000	88.1%	0.59	0.08	0.20
0.90	0.108	7.0	240+71	0.47	0.08	0.55	10.980%	6.00%	1.81	1.30	5.54	0.907	0.083	1.000	90.7%	0.50	0.05	0.16
0.90	0.012	7.0	240+93	0.05	0.05	0.10	10.980%	6.00%	0.97	0.70	3.64	1.000	0.161	1.000	100.0%	0.10	0.00	0.03
0.90	0.248	7.0	259+49	1.07		1.07	8.972%	3.60%	3.33	1.44	5.35	0.923	0.055	0.914	84.8%	0.91	0.16	0.32
0.90	0.048	7.0	260+49	0.21	0.16	0.37	9.040%	2.00%	3.22	0.77	3.54	1.000	0.063	0.925	92.9%	0.34	0.03	0.11

Proposal No. 608547-132397

Cross Drain Data

Node Name	Location		Pipe Data				Headwater El	Invert El	Headwater (in)	HW/D	10-Yr Peak Flow (cfs)	10-Yr Max Velocity (fps)	Permissible Velocity (fps)	Countermeasure
	Station	Offset	Type	Diameter	Length	Slope								
9L	227+20	RT	RCP	42	52'	7.69%	1158.72	1154.00	56.64	1.35	79.95	8.3	4	Stone Outlet Protection


Subcat
Reach
Pond
Link
Routing Diagram for 31380 POST
Prepared by CHA Consulting, Inc, Printed 11/20/2023
HydroCAD® 10.20-3c s/n 00409 © 2023 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.516	98	Paved roads w/curbs & sewers, HSG D (1aS, 2aS, 3aS, 3bS, 4aS, 4bS, 5aS, 5bS, 6aS, 7aS, 7bS, 8aS, 8bS, 9aS, 9bS, 10aS, 11aS, 13aS, 13bS, 14aS, 14bS, 15bS, 16bS)
18.756	70	Woods, Good, HSG C (1bS, 1S, 2S, 17S, 18S)
190.801	77	Woods, Good, HSG D (3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S, 11S, 12S, 13S, 14S, 15S, 16S, 19S, x6S, x9S)
212.073	**77**	**TOTAL AREA**

31380 POST

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	6P	1,224.10	1,223.68	2.0	0.2100	0.021	0.0	36.0	0.0	
2	9P	1,154.00	1,150.00	52.0	0.0769	0.012	0.0	42.0	0.0	
3	CB1	1,343.50	1,343.25	12.0	0.0208	0.013	0.0	12.0	0.0	
4	CB10	1,037.34	1,037.00	10.0	0.0340	0.013	0.0	12.0	0.0	
5	CB11	1,036.10	1,036.00	4.0	0.0250	0.013	0.0	12.0	0.0	
6	CB12	981.00	980.00	48.0	0.0208	0.013	0.0	12.0	0.0	
7	CB13	949.00	941.00	88.0	0.0909	0.013	0.0	12.0	0.0	
8	CB14	940.10	940.00	4.0	0.0250	0.013	0.0	12.0	0.0	
9	CB2	1,329.25	1,329.00	12.0	0.0208	0.013	0.0	12.0	0.0	
10	CB3	1,328.75	1,328.50	7.0	0.0357	0.013	0.0	12.0	0.0	
11	CB4	1,298.50	1,298.00	29.0	0.0172	0.013	0.0	12.0	0.0	
12	CB5	1,298.75	1,298.50	3.0	0.0833	0.013	0.0	12.0	0.0	
13	CB6	1,281.75	1,281.50	8.0	0.0313	0.013	0.0	12.0	0.0	
14	CB7	1,188.50	1,188.40	2.0	0.0500	0.013	0.0	12.0	0.0	
15	CB8	1,082.50	1,079.00	35.0	0.1000	0.013	0.0	12.0	0.0	
16	CB9	1,059.50	1,058.50	11.0	0.0909	0.013	0.0	12.0	0.0	
17	DI1	1,353.00	1,352.00	25.0	0.0400	0.013	0.0	12.0	0.0	
18	DI10	1,077.75	1,077.00	26.0	0.0288	0.013	0.0	30.0	0.0	
19	DI11	1,057.75	1,057.00	26.0	0.0288	0.013	0.0	24.0	0.0	
20	DI12	1,036.50	1,036.00	26.0	0.0192	0.013	0.0	24.0	0.0	
21	DI13	993.75	993.00	42.0	0.0179	0.013	0.0	24.0	0.0	
22	DI14	983.50	982.50	40.0	0.0250	0.013	0.0	18.0	0.0	
23	DI15	978.60	978.50	4.0	0.0250	0.013	0.0	18.0	0.0	
24	DI16	940.00	939.45	26.0	0.0212	0.013	0.0	18.0	0.0	
25	DI17	1,327.50	1,327.25	25.0	0.0100	0.013	0.0	15.0	0.0	
26	DI18	1,302.50	1,302.00	25.0	0.0200	0.013	0.0	18.0	0.0	
27	DI19	1,292.00	1,291.50	18.0	0.0278	0.013	0.0	18.0	0.0	
28	DI2	1,297.75	1,297.50	7.0	0.0357	0.013	0.0	18.0	0.0	
29	DI3	1,282.50	1,282.25	16.0	0.0156	0.013	0.0	18.0	0.0	
30	DI4	1,253.25	1,253.00	38.0	0.0066	0.013	0.0	18.0	0.0	
31	DI5	1,240.50	1,240.00	40.0	0.0125	0.013	0.0	18.0	0.0	
32	DI6	1,189.50	1,188.25	17.0	0.0735	0.013	0.0	15.0	0.0	
33	DI7	1,178.75	1,178.50	10.0	0.0250	0.013	0.0	18.0	0.0	
34	DI8	1,169.50	1,168.50	40.0	0.0250	0.013	0.0	15.0	0.0	
35	DI9	1,112.50	1,111.50	42.0	0.0238	0.013	0.0	18.0	0.0	
36	MH1	1,351.75	1,342.75	112.0	0.0804	0.013	0.0	12.0	0.0	
37	MH10	1,035.75	1,035.50	9.0	0.0278	0.013	0.0	24.0	0.0	
38	MH11	978.25	977.50	35.0	0.0214	0.013	0.0	18.0	0.0	
39	MH12	939.20	939.00	10.0	0.0200	0.013	0.0	18.0	0.0	
40	MH13	1,220.75	1,220.50	12.0	0.0208	0.013	0.0	48.0	0.0	
41	MH14	1,220.25	1,219.50	36.0	0.0208	0.013	0.0	48.0	0.0	

Pipe Listing (all nodes) (continued)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
42	MH15	1,300.75	1,297.00	162.0	0.0231	0.013	0.0	18.0	0.0	
43	MH16	1,295.50	1,295.00	12.0	0.0417	0.013	0.0	18.0	0.0	
44	MH17	1,291.25	1,282.25	135.0	0.0667	0.013	0.0	18.0	0.0	
45	MH2	1,342.50	1,328.25	130.0	0.1096	0.013	0.0	15.0	0.0	
46	MH3	1,326.25	1,326.00	12.0	0.0208	0.013	0.0	18.0	0.0	
47	MH4	1,297.25	1,297.00	5.0	0.0500	0.013	0.0	18.0	0.0	
48	MH5	1,281.25	1,281.00	12.0	0.0208	0.013	0.0	24.0	0.0	
49	MH6	1,188.00	1,178.50	90.0	0.1056	0.013	0.0	15.0	0.0	
50	MH7	1,176.25	1,176.00	25.0	0.0100	0.013	0.0	18.0	0.0	
51	MH8	1,076.75	1,076.50	8.0	0.0313	0.013	0.0	30.0	0.0	
52	MH9	1,056.75	1,056.50	8.0	0.0313	0.013	0.0	24.0	0.0	

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1aS: Roadway 199+50 to Runoff Area=0.106 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.33 cfs 0.026 af

Subcatchment1bS: Offsite Runoff Area=67,531 sf 0.00% Impervious Runoff Depth>0.79"
Flow Length=800' Slope=0.3750 '/' Tc=5.8 min CN=70 Runoff=1.28 cfs 0.102 af

Subcatchment1S: Offsite 200+50 to 202+00 Runoff Area=81,497 sf 0.00% Impervious Runoff Depth>0.79"
Flow Length=800' Slope=0.3750 '/' Tc=5.8 min CN=70 Runoff=1.54 cfs 0.123 af

Subcatchment2aS: Roadway 203+34 to Runoff Area=0.037 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.12 cfs 0.009 af

Subcatchment2S: Offsite 208+00 to Runoff Area=186,630 sf 0.00% Impervious Runoff Depth>0.79"
Flow Length=1,370' Slope=0.3333 '/' Tc=9.4 min CN=70 Runoff=3.10 cfs 0.280 af

Subcatchment3aS: Roadway 198+75 to Runoff Area=0.166 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.52 cfs 0.040 af

Subcatchment3bS: Roadway 210+00 to Runoff Area=0.013 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment3S: Offsite 212+25 to Runoff Area=182,409 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=1,525' Slope=0.3333 '/' Tc=8.5 min CN=77 Runoff=5.07 cfs 0.405 af

Subcatchment4aS: Roadway 204+70 to Runoff Area=0.229 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.72 cfs 0.055 af

Subcatchment4bS: Roadway 215+43 to Runoff Area=0.062 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.20 cfs 0.015 af

Subcatchment4S: Offsite 214+15 to Runoff Area=519,346 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=1,850' Slope=0.3333 '/' Tc=9.9 min CN=77 Runoff=13.76 cfs 1.152 af

Subcatchment5aS: Roadway 209+50 to Runoff Area=0.022 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.07 cfs 0.005 af

Subcatchment5bS: Roadway 216+55 to Runoff Area=0.074 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.23 cfs 0.018 af

Subcatchment5S: Offsite 216+55 to Runoff Area=161,927 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=1,375' Slope=0.4000 '/' Tc=7.1 min CN=77 Runoff=4.73 cfs 0.359 af

Subcatchment6aS: Roadway 210+24 to Runoff Area=0.193 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.61 cfs 0.047 af

Subcatchment6S: Offsite 220+89 to 223+32 Runoff Area=92,266 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=600' Slope=0.4333 '/' Tc=5.0 min CN=77 Runoff=2.90 cfs 0.205 af

Subcatchment7aS: Roadway 220+89 to Runoff Area=0.134 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.42 cfs 0.032 af

Subcatchment7bS: Roadway 223+32 to Runoff Area=0.051 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.16 cfs 0.012 af

Subcatchment7S: Offsite 223+32 to 224+25 Runoff Area=87,079 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=750' Slope=0.4333 '/' Tc=5.0 min CN=77 Runoff=2.74 cfs 0.193 af

Subcatchment8aS: Roadway 232+01 to Runoff Area=0.247 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.78 cfs 0.060 af

Subcatchment8bS: Roadway 224+25 to Runoff Area=0.038 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.12 cfs 0.009 af

Subcatchment8S: Offsite 224+25 to 225+45 Runoff Area=38,760 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=450' Slope=0.3330 '/' Tc=5.0 min CN=77 Runoff=1.22 cfs 0.086 af

Subcatchment9aS: Roadway 236+50 to Runoff Area=0.124 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.39 cfs 0.030 af

Subcatchment9bS: Roadway 229+74 to Runoff Area=0.040 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.13 cfs 0.010 af

Subcatchment9S: Offsite 227+60 to Runoff Area=322,188 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=1,200' Slope=0.3750 '/' Tc=6.6 min CN=77 Runoff=9.57 cfs 0.715 af

Subcatchment10aS: Roadway 238+75 to Runoff Area=0.108 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.34 cfs 0.026 af

Subcatchment10S: Offsite 231+05 to Runoff Area=983,421 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=1,100' Slope=0.3636 '/' Tc=6.2 min CN=77 Runoff=29.64 cfs 2.183 af

Subcatchment11aS: Roadway 240+71 to Runoff Area=0.012 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment11S: Offsite 236+90 to Runoff Area=550,949 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=1,200' Slope=0.3333 '/' Tc=7.0 min CN=77 Runoff=16.14 cfs 1.223 af

Subcatchment12S: Offsite 238+90 to Runoff Area=534,086 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=1,000' Slope=0.3750 '/' Tc=5.7 min CN=77 Runoff=16.39 cfs 1.186 af

Subcatchment13aS: Roadway 255+00 to Runoff Area=0.247 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.78 cfs 0.060 af

Subcatchment13bS: Roadway 242+03 to Runoff Area=0.197 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.62 cfs 0.048 af

Subcatchment13S: Offsite 240+85 to Runoff Area=485,530 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=800' Slope=0.4375 '/' Tc=5.0 min CN=77 Runoff=15.28 cfs 1.078 af

Subcatchment14aS: Roadway 259+49 to Runoff Area=0.048 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.15 cfs 0.012 af

Subcatchment14bS: Roadway 245+60 to Runoff Area=0.265 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.83 cfs 0.064 af

Subcatchment14S: Offsite 245+60 to Runoff Area=277,139 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=600' Slope=0.3750 '/' Tc=5.0 min CN=77 Runoff=8.72 cfs 0.615 af

Subcatchment15bS: Roadway 250+95 to Runoff Area=0.098 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.31 cfs 0.024 af

Subcatchment15S: Offsite 250+95 to Runoff Area=273,580 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=550' Slope=0.3000 '/' Tc=5.0 min CN=77 Runoff=8.61 cfs 0.607 af

Subcatchment16bS: Roadway 260+23 to Runoff Area=0.005 ac 100.00% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=98 Runoff=0.02 cfs 0.001 af

Subcatchment16S: Offsite 254+60 to Runoff Area=141,509 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=800' Slope=0.2500 '/' Tc=5.8 min CN=77 Runoff=4.33 cfs 0.314 af

Subcatchment17S: Offsite 203+34 to Runoff Area=101,198 sf 0.00% Impervious Runoff Depth>0.79"
Flow Length=900' Slope=0.3333 '/' Tc=6.8 min CN=70 Runoff=1.85 cfs 0.152 af

Subcatchment18S: Offsite 208+00 to Runoff Area=380,142 sf 0.00% Impervious Runoff Depth>0.79"
Flow Length=1,370' Slope=0.3333 '/' Tc=9.4 min CN=70 Runoff=6.32 cfs 0.571 af

Subcatchment19S: Offsite 209+84 to Runoff Area=430,523 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=1,830' Slope=0.3333 '/' Tc=9.8 min CN=77 Runoff=11.45 cfs 0.955 af

Subcatchmentx6S: (new Subcat) Runoff Area=1,901,957 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=2,150' Slope=0.3000 '/' Tc=11.7 min CN=77 Runoff=47.58 cfs 4.216 af

Subcatchmentx9S: Offsite 36" Cross Runoff Area=1,328,644 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=2,150' Slope=0.3000 '/' Tc=11.7 min CN=77 Runoff=33.24 cfs 2.945 af

Reach 1R: Roadside Ditch (201+50 to Avg. Flow Depth=0.39' Max Vel=3.71 fps Inflow=1.54 cfs 0.123 af
n=0.030 L=50.0' S=0.0550 '/' Capacity=3.02 cfs Outflow=1.54 cfs 0.123 af

Reach 2R: Curb Ditch (209+70 to 209+84 Avg. Flow Depth=0.75' Max Vel=2.42 fps Inflow=3.10 cfs 0.280 af
n=0.030 L=14.0' S=0.0100 '/' Capacity=6.58 cfs Outflow=3.10 cfs 0.280 af

Reach 3R: Roadside Ditch (213+50 to Avg. Flow Depth=0.36' Max Vel=4.06 fps Inflow=5.07 cfs 0.405 af
n=0.041 L=15.0' S=0.0800 '/' Capacity=17.86 cfs Outflow=5.07 cfs 0.405 af

Reach 4R: Roadside Ditch (215+50 to Avg. Flow Depth=0.57' Max Vel=5.95 fps Inflow=13.89 cfs 1.167 af
n=0.041 L=105.0' S=0.1048 '/' Capacity=19.74 cfs Outflow=13.88 cfs 1.166 af

Reach 5R: Roadside Ditch (217+80 to Avg. Flow Depth=0.54' Max Vel=4.58 fps Inflow=4.93 cfs 0.377 af
n=0.041 L=10.0' S=0.0990 '/' Capacity=8.96 cfs Outflow=4.93 cfs 0.377 af

Reach 6R: Roadside Ditch (223+00 to Avg. Flow Depth=0.43' Max Vel=5.35 fps Inflow=2.90 cfs 0.205 af
n=0.030 L=12.0' S=0.0992 '/' Capacity=7.93 cfs Outflow=2.90 cfs 0.205 af

Reach 7R: Roadside Ditch (224+00 to Avg. Flow Depth=0.27' Max Vel=3.50 fps Inflow=2.90 cfs 0.206 af
n=0.041 L=25.0' S=0.0820 '/' Capacity=18.08 cfs Outflow=2.90 cfs 0.206 af

Reach 8R: Roadside Ditch (225+00 to Avg. Flow Depth=0.18' Max Vel=2.73 fps Inflow=1.34 cfs 0.095 af
n=0.041 L=45.0' S=0.0778 '/' Capacity=17.61 cfs Outflow=1.34 cfs 0.095 af

Reach 9R: Roadside Ditch (231+00 to Avg. Flow Depth=0.41' Max Vel=6.57 fps Inflow=9.68 cfs 0.725 af
n=0.030 L=5.0' S=0.0960 '/' Capacity=25.82 cfs Outflow=9.68 cfs 0.725 af

Reach 10R: Roadside Ditch (236+50 to Avg. Flow Depth=0.84' Max Vel=6.56 fps Inflow=29.64 cfs 2.183 af
n=0.041 L=40.0' S=0.0822 '/' Capacity=43.45 cfs Outflow=29.63 cfs 2.183 af

Reach 11R: Roadside Ditch (237+95 to Avg. Flow Depth=0.59' Max Vel=6.23 fps Inflow=16.14 cfs 1.223 af
n=0.041 L=95.0' S=0.1098 '/' Capacity=20.92 cfs Outflow=16.12 cfs 1.222 af

Reach 12R: Roadside Ditch (238+90 to Avg. Flow Depth=0.61' Max Vel=6.32 fps Inflow=16.39 cfs 1.186 af
n=0.041 L=195.0' S=0.1098 '/' Capacity=20.21 cfs Outflow=16.34 cfs 1.185 af

Reach 13R: Roadside Ditch (245+00 to Avg. Flow Depth=0.62' Max Vel=4.53 fps Inflow=15.90 cfs 1.126 af
n=0.041 L=50.0' S=0.0590 '/' Capacity=48.12 cfs Outflow=15.89 cfs 1.125 af

Reach 14R: Roadside Ditch (249+34 to Avg. Flow Depth=0.73' Max Vel=1.99 fps Inflow=9.55 cfs 0.679 af
n=0.030 L=161.0' S=0.0050 '/' Capacity=10.43 cfs Outflow=9.32 cfs 0.679 af

Reach 15R: Roadside Ditch (254+10 to Avg. Flow Depth=0.50' Max Vel=3.58 fps Inflow=8.92 cfs 0.631 af
n=0.030 L=50.0' S=0.0250 '/' Capacity=17.07 cfs Outflow=8.91 cfs 0.631 af

Reach 16R: Roadside Ditch (259+55 to Avg. Flow Depth=0.26' Max Vel=4.72 fps Inflow=4.34 cfs 0.315 af
n=0.030 L=86.0' S=0.0903 '/' Capacity=32.46 cfs Outflow=4.34 cfs 0.315 af

Reach 17R: Curb Ditch (204+80 to Avg. Flow Depth=0.37' Max Vel=5.02 fps Inflow=1.85 cfs 0.152 af
n=0.030 L=10.0' S=0.1090 '/' Capacity=6.90 cfs Outflow=1.85 cfs 0.152 af

Reach 18R: Curb Ditch (207+90 to Avg. Flow Depth=0.74' Max Vel=5.09 fps Inflow=6.32 cfs 0.571 af
n=0.030 L=10.0' S=0.0450 '/' Capacity=13.95 cfs Outflow=6.32 cfs 0.571 af

Reach 19R: Roadside Ditch (212+00 to Avg. Flow Depth=0.53' Max Vel=5.28 fps Inflow=11.48 cfs 0.958 af
n=0.030 L=25.0' S=0.0480 '/' Capacity=18.90 cfs Outflow=11.47 cfs 0.958 af

Pond 6P: Ex Cross Culvert Peak Elev=1,227.55' Inflow=47.58 cfs 4.216 af
36.0" Round Culvert n=0.021 L=2.0' S=0.2100 '/' Outflow=47.58 cfs 4.216 af

Pond 9P: Cross Culvert - 226+96.5 Lt to 227+20.2 Rt Peak Elev=1,156.24' Inflow=33.24 cfs 2.945 af
42.0" Round Culvert n=0.012 L=52.0' S=0.0769 '/' Outflow=33.24 cfs 2.945 af

Pond CB1: 203+34 Lt Peak Elev=1,344.20' Inflow=1.60 cfs 0.127 af
12.0" Round Culvert n=0.013 L=12.0' S=0.0208 '/' Outflow=1.60 cfs 0.127 af

Pond CB10: 240+71 Rt Peak Elev=1,038.07' Inflow=0.34 cfs 0.026 af
12.0" Round Culvert n=0.013 L=10.0' S=0.0340 '/' Outflow=0.34 cfs 0.026 af

Pond CB11: 240+93 Rt Peak Elev=1,038.05' Inflow=0.04 cfs 0.003 af
12.0" Round Culvert n=0.013 L=4.0' S=0.0250 '/' Outflow=0.04 cfs 0.003 af

Pond CB12: 254+08 Lt [Snow curb prior to rollover] Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=48.0' S=0.0208 '/' Primary=0.00 cfs 0.000 af

Pond CB13: 259+49 Rt Peak Elev=949.45' Inflow=0.78 cfs 0.060 af
12.0" Round Culvert n=0.013 L=88.0' S=0.0909 '/' Outflow=0.78 cfs 0.060 af

Pond CB14: 260+49 Rt Peak Elev=940.47' Inflow=0.15 cfs 0.012 af
12.0" Round Culvert n=0.013 L=4.0' S=0.0250 '/' Outflow=0.15 cfs 0.012 af

Pond CB2: 204+68 Lt Peak Elev=1,329.41' Inflow=0.12 cfs 0.009 af
12.0" Round Culvert n=0.013 L=12.0' S=0.0208 '/' Outflow=0.12 cfs 0.009 af

Pond CB3: 204+78 Rt [Snow curb prior to rollover] Peak Elev=1,329.11' Inflow=0.52 cfs 0.040 af
12.0" Round Culvert n=0.013 L=7.0' S=0.0357 '/' Outflow=0.52 cfs 0.040 af

Pond CB4: 209+50 Lt Peak Elev=1,298.93' Inflow=0.72 cfs 0.055 af
12.0" Round Culvert n=0.013 L=29.0' S=0.0172 '/' Outflow=0.72 cfs 0.055 af

Pond CB5: 209+90 Lt Peak Elev=1,298.88' Inflow=0.07 cfs 0.005 af
12.0" Round Culvert n=0.013 L=3.0' S=0.0833 '/' Outflow=0.07 cfs 0.005 af

Pond CB6: 213+75 Rt Peak Elev=1,283.61' Inflow=0.61 cfs 0.047 af
12.0" Round Culvert n=0.013 L=8.0' S=0.0313 '/' Outflow=0.61 cfs 0.047 af

Pond CB7: 223+32 Peak Elev=1,189.01' Inflow=0.42 cfs 0.032 af
12.0" Round Culvert n=0.013 L=2.0' S=0.0500 '/' Outflow=0.42 cfs 0.032 af

Pond CB8: 236+50 Rt Peak Elev=1,082.95' Inflow=0.78 cfs 0.060 af
12.0" Round Culvert n=0.013 L=35.0' S=0.1000 '/' Outflow=0.78 cfs 0.060 af

Pond CB9: 238+75 Rt Peak Elev=1,059.81' Inflow=0.39 cfs 0.030 af
12.0" Round Culvert n=0.013 L=11.0' S=0.0909 '/' Outflow=0.39 cfs 0.030 af

Pond DI1: 202+00 Lt (DI-1) Peak Elev=1,353.67' Inflow=1.54 cfs 0.123 af
12.0" Round Culvert n=0.013 L=25.0' S=0.0400 '/' Outflow=1.54 cfs 0.123 af

Pond DI10: 236+90 Lt Peak Elev=1,081.36' Inflow=29.63 cfs 2.183 af
30.0" Round Culvert n=0.013 L=26.0' S=0.0288 '/' Outflow=29.63 cfs 2.183 af

Pond DI11: 238+90 Lt Peak Elev=1,060.15' Inflow=16.12 cfs 1.222 af
24.0" Round Culvert n=0.013 L=26.0' S=0.0288 '/' Outflow=16.12 cfs 1.222 af

Pond DI12: 240+85 Lt Peak Elev=1,039.21' Inflow=16.34 cfs 1.185 af
24.0" Round Culvert n=0.013 L=26.0' S=0.0192 '/' Outflow=16.34 cfs 1.185 af

Pond DI13: 245+55 Lt Peak Elev=995.85' Inflow=15.89 cfs 1.125 af
24.0" Round Culvert n=0.013 L=42.0' S=0.0179 '/' Outflow=15.89 cfs 1.125 af

Pond DI14: 250+95 Lt Peak Elev=985.45' Inflow=9.32 cfs 0.679 af
18.0" Round Culvert n=0.013 L=40.0' S=0.0250 '/' Outflow=9.32 cfs 0.679 af

Pond DI15: 254+60 Lt Peak Elev=981.18' Inflow=8.91 cfs 0.631 af
18.0" Round Culvert n=0.013 L=4.0' S=0.0250 '/' Outflow=8.91 cfs 0.631 af

Pond DI16: 260+41 Lt Peak Elev=941.07' Inflow=4.34 cfs 0.315 af
18.0" Round Culvert n=0.013 L=26.0' S=0.0212 '/' Outflow=4.34 cfs 0.315 af

Pond DI17: 204+90 Lt Peak Elev=1,328.23' Inflow=1.85 cfs 0.152 af
15.0" Round Culvert n=0.013 L=25.0' S=0.0100 '/' Outflow=1.85 cfs 0.152 af

Pond DI18: 208+00 Lt Peak Elev=1,303.70' Inflow=6.32 cfs 0.571 af
18.0" Round Culvert n=0.013 L=25.0' S=0.0200 '/' Outflow=6.32 cfs 0.571 af

Pond DI19: 212+25 Lt Peak Elev=1,294.32' Inflow=11.47 cfs 0.958 af
18.0" Round Culvert n=0.013 L=18.0' S=0.0278 '/' Outflow=11.47 cfs 0.958 af

Pond DI2: 209+84 Lt Peak Elev=1,298.63' Inflow=3.10 cfs 0.280 af
18.0" Round Culvert n=0.013 L=7.0' S=0.0357 '/' Outflow=3.10 cfs 0.280 af

Pond DI3: 213+65 Lt Peak Elev=1,283.95' Inflow=5.07 cfs 0.405 af
18.0" Round Culvert n=0.013 L=16.0' S=0.0156 '/' Outflow=5.07 cfs 0.405 af

Pond DI4: 216+55 Lt Peak Elev=1,256.66' Inflow=13.88 cfs 1.166 af
18.0" Round Culvert n=0.013 L=38.0' S=0.0066 '/' Outflow=13.88 cfs 1.166 af

Pond DI5: 217+90 Lt Peak Elev=1,241.62' Inflow=4.93 cfs 0.377 af
18.0" Round Culvert n=0.013 L=40.0' S=0.0125 '/' Outflow=4.93 cfs 0.377 af

Pond DI6: 223+12 Lt Peak Elev=1,190.37' Inflow=2.90 cfs 0.205 af
15.0" Round Culvert n=0.013 L=17.0' S=0.0735 '/' Outflow=2.90 cfs 0.205 af

Pond DI7: 224+25 Lt Peak Elev=1,179.59' Inflow=2.90 cfs 0.206 af
18.0" Round Culvert n=0.013 L=10.0' S=0.0250 '/' Outflow=2.90 cfs 0.206 af

Pond DI8: Ex 225+45 Lt Peak Elev=1,170.06' Inflow=1.34 cfs 0.095 af
15.0" Round Culvert n=0.013 L=40.0' S=0.0250 '/' Outflow=1.34 cfs 0.095 af

Pond DI9: 231+05 Lt Peak Elev=1,114.55' Inflow=9.68 cfs 0.725 af
18.0" Round Culvert n=0.013 L=42.0' S=0.0238 '/' Outflow=9.68 cfs 0.725 af

Pond MH1: 202+20 Rt Peak Elev=1,352.42' Inflow=1.54 cfs 0.123 af
12.0" Round Culvert n=0.013 L=112.0' S=0.0804 '/' Outflow=1.54 cfs 0.123 af

Pond MH10: 240+85 Rt Peak Elev=1,038.05' Inflow=16.69 cfs 1.214 af
24.0" Round Culvert n=0.013 L=9.0' S=0.0278 '/' Outflow=16.69 cfs 1.214 af

Pond MH11: 254+60 Lt Peak Elev=980.10' Inflow=8.91 cfs 0.631 af
18.0" Round Culvert n=0.013 L=35.0' S=0.0214 '/' Outflow=8.91 cfs 0.631 af

Pond MH12: 260+41 Rt Peak Elev=940.46' Inflow=5.23 cfs 0.386 af
18.0" Round Culvert n=0.013 L=10.0' S=0.0200 '/' Outflow=5.23 cfs 0.386 af

Pond MH13: 219+95 Lt Peak Elev=1,223.89' Inflow=47.58 cfs 4.216 af
48.0" Round Culvert n=0.013 L=12.0' S=0.0208 '/' Outflow=47.58 cfs 4.216 af

Pond MH14: 219+85 Lt Peak Elev=1,222.96' Inflow=47.58 cfs 4.216 af
48.0" Round Culvert n=0.013 L=36.0' S=0.0208 '/' Outflow=47.58 cfs 4.216 af

Pond MH15: 208+20 Rt Peak Elev=1,302.05' Inflow=6.32 cfs 0.571 af
18.0" Round Culvert n=0.013 L=162.0' S=0.0231 '/' Outflow=6.32 cfs 0.571 af

Pond MH16: 209+84 Rt Peak Elev=1,297.62' Inflow=9.96 cfs 0.912 af
18.0" Round Culvert n=0.013 L=12.0' S=0.0417 '/' Outflow=9.96 cfs 0.912 af

Pond MH17: 212+25 Rt Peak Elev=1,293.16' Inflow=11.47 cfs 0.958 af
18.0" Round Culvert n=0.013 L=135.0' S=0.0667 '/' Outflow=11.47 cfs 0.958 af

Pond MH2: 203+34 Rt Peak Elev=1,343.41' Inflow=3.13 cfs 0.250 af
15.0" Round Culvert n=0.013 L=130.0' S=0.1096 '/' Outflow=3.13 cfs 0.250 af

Pond MH3: 204+68 Rt Peak Elev=1,327.53' Inflow=5.55 cfs 0.451 af
18.0" Round Culvert n=0.013 L=12.0' S=0.0208 '/' Outflow=5.55 cfs 0.451 af

Pond MH4: 209+84 Lt Peak Elev=1,298.20' Inflow=3.66 cfs 0.341 af
18.0" Round Culvert n=0.013 L=5.0' S=0.0500 '/' Outflow=3.66 cfs 0.341 af

Pond MH5: 213+65 Rt Peak Elev=1,283.60' Inflow=16.93 cfs 1.409 af
24.0" Round Culvert n=0.013 L=12.0' S=0.0208 '/' Outflow=16.93 cfs 1.409 af

Pond MH6: 223+30 Lt Peak Elev=1,188.95' Inflow=3.32 cfs 0.237 af
15.0" Round Culvert n=0.013 L=90.0' S=0.1056 '/' Outflow=3.32 cfs 0.237 af

Pond MH7: 224+25 Lt Peak Elev=1,177.68' Inflow=6.22 cfs 0.443 af
18.0" Round Culvert n=0.013 L=25.0' S=0.0100 '/' Outflow=6.22 cfs 0.443 af

Pond MH8: 236+90 Rt Peak Elev=1,079.79' Inflow=30.36 cfs 2.242 af
30.0" Round Culvert n=0.013 L=8.0' S=0.0313 '/' Outflow=30.36 cfs 2.242 af

Pond MH9: 238+90 Rt Peak Elev=1,059.02' Inflow=16.47 cfs 1.252 af
24.0" Round Culvert n=0.013 L=8.0' S=0.0313 '/' Outflow=16.47 cfs 1.252 af

Link 1L: Outlet @ 204+70 Rt Inflow=5.55 cfs 0.451 af
Primary=5.55 cfs 0.451 af

Link 2L: Outlet @ 209+84 Rt Inflow=9.96 cfs 0.912 af
Primary=9.96 cfs 0.912 af

Link 3L: Outlet @ 213+65 Rt	Inflow=16.93 cfs 1.409 af Primary=16.93 cfs 1.409 af
Link 4L: Outlet @ 216+55 Rt	Inflow=13.88 cfs 1.166 af Primary=13.88 cfs 1.166 af
Link 5L: Outlet @ 217+90 Rt	Inflow=4.93 cfs 0.377 af Primary=4.93 cfs 0.377 af
Link 6L: Outlet @ 219+85 Rt	Inflow=47.58 cfs 4.216 af Primary=47.58 cfs 4.216 af
Link 7L: Outlet @ 224+25 Rt	Inflow=6.22 cfs 0.443 af Primary=6.22 cfs 0.443 af
Link 8L: Outlet @ 225+61 Rt	Inflow=1.34 cfs 0.095 af Primary=1.34 cfs 0.095 af
Link 9L: Outlet @ 227+20 Rt	Inflow=33.24 cfs 2.945 af Primary=33.24 cfs 2.945 af
Link 10L: Outlet @ 231+20 Rt	Inflow=9.68 cfs 0.725 af Primary=9.68 cfs 0.725 af
Link 11L: Outlet @ 236+90 Rt	Inflow=30.36 cfs 2.242 af Primary=30.36 cfs 2.242 af
Link 12L: Outlet @ 238+90 Rt	Inflow=16.47 cfs 1.252 af Primary=16.47 cfs 1.252 af
Link 13L: Outlet @ 240+85 Rt	Inflow=16.69 cfs 1.214 af Primary=16.69 cfs 1.214 af
Link 14L: Outlet @ 245+55 Rt	Inflow=15.89 cfs 1.125 af Primary=15.89 cfs 1.125 af
Link 15L: Outlet @ 250+95 Rt	Inflow=9.32 cfs 0.679 af Primary=9.32 cfs 0.679 af
Link 16L: Outlet @ 254+60 Rt	Inflow=8.91 cfs 0.631 af Primary=8.91 cfs 0.631 af
Link 17L: Outlet @ 260+41 Rt	Inflow=5.23 cfs 0.386 af Primary=5.23 cfs 0.386 af

Total Runoff Area = 212.073 ac Runoff Volume = 20.273 af Average Runoff Depth = 1.15"
98.81% Pervious = 209.557 ac 1.19% Impervious = 2.516 ac

Summary for Subcatchment 1aS: Roadway 199+50 to 203+34 Lt

Runoff = 0.33 cfs @ 12.07 hrs, Volume= 0.026 af, Depth> 2.90"
Routed to Pond CB1 : 203+34 Lt

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.106	98	Paved roads w/curbs & sewers, HSG D
0.106		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 1bS: Offsite

Runoff = 1.28 cfs @ 12.10 hrs, Volume= 0.102 af, Depth> 0.79"
Routed to Pond CB1 : 203+34 Lt

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
67,531	70	Woods, Good, HSG C
67,531		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	800	0.3750	2.30		**Lag/CN Method,**

Summary for Subcatchment 1S: Offsite 200+50 to 202+00

Runoff = 1.54 cfs @ 12.10 hrs, Volume= 0.123 af, Depth> 0.79"
Routed to Reach 1R : Roadside Ditch (201+50 to 202+00 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
81,497	70	Woods, Good, HSG C
81,497		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	800	0.3750	2.30		**Lag/CN Method,**

Summary for Subcatchment 2aS: Roadway 203+34 to 204+70 Lt

Runoff = 0.12 cfs @ 12.07 hrs, Volume= 0.009 af, Depth> 2.90"
Routed to Pond CB2 : 204+68 Lt

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.037	98	Paved roads w/curbs & sewers, HSG D
0.037		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2S: Offsite 208+00 to 209+84

Runoff = 3.10 cfs @ 12.15 hrs, Volume= 0.280 af, Depth> 0.79"
Routed to Reach 2R : Curb Ditch (209+70 to 209+84 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
186,630	70	Woods, Good, HSG C
186,630		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	1,370	0.3333	2.42		**Lag/CN Method,**

Summary for Subcatchment 3aS: Roadway 198+75 to 204+78 Rt

Runoff = 0.52 cfs @ 12.07 hrs, Volume= 0.040 af, Depth> 2.90"
Routed to Pond CB3 : 204+78 Rt [Snow curb prior to rollover]

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.166	98	Paved roads w/curbs & sewers, HSG D
0.166		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 3bS: Roadway 210+00 to 210+24

Runoff = 0.04 cfs @ 12.07 hrs, Volume= 0.003 af, Depth> 2.90"
Routed to Reach 19R : Roadside Ditch (212+00 to 212+25 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.013	98	Paved roads w/curbs & sewers, HSG D
0.013		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 3S: Offsite 212+25 to 213+65 Lt

Runoff = 5.07 cfs @ 12.13 hrs, Volume= 0.405 af, Depth> 1.16"
Routed to Reach 3R : Roadside Ditch (213+50 to 213+65 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
182,409	77	Woods, Good, HSG D
182,409		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	1,525	0.3333	3.01		**Lag/CN Method,**

Summary for Subcatchment 4aS: Roadway 204+70 to 205+99 Lt and 205+99 to 209+50

Runoff = 0.72 cfs @ 12.07 hrs, Volume= 0.055 af, Depth> 2.90"
Routed to Pond CB4 : 209+50 Lt

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.229	98	Paved roads w/curbs & sewers, HSG D
0.229		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 4bS: Roadway 215+43 to 216+55

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 0.015 af, Depth> 2.90"
Routed to Reach 4R : Roadside Ditch (215+50 to 216+55 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.062	98	Paved roads w/curbs & sewers, HSG D
0.062		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 4S: Offsite 214+15 to 216+55 Lt

Runoff = 13.76 cfs @ 12.15 hrs, Volume= 1.152 af, Depth> 1.16"
Routed to Reach 4R : Roadside Ditch (215+50 to 216+55 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
519,346	77	Woods, Good, HSG D
519,346		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	1,850	0.3333	3.13		**Lag/CN Method,**

Summary for Subcatchment 5aS: Roadway 209+50 to 209+90

Runoff = 0.07 cfs @ 12.07 hrs, Volume= 0.005 af, Depth> 2.90"
Routed to Pond CB5 : 209+90 Lt

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.022	98	Paved roads w/curbs & sewers, HSG D
0.022		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 5bS: Roadway 216+55 to 217+90

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 0.018 af, Depth> 2.90"
Routed to Reach 5R : Roadside Ditch (217+80 to 217+90 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.074	98	Paved roads w/curbs & sewers, HSG D
0.074		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 5S: Offsite 216+55 to 217+90 Lt

Runoff = 4.73 cfs @ 12.11 hrs, Volume= 0.359 af, Depth> 1.16"
Routed to Reach 5R : Roadside Ditch (217+80 to 217+90 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
161,927	77	Woods, Good, HSG D
161,927		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	1,375	0.4000	3.23		**Lag/CN Method,**

Summary for Subcatchment 6aS: Roadway 210+24 to 213+75

Runoff = 0.61 cfs @ 12.07 hrs, Volume= 0.047 af, Depth> 2.90"
Routed to Pond CB6 : 213+75 Rt

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.193	98	Paved roads w/curbs & sewers, HSG D
0.193		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 6S: Offsite 220+89 to 223+32 Lt

Runoff = 2.90 cfs @ 12.08 hrs, Volume= 0.205 af, Depth> 1.16"
Routed to Reach 6R : Roadside Ditch (223+00 to 223+12 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
92,266	77	Woods, Good, HSG D
92,266		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	600	0.4333	2.85		**Lag/CN Method,**
3.5	600	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 7aS: Roadway 220+89 to 223+32

Runoff = 0.42 cfs @ 12.07 hrs, Volume= 0.032 af, Depth> 2.90"
Routed to Pond CB7 : 223+32

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.134	98	Paved roads w/curbs & sewers, HSG D
0.134		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 7bS: Roadway 223+32 to 224+25

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 0.012 af, Depth> 2.90"
Routed to Reach 7R : Roadside Ditch (224+00 to 224+25 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.051	98	Paved roads w/curbs & sewers, HSG D
0.051		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 7S: Offsite 223+32 to 224+25 Lt

Runoff = 2.74 cfs @ 12.08 hrs, Volume= 0.193 af, Depth> 1.16"
Routed to Reach 7R : Roadside Ditch (224+00 to 224+25 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
87,079	77	Woods, Good, HSG D
87,079		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	750	0.4333	2.98		**Lag/CN Method,**
4.2	750	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 8aS: Roadway 232+01 to 236+50

Runoff = 0.78 cfs @ 12.07 hrs, Volume= 0.060 af, Depth> 2.90"
Routed to Pond CB8 : 236+50 Rt

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.247	98	Paved roads w/curbs & sewers, HSG D
0.247		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 8bS: Roadway 224+25 to 224+94

Runoff = 0.12 cfs @ 12.07 hrs, Volume= 0.009 af, Depth> 2.90"
Routed to Reach 8R : Roadside Ditch (225+00 to 225+45 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.038	98	Paved roads w/curbs & sewers, HSG D
0.038		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 8S: Offsite 224+25 to 225+45 Lt

Runoff = 1.22 cfs @ 12.08 hrs, Volume= 0.086 af, Depth> 1.16"
Routed to Reach 8R : Roadside Ditch (225+00 to 225+45 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
38,760	77	Woods, Good, HSG D
38,760		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	450	0.3330	2.36		**Lag/CN Method,**
3.2	450	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 9aS: Roadway 236+50 to 238+75

Runoff = 0.39 cfs @ 12.07 hrs, Volume= 0.030 af, Depth> 2.90"
Routed to Pond CB9 : 238+75 Rt

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.124	98	Paved roads w/curbs & sewers, HSG D
0.124		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 9bS: Roadway 229+74 to 231+05

Runoff = 0.13 cfs @ 12.07 hrs, Volume= 0.010 af, Depth> 2.90"
Routed to Reach 9R : Roadside Ditch (231+00 to 231+05 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.040	98	Paved roads w/curbs & sewers, HSG D
0.040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 9S: Offsite 227+60 to 231+05 Lt

Runoff = 9.57 cfs @ 12.10 hrs, Volume= 0.715 af, Depth> 1.16"
Routed to Reach 9R : Roadside Ditch (231+00 to 231+05 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
322,188	77	Woods, Good, HSG D
322,188		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	1,200	0.3750	3.04		**Lag/CN Method,**

Summary for Subcatchment 10aS: Roadway 238+75 to 240+71

Runoff = 0.34 cfs @ 12.07 hrs, Volume= 0.026 af, Depth> 2.90"
Routed to Pond CB10 : 240+71 Rt

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.108	98	Paved roads w/curbs & sewers, HSG D
0.108		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 10S: Offsite 231+05 to 236+90 Lt

Runoff = 29.64 cfs @ 12.10 hrs, Volume= 2.183 af, Depth> 1.16"
Routed to Reach 10R : Roadside Ditch (236+50 to 236+90 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
983,421	77	Woods, Good, HSG D
983,421		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	1,100	0.3636	2.94		**Lag/CN Method,**

Summary for Subcatchment 11aS: Roadway 240+71 to 240+93

Runoff = 0.04 cfs @ 12.07 hrs, Volume= 0.003 af, Depth> 2.90"
Routed to Pond CB11 : 240+93 Rt

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.012	98	Paved roads w/curbs & sewers, HSG D
0.012		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 11S: Offsite 236+90 to 238+90 Lt

Runoff = 16.14 cfs @ 12.11 hrs, Volume= 1.223 af, Depth> 1.16"
Routed to Reach 11R : Roadside Ditch (237+95 to 238+90 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
550,949	77	Woods, Good, HSG D
550,949		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	1,200	0.3333	2.87		**Lag/CN Method,**

Summary for Subcatchment 12S: Offsite 238+90 to 240+85 Lt

Runoff = 16.39 cfs @ 12.09 hrs, Volume= 1.186 af, Depth> 1.16"
Routed to Reach 12R : Roadside Ditch (238+90 to 240+85 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
534,086	77	Woods, Good, HSG D
534,086		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	1,000	0.3750	2.93		**Lag/CN Method,**

Summary for Subcatchment 13aS: Roadway 255+00 to 259+49

Runoff = 0.78 cfs @ 12.07 hrs, Volume= 0.060 af, Depth> 2.90"
Routed to Pond CB13 : 259+49 Rt

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.247	98	Paved roads w/curbs & sewers, HSG D
0.247		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 13bS: Roadway 242+03 to 245+55

Runoff = 0.62 cfs @ 12.07 hrs, Volume= 0.048 af, Depth> 2.90"
Routed to Reach 13R : Roadside Ditch (245+00 to 245+50 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

	Area (ac)	CN	Description
*	0.197	98	Paved roads w/curbs & sewers, HSG D
	0.197		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 13S: Offsite 240+85 to 245+55 Lt

Runoff = 15.28 cfs @ 12.08 hrs, Volume= 1.078 af, Depth> 1.16"
Routed to Reach 13R : Roadside Ditch (245+00 to 245+50 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
485,530	77	Woods, Good, HSG D
485,530		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	800	0.4375	3.03		**Lag/CN Method,**
4.4	800	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 14aS: Roadway 259+49 to 260+49

Runoff = 0.15 cfs @ 12.07 hrs, Volume= 0.012 af, Depth> 2.90"
Routed to Pond CB14 : 260+49 Rt

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.048	98	Paved roads w/curbs & sewers, HSG D
0.048		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 14bS: Roadway 245+60 to 250+95

Runoff = 0.83 cfs @ 12.07 hrs, Volume= 0.064 af, Depth> 2.90"
Routed to Reach 14R : Roadside Ditch (249+34 to 250+95 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

	Area (ac)	CN	Description
*	0.265	98	Paved roads w/curbs & sewers, HSG D
	0.265		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 14S: Offsite 245+60 to 250+95 Lt

Runoff = 8.72 cfs @ 12.08 hrs, Volume= 0.615 af, Depth> 1.16"
Routed to Reach 14R : Roadside Ditch (249+34 to 250+95 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
277,139	77	Woods, Good, HSG D
277,139		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	600	0.3750	2.65		**Lag/CN Method,**
3.8	600	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 15bS: Roadway 250+95 to 254+49 Lt

Runoff = 0.31 cfs @ 12.07 hrs, Volume= 0.024 af, Depth> 2.90"
Routed to Reach 15R : Roadside Ditch (254+10 to 254+60 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.098	98	Paved roads w/curbs & sewers, HSG D
0.098		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 15S: Offsite 250+95 to 254+60 Lt

Runoff = 8.61 cfs @ 12.08 hrs, Volume= 0.607 af, Depth> 1.16"
Routed to Reach 15R : Roadside Ditch (254+10 to 254+60 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
273,580	77	Woods, Good, HSG D
273,580		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	550	0.3000	2.33		**Lag/CN Method,**
3.9	550	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 16bS: Roadway 260+23 to 260+41 Lt

Runoff = 0.02 cfs @ 12.07 hrs, Volume= 0.001 af, Depth> 2.90"
Routed to Reach 16R : Roadside Ditch (259+55 to 260+41 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (ac)	CN	Description
0.005	98	Paved roads w/curbs & sewers, HSG D
0.005		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 16S: Offsite 254+60 to 260+41 Lt

Runoff = 4.33 cfs @ 12.09 hrs, Volume= 0.314 af, Depth> 1.16"
Routed to Reach 16R : Roadside Ditch (259+55 to 260+41 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
141,509	77	Woods, Good, HSG D
141,509		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	800	0.2500	2.29		**Lag/CN Method,**

Summary for Subcatchment 17S: Offsite 203+34 to 205+00

Runoff = 1.85 cfs @ 12.11 hrs, Volume= 0.152 af, Depth> 0.79"
Routed to Reach 17R : Curb Ditch (204+80 to 204+90 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
101,198	70	Woods, Good, HSG C
101,198		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	900	0.3333	2.22		**Lag/CN Method,**

Summary for Subcatchment 18S: Offsite 208+00 to 209+84

Runoff = 6.32 cfs @ 12.15 hrs, Volume= 0.571 af, Depth> 0.79"
Routed to Reach 18R : Curb Ditch (207+90 to 208+00 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
380,142	70	Woods, Good, HSG C
380,142		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	1,370	0.3333	2.42		**Lag/CN Method,**

Summary for Subcatchment 19S: Offsite 209+84 to 212+25 Lt

Runoff = 11.45 cfs @ 12.14 hrs, Volume= 0.955 af, Depth> 1.16"
Routed to Reach 19R : Roadside Ditch (212+00 to 212+25 Lt)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
430,523	77	Woods, Good, HSG D
430,523		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	1,830	0.3333	3.12		**Lag/CN Method,**

Summary for Subcatchment x6S: (new Subcat)

Runoff = 47.58 cfs @ 12.17 hrs, Volume= 4.216 af, Depth> 1.16"
Routed to Pond 6P : Ex Cross Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
1,901,957	77	Woods, Good, HSG D
1,901,957		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	2,150	0.3000	3.06		**Lag/CN Method,**

Summary for Subcatchment x9S: Offsite 36" Cross Culvert

Runoff = 33.24 cfs @ 12.17 hrs, Volume= 2.945 af, Depth> 1.16"
Routed to Pond 9P : Cross Culvert - 226+96.5 Lt to 227+20.2 Rt (Upsize from 36" CMP to 42" RCP)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.13"

Area (sf)	CN	Description
1,328,644	77	Woods, Good, HSG D
1,328,644		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	2,150	0.3000	3.06		**Lag/CN Method,**

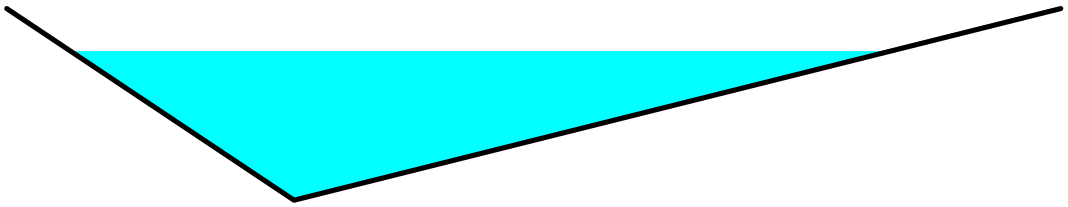
Summary for Reach 1R: Roadside Ditch (201+50 to 202+00 Lt)

Inflow Area = 1.871 ac, 0.00% Impervious, Inflow Depth > 0.79" for 2 Year event
Inflow = 1.54 cfs @ 12.10 hrs, Volume= 0.123 af
Outflow = 1.54 cfs @ 12.10 hrs, Volume= 0.123 af, Atten= 0%, Lag= 0.2 min
Routed to Pond DI1 : 202+00 Lt (DI-1)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.71 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.76 fps, Avg. Travel Time= 0.5 min

Peak Storage= 21 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.39' , Surface Width= 2.14'
Bank-Full Depth= 0.50' Flow Area= 0.7 sf, Capacity= 3.02 cfs

0.00' x 0.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 1.5 4.0 '/' Top Width= 2.75'
Length= 50.0' Slope= 0.0550 '/'
Inlet Invert= 1,360.65', Outlet Invert= 1,357.90'



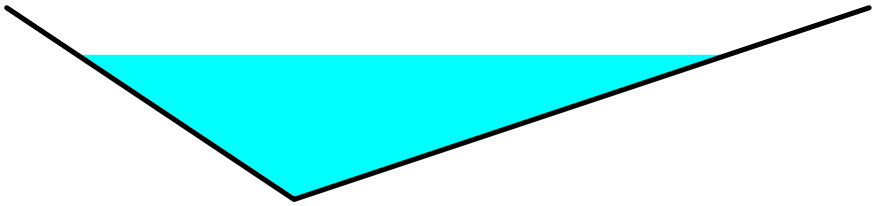
Summary for Reach 2R: Curb Ditch (209+70 to 209+84 Lt)

Inflow Area = 4.284 ac, 0.00% Impervious, Inflow Depth > 0.79" for 2 Year event
Inflow = 3.10 cfs @ 12.15 hrs, Volume= 0.280 af
Outflow = 3.10 cfs @ 12.15 hrs, Volume= 0.280 af, Atten= 0%, Lag= 0.1 min
Routed to Pond DI2 : 209+84 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.42 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.18 fps, Avg. Travel Time= 0.2 min

Peak Storage= 18 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.75' , Surface Width= 3.39'
Bank-Full Depth= 1.00' Flow Area= 2.3 sf, Capacity= 6.58 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 1.5 3.0 '/' Top Width= 4.50'
Length= 14.0' Slope= 0.0100 '/'
Inlet Invert= 1,302.94', Outlet Invert= 1,302.80'



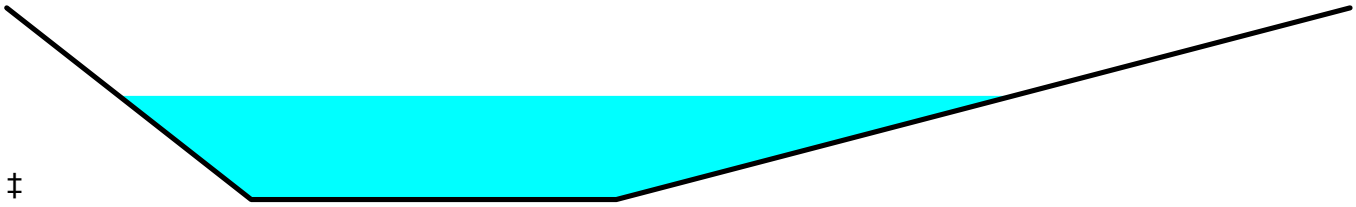
Summary for Reach 3R: Roadside Ditch (213+50 to 213+65 Lt)

Inflow Area = 4.188 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 5.07 cfs @ 12.13 hrs, Volume= 0.405 af
Outflow = 5.07 cfs @ 12.13 hrs, Volume= 0.405 af, Atten= 0%, Lag= 0.1 min
Routed to Pond DI3 : 213+65 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.06 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.51 fps, Avg. Travel Time= 0.2 min

Peak Storage= 19 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.36' , Surface Width= 4.90'
Bank-Full Depth= 0.67' Flow Area= 3.1 sf, Capacity= 17.86 cfs

2.00' x 0.67' deep channel, n= 0.041 Riprap, 2-inch
Side Slope Z-value= 2.0 6.0 '/' Top Width= 7.36'
Length= 15.0' Slope= 0.0800 '/'
Inlet Invert= 1,288.70', Outlet Invert= 1,287.50'



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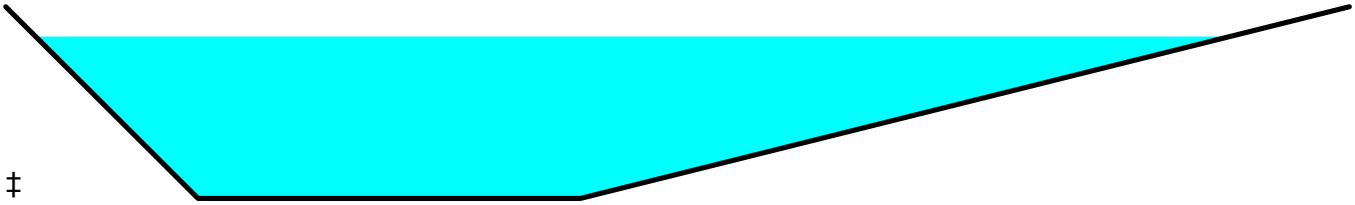
Summary for Reach 4R: Roadside Ditch (215+50 to 216+55 Lt)

Inflow Area = 11.985 ac, 0.52% Impervious, Inflow Depth > 1.17" for 2 Year event
Inflow = 13.89 cfs @ 12.15 hrs, Volume= 1.167 af
Outflow = 13.88 cfs @ 12.15 hrs, Volume= 1.166 af, Atten= 0%, Lag= 0.2 min
Routed to Pond DI4 : 216+55 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.95 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.63 fps, Avg. Travel Time= 1.1 min

Peak Storage= 245 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.57' , Surface Width= 6.25'
Bank-Full Depth= 0.67' Flow Area= 3.0 sf, Capacity= 19.74 cfs

2.00' x 0.67' deep channel, n= 0.041 Riprap, 2-inch
Side Slope Z-value= 1.5 6.0 '/' Top Width= 7.03'
Length= 105.0' Slope= 0.1048 '/'
Inlet Invert= 1,269.60', Outlet Invert= 1,258.60'



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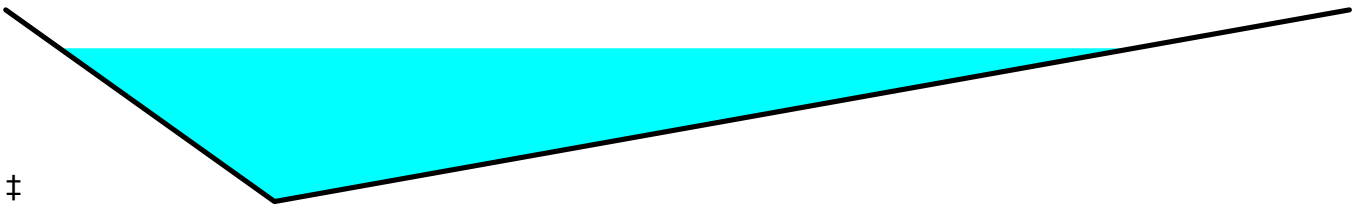
Summary for Reach 5R: Roadside Ditch (217+80 to 217+90 Lt)

Inflow Area = 3.791 ac, 1.95% Impervious, Inflow Depth > 1.19" for 2 Year event
Inflow = 4.93 cfs @ 12.11 hrs, Volume= 0.377 af
Outflow = 4.93 cfs @ 12.11 hrs, Volume= 0.377 af, Atten= 0%, Lag= 0.0 min
Routed to Pond DI5 : 217+90 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.58 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.53 fps, Avg. Travel Time= 0.1 min

Peak Storage= 11 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.54' , Surface Width= 4.02'
Bank-Full Depth= 0.67' Flow Area= 1.7 sf, Capacity= 8.96 cfs

0.00' x 0.67' deep channel, n= 0.041 Riprap, 2-inch
Side Slope Z-value= 1.5 6.0 '/' Top Width= 5.03'
Length= 10.0' Slope= 0.0990 '/'
Inlet Invert= 1,246.39', Outlet Invert= 1,245.40'



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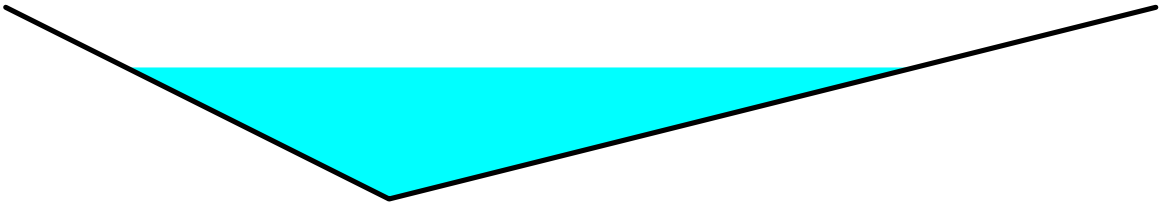
Summary for Reach 6R: Roadside Ditch (223+00 to 223+12 Lt)

Inflow Area = 2.118 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 2.90 cfs @ 12.08 hrs, Volume= 0.205 af
Outflow = 2.90 cfs @ 12.08 hrs, Volume= 0.205 af, Atten= 0%, Lag= 0.0 min
Routed to Pond DI6 : 223+12 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.35 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.35 fps, Avg. Travel Time= 0.1 min

Peak Storage= 7 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.43' , Surface Width= 2.55'
Bank-Full Depth= 0.62' Flow Area= 1.2 sf, Capacity= 7.93 cfs

0.00' x 0.62' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 2.0 4.0 '/' Top Width= 3.72'
Length= 12.0' Slope= 0.0992 '/'
Inlet Invert= 1,195.39', Outlet Invert= 1,194.20'



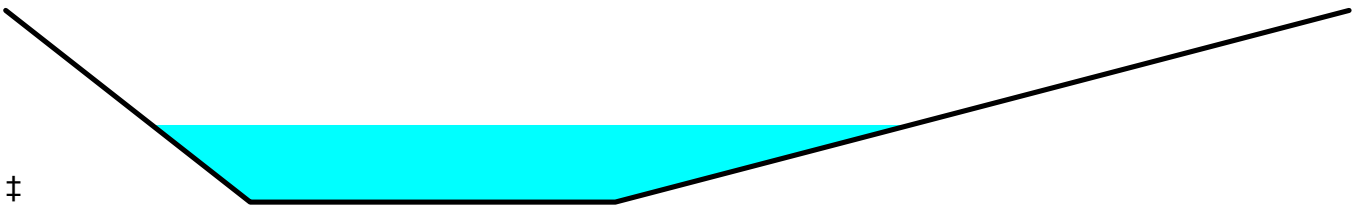
Summary for Reach 7R: Roadside Ditch (224+00 to 224+25 Lt)

Inflow Area = 2.050 ac, 2.49% Impervious, Inflow Depth > 1.20" for 2 Year event
Inflow = 2.90 cfs @ 12.08 hrs, Volume= 0.206 af
Outflow = 2.90 cfs @ 12.08 hrs, Volume= 0.206 af, Atten= 0%, Lag= 0.1 min
Routed to Pond DI7 : 224+25 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.50 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.89 fps, Avg. Travel Time= 0.5 min

Peak Storage= 21 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.27' , Surface Width= 4.16'
Bank-Full Depth= 0.67' Flow Area= 3.1 sf, Capacity= 18.08 cfs

2.00' x 0.67' deep channel, n= 0.041 Riprap, 2-inch
Side Slope Z-value= 2.0 6.0 '/' Top Width= 7.36'
Length= 25.0' Slope= 0.0820 '/'
Inlet Invert= 1,185.75', Outlet Invert= 1,183.70'



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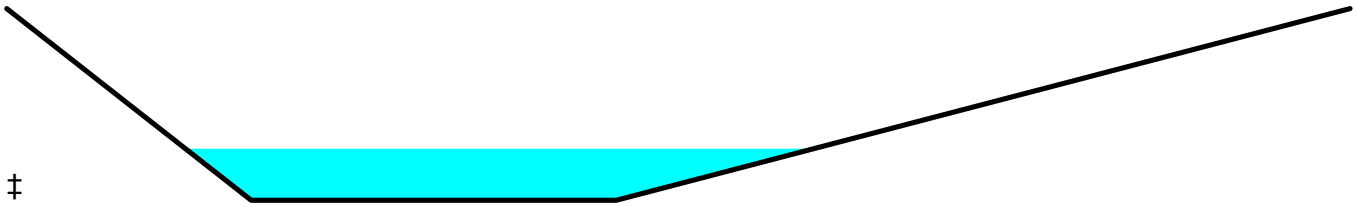
Summary for Reach 8R: Roadside Ditch (225+00 to 225+45 Lt)

Inflow Area = 0.928 ac, 4.10% Impervious, Inflow Depth > 1.23" for 2 Year event
Inflow = 1.34 cfs @ 12.08 hrs, Volume= 0.095 af
Outflow = 1.34 cfs @ 12.08 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.2 min
Routed to Pond DI8 : Ex 225+45 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.73 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 0.69 fps, Avg. Travel Time= 1.1 min

Peak Storage= 22 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.18' , Surface Width= 3.44'
Bank-Full Depth= 0.67' Flow Area= 3.1 sf, Capacity= 17.61 cfs

2.00' x 0.67' deep channel, n= 0.041 Riprap, 2-inch
Side Slope Z-value= 2.0 6.0 '/' Top Width= 7.36'
Length= 45.0' Slope= 0.0778 '/'
Inlet Invert= 1,177.30', Outlet Invert= 1,173.80'



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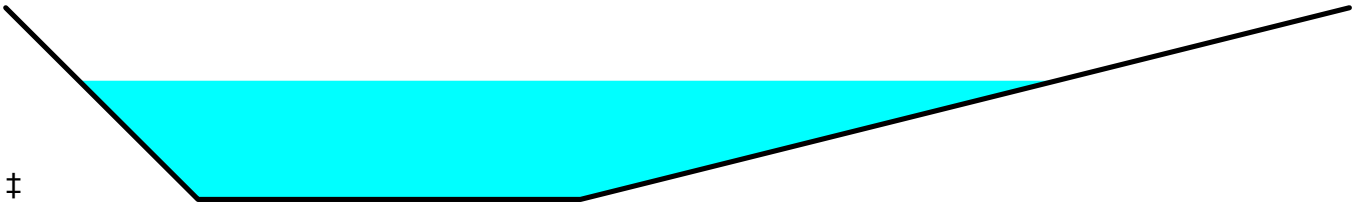
Summary for Reach 9R: Roadside Ditch (231+00 to 231+05 Lt)

Inflow Area = 7.436 ac, 0.54% Impervious, Inflow Depth > 1.17" for 2 Year event
Inflow = 9.68 cfs @ 12.10 hrs, Volume= 0.725 af
Outflow = 9.68 cfs @ 12.10 hrs, Volume= 0.725 af, Atten= 0%, Lag= 0.0 min
Routed to Pond DI9 : 231+05 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 6.57 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.70 fps, Avg. Travel Time= 0.0 min

Peak Storage= 7 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.41' , Surface Width= 5.11'
Bank-Full Depth= 0.67' Flow Area= 3.0 sf, Capacity= 25.82 cfs

2.00' x 0.67' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 1.5 6.0 '/' Top Width= 7.03'
Length= 5.0' Slope= 0.0960 '/'
Inlet Invert= 1,119.20', Outlet Invert= 1,118.72'



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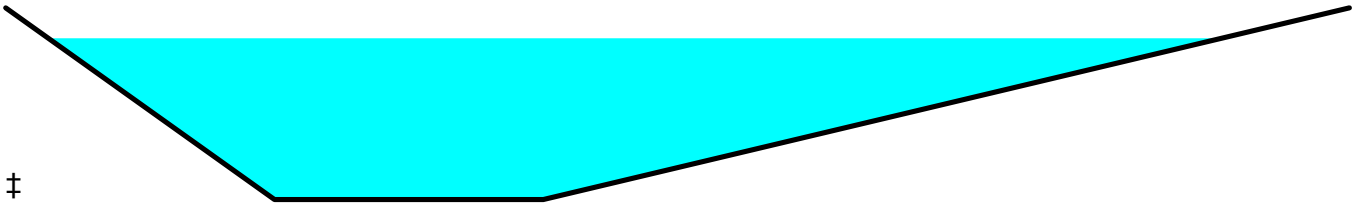
Summary for Reach 10R: Roadside Ditch (236+50 to 236+90 Lt)

Inflow Area = 22.576 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 29.64 cfs @ 12.10 hrs, Volume= 2.183 af
Outflow = 29.63 cfs @ 12.10 hrs, Volume= 2.183 af, Atten= 0%, Lag= 0.1 min
Routed to Pond DI10 : 236+90 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 6.56 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.64 fps, Avg. Travel Time= 0.3 min

Peak Storage= 181 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.84' , Surface Width= 8.73'
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 43.45 cfs

2.00' x 1.00' deep channel, n= 0.041 Riprap, 2-inch
Side Slope Z-value= 2.0 6.0 '/' Top Width= 10.00'
Length= 40.0' Slope= 0.0822 '/'
Inlet Invert= 1,086.84', Outlet Invert= 1,083.55'



‡

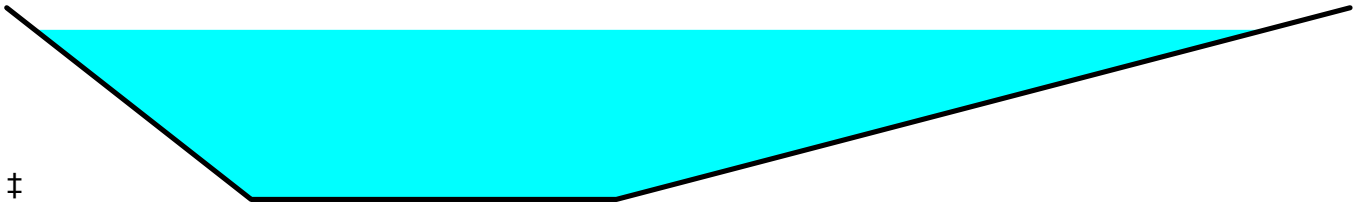
Summary for Reach 11R: Roadside Ditch (237+95 to 238+90 Lt)

Inflow Area = 12.648 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 16.14 cfs @ 12.11 hrs, Volume= 1.223 af
Outflow = 16.12 cfs @ 12.11 hrs, Volume= 1.222 af, Atten= 0%, Lag= 0.2 min
Routed to Pond DI11 : 238+90 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 6.23 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.43 fps, Avg. Travel Time= 0.7 min

Peak Storage= 246 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.59' , Surface Width= 6.74'
Bank-Full Depth= 0.67' Flow Area= 3.1 sf, Capacity= 20.92 cfs

2.00' x 0.67' deep channel, n= 0.041 Riprap, 2-inch
Side Slope Z-value= 2.0 6.0 '/' Top Width= 7.36'
Length= 95.0' Slope= 0.1098 '/'
Inlet Invert= 1,073.23', Outlet Invert= 1,062.80'



‡

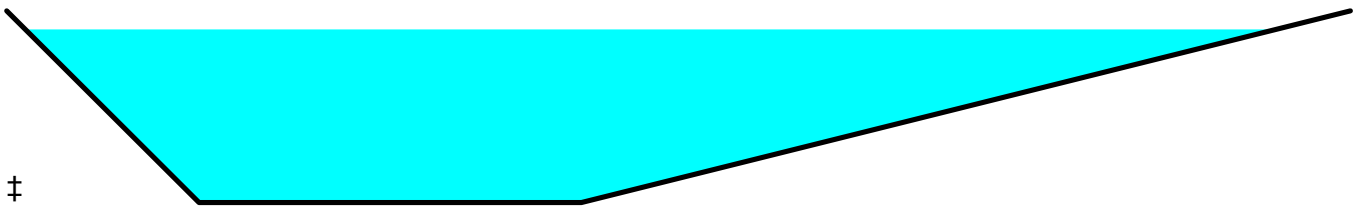
Summary for Reach 12R: Roadside Ditch (238+90 to 240+85 Lt)

Inflow Area = 12.261 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 16.39 cfs @ 12.09 hrs, Volume= 1.186 af
Outflow = 16.34 cfs @ 12.10 hrs, Volume= 1.185 af, Atten= 0%, Lag= 0.4 min
Routed to Pond DI12 : 240+85 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 6.32 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 2.42 fps, Avg. Travel Time= 1.3 min

Peak Storage= 504 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.61' , Surface Width= 6.54'
Bank-Full Depth= 0.67' Flow Area= 3.0 sf, Capacity= 20.21 cfs

2.00' x 0.67' deep channel, n= 0.041 Riprap, 2-inch
Side Slope Z-value= 1.5 6.0 '/' Top Width= 7.03'
Length= 195.0' Slope= 0.1098 '/'
Inlet Invert= 1,062.81', Outlet Invert= 1,041.40'



‡

Summary for Reach 13R: Roadside Ditch (245+00 to 245+50 Lt)

Inflow Area = 11.343 ac, 1.74% Impervious, Inflow Depth > 1.19" for 2 Year event
Inflow = 15.90 cfs @ 12.08 hrs, Volume= 1.126 af
Outflow = 15.89 cfs @ 12.08 hrs, Volume= 1.125 af, Atten= 0%, Lag= 0.1 min
Routed to Pond DI13 : 245+55 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.53 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.29 fps, Avg. Travel Time= 0.6 min

Peak Storage= 175 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.62' , Surface Width= 9.39'
Bank-Full Depth= 1.00' Flow Area= 8.0 sf, Capacity= 48.12 cfs

2.00' x 1.00' deep channel, n= 0.041 Riprap, 2-inch
Side Slope Z-value= 6.0 '/' Top Width= 14.00'
Length= 50.0' Slope= 0.0590 '/'
Inlet Invert= 1,001.81', Outlet Invert= 998.86'



‡

Summary for Reach 14R: Roadside Ditch (249+34 to 250+95 Lt)

Inflow Area = 6.627 ac, 4.00% Impervious, Inflow Depth > 1.23" for 2 Year event
Inflow = 9.55 cfs @ 12.08 hrs, Volume= 0.679 af
Outflow = 9.32 cfs @ 12.10 hrs, Volume= 0.679 af, Atten= 2%, Lag= 1.0 min
Routed to Pond DI14 : 250+95 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.99 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 0.60 fps, Avg. Travel Time= 4.5 min

Peak Storage= 755 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.73' , Surface Width= 10.80'
Bank-Full Depth= 0.77' Flow Area= 5.1 sf, Capacity= 10.43 cfs

2.00' x 0.77' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 6.0 '/' Top Width= 11.24'
Length= 161.0' Slope= 0.0050 '/'
Inlet Invert= 989.00', Outlet Invert= 988.20'



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Summary for Reach 15R: Roadside Ditch (254+10 to 254+60 Lt)

Inflow Area = 6.379 ac, 1.54% Impervious, Inflow Depth > 1.19" for 2 Year event
Inflow = 8.92 cfs @ 12.08 hrs, Volume= 0.631 af
Outflow = 8.91 cfs @ 12.08 hrs, Volume= 0.631 af, Atten= 0%, Lag= 0.2 min
Routed to Pond DI15 : 254+60 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.58 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 0.99 fps, Avg. Travel Time= 0.8 min

Peak Storage= 125 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.50' , Surface Width= 7.99'
Bank-Full Depth= 0.67' Flow Area= 4.0 sf, Capacity= 17.07 cfs

2.00' x 0.67' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 6.0 '/' Top Width= 10.04'
Length= 50.0' Slope= 0.0250 '/'
Inlet Invert= 984.25', Outlet Invert= 983.00'



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Summary for Reach 16R: Roadside Ditch (259+55 to 260+41 Lt)

Inflow Area = 3.254 ac, 0.15% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 4.34 cfs @ 12.09 hrs, Volume= 0.315 af
Outflow = 4.34 cfs @ 12.09 hrs, Volume= 0.315 af, Atten= 0%, Lag= 0.2 min
Routed to Pond DI16 : 260+41 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.72 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.30 fps, Avg. Travel Time= 1.1 min

Peak Storage= 79 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.26' , Surface Width= 5.10'
Bank-Full Depth= 0.67' Flow Area= 4.0 sf, Capacity= 32.46 cfs

2.00' x 0.67' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 6.0 '/' Top Width= 10.04'
Length= 86.0' Slope= 0.0903 '/'
Inlet Invert= 951.77', Outlet Invert= 944.00'



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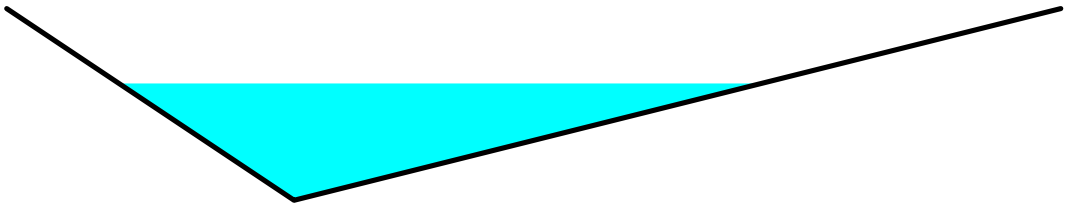
Summary for Reach 17R: Curb Ditch (204+80 to 204+90 Lt)

Inflow Area = 2.323 ac, 0.00% Impervious, Inflow Depth > 0.79" for 2 Year event
Inflow = 1.85 cfs @ 12.11 hrs, Volume= 0.152 af
Outflow = 1.85 cfs @ 12.11 hrs, Volume= 0.152 af, Atten= 0%, Lag= 0.0 min
Routed to Pond DI17 : 204+90 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.02 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.40 fps, Avg. Travel Time= 0.1 min

Peak Storage= 4 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.37' , Surface Width= 2.01'
Bank-Full Depth= 0.60' Flow Area= 1.0 sf, Capacity= 6.90 cfs

0.00' x 0.60' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 1.5 4.0 '/' Top Width= 3.30'
Length= 10.0' Slope= 0.1090 '/'
Inlet Invert= 1,332.17', Outlet Invert= 1,331.08'



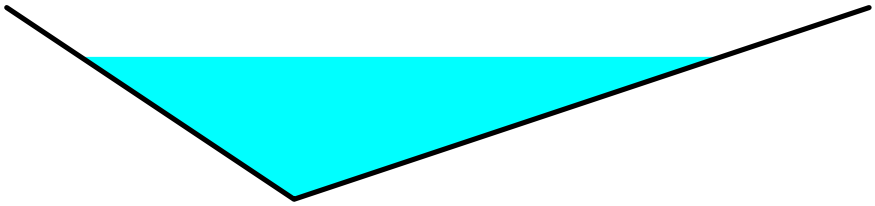
Summary for Reach 18R: Curb Ditch (207+90 to 208+00 Lt)

Inflow Area = 8.727 ac, 0.00% Impervious, Inflow Depth > 0.79" for 2 Year event
Inflow = 6.32 cfs @ 12.15 hrs, Volume= 0.571 af
Outflow = 6.32 cfs @ 12.15 hrs, Volume= 0.571 af, Atten= 0%, Lag= 0.0 min
Routed to Pond DI18 : 208+00 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.09 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.48 fps, Avg. Travel Time= 0.1 min

Peak Storage= 12 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.74' , Surface Width= 3.34'
Bank-Full Depth= 1.00' Flow Area= 2.3 sf, Capacity= 13.95 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 1.5 3.0 '/' Top Width= 4.50'
Length= 10.0' Slope= 0.0450 '/'
Inlet Invert= 1,307.25', Outlet Invert= 1,306.80'



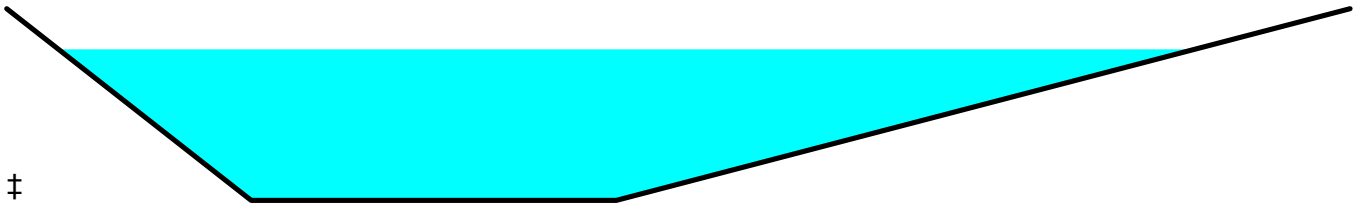
Summary for Reach 19R: Roadside Ditch (212+00 to 212+25 Lt)

Inflow Area = 9.896 ac, 0.13% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 11.48 cfs @ 12.14 hrs, Volume= 0.958 af
Outflow = 11.47 cfs @ 12.14 hrs, Volume= 0.958 af, Atten= 0%, Lag= 0.1 min
Routed to Pond DI19 : 212+25 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.28 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.45 fps, Avg. Travel Time= 0.3 min

Peak Storage= 54 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.53' , Surface Width= 6.22'
Bank-Full Depth= 0.67' Flow Area= 3.1 sf, Capacity= 18.90 cfs

2.00' x 0.67' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 2.0 6.0 '/' Top Width= 7.36'
Length= 25.0' Slope= 0.0480 '/'
Inlet Invert= 1,297.85', Outlet Invert= 1,296.65'



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Summary for Pond 6P: Ex Cross Culvert

A short segment of the existing cross culvert will be replaced at the headwall.

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[57] Hint: Peaked at 1,227.55' (Flood elevation advised)

Inflow Area = 43.663 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 47.58 cfs @ 12.17 hrs, Volume= 4.216 af
Outflow = 47.58 cfs @ 12.17 hrs, Volume= 4.216 af, Atten= 0%, Lag= 0.0 min
Primary = 47.58 cfs @ 12.17 hrs, Volume= 4.216 af
Routed to Pond MH13 : 219+95 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,227.55' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,224.10'	**36.0" Round Culvert**

L= 2.0' CMP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 1,224.10' / 1,223.68' S= 0.2100 '/' Cc= 0.900
n= 0.021 Corrugated metal, Flow Area= 7.07 sf

Primary OutFlow Max=47.57 cfs @ 12.17 hrs HW=1,227.55' TW=1,223.88' (Dynamic Tailwater)
1=Culvert (Inlet Controls 47.57 cfs @ 6.73 fps)

Summary for Pond 9P: Cross Culvert - 226+96.5 Lt to 227+20.2 Rt (Upsize from 36" CMP to 42" RCP)

[57] Hint: Peaked at 1,156.24' (Flood elevation advised)

Inflow Area = 30.501 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 33.24 cfs @ 12.17 hrs, Volume= 2.945 af
Outflow = 33.24 cfs @ 12.17 hrs, Volume= 2.945 af, Atten= 0%, Lag= 0.0 min
Primary = 33.24 cfs @ 12.17 hrs, Volume= 2.945 af
Routed to Link 9L : Outlet @ 227+20 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,156.24' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,154.00'	**42.0" Round Culvert** L= 52.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,154.00' / 1,150.00' S= 0.0769 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 9.62 sf

Primary OutFlow Max=33.23 cfs @ 12.17 hrs HW=1,156.24' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 33.23 cfs @ 5.10 fps)

Summary for Pond CB1: 203+34 Lt

Roadway CL = 1347.77
Rim = 1347.53

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[57] Hint: Peaked at 1,344.20' (Flood elevation advised)

Inflow Area = 1.656 ac, 6.40% Impervious, Inflow Depth > 0.92" for 2 Year event
Inflow = 1.60 cfs @ 12.09 hrs, Volume= 0.127 af
Outflow = 1.60 cfs @ 12.09 hrs, Volume= 0.127 af, Atten= 0%, Lag= 0.0 min
Primary = 1.60 cfs @ 12.09 hrs, Volume= 0.127 af
Routed to Pond MH2 : 203+34 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,344.20' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,343.50'	**12.0" Round Culvert** L= 12.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,343.50' / 1,343.25' S= 0.0208 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=1.59 cfs @ 12.09 hrs HW=1,344.20' TW=1,343.41' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.59 cfs @ 3.83 fps)

Summary for Pond CB10: 240+71 Rt

Roadway CL = 1042.97
Rim = 1042.34

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[57] Hint: Peaked at 1,038.07' (Flood elevation advised)

Inflow Area = 0.108 ac,100.00% Impervious, Inflow Depth > 2.90" for 2 Year event
Inflow = 0.34 cfs @ 12.07 hrs, Volume= 0.026 af
Outflow = 0.34 cfs @ 12.07 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.07 hrs, Volume= 0.026 af
Routed to Pond MH10 : 240+85 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,038.07' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,037.34'	**12.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,037.34' / 1,037.00' S= 0.0340 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 12.07 hrs HW=1,037.90' TW=1,037.95' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Summary for Pond CB11: 240+93 Rt

Roadway CL = 1040.56
Rim = 1039.91

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[57] Hint: Peaked at 1,038.05' (Flood elevation advised)

Inflow Area = 0.012 ac,100.00% Impervious, Inflow Depth > 2.90" for 2 Year event
Inflow = 0.04 cfs @ 12.07 hrs, Volume= 0.003 af
Outflow = 0.04 cfs @ 12.07 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min
Primary = 0.04 cfs @ 12.07 hrs, Volume= 0.003 af
Routed to Pond MH10 : 240+85 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,038.05' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,036.10'	**12.0" Round Culvert** L= 4.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,036.10' / 1,036.00' S= 0.0250 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 12.07 hrs HW=1,037.86' TW=1,037.95' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Summary for Pond CB12: 254+08 Lt [Snow curb prior to rollover]

Roadway CL = 985.32
Rim = 985.11

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[43] Hint: Has no inflow (Outflow=Zero)

Device	Routing	Invert	Outlet Devices
#1	Primary	981.00'	**12.0" Round Culvert** L= 48.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 981.00' / 980.00' S= 0.0208 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' TW=978.25' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Summary for Pond CB13: 259+49 Rt

Roadway CL = 953.44
Rim = 953.05

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[57] Hint: Peaked at 949.45' (Flood elevation advised)

Inflow Area = 0.247 ac,100.00% Impervious, Inflow Depth > 2.90" for 2 Year event
Inflow = 0.78 cfs @ 12.07 hrs, Volume= 0.060 af
Outflow = 0.78 cfs @ 12.07 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min
Primary = 0.78 cfs @ 12.07 hrs, Volume= 0.060 af
Routed to Pond MH12 : 260+41 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 949.45' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	949.00'	**12.0" Round Culvert** L= 88.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 949.00' / 941.00' S= 0.0909 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.78 cfs @ 12.07 hrs HW=949.45' TW=940.43' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.78 cfs @ 2.28 fps)

Summary for Pond CB14: 260+49 Rt

Roadway CL = 944.41
Rim = 944.19

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[57] Hint: Peaked at 940.47' (Flood elevation advised)

Inflow Area = 0.048 ac,100.00% Impervious, Inflow Depth > 2.90" for 2 Year event
Inflow = 0.15 cfs @ 12.07 hrs, Volume= 0.012 af
Outflow = 0.15 cfs @ 12.07 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min
Primary = 0.15 cfs @ 12.07 hrs, Volume= 0.012 af
Routed to Pond MH12 : 260+41 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 940.47' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	940.10'	**12.0" Round Culvert** L= 4.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 940.10' / 940.00' S= 0.0250 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 12.07 hrs HW=940.42' TW=940.43' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Summary for Pond CB2: 204+68 Lt

Rim = 1333.48

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[57] Hint: Peaked at 1,329.41' (Flood elevation advised)

Inflow Area = 0.037 ac,100.00% Impervious, Inflow Depth > 2.90" for 2 Year event
Inflow = 0.12 cfs @ 12.07 hrs, Volume= 0.009 af
Outflow = 0.12 cfs @ 12.07 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min
Primary = 0.12 cfs @ 12.07 hrs, Volume= 0.009 af
Routed to Pond MH3 : 204+68 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,329.41' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,329.25'	**12.0" Round Culvert** L= 12.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,329.25' / 1,329.00' S= 0.0208 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.12 cfs @ 12.07 hrs HW=1,329.41' TW=1,327.47' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.12 cfs @ 1.38 fps)

Summary for Pond CB3: 204+78 Rt [Snow curb prior to rollover]

Roadway CL = 1332.63
Rim = 1332.43

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[57] Hint: Peaked at 1,329.11' (Flood elevation advised)

Inflow Area = 0.166 ac,100.00% Impervious, Inflow Depth > 2.90" for 2 Year event
Inflow = 0.52 cfs @ 12.07 hrs, Volume= 0.040 af
Outflow = 0.52 cfs @ 12.07 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min
Primary = 0.52 cfs @ 12.07 hrs, Volume= 0.040 af
Routed to Pond MH3 : 204+68 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,329.11' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,328.75'	**12.0" Round Culvert** L= 7.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,328.75' / 1,328.50' S= 0.0357 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.52 cfs @ 12.07 hrs HW=1,329.11' TW=1,327.47' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.52 cfs @ 2.05 fps)

Summary for Pond CB4: 209+50 Lt

Roadway CL = 1303.25
Rim = 1302.94

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[57] Hint: Peaked at 1,298.93' (Flood elevation advised)

Inflow Area = 0.229 ac,100.00% Impervious, Inflow Depth > 2.90" for 2 Year event
Inflow = 0.72 cfs @ 12.07 hrs, Volume= 0.055 af
Outflow = 0.72 cfs @ 12.07 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min
Primary = 0.72 cfs @ 12.07 hrs, Volume= 0.055 af
Routed to Pond MH4 : 209+84 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,298.93' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,298.50'	**12.0" Round Culvert** L= 29.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,298.50' / 1,298.00' S= 0.0172 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.72 cfs @ 12.07 hrs HW=1,298.93' TW=1,298.08' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.72 cfs @ 2.23 fps)

Summary for Pond CB5: 209+90 Lt

Roadway CL = 1302.85
Rim = 1302.63

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[57] Hint: Peaked at 1,298.88' (Flood elevation advised)

Inflow Area = 0.022 ac,100.00% Impervious, Inflow Depth > 2.90" for 2 Year event
Inflow = 0.07 cfs @ 12.07 hrs, Volume= 0.005 af
Outflow = 0.07 cfs @ 12.07 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min
Primary = 0.07 cfs @ 12.07 hrs, Volume= 0.005 af
Routed to Pond MH4 : 209+84 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,298.88' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,298.75'	**12.0" Round Culvert** L= 3.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,298.75' / 1,298.50' S= 0.0833 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.07 cfs @ 12.07 hrs HW=1,298.88' TW=1,298.08' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.07 cfs @ 1.21 fps)

Summary for Pond CB6: 213+75 Rt

Roadway CL = 1286.54
Rim = 1285.05

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[57] Hint: Peaked at 1,283.61' (Flood elevation advised)

Inflow Area = 0.193 ac,100.00% Impervious, Inflow Depth > 2.90" for 2 Year event
Inflow = 0.61 cfs @ 12.07 hrs, Volume= 0.047 af
Outflow = 0.61 cfs @ 12.07 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min
Primary = 0.61 cfs @ 12.07 hrs, Volume= 0.047 af
Routed to Pond MH5 : 213+65 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,283.61' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,281.75'	**12.0" Round Culvert** L= 8.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,281.75' / 1,281.50' S= 0.0313 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 12.07 hrs HW=1,283.12' TW=1,283.20' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Summary for Pond CB7: 223+32

Roadway CL = 1193.11
Rim = 1192.77

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[57] Hint: Peaked at 1,189.01' (Flood elevation advised)

Inflow Area = 0.134 ac,100.00% Impervious, Inflow Depth > 2.90" for 2 Year event
Inflow = 0.42 cfs @ 12.07 hrs, Volume= 0.032 af
Outflow = 0.42 cfs @ 12.07 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min
Primary = 0.42 cfs @ 12.07 hrs, Volume= 0.032 af
Routed to Pond MH6 : 223+30 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,189.01' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,188.50'	**12.0" Round Culvert** L= 2.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,188.50' / 1,188.40' S= 0.0500 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.36 cfs @ 12.07 hrs HW=1,188.99' TW=1,188.95' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.36 cfs @ 1.38 fps)

Summary for Pond CB8: 236+50 Rt

Roadway CL = 1086.89
Rim = 1086.24

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[57] Hint: Peaked at 1,082.95' (Flood elevation advised)

Inflow Area = 0.247 ac,100.00% Impervious, Inflow Depth > 2.90" for 2 Year event
Inflow = 0.78 cfs @ 12.07 hrs, Volume= 0.060 af
Outflow = 0.78 cfs @ 12.07 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min
Primary = 0.78 cfs @ 12.07 hrs, Volume= 0.060 af
Routed to Pond MH8 : 236+90 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,082.95' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,082.50'	**12.0" Round Culvert** L= 35.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,082.50' / 1,079.00' S= 0.1000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.78 cfs @ 12.07 hrs HW=1,082.95' TW=1,079.64' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.78 cfs @ 2.28 fps)

Summary for Pond CB9: 238+75 Rt

Roadway CL = 1064.50
Rim = 1063.85

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[57] Hint: Peaked at 1,059.81' (Flood elevation advised)

Inflow Area = 0.124 ac,100.00% Impervious, Inflow Depth > 2.90" for 2 Year event
Inflow = 0.39 cfs @ 12.07 hrs, Volume= 0.030 af
Outflow = 0.39 cfs @ 12.07 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.0 min
Primary = 0.39 cfs @ 12.07 hrs, Volume= 0.030 af
Routed to Pond MH9 : 238+90 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,059.81' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,059.50'	**12.0" Round Culvert** L= 11.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,059.50' / 1,058.50' S= 0.0909 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.39 cfs @ 12.07 hrs HW=1,059.81' TW=1,058.83' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.39 cfs @ 1.89 fps)

Summary for Pond DI1: 202+00 Lt (DI-1)

Roadway CL = 1358.09
Rim = 1357.85

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[57] Hint: Peaked at 1,353.67' (Flood elevation advised)

Inflow Area = 1.871 ac, 0.00% Impervious, Inflow Depth > 0.79" for 2 Year event
Inflow = 1.54 cfs @ 12.10 hrs, Volume= 0.123 af
Outflow = 1.54 cfs @ 12.10 hrs, Volume= 0.123 af, Atten= 0%, Lag= 0.0 min
Primary = 1.54 cfs @ 12.10 hrs, Volume= 0.123 af
Routed to Pond MH1 : 202+20 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,353.67' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,353.00'	**12.0" Round Culvert** L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,353.00' / 1,352.00' S= 0.0400 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=1.54 cfs @ 12.10 hrs HW=1,353.67' TW=1,352.42' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.54 cfs @ 2.78 fps)

Summary for Pond DI10: 236+90 Lt

Roadway EOP = 1084.27
Rim = 1083.17

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[57] Hint: Peaked at 1,081.36' (Flood elevation advised)

Inflow Area = 22.576 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 29.63 cfs @ 12.10 hrs, Volume= 2.183 af
Outflow = 29.63 cfs @ 12.10 hrs, Volume= 2.183 af, Atten= 0%, Lag= 0.0 min
Primary = 29.63 cfs @ 12.10 hrs, Volume= 2.183 af
Routed to Pond MH8 : 236+90 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,081.36' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,077.75'	**30.0" Round Culvert** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,077.75' / 1,077.00' S= 0.0288 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf

Primary OutFlow Max=29.42 cfs @ 12.10 hrs HW=1,081.34' TW=1,079.79' (Dynamic Tailwater)
1=Culvert (Inlet Controls 29.42 cfs @ 5.99 fps)

Summary for Pond DI11: 238+90 Lt

Roadway EOP = 1063.58
Rim = 1062.81

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[57] Hint: Peaked at 1,060.15' (Flood elevation advised)

Inflow Area = 12.648 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 16.12 cfs @ 12.11 hrs, Volume= 1.222 af
Outflow = 16.12 cfs @ 12.11 hrs, Volume= 1.222 af, Atten= 0%, Lag= 0.0 min
Primary = 16.12 cfs @ 12.11 hrs, Volume= 1.222 af
Routed to Pond MH9 : 238+90 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,060.15' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,057.75'	**24.0" Round Culvert** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,057.75' / 1,057.00' S= 0.0288 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=16.04 cfs @ 12.11 hrs HW=1,060.14' TW=1,059.02' (Dynamic Tailwater)
1=Culvert (Inlet Controls 16.04 cfs @ 5.11 fps)

Summary for Pond DI12: 240+85 Lt

Roadway EOP = 1042.14
Rim = 1041.37

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[57] Hint: Peaked at 1,039.21' (Flood elevation advised)

Inflow Area = 12.261 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 16.34 cfs @ 12.10 hrs, Volume= 1.185 af
Outflow = 16.34 cfs @ 12.10 hrs, Volume= 1.185 af, Atten= 0%, Lag= 0.0 min
Primary = 16.34 cfs @ 12.10 hrs, Volume= 1.185 af
Routed to Pond MH10 : 240+85 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,039.21' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,036.50'	**24.0" Round Culvert** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,036.50' / 1,036.00' S= 0.0192 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=16.21 cfs @ 12.10 hrs HW=1,039.20' TW=1,038.05' (Dynamic Tailwater)
1=Culvert (Inlet Controls 16.21 cfs @ 5.16 fps)

Summary for Pond DI13: 245+55 Lt

Roadway EOP = 999.12
Rim = 998.35

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[57] Hint: Peaked at 995.85' (Flood elevation advised)

Inflow Area = 11.343 ac, 1.74% Impervious, Inflow Depth > 1.19" for 2 Year event
Inflow = 15.89 cfs @ 12.08 hrs, Volume= 1.125 af
Outflow = 15.89 cfs @ 12.08 hrs, Volume= 1.125 af, Atten= 0%, Lag= 0.0 min
Primary = 15.89 cfs @ 12.08 hrs, Volume= 1.125 af
Routed to Link 14L : Outlet @ 245+55 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 995.85' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	993.75'	**24.0" Round Culvert** L= 42.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 993.75' / 993.00' S= 0.0179 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=15.87 cfs @ 12.08 hrs HW=995.85' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 15.87 cfs @ 5.05 fps)

Summary for Pond DI14: 250+95 Lt

Roadway EOP = 988.99
Rim = 988.22

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[57] Hint: Peaked at 985.45' (Flood elevation advised)

Inflow Area = 6.627 ac, 4.00% Impervious, Inflow Depth > 1.23" for 2 Year event
Inflow = 9.32 cfs @ 12.10 hrs, Volume= 0.679 af
Outflow = 9.32 cfs @ 12.10 hrs, Volume= 0.679 af, Atten= 0%, Lag= 0.0 min
Primary = 9.32 cfs @ 12.10 hrs, Volume= 0.679 af
Routed to Link 15L : Outlet @ 250+95 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 985.45' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	983.50'	**18.0" Round Culvert** L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 983.50' / 982.50' S= 0.0250 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=9.31 cfs @ 12.10 hrs HW=985.45' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 9.31 cfs @ 5.27 fps)

Summary for Pond DI15: 254+60 Lt

Roadway EOP = 983.77
Rim = 983.0

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[57] Hint: Peaked at 981.18' (Flood elevation advised)

Inflow Area = 6.379 ac, 1.54% Impervious, Inflow Depth > 1.19" for 2 Year event
Inflow = 8.91 cfs @ 12.08 hrs, Volume= 0.631 af
Outflow = 8.91 cfs @ 12.08 hrs, Volume= 0.631 af, Atten= 0%, Lag= 0.0 min
Primary = 8.91 cfs @ 12.08 hrs, Volume= 0.631 af
Routed to Pond MH11 : 254+60 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 981.18' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	978.60'	**18.0" Round Culvert** L= 4.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 978.60' / 978.50' S= 0.0250 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=8.82 cfs @ 12.08 hrs HW=981.17' TW=980.09' (Dynamic Tailwater)
1=Culvert (Inlet Controls 8.82 cfs @ 4.99 fps)

Summary for Pond DI16: 260+41 Lt

Roadway EOP = 945.12
Rim = 944.39

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[57] Hint: Peaked at 941.07' (Flood elevation advised)

Inflow Area = 3.254 ac, 0.15% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 4.34 cfs @ 12.09 hrs, Volume= 0.315 af
Outflow = 4.34 cfs @ 12.09 hrs, Volume= 0.315 af, Atten= 0%, Lag= 0.0 min
Primary = 4.34 cfs @ 12.09 hrs, Volume= 0.315 af
Routed to Pond MH12 : 260+41 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 941.07' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	940.00'	**18.0" Round Culvert** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 940.00' / 939.45' S= 0.0212 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=4.32 cfs @ 12.09 hrs HW=941.07' TW=940.45' (Dynamic Tailwater)
1=Culvert (Outlet Controls 4.32 cfs @ 4.51 fps)

Summary for Pond DI17: 204+90 Lt

Roadway EOP = 1331.10
Rim = 1330.97

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[57] Hint: Peaked at 1,328.23' (Flood elevation advised)

Inflow Area = 2.323 ac, 0.00% Impervious, Inflow Depth > 0.79" for 2 Year event
Inflow = 1.85 cfs @ 12.11 hrs, Volume= 0.152 af
Outflow = 1.85 cfs @ 12.11 hrs, Volume= 0.152 af, Atten= 0%, Lag= 0.0 min
Primary = 1.85 cfs @ 12.11 hrs, Volume= 0.152 af
Routed to Pond MH3 : 204+68 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,328.23' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,327.50'	**15.0" Round Culvert** L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,327.50' / 1,327.25' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=1.85 cfs @ 12.11 hrs HW=1,328.23' TW=1,327.51' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.85 cfs @ 3.59 fps)

Summary for Pond DI18: 208+00 Lt

Roadway EOP = 1307.32
Rim = 1306.82

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[57] Hint: Peaked at 1,303.70' (Flood elevation advised)

Inflow Area = 8.727 ac, 0.00% Impervious, Inflow Depth > 0.79" for 2 Year event
Inflow = 6.32 cfs @ 12.15 hrs, Volume= 0.571 af
Outflow = 6.32 cfs @ 12.15 hrs, Volume= 0.571 af, Atten= 0%, Lag= 0.0 min
Primary = 6.32 cfs @ 12.15 hrs, Volume= 0.571 af
Routed to Pond MH15 : 208+20 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,303.70' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,302.50'	**18.0" Round Culvert** L= 25.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1,302.50' / 1,302.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=6.31 cfs @ 12.15 hrs HW=1,303.70' TW=1,302.05' (Dynamic Tailwater)
1=Culvert (Barrel Controls 6.31 cfs @ 5.68 fps)

Summary for Pond DI19: 212+25 Lt

Roadway EOP = 1297.33
Rim = 1295.80

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[57] Hint: Peaked at 1,294.32' (Flood elevation advised)

Inflow Area = 9.896 ac, 0.13% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 11.47 cfs @ 12.14 hrs, Volume= 0.958 af
Outflow = 11.47 cfs @ 12.14 hrs, Volume= 0.958 af, Atten= 0%, Lag= 0.0 min
Primary = 11.47 cfs @ 12.14 hrs, Volume= 0.958 af
Routed to Pond MH17 : 212+25 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,294.32' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,292.00'	**18.0" Round Culvert** L= 18.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1,292.00' / 1,291.50' S= 0.0278 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=11.40 cfs @ 12.14 hrs HW=1,294.31' TW=1,293.16' (Dynamic Tailwater)
1=Culvert (Inlet Controls 11.40 cfs @ 6.45 fps)

Summary for Pond DI2: 209+84 Lt

Roadway EOP = 1302.64
Rim = 1302.81

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[57] Hint: Peaked at 1,298.63' (Flood elevation advised)

Inflow Area = 4.284 ac, 0.00% Impervious, Inflow Depth > 0.79" for 2 Year event
Inflow = 3.10 cfs @ 12.15 hrs, Volume= 0.280 af
Outflow = 3.10 cfs @ 12.15 hrs, Volume= 0.280 af, Atten= 0%, Lag= 0.0 min
Primary = 3.10 cfs @ 12.15 hrs, Volume= 0.280 af
Routed to Pond MH4 : 209+84 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,298.63' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,297.75'	**18.0" Round Culvert** L= 7.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,297.75' / 1,297.50' S= 0.0357 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=3.12 cfs @ 12.15 hrs HW=1,298.63' TW=1,298.19' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.12 cfs @ 4.15 fps)

Summary for Pond DI3: 213+65 Lt

Roadway EOP = 1288.44
Rim = 1287.24

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[57] Hint: Peaked at 1,283.95' (Flood elevation advised)

Inflow Area = 4.188 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 5.07 cfs @ 12.13 hrs, Volume= 0.405 af
Outflow = 5.07 cfs @ 12.13 hrs, Volume= 0.405 af, Atten= 0%, Lag= 0.0 min
Primary = 5.07 cfs @ 12.13 hrs, Volume= 0.405 af
Routed to Pond MH5 : 213+65 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,283.95' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,282.50'	**18.0" Round Culvert** L= 16.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,282.50' / 1,282.25' S= 0.0156 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=4.86 cfs @ 12.13 hrs HW=1,283.93' TW=1,283.59' (Dynamic Tailwater)
1=Culvert (Outlet Controls 4.86 cfs @ 3.58 fps)

Summary for Pond DI4: 216+55 Lt

Roadway EOP = 1259.38
Rim = 1258.10

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[57] Hint: Peaked at 1,256.66' (Flood elevation advised)

Inflow Area = 11.985 ac, 0.52% Impervious, Inflow Depth > 1.17" for 2 Year event
Inflow = 13.88 cfs @ 12.15 hrs, Volume= 1.166 af
Outflow = 13.88 cfs @ 12.15 hrs, Volume= 1.166 af, Atten= 0%, Lag= 0.0 min
Primary = 13.88 cfs @ 12.15 hrs, Volume= 1.166 af
Routed to Link 4L : Outlet @ 216+55 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,256.66' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,253.25'	**18.0" Round Culvert** L= 38.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,253.25' / 1,253.00' S= 0.0066 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=13.88 cfs @ 12.15 hrs HW=1,256.66' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 13.88 cfs @ 7.85 fps)

Summary for Pond DI5: 217+90 Lt

Roadway EOP = 1246.03
Rim = 1245.25

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[57] Hint: Peaked at 1,241.62' (Flood elevation advised)

Inflow Area = 3.791 ac, 1.95% Impervious, Inflow Depth > 1.19" for 2 Year event
Inflow = 4.93 cfs @ 12.11 hrs, Volume= 0.377 af
Outflow = 4.93 cfs @ 12.11 hrs, Volume= 0.377 af, Atten= 0%, Lag= 0.0 min
Primary = 4.93 cfs @ 12.11 hrs, Volume= 0.377 af
Routed to Link 5L : Outlet @ 217+90 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,241.62' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,240.50'	**18.0" Round Culvert** L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,240.50' / 1,240.00' S= 0.0125 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=4.93 cfs @ 12.11 hrs HW=1,241.62' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 4.93 cfs @ 4.82 fps)

Summary for Pond DI6: 223+12 Lt

Roadway TBC = 1195.23
Rim = 1194.60

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[57] Hint: Peaked at 1,190.37' (Flood elevation advised)

Inflow Area = 2.118 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 2.90 cfs @ 12.08 hrs, Volume= 0.205 af
Outflow = 2.90 cfs @ 12.08 hrs, Volume= 0.205 af, Atten= 0%, Lag= 0.0 min
Primary = 2.90 cfs @ 12.08 hrs, Volume= 0.205 af
Routed to Pond MH6 : 223+30 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,190.37' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,189.50'	**15.0" Round Culvert** L= 17.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,189.50' / 1,188.25' S= 0.0735 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=2.90 cfs @ 12.08 hrs HW=1,190.37' TW=1,188.95' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.90 cfs @ 3.18 fps)

Summary for Pond DI7: 224+25 Lt

Roadway CL = 1184.68
Rim = 1183.35

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[57] Hint: Peaked at 1,179.59' (Flood elevation advised)

Inflow Area = 2.050 ac, 2.49% Impervious, Inflow Depth > 1.20" for 2 Year event
Inflow = 2.90 cfs @ 12.08 hrs, Volume= 0.206 af
Outflow = 2.90 cfs @ 12.08 hrs, Volume= 0.206 af, Atten= 0%, Lag= 0.0 min
Primary = 2.90 cfs @ 12.08 hrs, Volume= 0.206 af
Routed to Pond MH7 : 224+25 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,179.59' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,178.75'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,178.75' / 1,178.50' S= 0.0250 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=2.90 cfs @ 12.08 hrs HW=1,179.58' TW=1,177.68' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.90 cfs @ 4.15 fps)

Summary for Pond DI8: Ex 225+45 Lt

Roadway CL = 1174.5
Ex Rim = 1174.3

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[57] Hint: Peaked at 1,170.06' (Flood elevation advised)

Inflow Area = 0.928 ac, 4.10% Impervious, Inflow Depth > 1.23" for 2 Year event
Inflow = 1.34 cfs @ 12.08 hrs, Volume= 0.095 af
Outflow = 1.34 cfs @ 12.08 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min
Primary = 1.34 cfs @ 12.08 hrs, Volume= 0.095 af
Routed to Link 8L : Outlet @ 225+61 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,170.06' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,169.50'	**15.0" Round Culvert** L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,169.50' / 1,168.50' S= 0.0250 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=1.34 cfs @ 12.08 hrs HW=1,170.06' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.34 cfs @ 2.54 fps)

Summary for Pond DI9: 231+05 Lt

Rim = 1118.72

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[57] Hint: Peaked at 1,114.55' (Flood elevation advised)

Inflow Area = 7.436 ac, 0.54% Impervious, Inflow Depth > 1.17" for 2 Year event
Inflow = 9.68 cfs @ 12.10 hrs, Volume= 0.725 af
Outflow = 9.68 cfs @ 12.10 hrs, Volume= 0.725 af, Atten= 0%, Lag= 0.0 min
Primary = 9.68 cfs @ 12.10 hrs, Volume= 0.725 af
Routed to Link 10L : Outlet @ 231+20 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,114.55' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,112.50'	**18.0" Round Culvert** L= 42.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,112.50' / 1,111.50' S= 0.0238 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=9.67 cfs @ 12.10 hrs HW=1,114.54' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 9.67 cfs @ 5.47 fps)

Summary for Pond MH1: 202+20 Rt

Roadway CL = 1356.81
Rim = 1356.64

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[57] Hint: Peaked at 1,352.42' (Flood elevation advised)

Inflow Area = 1.871 ac, 0.00% Impervious, Inflow Depth > 0.79" for 2 Year event
Inflow = 1.54 cfs @ 12.10 hrs, Volume= 0.123 af
Outflow = 1.54 cfs @ 12.10 hrs, Volume= 0.123 af, Atten= 0%, Lag= 0.0 min
Primary = 1.54 cfs @ 12.10 hrs, Volume= 0.123 af
Routed to Pond MH2 : 203+34 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,352.42' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,351.75'	**12.0" Round Culvert** L= 112.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,351.75' / 1,342.75' S= 0.0804 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=1.54 cfs @ 12.10 hrs HW=1,352.42' TW=1,343.41' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.54 cfs @ 2.78 fps)

Summary for Pond MH10: 240+85 Rt

Roadway CL = 1041.43
Rim = 1040.79

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[57] Hint: Peaked at 1,038.05' (Flood elevation advised)
[80] Warning: Exceeded Pond CB10 by 0.05' @ 12.07 hrs (0.49 cfs 0.002 af)
[80] Warning: Exceeded Pond CB11 by 0.12' @ 12.04 hrs (1.32 cfs 0.018 af)

Inflow Area = 12.381 ac, 0.97% Impervious, Inflow Depth > 1.18" for 2 Year event
Inflow = 16.69 cfs @ 12.10 hrs, Volume= 1.214 af
Outflow = 16.69 cfs @ 12.10 hrs, Volume= 1.214 af, Atten= 0%, Lag= 0.0 min
Primary = 16.69 cfs @ 12.10 hrs, Volume= 1.214 af
Routed to Link 13L : Outlet @ 240+85 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,038.05' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,035.75'	**24.0" Round Culvert** L= 9.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,035.75' / 1,035.50' S= 0.0278 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=16.66 cfs @ 12.10 hrs HW=1,038.05' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 16.66 cfs @ 5.79 fps)

Summary for Pond MH11: 254+60 Lt

Roadway CL = 983.70
Rim = 983.76

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[57] Hint: Peaked at 980.10' (Flood elevation advised)

Inflow Area = 6.379 ac, 1.54% Impervious, Inflow Depth > 1.19" for 2 Year event
Inflow = 8.91 cfs @ 12.08 hrs, Volume= 0.631 af
Outflow = 8.91 cfs @ 12.08 hrs, Volume= 0.631 af, Atten= 0%, Lag= 0.0 min
Primary = 8.91 cfs @ 12.08 hrs, Volume= 0.631 af
Routed to Link 16L : Outlet @ 254+60 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 980.10' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	978.25'	**18.0" Round Culvert** L= 35.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 978.25' / 977.50' S= 0.0214 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=8.90 cfs @ 12.08 hrs HW=980.09' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 8.90 cfs @ 5.04 fps)

Summary for Pond MH12: 260+41 Rt

Roadway CL = 945.13
Rim = 944.91

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[57] Hint: Peaked at 940.46' (Flood elevation advised)
[80] Warning: Exceeded Pond CB14 by 0.01' @ 12.06 hrs (0.06 cfs 0.000 af)

Inflow Area = 3.549 ac, 8.45% Impervious, Inflow Depth > 1.31" for 2 Year event
Inflow = 5.23 cfs @ 12.09 hrs, Volume= 0.386 af
Outflow = 5.23 cfs @ 12.09 hrs, Volume= 0.386 af, Atten= 0%, Lag= 0.0 min
Primary = 5.23 cfs @ 12.09 hrs, Volume= 0.386 af
Routed to Link 17L : Outlet @ 260+41 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 940.46' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	939.20'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 939.20' / 939.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=5.23 cfs @ 12.09 hrs HW=940.46' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 5.23 cfs @ 4.47 fps)

Summary for Pond MH13: 219+95 Lt

Rim = 1229.0

[57] Hint: Peaked at 1,223.89' (Flood elevation advised)

Inflow Area = 43.663 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 47.58 cfs @ 12.17 hrs, Volume= 4.216 af
Outflow = 47.58 cfs @ 12.17 hrs, Volume= 4.216 af, Atten= 0%, Lag= 0.0 min
Primary = 47.58 cfs @ 12.17 hrs, Volume= 4.216 af
Routed to Pond MH14 : 219+85 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,223.89' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,220.75'	**48.0" Round Culvert** L= 12.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,220.75' / 1,220.50' S= 0.0208 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 12.57 sf

Primary OutFlow Max=47.45 cfs @ 12.17 hrs HW=1,223.88' TW=1,222.96' (Dynamic Tailwater)
1=Culvert (Outlet Controls 47.45 cfs @ 6.18 fps)

Summary for Pond MH14: 219+85 Lt

Rim = 1228.06

[57] Hint: Peaked at 1,222.96' (Flood elevation advised)

Inflow Area = 43.663 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 47.58 cfs @ 12.17 hrs, Volume= 4.216 af
Outflow = 47.58 cfs @ 12.17 hrs, Volume= 4.216 af, Atten= 0%, Lag= 0.0 min
Primary = 47.58 cfs @ 12.17 hrs, Volume= 4.216 af
Routed to Link 6L : Outlet @ 219+85 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,222.96' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,220.25'	**48.0" Round Culvert** L= 36.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,220.25' / 1,219.50' S= 0.0208 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 12.57 sf

Primary OutFlow Max=47.57 cfs @ 12.17 hrs HW=1,222.96' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 47.57 cfs @ 7.41 fps)

Summary for Pond MH15: 208+20 Rt

Roadway CL = 1306.81
Rim = 1307.01

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[57] Hint: Peaked at 1,302.05' (Flood elevation advised)

Inflow Area = 8.727 ac, 0.00% Impervious, Inflow Depth > 0.79" for 2 Year event
Inflow = 6.32 cfs @ 12.15 hrs, Volume= 0.571 af
Outflow = 6.32 cfs @ 12.15 hrs, Volume= 0.571 af, Atten= 0%, Lag= 0.0 min
Primary = 6.32 cfs @ 12.15 hrs, Volume= 0.571 af
Routed to Pond MH16 : 209+84 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,302.05' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,300.75'	**18.0" Round Culvert** L= 162.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,300.75' / 1,297.00' S= 0.0231 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=6.31 cfs @ 12.15 hrs HW=1,302.05' TW=1,297.62' (Dynamic Tailwater)
1=Culvert (Inlet Controls 6.31 cfs @ 3.88 fps)

Summary for Pond MH16: 209+84 Rt

Roadway CL = 1302.87
Rim = 1302.92

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[57] Hint: Peaked at 1,297.62' (Flood elevation advised)

Inflow Area = 13.262 ac, 1.89% Impervious, Inflow Depth > 0.83" for 2 Year event
Inflow = 9.96 cfs @ 12.14 hrs, Volume= 0.912 af
Outflow = 9.96 cfs @ 12.14 hrs, Volume= 0.912 af, Atten= 0%, Lag= 0.0 min
Primary = 9.96 cfs @ 12.14 hrs, Volume= 0.912 af
Routed to Link 2L : Outlet @ 209+84 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,297.62' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,295.50'	**18.0" Round Culvert** L= 12.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,295.50' / 1,295.00' S= 0.0417 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=9.95 cfs @ 12.14 hrs HW=1,297.62' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 9.95 cfs @ 5.63 fps)

Summary for Pond MH17: 212+25 Rt

Roadway CL = 1296.78
Rim = 1295.75

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[57] Hint: Peaked at 1,293.16' (Flood elevation advised)

Inflow Area = 9.896 ac, 0.13% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 11.47 cfs @ 12.14 hrs, Volume= 0.958 af
Outflow = 11.47 cfs @ 12.14 hrs, Volume= 0.958 af, Atten= 0%, Lag= 0.0 min
Primary = 11.47 cfs @ 12.14 hrs, Volume= 0.958 af
Routed to Pond MH5 : 213+65 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,293.16' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,291.25'	**18.0" Round Culvert** L= 135.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1,291.25' / 1,282.25' S= 0.0667 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=11.46 cfs @ 12.14 hrs HW=1,293.16' TW=1,283.59' (Dynamic Tailwater)
1=Culvert (Inlet Controls 11.46 cfs @ 6.48 fps)

Summary for Pond MH2: 203+34 Rt

Roadway CL = 1347.77
Rim = 1347.65

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[57] Hint: Peaked at 1,343.41' (Flood elevation advised)

Inflow Area = 3.527 ac, 3.01% Impervious, Inflow Depth > 0.85" for 2 Year event
Inflow = 3.13 cfs @ 12.10 hrs, Volume= 0.250 af
Outflow = 3.13 cfs @ 12.10 hrs, Volume= 0.250 af, Atten= 0%, Lag= 0.0 min
Primary = 3.13 cfs @ 12.10 hrs, Volume= 0.250 af
Routed to Pond MH3 : 204+68 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,343.41' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,342.50'	**15.0" Round Culvert** L= 130.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,342.50' / 1,328.25' S= 0.1096 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=3.13 cfs @ 12.10 hrs HW=1,343.41' TW=1,327.52' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.13 cfs @ 3.25 fps)

Summary for Pond MH3: 204+68 Rt

Rim = 1333.64

[57] Hint: Peaked at 1,327.53' (Flood elevation advised)

Inflow Area = 6.053 ac, 5.10% Impervious, Inflow Depth > 0.89" for 2 Year event
Inflow = 5.55 cfs @ 12.10 hrs, Volume= 0.451 af
Outflow = 5.55 cfs @ 12.10 hrs, Volume= 0.451 af, Atten= 0%, Lag= 0.0 min
Primary = 5.55 cfs @ 12.10 hrs, Volume= 0.451 af
Routed to Link 1L : Outlet @ 204+70 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,327.53' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,326.25'	**18.0" Round Culvert** L= 12.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,326.25' / 1,326.00' S= 0.0208 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=5.55 cfs @ 12.10 hrs HW=1,327.53' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 5.55 cfs @ 4.66 fps)

Summary for Pond MH4: 209+84 Lt

Roadway CL = 1302.87
Rim = 1302.73

[57] Hint: Peaked at 1,298.20' (Flood elevation advised)

Inflow Area = 4.535 ac, 5.53% Impervious, Inflow Depth > 0.90" for 2 Year event
Inflow = 3.66 cfs @ 12.13 hrs, Volume= 0.341 af
Outflow = 3.66 cfs @ 12.13 hrs, Volume= 0.341 af, Atten= 0%, Lag= 0.0 min
Primary = 3.66 cfs @ 12.13 hrs, Volume= 0.341 af
Routed to Pond MH16 : 209+84 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,298.20' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,297.25'	**18.0" Round Culvert** L= 5.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,297.25' / 1,297.00' S= 0.0500 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=3.66 cfs @ 12.13 hrs HW=1,298.20' TW=1,297.61' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.66 cfs @ 4.43 fps)

Summary for Pond MH5: 213+65 Rt

Roadway CL = 1286.38
Rim = 1286.21

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[57] Hint: Peaked at 1,283.60' (Flood elevation advised)
[80] Warning: Exceeded Pond CB6 by 0.08' @ 12.06 hrs (1.04 cfs 0.012 af)

Inflow Area = 14.277 ac, 1.44% Impervious, Inflow Depth > 1.18" for 2 Year event
Inflow = 16.93 cfs @ 12.14 hrs, Volume= 1.409 af
Outflow = 16.93 cfs @ 12.14 hrs, Volume= 1.409 af, Atten= 0%, Lag= 0.0 min
Primary = 16.93 cfs @ 12.14 hrs, Volume= 1.409 af
Routed to Link 3L : Outlet @ 213+65 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,283.60' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,281.25'	**24.0" Round Culvert** L= 12.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,281.25' / 1,281.00' S= 0.0208 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=16.91 cfs @ 12.14 hrs HW=1,283.60' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 16.91 cfs @ 5.77 fps)

Summary for Pond MH6: 223+30 Lt

Rim = 1193.12

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[57] Hint: Peaked at 1,188.95' (Flood elevation advised)

Inflow Area = 2.252 ac, 5.95% Impervious, Inflow Depth > 1.26" for 2 Year event
Inflow = 3.32 cfs @ 12.08 hrs, Volume= 0.237 af
Outflow = 3.32 cfs @ 12.08 hrs, Volume= 0.237 af, Atten= 0%, Lag= 0.0 min
Primary = 3.32 cfs @ 12.08 hrs, Volume= 0.237 af
Routed to Pond MH7 : 224+25 Lt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,188.95' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,188.00'	**15.0" Round Culvert** L= 90.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,188.00' / 1,178.50' S= 0.1056 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=3.32 cfs @ 12.08 hrs HW=1,188.95' TW=1,177.68' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.32 cfs @ 3.32 fps)

Summary for Pond MH7: 224+25 Lt

Roadway CL = 1184.68
Rim = 1184.26

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[57] Hint: Peaked at 1,177.68' (Flood elevation advised)

Inflow Area = 4.302 ac, 4.30% Impervious, Inflow Depth > 1.24" for 2 Year event
Inflow = 6.22 cfs @ 12.08 hrs, Volume= 0.443 af
Outflow = 6.22 cfs @ 12.08 hrs, Volume= 0.443 af, Atten= 0%, Lag= 0.0 min
Primary = 6.22 cfs @ 12.08 hrs, Volume= 0.443 af
Routed to Link 7L : Outlet @ 224+25 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,177.68' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,176.25'	**18.0" Round Culvert** L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,176.25' / 1,176.00' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=6.22 cfs @ 12.08 hrs HW=1,177.68' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 6.22 cfs @ 4.59 fps)

Summary for Pond MH8: 236+90 Rt

Roadway CL = 1083.60
Rim = 1082.93

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[57] Hint: Peaked at 1,079.79' (Flood elevation advised)

Inflow Area = 22.823 ac, 1.08% Impervious, Inflow Depth > 1.18" for 2 Year event
Inflow = 30.36 cfs @ 12.10 hrs, Volume= 2.242 af
Outflow = 30.36 cfs @ 12.10 hrs, Volume= 2.242 af, Atten= 0%, Lag= 0.0 min
Primary = 30.36 cfs @ 12.10 hrs, Volume= 2.242 af
Routed to Link 11L : Outlet @ 236+90 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,079.79' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,076.75'	**30.0" Round Culvert** L= 8.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,076.75' / 1,076.50' S= 0.0313 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf

Primary OutFlow Max=30.32 cfs @ 12.10 hrs HW=1,079.79' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 30.32 cfs @ 6.46 fps)

Summary for Pond MH9: 238+90 Rt

Roadway CL = 1062.86
Rim = 1062.20

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[57] Hint: Peaked at 1,059.02' (Flood elevation advised)

Inflow Area = 12.772 ac, 0.97% Impervious, Inflow Depth > 1.18" for 2 Year event
Inflow = 16.47 cfs @ 12.11 hrs, Volume= 1.252 af
Outflow = 16.47 cfs @ 12.11 hrs, Volume= 1.252 af, Atten= 0%, Lag= 0.0 min
Primary = 16.47 cfs @ 12.11 hrs, Volume= 1.252 af
Routed to Link 12L : Outlet @ 238+90 Rt

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1,059.02' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,056.75'	**24.0" Round Culvert** L= 8.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,056.75' / 1,056.50' S= 0.0313 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=16.46 cfs @ 12.11 hrs HW=1,059.02' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 16.46 cfs @ 5.78 fps)

Summary for Link 1L: Outlet @ 204+70 Rt

Inflow Area = 6.053 ac, 5.10% Impervious, Inflow Depth > 0.89" for 2 Year event
Inflow = 5.55 cfs @ 12.10 hrs, Volume= 0.451 af
Primary = 5.55 cfs @ 12.10 hrs, Volume= 0.451 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 2L: Outlet @ 209+84 Rt

Inflow Area = 13.262 ac, 1.89% Impervious, Inflow Depth > 0.83" for 2 Year event
Inflow = 9.96 cfs @ 12.14 hrs, Volume= 0.912 af
Primary = 9.96 cfs @ 12.14 hrs, Volume= 0.912 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 3L: Outlet @ 213+65 Rt

Inflow Area = 14.277 ac, 1.44% Impervious, Inflow Depth > 1.18" for 2 Year event
Inflow = 16.93 cfs @ 12.14 hrs, Volume= 1.409 af
Primary = 16.93 cfs @ 12.14 hrs, Volume= 1.409 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 4L: Outlet @ 216+55 Rt

Inflow Area = 11.985 ac, 0.52% Impervious, Inflow Depth > 1.17" for 2 Year event
Inflow = 13.88 cfs @ 12.15 hrs, Volume= 1.166 af
Primary = 13.88 cfs @ 12.15 hrs, Volume= 1.166 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 5L: Outlet @ 217+90 Rt

Inflow Area = 3.791 ac, 1.95% Impervious, Inflow Depth > 1.19" for 2 Year event
Inflow = 4.93 cfs @ 12.11 hrs, Volume= 0.377 af
Primary = 4.93 cfs @ 12.11 hrs, Volume= 0.377 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 6L: Outlet @ 219+85 Rt

Inflow Area = 43.663 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 47.58 cfs @ 12.17 hrs, Volume= 4.216 af
Primary = 47.58 cfs @ 12.17 hrs, Volume= 4.216 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 7L: Outlet @ 224+25 Rt

Inflow Area = 4.302 ac, 4.30% Impervious, Inflow Depth > 1.24" for 2 Year event
Inflow = 6.22 cfs @ 12.08 hrs, Volume= 0.443 af
Primary = 6.22 cfs @ 12.08 hrs, Volume= 0.443 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 8L: Outlet @ 225+61 Rt

Inflow Area = 0.928 ac, 4.10% Impervious, Inflow Depth > 1.23" for 2 Year event
Inflow = 1.34 cfs @ 12.08 hrs, Volume= 0.095 af
Primary = 1.34 cfs @ 12.08 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 9L: Outlet @ 227+20 Rt

Inflow Area = 30.501 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 Year event
Inflow = 33.24 cfs @ 12.17 hrs, Volume= 2.945 af
Primary = 33.24 cfs @ 12.17 hrs, Volume= 2.945 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 10L: Outlet @ 231+20 Rt

Inflow Area = 7.436 ac, 0.54% Impervious, Inflow Depth > 1.17" for 2 Year event
Inflow = 9.68 cfs @ 12.10 hrs, Volume= 0.725 af
Primary = 9.68 cfs @ 12.10 hrs, Volume= 0.725 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 11L: Outlet @ 236+90 Rt

Inflow Area = 22.823 ac, 1.08% Impervious, Inflow Depth > 1.18" for 2 Year event
Inflow = 30.36 cfs @ 12.10 hrs, Volume= 2.242 af
Primary = 30.36 cfs @ 12.10 hrs, Volume= 2.242 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 12L: Outlet @ 238+90 Rt

Inflow Area = 12.772 ac, 0.97% Impervious, Inflow Depth > 1.18" for 2 Year event
Inflow = 16.47 cfs @ 12.11 hrs, Volume= 1.252 af
Primary = 16.47 cfs @ 12.11 hrs, Volume= 1.252 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 13L: Outlet @ 240+85 Rt

Inflow Area = 12.381 ac, 0.97% Impervious, Inflow Depth > 1.18" for 2 Year event
Inflow = 16.69 cfs @ 12.10 hrs, Volume= 1.214 af
Primary = 16.69 cfs @ 12.10 hrs, Volume= 1.214 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 14L: Outlet @ 245+55 Rt

Inflow Area = 11.343 ac, 1.74% Impervious, Inflow Depth > 1.19" for 2 Year event
Inflow = 15.89 cfs @ 12.08 hrs, Volume= 1.125 af
Primary = 15.89 cfs @ 12.08 hrs, Volume= 1.125 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 15L: Outlet @ 250+95 Rt

Inflow Area = 6.627 ac, 4.00% Impervious, Inflow Depth > 1.23" for 2 Year event
Inflow = 9.32 cfs @ 12.10 hrs, Volume= 0.679 af
Primary = 9.32 cfs @ 12.10 hrs, Volume= 0.679 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 16L: Outlet @ 254+60 Rt

Inflow Area = 6.379 ac, 1.54% Impervious, Inflow Depth > 1.19" for 2 Year event
Inflow = 8.91 cfs @ 12.08 hrs, Volume= 0.631 af
Primary = 8.91 cfs @ 12.08 hrs, Volume= 0.631 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 17L: Outlet @ 260+41 Rt

Inflow Area = 3.549 ac, 8.45% Impervious, Inflow Depth > 1.31" for 2 Year event
Inflow = 5.23 cfs @ 12.09 hrs, Volume= 0.386 af
Primary = 5.23 cfs @ 12.09 hrs, Volume= 0.386 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Section 3

Long-Term Pollution Prevention and Operation & Maintenance Plan

RECOMMENDED LONG-TERM STORMWATER POLLUTION PREVENTION PLAN FOR MOUNT WASHINGTON ROAD

OWNER AND RESPONSIBLE PARTY:

Owner: Town of Egremont

Responsible Party: Town of Egremont

PROJECT OVERVIEW:

The Mount Washington Road Phase 1 Reconstruction Project in Egremont, MA is a 1.2-mile corridor improvement project to be constructed (MassDOT Project #608547) with the goal of reconstructing the existing roadway to improve pavement condition and drainage. The project is needed to improve roadway conditions and safety for all roadway users along Mount Washington Road from the Egremont town line to 150 Mount Washington Road. Drainage improvements and pavement rehabilitation will increase the life of the roadway.

CONSTRUCTION MANAGEMENT:

A construction manager with adequate knowledge and experience on projects of similar size and scope shall be employed to oversee all site work related construction. The contractor shall incorporate the appropriate techniques to control sediment and erosion pollution during construction in accordance with the *Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas*. The project will be subject to the United States Environmental Protection Agency (EPA) Phase II Stormwater Program as land disturbances are greater than 1 acre of disturbance. Refer to the SWPPP prepared for additional information regarding construction related erosion & sedimentation control.

During construction, silt-laden runoff or discharge from dewatering operations (if necessary) will be prevented from entering wetlands and resource areas untreated. Siltation barriers consisting of compost filter tubes will be erected in advance of construction along the downstream edge of all disturbed areas and maintained throughout the construction period. Check dams/silt socks/sandbag dikes will be used in temporary constructed drainage ways as necessary to reduce erosion.

If dewatering is required during construction, runoff will discharge through a temporary sedimentation basin and washed stone prior to discharging into vegetated areas. Outflow of silt-laden runoff shall not be permitted to flow directly into the wetlands or resource areas. Upon completion of site stabilization, the catch basins and existing conveyance system shall be thoroughly cleaned of silt and sediment and made ready for the proposed operation.

Siltation barriers, temporary sedimentation basins, and coffer dams shall be constructed and inspected by the resident project Engineer on a monthly basis or as necessary, after any significant (0.5” or more) storm event and daily while dewatering operations are proceeding.

Care should be taken when constructing stormwater control structures. Light earth-moving equipment shall be used to excavate in the vicinity of the infiltration areas. Use of heavy equipment causes excessive compaction of the soils beneath the basin resulting in reduced infiltration capacity. At no time shall temporary infiltration areas or settling basins be constructed in the vicinity of the proposed infiltration system in order to prevent the soils from becoming clogged with sediment.

ON-GOING MAINTENANCE CONTRACT

The Owner and responsible party will be required to contract with a maintenance company or hire appropriate staff to complete the following non-structural and structural approaches. The maintenance company will be required to provide adequate personnel and access to proper equipment to complete the tasks.

NON-STRUCTURAL APPROACHES:

GRADING

Slopes will be permanently vegetated to dissipate energy and reduce potential erosion. No constructed vegetated slopes should exceed 2H:1V. Steep slopes may require soil reinforcement and additional vegetation. Slopes that exceed 2H:1V are proposed to be reinforced with modified rockfill.

FLOW OVER VEGETATED AREAS

Wherever possible, runoff from paved areas and snowmelt shall be directed over vegetated areas to promote settlement of suspended solids before entering a wetland or resource area.

SNOW STORAGE AND DEICING

Designated snow storage will be provided within the Right-of-Way. When the snow piles exceed the allotted space, MassDOT or the Town may load and truck the snow offsite for disposal. The snow will be placed such that melt water will be directed towards the drainage system for treatment.

STRUCTURAL BEST MANAGEMENT PRACTICES:

Prior to final completion of the roadway construction, a representative of the contractor and/or Engineer at the Responsible Parties request shall properly instruct MassDOT of the required maintenance responsibilities to maintain the effectiveness of the drainage system. These frequencies and requirements are recommendations to maintain minimum effectiveness. Ultimately, MassDOT will implement the procedures and frequencies as they see fit under their current plan and inspect the systems as needed to maintain minimum effectiveness.

DEEP SUMP CATCH BASINS AND MANHOLE STRUCTURES

Catch basins shall be cleaned, in dry weather, when half of the sump capacity is filled or at a minimum of once per year or as required through periodic inspection. Cleaning will take place at the completion of construction and in early spring after sanding of roadways has ceased or as needed depending on the frequency of major storm events (> 1” of rainfall). All manholes shall be inspected at least once annually or as dictated by the responsible party. Any obstructions, sediment, and debris that could potentially cause clogs shall be removed within the conveyance system as necessary. Inverts, grates, and hoods shall be checked and replaced as necessary to maintain hydraulic effectiveness.

VEGETATED CHANNELS

Vegetated channels shall be inspected at least once per year or as required. Inspect drainage channels the first few months after construction to make sure that there is no riling or gullying, and that vegetation in the channels is adequate. Inspect the channel twice a year for slope integrity, soil moisture, vegetative health, soil stability, soil compaction, soil erosion, ponding, and sediment accumulation. Accumulated sediment and debris shall be removed and disposed of based on inspections. Eroded areas shall be re-seeded and/or re-stabilized.

Regular maintenance tasks include mowing, fertilizing, liming, watering, pruning, weeding, and pest control. Mow channels at least once per year. Do not cut the grass shorter than three to four inches. Keep grass height under 6 inches to maintain the design depth necessary to serve as a conveyance. Do not mow excessively, because it may increase the design flow velocity. Remove sediment and debris manually at least once per year. Re-seed periodically to maintain the dense growth of grass vegetation. Care should be taken to protect drainage channels from snow removal procedures and off-street parking.

SNOW DISPOSAL & DEICING:

MassDEP issued a Snow Disposal Guidance dated December 2020, a copy of which is attached in the following section. The owner/operator shall refer to MassDEP's Snow Disposal Guidance at all times and incorporate it as part of the Operation and Maintenance of this project. The following is a summary of the Snow Disposal Guidance Policy:

Estimate how much snow disposal capacity may be needed for the season so that an adequate number of disposal sites can be selected and prepared. Identify sites that could potentially be used for snow disposal, such as municipal open space (e.g., parking lots or parks). Select sites located in upland locations that are not likely to impact sensitive environmental resources first. If more storage space is still needed, prioritize the sites with the least environmental impact (using the site selection criteria, and local or MassGIS maps as a guide).

Wherever possible maintain a 50-foot vegetated buffer between the disposal site and adjacent waterbodies to filter pollutants from the meltwater. Clear debris from the site prior to using the site for snow disposal. Clear debris from the site and properly dispose of it at the end of the snow season, and no later than May 15.

Within water supply Zone A and Zone II, avoid storage or disposal of snow and ice containing deicing chemicals that have been collected from streets located outside these zones. Avoid storage or disposal of snow or ice in Interim Wellhead Protection Areas (IWPA) of public water supply wells, and within 75 feet of a private well, where road salt may contaminate water supplies. Avoid dumping snow into any waterbody, including rivers, the ocean, reservoirs, ponds, or wetlands. In addition to water quality impacts and flooding, snow disposed of in open water can cause navigational hazards when it freezes into ice blocks. Avoid dumping snow on MassDEP-designated high and medium-yield aquifers where it may contaminate groundwater. Avoid dumping snow in sanitary landfills and gravel pits. Snow meltwater will create more contaminated leachate in landfills posing a greater risk to groundwater, and in gravel pits, there is little opportunity for pollutants to be filtered out of the meltwater because groundwater is close to the land surface.

Avoid disposing of snow on top of storm drain catch basins or in stormwater drainage systems including detention basins, swales or ditches. Snow combined with sand and debris may block a stormwater drainage system, causing localized flooding. A high volume of sand, sediment, and litter released from melting snow also may be quickly transported through the system into surface water.

Under extraordinary conditions, when all land-based snow disposal options are exhausted, the Emergency Declaration issued by MassDEP may allow the disposal of snow in certain waterbodies under certain conditions (Refer to MassDEP Disposal Guidance).

Deicing is necessary due to safety reasons during winter months in the interest of reducing the volume of dissolved salt that enters the watershed, the operator will rely on a 1:1 mixture of sand and road salt (NaCl) following MassDOT's guidelines of 240 pounds per lane mile. The Town does not intend to install roadside signage to this

extent as plow truck operators will be trained on salt reduction measures along this road corridor.

SPILL RESPONSE:

The recommendation includes that the Owner have all MassDEP emergency spill response information posted at the DPW building. It is also recommended an emergency spill response kit including absorbent pillows be stored on-site along with instructions for the kit, a copy of applicable regulations regarding spills, and a list of individuals to contact (local and state officials) in the event of a spill.

Spills or leaks will be treated properly according to material type, volume of spillage, and location of the spill. Mitigation will include preventing further spillage, containing the spilled material in the smallest practical area, removing spilled material in a safe and environmentally friendly manner, and remediating any damage to the environment.

The following highlights are not all-inclusive of how an incident is handled, but they show necessary efforts to improve clearance of a hazardous materials spill.

- Identify the Spill Material;
- Use quick clean-up techniques by first responders;
- Provide spill kits, such as booms, caps, covers, pneumatic plugs, absorbent materials, etc.
- Protect water resources by implementing quick clean-up techniques by first responders;
- Hire pre-designated private response contractors to handle the spill if needed; and
- Improve coordination and preparedness efforts by DOT, police, fire, and tow operators.

In situations involving a transportation accident/incident that results in a product/fuel spill, reporting and clean-up by the responsible party is necessary if:

- The amount of petroleum fuel spilled exceeds 25 gallons, or other reportable quantity according to Environmental Protection Agency (EPA) SARA Title III, Consolidated List of Chemicals25and/or
- The spilled materials have impacted or threaten to impact state waters.

Where a transportation accident/incident results in a product/fuel spill, any accidental discharge to a sanitary sewer system must be reported immediately to the local sewer authority and the affected wastewater.

If the spill has affected surface water, downstream water users should be notified immediately. This may be coordinated with the Massachusetts Department of Environmental Protection by calling the Emergency Response at 1-888-304-1133 as soon as possible.

All appropriate actions should be taken to protect the incident scene, e.g., prevent vehicle/pedestrian access and move to a location upwind to await first response agencies. Persons should not attempt to mitigate or remediate the spill unless they have:

- Been properly trained and certified;
- The appropriate personnel protective equipment (PPE) available to them;
- The required support personnel available to effect an entry; and
- The response equipment necessary to stabilize the scene is available.

First response agencies should make a good faith effort to stabilize the scene to keep the spill from spreading and affecting additional soil and water resources and other environmental receptors. Suggested actions include, but are not limited to:

- Covering the spill area with plastic,
- Placing absorbent booms in affected water,
- Placing clean soil berms and/or absorbent booms downhill of the spill and/or between the spill area and the nearest waterway,
- Neutralizing or chemical stabilizing, if appropriate, and
- Diverting surface and stormwater.

Clean-up of spilled materials is required for any quantity of spilled fuel above the reportable quantity into the soil or ground surface, and/or if the spill impacted soil, or has the potential to impact state waters including lakes, reservoirs, ponds, streams, rivers, ditches, storm drains, manholes, wetlands, stormwater, and groundwater.

Spills need to be remediated to MA Department of Public Health (DPH), MassDEP, and EPA-approved thresholds where applicable, and to the strictest standards, where different. Other clean-up thresholds may depend on the material spilled, the media affected (soil, groundwater, surface water), and the risk of leaving the material in place.

Excavation and off-site disposal are the preferred and most common methods of soil remediation at roadway spill sites. If excavation is not feasible or allowed, clean-ups may also include a variety of technologies, including, but not limited to, some combination of excavation, air sparge, soil venting, bioremediation, steam cleaning, physical collection, and monitored natural attenuation.

Proposal No. 608547-132397

LONG TERM STRUCTURAL BEST MANAGEMENT PRACTICE INSPECTION & MAINTENANCE MATRIX AFTER CONSTRUCTION

Note: BMP's shall be visually inspected and repaired by a qualified party in accordance with the following chart. Note these are minimum inspection criteria/frequencies and should be adjusted throughout the project lifespan as required to maintain effectiveness. Refer to maintenance standards for drainage facilities and structural best management practices in the "Recommended Long-Term Stormwater Pollution Prevention Plan."

Conventional & LID Best Management Practices	Recommended Minimum Inspection & Maintenance Frequency	Erosion/Scouring	Tree Growth Hazards	Differential Settlement/Seepage	Structural Damage/Obstructions	Trash & Debris	Removal of Accumulated Sediment	Slope Integrity	*Mow Vegetation/Poor Vegetation Coverage	Remove/Reset Filter Fabric & Stone As Required	Remove & Replace Hardwood mulch/media	Vac Truck Sediment & Contaminants	Replanting to Maintain Vegetation Cover	Remove / Reset Stone as Required
Deep Sump Catch Basin	Annually		☑	☑	☑	☑	☑					☑		
Vegetated Drainage Channels	Annually	☑	☑			☑	☑	☑	☑					
Headwalls & Stone for Pipe Ends	Annually	☑	☑	☑	☑	☑	☑	☑						☑

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Section 4

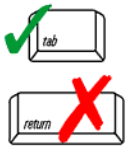
Stormwater Management Checklist

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.[1] This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8[2]
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

[1] The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

[2] For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

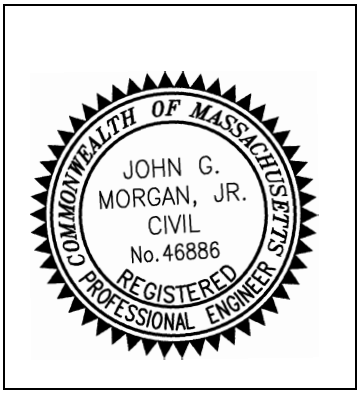
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



6-5-24

Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

☐ New development

☒ Redevelopment

☐ Mix of New Development and Redevelopment

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

☒ No disturbance to any Wetland Resource Areas

☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)

☒ Reduced Impervious Area (Redevelopment Only)

☒ Minimizing disturbance to existing trees and shrubs

☐ LID Site Design Credit Requested:

- ☐ Credit 1
- ☐ Credit 2
- ☐ Credit 3

☒ Use of "country drainage" versus curb and gutter conveyance and pipe

☐ Bioretention Cells (includes Rain Gardens)

☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)

☐ Treebox Filter

☐ Water Quality Swale

☒ Grass Channel

☐ Green Roof

☐ Other (describe): _____

Standard 1: No New Untreated Discharges

☒ No new untreated discharges

☒ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth

☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☐ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☒ Soil Analysis provided.

☒ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☐ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☐ Static ☐ Simple Dynamic ☐ Dynamic Field[1]

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☐ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

☐ Site is comprised solely of C and D soils and/or bedrock at the land surface

☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000

☐ Solid Waste Landfill pursuant to 310 CMR 19.000

☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☐ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

[1] 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

☐ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

- ☐ is within the Zone II or Interim Wellhead Protection Area
- ☐ is near or to other critical areas
- ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
- ☐ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☐ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☐ The BMP is sized (and calculations provided) based on:

- ☐ The ½" or 1" Water Quality Volume or
- ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☒ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☐ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☐ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☒ Critical areas and BMPs are identified in the Stormwater Report.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☒ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☒ Redevelopment Project
- ☐ Redevelopment portion of mix of new and redevelopment.

☒ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☐ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☐ The project is ***not*** covered by a NPDES Construction General Permit.

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☒ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☒ Name of the stormwater management system owners;
- ☒ Party responsible for operation and maintenance;
- ☒ Schedule for implementation of routine and non-routine maintenance tasks;
- ☐ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☐ Description and delineation of public safety features;
- ☐ Estimated operation and maintenance budget; and
- ☐ Operation and Maintenance Log Form.

☐ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☒ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

☒ An Illicit Discharge Compliance Statement is attached;

☐ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

ILLICIT DISCHARGE COMPLIANCE STATEMENT

Standard 10: Massachusetts Stormwater Standards Handbook

Illicit discharges are defined as discharges into waters of the State or municipal separate stormwater system (MS4) that are not entirely comprised of stormwater. Exclusions for non-stormwater discharges into drainage systems include activities or facilities for firefighting, water line flushing, landscape irrigation, uncontaminated groundwater discharge, potable water sources, foundation drains, air conditioning condensation, footing drains, individual resident car washing, water used to clean residential buildings without detergents, water used for street washing, and flows from riparian habitats/wetlands. These exclusions are subject to change and are under the discretion of the local governing authority.

To the best of our knowledge and professional belief no illicit discharges to the stormwater system, surface waters, or wetland resource areas will remain on the site after construction. We will agree to implement a pollution prevention plan to prevent illicit discharges into the stormwater management system. The design of the site based on the plans and specifications entitled "Mount Washington Road – Phase 1" prepared by CHA Consulting, Inc., 141 Longwater Drive, Suite 104, Norwell, Massachusetts show a separation and no direct connection between the stormwater management systems and the wastewater and/ or groundwater on the site. To the maximum extent practicable, the design prevents entry of illicit discharges into the stormwater management system.

Engineer's Name: John G. Morgan Jr.
(please print)

Engineer's Signature: _____ Date: 6-5-24

Company: CHA Consulting, Inc.

Section 5

Stormwater Management Calculations

STANDARD #3 – GROUNDWATER RECHARGE
Mount Washington Road
EGREMONT, MA

WATER QUALITY VOLUME (WQV)

HSG C

(Sta. 200+00 to Sta. 210+00)

Total Proposed Impervious	= 26,190 sq. ft. (0.601 acres)
Total Existing Impervious	= 22,193 sq. ft. (0.510 acres)
Total Additional Impervious	= 3,997 sq. ft. (0.091 acres)

HSG D

(Sta. 210+00 to Sta. 262+00)

Total Proposed Impervious	= 131,497 sq. ft. (3.019 acres)
Total Existing Impervious	= 126,032 sq. ft. (2.893 acres)
Total Additional Impervious	= 5,465 sq. ft. (0.125 acres)

WQV = 1" * 0.95 * (3,997 + 5,465) sq. ft. / 12 = 749 ft^3

GROUNDWATER RECHARGE VOLME (GRV)

Soils are classified as mostly HSG D with minor areas of HSG C in the westernmost 1000 feet of the proposed roadway.

Total Additional Impervious = 0.091 acres = 3,997 sq. ft. (HSG C)
Total Additional Impervious = 0.125 acres = 5,465 sq. ft. (HSG D)

Recharge Volume = F * Impervious Area

F = 0.25" for HSG C
F = 0.10" for HSG D

Rv = ((0.25 in. * 3,997 sq. ft.) + (0.10 in. * 5,465 sq. ft.)) / 12 = 129 ft^3

Notice of Intent
Reconstruction of Mount Washington Road (Phase 1)
Egremont, MA

Appendix D- Correspondence

MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

March 13, 2024

Julia Hoogeboom
Massachusetts Department of Transportation - Highway Division, Environmental Services
10 park plaza
Boston, MA 02116

RE: Applicant: Julia Hoogeboom
Project Location: Mount Washington Road from Egremont Town Line to 2000 feet before Jug End Road
Project Description: 608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)
NHESP File No.: 24-17251

Dear Applicant:

The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") received the MESA Project Review Checklist and supporting documentation for review pursuant to the Massachusetts Endangered Species Act (MESA) (MGL c.131A) and its implementing regulations (321 CMR 10.00).

The MESA is administered by the Division, and prohibits the Take of state-listed species. The Take of state-listed species is defined as "in reference to animals…harm…kill…disrupt the nesting, breeding, feeding or migratory activity…and in reference to plants…collect, pick, kill, transplant, cut or process…Disruption of nesting, breeding, feeding, or migratory activity may result from, but is not limited to, the modification, degradation, or destruction of Habitat" of state-listed species (321 CMR 10.02).

The Division has determined that this Project, as currently proposed, will occur **within** the actual habitat of the following species:

Scientific Name	Common Name	Taxonomic Group	State Status
Data Sensitive	Data Sensitive	Data Sensitive Vertebrate	Endangered

"Data Sensitive Species" are highly susceptible to collection and are therefore of high concern to Natural Heritage. Information about these species (including presence/absence) cannot be released to anyone (especially including release to third parties or published) unless such release is agreed to in writing by the Natural Heritage Program (See Massachusetts Public Records law: M.G.L. chapter 66 section 17D).

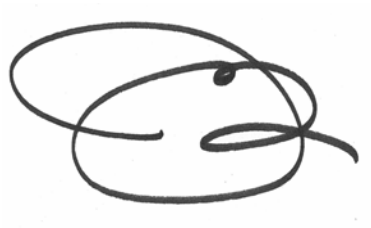
This species and their habitats are protected in accordance with the MESA.

Based on the information provided and the information contained in our database, the Division finds that a portion of this project, as currently proposed, **must be conditioned** to avoid a prohibited Take of state-listed species (321 CMR 10.18(2)(a)). **To avoid a prohibited Take of state-listed species, the conditions attached to this letter must be met.**

Provided the attached conditions are fully implemented and there are no changes to the project plans, this project will not result in a Take of state-listed species. We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. This determination is a final decision of the Division of Fisheries and Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with the Division pursuant to the MESA. This project may be subject to further review if no physical work is commenced within five years from the date of issuance of this determination, or if there is a change to the project.

Please note that this determination addresses only the matter of state-listed species and their habitats. If you have any questions regarding this letter please contact Melany Cheeseman, Endangered Species Review Assistant, at Melany.Cheeseman@mass.gov, (508) 389-6357.

Sincerely,



Jesse Leddick
Assistant Director

cc: david paulson, Massachusetts Department of Transportation
Julia Hoogeboom, Massachusetts Department of Transportation

Attachment: List of Conditions

List of Conditions

Applicant: Julia Hoogeboom
Project Location: Mount Washington Road from Egremont Town Line to 2000 feet before Jug End Road
Project Description: 608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)
NHESP File No.: 24-17251
Heritage Hub Form ID: RC-84122
Approved Plan: Town of Egremont Mount Washington Road Reconstruction Phase 1
Plan date: December 2023 Revised Date: N/A

To avoid a prohibited Take of state-listed species, the following condition(s) must be met:

1. **Limits of Work:** No work or alteration to the soil, surface, or vegetation shall occur outside of the limits of work shown on the site plan unless otherwise approved in writing in advance by the Division.

2. **Rare Vertebrate Protection Plan**. Should any work be conducted during the active season, the Applicant is required to conduct such work under the supervision of a qualified biologist and the Division-approved "Snake Protection Plan" (SPP).
   a. The SPP is approved with the following additions/changes:
   1.Stockpiled materials shall be stored on mats such as double stacked pallets or similar materials, whenever possible. This allows the materials to be moved using the upper pallet while leaving the ground-contact pallet undisturbed.
   2.Contracts for the project shall stipulate that the qualified biologist may direct or temporarily halt onsite work to maximize protection of state-listed species and allow for additional sweeps/searches.
   b. A MESA Commercial Scientific Collection Permit must be obtained from the Division to handle state-listed species. The permit application should provide a description of the qualifications of the biologist(s) proposed to implement the plan relative to state-listed vertebrates.
   1.As part of the application, the biologist can update/modify/revise the SPP.
   2.The qualified biologist shall have the responsibility and obligation to increase or modify (but not decrease) the search area, hours of effort, days of effort and or approaches to maximize detection of state-listed species based on actual field conditions observed. In such a circumstance, the qualified biologist shall notify the Division as soon as possible of the deviation, and the reason for deviating from, the approved protocol.

3. **Mesh Construction Materials**. Mesh materials are addressed in the SPP. The following adds to the bullet points in the SPP. Mesh materials must be excluded from Project implementation unless otherwise approved in writing by the Division.
   1.No presence, stockpiling, or use of permanent or temporary mesh materials with a nominal opening between 1/4" and 2" shall be permitted, unless otherwise approved in writing by the Division or fully encased in a non-penetrable wrap or surface (e.g., poured concrete over rebar mesh).
   2.Netless rolled erosion control products may be utilized whenever mesh materials are necessary. Authorized materials include (1) standard, black silt fencing (i.e., 36-in wide, tightly woven), (2) orange safety fencing (aka barrier or snow fencing) with nominal 2" or greater openings installed tightly between supports *and* with a 6" minimum gap along the ground, and (3) chain-link fencing with 2" or greater openings and installed with a 6" minimum gap along the ground.

4. **Use of Native Species:** Unless otherwise approved in writing by the Division, all seed and plantings not thereafter maintained as lawn shall be native to the County as provided in The Vascular Plants of Massachusetts: A County Checklist, First Revision (Dow Cullina, Connolly, Sorrie & Somers, 2011).

5. **Restoration or Stabilization:** The Division does not approve of the planting of state-listed species, even if the seeds are sourced outside of Massachusetts. Please carefully review seed mixes at the time of purchase as the specific composition and mixes change within a year (https://www.mass.gov/info-details/list-of-endangered-threatened-and-special-concern-species#plants).

6. **Work Timing**.
   1.Inactive season: Work conducted between November 1 and April 14 may proceed without restrictions.
   2.Active season: Work conducted between April 15 and October 31, even if initiated earlier, must be conducted under the direct supervision of a Division-approved biologist in accordance with the SPP.

7. **Compliance Report:** Within thirty (30) days of the completion of work or as otherwise approved by the Division, the Applicant shall submit a brief written report to the Division documenting compliance with the condition(s) required herein, including representative photographs or supplemental documentation as necessary.

8. **Authorization Duration:** This authorization is valid for 5 years from the date of issuance. Work may be completed at any time during this 5-year period in compliance with the conditions herein. Thereafter, the Applicant must re-file pursuant to the MESA.

Notice of Intent
Reconstruction of Mount Washington Road (Phase 1)
Egremont, MA

Appendix E –
Wetland Delineation Report

Wetland Delineation Report

Mount Washington Road
Egremont, MA

December 14, 2023

Prepared For:

Massachusetts Department of Transportation
Highway Division
10 Park Plaza- Room 7360
Boston, MA 02116

CHA Consulting Inc.
141 Longwater Drive
Norwell, MA 02061

Prepared By:

Comprehensive Environmental Inc.
41 Main Street
Bolton, MA 01740

1. Introduction

A wetland delineation was conducted along Mount Washington Road in Egremont, MA on December 14, 2023. Wetland resource areas protectable under the *Massachusetts Wetlands Protection Act* (M.G.L. c. 131, s. 40), the implementing *Regulations* (310 CMR 10.00), and the Town of Egremont *Open Space and Recreation Plan were* identified and characterized. The delineation included the boundary of Bordering Vegetated Wetlands (BVW) and Bank along Karner Brook and several unnamed streams. The delineation was marked in the field with sequentially numbered pink flagging tape. The following narrative provides a general site description, wetland delineation methodology, and description of delineated wetland resource areas.

2. Methodology

Wetland resource areas were delineated in conformance with the *Massachusetts Handbook of Delineation of Bordering Vegetated Wetlands* (2022; the Handbook) through observation of vegetative communities, soil characteristics and indications of wetlands hydrology. Visual observations were used to determine wetlands hydrology, including typical indicators such as water marks, water-stained leaves, trees with shallow root systems, drift lines and drainage patterns. Small observational plots were used to document the characteristics of the BVW areas as described by Appendix B of the Handbook.

3. General Site Description

The assessed section of Mount Washington Road stretches from the Egremont and Mount Washington Town boundary to 150 Mount Washington Road, a distance of approximately 1.18 miles. The delineated wetland resource areas along this section of roadway include two areas with Bordering Vegetated Wetlands (BVW) and Bank (and associated Riverfront Area) along Karner Brook as well as two small stream crossings with Bank, as seen on project plan sheets in the NOI narrative and as described below:

- The first area of BVW and Bank is located at the eastern end of the project along Karner Brook starting near 150 Mount Washington Road. The area surrounding the brook is predominantly forested but includes some single-family homes. Topography of the site is steeply sloped southeast towards Karner Brook. This area was delineated using the A and B series of flags with flags B-WF-10 through B-WF-12 and B-WF-23 through B-WF-28 representing BVW and flags A-B-1 through A-B-10, B-B-0 through B-B-9, B-B-13 through B-B-22 and B-B-29 through B-B-30 representing bank.
- The second area of Bank is located at an unnamed intermittent stream crossing on the western end of the assessed section near 206 Mount Washington Road. The area to the northwest of the crossing is a single-family home but the remaining surrounding area is upland forest. Topography is steeply sloped east towards Karner Brook. This area was delineated using the C and D series of flags with flags C-B-1 through C-B-8 and D-B-1 through D-B-6 representing Bank.
- The third area of Bank is located at an unnamed tributary crossing near 210 Mount Washington Road. The eastern side of the crossing is entirely forested. The western side of the crossing is a mix of forest and single-family homes. Topography is steeply sloped east towards Karner Brook. This area was delineated using the E and F series of flags with flags E-B-1 through E-B-8 and F-B-1 through F-B-6 representing Bank.

4. Description of Wetland Resource Areas

4.1 Bordering Vegetated Wetlands (BVW)

- Pockets of shallow emergent marsh exist within the floodplain of Karner Brook (flags B-WF-10 through B-WF-12 and B-WF-23 through B-WF-28). A dense canopy dominated by red maple (*Acer rubrum*) covers the BVW but also includes gray birch (*Betula populifolia*), eastern hemlock (*Tsuga canadensis*) and American elm (*Ulmus americana*). Saplings from the canopy, silky dogwood (*Swida amomum*) and highbush blueberry (*Vaccinium corymbosum*) comprise the understory. The herbaceous stratum includes jewelweed (*Impatiens capensis*), northern lady fern (*Athyrium angustum*), sedges (*Carex* spp.), sensitive fern (*Onoclea sensibilis*) and royal fern (*Osmunda regalis*).

4.2 Soils

According to USDA soil surveys (Map MA003), very stoney and very steep Taconic-Macomber association (932E) under lays the majority of the site but pockets of very stoney and very steep Lanesboro-Dummerston association (931E) are also present.

4.3 Bank

Bank was delineated in the field using signs of annual mean high-water mark.

- Karner Brook ranges from approximately four to twenty feet high and had several feet of substantial flow during the delineation. The banks are vegetated with upland species (flags A-B-1 through A-B-10, B-B-0 through B-B-9, B-B-13 through B-B-22 and B-B-29 through B-B-30).
- The unnamed intermittent stream crossing near 206 Mount Washington Road has steep banks with a channel that range from two to eight feet wide. Moderate flow was present during the delineation (flags C-B-1 through C-B-8 and D-B-1 through D-B-6).
- The unnamed tributary near 210 Mount Washington Road is a high gradient mountain stream with steeply sloped banks vegetated with upland species (flags E-B-1 through E-B-8 and F-B-1 through F-B-6).

4.4 Description of Adjacent Uplands

The upland canopy surrounding Karner Brook a predominantly a mix of by white pine (*Pinus strobus*) and red oak (*Quercus rubra*). Saplings from the canopy, multiflora rose (*Rosa multiflora*), white ash (*Fraxinus americana*), Morrow's honeysuckle (*Lonicera morrowii*) and mountain laurel (*Kalmia latifolia*) comprise the understory. The herbaceous stratum includes raspberry (*Rubus idaeus*), wintergreen (*Gaultheria procumbens*), upland grasses (*Festuca* spp.), striped pipsissewa (*Chimaphila maculata*), princess pine (*Dendrolycopodium obscurum*) and Canada goldenrod (*Solidago canadensis*). Asian bittersweet (*Celastrus orbiculatus*) was also present in the vine layer.

Attachment A

MassDEP Bordering Vegetated Wetland (310 CMR 10.55)
Delineation Field Data Forms

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: Mount Washington Road City/Town: Egremont Sampling Date: 12/14/2023

Applicant/Owner: Town of Egremont Sampling Point or Zone: B-UPL-1

Investigator(s): I. Church Latitude / Longitude: 42.160393, -73.469553

Soil Map Unit Name: 932E- Taconic-Macomber association, steep very stony NWI or DEP Classification: NC

Are climatic/hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks)

Are Vegetation [ ], Soil [ ] , or Hydrology [ ] significantly disturbed? (If yes, explain in Remarks)

Are Vegetation [ ], Soil [ ] , or Hydrology [ ] naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes [ ]	No [✓]	**Is the Sampled Area within a Wetland?** **Yes** [ ] **No** [✓]
Hydric Soils criterion met?	Yes [ ]	No [✓]	
Wetlands hydrology present?	Yes [ ]	No [✓]	

Remarks, Photo Details, Flagging, etc.:

Flags B-WF-10 through B-WF-12 and B-WF-23 through B-WF-28 are representative of BVW boundary. Flags A-B-1 through A-B-10, B-B-0 through B-B-9, B-B-13 through B-B-22, B-B-29 through B-B-30, C-B-1 through C-B-8, D-B-1 through D-B-6, E-B-1 through E-B-8 and F-B-1 through F-B-6 represent Bank.

HYDROLOGY

Field Observations:			
Surface Water Present?	Yes [ ]	No [✓]	Depth (inches)_____
Water Table Present?	Yes [ ]	No [✓]	Depth (inches)_____
Saturation Present (including capillary fringe)?	Yes [ ]	No [✓]	Depth (inches)_____

Wetland Hydrology Indicators

Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
[ ] Water-stained leaves	[ ] Hydrological records	[ ] Direct observation of inundation
[ ] Evidence of aquatic fauna	[ ] Free water in a soil test hole	[ ] Drainage patterns
[ ] Iron deposits	[ ] Saturated soil	[ ] Drift lines
[ ] Algal mats or crusts	[ ] Water marks	[ ] Scoured areas
[ ] Oxidized rhizospheres/pore linings	[ ] Moss trim lines	[ ] Sediment deposits
[ ] Thin muck surfaces	[ ] Presence of reduced iron	[ ] Surface soil cracks
[ ] Plants with air-filled tissue (aerenchyma)	[ ] Woody plants with adventitious roots	[ ] Sparsely vegetated concave surface
[ ] Plants with polymorphic leaves	[ ] Trees with shallow root systems	[ ] Microtopographic relief
[ ] Plants with floating leaves	[ ] Woody plants with enlarged lenticels	[ ] Geographic position (depression, toe of slope, fringing lowland
[ ] Hydrogen sulfide odor		

Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

Form Revised July 2023

Sampling Point B-UPL-1

VEGETATION – Use both common and scientific names of plants.

Tree Stratum Plot size 30'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	38.0	Yes	Yes
2. red oak	Quercus rubra	FACU	20.5	Yes	No
3. gray birch	Betula populifolia	FAC	3.0	No	Yes
4.					
5.					
6.					
7.					
8.					
9.					

61.5 = Total Cover

Shrub/Sapling Stratum Plot size 15'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	20.5	Yes	Yes
2. gray birch	Betula populifolia	FAC	10.5	Yes	Yes
3. eastern hemlock	Tsuga canadensis	FACU	3.0	No	Yes
4.					
5.					
6.					
7.					
8.					
9.					

34.0 = Total Cover

Herb Stratum Plot size 5'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Canada goldenrod	Solidago canadensis	FACU	38.0	Yes	No
2. raspberry	Rubus idaeus	FACU	20.5	Yes	No
3. common plantain	Plantago major	FACU	10.5	No	No
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

69.0 = Total Cover

Sampling Point B-UPL-1

VEGETATION – continued.

Woody Vine Stratum Plot size 30'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Asian bittersweet	Celastrus orbiculatus	UPL	3.0	Yes	No
2.					
3.					
4.					
		3.0 = Total Cover			

Rapid Test: Do all dominant species have an indicator status of OBL or FACW? Yes ☐ No ☑

Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species?
	7	3	Yes ☐ No ☑

Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species	0	X 1	= 0.00
	FACW species	0	X 2	= 0.00
	FAC species	72	X 3	= 216.00
	FACU species	93	X 4	= 370.00
	UPL species	3	X 5	= 15.00
	Column Totals	(A) 167.5		(B) 601
	Prevalence Index	B/A = 3.59		Is the Prevalence Index ≤ 3.0? Yes ☐ No ☑

Wetland vegetation criterion met? Yes ☐ No ☑

Definitions of Vegetation Strata

Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height

Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall

Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall

Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

Sampling Point B-UPL-1

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0-4	10YR 3/3	100.00					gravelly loam	
4-18+	10YR 4/6	100.00					loam	with stoney inclusions

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators (Check all that apply)		**Indicators for Problematic Hydric Soils**
☐ Histosol (A1)	☐ Polyvalue Below Surface (S8)	☐ 2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Thin Dark Surface (S9)	☐ 5 cm Mucky Peat or Peat (S3)
☐ Black Histic (A3)	☐ Loamy Gleyed Matrix (F2)	☐ Iron-Manganese Masses (F12)
☐ Hydrogen Sulfide (A4)	☐ Depleted Matrix (F3)	☐ Mesic Spodic (A17)
☐ Stratified Layers (A5)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	
☐ Sandy Mucky Mineral (S1)		
☐ Sandy Gleyed Matrix (S4)		
☐ Sandy Redox (S5)		☐ Other (Include Explanation in Remarks)
☐ Stripped Matrix (S6)		
☐ Dark Surface (S7)		

Restrictive Layer (if observed) Type: _____ Depth (inches): _____

Remarks:

Hydric Soils criterion met? **Yes** ☐ **No** ☑

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: Mount Washington Road City/Town: Egremont Sampling Date: 12/14/2023

Applicant/Owner: Town of Egremont Sampling Point or Zone: B-UPL-2

Investigator(s): I. Church Latitude / Longitude: 42.160418, -73.469811

Soil Map Unit Name: 932E- Taconic-Macomber association, steep very stony NWI or DEP Classification: NC

Are climatic/hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks)

Are Vegetation [ ], Soil [ ] , or Hydrology [ ] significantly disturbed? (If yes, explain in Remarks)

Are Vegetation [ ], Soil [ ] , or Hydrology [ ] naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes [ ]	No [✓]	**Is the Sampled Area within a Wetland?** **Yes** [ ] **No** [✓]
Hydric Soils criterion met?	Yes [ ]	No [✓]	
Wetlands hydrology present?	Yes [ ]	No [✓]	

Remarks, Photo Details, Flagging, etc.:

Flags B-WF-10 through B-WF-12 and B-WF-23 through B-WF-28 are representative of BVW boundary. Flags A-B-1 through A-B-10, B-B-0 through B-B-9, B-B-13 through B-B-22, B-B-29 through B-B-30, C-B-1 through C-B-8, D-B-1 through D-B-6, E-B-1 through E-B-8 and F-B-1 through F-B-6 represent Bank.

HYDROLOGY

Field Observations:			
Surface Water Present?	Yes [ ]	No [✓]	Depth (inches)_____
Water Table Present?	Yes [ ]	No [✓]	Depth (inches)_____
Saturation Present (including capillary fringe)?	Yes [ ]	No [✓]	Depth (inches)_____

Wetland Hydrology Indicators

Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
[ ] Water-stained leaves	[ ] Hydrological records	[ ] Direct observation of inundation
[ ] Evidence of aquatic fauna	[ ] Free water in a soil test hole	[ ] Drainage patterns
[ ] Iron deposits	[ ] Saturated soil	[ ] Drift lines
[ ] Algal mats or crusts	[ ] Water marks	[ ] Scoured areas
[ ] Oxidized rhizospheres/pore linings	[ ] Moss trim lines	[ ] Sediment deposits
[ ] Thin muck surfaces	[ ] Presence of reduced iron	[ ] Surface soil cracks
[ ] Plants with air-filled tissue (aerenchyma)	[ ] Woody plants with adventitious roots	[ ] Sparsely vegetated concave surface
[ ] Plants with polymorphic leaves	[ ] Trees with shallow root systems	[ ] Microtopographic relief
[ ] Plants with floating leaves	[ ] Woody plants with enlarged lenticels	[ ] Geographic position (depression, toe of slope, fringing lowland
[ ] Hydrogen sulfide odor		

Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

Form Revised July 2023

Sampling Point B-UPL-2

VEGETATION – Use both common and scientific names of plants.

Tree Stratum Plot size 30'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	38.0	Yes	Yes
2. red oak	Quercus rubra	FACU	20.5	Yes	No
3. gray birch	Betula populifolia	FAC	10.5	No	Yes
4.					
5.					
6.					
7.					
8.					
9.					

69.0 = Total Cover

Shrub/Sapling Stratum Plot size 15'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	38.0	Yes	Yes
2. gray birch	Betula populifolia	FAC	20.5	Yes	Yes
3.					
4.					
5.					
6.					
7.					
8.					
9.					

58.5 = Total Cover

Herb Stratum Plot size 5'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Canada goldenrod	Solidago canadensis	FACU	38.0	Yes	No
2. raspberry	Rubus idaeus	FACU	20.5	Yes	No
3. royal fern	Osmunda regalis	OBL	3.0	No	Yes
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

61.5 = Total Cover

Sampling Point B-UPL-2

VEGETATION – continued.

Woody Vine Stratum Plot size 30'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Asian bittersweet	Celastrus orbiculatus	UPL	3.0	Yes	No
2.					
3.					
4.					
		3.0 = Total Cover			

Rapid Test: Do all dominant species have an indicator status of OBL or FACW? Yes ☐ No ☑

Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species?
	7	3	Yes ☐ No ☑

Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species	3	X 1	= 3.00
	FACW species	0	X 2	= 0.00
	FAC species	107	X 3	= 321.00
	FACU species	79	X 4	= 316.00
	UPL species	3	X 5	= 15.00
	Column Totals	(A) 192		(B) 655
	Prevalence Index	B/A = 3.41		Is the Prevalence Index ≤ 3.0? Yes ☐ No ☑

Wetland vegetation criterion met? Yes ☐ No ☑

Definitions of Vegetation Strata

Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height

Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall

Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall

Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

Sampling Point B-UPL-2

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0-4	10YR 3/3	100.00					gravelly loam	
4-18+	10YR 4/6	100.00					loam	with stoney inclusions

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators (Check all that apply)		**Indicators for Problematic Hydric Soils**
☐ Histosol (A1)	☐ Polyvalue Below Surface (S8)	☐ 2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Thin Dark Surface (S9)	☐ 5 cm Mucky Peat or Peat (S3)
☐ Black Histic (A3)	☐ Loamy Gleyed Matrix (F2)	☐ Iron-Manganese Masses (F12)
☐ Hydrogen Sulfide (A4)	☐ Depleted Matrix (F3)	☐ Mesic Spodic (A17)
☐ Stratified Layers (A5)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	
☐ Sandy Mucky Mineral (S1)		
☐ Sandy Gleyed Matrix (S4)		
☐ Sandy Redox (S5)		☐ Other (Include Explanation in Remarks)
☐ Stripped Matrix (S6)		
☐ Dark Surface (S7)		

Restrictive Layer (if observed) Type: _____ Depth (inches): _____

Remarks:

Hydric Soils criterion met? **Yes** ☐ **No** ☑

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: Mount Washington Road City/Town: Egremont Sampling Date: 12/14/2023

Applicant/Owner: Town of Egremont Sampling Point or Zone: B-WET-1

Investigator(s): I. Church Latitude / Longitude: 42.160059, -73.469595

Soil Map Unit Name: 932E- Taconic-Macomber association, steep very stony NWI or DEP Classification: NC

Are climatic/hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks)

Are Vegetation [ ], Soil [ ] , or Hydrology [ ] significantly disturbed? (If yes, explain in Remarks)

Are Vegetation [ ], Soil [ ] , or Hydrology [ ] naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** **Yes** [✓] **No** [ ]
Hydric Soils criterion met?	Yes [✓]	No [ ]	
Wetlands hydrology present?	Yes [✓]	No [ ]	

Remarks, Photo Details, Flagging, etc.:

Flags B-WF-10 through B-WF-12 and B-WF-23 through B-WF-28 are representative of BVW boundary. Flags A-B-1 through A-B-10, B-B-0 through B-B-9, B-B-13 through B-B-22, B-B-29 through B-B-30, C-B-1 through C-B-8, D-B-1 through D-B-6, E-B-1 through E-B-8 and F-B-1 through F-B-6 represent Bank.

HYDROLOGY

Field Observations:			
Surface Water Present?	Yes [ ]	No [✓]	Depth (inches)
Water Table Present?	Yes [✓]	No [ ]	Depth (inches) 2.00
Saturation Present (including capillary fringe)?	Yes [✓]	No [ ]	Depth (inches) 0.00

Wetland Hydrology Indicators

Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
[ ] Water-stained leaves	[ ] Hydrological records	[ ] Direct observation of inundation
[ ] Evidence of aquatic fauna	[✓] Free water in a soil test hole	[✓] Drainage patterns
[ ] Iron deposits	[✓] Saturated soil	[ ] Drift lines
[ ] Algal mats or crusts	[ ] Water marks	[ ] Scoured areas
[ ] Oxidized rhizospheres/pore linings	[ ] Moss trim lines	[ ] Sediment deposits
[ ] Thin muck surfaces	[ ] Presence of reduced iron	[ ] Surface soil cracks
[ ] Plants with air-filled tissue (aerenchyma)	[ ] Woody plants with adventitious roots	[ ] Sparsely vegetated concave surface
[ ] Plants with polymorphic leaves	[ ] Trees with shallow root systems	[ ] Microtopographic relief
[ ] Plants with floating leaves	[ ] Woody plants with enlarged lenticels	[ ] Geographic position (depression, toe of slope, fringing lowland
[✓] Hydrogen sulfide odor		

Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):

Adjacent to small channel off of Karner Brook.

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

Form Revised July 2023

Sampling Point B-WET-1

VEGETATION – Use both common and scientific names of plants.

Tree Stratum Plot size 30'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	63.0	Yes	Yes
2. red oak	Quercus rubra	FACU	10.5	No	No
3. eastern hemlock	Tsuga canadensis	FACU	3.0	No	Yes
4. American elm	Ulmus americana	FACW	3.0	No	Yes
5.					
6.					
7.					
8.					
9.					

79.5 = Total Cover

Shrub/Sapling Stratum Plot size 15'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	38.0	Yes	Yes
2. American elm	Ulmus americana	FACW	10.5	No	Yes
3.					
4.					
5.					
6.					
7.					
8.					
9.					

48.5 = Total Cover

Herb Stratum Plot size 5'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. royal fern	Osmunda regalis	OBL	38.0	Yes	Yes
2. northern lady fern	Athyrium angustum	FAC	20.5	Yes	Yes
3. sedges	Carex spp.	OBL	10.5	No	Yes
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

69.0 = Total Cover

Sampling Point B-WET-1

VEGETATION – continued.

Woody Vine Stratum Plot size _____

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1.					
2.					
3.					
4.					
			0.0 = Total Cover		

Rapid Test: Do all dominant species have an indicator status of OBL or FACW? Yes ☐ No ☑

Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species?
	4	4	Yes ☑ No ☐

Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species	49	X 1	= 48.50
	FACW species	14	X 2	= 27.00
	FAC species	122	X 3	= 364.50
	FACU species	14	X 4	= 54.00
	UPL species	0	X 5	= 0.00
	Column Totals	(A) 197		(B) 494
	Prevalence Index	B/A = 2.51		Is the Prevalence Index ≤ 3.0? Yes ☑ No ☐

Wetland vegetation criterion met? Yes ☑ No ☐

Definitions of Vegetation Strata

Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height

Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall

Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall

Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

Sampling Point B-WET-1

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0-8	10YR 2/1	100.00					muck	
8-18+	10YR 5/1	100.00					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators (Check all that apply)		**Indicators for Problematic Hydric Soils**
☐ Histosol (A1)	☐ Polyvalue Below Surface (S8)	☐ 2 cm Muck (A10)
☑ Histic Epipedon (A2)	☐ Thin Dark Surface (S9)	☐ 5 cm Mucky Peat or Peat (S3)
☐ Black Histic (A3)	☐ Loamy Gleyed Matrix (F2)	☐ Iron-Manganese Masses (F12)
☐ Hydrogen Sulfide (A4)	☐ Depleted Matrix (F3)	☐ Mesic Spodic (A17)
☐ Stratified Layers (A5)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	
☐ Sandy Mucky Mineral (S1)		
☐ Sandy Gleyed Matrix (S4)		
☐ Sandy Redox (S5)		☐ Other (Include Explanation in Remarks)
☐ Stripped Matrix (S6)		
☐ Dark Surface (S7)		

Restrictive Layer (if observed) Type: _____ Depth (inches): _____

Remarks: Sedges only consisted of early growth with no seed heads or other determinate features, not yet possible to determine species.

Hydric Soils criterion met? **Yes** ☑ **No** ☐

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: Mount Washington Road City/Town: Egremont Sampling Date: 12/14/2023

Applicant/Owner: Town of Egremont Sampling Point or Zone: B-WET-2

Investigator(s): I. Church Latitude / Longitude: 42.160072, -73.469892

Soil Map Unit Name: 932E- Taconic-Macomber association, steep very stony NWI or DEP Classification: NC

Are climatic/hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks)

Are Vegetation [ ], Soil [ ] , or Hydrology [ ] significantly disturbed? (If yes, explain in Remarks)

Are Vegetation [ ], Soil [ ] , or Hydrology [ ] naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes [✓] No [ ]	**Is the Sampled Area within a Wetland?**	**Yes [✓] No [ ]**
Hydric Soils criterion met?	Yes [✓] No [ ]		
Wetlands hydrology present?	Yes [✓] No [ ]		

Remarks, Photo Details, Flagging, etc.:

Flags B-WF-10 through B-WF-12 and B-WF-23 through B-WF-28 are representative of BVW boundary. Flags A-B-1 through A-B-10, B-B-0 through B-B-9, B-B-13 through B-B-22, B-B-29 through B-B-30, C-B-1 through C-B-8, D-B-1 through D-B-6, E-B-1 through E-B-8 and F-B-1 through F-B-6 represent Bank.

HYDROLOGY

Field Observations:			
Surface Water Present?	Yes [ ]	No [✓]	Depth (inches)
Water Table Present?	Yes [✓]	No [ ]	Depth (inches) 3.00
Saturation Present (including capillary fringe)?	Yes [✓]	No [ ]	Depth (inches) 0.00

Wetland Hydrology Indicators

Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
[ ] Water-stained leaves	[ ] Hydrological records	[ ] Direct observation of inundation
[ ] Evidence of aquatic fauna	[✓] Free water in a soil test hole	[ ] Drainage patterns
[ ] Iron deposits	[✓] Saturated soil	[ ] Drift lines
[ ] Algal mats or crusts	[ ] Water marks	[ ] Scoured areas
[ ] Oxidized rhizospheres/pore linings	[ ] Moss trim lines	[ ] Sediment deposits
[ ] Thin muck surfaces	[ ] Presence of reduced iron	[ ] Surface soil cracks
[ ] Plants with air-filled tissue (aerenchyma)	[ ] Woody plants with adventitious roots	[ ] Sparsely vegetated concave surface
[ ] Plants with polymorphic leaves	[ ] Trees with shallow root systems	[ ] Microtopographic relief
[ ] Plants with floating leaves	[ ] Woody plants with enlarged lenticels	[ ] Geographic position (depression, toe of slope, fringing lowland
[✓] Hydrogen sulfide odor		

Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):

Adjacent to small channel off of Karner Brook.

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

Form Revised July 2023

Sampling Point B-WET-2

VEGETATION – Use both common and scientific names of plants.

Tree Stratum Plot size 30'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	63.0	Yes	Yes
2. red oak	Quercus rubra	FACU	10.5	No	No
3. eastern hemlock	Tsuga canadensis	FACU	10.5	No	Yes
4. gray birch	Betula populifolia	FAC	3.0	No	Yes
5.					
6.					
7.					
8.					
9.					

87.0 = Total Cover

Shrub/Sapling Stratum Plot size 15'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. red maple	Acer rubrum	FAC	38.0	Yes	Yes
2. American elm	Ulmus americana	FACW	20.5	Yes	Yes
3. eastern hemlock	Tsuga canadensis	FACU	3.0	No	Yes
4.					
5.					
6.					
7.					
8.					
9.					

61.5 = Total Cover

Herb Stratum Plot size 5'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. northern lady fern	Athyrium angustum	FAC	20.5	Yes	Yes
2. royal fern	Osmunda regalis	OBL	10.5	Yes	Yes
3. sensitive fern	Onoclea sensibilis	FACW	3.0	No	Yes
4. sedges	Carex spp.	OBL	3.0	No	Yes
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

37.0 = Total Cover

Sampling Point B-WET-2

VEGETATION – continued.

Woody Vine Stratum Plot size _____

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1.					
2.					
3.					
4.					
			0.0 = Total Cover		

Rapid Test: Do all dominant species have an indicator status of OBL or FACW? Yes ☐ No ☑

Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species?
	5	5	Yes ☑ No ☐

Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species	14	X 1	= 13.50
	FACW species	24	X 2	= 47.00
	FAC species	125	X 3	= 373.50
	FACU species	24	X 4	= 96.00
	UPL species	0	X 5	= 0.00
	Column Totals	(A) 185.5		(B) 530
	Prevalence Index	B/A = 2.86		Is the Prevalence Index ≤ 3.0? Yes ☑ No ☐

Wetland vegetation criterion met? Yes ☑ No ☐

Definitions of Vegetation Strata

Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height

Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall

Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall

Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

Sampling Point B-WET-2

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0-10	10YR 2/1	100.00					muck	
10-18+	10YR 5/1	100.00					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators (Check all that apply)		**Indicators for Problematic Hydric Soils**
☐ Histosol (A1)	☐ Polyvalue Below Surface (S8)	☐ 2 cm Muck (A10)
☑ Histic Epipedon (A2)	☐ Thin Dark Surface (S9)	☐ 5 cm Mucky Peat or Peat (S3)
☐ Black Histic (A3)	☐ Loamy Gleyed Matrix (F2)	☐ Iron-Manganese Masses (F12)
☐ Hydrogen Sulfide (A4)	☐ Depleted Matrix (F3)	☐ Mesic Spodic (A17)
☐ Stratified Layers (A5)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	
☐ Sandy Mucky Mineral (S1)		
☐ Sandy Gleyed Matrix (S4)		
☐ Sandy Redox (S5)		☐ Other (Include Explanation in Remarks)
☐ Stripped Matrix (S6)		
☐ Dark Surface (S7)		

Restrictive Layer (if observed) Type: _____ Depth (inches): _____

Remarks: Sedges only consisted of early growth with no seed heads or other determinate features, not yet possible to determine species.

Hydric Soils criterion met? **Yes** ☑ **No** ☐

Attachment B

Photo Log



Figure 1. Well defined banks of Karner Brook near flag series A.



Figure 2. Well defined banks of Karner Brook near flag series B.



Figure 3. Downgradient view of monitoring plot B-WET-1.



Figure 4. Downgradient view of monitoring plot B-WET-2.



Figure 5. Upgradient view of monitoring plot B-UPL-1.



Figure 6. Upgradient view of monitoring plot B-UPL-2.



Figure 7. Downstream view of the 206 Mount Washington Road crossing, flag series D.



Figure 8. Upstream view of the 210 Mount Washington Road crossing, flag series E.



Figure 9. Downstream side of the 210 Mount Washington Road crossing, flag series F.

Notice of Intent
Reconstruction of Mount Washington Road (Phase 1)
Egremont, MA

Appendix F – Abutters List

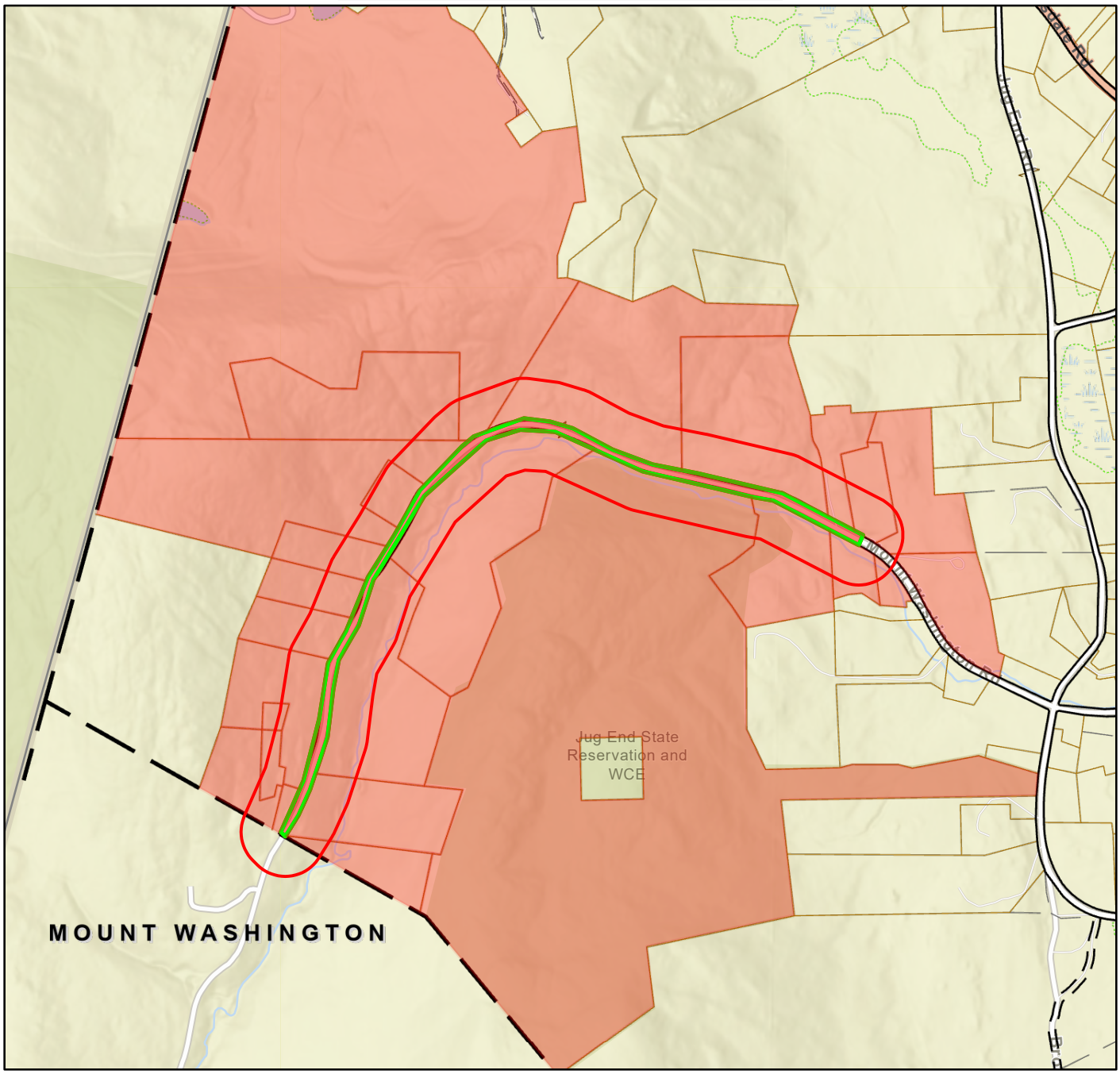
Town of Egremont, MA

1 inch = 1117 Feet

0 1117 2234 3351

May 20, 2024

CAI Technologies
Precision Mapping, Geospatial Solutions
www.cai-tech.com



Large Scale	Private Road ROW	Town Line TIC
CAI Town Line	Tract Line	Wetland
Property Line	Dashed Road	
Public Road	Property Hook	

Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

300 feet Abutters List Report

Egremont, MA
May 20, 2024

Subject Property:

Abutters:

Parcel Number:	008-0122.A	Mailing Address:	COMM. OF MASS. - DFW DIVISION OF FISHERIES AND WILDLIFE 201 DEVONSHIRE ST BOSTON, MA 02110
CAMA Number:	002.Q-0301-0107.3		
Property Address:	0 MT WASHINGTON RD		
Parcel Number:	007-0089.0	Mailing Address:	GARCIA, PAUL FLOREZ, NICHOLACE PO BOX 82 SO EGREMONT, MA 01258
CAMA Number:	007.0-0000-0089.0		
Property Address:	133 MT WASHINGTON RD		
Parcel Number:	007-0089.B	Mailing Address:	GARCIA, PAUL FLOREZ, NICHOLACE PO BOX 82 SO EGREMONT, MA 01258
CAMA Number:	007.0-0000-0089.B		
Property Address:	133 MT WASHINGTON RD		
Parcel Number:	007-0152.0	Mailing Address:	CANDEE, WARREN R, TR CANDEE NOMINEE TRUST 212 HILLSDALE RD GT BARRINGTON, MA 01230-9727
CAMA Number:	007.0-0000-0152.0		
Property Address:	0 MT WASHINGTON RD		
Parcel Number:	007-0316.0	Mailing Address:	BALLON, MICHAEL L KREILKAMP. JULIA 229 MT WASHINGTON RD GT BARRINGTON, MA 01230
CAMA Number:	007.0-0000-0316.0		
Property Address:	229 MT WASHINGTON RD		
Parcel Number:	007-0337.0	Mailing Address:	NATURE CONSERVANCY 4245 NO FAIRFAX DR ARLINGTON, VA 22203-1606
CAMA Number:	007.0-0000-0337.0		
Property Address:	0 MT WASHINGTON RD		
Parcel Number:	007-0368.A	Mailing Address:	EGREMONT, TOWN OF P O BOX 368 SO EGREMONT, MA 01258
CAMA Number:	007.0-0000-0368.A		
Property Address:	0 JUG END RD		
Parcel Number:	007-0426.0	Mailing Address:	MURPHY, JAMES PATRICK 232 MT. WASHINGTON RD GT. BARRINGTON, MA 01230
CAMA Number:	007.0-0000-0426.0		
Property Address:	232 MT WASHINGTON RD		
Parcel Number:	007-0434.0	Mailing Address:	AMES, DAVID 107 BARRETT HILL RD MAHOPAC, NY 10541
CAMA Number:	007.0-0000-0434.0		
Property Address:	234 MT WASHINGTON RD		
Parcel Number:	007-0510.0	Mailing Address:	ROSENBLATT, FLORENCE C/O ROSENBLATT, ANDRE 160 EAST 72ND ST NEW YORK, NY 10021
CAMA Number:	007.0-0000-0510.0		
Property Address:	144 MT WASHINGTON RD		
Parcel Number:	007-0692.0	Mailing Address:	HAPP, KATHY L 111 SILVER SPRINGS RD BAILEY, CO 80421
CAMA Number:	007.0-0000-0692.0		
Property Address:	0 MT WASHINGTON RD		

Data shown on this report is provided for planning and informational purposes only. The municipality and CAI Technologies, Inc. are not responsible for any use for other purposes or misuse or misrepresentation of this report. We make no warranties regarding accuracy or completeness, and assume no liability associated with the use of this data unless it is signed by two members of The Egremont Board of assessors.

300 feet Abutters List Report

Egremont, MA
May 20, 2024

Parcel Number:	007-0764.0	Mailing Address:	THE NATURE CONSERVANCY
CAMA Number:	007.0-0000-0764.0		99 BEDFORD RD, 5TH FL
Property Address:	175 MT WASHINGTON RD		BOSTON, MA 02111
Parcel Number:	007-0769.0	Mailing Address:	SBLENDORIO, LEO
CAMA Number:	007.0-0000-0769.0		SBLENDORIO,OLIVIA
Property Address:	226 MT WASHINGTON RD		226 MT WASHINGTON RD
			GREAT BARRINGTON, MA 01230
Parcel Number:	007-0798.0	Mailing Address:	KATZ, ROBERT M KATZ, LINDA S
CAMA Number:	007.0-0000-0798.0		19 ASCOT RIDGE
Property Address:	214 MT WASHINGTON RD		GREAT NECK, NY 11021
Parcel Number:	008-0017.0	Mailing Address:	LEIFER, BERNARD LEIFER, SUSAN
CAMA Number:	008.0-0000-0017.0		146 MT WASHINGTON RD
Property Address:	146 MT WASHINGTON RD		GREAT BARRINGTON, MA 01230
Parcel Number:	008-0122.0	Mailing Address:	SADHANA, AMY SADHANA, WYOME &
CAMA Number:	008.0-0000-0122.0		SADHANA, BRIAN
Property Address:	200 MT WASHINGTON RD		200 MT WASHINGTON RD
			GT BARRINGTON, MA 01230
Parcel Number:	008-0122.A	Mailing Address:	EGREMONT LAND TRUST INC
CAMA Number:	008.0-0000-0122.A		PO BOX 132
Property Address:	0 MT WASHINGTON RD		SO EGREMONT, MA 01258
Parcel Number:	008-0241.0	Mailing Address:	EGREMONT LAND TRUST INC
CAMA Number:	008.0-0000-0241.0		P O BOX 132
Property Address:	0 MT WASHINGTON RD		SO EGREMONT, MA 01258
Parcel Number:	008-0537.0	Mailing Address:	STOTT, MARK A & ELIZABETH K
CAMA Number:	008.0-0000-0537.0		25 LANCASTER ST
Property Address:	150 MT WASHINGTON RD		CAMBRIDGE, MA 02140
Parcel Number:	008-0601.0	Mailing Address:	BORENZWEIG, CLAUDE FELDMAN,
CAMA Number:	008.0-0000-0601.0		LOUISE
Property Address:	210 MT WASHINGTON RD		PO BOX 714
			SOUTH EGREMONT, MA 01258
Parcel Number:	008-0601.A	Mailing Address:	CHRISTINE, ELMER
CAMA Number:	008.0-0000-0601.A		612 SARAH ST
Property Address:	206 MT WASHINGTON RD		STROUDSBURG, PA 18360
Parcel Number:	008-0689.0	Mailing Address:	CATAMOUNT SKI RESORT LLC
CAMA Number:	008.0-0000-0689.0		PO BOX 128
Property Address:	17 NICHOLSON RD		SO EGREMONT, MA 01258
Parcel Number:	008-0926.0	Mailing Address:	EGREMONT, TOWN OF
CAMA Number:	008.0-0000-0926.0		PO BOX 368
Property Address:	0 MT WASHINGTON RD		SO EGREMONT, MA 01258

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300 feet Abutters List Report

Egremont, MA
May 20, 2024

Parcel Number:	008-0937.0	Mailing Address:	EGREMONT, TOWN OF WATER DEPT
CAMA Number:	008.0-0000-0937.0		P O BOX 368
Property Address:	0 MT WASHINGTON RD		SO EGREMONT, MA 01258

Parcel Number:	008-1011.0	Mailing Address:	SELIGMAN, DAVID B
CAMA Number:	008.0-0000-1011.0		PO BOX 132
Property Address:	0 MT WASHINGTON RD		SOUTH EGREMONT, MA 01258

Data shown on this report is provided for planning and informational purposes only. The municipality and CAI Technologies, Inc. are not responsible for any use for other purposes or misuse or misrepresentation of this report. We make no warranties regarding accuracy or completeness, and assume no liability associated with the use of this data unless it is signed by two members of The Egremont Board of assessors.

Proposal No. 608547-132397

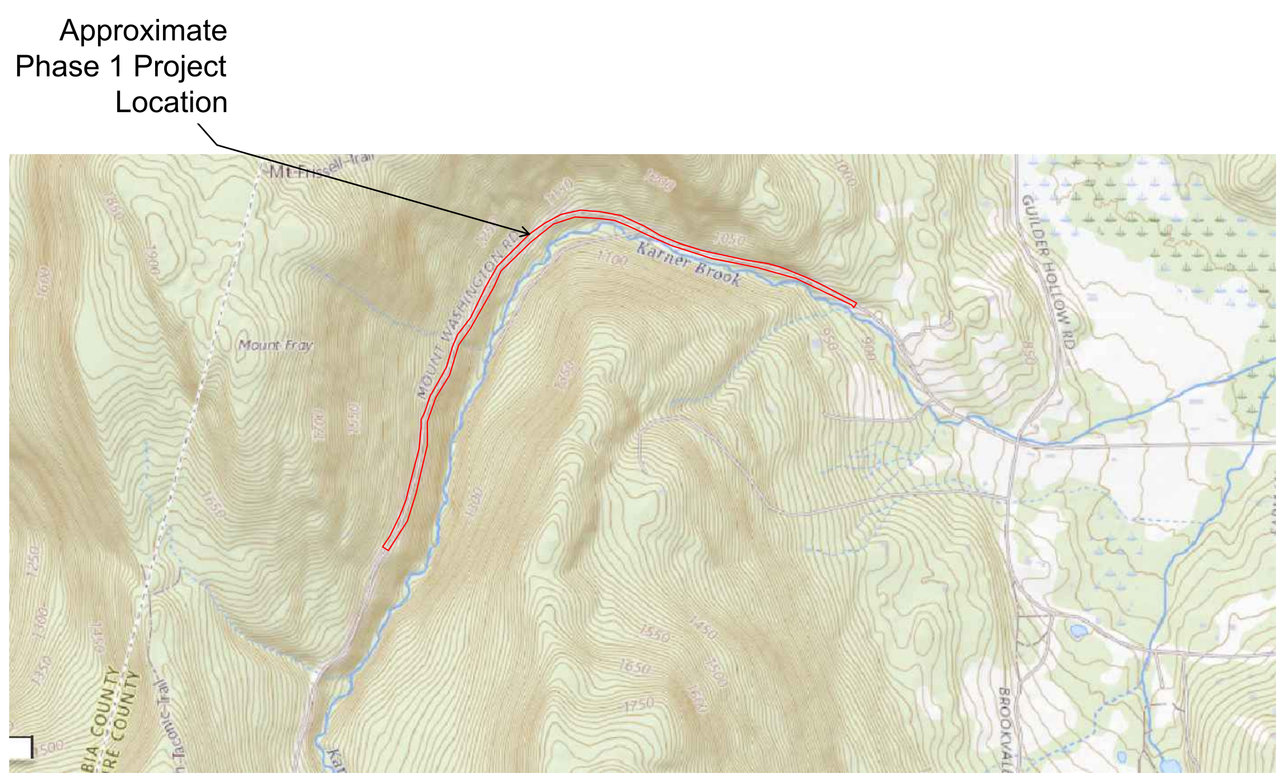
EGREMONT.DWG Plotted on 6-Nov-2023 3:25 PM

A00860 - 225

TOWN OF EGREMONT

MOUNT WASHINGTON ROAD RECONSTRUCTION PHASE 1 EGREMONT, MA

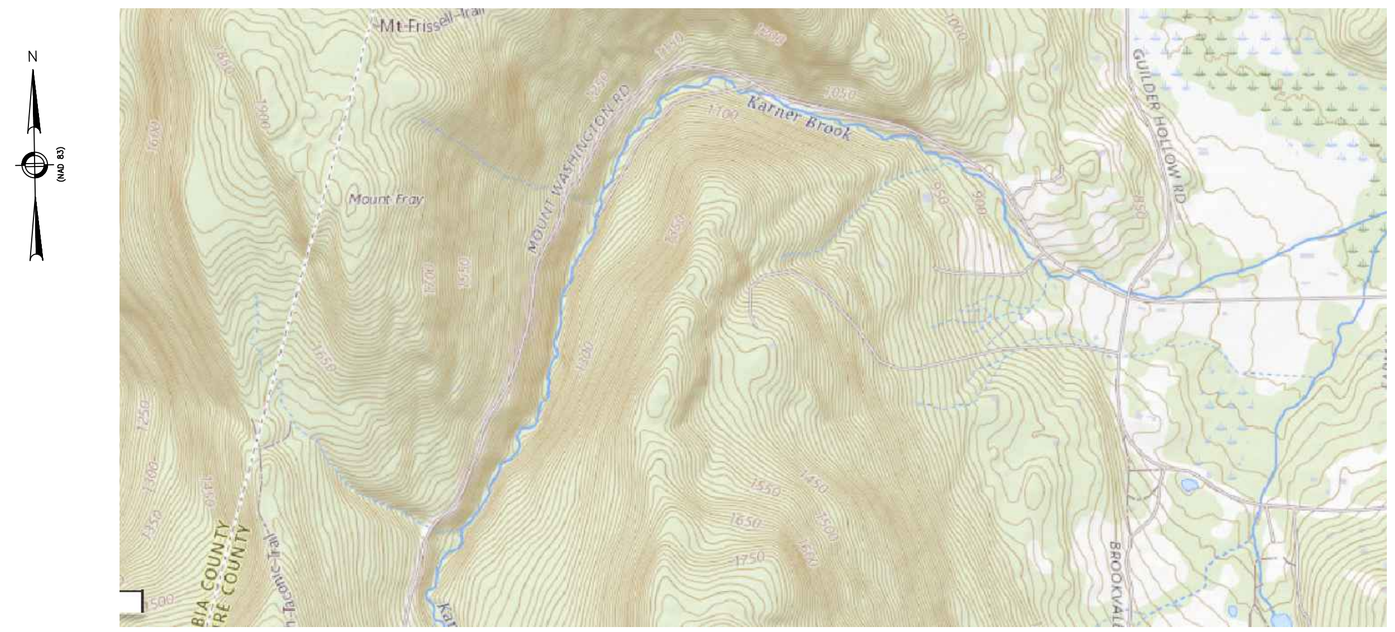
MAY 2024



LOCUS MAP
(not to scale)

INDEX

PERMITTING PLAN SHEET	DESCRIPTION
1	CONSTRUCTION PLAN-01
2	CONSTRUCTION PLAN-02
3	CONSTRUCTION PLAN-03
4	CONSTRUCTION PLAN-04
5	CONSTRUCTION PLAN-05
6	CONSTRUCTION PLAN-06
7	CONSTRUCTION PLAN-07
8	CONSTRUCTION PLAN-08
9	CONSTRUCTION PLAN-09
10	CONSTRUCTION PLAN-10
11	CONSTRUCTION PLAN-11
12	CONSTRUCTION PLAN-12
13	PERMIT PLAN -01
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24	PERMIT PLAN -12
25	CONSTRUCTION DETAILS- 1
26	CONSTRUCTION DETAILS- 2
27	CONSTRUCTION DETAILS- 3



KEY PLAN
(not to scale)

EGREMONT

PERMITTING PLANS

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
10 PARK PLAZA BOSTON, MASS

HIGHWAY GUARD DETAILS

PROP TRANSITION TO NCHRP 350 GUARDRAIL (ITEM 628.21), STA 200+00 TO STA 200+34 RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 200+34 TO STA 200+90, OFFSET RT
PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 200+90 TO STA 201+28, OFFSET RT
PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 201+81 TO STA 202+19, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 202+19 TO STA 203+10, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 203+10 TO STA 212+75, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

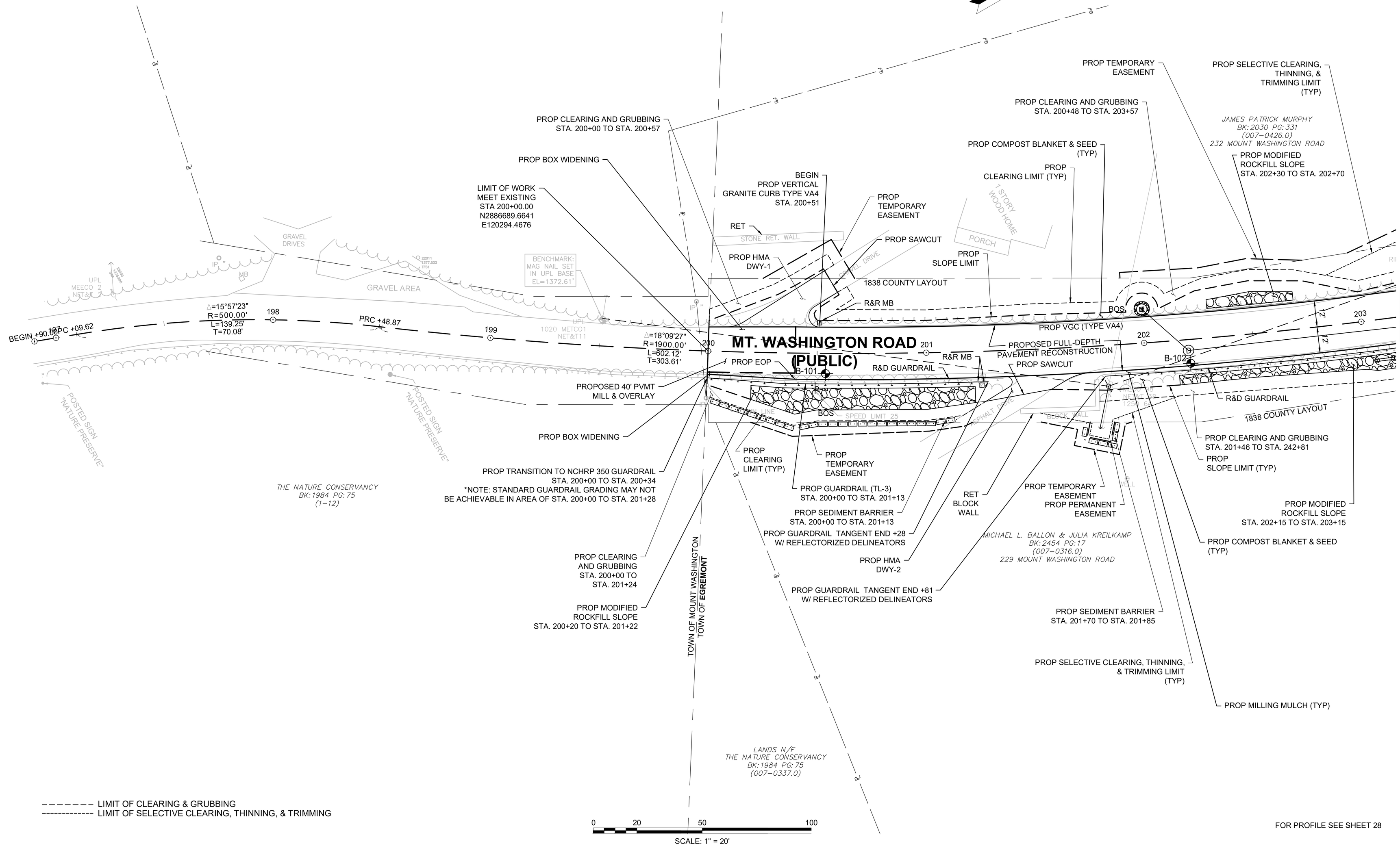
DRAINAGE DETAILS

SEE SHEET 73

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	16	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 1



– – – – – – – – LIMIT OF CLEARING & GRUBBING
---------- LIMIT OF SELECTIVE CLEARING, THINNING, & TRIMMING

FOR PROFILE SEE SHEET 28

608547_HD(CP).DWG Plotted on 17-May-2024 10:42 AM

608547_HD(CP).DWG Plotted on 17-May-2024 10:42 AM

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 202+19 TO STA 203+10, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 203+10 TO STA 212+75, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

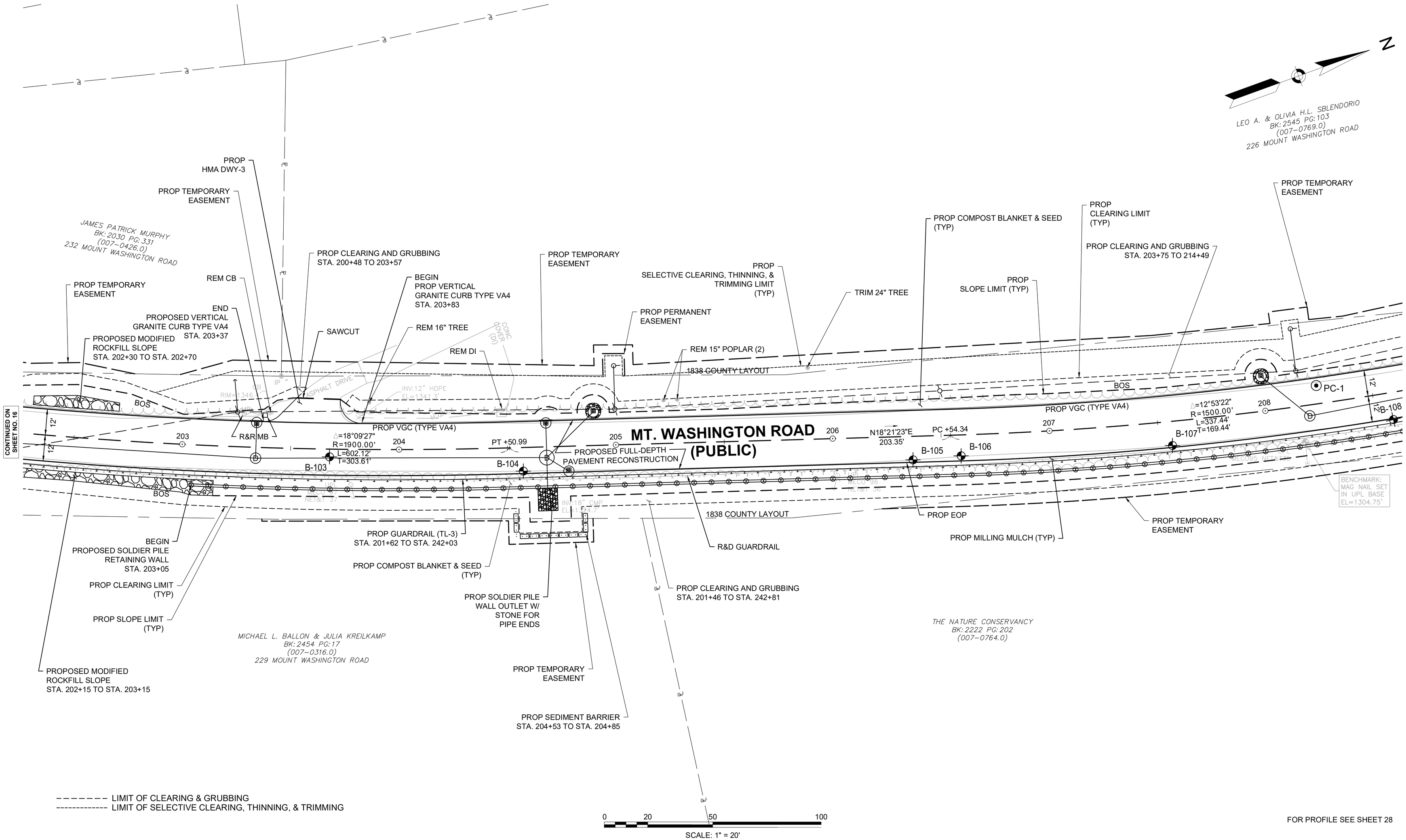
DRAINAGE DETAILS

SEE SHEET 74

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	17	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 2



FOR PROFILE SEE SHEET 28

Proposal No. 608547-132397

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 203+10 TO STA 212+75, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 212+75 TO STA 214+30, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 214+30 TO STA 216+75, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET 75

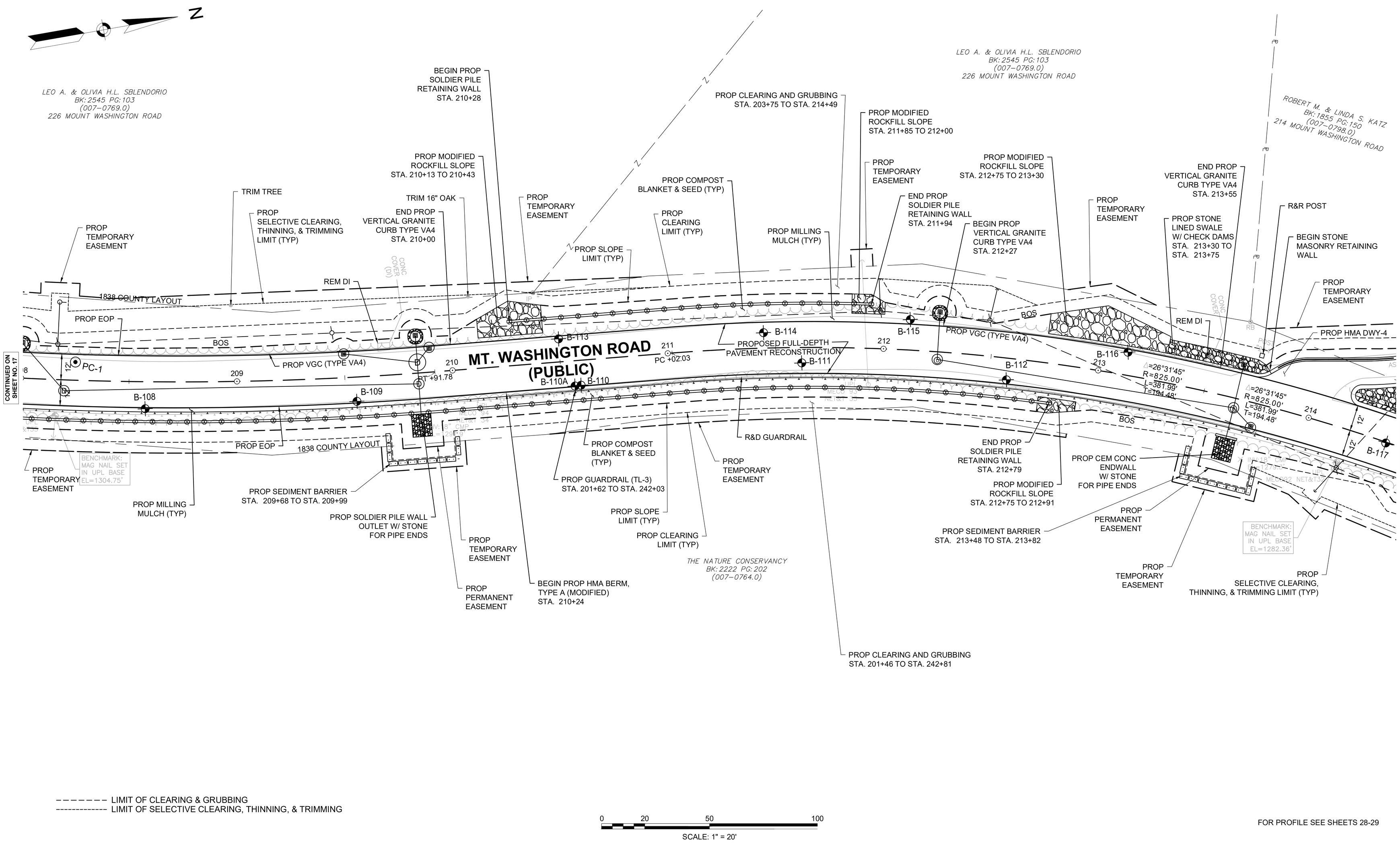
EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	18	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 3

608547_HD(CP).DWG Plotted on 17-May-2024 10:43 AM

A00860 - 228



FOR PROFILE SEE SHEETS 28-29

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 212+75 TO STA 214+30, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 214+30 TO STA 216+75, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 216+75 TO STA 221+60, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET 76

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	19	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 4

608547_HD(CP).DWG Plotted on 17-May-2024 10:43 AM

ROBERT M. & LINDA S. KATZ
BK:1855 PG:150
(007-0798.0)
214 MOUNT WASHINGTON ROAD

CLAUDE J. BORENZWEIG & LOUISE A. FELDMAN
BK:1774 PG:345
(008-0601.0)
210 MOUNT WASHINGTON ROAD

THE NATURE CONSERVANCY
BK:2222 PG:202
(007-0764.0)

MT. WASHINGTON ROAD
(PUBLIC)

BEGIN STONE MASONRY RETAINING WALL
END STONE MASONRY RETAINING WALL
BEGIN VGC TYPE VA4 - 8" REVEAL
END VGC TYPE VA4 - 6" REVEAL
PROP CLEARING AND GRUBBING STA. 214+55 TO STA. 217+02
PROP TEMPORARY EASEMENT
PROP HMA DWY-4
PROP SAWCUT
PROP COMPOST BLANKET & SEED (TYP)
PROP EOP
PROP STONE LINED SWALE W/ CHECK DAMS STA. 214+20 TO STA. 216+60
REM DI
1838 COUNTY LAYOUT
PROP TEMPORARY EASEMENT
RET WALL
STONE RETWALL
REM DI & PIPE
PROP STONE LINED SWALE W/ CHECK DAMS STA. 217+15 TO STA. 218+10
PROP MODIFIED ROCKFILL SLOPE STA. 217+80 TO STA. 218+15
BEGIN PROP SOLDIER PILE RETAINING WALL STA. 218+10
PROP CLEARING AND GRUBBING STA. 217+22 TO STA. 223+05
PROP CLEARING LIMIT (TYP)
PROP SLOPE LIMIT (TYP)
PROP MILLING MULCH (TYP)
100' BANK BUFFER
END PROP SOLDIER PILE RETAINING WALL STA. 219+35
PROP MODIFIED ROCKFILL SLOPE STA. 219+20 TO STA. 219+36
RET HEADWALL
STONE HEADWALL
INV:36" CMP EL=1224.1'
HIDDEN DRIVEWAY
TOS
BOS
CONTINUED ON SHEET NO. 18
CONTINUED ON SHEET NO. 20
△=26°31'45" R=825.00' L=381.99' T=194.48'
△=27°00'13" R=485.00' L=228.58' T=116.45'
△=19°38'05" R=750.00' L=257.02' T=129.78'
PT +84.02
PC +03.42
PRC +60.44
N31°59'46"E 119.39'
B-116
B-117
B-118
B-119
B-120
B-13
214
215
216
217
218
219
220
BENCHMARK: MAG NAIL SET IN UPL BASE EL=1282.36'
R&D
R&D BOULDERS
BOULDERS
GUARDRAIL RET. WALL
REM 28" OAK
REM 24" OAK
R&D GUARDRAIL
PROP SEDIMENT BARRIER STA. 213+48 TO STA. 213+82
PROP MODIFIED ROCKFILL SLOPE STA. 214+90 TO STA. 215+10
PROP CLEARING AND GRUBBING STA. 201+46 TO STA. 242+81
PROP TEMPORARY EASEMENT
PROP PERMANENT EASEMENT
PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS
PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)
PROP SEDIMENT BARRIER STA. 216+34 TO STA. 216+73
PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS
PROP PERMANENT EASEMENT
PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION
PROP MILLING MULCH (TYP)
PROP SEDIMENT BARRIER STA. 217+74 TO STA. 218+05
PROP PERMANENT EASEMENT
PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS
PROP COMPOST BLANKET & SEED(TYP)
PROP GUARDRAIL (TL-3) STA. 201+62 TO STA. 242+03
PROP EOP
PROP CLEARING LIMIT (TYP)
PROP SLOPE LIMIT (TYP)
PROP SEDIMENT BARRIER STA. 219+00 TO STA. 220+39
R&D GUARDRAIL
PROP TEMPORARY EASEMENT
PROP PERMANENT EASEMENT
PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS
100' RFA
FLOW
F-B-1
F-B-2
F-B-5
F-B-6
F-B-7
E-B-1
E-B-2
E-B-5
E-B-6
E-B-7
D
12"
24"
30"
36"
CMP
RCP
HDPE
MECO
NEMO
UPL
SMH
DMH
CONC COVER (D1)
RB FNDR
EM
ASPHALT DRIVE
POST

– – – – – – – – LIMIT OF CLEARING & GRUBBING
---------- LIMIT OF SELECTIVE CLEARING, THINNING, & TRIMMING

0 20 50 100
SCALE: 1" = 20'

FOR PROFILE SEE SHEET 29

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 216+75 TO STA 221+60, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 221+60 TO STA 227+85, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

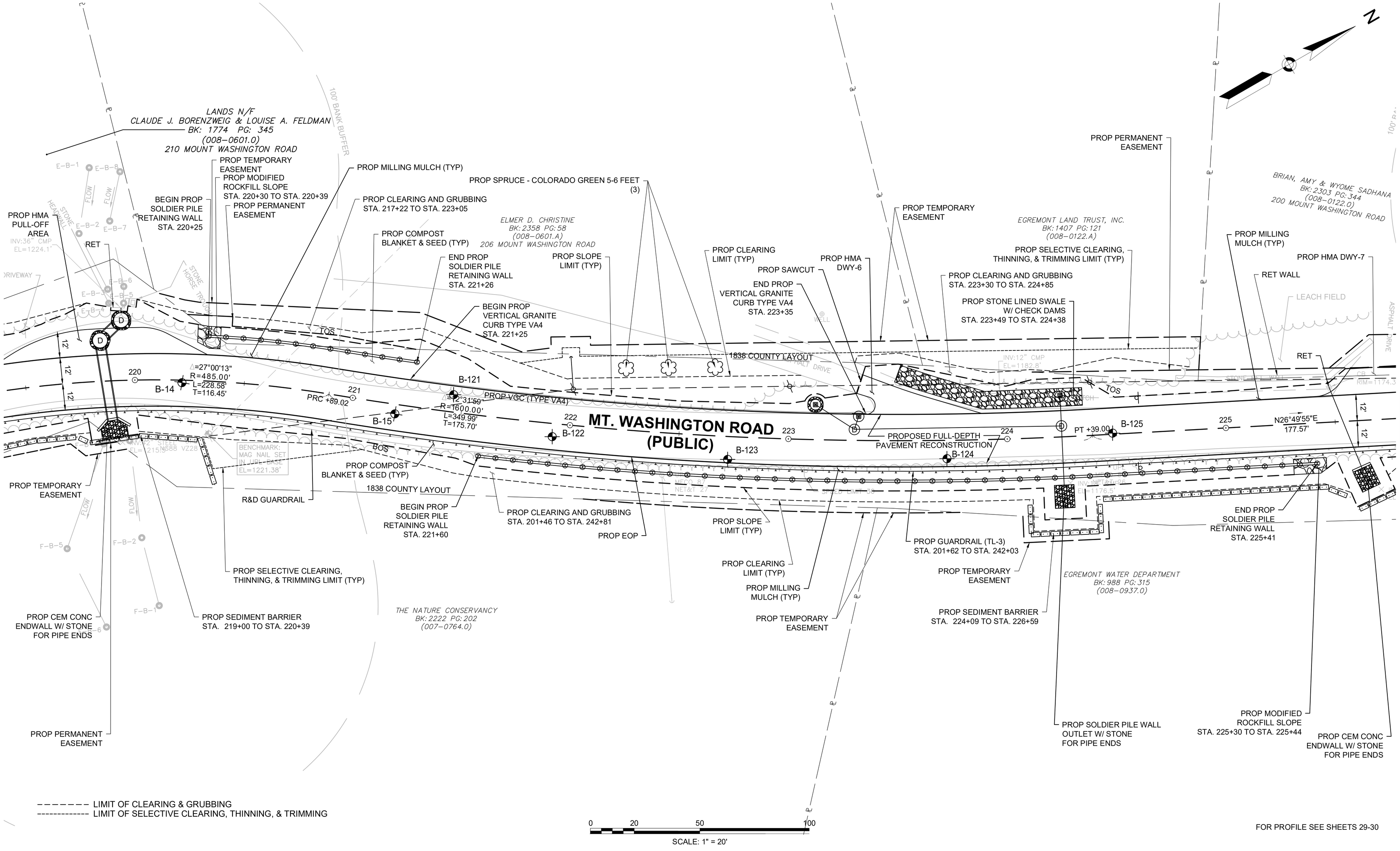
DRAINAGE DETAILS

SEE SHEET 77

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	20	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 5



608547_HD(CP).DWG Plotted on 17-May-2024 10:43 AM

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 221+60 TO STA 227+85, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 227+85 TO STA 232+00, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

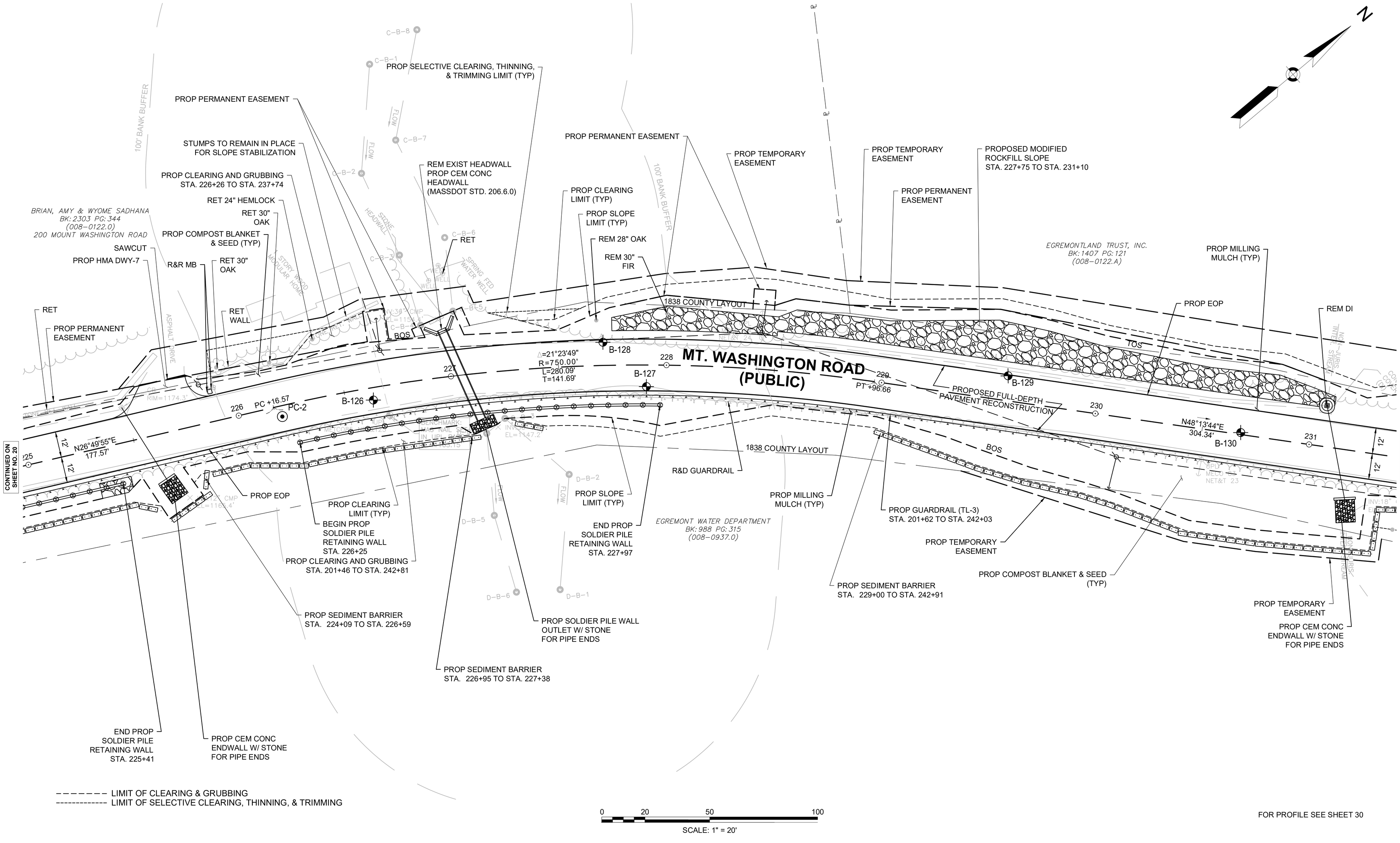
DRAINAGE DETAILS

SEE SHEET 78

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	21	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 6



– – – – – – – – LIMIT OF CLEARING & GRUBBING
---------- LIMIT OF SELECTIVE CLEARING, THINNING, & TRIMMING

FOR PROFILE SEE SHEET 30

608547_HD(CP).DWG Plotted on 17-May-2024 10:43 AM

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 232+00 TO STA 234+00, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 234+00 TO STA 239+50, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET 79

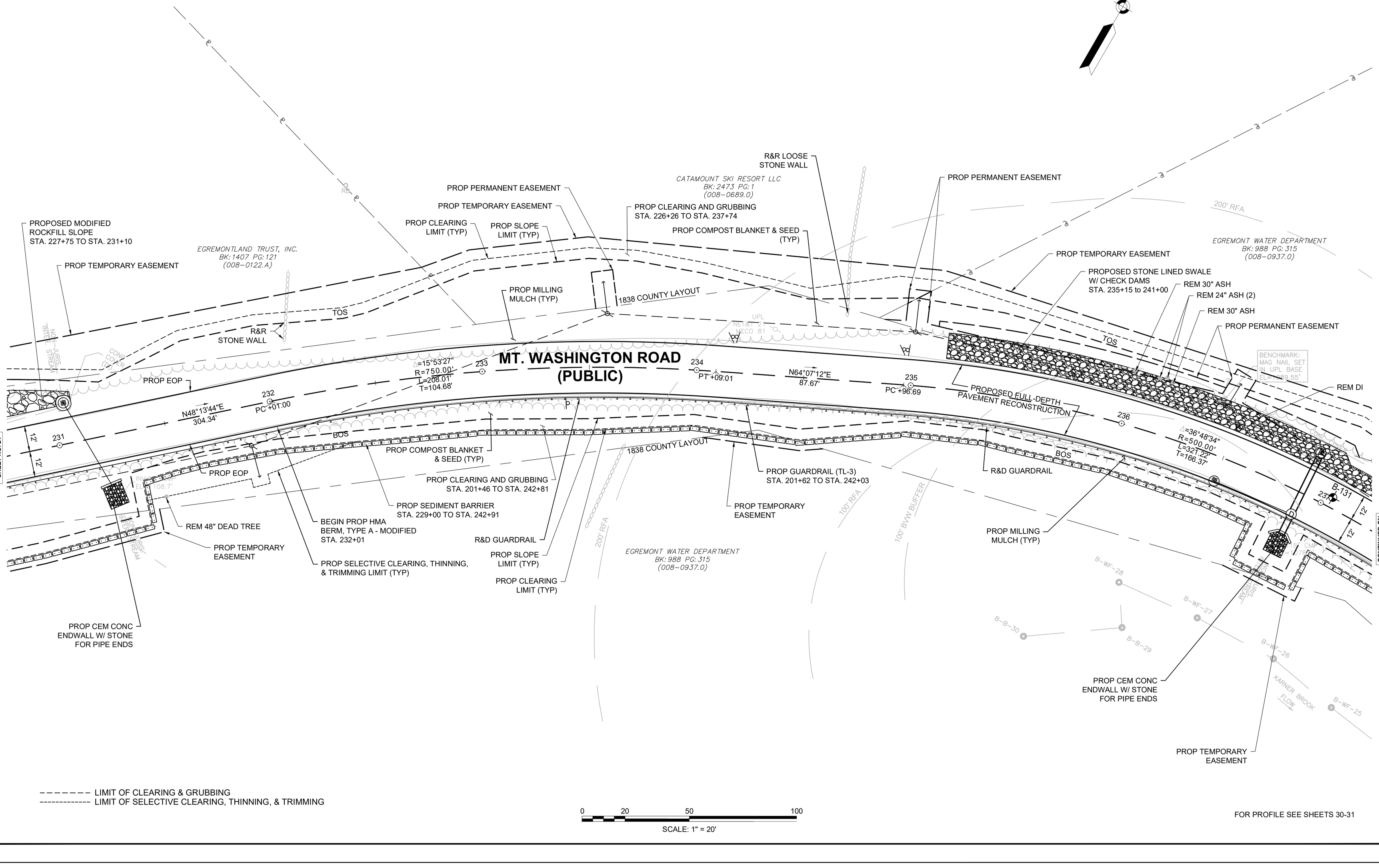
EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	22	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 7

608547_HD(CP).DWG Plotted on 17-May-2024 10:43 AM

A00860 - 232



LIMIT OF CLEARING & GRUBBING
LIMIT OF SELECTIVE CLEARING, THINNING, & TRIMMING

0 20 50 100
SCALE: 1" = 20'

FOR PROFILE SEE SHEETS 30-31

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 234+00 TO STA 239+50, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 239+50 TO STA 241+65, OFFSET RT
PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 241+65 TO STA 242+03, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

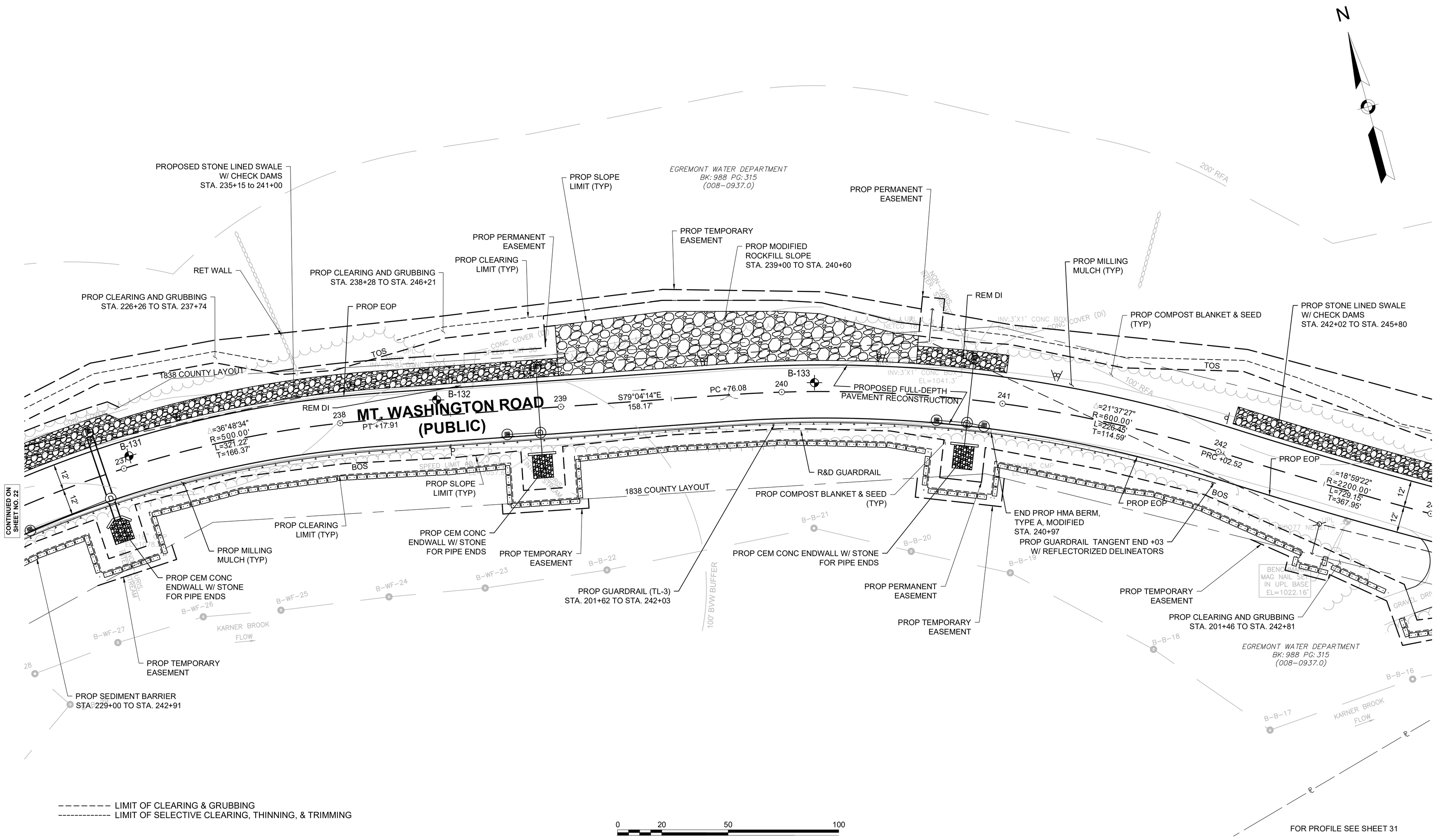
SEE SHEET 80

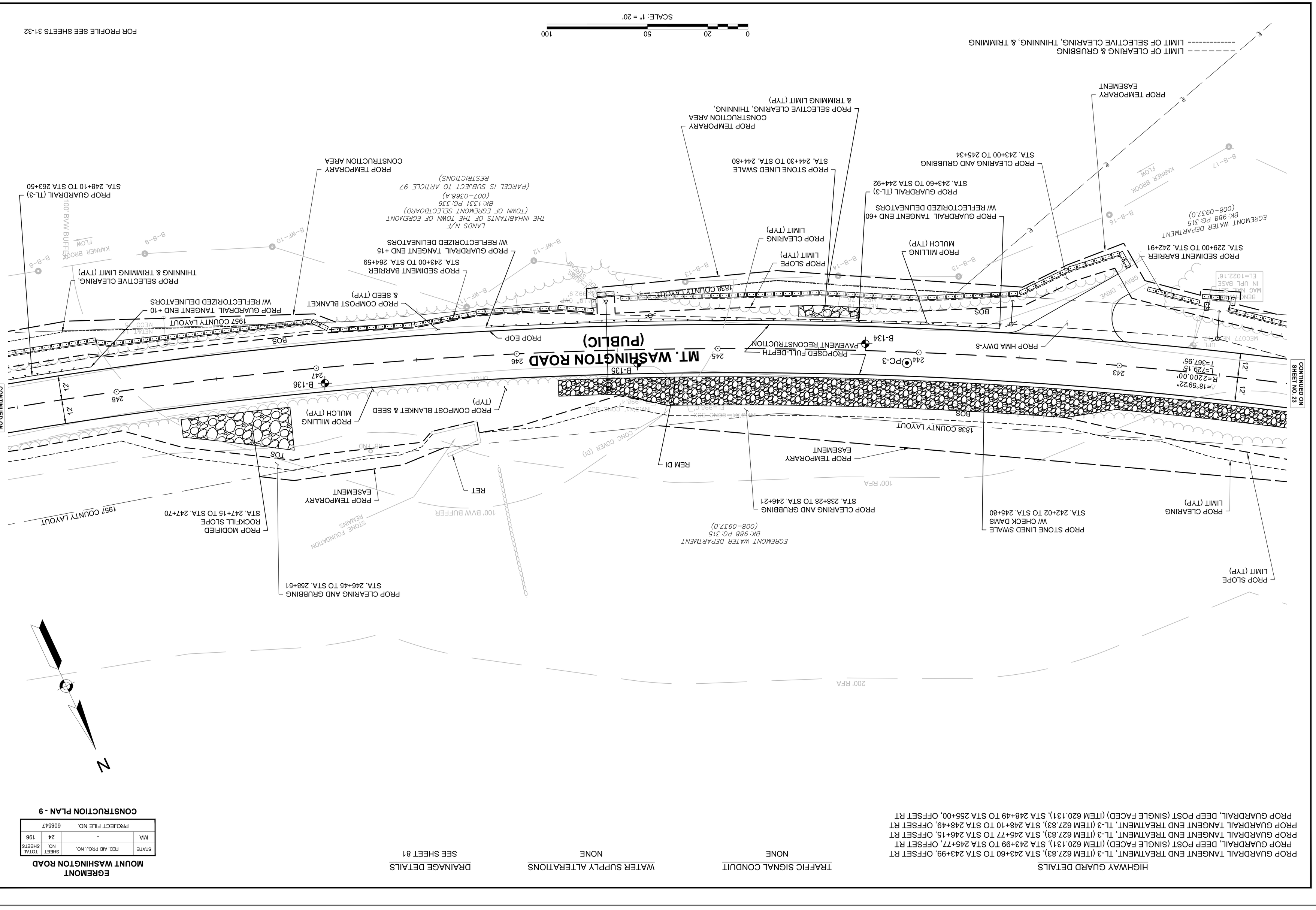
EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	23	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 8

608547_HD(CP).DWG Plotted on 17-May-2024 10.44 AM





608547_HD(CP).DWG Plotted on 17-May-2024 10:44 AM

Proposal No. 608547-132397

HIGHWAY GUARD DETAILS

PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 248+10 TO STA 248+49, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 248+49 TO STA 255+00, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

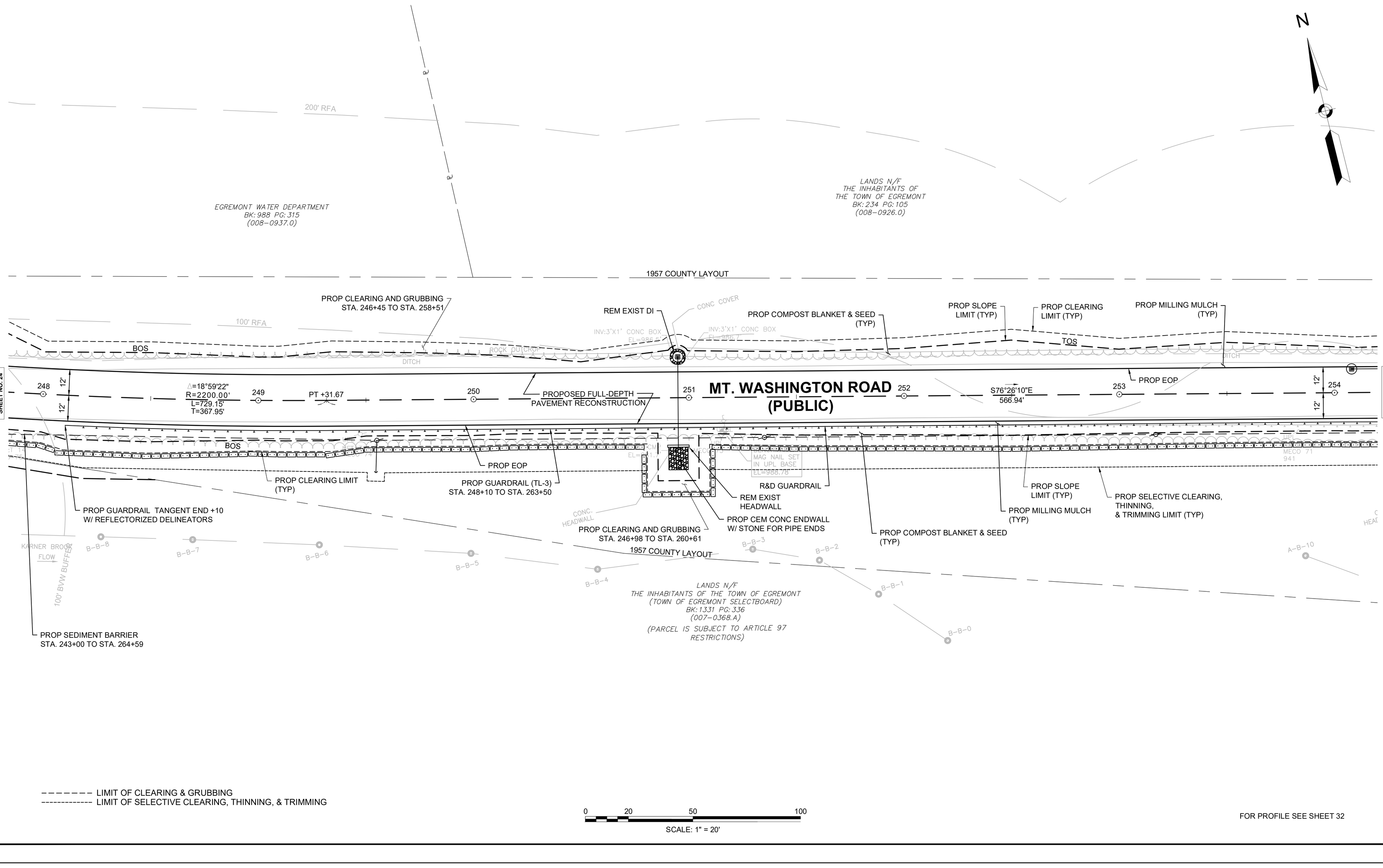
SEE SHEET 82

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	25	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 10

608547_HD(CP).DWG Plotted on 17-May-2024 10.44 AM



LIMIT OF CLEARING & GRUBBING
LIMIT OF SELECTIVE CLEARING, THINNING, & TRIMMING

0 20 50 100
SCALE: 1" = 20'

FOR PROFILE SEE SHEET 32

A00860 - 235

Proposal No. 608547-132397

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 248+49 TO STA 255+00, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 255+00 TO STA 257+50, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 257+50 TO STA 263+12, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET 83

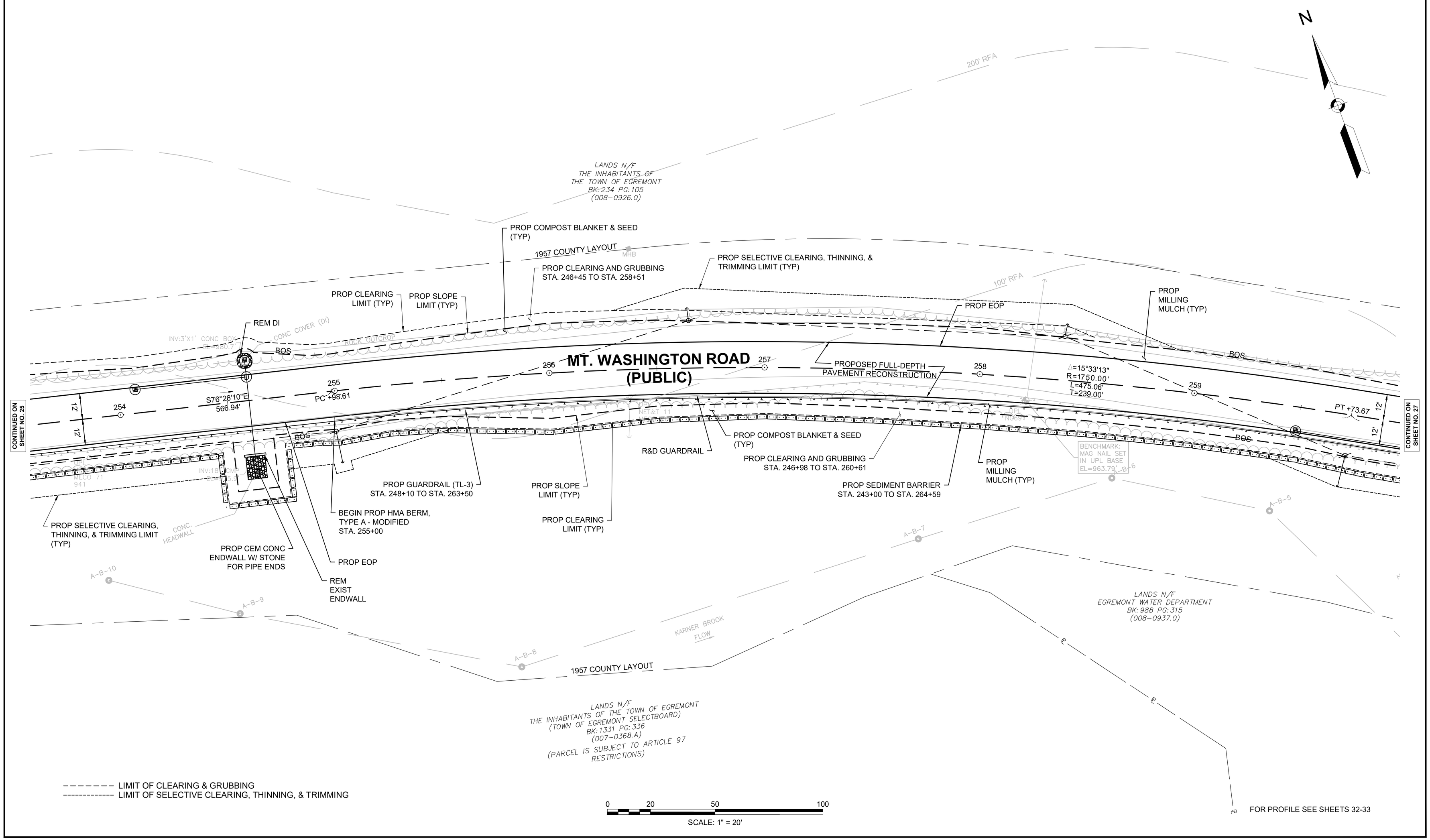
EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	26	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 11

608547_HD(CP).DWG Plotted on 17-May-2024 10:44 AM

A00860 - 236



HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 257+50 TO STA 263+12, OFFSET RT
PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 263+12 TO STA 263+50, OFFSET RT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

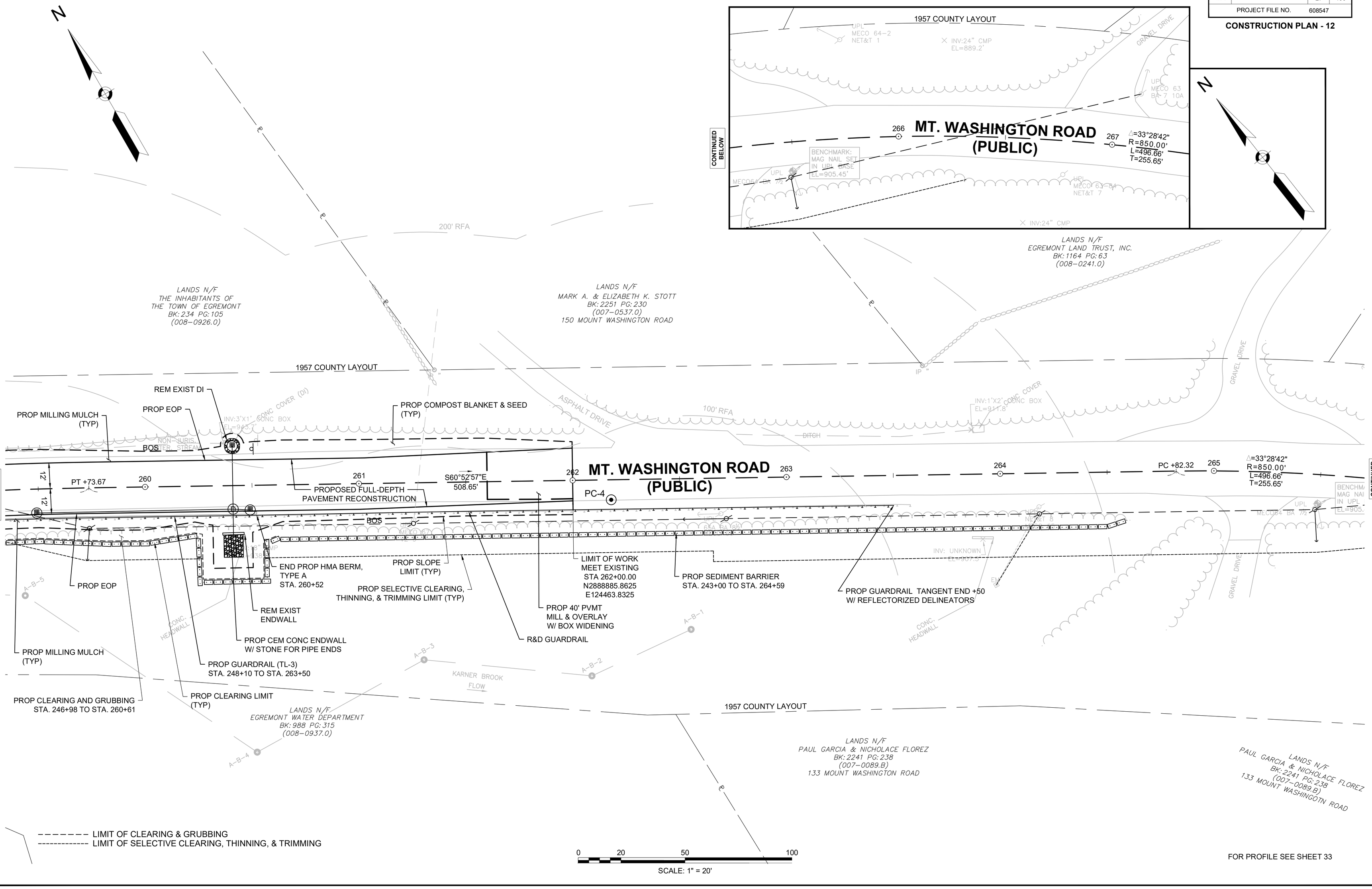
DRAINAGE DETAILS

SEE SHEET 84

EGREMONT
MOUNT WASHINGTON ROAD

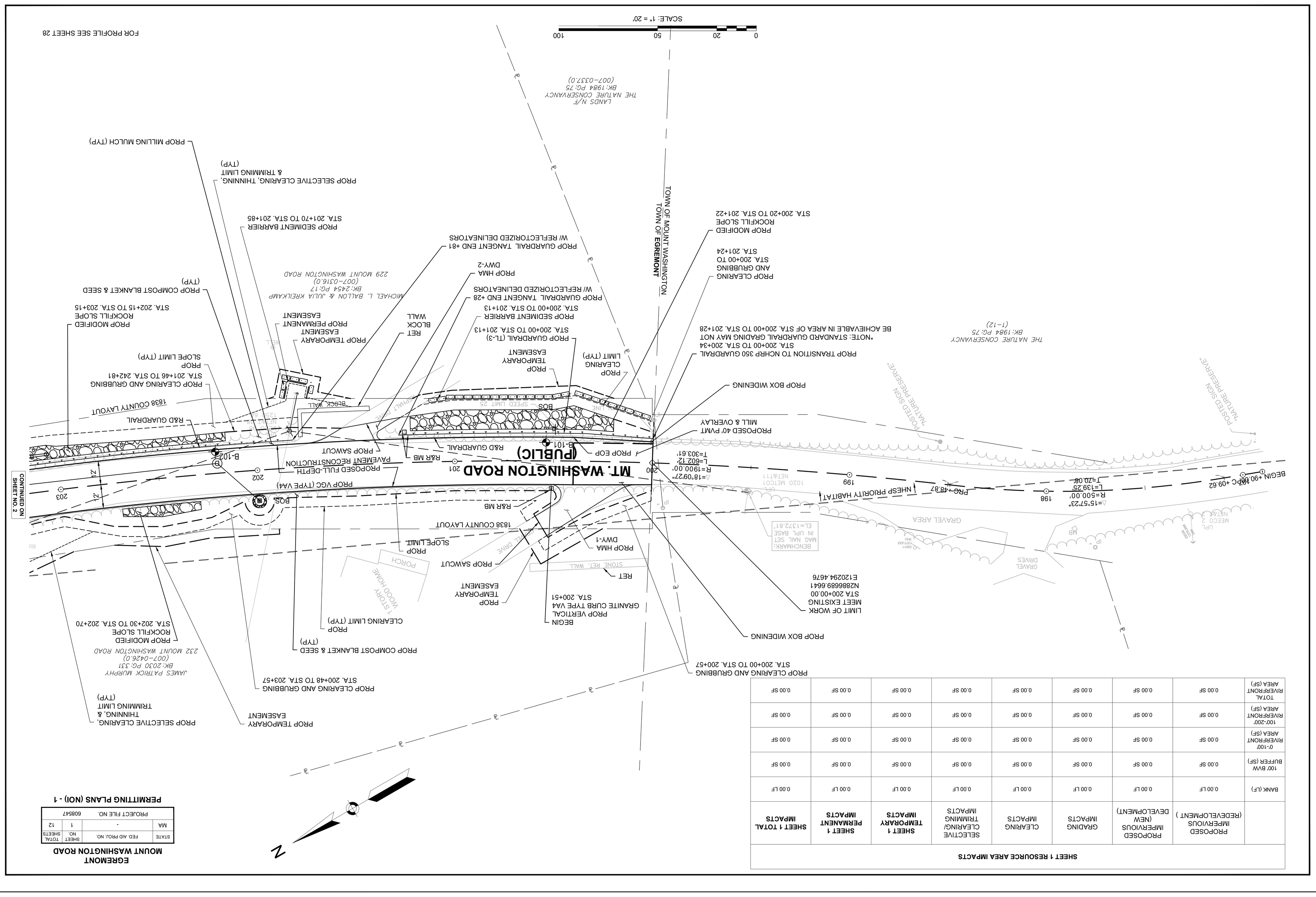
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	27	196
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 12



FOR PROFILE SEE SHEET 33

608547_HD(CP).DWG Plotted on 17-May-2024 10:44 AM

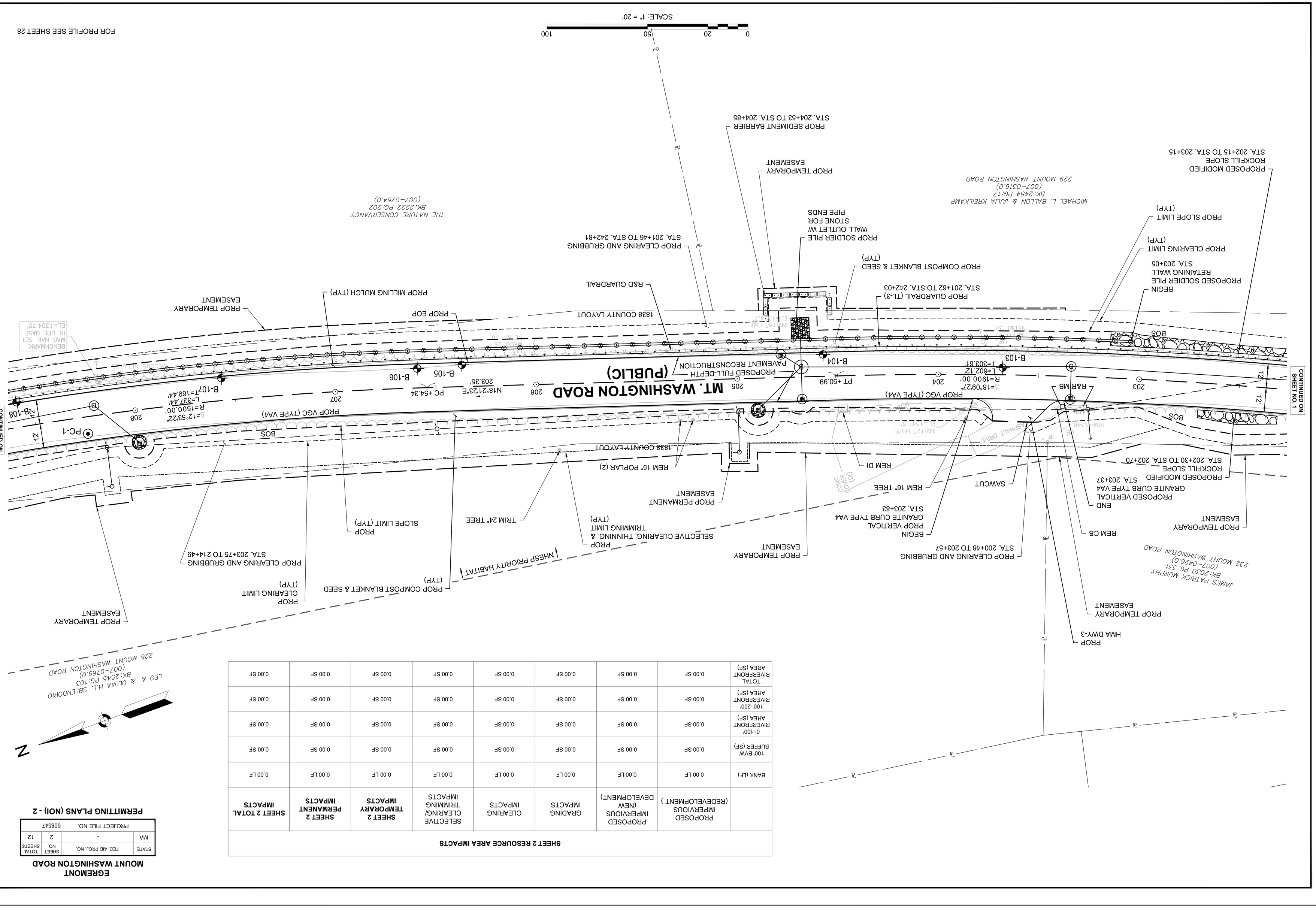


SHEET 1 RESOURCE AREA IMPACTS							
	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	SHEET 1 TEMPORARY IMPACTS	SHEET 1 PERMANENT IMPACTS	SHEET 1 TOTAL IMPACTS
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
100'-200' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
TOTAL RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF

EGREMONT
MOUNT WASHINGTON ROAD
PERMITTING PLANS (NOI) - 1

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	1	12
PROJECT FILE NO.	608547		

608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:36 AM



SHEET 2 RESOURCE AREA IMPACTS

	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	SHEET 2 TEMPORARY IMPACTS	SHEET 2 PERMANENT IMPACTS	SHEET 2 TOTAL IMPACTS
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
100'-200' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
TOTAL RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF

EGREMONT
MOUNT WASHINGTON ROAD

PERMITTING PLANS (NOI) - 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	2	12
PROJECT FILE NO. 608547			

608547_HDPERMITTING(3).DWG Plotted on 17-May-2024 10:36 AM

SHEET 3 RESOURCE AREA IMPACTS

	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	SHEET 3 TEMPORARY IMPACTS	SHEET 3 PERMANENT IMPACTS	SHEET 3 TOTAL IMPACTS
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
100'-200' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
TOTAL RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF

SCALE: 1" = 20'

0 20 50 100

FOR PROFILE SEE SHEETS 28-29

CONTINUED ON SHEET NO. 4

CONTINUED ON SHEET NO. 2

MT. WASHINGTON ROAD (PUBLIC)

1838 COUNTY LAYOUT

PROP EOP

PROP VGC (TYPE VA4)

PROP HMA DWY-4

PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION

PC +02.03

PT +91.78

BOS

REM DI

CONC COVER (DI)

TRIM TREE

TRIM 16" OAK

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

PROP TEMPORARY EASEMENT

END PROP VERTICAL GRANITE CURB TYPE VA4 STA. 210+00

PROP MODIFIED ROCKFILL SLOPE STA. 210+13 TO 210+43

BEGIN PROP SOLDIER PILE RETAINING WALL STA. 210+28

PROP SOLDIER PILE WALL OUTLET W/ STONE FOR PIPE ENDS

PROP SEDIMENT BARRIER STA. 209+68 TO STA. 209+99

PROP MILLING MULCH (TYP)

PROP TEMPORARY EASEMENT

BENCHMARK: MAG NAIL SET IN UPL BASE EL=1304.75'

BEGIN PROP HMA BERM, TYPE A (MODIFIED) STA. 210+24

PROP TEMPORARY EASEMENT

PROP COMPOST BLANKET & SEED (TYP)

PROP CLEARING LIMIT (TYP)

PROP SLOPE LIMIT (TYP)

PROP GUARDRAIL (TL-3) STA. 210+62 TO STA. 242+03

R&D GUARDRAIL

PROP TEMPORARY EASEMENT

PROP CLEARING LIMIT (TYP)

PROP SEDIMENT BARRIER STA. 213+48 TO STA. 213+82

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

PROP MODIFIED ROCKFILL SLOPE STA. 212+75 TO 212+91

END PROP SOLDIER PILE RETAINING WALL STA. 212+79

PROP TEMPORARY EASEMENT

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

PROP CLEARING AND GRUBBING STA. 201+46 TO STA. 242+81

THE NATURE CONSERVANCY BK: 2222 PG: 202 (007-0764.0)

PROP MILLING MULCH (TYP)

PROP TEMPORARY EASEMENT

PROP MODIFIED ROCKFILL SLOPE STA. 211+85 TO 212+00

PROP CLEARING AND GRUBBING STA. 203+75 TO STA. 214+49

BEGIN PROP VERTICAL GRANITE CURB TYPE VA4 STA. 212+27

END PROP SOLDIER PILE RETAINING WALL STA. 211+94

PROP TEMPORARY EASEMENT

PROP MODIFIED ROCKFILL SLOPE STA. 212+75 TO 213+30

END PROP VERTICAL GRANITE CURB TYPE VA4 STA. 213+55

PROP STONE LINED SWALE W/ CHECK DAMS STA. 213+30 TO STA. 213+75

BEGIN STONE MASONRY RETAINING WALL

RAR POST

PROP TEMPORARY EASEMENT

REM DI

CONC COVER

PROP VGC (TYPE VA4)

PROP TEMPORARY EASEMENT

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

BENCHMARK: MAG NAIL SET IN UPL BASE EL=1282.36'

NHESP PRIORITY HABITAT

LEO A. & OLIVIA H.L. SBLENDORIO BK: 2545 PG: 103 (007-0769.0) 226 MOUNT WASHINGTON ROAD

ROBERT M. & LINDA S. KATZ BK: 1855 PG: 150 (007-0798.0) 214 MOUNT WASHINGTON ROAD

LEO A. & OLIVIA H.L. SBLENDORIO BK: 2545 PG: 103 (007-0769.0) 226 MOUNT WASHINGTON ROAD

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	3	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 3

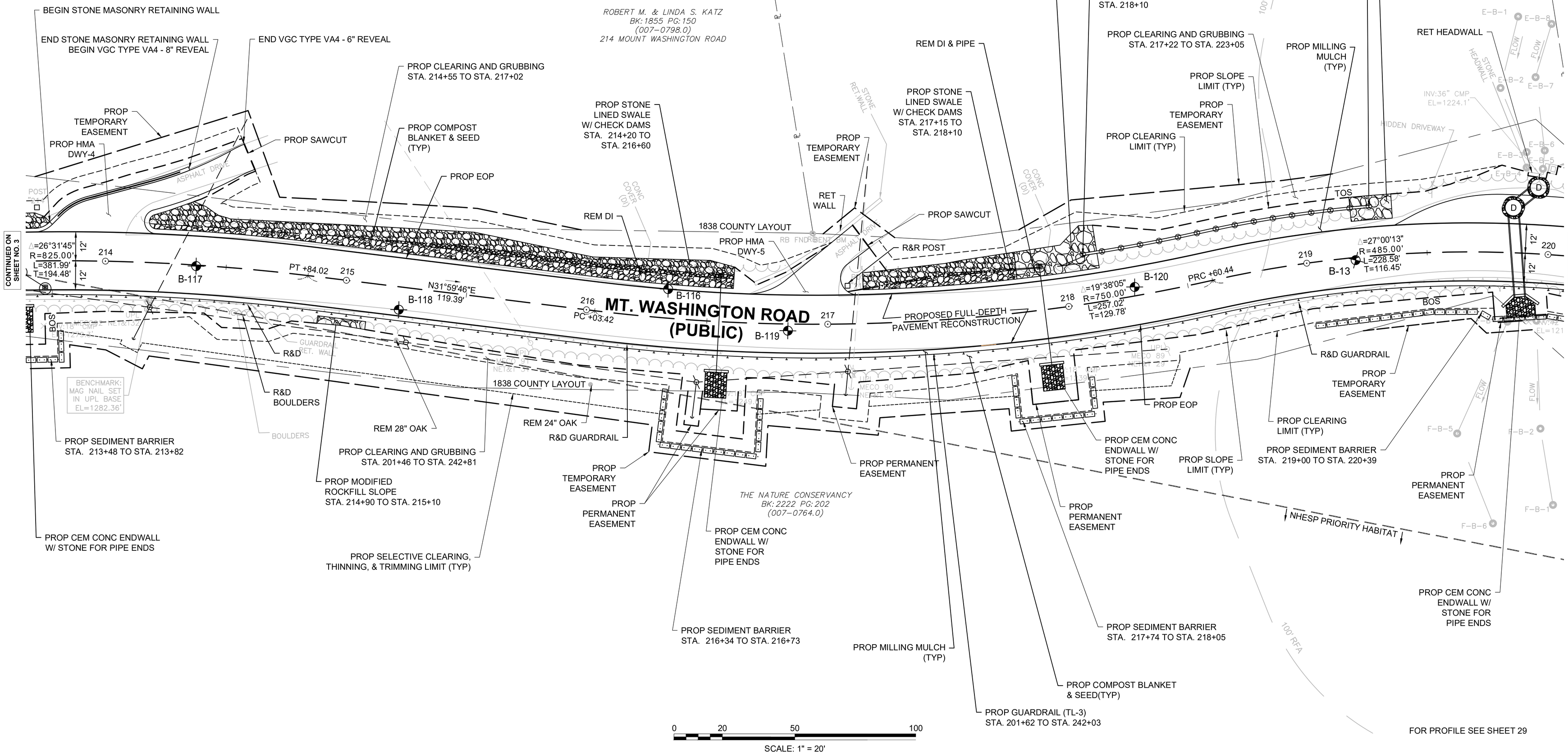
608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:36 AM

SHEET 4 RESOURCE AREA IMPACTS								
	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	**SHEET 4 TEMPORARY IMPACTS**	**SHEET 4 PERMANENT IMPACTS**	**SHEET 4 TOTAL IMPACTS**
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
100'-200' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
TOTAL RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	4	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 4



608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:37 AM

Proposal No. 608547-132397

A00860 - 241

SCALE: 1" = 20'

0 20 50 100

FOR PROFILE SEE SHEETS 29-30

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

PROP PERMANENT EASEMENT

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

PROP SEDIMENT BARRIER STA. 219+00 TO STA. 220+39

PROP TEMPORARY EASEMENT

R&D GUARDRAIL

1838 COUNTY LAYOUT

BEGIN PROP SOLDIER PILE RETAINING WALL STA. 220+30 TO STA. 220+39

PROP MODIFIED ROCKFILL SLOPE STA. 220+30 TO STA. 225+44

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

NHESP PRIORITY HABITAT

PROP SOLDIER PILE WALL OUTLET W/ STONE FOR PIPE ENDS

PROP MODIFIED ROCKFILL SLOPE STA. 225+30 TO STA. 225+44

PROP SEDIMENT BARRIER STA. 224+09 TO STA. 226+59

PROP TEMPORARY EASEMENT

PROP GUARDRAIL (TL-3) STA. 201+62 TO STA. 242+03

END PROP SOLDIER PILE RETAINING WALL STA. 225+41

PROP CLEARING LIMIT (TYP)

PROP MILLING MULCH (TYP)

PROP TEMPORARY EASEMENT

PROP SLOPE LIMIT (TYP)

PROP CLEARING AND GRUBBING STA. 201+46 TO STA. 242+81

PROP EOP

BEGIN PROP SOLDIER PILE RETAINING WALL STA. 221+60

PROP COMPOST BLANKET & SEED (TYP)

1838 COUNTY LAYOUT

PROP SEDIMENT BARRIER STA. 219+00 TO STA. 220+39

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

PROP PERMANENT EASEMENT

PROP TEMPORARY EASEMENT

R&D GUARDRAIL

BEGIN PROP SOLDIER PILE RETAINING WALL STA. 220+30 TO STA. 220+39

PROP MODIFIED ROCKFILL SLOPE

PROP TEMPORARY EASEMENT

PROP MILLING MULCH (TYP)

PROP SPRUCE - COLORADO GREEN 5-6 FEET (3)

PROP CLEARING AND GRUBBING STA. 217+22 TO STA. 223+05

PROP PERMANENT EASEMENT

PROP HMA PULL-OFF AREA

PROP SEDIMENT BARRIER STA. 224+09 TO STA. 226+59

PROP TEMPORARY EASEMENT

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

PROP CLEARING LIMIT (TYP)

PROP SLOPE LIMIT (TYP)

PROP CLEARING AND GRUBBING STA. 201+46 TO STA. 242+81

PROP EOP

BEGIN PROP SOLDIER PILE RETAINING WALL STA. 221+60

PROP COMPOST BLANKET & SEED (TYP)

1838 COUNTY LAYOUT

R&D GUARDRAIL

PROP TEMPORARY EASEMENT

PROP PERMANENT EASEMENT

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

PROP SEDIMENT BARRIER STA. 219+00 TO STA. 220+39

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

PROP HMA PULL-OFF AREA

BEGIN PROP SOLDIER PILE RETAINING WALL STA. 220+25

PROP TEMPORARY EASEMENT

PROP MODIFIED ROCKFILL SLOPE STA. 220+30 TO STA. 220+39

PROP PERMANENT EASEMENT

PROP CLEARING AND GRUBBING STA. 217+22 TO STA. 223+05

PROP MILLING MULCH (TYP)

PROP SPRUCE - COLORADO GREEN 5-6 FEET (3)

PROP CLEARING LIMIT (TYP)

PROP SLOPE LIMIT (TYP)

END PROP SOLDIER PILE RETAINING WALL STA. 221+26

PROP COMPOST BLANKET & SEED (TYP)

BEGIN PROP VERTICAL GRANITE CURB TYPE VA4 STA. 221+25

END PROP VERTICAL GRANITE CURB TYPE VA4 STA. 223+35

PROP SAWCUT

PROP HMA DWY-6

PROP CLEARING LIMIT (TYP)

PROP STONE LINED SWALE W/ CHECK DAMS STA. 223+49 TO STA. 224+38

PROP CLEARING AND GRUBBING STA. 223+30 TO STA. 224+85

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

PROP TEMPORARY EASEMENT

PROP PERMANENT EASEMENT

PROP HMA DWY-7

PROP MILLING MULCH (TYP)

RET WALL

RET

ASPHALT DRIVE

LEACH FIELD

1838 COUNTY LAYOUT

TOS

BOS

PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION

PROP VGC (TYPE VA4)

PROP COMPOST BLANKET & SEED (TYP)

MT. WASHINGTON ROAD (PUBLIC)

B-121 B-122 B-123 B-124 B-125

220 221 222 223 224 225

PRC +89.02

PT +39.00

N26°49'55"E 177.57'

R=760.00' L=349.99' T=175.70' Δ=26°31'59"

R=485.00' L=228.58' T=116.45' Δ=27°00'13"

12'

CONTINUED ON SHEET NO. 6

CONTINUED ON SHEET NO. 4

10' BANK BUFFER

LANDS N/F
CLAUDE J. BORENZWEIG & LOUISE A. FELDMAN
BK: 1774 PG: 345
(008-0601.0)
210 MOUNT WASHINGTON ROAD

ELDER D. CHRISTINE
BK:2358 PG:58
(008-0601.A)
206 MOUNT WASHINGTON ROAD

THE NATURE CONSERVANCY
BK: 2222 PG: 202
(007-0764.0)

EGREMONT WATER DEPARTMENT
BK: 988 PG: 315
(008-0937.0)

EGREMONT LAND TRUST, INC.
BK:1407 PG:121
(008-0122.A)

BRIAN, AMY & WYONE SADHANA
BK:2303 PG: 344
(008-0122.0)
200 MOUNT WASHINGTON ROAD

100' BVW

N

	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	SHEET 5 TEMPORARY IMPACTS	SHEET 5 PERMANENT IMPACTS	SHEET 5 TOTAL IMPACTS
SHEET 5 RESOURCE AREA IMPACTS								
BANK (LF)	0.00 LF	0.00 LF	11.95 LF	0.00 LF	0.00 LF	0.00 LF	11.95 LF	11.95 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
100'-200' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
TOTAL RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF

GRADING
BANK IMPACTS

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	5	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 5

608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:37 AM

FOR PROFILE SEE SHEET 30

SCALE: 1" = 20'

0 20 50 100

CONTINUED ON SHEET NO. 7

CONTINUED ON SHEET NO. 5

MT. WASHINGTON ROAD (PUBLIC)

1838 COUNTY LAYOUT

N48°13'44"E 304.34'

N26°49'55"E 177.57'

B-126 B-127 B-128 B-129 B-130

PC +16.57

PT +96.66

△=21°23'49"
R=750.00'
L=280.09'
T=141.69'

PROP EOP

PROP CLEARING LIMIT (TYP)

BEGIN PROP SOLDIER PILE RETAINING WALL STA. 226+25

PROP CLEARING AND GRUBBING STA. 201+46 TO STA. 242+81

PROP SEDIMENT BARRIER STA. 224+09 TO STA. 226+59

PROP SOLDIER PILE WALL OUTLET W/ STONE FOR PIPE ENDS

PROP SEDIMENT BARRIER STA. 226+95 TO STA. 227+38

END PROP SOLDIER PILE RETAINING WALL STA. 225+41

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

NHESP PRIORITY HABITAT

EGREMONT WATER DEPARTMENT BK: 988 PG: 315 (008-093.0)

END PROP SOLDIER PILE RETAINING WALL STA. 227+97

PROP SLOPE LIMIT (TYP)

R&D GUARDRAIL

PROP MILLING MULCH (TYP)

PROP GUARDRAIL (TL-3) STA. 201+62 TO STA. 242+03

PROP SEDIMENT BARRIER STA. 229+00 TO STA. 242+91

PROP COMPOST BLANKET & SEED (TYP)

PROP TEMPORARY EASEMENT

PROP TEMPORARY EASEMENT

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

REM DI

PROP MILLING MULCH (TYP)

EGREMONT LAND TRUST, INC. BK: 1407 PG: 121 (008-012.2.A)

PROP EOP

PROP PERMANENT EASEMENT

PROP TEMPORARY EASEMENT

PROPOSED MODIFIED ROCKFILL SLOPE STA. 227+75 TO STA. 231+10

PROP PERMANENT EASEMENT

PROP CLEARING LIMIT (TYP)

REM 28" OAK

REM 30" FIR

PROP SLOPE LIMIT (TYP)

100' BANK BUFFER

REM EXIST HEADWALL
PROP CEM CONC HEADWALL
(MASSDOT STD. 206.6.0)

PROP CLEARING AND GRUBBING STA. 226+26 TO STA. 237+74

RET 24" HEMLOCK

RET 30" OAK

PROP COMPOST BLANKET & SEED (TYP)

SAWCUT

PROP HMA DWY-7

RET WALL

RET 30" OAK

R&R MB

RET

PROP PERMANENT EASEMENT

BRIAN, AMY & WYONE SADHANA BK: 2303 PG: 344 (008-012.0) 200 MOUNT WASHINGTON ROAD

STUMPS TO REMAIN IN PLACE FOR SLOPE STABILIZATION

PROP PERMANENT EASEMENT

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

100' BANK BUFFER

GRADING IMPACTS

BANK IMPACTS

	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	SHEET 6 TEMPORARY IMPACTS	SHEET 6 PERMANENT IMPACTS	SHEET 6 TOTAL IMPACTS
SHEET 6 RESOURCE AREA IMPACTS								
BANK (LF)	0.00 LF	0.00 LF	20.92 LF	0.00 LF	0.00 LF	0.00 LF	20.92 LF	20.92 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
100'-200' RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
TOTAL RIVERFRONT AREA (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF

N

EGREMONT
MOUNT WASHINGTON ROAD

PERMITTING PLANS (NOI) - 6

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	6	12
PROJECT FILE NO. 608547			

SHEET 7 RESOURCE AREA IMPACTS								
	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	SHEET 7 TEMPORARY IMPACTS	SHEET 7 PERMANENT IMPACTS	SHEET 7 TOTAL IMPACTS
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	3448.89 SF	225.60 SF	2612.88 SF	885.07 SF	0.00 SF	3448.89 SF	3723.55 SF	7172.44 SF
0'-100' RIVERFRONT AREA (SF)	2106.39 SF	163.83 SF	831.45 SF	901.78 SF	0.00 SF	0.00 SF	1897.06 SF	1897.06 SF
100'-200' RIVERFRONT AREA (SF)	5043.40 SF	210.29 SF	7962.37 SF	2348.21 SF	0.00 SF	0.00 SF	10520.88 SF	10520.88 SF
TOTAL RIVERFRONT AREA (SF)	7149.79 SF	374.12 SF	8793.83 SF	3249.99 SF	0.00 SF	0.00 SF	12417.94 SF	12417.94 SF

IMPERVIOUS (NEW DEVELOPMENT) 0–100 FT RIVERFRONT AREA

IMPERVIOUS (NEW DEVELOPMENT) 100–200 FT RIVERFRONT AREA

IMPERVIOUS (REDEVELOPMENT) 100 FT BVW BUFFER

GRADING IMPACTS 0–100 FT RIVERFRONT AREA

GRADING IMPACTS 100–200 FT RIVERFRONT AREA

IMPERVIOUS (NEW DEVELOPMENT) 100 FT BVW BUFFER

CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

CLEARING IMPACTS 100–200 FT RIVERFRONT AREA

GRADING IMPACTS 100 FT BVW BUFFER

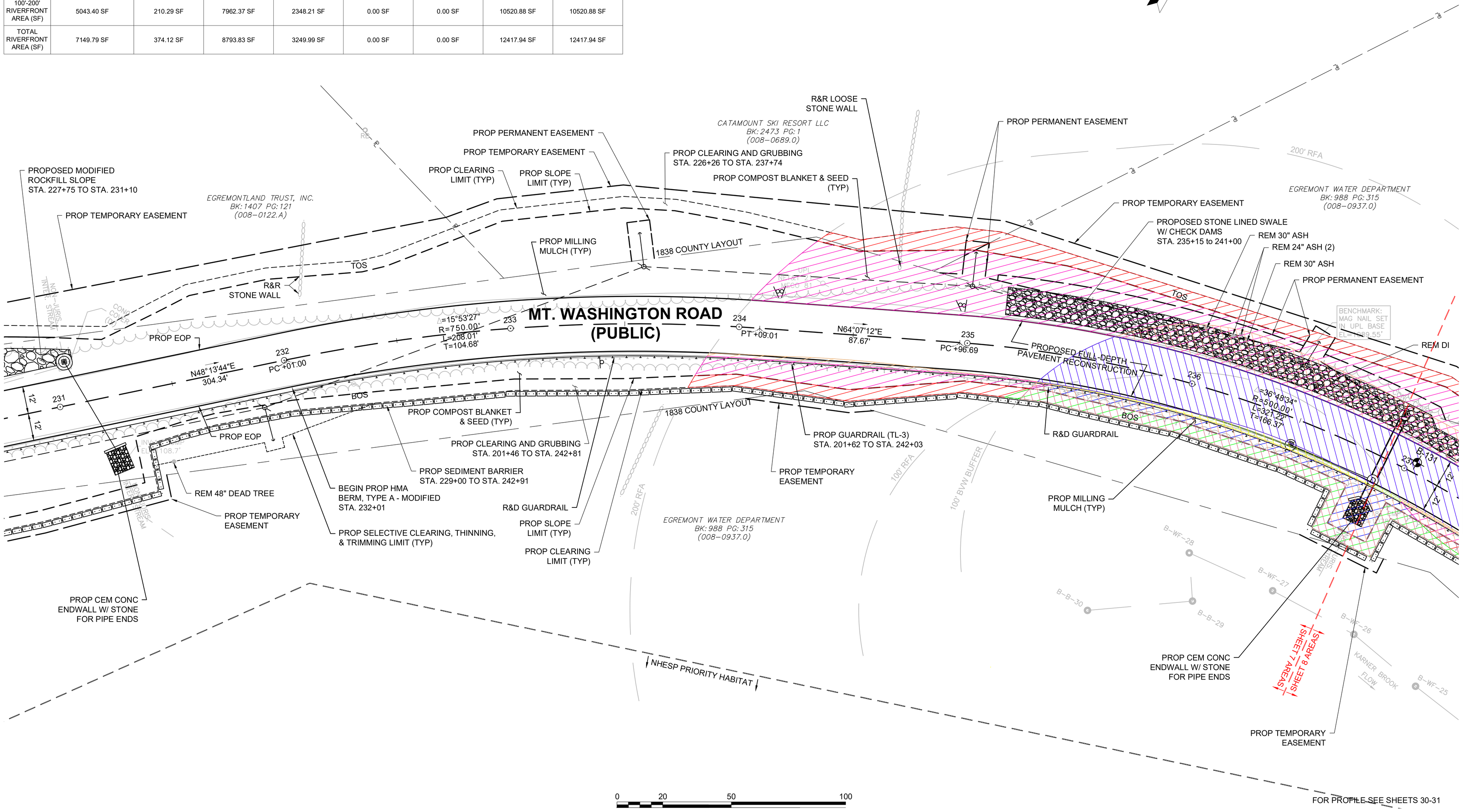
CLEARING IMPACTS 100 FT BVW BUFFER

N

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	7	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 7



608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:37 AM

Proposal No. 608547-132397

A00860 - 244

SHEET 8 RESOURCE AREA IMPACTS

	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	SHEET 8 TEMPORARY IMPACTS	SHEET 8 PERMANENT IMPACTS	SHEET 8 TOTAL IMPACTS
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	5761.50 SF	63.20 SF	3539.00 SF	1488.59 SF	0.00 SF	5761.50 SF	5090.78 SF	10852.29 SF
0'-100' RIVERFRONT AREA (SF)	10462.04 SF	505.98 SF	8881.58 SF	3460.41 SF	0.00 SF	0.00 SF	12847.97 SF	12847.97 SF
100'-200' RIVERFRONT AREA (SF)	2978.23 SF	38.98 SF	7081.51 SF	2386.24 SF	0.00 SF	0.00 SF	9506.73 SF	9506.73 SF
TOTAL RIVERFRONT AREA (SF)	13440.27 SF	544.95 SF	15963.10 SF	5846.65 SF	0.00 SF	0.00 SF	22354.70 SF	22354.70 SF

CONTINUED ON SHEET NO. 7

PROP SEDIMENT BARRIER STA. 229+00 TO STA. 242+91

PROP TEMPORARY EASEMENT

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

PROP MILLING MULCH (TYP)

PROP CLEARING LIMIT (TYP)

PROP CLEARING AND GRUBBING STA. 226+26 TO STA. 237+74

PROPOSED STONE LINED SWALE W/ CHECK DAMS STA. 235+15 to 241+00

RET WALL

1838 COUNTY LAYOUT

PROP CLEARING AND GRUBBING STA. 238+28 TO STA. 246+21

PROP EOP

PROP PERMANENT EASEMENT

PROP CLEARING LIMIT (TYP)

PROP SLOPE LIMIT (TYP)

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

PROP TEMPORARY EASEMENT

PROP SLOPE LIMIT (TYP)

PROP TEMPORARY EASEMENT

PROP MODIFIED ROCKFILL SLOPE STA. 239+00 TO STA. 240+60

PROP PERMANENT EASEMENT

PROP MILLING MULCH (TYP)

PROP COMPOST BLANKET & SEED (TYP)

PROP PERMANENT EASEMENT

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

R&D GUARDRAIL

PROP COMPOST BLANKET & SEED (TYP)

PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION

REM DI

PROP TEMPORARY EASEMENT

END PROP HMA BERM, TYPE A, MODIFIED STA. 240+97

PROP GUARDRAIL TANGENT END +03 W/ REFLECTORIZED DELINEATORS

PROP EOP

PROP TEMPORARY EASEMENT

PROP CLEARING AND GRUBBING STA. 201+46 TO STA. 242+81

PROP GUARDRAIL (TL-3) STA. 201+62 TO STA. 242+03

PROP STONE LINED SWALE W/ CHECK DAMS STA. 242+02 TO STA. 245+80

SHEET 7 AREAS
SHEET 8 AREAS
SHEET 9 AREAS

MT. WASHINGTON ROAD (PUBLIC)

1838 COUNTY LAYOUT

100' BVW BUFFER

NHESP PRIORITY HABITAT

EGREMONT WATER DEPARTMENT BK: 988 PG: 315 (008-0937.0)

KARNER BROOK FLOW

B-WF-27, B-WF-26, B-WF-25, B-WF-24, B-WF-23, B-B-22, B-B-21, B-B-20, B-B-19, B-B-18, B-B-17, B-B-16

B-131, B-132, B-133

BENCHMARK: MAG NAIL SET IN UPL BASE EL=1022.16

IMPERVIOUS (NEW DEVELOPMENT) 0-100 FT RIVERFRONT AREA
GRADING IMPACTS 0-100 FT RIVERFRONT AREA
CLEARING IMPACTS 0-100 FT RIVERFRONT AREA
IMPERVIOUS (NEW DEVELOPMENT) 100-200 FT RIVERFRONT AREA
GRADING IMPACTS 100-200 FT RIVERFRONT AREA
CLEARING IMPACTS 100-200 FT RIVERFRONT AREA
IMPERVIOUS (REDEVELOPMENT) 100 FT BVW BUFFER
IMPERVIOUS (NEW DEVELOPMENT) 100 FT BVW BUFFER
GRADING IMPACTS 100 FT BVW BUFFER
CLEARING IMPACTS 100 FT BVW BUFFER

SCALE: 1" = 20'

FOR PROFILE SEE SHEET 31

CONTINUED ON SHEET NO. 9

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	8	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 8

608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:37 AM

Proposal No. 608547-132397

SHEET 9 RESOURCE AREA IMPACTS								
	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	**SHEET 9 TEMPORARY IMPACTS**	**SHEET 9 PERMANENT IMPACTS**	**SHEET 9 TOTAL IMPACTS**
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	6249.34 SF	721.10 SF	7715.40 SF	1404.45 SF	686.97 SF	6249.34 SF	10527.93 SF	16777.27 SF
0'-100' RIVERFRONT AREA (SF)	12713.38 SF	946.38 SF	15565.62 SF	3714.04 SF	1506.86 SF	0.00 SF	21732.91 SF	21732.91 SF
100'-200' RIVERFRONT AREA (SF)	14.19 SF	0.00 SF	1242.96 SF	778.17 SF	0.00 SF	0.00 SF	2021.13 SF	2021.13 SF
SHEET 9 RIVERFRONT AREA (SF)	12727.57 SF	946.38 SF	16808.58 SF	4492.21 SF	1506.86 SF	0.00 SF	23754.04 SF	23754.04 SF

IMPERVIOUS (NEW DEVELOPMENT) 0–100 FT RIVERFRONT AREA

IMPERVIOUS (NEW DEVELOPMENT) 100–200 FT RIVERFRONT AREA

IMPERVIOUS (REDEVELOPMENT) 100 FT BVW BUFFER

IMPERVIOUS (NEW DEVELOPMENT) 100 FT BVW BUFFER

GRADING IMPACTS 0–100 FT RIVERFRONT AREA

GRADING IMPACTS 100–200 FT RIVERFRONT AREA

GRADING IMPACTS 100 FT BVW BUFFER

CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

CLEARING IMPACTS 100–200 FT RIVERFRONT AREA

CLEARING IMPACTS 100 FT BVW BUFFER

SELECTIVE CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

SELECTIVE CLEARING IMPACTS 100–200 FT RIVERFRONT AREA

SELECTIVE CLEARING IMPACTS 100 FT BVW BUFFER

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	9	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 9

608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:38 AM

A00860 - 246

N

PROP SLOPE LIMIT (TYP)

SHEET 8 AREAS

SHEET 9 AREAS

PROP CLEARING LIMIT (TYP)

PROP STONE LINED SWALE W/ CHECK DAMS STA. 242+02 TO STA. 245+80

EGREMONT WATER DEPARTMENT BK: 988 PG: 315 (008–0937.0)

PROP CLEARING AND GRUBBING STA. 238+28 TO STA. 246+21

100' RFA

PROP TEMPORARY EASEMENT

1838 COUNTY LAYOUT

BOS

CONTINUED ON SHEET NO. 8

12'

12'

Δ=18°59'22"
R=2200.00'
L=729.15'
T=367.95'

243

244 PC-3

B-134

PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION

245

B-135

246

MT. WASHINGTON ROAD (PUBLIC)

PROP EOP

PROP HMA DWY-8

BOS

BENCH MARK MAG NAIL IN UPL BASE EL=1022.16'

GRAVEL DRIVE

PROP SEDIMENT BARRIER STA. 229+00 TO STA. 242+91

EGREMONT WATER DEPARTMENT BK: 988 PG: 315 (008–0937.0)

B–B–16

KARNER BROOK FLOW

B–B–15

PROP MILLING MULCH (TYP)

PROP GUARDRAIL TANGENT END +60 W/ REFLECTORIZED DELINEATORS

PROP GUARDRAIL (TL-3) STA. 243+60 TO STA 244+92

B–B–14

PROP SLOPE LIMIT (TYP)

PROP CLEARING LIMIT (TYP)

PROP CLEARING AND GRUBBING STA. 243+00 TO 245+34

PROP STONE LINED SWALE STA. 244+30 TO STA. 244+80

PROP TEMPORARY CONSTRUCTION AREA

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

NHESP PRIORITY HABITAT

PROP TEMPORARY EASEMENT

B–B–13

1838 COUNTY LAYOUT

CONC COVER (DI)

REM DI

100' BVW BUFFER

RET

PROP CLEARING AND GRUBBING STA. 246+45 TO STA. 258+51

STONE FOUNDATION REMAINS

PROP TEMPORARY EASEMENT

PROP MODIFIED ROCKFILL SLOPE STA. 247+15 TO STA. 247+70

1957 COUNTY LAYOUT

SHEET 8 AREAS

SHEET 9 AREAS

TOS

PROP MILLING MULCH (TYP)

PROP COMPOST BLANKET & SEED (TYP)

B-136

247

248

12'

12'

CONTINUED ON SHEET NO. 10

BOS

1957 COUNTY LAYOUT

PROP GUARDRAIL TANGENT END +10 W/ REFLECTORIZED DELINEATORS

PROP COMPOST BLANKET & SEED (TYP)

PROP SEDIMENT BARRIER STA. 243+00 TO STA. 264+59

PROP GUARDRAIL TANGENT END +15 W/ REFLECTORIZED DELINEATORS

PROP SELECTIVE CLEARING, THINNING & TRIMMING LIMIT (TYP)

B–WF–12

B–WF–11

B–WF–10

B–B–9

KARNER BROOK FLOW

100' BVW BUFFER

LANDS N/F
THE INHABITANTS OF THE TOWN OF EGREMONT
(TOWN OF EGREMONT SELECTBOARD)
BK: 1331 PG: 336
(007–0368.A)
(PARCEL IS SUBJECT TO ARTICLE 97 RESTRICTIONS)

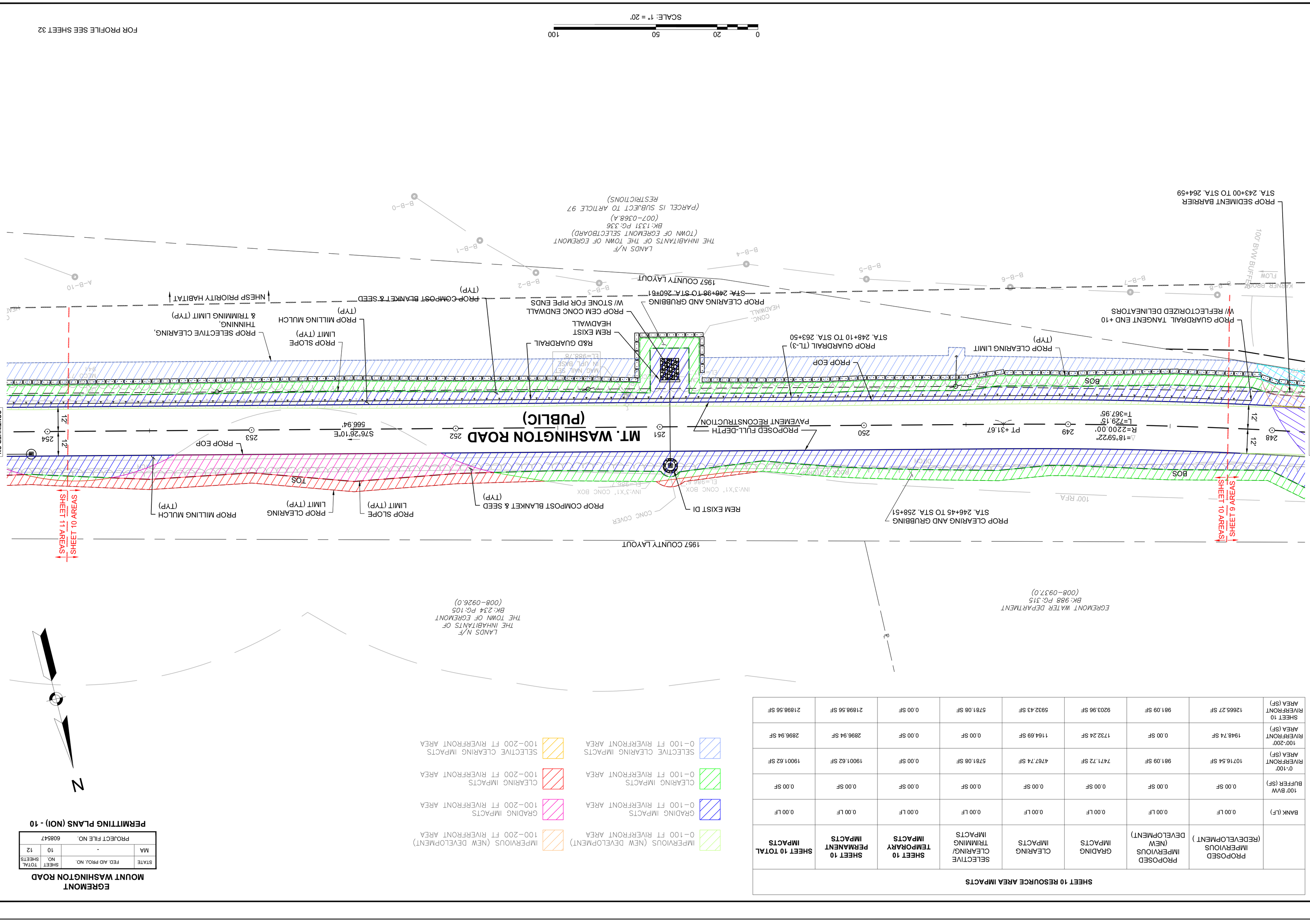
PROP TEMPORARY CONSTRUCTION AREA

PROP GUARDRAIL (TL-3) STA. 248+10 TO STA 263+50

0 20 50 100

SCALE: 1" = 20'

FOR PROFILE SEE SHEETS 31-32



SHEET 10 RESOURCE AREA IMPACTS

	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	SHEET 10 TEMPORARY IMPACTS	SHEET 10 PERMANENT IMPACTS	SHEET 10 TOTAL IMPACTS
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0-100' RIVERFRONT AREA (SF)	10716.54 SF	981.09 SF	7471.72 SF	4767.74 SF	5781.08 SF	0.00 SF	19001.62 SF	19001.62 SF
100-200' RIVERFRONT AREA (SF)	1948.74 SF	0.00 SF	1732.24 SF	1164.69 SF	0.00 SF	0.00 SF	2896.94 SF	2896.94 SF
SHEET 10 RIVERFRONT AREA (SF)	12665.27 SF	981.09 SF	9203.96 SF	5932.43 SF	5781.08 SF	0.00 SF	21898.56 SF	21898.56 SF

608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:38 AM
Proposal No. 608547-132397

SHEET 11 RESOURCE AREA IMPACTS								
	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	**SHEET 11 TEMPORARY IMPACTS**	**SHEET 11 PERMANENT IMPACTS**	**SHEET 11 TOTAL IMPACTS**
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	6626.99 SF	2290.36 SF	4560.39 SF	3006.39 SF	2449.12 SF	0.00 SF	12306.26 SF	12306.26 SF
100'-200' RIVERFRONT AREA (SF)	4915.93 SF	635.82 SF	3470.49 SF	2166.07 SF	1341.55 SF	0.00 SF	7613.93 SF	7613.93 SF
SHEET 11 RIVERFRONT AREA (SF)	11542.92 SF	2926.18 SF	8030.88 SF	5172.46 SF	3790.67 SF	0.00 SF	19920.19 SF	19920.19 SF

IMPERVIOUS (NEW DEVELOPMENT) 0–100 FT RIVERFRONT AREA

IMPERVIOUS (NEW DEVELOPMENT) 100–200 FT RIVERFRONT AREA

GRADING IMPACTS 0–100 FT RIVERFRONT AREA

GRADING IMPACTS 100–200 FT RIVERFRONT AREA

CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

CLEARING IMPACTS 100–200 FT RIVERFRONT AREA

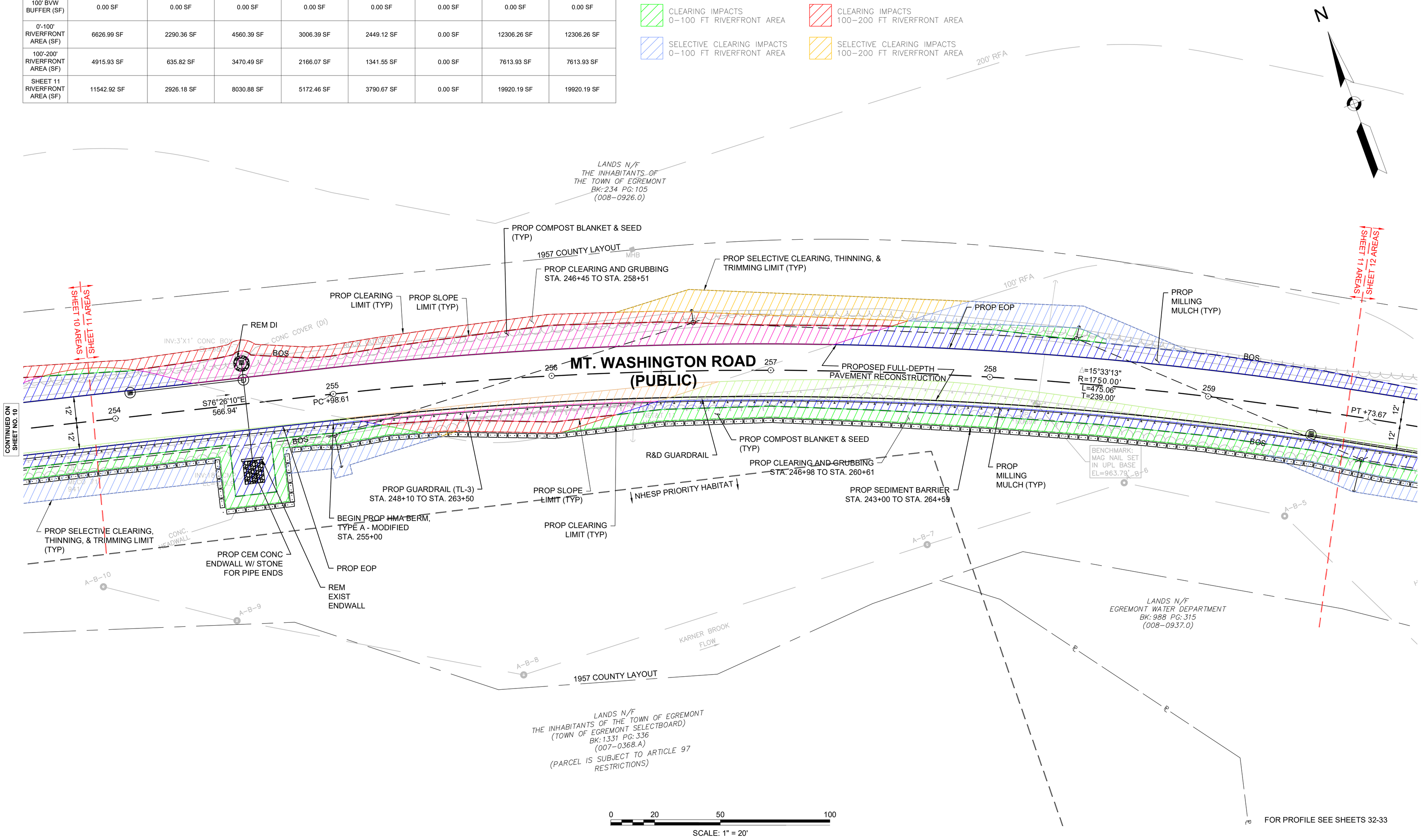
SELECTIVE CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

SELECTIVE CLEARING IMPACTS 100–200 FT RIVERFRONT AREA

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	11	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 11



608547_HD(PERMITTING).DWG Plotted on 17-May-2024 10:38 AM

Proposal No. 608547-132397

A00860 - 248

SHEET 12 RESOURCE AREA IMPACTS

	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	**SHEET 12 TEMPORARY IMPACTS**	**SHEET 12 PERMANENT IMPACTS**	**SHEET 12 TOTAL IMPACTS**
BANK (LF)	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF	0.00 LF
100' BVW BUFFER (SF)	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF	0.00 SF
0'-100' RIVERFRONT AREA (SF)	5038.10 SF	578.81 SF	2166.28 SF	672.55 SF	3113.55 SF	0.00 SF	6531.19 SF	6531.19 SF
100'-200' RIVERFRONT AREA (SF)	209.71 SF	0.00 SF	1086.89 SF	0.00 SF	0.00 SF	0.00 SF	1086.89 SF	1086.89 SF
SHEET 12 RIVERFRONT AREA (SF)	5247.82 SF	578.81 SF	3253.17 SF	672.55 SF	3113.55 SF	0.00 SF	7618.08 SF	7618.08 SF

IMPERVIOUS (NEW DEVELOPMENT) 0–100 FT RIVERFRONT AREA

GRADING IMPACTS 0–100 FT RIVERFRONT AREA

CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

SELECTIVE CLEARING IMPACTS 0–100 FT RIVERFRONT AREA

GRADING IMPACTS 100–200 FT RIVERFRONT AREA

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	12	12
PROJECT FILE NO.	608547		

PERMITTING PLANS (NOI) - 12

1957 COUNTY LAYOUT

UPL MECO 64–2 NET&T 1

INV:24" CMP EL=889.2'

GRAVEL DRIVE

UPL MECO 63 BA 7 10A

CONTINUED BELOW

266 **MT. WASHINGTON ROAD (PUBLIC)** 267

△=33°28'42" R=850.00' L=496.66' T=255.65'

BENCHMARK: MAG NAIL SET IN UPL EASE EL=905.45'

UPL MECO 64–2 NET&T 7

UPL MECO 63 BA 7 10A

INV:24" CMP

N

LANDS N/F
THE INHABITANTS OF
THE TOWN OF EGREMONT
BK: 234 PG: 105
(008–0926.0)

LANDS N/F
MARK A. & ELIZABETH K. STOTT
BK: 2251 PG: 230
(007–0537.0)
150 MOUNT WASHINGTON ROAD

LANDS N/F
EGREMONT LAND TRUST, INC.
BK: 1164 PG: 63
(008–0241.0)

200' RFA

100' RFA

SHEET 11 AREAS

SHEET 12 AREAS

1957 COUNTY LAYOUT

REM EXIST DI

PROP EOP

PROP MILLING MULCH (TYP)

PROP COMPOST BLANKET & SEED (TYP)

INV:3'X1' CONC BOX EL=945.7'

CONC COVER (DI)

NON-JURIS. RIVER STREAM

BOS

ASPHALT DRIVE

DITCH

INV:1'X2' CONC BOX EL=911.8'

CONC COVER

IP "

CONTINUED ON SHEET NO. 11

12'

12'

PT +73.67

260

261

S60°52'57"E 508.65'

262

PC-4

263

264

PC +82.32

265

△=33°28'42" R=850.00' L=496.66' T=255.65'

CONTINUED ABOVE

BENCHMARK: MAG NAIL SET IN UPL EASE EL=905.45'

UPL MECO 64 BA 7 10A

PROPOSED FULL-DEPTH PAVEMENT RECONSTRUCTION

BOS

INV: UNKNOWN EL=907.13'

GRAVEL DRIVE

END PROP HMA BERM, TYPE A STA. 260+52

PROP SLOPE LIMIT (TYP)

LIMIT OF WORK MEET EXISTING STA 262+00.00 N2888885.8625 E124463.8325

PROP SEDIMENT BARRIER STA. 243+00 TO STA. 264+59

PROP GUARDRAIL TANGENT END +50 W/ REFLECTORIZED DELINEATORS

PROP EOP

A–B–5

PROP SELECTIVE CLEARING, THINNING, & TRIMMING LIMIT (TYP)

REM EXIST ENDWALL

PROP 40' PVMT MILL & OVERLAY W/ BOX WIDENING

CONC. HEADWALL

PROP CEM CONC ENDWALL W/ STONE FOR PIPE ENDS

R&D GUARDRAIL

A–B–1

PROP MILLING MULCH (TYP)

PROP GUARDRAIL (TL-3) STA. 248+10 TO STA. 263+50

A–B–3

A–B–2

KARNER BROOK FLOW

PROP CLEARING AND GRUBBING STA. 246+98 TO STA. 260+61

PROP CLEARING LIMIT (TYP)

1957 COUNTY LAYOUT

LANDS N/F
EGREMONT WATER DEPARTMENT
BK: 988 PG: 315
(008–0937.0)

A–B–4

0 20 50 100

SCALE: 1" = 20'

TOTAL RESOURCE AREA IMPACTS

	PROPOSED IMPERVIOUS (REDEVELOPMENT)	PROPOSED IMPERVIOUS (NEW DEVELOPMENT)	GRADING IMPACTS	CLEARING IMPACTS	SELECTIVE CLEARING/ TRIMMING IMPACTS	**TOTAL TEMPORARY IMPACTS**	**TOTAL PERMANENT IMPACTS**	**TOTAL IMPACTS**
BANK (LF)	0.00 LF	0.00 LF	32.87 LF	0.00 LF	0.00 LF	0.00 LF	32.87 LF	32.87 LF
100' BVW BUFFER (SF)	15459.73 SF	1009.90 SF	13867.28 SF	3778.11 SF	686.97 SF	15459.73 SF	19342.26 SF	34801.99 SF
0'-100' RIVERFRONT AREA (SF)	47663.45 SF	5466.44 SF	39477.02 SF	16522.91 SF	12850.61 SF	0.00 SF	74316.98 SF	74316.98 SF
100'-200' RIVERFRONT AREA (SF)	15110.19 SF	885.09 SF	22576.47 SF	8843.39 SF	1341.55 SF	0.00 SF	33646.50 SF	33646.50 SF
TOTAL RIVERFRONT AREA (SF)	62773.65 SF	6351.53 SF	62053.50 SF	25366.30 SF	14192.16 SF	0.00 SF	107963.48 SF	107963.48 SF

TOTAL TEMPORARY IMPACTS = 15,459.73 SF TO BVW
TOTAL PERMANENT IMPACTS = 127,305.26 SF TO BVW & RFA, 32.87 LF TO BANK
TOTAL COMBINED IMPACTS = 142,765.47 SF TO BVW & RFA, 32.87 LF TO BANK

LANDS N/F
PAUL GARCIA & NICHOLACE FLOREZ
BK: 2241 PG: 238
(007–0089.B)
133 MOUNT WASHINGTON ROAD

608547_HDI(PERMITTING).DWG Plotted on 17-May-2024 10:38 AM

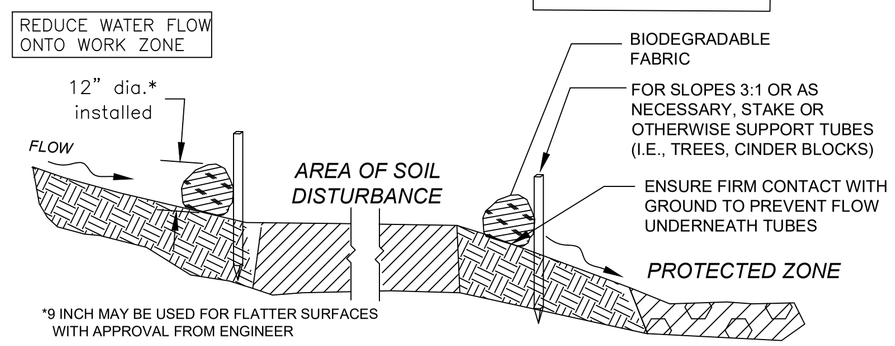
Proposal No. 608547-132397

A00860 - 249

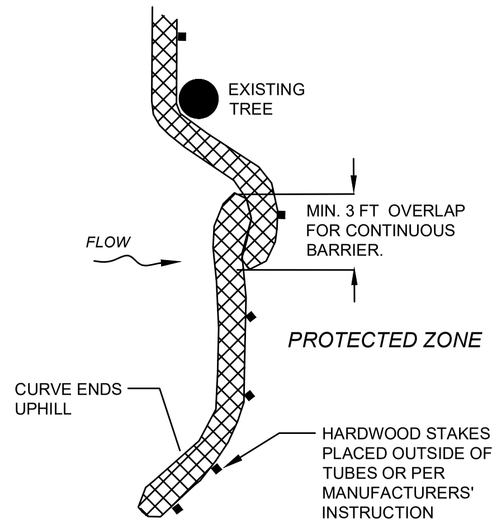
608547_HD(DETAIL).DWG Plotted on 17-May-2024 11:06 AM

Proposal No. 608547-132397

A00860 - 250



SECTION



PLACE TUBE ALONG CONTOURS AND PERPENDICULAR TO FLOW.

PLACE AS CLOSE TO LIMIT OF SOIL DISTURBANCE AS POSSIBLE

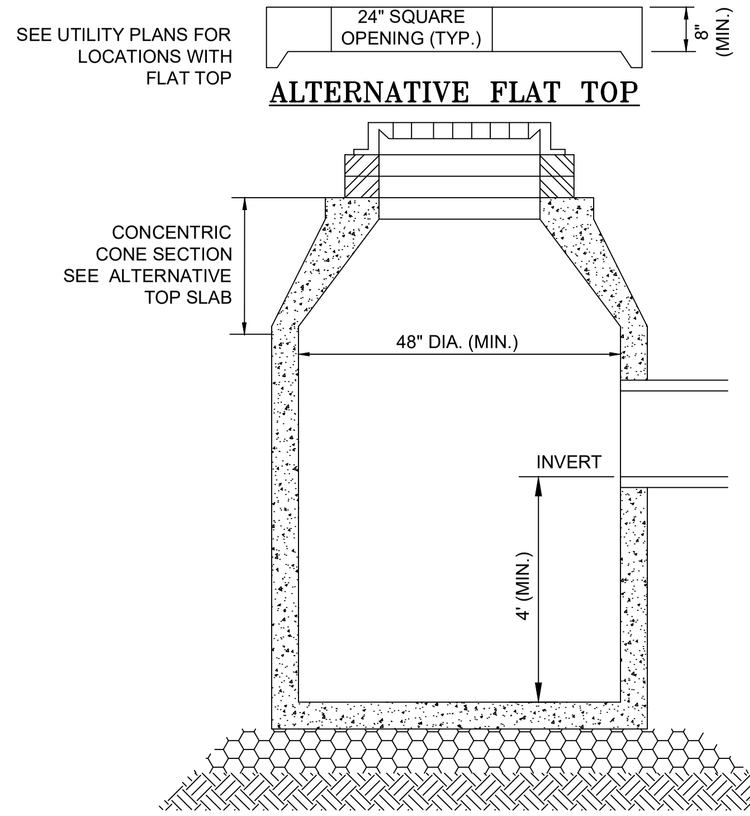
ADJUST LOCATION AS REQUIRED FOR OPTIMUM EFFECTIVENESS. DO NOT INSTALL IN WATERWAYS.

PLACE STAKES AS NEEDED TO SECURE TUBES IN PLACE.

PLAN VIEW

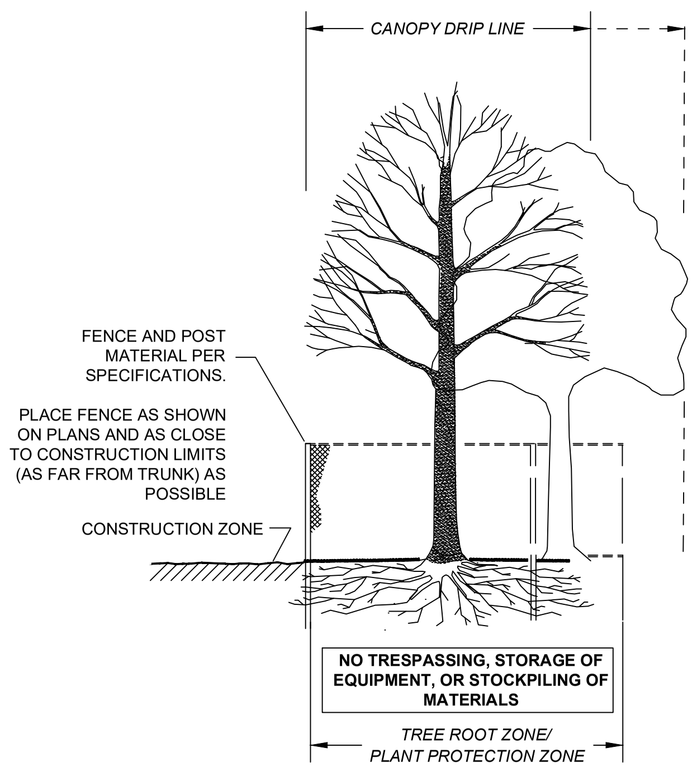
SEDIMENT BARRIERS – COMPOST FILTER TUBES

NOT TO SCALE

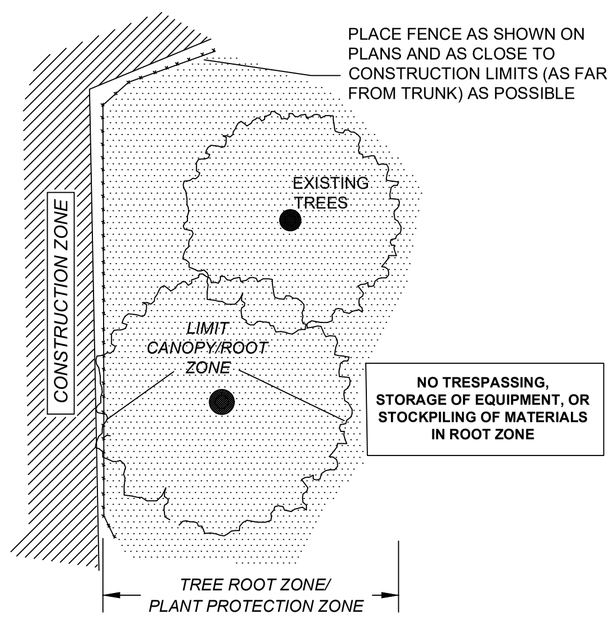


CATCH BASIN DETAIL

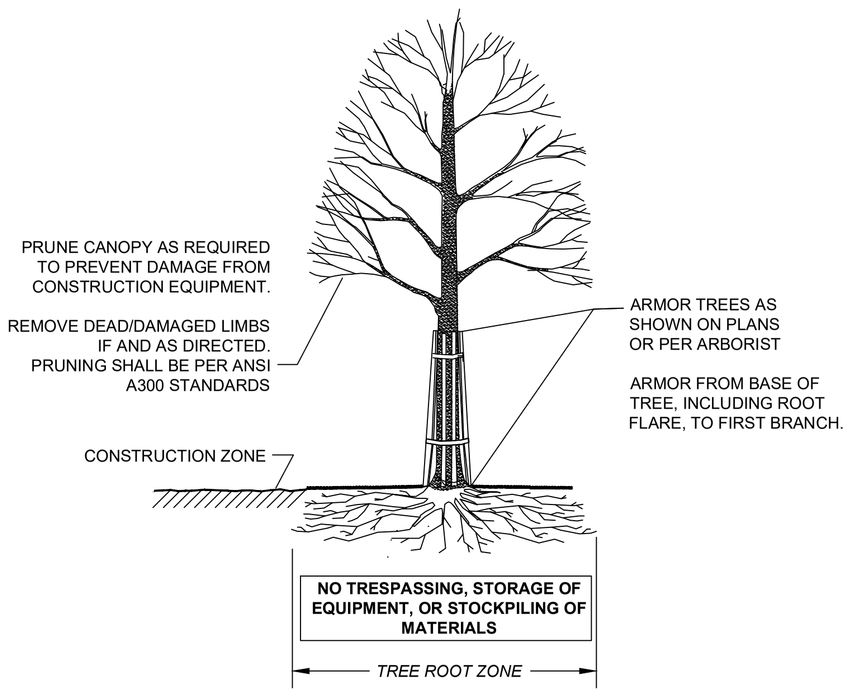
NOT TO SCALE



SECTION - FENCE PROTECTION OF ROOT ZONE



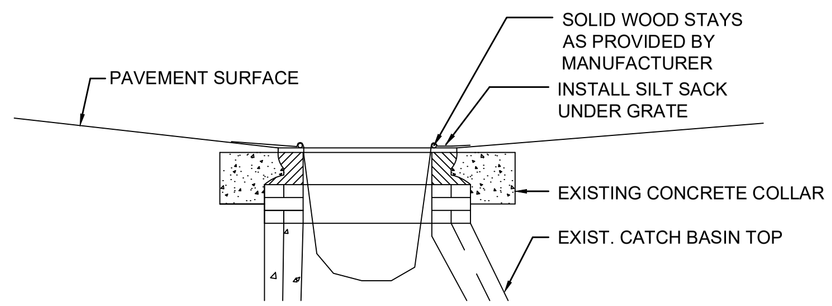
PLAN VIEW - FENCE PROTECTION OF ROOT ZONE



SECTION - TRUNK ARMORING & PRUNING

TREE PROTECTION DETAILS

NOT TO SCALE



NOTES:

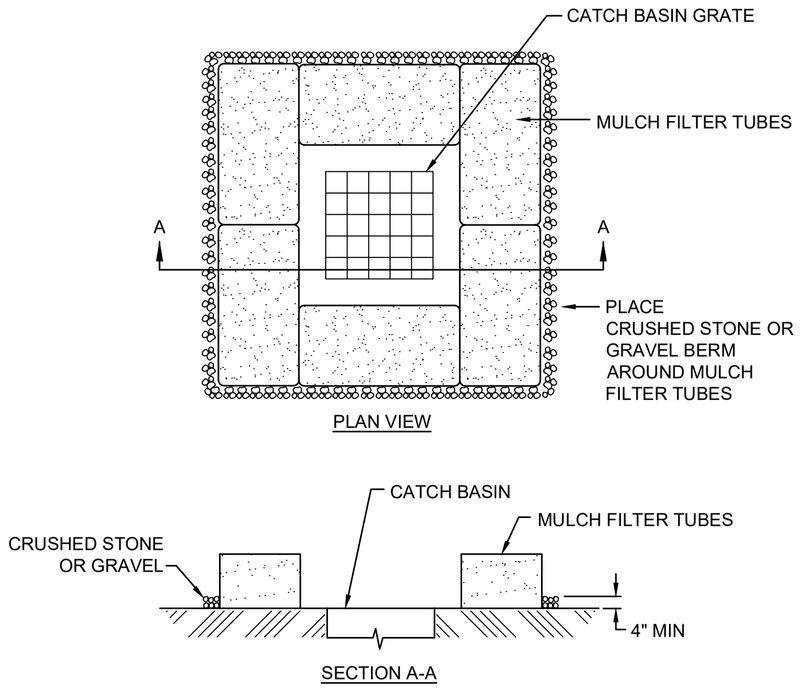
1. REMOVE ACCUMULATED SEDIMENTS AS REQUIRED TO MAINTAIN DRAINAGE.
2. INSPECT FABRIC EVERY WEEK DURING CONSTRUCTION.

SILT SACK

608547_HD(DETAIL).DWG Plotted on 17-May-2024 11:06 AM

Proposal No. 608547-132397

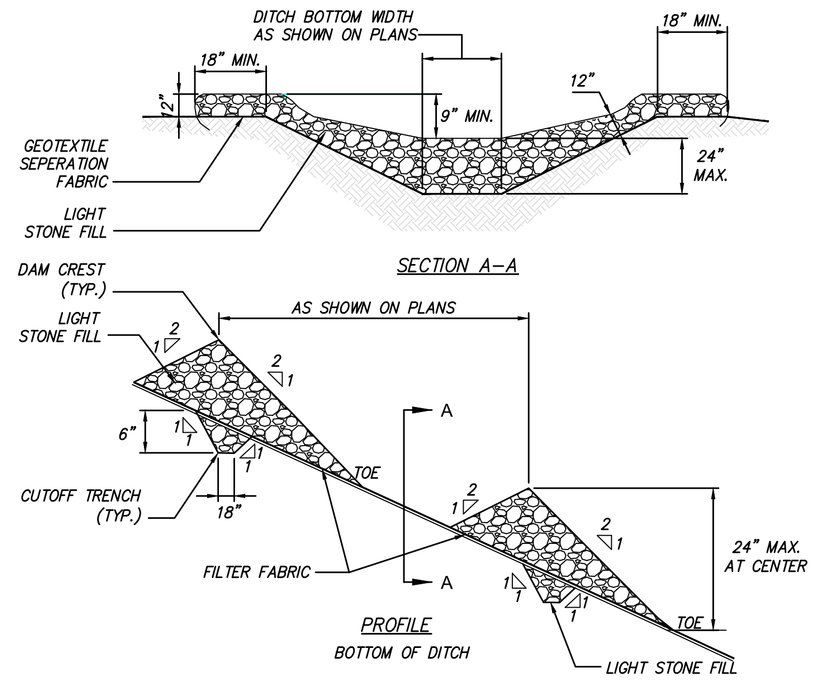
A00860 - 251



NOTES:
1. SURROUND STREET DRAINAGE STRUCTURE INLET WITH MULCH FILTER TUBES PRIOR TO CONSTRUCTION AND MAINTAIN UNTIL CONSTRUCTION IS COMPLETED. ACCUMULATED SEDIMENTS SHALL BE REMOVED.
2. 4" MIN GRAVEL BERM AROUND BOTTOM OF MULCH FILTER TUBES.

OFF ROADWAY CATCH BASIN/DROP INLET EROSION CONTROL MEASURE

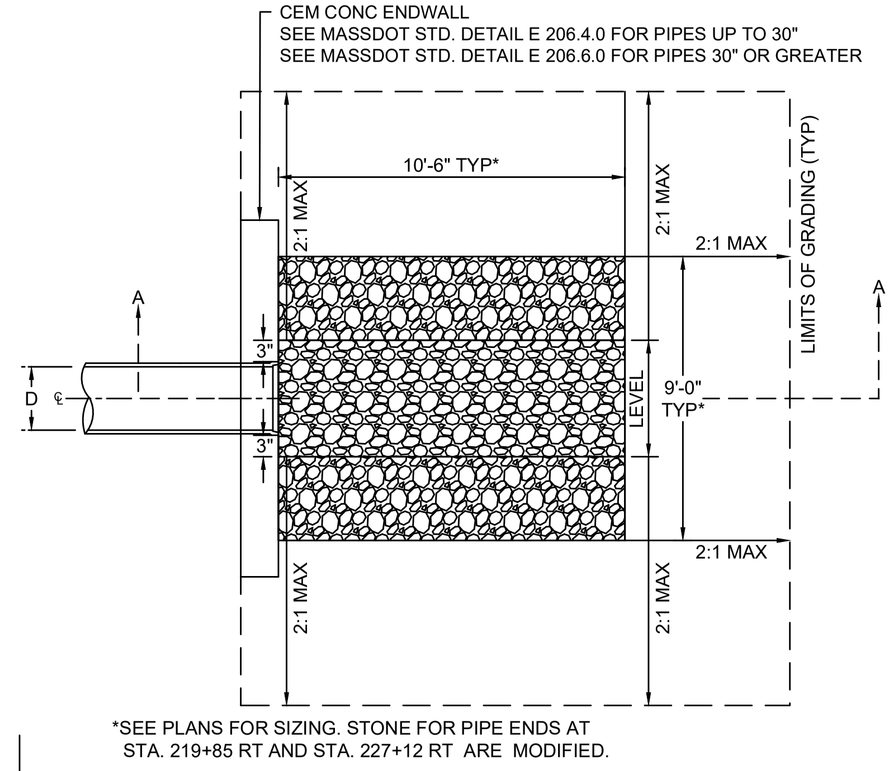
NOT TO SCALE



NOTES:
1. SET SPACING OF CHECK DAMS SUCH THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM. MINIMUM SPACING OF 25'.
2. EXTEND THE STONE A MINIMUM OF 18" BEYOND THE DITCH BANKS.

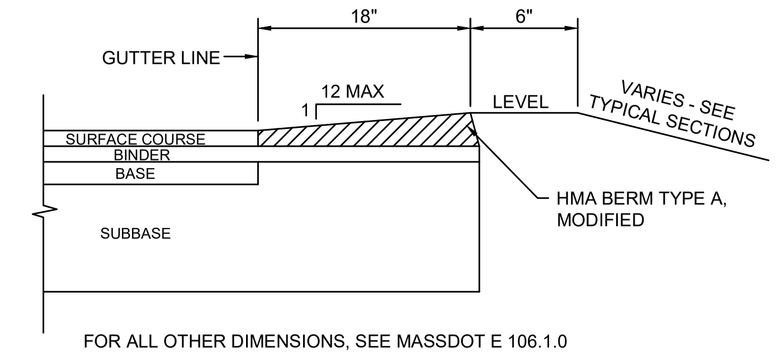
STONE CHECK DAM DETAIL

NOT TO SCALE



*SEE PLANS FOR SIZING. STONE FOR PIPE ENDS AT STA. 219+85 RT AND STA. 227+12 RT ARE MODIFIED.

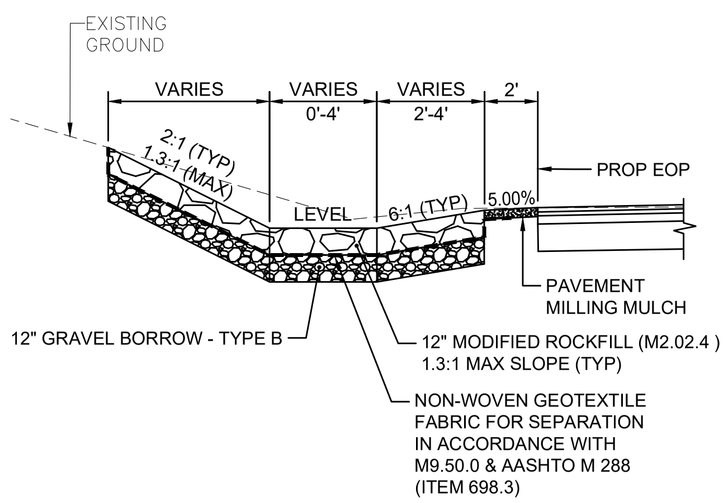
PLAN VIEW



FOR ALL OTHER DIMENSIONS, SEE MASSDOT E 106.1.0

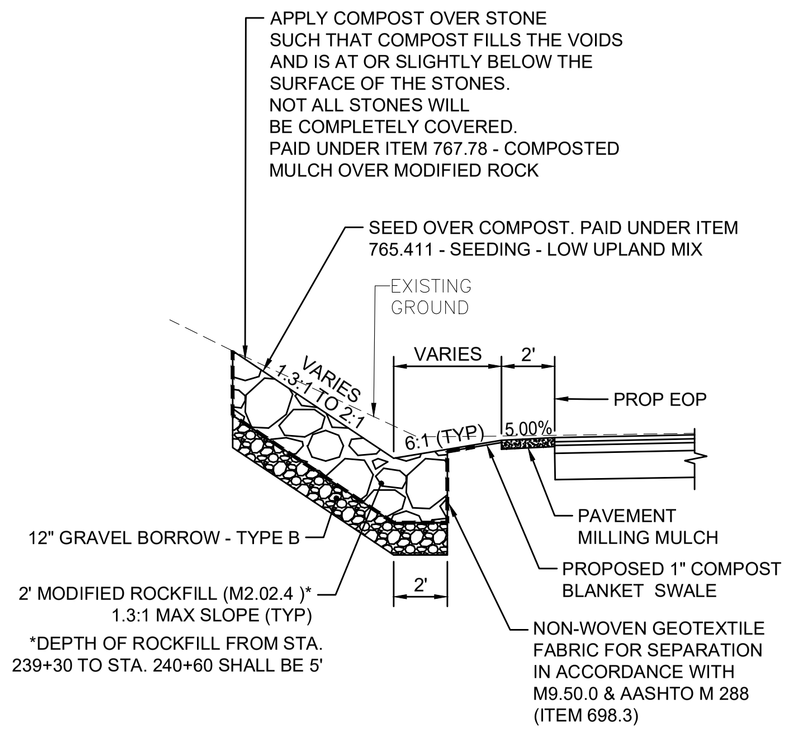
HOT MIX ASPHALT BERM, TYPE A – MODIFIED

NOT TO SCALE



STONE LINED SWALE DETAIL

NOT TO SCALE

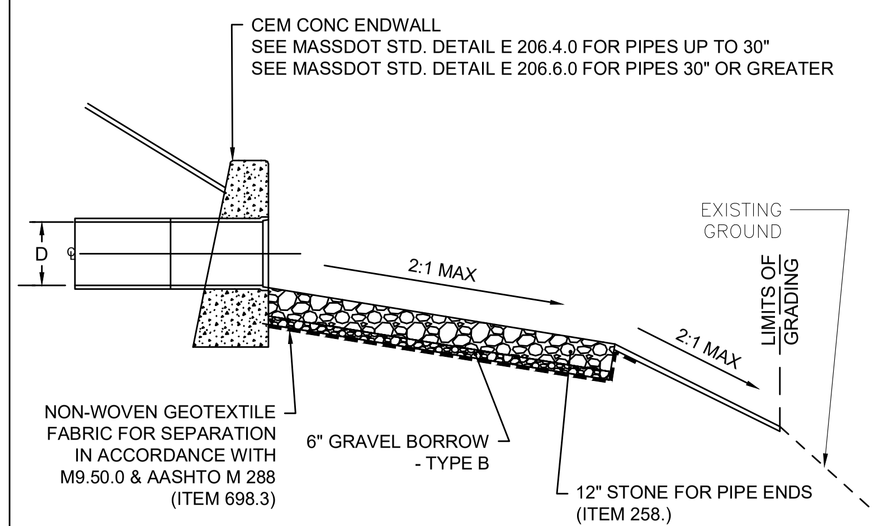


*DEPTH OF ROCKFILL FROM STA. 239+30 TO STA. 240+60 SHALL BE 5'

SECTION ON UPHILL SLOPE

TYPICAL MODIFIED ROCKFILL DETAIL WITH COMPOST AND SEED

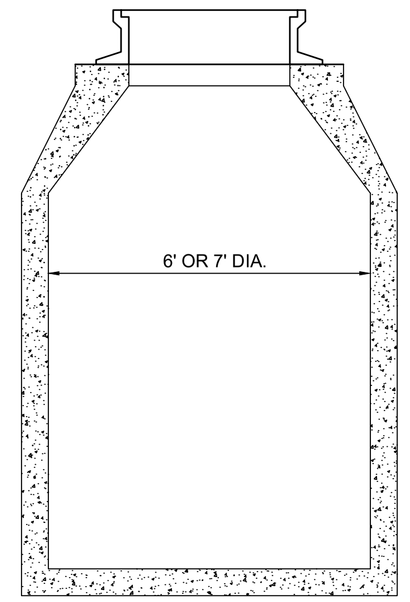
NOT TO SCALE



SECTION A-A

ENDWALL & STONE FOR PIPE ENDS

NOT TO SCALE



NOTES:
1. ALL STANDARD MANHOLES SHALL CONFORM TO MASSDOT CONSTRUCTION STANDARD E 202.4.0 EXCEPT AS SHOWN ABOVE.

SPECIAL MANHOLE – 6' DIAMETER
SPECIAL MANHOLE – 7' DIAMETER

NOT TO SCALE

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WESTERN REGIONAL OFFICE
436 DWIGHT STREET, SPRINGFIELD, MA 01103 413-784-1100

MAURA T. HEALEY
Governor

KIMBERLEY DRISCOLL
Lieutenant Governor

REBECCA L. TEPPER
Secretary

BONNIE HEIPLE
Commissioner

DATE: June 18, 2024

Municipality EGREMONT
(city/town)

RE: NOTIFICATION OF WETLANDS PROTECTION ACT FILE NUMBER

The Department of Environmental Protection has received a Notice of Intent filed in accordance with the Wetlands Protection Act (M.G.L. c. 131, §40):

Applicant:	TOWN OF EGREMONT	Owner:	TOWN OF EGREMONT
Address:	171 EGREMONT PLAIN ROAD (ROUTE 71) EGREMONT, MA	Address:	171 EGREMONT PLAIN ROAD (ROUTE 71) EGREMONT, MA, 01258
LOCUS:	MT. WASHINGTON ROAD		

This project has been assigned the following file # : WE 153-0240

A FILE NUMBER ONLY INDICATES THAT THE APPLICATION CONTAINS THE MINIMAL SUBMITTAL REQUIREMENTS AND IS ADMINISTRATIVELY COMPLETE - NOT THAT THE INFORMATION IN THE APPLICATION IS ADEQUATE FOR ISSUANCE OF AN ORDER OF CONDITIONS.

Although a file # is being issued, please note the following:

[1] The commission needs to keep the NOI hearing open until NHESP has issued its determination.

[2] This project will also be submitted to MEPA and may require a 401 Water Quality Certificate application. This reviewer recommends, but cannot require, that the commission keep the hearing open until the Secretary's Certificate is issued and take those comments into account in their review of the project.

[3] The commission will likely want to have a pre-construction conference with the various parties prior to the start of work because based on the narrative, some of the activities and work areas will not be known when the OOC is issued.

[4] For these linear projects, the typical issue will be the erosion and sediment controls, in the OOC it is General Condition 18. The commission should review the language of that General Condition.

[5] Karner Brook is a Cold Water Fishery. Preventing sediment from entering the water and maintaining and/or increasing shading of the water column is important to protecting this valuable resource. Coldwater streams and rivers are critical habitat for a variety of fish including rare (American Brook Lamprey, Longnose Sucker, Lake

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD# 1-866-539-7622 or 1-617-574-6868.
http://www.mass.gov/dep
Printed on Recycled Paper

TOWN OF EGREMONT
171 EGREMONT PLAIN ROAD (ROUTE 71)
EGREMONT, MA

Chub) and recreationally-important (Brook Trout) species. For stormwater standards, a CFR is a critical area. The parties should review the best management practices for cold water fisheries in Volume 1 Chapter 1 of the Stormwater Handbook.

[6] Have all the necessary easements been acquired? Does the town need a dry hydrant on Mt. Washington Road where Karner Brook passes underneath?

[7] Even as a limited project, the applicant must still attempt to fully comply with the Riverfront performance standards. A significant increase in RFA impacts is proposed but it is not clear what is going to be the improvement and what will be mitigation. See 310 CMR 10.58(5)(a) and 310 CMR 10.58(5)(g). Mitigation can be done offsite. Acceptable improvements include, but are not limited to:

1) Significant net reduction of impervious surfaces;
2) Planting of indigenous plant species;
3) Providing stormwater management demonstrably in excess of what is required per 310 CMR 10.05(6)(k) through (q);
4) Removal and proper disposal of noxious but otherwise legally located materials.

If you have any questions regarding this letter, please contact: MARK STINSON @ (413)-961-9583

Cc: Egremont Conservation Commission, PO BOX 368, Egremont, MA, 01258
Natural Heritage & Endangered Species Program, Div of Fisheries & Wildlife Route 135, North Drive, Westborough, MA, 01581
Owner: TOWN OF EGREMONT, 171 EGREMONT PLAIN ROAD (ROUTE 71), EGREMONT, MA, 01258
Representative: COMPREHENSIVE ENVIRONMENTAL INC., 41 MAIN STREET, BOLTON, MA, 01740

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD# 1-866-539-7622 or 1-617-574-6868.
http://www.mass.gov/dep
Printed on Recycled Paper

COMPREHENSIVE
ENVIRONMENTAL
INCORPORATED

41 Main Street
Bolton, MA 01740
508.281.5160

December 30, 2024

Mark Stinson
DEP Western Region Circuit Rider
436 Dwight Street
Springfield, MA 01103

Re: DEP File Number 153-0240
Mount Washington Road, Egremont, MA
NOI Response to Comments

Dear Mr. Stinson:

Comprehensive Environmental Inc. (CEI), on behalf of the Town of Egremont, offer the following responses to comments for technical comments received under the Town's WPA NOI filing. Please note that the original comment is listed in bold followed by our response.

1. **The commission needs to keep the NOI hearing open until NHESP has issued its determination.**

   Understood. Please see Attachment A "Division of Fisheries & Wildlife NHESP File No. 24-17251- No Take Conditions". Please note that the Department is committed to honoring all of the Conditions so there is No Take.

2. **This project will also be submitted to MEPA and may require a 401 Water Quality Certificate application. This reviewer recommends, but cannot require, that the commission keep the hearing open until the Secretary's Certificate is issued and take those comments into account in their review of the project.**

   The Conservation Commission has kept the hearing open until the Secretary issued Attachment B "16871 CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS ON THE ENVIRONMENTAL NOTIFICATION FORM" which concludes that the project does not need an EIR. The Certificate does echo the WQC possibility which was answered with Attachment C "Egremont ENF 16871 - Matt Lundsted - Outlook_WQC " which concludes the resources in question are not directly hydrologically connected to Karner Brook.

   In addition, as mitigation for loss of street shade trees, the Town has committed to installing trees at their Town Park a.k.a. "French Park" (at 65 Prospect Lake Road, Egremont, MA 01230) or at the Town Hall property (at 171 Egremont Plain Road (Route 71) Egremont, MA 01258).

3. **The commission will likely want to have a pre-construction conference with the various parties prior to the start of work because based on the narrative, some of the activities and work areas will not be known when the OOC is issued.**

   The Town understands and concurs on a Condition requiring a pre-construction meeting.

4. **For these linear projects, the typical issue will be the erosion and sediment controls, in the OOC it is General Condition 18. The commission should review the language of that General Condition.**

   Acknowledged.

5. **Karner Brook is a Cold Water Fishery. Preventing sediment from entering the water and maintaining and/or increasing shading of the water column is important to protecting this valuable resource. Coldwater streams and rivers are critical habitat for a variety of fish including rare (American Brook Lamprey, Longnose Sucker, Lake Chub) and recreationally-important (Brook Trout) species. For stormwater standards, a CFR is a critical area. The parties should review the best management practices for cold water fisheries in Volume 1 Chapter 1 of the Stormwater Handbook.**

   Acknowledged. We appreciate your comment and note that we respect the sensitive nature of the resource both as a Cold Water Fishery and an Area of Critical Environmental Concern. While the mountainous topography within the project limits presents severe challenges to installing surface Stormwater Control Measures (SCMs) such as extended detention and bioretention we have taken extra measures to maximize new stormwater controls via the addition of 18 deep sump catch basins and 19 drop inlets with sumps compared to 2 existing catch basins and 13 existing drop inlets with unknown sumps. Please note that the drainage improvements will help reduce erosive forces from uncontrolled runoff along the length of the roadway as well as provide for enhanced TSS removal over existing conditions. We would also note that although approximately 25 public shade trees are being removed within the RFA along the 1.2 mile corridor, the remaining forest density combined with the steepness of side slopes will still provide substantial shading of the pavement surfaces to help keep stormwater follows cooler.

6. **Have all the necessary easements been acquired? Does the town need a dry hydrant on Mt. Washington Road where Karner Brook passes underneath?**

   Right-of-way (ROW) plans have been accepted by MassDOT and the Town is in the process of negotiating temporary easements and grading permission agreements. Please note that the location for a dry hydrant is not within the current project limits but the Town will keep this comment as a consideration if a future project takes place at that crossing location.

7. **Even as a limited project, the applicant must still attempt to fully comply with the Riverfront performance standards. A significant increase in RFA impacts is proposed but it is not clear what is going to be the improvement and what will be mitigation. See 310 CMR 10.58(5)(a) and 310 CMR 10.58(5)(g). Mitigation can be**

done offsite. Acceptable improvements include, but are not limited to:1) Significant net reduction of impervious surfaces; 2) Planting of indigenous plant species; 3) Providing stormwater management demonstrably in excess of what is required per 310 CMR 10.05(6)(k) through (q); 4) Removal and proper disposal of noxious but otherwise legally located materials.

As you may be aware, impacts within the RFA were a major focus of the MEPA process which has since concluded. As illustrated in the Alternative Analysis in the ENF, the preferred alternative had the narrowest width of impervious increase which would meet the goals of the project in enhanced safety and bicycle accommodation. In addition, the use of retaining walls in lieu of earthen slopes greatly reduces the potential impact within the RFA. As noted in response #5 above we believe we have maximized stormwater management and the proposed work will result in enhanced management and treatment of stormwater runoff. We note that MassDOT Standard Specifications require the removal and legal disposal of unsuitable materials encountered as well as Invasive Species management. Finally, the Town has committed to locating areas along the Karner Brook off-site where mature vegetation plantings will enhance shading of the Brook. After discussion between the design team, MassDOT environmental staff, the Town and MEPA analysts it was determined that due to the densely populated mature forest along the project corridor, enhanced plantings would be more effective off-site.

Sincerely,

COMPREHENSIVE ENVIRONMENTAL INC.



Matthew Lundsted, PE, CFM
Principal

Ecc: Egremont Conservation Commission
Erica Larner, Wetlands and Water Resources Coordinator, MassDOT
Adam Kiel, Project Manager, MassDOT
Ellen Moshier, CHA
John Morgan, Jr., CHA

Attachment A

Division of Fisheries and Wildlife NHESP File No. 24-17250- No Take Conditions

MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

June 21, 2024

Kevin Barbara
41 Main Street
Bolton, MA 01740

Egremont Conservation Commission
PO Box 368
Egremont, MA 01258

RE: Applicant: Kevin Barbara
Project Location: Mount Washington Road, Egremont, MA
Project Description: MassDOT Project 608547- Egremont-Reconstruction of Mount Washington Road
DEP Wetlands File No.: 153-0240
NHESP File No.: 24-17251

Dear Commissioners and Applicant:

The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") received a Notice of Intent in compliance with the rare wildlife species section of the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.58(4)(b), 10.59). The Division also previously received the MESA Review Checklist and supporting documentation for review pursuant to the MA Endangered Species Act Regulations (321 CMR 10.18).

The Division has determined that this Project, as currently proposed, will occur **within** the actual habitat of the following species:

Scientific Name	Common Name	Taxonomic Group	State Status
Data Sensitive	Data Sensitive	Data Sensitive Vertebrate	Endangered

"Data Sensitive Species" are highly susceptible to collection and are therefore of high concern to Natural Heritage. Information about these species (including presence/absence) cannot be released to anyone (especially including release to third parties or published) unless such release is agreed to in writing by the Natural Heritage Program (See Massachusetts Public Records law: M.G.L. chapter 66 section 17D).

This species and their habitats are protected in accordance with the rare species provisions of the WPA and the MESA.

Wetlands Protection Act (WPA)

Based on a review of the information that was provided and the information that is currently contained in our database, the Division has determined that this project, as currently proposed, **will not adversely affect** the actual Resource Area Habitat of state-protected rare wildlife species. Therefore, it is our opinion that this project meets the state-listed species performance standard for the issuance of an Order of Conditions.

Please note that this determination addresses only the matter of rare wildlife habitat and does not pertain to other wildlife habitat issues that may be pertinent to the proposed project.

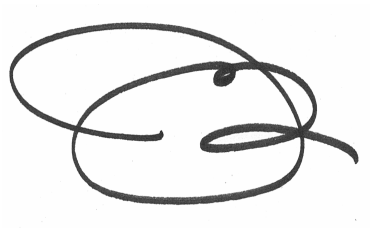
Massachusetts Endangered Species Act (MESA)

The Division previously reviewed a MESA checklist for review. Based on the information provided and the information contained in our database, the Division determined that this project **must be conditioned** to avoid a prohibited Take of state-listed species (321 CMR 10.18(2)(a)) (Division determination letter dated March 13, 2024). **To avoid a prohibited Take of state-listed species, the conditions attached to this letter must be met.**

Provided the attached conditions are fully implemented and there are no changes to the project plans, this project will not result in a Take of state-listed species. We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. This determination is a final decision of the Division of Fisheries and Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with the Division pursuant to the MESA. This project may be subject to further review if no physical work is commenced within five years from the date of issuance of this determination, or if there is a change to the project.

Please note that this determination addresses only the matter of state-listed species and their habitats. If you have any questions regarding this letter please contact Melany Cheeseman, Endangered Species Review Assistant, at Melany.Cheeseman@mass.gov, (508) 389-6357.

Sincerely,



Jesse Leddick
Assistant Director

cc: Town of Egremont , Town of Egremont
Egremont Conservation Commission
DEP Western Region

Attachment: List of Conditions

List of Conditions

Applicant: Kevin Barbara
Project Location: Mount Washington Road, Egremont, MA
Project Description: MassDOT Project 608547- Egremont-Reconstruction of Mount Washington Road
NHESP File No.: 24-17251
Heritage Hub Form ID: RC-86190
Approved Plan: Mount Washington Road Reconstruction Phase 1 Egremont, MA
Plan date: May 2024 Revised Date: N/A

To avoid a prohibited Take of state-listed species, the following condition(s) must be met:

1. **Limits of Work:** No work or alteration to the soil, surface, or vegetation shall occur outside of the limits of work shown on the site plan unless otherwise approved in writing in advance by the Division.

2. **Rare Vertebrate Protection Plan.** Should any work be conducted during the active season, the Applicant is required to conduct such work under the supervision of a qualified biologist and the Division-approved "Snake Protection Plan" (SPP).
   a. The SPP is approved with the following additions/changes:
   1.Stockpiled materials shall be stored on mats such as double stacked pallets or similar materials, whenever possible. This allows the materials to be moved using the upper pallet while leaving the ground-contact pallet undisturbed.
   2.Contracts for the project shall stipulate that the qualified biologist may direct or temporarily halt onsite work to maximize protection of state-listed species and allow for additional sweeps/searches.
   b. A MESA Commercial Scientific Collection Permit must be obtained from the Division to handle state-listed species. The permit application should provide a description of the qualifications of the biologist(s) proposed to implement the plan relative to state-listed vertebrates.
   1.As part of the application, the biologist can update/modify/revise the SPP.
   2.The qualified biologist shall have the responsibility and obligation to increase or modify (but not decrease) the search area, hours of effort, days of effort and or approaches to maximize detection of state-listed species based on actual field conditions observed. In such a circumstance, the qualified biologist shall notify the Division as soon as possible of the deviation, and the reason for deviating from, the approved protocol.

3. **Mesh Construction Materials.** Mesh materials are addressed in the SPP. The following adds to the bullet points in the SPP. Mesh materials must be excluded from Project implementation unless otherwise approved in writing by the Division.
   1.No presence, stockpiling, or use of permanent or temporary mesh materials with a nominal opening between 1/4" and 2" shall be permitted, unless otherwise approved in writing by the Division or fully encased in a non-penetrable wrap or surface (e.g., poured concrete over rebar mesh).
   2.Netless rolled erosion control products may be utilized whenever mesh materials are necessary. Authorized materials include (1) standard, black silt fencing (i.e., 36-in wide, tightly woven), (2) orange safety fencing (aka barrier or snow fencing) with nominal 2" or greater openings installed tightly between supports and with a 6" minimum gap along the ground, and (3) chain-link fencing with 2" or greater openings and installed with a 6" minimum gap along the ground.

4. **Use of Native Species:** Unless otherwise approved in writing by the Division, all seed and plantings no thereafter maintained as lawn shall be native to the County as provided in The Vascular Plants of Massachusetts: A County Checklist, First Revision (Dow Cullina, Connolly, Sorrie & Somers, 2011).

5. **Restoration or Stabilization:** The Division does not approve of the planting of state-listed species, even if the seeds are sourced outside of Massachusetts. Please carefully review seed mixes at the time of purchase as the specific composition and mixes change within a year (https://www.mass.gov/info-details/list-of-endangered-threatened-and-special-concern-species#plants).

6. **Work Timing.**
   1.Inactive season: Work conducted between November 1 and April 14 may proceed without restrictions.
   2.Active season: Work conducted between April 15 and October 31, even if initiated earlier, must be conducted under the direct supervision of a Division-approved biologist in accordance with the SPP.

7. **Compliance Report:** Within thirty (30) days of the completion of work or as otherwise approved by the Division, the Applicant shall submit a brief written report to the Division documenting compliance with the condition(s) required herein, including representative photographs or supplemental documentation as necessary.

8. **Authorization Duration:** This authorization is valid for 5 years from the date of issuance. Work may be completed at any time during this 5-year period in compliance with the conditions herein. Thereafter, the Applicant must re-file pursuant to the MESA.

Attachment B

16871 CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS ON THE ENVIRONMENTAL NOTIFICATION FORM

The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Maura T. Healey
GOVERNOR

Kimberley Driscoll
LIEUTENANT GOVERNOR

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SECRETARY

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http://www.mass.gov/eea

October 18, 2024

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: Reconstruction and related work at Mount Washington Road
PROJECT MUNICIPALITY	: Egremont
PROJECT WATERSHED	: Housatonic
EEA NUMBER	: 16871
PROJECT PROPONENT	: Town of Egremont
DATE NOTICED IN MONITOR	: September 11, 2024

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G. L. c. 30, ss. 61-62L) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **does not require** an Environmental Impact Report (EIR).

Project Description

As detailed in the Environmental Notification Form (ENF), the project proposed by the Town of Egremont (Town), with construction coordination by the Massachusetts Department of Transportation (MassDOT), involves the full-depth reconstruction of a 1.2-mile section of Mount Washington Road. The project includes a full-depth reconstruction of Mount Washington Road with a new 24 foot (ft.) wide cross-section, a single 10-ft. travel lane in each direction, and 2-ft.-wide shoulders on each side. The majority of the reconstruction will remain within the existing roadway footprint to minimize new disturbances and reduce impacts to adjacent environmental resource areas. Retaining walls, ranging from 4 to 10 ft. in height and vegetated modified rockfill will be utilized on select slopes in areas with steep topography to prevent side-slope erosion and minimize the project's footprint. The project also includes improvements to roadway geometry, new curbing, stormwater management, new pavement markings, new traffic signage, and new guardrails along slopes to replace non-compliant sections. Additionally, selective tree removal will occur within the project limits to facilitate grading, slope stabilization, retaining wall installation, and stormwater infrastructure improvements. Trees close to the roadway work will be protected during construction, and erosion control measures will be installed.

Project Site

As described in the ENF, Mount Washington Road is a two-lane roadway, classified as a Rural Major Collector. The proposed work begins at the Egremont/Mount Washington town line and extends easterly approximately 1.2 miles to #150 Mount Washington Road which is approximately 2,000 ft. west of the intersection of Mount Washington Road and Jug End Road. This section of road exhibits steep mountainous topography, with an elevation drop of 460 ft. over the project length. The roadway is rural in nature and surrounded by forest, low-density residential and agricultural uses. The existing roadway pavement is in poor condition, exhibiting significant deficiencies and deterioration, including transverse cracking, potholes, patching, edge failure, and rutting. Additionally, the roadway lacks shoulders and pavement markings along its edges, and the existing guardrails adjacent to steep drop-offs are noncompliant with current safety standards. The road provides access to Mt. Washington State Reservation, Mt. Washington State Forest, Camp High Rock (YMCA), Bash Bish Falls, and is a bus route for both Mt. Washington and Egremont regional schools. The road is used for local organized cycling events and is one of only four access routes to the town of Mount Washington. The Egremont Town Hall and Fire Department are located approximately three miles to the north of the eastern project limit. In addition, Mount Washington Road is the only road accessible from Massachusetts that gives access to Mount Washington.

The project site is located adjacent to Karner Brook, a perennial stream and Coldwater Fishery, which flows west to east, just downslope and easterly of Mount Washington Road. The project site also includes intermittent streams. The entirety of the project falls within the Karner Brook Watershed, which is designated as a Class A, Outstanding Resource Water (ORW) and includes Surface Water Protection Areas for Zones A, B, and C. This area is also designated as an Area of Critical Environmental Concern (ACEC), with all 9.12 acres of the project site located within the ACEC. Portions of the site are within the 100-ft. buffer zone to Bordering Vegetated Wetlands (BVW) and the 200-ft. Riverfront Area (RFA) to Karner Brook. According to the Massachusetts Natural Heritage and Endangered Species Program (NHESP) Atlas (15th Edition), a portion of the project site falls within Priority and Estimated Habitat for rare species, affecting approximately 1.96 acres.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), panel number 250022007B, dated June 15, 1982, the project is not located within a mapped FEMA floodplain. The project site is adjacent to the Philo Curtis House (EGR.110), listed in the State Register of Historic Places and included in the Massachusetts Historical Commission's (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth. The project site is not located within a designated geographic area (DGA) of Environmental Justice (EJ) Populations.[1]

Environmental Impacts and Mitigation

Potential environmental impacts associated with the project include the proposed reconstruction and widening of Mount Washington Road include the alteration of 5.5 acres of land, due to proposed clearing and grading adjacent to the existing roadway, and alteration of 3.92 acres of RFA. The project will also result in an increase of 0.22 acres of impervious area (for a total of 3.62 acres within the project area), approximately 0.15 acres of which will be within the RFA. The roadway widening component of

[1] "Environmental Justice Population" is defined in M.G.L. c. 30, § 62 under four categories: Minority, Income, English Isolation, and a combined category of Minority and Income.

the project will result in the removal of 43 public shade trees over 14-inches in diameter at breast height (DBH), 25 of which will be removed within the RFA.[2]

Portions of the project are adjacent to BVW; however, according to the ENF, there are no proposed impacts to this wetland resource. The project will require temporary easements adjacent to the Right-of-Way (ROW) on both public and private parcels located along the sides of Mount Washington Road. According to the ENF, no permanent easements are required and there will be no conversion of land held for natural resource purposes in accordance with Article 97.

Measures to avoid, minimize, and mitigate environmental impacts include limiting the project's footprint through the use of retaining walls, vegetated modified rockfill slopes, and reducing tree clearing to the minimum necessary. Best Management Practices (BMPs) including compost filter tubes, erosion control blankets, and silt sack placed in catch basins will be employed. Stormwater management improvements will include installation of deep sump catch basins, grass and stone-lined swales, and erosion control measures to enhance site stability and runoff control. Restoration within the RFA will be carried out at a 1:1 ratio for altered land, including debris removal, regrading for improved stormwater infiltration, and replanting with site-appropriate vegetation. A detailed Stormwater Operation and Maintenance (O&M) Plan will outline annual maintenance requirements, including the removal of sediment from catch basins, debris removal from vegetated swales, and ongoing swale maintenance.

Jurisdiction and Permitting

This project is undergoing MEPA review and requires an ENF as the project is being undertaken by an Agency (MassDOT) and meets/exceeds MEPA review thresholds at 301 CMR 11.03(3)(b)(1)(f) – alteration of ½ or more acres of any other wetlands (RFA), 301 CMR 11.03(6)(b)(2)(b) - cut five or more living public shade trees of 14 or more inches in diameter at breast height, and 301 CMR 11.03(11)(b) - Any Project of ½ or more acres within a designated ACEC, unless the project consists solely of one single family dwelling.

The project requires an Order of Conditions from the Egremont Conservation Commission, or in the case of an appeal, a Superseding Order of Conditions from the Massachusetts Department of Environmental Protection (MassDEP). The project may require a 401 Water Quality Certification from MassDEP. The project will require coverage under the National Pollution Discharge Elimination System (NPDES) Construction General Permit (CGP) from the U.S. Environmental Protection Agency (USEPA) and develop a Stormwater Pollution Prevention Plan (SWPPP) in compliance with the NPDES CGP.

Because the project is being undertaken by, and receiving Financial Assistance from, an Agency (MassDOT), MEPA jurisdiction for any future reviews would be broad in scope and extend to all aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment as defined in MEPA regulations.

Segmentation

Based on the information provided in the ENF, the project is identified as Phase I, which includes the above-described roadway reconstruction, widening, drainage improvements, and retaining wall

[2] Tree removal impacts were confirmed in an email from Matthew Lundsted, Comprehensive Environmental Inc, to Matthew Sokop, MEPA Analyst, dated October 6, 2024.

installation. While the project has been divided into phases due to funding constraints and design considerations, it is unlikely that subsequent phases will be initiated in the near future. Phase I has been prioritized and fully scoped to address critical roadway and drainage improvements within the project site.

Phase II of the project, as described in the ENF, will reconstruct and widen the middle and eastern segments of Mount Washington Road and includes curb installation, drainage system upgrades, and retaining wall construction. Two bridge structures will be replaced, and the roadway will be widened to 26 ft., providing two 10-ft. travel lanes and 3-ft. shoulders on each side. The proposed width is in keeping with the existing width of a recently reconstructed bridge structure. The design will meet roadway standards for shoulders but does not include a shared bicycle lane. Drainage enhancements, including stone-lined swales and check dams, will also be implemented for stormwater management. Should future phases become imminent, the Proponent should consult with the MEPA Office to determine the need for further review. As a general matter, a future phase proposed within five years should be disclosed as a Notice of Project Change with cumulative impacts of all phases reported.

Review of the ENF

The ENF provides a description of existing and proposed conditions, preliminary project plans, a stormwater management report, stormwater hydrologic and hydraulic (H&H) calculations, and an analysis of alternatives. It identifies measures to avoid, minimize and mitigate project impacts. Consistent with the MEPA Interim Protocol on Climate Change Adaptation and Resiliency, the ENF contains an output report from the Climate Resilience Design Standards Tool prepared by the Resilient Massachusetts Action Team (RMAT) (the "MA Resilience Design Tool"),[3] together with information on climate resilience strategies to be undertaken by the project.

The Proponent submitted supplemental information on September 24 and 27, 2024 to address comments provided at the MEPA remote consultation session including a copy of the Notice of Intent (NOI), dated May 2024, and MassDEP Technical Comments (DEP File No. 153-0240) as well as a revised output report from the MA Resilience Design Tool. For purposes of clarity, all supplemental materials are included in references to the "ENF," unless otherwise referenced.

Alternatives Analysis

As described in the ENF, the proposed project includes reconstruction of the roadway to address identified deficiencies including transverse cracking, potholes, patching, edge failure, and rutting, to correct roadway geometry, and to provide continued and improved community connections. Mount Washington Road is a low volume roadway with an Annual Average Daily Trip (AADT) count of approximately 614 vehicles. Currently, there are no existing sidewalks or bike lanes, and pedestrian and bicycle facilities are not proposed as part of the project design. The proposed roadway improvements include 10-ft. wide traffic lanes with 2-ft. wide delineated shoulders, an improvement over existing conditions. There is no proposed increase in roadway capacity as a result of the project.

The ENF analyzed a series of alternatives including a no-build alternative and six alternatives, including the Preferred Alternative, that encompass variations in roadway configurations, stormwater management, and bicycle accommodations as listed below:

[3] https://resilientma.org/rmat_home/designstandards/

- No Build Alternative
- Stormwater Water Quality Alternative
- Roadway Width Alternative
- Vertical Alignment Alternative
- Bicyclist Accommodation Alternative
- The Preferred Alternative

The No Build Alternative would maintain the existing 1.2-mile roadway section of Mount Washington Road unchanged. According to the ENF, under this alternative, the roadway would continue to lack sufficient width, consistent drainage systems, and compliant guardrails, leading to ongoing safety and infrastructure concerns. The alignment and pavement deficiencies would remain unaddressed, and the road would continue to deteriorate over time, affecting safe and reliable access between Egremont and Mount Washington. For these reasons, this alternative was dismissed.

The Stormwater Water Quality Alternative includes implementing additional Stormwater Control Measures (SCM), beyond the Preferred Alternative, such as bioretention, detention, or infiltration facilities in addition to proposed roadway improvements. This alternative would require the Proponent to acquire additional right-of-way to install the SCMs and would require additional area for slope stabilization due to the steep, mountainous terrain. This alternative was not selected due to its expanded proximity to Karner Brook, the need for additional right-of-way takings, the desire to minimize the project footprint to avoid further loss of mature vegetation, and concerns about constructability given the presence of ledge.

The Roadway Width Alternative involves widening the roadway to 28 ft., which would require extensive retaining walls, increased removal of mature vegetation, and increased impervious surfaces, particularly impacting the sensitive ACEC and the RFA of Karner Brook an ORW, and Coldwater Fishery. These changes would increase stormwater runoff, reduce the natural buffer between the road and Karner Brook, and extend construction time. Considering these anticipated environmental impacts, including increased stormwater runoff, disruption of habitat, and loss of mature vegetation, the Proponent determined that this option would result in significant adverse effects on critical natural resources and was therefore dismissed.

The Vertical Alignment Alternative includes roadway slope adjustments that include raising and lowering sections of the existing roadway to reduce steepness and improve safety for vehicular travel. This alternative was not selected due the required raising of the road and associated increases in height and length of retaining walls, increases in construction footprint, and increases in construction duration and impacts to driveways leading to the raised roadway. This alternative would also result in increased loss of mature vegetation and increased impervious surface areas within the RFA. For these reasons, this alternative was dismissed.

The Bicyclist Accommodation Alternative includes increased accommodations for bicyclists by providing 5 ft. wide bicycle lanes along both sides of the roadway. This would result in a total roadway width of 30 ft. This alternative would require approximately 2,500 linear feet (lf) of new retaining walls with an average exposed height of 10 ft. to 12 ft. This alternative was not selected due to increased impacts within the ACEC and watershed, increased loss of mature vegetation, increased impervious surface withing the RFA and additional impacts from construction.

The Preferred Alternative, as described above, includes the full-depth reconstruction of the 1.2-mile section of roadway. The existing pavement width will be widened to 24 ft. to accommodate two 10-ft. travel lanes with 2-ft. shoulders on both sides, addressing current roadway widths as narrow as 20 ft. This alternative minimizes adjacent roadway clearing, improves roadway geometry, introduces pavement markings, and enhances stormwater management. It also proposes the installation of new guardrails along slopes to replace and upgrade existing barriers, to comply with current safety standards. Retaining walls, varying from 4 to 10 ft. in height, are proposed in areas of steep topography to reduce side-slope erosion and minimize project impacts. Vegetated modified rockfill will be used in certain sloped sections and select trees (43 in total) within the right-of-way will be removed to facilitate wall construction, drainage improvements, and roadway widening.

Public Shade Trees

To accommodate the proposed roadway improvements, the project will require the removal of 43 living shade trees with a greater than 14-inch DBH, 25 of which are being removed within the RFA. Tree trimming/removal was minimized to accommodate the proposed widening, retaining walls, and drainage system improvements along the project corridor. The trees to be removed are within the larger adjacent forest, which is dense, and tree removals will not result in a loss of shading to Karner Brook. According to the Proponent, the Egremont Tree Warden reviewed the trees to be removed and determined that they were either dead or in poor condition and located at the edge of the adjacent forested land. Seeding of herbaceous and woody species appropriate to the site are proposed to partially mitigate RFA impacts. Additionally, tree protection is proposed to minimize disturbance to existing trees to remain. As planting trees withing the project area is not feasible, I encourage the Town to continue evaluating potential tree planting locations along public roadways and within the Karner Brook Watershed and allocating appropriate funding for the planting of county-appropriate shade trees to mitigate for public shade tree removal

Impervious Area / Stormwater

According to the ENF, the project will result in an increase of 0.22 acres of impervious area due to the proposed roadway widening. Land alteration of 5.5 acres along the 9.12-acre project corridor includes clearing and grading for new retaining wall installations, stormwater improvements, and slope grading along the roadway shoulders. Currently, stormwater runoff along Mount Washington Road is managed through a combination of non-point source discharges via country drainage, roadside ditches, and closed drainage systems that discharge at 17 existing outfall locations. Many areas of country drainage are not functioning as intended due to steep roadway grades and sediment accumulation under existing guardrails, leading to erosion that undermines the edge of the pavement on the downhill side of the roadway.

As a redevelopment project, the proposed stormwater management system is designed in accordance with MassDEP Stormwater Management Standards to the maximum extent practicable. The stormwater analysis utilized National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Precipitation Data to model current precipitation intensities and the proposed system has been designed to treat and attenuate the 2-year storm event of 3.13 inches. The proposed system will improve the existing system by replacing the old drainage with new swales, new pipes and deep-sump catch basins. Country drainage will be incorporated to the maximum extent practicable by regrading roadway shoulders to reestablish overland flow, to distribute runoff evenly over a wide area. Stormwater discharges will continue to use the existing outfall locations to maintain the current drainage patterns.

The proposed closed drainage system minimizes new pipe slopes to slow discharge velocities and reduce downstream erosion. Fourteen new catch basins, each with 4-ft.-deep sumps for pretreatment, are proposed, along with roadside swales that provide increased storage and include stone check dams, and stone protection. Additional drainage structures will direct stormwater to the new outlets, where stone sediment traps will be placed to reduce downstream erosion before discharging onto the adjacent hillsides. Infiltration retention of stormwater runoff will be promoted by the proposed grass and stone-lined drainage swales, with stone check dams to reduce stormwater velocity. Two existing culverts will be replaced with new cement concrete headwalls and drainage structures with pipe and stone sediment traps at the outfalls. Comments from MassDEP note that the Proponent is required to document compliance with the Massachusetts Stream Crossing Standards to the maximum extent practicable.

As outlined in the alternatives analysis, the Proponent rejected the installation of additional SCMs due to substantial site constraints. These include the requirement for additional space to accommodate SCMs, such as bioretention or detention facilities, as well as the steep, mountainous terrain adjacent to the roadway, which would require further slope stabilization and would result in increased clearing and loss of mature vegetation. The presence of ledge within the project area also presents challenges for installing SCMs. Furthermore, the steep slopes adjacent to Karner Brook limit feasible SCM locations and expanding beyond the preferred alternative would lead to greater environmental impacts and constructability issues due to the topography and ledge conditions.

Wetlands and Waterways

The project will require an Order of Conditions from the Town of Egremont Conservation Commission for impacts to wetland resource areas. A NOI was filed with the Conservation Commission on June 6, 2024. The proposed roadway reconstruction, widening, and stormwater management improvements will result in both permanent and temporary impacts to wetland resource areas. Portions of the project are located within the 100-ft. Buffer Zone to BVW, and the 100 ft. and 200 ft. RFA adjacent to Karner Brook. There will be 19,342 sf. of permanent and 15,460 sf. of temporary impacts to the 100-foot Buffer Zone due to the proposed work. No impacts to BVW are proposed.

Permanent impacts of 107,963 sf. to RFA will include impacts from grading, clearing and selective clearing/trimming, the installation of retaining walls, and stormwater improvements. Temporary impacts of 62,774 sf. to RFA include the existing impervious (roadway footprint) being replaced in-kind. The NOI originally identified 32.87 lf of Bank impacts with an equal amount of Bank replacement proposed; however, according to updated information provided by the Proponent, no Bank impacts are included in the final project design.[4] Following the filing of the NOI, design modifications were made to eliminate all Bank impacts from the project scope. The NOI should be clarified, prior to the issuance of an Order of Conditions (OOC), to confirm that no impacts to Bank are anticipated to ensure consistency and accuracy in project review and permitting.

Comments from MassDEP note that as part of the NOI filing, the Proponent should assess if streams in the project area are perennial per 310 CMR 10.58(2). Work within the RFA associated with perennial streams should be designed to meet the General Performance Standards per 310 CMR 10.58(4)(c) or the "Redevelopment" performance standards per 310 CMR 10.58(5), as applicable. Per the

[4] Removal of Bank impacts were confirmed in an email from Matthew Lundsted of Comprehensive Environmental Inc. to Matthew Sokop, MEPA Analyst, dated October 1, 2024.

General Performance Standards, the Proponent must prepare a written alternatives analysis per 310 CMR 10.58(4)(c), a copy of which should be submitted to the Conservation Commission and MassDEP.

According to the ENF, restoration of impacted RFA will include restoration of previously degraded RFA at a ratio of at least 1:1 and will include the removal of debris while retaining most trees and other mature vegetation to preserve the site's ecological value, additionally, impacted areas will be regraded to reduce runoff and increase water infiltration. A layer of topsoil will be applied in impacted RFA at a depth consistent with the natural conditions of the site to support plant growth. Following this, the RFA will be seeded with an erosion control seed mixture that includes herbaceous and woody species that are appropriate to the site's conditions, to provide long-term stabilization and ecological restoration.

Erosion and sedimentation control measures will include the installation of 12-inch diameter compost filter tubes and compost blankets to protect disturbed areas, which will remain in place until the site is fully stabilized. Permanent erosion controls on steep slopes will consist of vegetated modified rockfill, while milder slopes will be treated with compost blanket applications. Follow-up inspections of all disturbed areas will be conducted after the first and second growing seasons. If 75% vegetative coverage is not achieved, or if invasive species are present, corrective actions will be implemented in coordination with MassDOT and the Egremont Conservation Commission.

Comments from MassDEP note that the project plans indicate culvert placements under the existing road and that the ENF narrative discusses replacement of existing bridge structures (Phase II). Per 314 CMR 9.04(2), any dredging in, or any activity resulting in any discharge of dredged or fill material to, any Outstanding Resource Water requires the filing of a Water Quality Certification application. If a Water Quality Certification is required, the proponent is required to provide sufficient information to adequately describe cumulative impacts to "Waters of the United States within the Commonwealth" (BVW and Land Under Water (LUW)). Under these regulations, MassDEP has the authority to ensure that these impacts are to be avoided, minimized and mitigated. MassDEP has spoken with the Proponent and will continue to do so to gain additional information to determine whether a 401 WQC is needed.

Rare Species

According to correspondence from NHESP, provided to the Conservation Commission,[5] dated June 21, 2024, the project contains a "Sensitive Species" and no additional information regarding the species can be disclosed. The correspondence indicates that NHESP issued a determination on June 21, 2024, which included a list of conditions that must be adhered to in order to avoid a prohibited "Take" of state-listed species including: maintaining the proposed limit of work; a rare vertebrate protection plan; exclusion of all mesh construction material; used of native species for all seed and plantings; restoration and stabilization plantings that exclude planting of state-listed species; time of year (TOY) restrictions for work between April 15 and October 31 unless under the direct supervision of a Division of Fish and Wildlife (DFW) approved biologist; a compliance report (including photographs) within 30 days of work completion; and a requirement to complete all work within a 5-year period. According to the letter, work conducted between November 1 and April 14 may proceed without restrictions. Comments also indicate that any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with NHESP pursuant to MESA. Comments also state that the project may be

[5] Email from Tim McGuire, Massachusetts Division of Fisheries & Wildlife, to Matt Sokop, MEPA Analyst, dated September 25, 2024.

subject to further review if no physical work is commenced within five years from the date of issuance of this determination, or if there is a change to the project.

ACEC

The entirety of the project site is located within the Karner Brook Watershed ACEC. The Karner Brook Watershed ACEC designation document (issued in July 1992) designates approximately 7,000 acres in Egremont and Mount Washington as an ACEC due to its exceptional wildlife habitat, the presence of over 20 state-listed rare species, and its role as a public drinking water source. The designation underscores the necessity of stringent environmental protection, particularly regarding water quality, rare species habitat, and wetlands. According to the ENF the new stormwater management system enhances existing infrastructure and promotes infiltration and retention through the use of grass and stone swales, deep sump catch basins, reduced pipe slopes, and stone sediment traps at outlets, providing total suspended solids (TSS) removal and velocity reduction prior to discharging onto adjacent hillsides to manage downstream erosion. Erosion and sediment controls will be installed before any land disturbance begins and will remain in place for the duration of the project. A SWPPP that identifies potential sources of stormwater pollution on-site and describes specific BMPs to minimize pollutant discharge will be developed in order to receive NPDES permit coverage for stormwater discharges.

Follow-up inspections will be conducted after the first and second growing seasons, with corrective actions implemented if 75% vegetative coverage is not achieved or invasive species are identified, in coordination with MassDOT and the local Conservation Commission. Additionally, source control measures, pollution prevention strategies, and de-icing chemical restrictions have been included as part of the Long-Term Pollution Prevention Plan.

Historical and Cultural Resources

As noted above, the ENF identified that the project area is adjacent to the Philo Curtis House (EGR.110), located at 175 Mount Washington Road which is listed in the State Register of Historic Places or the MHC Inventory of Historic and Archaeological Assets of the Commonwealth. The Proponent submitted a Project Notification Form to MHC in June 2023, and according to the ENF, it was determined that the project is unlikely to impact significant historic or archaeological resources.

Adaptation and Resiliency

Effective October 1, 2021, all MEPA projects are required to submit an output report from the MA Resilience Design Tool to assess the climate risks of the project. Based on the revised output report submitted as supplemental information, the project has a “High” exposure rating based on the project’s location for the following climate parameters: extreme precipitation (urban flooding), extreme precipitation (riverine flooding) and extreme heat. Based on the 60-year useful life for the proposed stormwater improvements and the self-assessed criticality of the project, the MA Resilience Design Tool recommends a planning horizon of 2070, and a return period associated with a 100-year (1% chance) storm event when designing the stormwater improvements. The Tool recommends planning for the 2050, 90th percentile with respect to extreme heat (which indicates an increase in extremely hot days as compared to a historical baseline). The road is located greater than 10 ft above Karner Brook and is not likely to be impacted by riverine flooding, as the elevation and distance from the brook reduce the risk of direct flooding impacts. Trees to be removed are located along the edges of existing dense forest, are noted by the Proponent as distributed along both sides of the 1.2 mile project corridor and are not

anticipated to change the amount of shading the road receives or contribute to pavement heating of stormwater runoff.

The MA Resilience Design Tool output indicates that the site may experience a maximum annual daily rainfall exceeding 10 inches within the project's useful life, contributing to the "High" exposure rating for extreme precipitation (urban flooding). The Tool projects a 24-hour precipitation depth of 9.2 inches for a 2050 50-year storm event (2% chance) event. As noted above, the stormwater system for this project was designed to convey and recharge the current 2-year storm event of 3.13 inches and would not be fully resilient to the future 50-year storm event as recommended by the Tool. The project does not include stormwater control measures for peak runoff detention or attenuation. The Proponent has indicated that site constraints and environmental resource impacts preclude the feasibility of a more formal stormwater detention system for this project, citing limited space within the public layout and a design minimizing land clearing.

Although the roadway is elevated above Karner Brook and is not likely to be affected by riverine flooding under normal conditions, a 100-year storm event could still increase the risk of runoff and erosion. I encourage the Proponent to consider future climate scenarios and explore opportunities to enhance the resiliency of the stormwater management system as the project proceeds through permitting.

Construction Period

Construction is scheduled to occur primarily during the normal construction seasons between April and November of both 2025 and 2026. To minimize disruptions to vehicular and bicycle traffic, alternating one-way traffic phasing will be implemented throughout the construction period.

All construction and demolition (C&D) activities should be managed in accordance with applicable MassDEP regulations regarding Air Pollution Control (310 CMR 7.01, 7.09-7.10), and Solid Waste Facilities (310 CMR 16.00 and 310 CMR 19.00, including the waste ban provision at 310 CMR 19.017). The project should include measures to reduce construction period impacts (e.g., noise, dust, odor, solid waste management, etc.) and emissions of air pollutants from equipment, including anti-idling measures in accordance with the Air Quality regulations (310 CMR 7.11). I encourage the Proponent to require that its contractors use construction equipment with engines manufactured to Tier 4 federal emission standards, or select project contractors that have installed retrofit emissions control devices or vehicles that use alternative fuels to reduce emissions of volatile organic compounds (VOCs), carbon monoxide (CO) and particulate matter (PM) from diesel-powered equipment. Off-road vehicles are required to use ultra-low sulfur diesel fuel (ULSD). If oil and/or hazardous materials are found during construction, the Proponent should notify MassDEP in accordance with the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000). All construction activities should be undertaken in compliance with the conditions of all State and local permits. I encourage the Proponent to reuse or recycle C&D debris to the maximum extent.

Conclusion

The ENF has adequately described and analyzed the project and its alternatives and assessed its potential environmental impacts and mitigation measures. Based on review of the ENF and comments received on it, and in consultation with Agencies, I have determined that an EIR is not required.



October 18, 2024
Date

Rebecca L. Tepper

Comments received:

10/03/2024 Massachusetts Department of Environmental Protection (MassDEP)

RLT/MJS/mjs

October 3, 2024

Rebecca Tepper, Secretary
Executive Office of Energy & Environmental Affairs
Massachusetts Environmental Policy Act Office
Matthew Sokop, EEA No. 16871
100 Cambridge Street, 9th Floor
Boston, MA 02114-2524

Re: Reconstruction and Related Work at Mount Washington Road ENF – Egremont

Dear Secretary Tepper,

The Massachusetts Department of Environmental Protection (MassDEP), Western Regional Office (WERO) appreciates the opportunity to comment on the Environmental Notification Form (ENF) submitted for the proposed Reconstruction and Related Work at Mount Washington Road (EEA #16871).

The applicable MassDEP regulatory and permitting considerations regarding wetlands, stormwater, air pollution, solid waste, hazardous waste and waste site cleanup are discussed.

I. Project Description

The Proponent, the Town of Egremont, proposes to reconstruct and widen a deteriorated, 1.2 miles long portion of Mount Washington Road, terminating at the Mount Washington town line. Mount Washington Road is the only road within Massachusetts that gives access to the town of Mount Washington. The road is approximately 3.5 miles in total length and classified as a Rural Major Collector. The project consists of a full depth roadway reconstruction and widening of the roadway to a minimum of 24 feet in width. Drainage upgrades, including stone-lined swales and 18 deep sump catch basins, are considered necessary to replace inadequate systems currently in place. The entirety of the project is within the Karner Brook watershed, a Class A Outstanding Resource Water, and Area of Critical Environmental Concern, and a Coldwater Fishery.

There are no Environmental Justice populations within one or five miles of the project limits.

Environmental Impacts associated with this project include:

- Total site acreage – 9.12 acres (existing)
- New acres of land altered – +5.5 acres
- Public shade trees removed (14+ inches in diameter) – 43 trees
- Acres of impervious area – 3.40 acres (existing), +.22 acres (new). 3.62 acres (total)
- Square feet of new other wetland alteration – 62,774 sq ft (existing), +107,963 sq ft (new). 170,737 sq ft (total)
- Square feet of new structures – + 2,088 square feet

II. Required Mass DEP Permits and/or Applicable Regulations

Wetlands
310 CMR 10.000
Waterways
314 CMR 9.00
Air Pollution
310 CMR 7.00
Solid Waste
310 CMR 16.00
Hazardous Waste
310 CMR 30.00
Bureau of Waste Site Cleanup
310 CMR 40.000

III. Permit Discussion

Bureau of Water Resources

Wetlands Protection Act
The project, as described in the ENF is subject to the Massachusetts Wetlands Protection Act (WPA) MGL c. 131, § 40, and the Regulations promulgated there under at 310 CMR 10.00. The Proponent acknowledges it has filed a Notice of Intent (NOI) under the WPA with the affected municipality. In the event the municipal Order of Conditions is appealed to MassDEP, MassDEP cannot issue a Superseding Order of Conditions until after the project has received a final Certificate from the Secretary. Therefore, to ensure full opportunities for public involvement and to avoid any potential conflict with the final Certificate from the Secretary, MassDEP recommends the Proponent request that the conservation commission defer a decision and keep the meeting open until the Secretary has issued the final Certificate. Prior to commencement of project construction, a final Order of Conditions must be issued.

The Site appears to contain Bordering Vegetated Wetland, Bank (Inland), Land Under Waterbodies and Waterways, Bordering Land Subject to Flooding, and Riverfront Area.

Boundary Determination and Delineation
All resource area delineations must be conducted in accordance with the methodologies

specified in 310 CMR 10.00 and should be accomplished through flagging in the field, surveying, and then presentation on a scaled site plan.

As applicable, delineation of the Mean Annual High Water Line (MAHWL) of all perennial rivers on site should be performed according to 310 CMR 10.58(2)(a)2. Use of "bankfull field indicators" may be necessary to establish the MAHWL in certain reaches per 310 CMR 10.58(2)(a)2.b. The applicant should be prepared to describe and justify the selected methodology to the Egremont Conservation Commission.

Riverfront Area Performance Standards
Karner Brook is a presumptive "river" in accordance with 310 CMR 10.58(2) and as such has an associated Riverfront Area. The Proponent also identifies other potential streams within the Project Site. As part of the Notice of Intent filing, the Proponent should assess if the other streams are perennial per 310 CMR 10.58(2). Work within the Riverfront Area should be designed to meet the General Performance Standards for work within Riverfront Area at 310 CMR 10.58(4)(c) or the Riverfront Area "Redevelopment" performance standards per 310 CMR 10.58(5), as applicable. Per the General Performance Standards, the Proponent must prepare a written alternatives analysis per 310 CMR 10.58(4)(c), a copy of which should be submitted to the Department.

Limited Project Status
The project may be eligible for review under the Limited Project provisions contained at 310 CMR 10.53(3)(f). As for all Limited Projects, allowance under these provisions is at the discretion of the local Commission and to the extent practicable, work must comply with the General Performance Standards.

Massachusetts Natural Heritage and Endangered Species Program
Compliance with 310 CMR 10.59 (Estimated Habitats for Rare Wildlife) is required regardless of any project component qualifying for "limited project" status.

Massachusetts Stormwater Standards
The Proponent has indicated that work includes modifications to stormwater structures. As part of the WPA and WQC filings, the Proponent will be required to demonstrate compliance with Stormwater Management Regulations at 310 CMR 10.05(6)(k) through (q), as applicable.

Massachusetts Stream Crossing Standards
The Proponent is proposing the replacement of an existing stream crossing (i.e., culvert replacement). As part of the WPA and WQC filings, the Proponent is required to document compliance with the Massachusetts Stream Crossing Standards to the maximum extent practicable.

401 Water Quality Certification
The Wetlands Program administers the Section 401 Water Quality Certification (WQC) regulations on behalf of the US Army Corps of Engineers and under the Massachusetts Clean Waters Act, MGL c. 21, §§ 26 through 53, inclusive, and the Regulations

promulgated there under at 314 CMR 9.00. The Proponent indicates the entirety of the project is within the Karner Brook watershed, which is considered a Class A, Outstanding Resource Water and is designated as an Area of Critical Environmental Concern. The project plans indicate culvert placements under the existing road and the narrative discusses replacement of an existing bridge structure. Per 314 CMR 9.04(2), any dredging in, or any activity resulting in any discharge of dredged or fill material to, any Outstanding Resource Water requires the filing of a Water Quality Certification application. If a Water Quality Certification is required, the proponent is required to provide sufficient information to adequately describe cumulative impacts to "Waters of the United States within the Commonwealth" (Bordering and Isolated Vegetated Wetlands and Land Under Water). Under these regulations, MassDEP has the authority to ensure that these impacts are to be avoided, minimized and mitigated. MassDEP has spoken with the Proponent and will continue to do so to gain additional information to determine whether a 401 WQC is needed.

Any dredged sediments shall be managed and disposed in accordance with conditions of a 401 Water Quality Certificate Permit as detailed in the *MassDEP Interim Policy COMM 94-007 Sampling, Analysis, Handling & Tracking Requirements for Dredged Sediment Reused or Disposed at Massachusetts Permitted Landfills.*

Bureau of Air and Waste

Air Quality

Construction and Demolition Activities
The construction and demolition activity must conform to current Air Pollution Control Regulations. The proponent should implement measures to alleviate dust, noise, and odor nuisance conditions that may occur during the construction and demolition activities. Such measures must comply with the MassDEP's Bureau of Air and Waste (BAW) Regulations 310 CMR 7.01, 7.09, and 7.10.

Construction Equipment
MassDEP believes it is necessary to mitigate the construction-period impacts of diesel emissions to the maximum extent feasible and recommends that the project proponent require the contractors and subcontractors to use diesel equipment/machinery that are fitted with pollution control devises as well as to minimize excessive idling. As of June 1, 2010, all non-road engines shall be operated using only ultra-low sulfur diesel (ULSD) with a sulfur content of no greater than 15 ppm pursuant to 40 CFR 80.510.

Solid Waste
The proponent shall properly manage and dispose of all solid waste generated or discovered by this proposed project. Such waste will need to be transported to permitted disposal or processing facilities. Unpainted/uncoated asphalt, brick and concrete (ABC) can typically be crushed and recycled as aggregate or hardpack and used as fill material. Non-recyclable

solid wastes will need to be shipped to an appropriate disposal facility.

It is not unusual to encounter illegally dumped solid waste adjacent to roadway areas. The proponent will be required to properly dispose of such waste in accordance with all applicable disposal and handling regulations, including but not limited to asbestos, hazardous waste and solid waste disposal and handling regulations: 310 CMR 16.00 and 310 CMR 19.000, including the regulations at 310 CMR 19.017 (waste ban).

Solid and Hazardous Waste Management

If MassDEP determines that either because of the nature of the proposed activity, the amount of the excavated material, and/or the characteristics of the excavated material that the material requires management as a hazardous or solid waste, then the disposition of the material must comply with any applicable requirements pursuant to 310 CMR 30.0000, 310 CMR 16.00 or 310 CMR 19.000. In addition, compliance with COMM-97-001 *"Reuse and Disposal of Contaminated Soil at Massachusetts Landfills"* and the *"Revised Guidelines for Determining Closure Activities at Inactive Unlined Landfill Sites"*, may be applicable.

Bureau of Waste Site Cleanup

A spills contingency plan addressing prevention and management of potential releases of oil and/or hazardous materials from pre- and post-construction activities should be presented to workers at the site and enforced. The plan should include but not be limited to, refueling of machinery, storage of fuels, and potential releases.

IV. Other Comments/Guidance

MassDEP staff is available for discussions as the project progresses. If you have any questions regarding this comment letter, please do not hesitate to contact Sean Gonsalves at (781) 400-4272.

Sincerely,

Sean Gonsalves, R.S. for
Michael Gorski
Regional Director

cc: MEPA File

Attachment C

Egremont ENF 16871 - Matt Lundsted - Outlook_WQC

Outlook

Egremont ENF 16871

From Matt Lundsted <mlundsted@ceiengineers.com>

Date Thu 10/17/2024 3:17 PM

To Sokop, Matthew J (EEA) <Matthew.J.Sokop@mass.gov>; Sean.Gonsalves@mass.gov <Sean.Gonsalves@mass.gov>; McHugh, Michael (DEP) <michael.mchugh@mass.gov>

Cc Canaday, Anne C. (DOT) <Anne.C.Canaday@dot.state.ma.us>; Kiel, Adam W. (DOT) <Adam.W.Kiel@dot.state.ma.us>; Norton, Carleigh S. (DOT) <Carleigh.S.Norton@dot.state.ma.us>; Larner, Erica N. (DOT) <erica.n.larner@dot.state.ma.us>; Moshier, Ellen <EMoshier@chasolutions.com>; Morgan, Jr., John <JMorgan@chasolutions.com>; tegremont@egremont-ma.gov <tegremont@egremont-ma.gov>; Stinson, Mark (DEP) <mark.stinson@mass.gov>; seligmand@gmail.com <seligmand@gmail.com>; concom@egremont-ma.gov <concom@egremont-ma.gov>

1 attachments (88 KB)

USGS Photo Key.pdf;

Hi All-

On behalf of the Proponent, the Town of Egremont and as discussed previously with you (Mike McHugh) of the DEP Western Region we offer the following regarding this MEPA Comment from the DEP October 3, 2024 letter:

> "401 Water Quality Certification
> The Wetlands Program administers the Section 401 Water Quality Certification (WQC) regulations on behalf of the US Army Corps of Engineers and under the Massachusetts Clean Waters Act, MGL c. 21, §§ 26 through 53, inclusive, and the Regulations promulgated there under at 314 CMR 9.00. The Proponent indicates the entirety of the project is within the Karner Brook watershed, which is considered a Class A, Outstanding Resource Water and is designated as an Area of Critical Environmental Concern. The project plans indicate culvert placements under the existing road and the narrative discusses replacement of an existing bridge structure. Per 314 CMR 9.04(2), any dredging in, or any activity resulting in any discharge of dredged or fill material to, any Outstanding Resource Water requires the filing of a Water Quality Certification application. If a Water Quality Certification is required, the proponent is required to provide sufficient information to adequately describe cumulative impacts to "Waters of the United States within the Commonwealth" (Bordering and Isolated Vegetated Wetlands and Land Under Water). Under these regulations, MassDEP has the authority to ensure that these impacts are to be avoided, minimized and mitigated. MassDEP has spoken with the Proponent and will continue to do so to gain additional information to determine whether a 401 WQC is needed."

To clarify, any reference in the MEPA filing materials to a bridge crossing is not accurate. The subject 1.2 mile project does not include an existing bridge crossing within the project limits

aside from the proposed culvert replacements.

Attached is a pdf showing picture locations and direction overlaid on a USGS snip. Note that Crossing #1 is the only intermittent stream shown on USGS.

Regarding the two culvert replacements indicated by DEP as potential tributaries to the Class A ORW we offer this follow-up information. We performed additional field work Tuesday October 15, 2024 to investigate the nature of the intermittent streams at two locations we further refer to below (only for the purposes of this discussion) to as Crossing #1 (located between #206 & #210 Mt. Washington Road) and Crossing #2 (located adjacent to #200 Mt. Washington Road).

We respectfully assert that neither of the crossings are jurisdictional under the Wetlands Protection Act because there are no resource area upgradient of the intermittent streams crossing Mt. Washington Road, nor are the intermittent streams tributaries to Karner Brook and therefore do not necessary trigger the requirement for a Water Quality Certificate under the Clean Waters Act, barring any cumulative impact triggers.

The language from the WPA is in the definitions section at 310 CMR 10.04: “Stream means a body of running water, including brooks and creeks, which moves in a definite channel in the ground due to a hydraulic gradient, and which flows within, into or out of an Area Subject to Protection under M.G.L. c. 131, § 40. A portion of a stream may flow through a culvert or beneath a bridge. Such a body of running water which does not flow throughout the year (i.e., which is intermittent) is a stream except for that portion upgradient of all bogs, swamps, wet meadows and marshes.”

Both Crossing #1 and #2 channel forms “disappear” up slope with no bogs, swamps wet meadows or marshes upgradient. Flows were not present at time of field work despite rainfall 10/13 and 10/14. Both channels are ledge/groundwater seep and storm runoff fed.

The upper end (or source) of the Crossing #1 channel ended about 1000' up the slope/mountain.



Photo #1 Looking up slope. The discernable "channel" shape disappeared at the toe of a large cliff/ledge outcrop where four low spots in the woods converge to form the beginning of the channel- four sheet flows converge to start to channelize. No wetlands present- very steep slope/cliff up slope- not climbable/traversable without mountain gear.



Photo#2- Beginning of the Crossing #1 channel form with the rock outcrop to the left, looking cross slope.



Photo #3- Typical channel picture- mid-slope. Looking down slope.

The upper end (or source) of the Crossing #2 channel ended about 300' up the slope.



Photo #4- Looking up slope. The discernable "channel" shape disappeared under the fallen trees on top of ledge outcrops. No wetlands present- very steep slope/cliff up slope.



Photo #5- at top of channel forming, same location as photo #4 but looking down slope.

Regarding connectivity to the ORW:

Crossing #1:



Photo #6-The end of the intermittent channel is behind off the lower left of the picture, the left bank of the Karner Brook is under the end of the fallen tree coming across the concrete abutment remnant and the right bank of Karner Brook is that concrete abutment remnant in the upper right of the photo. The channel comes down the greater than 1:l downslope and hits the berm of an old road corridor and turns north, paralleling Karner Brook and “levels out”.



hoto #7- th n of the h l of Crossing #1 is off too the right of this pi tur - looki g upstream lo g Karn r Brook with abutment remnants on ither side of the pi ture.



Photo #8- Leg cy roadbed at the base of the slope- Karner Brook is on the left of the picture, Mt. Washi gto Rd. is approximately 200' up slope, to the right of the pictur .

Crossing #2:



Photo #9 Loo g o slope Cross g #2 th the term tte t cha el beh , o slope from Mt. Wash gto R . Yo ca 't see t b t Kar er Broo r s from r ght to left across the top of the p ct re. The term tte t cha el s bet ee the f rst tree from the bottom of the p ct re o the r ght a the arro er, f rst tree o the left of the p ct re from the bottom of the p ct re.

We recog ze that the s bject streams are er co s erat o for reg lat o er t o separate la s, the Wetla s Protect o Act a the Clea Waters Act. By ef t o , the term tte t streams are ot reg late by the WPA. Separately, g ve that e ther term tte t cha el's ba s reach the Kar er Broo a the term tte t streams o ot have a rect hy rolog c co ect o to Kar er Broo , e assert that the streams are ot tr b tar es to Kar er Broo , a therefore are ot th a ORW.

Base o these cators e co cl e that a 401 Water Q al ty Cert f cat o s ot ee e . We ll also cl e th s o r respo se to comme ts to the Egremo t Co servat o Comm ss o .

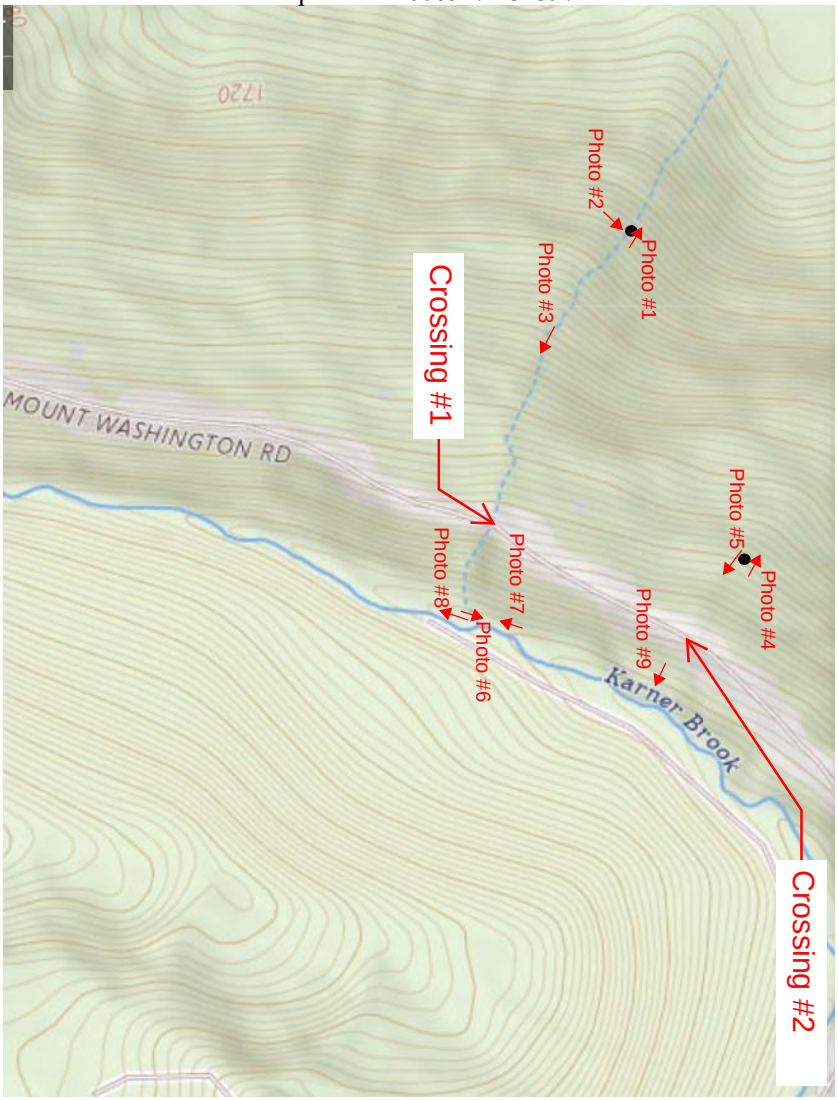
Thanks,

Matt

Matthew Lundsted, P.E., CFM**
Principal
Comprehensive Environmental Inc.
Phone: 800.725.2550 ext. 305
41 Main Street, Bolton, MA 01740
1 Hartford Square, New Britain, CT 06052
21 Depot Street, Merrimack, NH 03054
**Licensed in Massachusetts, New Hampshire and Connecticut
mlundsted@ceiengineers.com
www.ceiengineers.com



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Photo #2
Photo #1
Photo #3
Crossing #1
MOUNT WASHINGTON RD
Photo #5
Photo #4
Photo #8
Photo #7
Photo #9
Photo #6
Karner Brook
Crossing #2

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DOCUMENT A00861

MASSACHUSETTS

DEPARTMENT OF ENVIRONMENTAL PROTECTION

ORDER OF CONDITIONS

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Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

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Transaction ID:	**1863539**
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Size of File:	**151.65K**
Status of Transaction:	**Submitted**
Date and Time Created:	**1/12/2025:11:44:43 AM**

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 - Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:153-0240
eDEP Transaction #:1863539
City/Town:EGREMONT

A. General Information

1. Conservation Commission: EGREMONT
2. Issuance: a. ☑ OOC b. ☐ Amended OOC
3. Applicant Details
   a. First Name: b. Last Name:
   c. Organization: TOWN OF EGREMONT
   d. Mailing Address: 171 EGREMONT PLAIN ROAD (ROUTE 71)
   e. City/Town: EGREMONT f. State: MA g. Zip Code: 01258
4. Property Owner
   a. First Name: b. Last Name:
   c. Organization: TOWN OF EGREMONT
   d. Mailing Address: 171 EGREMONT PLAIN ROAD (ROUTE 71)
   e. City/Town: EGREMONT f. State: MA g. Zip Code: 01258
5. Project Location

a.Street Address	MT. WASHINGTON ROAD		
b.City/Town	EGREMONT	c. Zip Code	01230
d. Assessors Map/Plat#	N/A	e. Parcel/Lot#	N/A
f. Latitude	42.16010N	g. Longitude	73.47127W

6. Property recorded at the Registry of Deed for:

a. County	b. Certificate	c. Book	d. Page

7.Dates

a. Date NOI Filed : 6/5/2024 b. Date Public Hearing Closed: 1/9/2025 c. Date Of Issuance: 1/12/2025

8.Final Approved Plans and Other Documents

a. Plan Title:	b. Plan Prepared by:	c. Plan Signed/Stamped by:	d. Revised Final Date:	e. Scale:
EGREMONT, MA-MOUNT WASHINGTON ROAD (608547) CONSTRUCTION PLAN	CHA	JOHN G. MORGAN JR.	May 2024	1"=20'

B. Findings

1.Findings pursuant to the Massachusetts Wetlands Protection Act
Following the review of the the above-referenced Notice of Intent and based on thc information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act.

Check all that apply:

a. ☑ Public Water Supply	b. ☐ Land Containing Shellfish	c. ☑ Prevention of Pollution
d. ☑ Private Water Supply	e. ☑ Fisheries	f. ☑ Protection of Wildlifc Habitat

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 - Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:153-0240
eDEP Transaction #:1863539
City/Town:EGREMONT

g. ☑ Ground Water Supply h. ☑ Storm Damage Prevention i. ☑ Flood Control

2. Commission hereby finds the project, as proposed, is:

Approved subject to:

a. ☑ The following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

Denied because:

b. ☐ The proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**

c. ☐ The information submitted by the applicant is not sufficient to describe the site, the work or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the interests of the Act , and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**

3. ☐ Buffer Zone Impacts:Shortest distance between limit of project disturbance and the wetland resource area specified in 310CMR10.02(1)(a). _____ a. linear feet

Inland Resource Area Impacts:(For Approvals Only):

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☑ Bank	32.87 a. linear feet	b. linear feet	32.87 c. linear feet	d. linear feet
5. ☐ Bordering Vegetated Wetland	a. square feet	b. square feet	c. square feet	d. square feet
6. ☐ Land under Waterbodies and Waterways	a. square feet	b. square feet	c. square feet	d. square feet
	e. c/y dredged	f. c/y dredged		
7. ☐ Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. ☐ Isolated Land Subject to Flooding	a. square feet	b. square feet		

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
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Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9. ☑ Riverfront Area	107964 a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	74317 c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	33647 g. square feet	h. square feet	i. square feet	j. square feet

Coastal Resource Area Impacts:

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. ☐ Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. ☐ Coastal Beaches	a. square feet	b. square feet	c. c/y nourishment	d. c/y nourishment
14. ☐ Coastal Dunes	a. square feet	b. square feet	c. c/y nourishment	d. c/y nourishment
15. ☐ Coastal Banks	a. linear feet	b. linear feet		
16. ☐ Rocky Intertidal Shores	a. square feet	b. square feet		
17. ☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. ☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. ☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	c. c/y dredged	d. c/y dredged		
21. ☐ Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		

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22.

☐ Restoration/Enhancement (For Approvals Only)

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c & d or B.17.c & d above, please entered the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

23.

☐ Streams Crossing(s)

If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossings.

a. number of new stream crossings

b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
   a. the work is a maintenance dredging project as provided for in the Act; or
   b. the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not exceed the issuance date of the original Final Order of Conditions.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work..

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10. A sign shall be displayed at the site not less then two square feet or more than three square feet in size bearing the words,

" Massachusetts Department of Environmental Protection"
[or 'MassDEP"]
File Number :"153-0240"

11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before Mass DEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.
17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

NOTICE OF STORMWATER CONTROL AND MAINTENANCE REQUIREMENTS

19. The work associated with this Order(the "Project") is (1) ☑ is not (2)☐ subject to the Massachusetts Stormwater Standards. If the work is subject to Stormwater Standards, then the project is subject to the following conditions;

a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollutant Discharge Elimination System Construction General Permit as required by Stormwater Standard 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.

b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that: *i.* all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all

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construction period sediment trapped in inlet and outlet control structures; *ii.*. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized; *iii.* any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10; *iv.* all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition; *v.* any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 19(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following: i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollutant Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 19(f) through 19(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 19(f) through 19(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.

g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.

h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.

i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.

j) The stormwater management system approved in the Order of Conditions shall not be changed without the

prior written approval of the issuing authority.

k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.

l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions:

1. SELECTBOARD DETERMINATION WITH RESPECT TO SHADE TREE REPLACEMENT. 2. LICENSED CERTIFIED PERSON TO REMOVE INVASIVE SPECIES.

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D. Findings Under Municipal Wetlands Bylaw or Ordinance

1.Is a municipal wetlands bylaw or ordinance applicable? ☐ Yes ☑ No

2.The Conservation Commission hereby(check one that applies):

a. ☐ DENIES the proposed work which cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw specifically:

1. Municipal Ordinance or Bylaw _____ 2. Citation _____

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order or Conditions is issued. Which are necessary to comply with a municipal ordinance or bylaw:

b. ☐ APPROVES the proposed work, subject to the following additional conditions.

1. Municipal Ordinance or Bylaw _____ 2. Citation _____

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows:

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E. Signatures

This Order is valid for three years from the date of issuance, unless otherwise specified pursuant to General Condition #4. If this is an Amended Order of Conditions, the Amended Order expires on the same date as the original Order of Conditions.

1/12/2025
1. Date of Original Order

Please indicate the number of members who will sign this form. This Order must be signed by a majority of the Conservation Commission.

5
2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Signatures:

David Seligman

Jeff Nathan

Alexis Wreden

Katie Rubright

Joyce Frater

☐ by hand delivery on

Date January 24 2025

☒ by certified mail, return receipt requested, on

Date 1/15/25

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, 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 MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed 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 Order. 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.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

G. Recording Information

This Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land

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subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

EGREMONT
Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

EGREMONT
Conservation Commission

Please be advised that the Order of Conditions for the Project at:

MT. WASHINGTON ROAD — Project Location

153-0240 — MassDEP File Number

Has been recorded at the Registry of Deeds of:

County — Book — Page

for:

Property Owner

and has been noted in the chain of title of the affected property in:

Book — Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

Rev. 4/1.2010

Standard Conditions
DEP File# 153-0240

I. GENERAL:

1. In case of emergencies, problems, or the need to discuss site conditions with the Conservation Commission, please contact the Commission during business hours at (413) **xxx-xxxx.**

2. The term **"Act"** as used in the Order of Conditions (hereinafter the "Order"), shall refer to the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131, Section 40) and Massachusetts Wetlands Regulations (310 CMR 10.00).

3. The term **"Applicant"** as used in the Order shall refer to the owner, any successor in interest or successor in control of the property referenced in the Notice of Intent, supporting documents and the Order. The Order shall apply to all successors in interest and successors in control.

4. The term **"Plans"** as used in the Order shall refer to the Plans entitled _____ and dated _____ The Order permits only the work as shown on the approved Plans.

5. The term **"Ordinance"** as used in the Order shall refer to the Town of.XXXXX:XX Wetlands Protection Bylaw #xxxx.

6. Members of the Commission and/or its Coordinator shall have the right to enter and inspect the premises to evaluate and ensure compliance with these conditions and performance standards as stated in the Order, the Act, and/or the Ordinance, and may require additional information, measurements, photographs, observations and/or materials or submittal of data or information deemed necessary by the Commission for that evaluation.

7. The Commission reserves the right to impose additional conditions on any portion of this project that causes impact to any area of jurisdiction under the Act or the Ordinance.

8. Erosion control devices shall not block passage between uplands and vernal pools between the dates of March 1 and July 30. Where erosion controls have been placed in areas between uplands and vernal pools, exposed soils are to be stabilized, and silt fencing or other devices that could block migration of amphibians to and from the pools is to be removed, no later than March 1 if construction has been occurring during the winter. If soils are not be stabilized by March 1, temporary stabilization measures shall be approved by the Commission.

9. Unless otherwise specified in the Notice of Intent and/or accompanying plans, all plantings and seed mixes shall consist of native species only, shall emphasize the natural flora and be of proven value to local wildlife. All plantings and seeding shall be watered as necessary to ensure growth.

10. It is the responsibility of the applicant to complete any review required by all agencies with jurisdiction over the activity that is the subject of the Order, and to procure all required

permits or approvals. These reviews, permits and approvals may include but are not limited to the following:

- Review by the U.S. Anny Corps of Engineers for any Category 2 or Individual Permit Activity, and procurement of any permits or approvals identified by the Corps.
- Review by the Department of Environmental Protection (the "DEP") and procurement of any permits or approvals identified by the DEP.
- Review by the Massachusetts Natural Heritage and Endangered Species Program for any projects within estimated and/or priority habitat and any permits or approvals identified by the program.
- Review by local planning boards, boards of health, zoning boards, and building inspectors, and procurement of any permits or approvals required by these boards or agencies.

11. Delineation flags and/or markers shall not be moved and/or removed and shall remain until a Certificate of Compliance is issued.

12. Erosion control measures shall not be removed and shall remain intact until removal is approved by the Commission and/or the Coordinator. The sediment collected by these devices shall be removed and placed at an upland location and in a manner that will prevent its later erosion to any resource area.

13. Unless another limit of work line has been noted on the Plans and approved by the Commission, the geotextile/sedimentation/siltation barriers shall constitute a limit-of-work. ***Under no circumstances is any work allowed to take place on the down-gradient side (the wetland/resource side) of the limit of work. This includes stockpiling of any and all materials, vegetation waste and extra erosion controls.***

14. At no time shall sediments be allowed to flow into or accumulate in any wetland or resource area on or off the property.

15. Any material placed in any resource area without specific authorization under the Order shall be removed immediately upon demand of the Conservation Commission or its Coordinator. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.*** Activities prohibited within any resource area and their buffer zones:

    - operation of equipment, storage of materials, stockpiling of soil, or other site disturbance;
    - stockpiling of debris, aggregate, fill, excavated material, construction material and building material; it shall also be stockpiled far enough away to prevent sediment from entering any wetland resource area;
    - burying or disposal of debris or any other materials, other than that fill which may be allowed by the Order and as shown on the approved Plans herein;
    - underground storage of fuel or other hazardous substances;
    - dumping of leaves, grass clippings, brush, stumps, construction and yard debris or materials of any kind, unless expressly permitted by the Order or the Plans approved herein;
    - refueling, servicing, and repair of motorized construction vehicles. Equipment operators shall be prepared to immediately respond to accidental releases of fuel, motor oil, and other liquids through containment. If any release of fuel, motor oil,

lubricating oils, etc. occurs, the applicant and other responsible parties, in addition to all obligations under GL c. 21E (Massachusetts Oil and Hazardous Material Release Prevention and Response Act) and the Massachusetts Contingency Plan (MCP), shall immediately notify the Department of Environmental Protection's Western Regional Office at 1-413-784-1100. Any response action or cleanup shall be conducted pursuant to GL c. 21E and the MCP.

- use of pesticides, herbicides, fungicides, fertilizers, or any other chemicals. Organic pesticides, herbicides, fungicides, and fertilizers may be used subject to the review and approval of the Conservation Commission.
- use of de-icing chemicals (e.g., sodium, potassium, and calcium chloride) on driveways located in wetland resource areas and buffer zones. Optional: an environmentally friendly material as approved by the Commission may be used.

16. The Order shall be included with all construction-related documents. All contractors working at the site shall be made aware of the provisions contained within the Order and adhere to all Special Conditions herein. At all times, the site supervisor, supervision engineer or construction manager shall have a copy of the Order at the site and direct compliance with the requirements of the Order.

17. The Order authorizes only the activity described on · the approved Plans and approved documents referenced in the Order. No future work of any kind, including but not limited to site grading, clearing, or cutting of vegetation, installation of fences, storage shed, yard or garden sheds, above-ground or in-ground swimming pools and related buildings, or any other structure not specifically addressed by this filing shall be allowed beyond the limit of work line as shown on the approved Plans.

18. Any changes made to the approved Plans, unless otherwise specified in the Order, which will alter an area subject to protection under the Act or Ordinance, shall require applicant to inquire of the Commission, in writing, whether the change is significant enough to require the filing of a new Notice of Intent or an Amendment .

19. The applicant and any person involved in the activity that is the subject of the Order shall notify the Commission or its Coordinator immediately upon discovery of any matter related to the Order that may affect any area within the jurisdiction of the Commission.

20. Whether from on-site or off-site, any fill used in connection with this project shall be clean granular material essentially free of masonry, stumps, frozen clumps of earth, wood, tree branches, trash, and waste material.

21. Any water released as a result of this project shall make use of a temporary stilling/detention pond or similar method to remove sediment prior to release from the site.

22. In the event that this property/project is sold or conveyed, the new owner(s) shall meet with the Conservation Commission or its Coordinator prior to commencing or continuing any work permitted by this order.

PRIOR TO CONSTRUCTION:

23. (deed recording) **Prior to the initiation of any work,** the applicant shall submit to the Commission a receipt from the Berkshire County Registry of Deeds of the recording of the Order.

24. (deed restriction language) **Prior to the initiation of any work,** the applicant shall submit proof to the Commission that parcels abutting or containing wetland or resource areas as identified on the Plans have the following restrictions, and a covenant so noted on each deed. See attached Declaration of Restrictions document to be recorded at the Registry of Deeds.

25. (wildlife habitat deed language) **Prior to initiation of any work,** Parcels that have altered land significant to the protection of wildlife habitat as shown on the Plans shall record and submit proof to the Commission the following as a covenant on the deed. See attached Declaration of Restrictions document to be recorded at the Registry of Deeds.

26. (applicant letter of understanding) **Prior to the initiation of any work,** the applicant shall submit a letter of understanding to the Commission stating that he/she has received, read, understand, and shall comply with the Order.

27. (contractor letter of understanding) **Prior to the initiation of any work,** the contractor, site supervisor and/or construction manager shall submit a letter of understanding to the Commission stating that they have received, read, understand, and shall comply with the Order.

28. (excavator copy of OOC) **Prior to the commencement of any earth moving activities,** whoever shall be employed to execute earth-moving activities must be provided a copy of the Order. Thereafter, they may be held responsible with the applicant and property owner for violations, and may be subject to penalties authorized by law and/or regulation for those violations.

29. (construction sequence) **Prior to the initiation of any work,** the applicant shall submit to the Commission for approval a construction sequence including erosion and sedimentation control installation, the construction of compensatory storage, all permanent and temporary detention/retention basins/areas, any replication areas and revegetation areas to be completed with supporting plans and details as appropriate.

30. (EC's) **Prior to the initiation of any work,** unless otherwise agreed upon by the applicant and Commission or its Coordinator, all erosion control measures shall be constructed and installed as shown on the approved Plans. The erosion control specifications provided in the Notice of Intent and the erosion control provision in the Order will be the minimum standards for this project; additional measures may be required. ***No work shall begin until the Commission has inspected and approved of all erosion controls.***

31. (pre-construction meeting) **Prior to the initiation of any work,** a pre-construction meeting shall be held (other than of an emergency nature) between the Commission and/or its Coordinator and the applicant and his/her environmental consultant, contractor, site supervisor or construction manager. The applicant shall notify the Commission in writing the week before the desired meeting in order to arrange for a mutually agreed upon time and date. Prior to the agreed meeting date and time, all erosion control measures shall be installed as shown on the approved Plans unless otherwise agreed upon by the applicant and Commission.

32. (emergeney eontact information) **Prior to initiation of any work,** emergency eontact phone numbers, ineluding eell phone numbers of the applicant, their environmental eonsultant, contraetor, site supervisor and eonstruction manager shall be furnished to the Commission.

33. (48 hours notiee) **Prior to initiation of any work,** if a pre-eonstruetion meeting is deemed unneeessary, the applicant shall give the Commission at least forty-eight (48) hours weekday notice after the erosion control measures are in place to allow the Commission to inspect and approve of sueh measures. ***No work shall begin until the Commission has inspected and approved of all erosion controls.***

34. (submit Title V) **Prior to the initiation of any work,** as per 310 CMR Part 1 sec. 15.02 (5), the applicant shall submit to the Commission proof of Title V eomplianee.

35. (water quality eert) **Prior to the initiation of any work,** as per 314 CMR 9.00, the applieant shall submit to the Commission proof of Water Quality Certifieation compliance.

36. (permanent markers) **Prior to the initiation of any work,** applicant shall mark the line of no disturbanee by the installation of permanent markers as shown on the Plans that shall eonsist of: (pick one from the following):
    a. Cement permanent markers, not less than 4" X 4", shall be submerged below the frost line and at be at least 6" above ground level, painted orange or other bright color. Such markers shall be located as referenced on the Plans and shall be placed no less than every 50' or at every change in direction.
    b. Large (1,000 lb. or greater in size) boulders shall be placed as referenced on the Plans and shall be plaeed no less than every 50' or at every ehange in direetion.

37. (temporary basins) **Before the beginning of other site work,** temporary retention/detention basins shall be eonstrueted in order to trap and detain water and sediments.

II. DURING CONSTRUCTION:

38. (tagged trees) Only trees tagged and approved by the Commission shall be removed. All limbs, branehes, slash, and deadwood shall be removed from the area of statutory interest.

39. (run-oft) Grading shall be aeeomplished so that runoff shall not be directed towards the property of others. This projeet shall not inerease runoff, nor cause flood or storm damage, to abutters or the property of others.

40. (permanent basins) All permanent retention/detention basins shall be eonstrueted to the speeifieations as shown on the approved Plans. Outlet pipes will not be installed (or funetional) until the detention basin and site grading is completed. The basins shall be cleaned out prior to installation (or opening) of the outlet pipe. Excess sediment deposited in the basins during eonstruetion shall be removed when all exposed surfaees have been satisfaetorily stabilized and prior to installing topsoil and planting the proposed vegetation within the basins. Sediments removed shall be placed at an upland location, in a manner that will prevent its later erosion in a waterway or wetland.

41. (protection of stockpiled materials) No disturbed areas or stockpiled materials shall be left unprotected or without sufficient erosion controls to ensure such materials will not cause any impacts to any wetland.

42. (over-winter stabilization) If construction continues into Autumn and Winter months, all disturbed areas shall be graded, loamed, and seeded prior to October 30, of each year.

43. (snow removal) Unless expressly allowed elsewhere in the Order, during snow removal operations, snow shall not be piled or placed beyond the limit of work. Road salt shall not be used on any surfaces where surface drainage discharges into any wetland or buffer zone. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

44. (No Salt Zone sign) Permanent signs designating NO SALT ZONE shall be displayed in prominent locations, easily read from the road, on all approaches to the site.

45. (liquid fertilizer) No salts or salt compounds, liquid or solid chemical lawn fertilizers, pesticides, herbicides or chemical or petroleum dust control agents shall be applied within the area of statutory interest or anywhere that the surface drainage is discharged into an area of statutory interest. Also, no petroleum or liquid or solid chemical storage is permitted in any area of statutory interest,

46. (low flow) All work is to be done during low flow period from July I to October 1.

III. EROSION AND SEDIMENT CONTROL REQUIREMENTS:

47. (straw bales only) **Hay bales are not permitted** - because of the propensity for hay bales to spread invasive species, only straw bales ("bales") shall be used.

48. (installation of ECs) Sedimentation and erosion control measures shall be placed as shown on the approved Plans. Sedimentation and erosion control materials shall consist of:
    a. A row of entrenched and staked siltation filter fabric fencing with one row of staked bales installed on up-gradient of the silt fencing.
    b. All bales shall be weed-free, tightly against each other and shall be located no further than 12 inches from the down-gradient side of the silt fence barrier. Bales shall be bound with twine or wire, and shall be staked in place with 2 stakes per bale.
    c. Siltation filter fabric fencing shall be no less than 15 inches high and shall be of sufficient porosity to pass detained water without allowing suspended sediments to pass through the fence. Excavated spoils from entrenching shall be deposited on the up-gradient side of the barrier.

49. (exposed soils) To prevent erosion, soils exposed for periods greater than two months shall be stabilized with erosion control blanket or netting, or a covering of mulch, or a temporary cover of rye or other grass. Drainage ditches shall be hydro-seeded with a perennial grass mixture. Any stabilization materials such as jute netting shall be firmly anchored to prevent them from being washed from slopes by rain or flooding. Preference should be given to biodegradable materials. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

50. (ECs maintenance) All sedimentation and erosion controls shall be maintained in proper functioning condition until all disturbed areas have been stabilized with final vegetative cover or until the Commission or its Coordinator has determined that the control measures are no longer necessary. Structural failure of erosion and sedimentation controls required by the Order can constitute a violation of the Order, and can result in enforcement actions and fines from the Commission and possibly other regulatory agencies.

51. (stockpile of ECs) An adequate stockpile of erosion control materials shall be on site at all times for routine and emergency replacement and shall include materials to repair or replace silt fences, straw bales, erosion control blankets, riprap, filter berms or other devices planned for use during construction.

52. (stockpile of ECs) A minimum of 200 linear feet of both silt fencing and straw bales shall be stored on site to be used for replacement and/or emergency use.

53. (avoid heavy rain) Site grading and construction shall be scheduled to avoid periods of heavy rainfall and periods of high surface water.

54. (EC inspection) It is the responsibility of the applicant to ensure that erosion controls are inspected after every rainfall, to assure that maximum control has been provided and to repair and replace them, as necessary. The applicant shall also remove any sediments that accumulate at the erosion control line and shall properly dispose of those sediments outside all jurisdictional areas.

55. (fix erosion) The applicant shall immediately control or correct any erosion problems that occur at the site and shall also immediately notify the Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary.

56. (site in stable condition) The areas of construction shall remain in a stable condition at the close of each construction day. Erosion control measures shall be inspected at this time and maintained or reinforced · as necessary. All such devices shall be inspected, cleaned or replaced during construction and shall remain in place until such time as stabilization of all areas that may impact resource areas is permanent. These devices shall also be inspected to assure that the maximum control has been provided. Any entrapped silt shall be removed to an area outside the buffer zone and resource areas and maintained or reinforced, as necessary. **EROSION AND SEDIMENTATION CONTROLS SHALL BE CONTINUALLY MONITORED TO ENSURE PROPER OPERATION.•**

57. (siltsacks in catch basins) Siltsacks shall be used and maintained in any catch basin where construction is taking place, until the site is stable. Accumulated sediment in the siltsacks shall be removed as it accumulates.

58. (cleaning catch basins) All catch basin sumps which eventually discharge into a resource area shall be cleaned at a frequency insuring that sediment buildup does not exceed 50% of basin capacity, as measured from the bottom of the sump to the lowest invert elevation of any outflow pipe, or at the request of the Commission or its Coordinator.

59. (grease traps) All catch basins shall contain oil/grease traps. These traps shall be cleaned routinely, but at least once every six months. The applicant, his successors, or assigns, shall

have the continuing responsibility of this maintenance and shall forward a written statement or copy of maintenance log confirming compliance to the Commission annually.

JV. STORMWATER REQUIREMENTS

60. (stormwater structures) All detention/retention and stormwater basins and/or structures shall be built and maintained according to the specifications as referenced in the Notice of Intent and/or Plans and supplemental documents as presented to the Commission. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

61. (stormwater requirements) All construction and post-construction stormwater management shall be conducted in accordance with the Order, the Plan and supplemental documents submitted with the Notice of Intent and with the Department of Environmental Protection's Stormwater Management Policy.

62. (street sweeping) During construction street sweeping shall occur as needed and shall continue after completion of the project at least every six months and/or when requested by the Commission or its Coordinator.

63. (construction entrance) In accordance with Federal and State Stormwater requirements, all project sites shall incorporate trap rock at all construction entrances and shall maintain either a 25 foot undisturbed buffer of vegetation or a sedimentation/silt fence barrier between the work site and any public roads, or neighboring properties to prevent erosion and sedimentation from being carried off site.

64. (deed restriction for lots containing stormwater structures) This special condition pertains to Lot(s) _____. This lot has stormwater management structures on the property. A deed restriction shall be prepared by your legal representative, included in the deed for each lot and submitted to the Commission for approval prior to the conveyance of a deed from the applicant to any entity. The deed restriction shall include the following language:
    a. *Reference to and a copy of the as-built plans of the parcel that identifies proposed structures, property lines, permanent markers, and resource areas.*
    b. *Prohibition of mowing, clearing, dumping, or composting in areas beyond the permanent markers except to the extent that is required to maintain drainage structures.*
    c. *Maintenance of the stormwater structures shall be the responsibility of the property owner of record. The maintenance of the grassed swales and detention basin shall include mowing at least twice a year, after July 15th and in the fall. Grass shall not be cut lower than 4" in height and grass clippings shall be removed and disposed of properly. The maintenance of the stormwater structures shall also include periodic removal of .debris, leaves, and excess sediment accumulations that shall be properly disposed of*
    d. *Subject to a Storm Drain Easement as shown on said Plans.*
    e. *The applicant and its successors and/or assigns agree the failure to repair and/or maintain the grassed swales, detention basins, and stormwater management structures shall be irreparable harm to the*

public and the owners of the property in the area. A court shall be authorized to enter equitable relief by way of an injunction requiring the owners to repair and maintain the same, if after notice from the Town to do so, the owner fails and/or refuses to maintain and/or repair the storm drainage easement, stormwater structures detention basins, or grassed swales, as required by these restrictions.

f. *The failure of any party to enforce any restrictions or provisions hereof shall not be deemed a waiver of the right to do so thereafter as to the same breach or to one occurring subsequent thereto.*

g. *The restrictions contained herein shall remain in effect and be enforceable forever, unless modified by a Subsequent Order of Conditions issued by the appropriate legal authority and imposed on said land or a portion thereof by the fee simple owner.*

V. ENVIRONMENTAL MONITOR REQUIREMENT:

65. (monitor approval) **Prior to initiation of any work,** and throughout the life of the project, the applicant shall designate and retain a qualified wetland specialist/environmental consultant. Such consultant shall have at least 5 years experience in wetlands and compliance with the Act, and is subject to approval by the Commission. ***No work shall begin until such consultant is approved by the Commission.***

66. (monitor contact information) **Prior to initiation of any work,** the name, work phone and cell phone number of such consultant shall be provided to the Commission so that in the event of any emergency at the site this person can be contacted.

67. (monitor responsibilities) Such environmental consultant shall directly and visually supervise on-site operations as necessary and oversee any emergency placement of controls and/or regulate inspection or replacement of erosion and sedimentation control devices, and any wetland replication if applicable. Said environmental consultant shall keep a weekly/monthly written log of compliance with the Order, and shall make weekly/monthly written reports to the Commission. Reports shall also be furnished to the Commission upon request of the Commission. The monitor shall be given full access and authority to:
    a. inspect all erosion control measures and current construction activities and oversee the cleaning and the proper disposal of waste products;
    b. submit weekly/monthly reports (or when otherwise requested by the Commission) during construction (via e-mail, facsimile, or regular mail) to the Commission regarding site conditions, ongoing and future work, and any erosion or sedimentation problems and their resolution; and
    c. is fully authorized to stop construction for erosion control correction or other wetlands protection jurisdictional issues.

68. (monitor authority) The applicant and all other parties subject to the Order shall comply with all orders and instructions of the environmental monitor, including orders to cease all activity within the Commission's jurisdiction when non-compliance with the Order is observed. The applicant and all other parties subject to the Order shall not resume activity until such time as the Commission has authorized the resumption of activity, which authorization may be written or verbal, direct or through the environmental monitor.

VI. DEWATERING PROCEDURES:

69. (dewatering monitor) All project dewatering shall be conducted under the supervision of an environmental control monitor. Unless an environmental monitor is required elsewhere under this Order, the dewatering monitor shall have at least 5 years experience in wetlands and compliance with the Act, and is subject to approval by the Commission.

70. (dewatering) Dewatering activities shall be conducted as shown on the approved Plans and shall be monitored daily to ensure that sediment-laden water is appropriately settled prior to discharge toward the wetland resource areas. No discharge of water is allowed directly into an area subject to jurisdiction of the Act or Ordinance. If emergency dewatering requirements arise, the applicant shall submit a contingency plan to the Commission for approval, which provides for the pumped water to be contained in a settling basin, to reduce turbidity prior to discharge into a resource area.

71. (discharge prohibition) The Order specifically prohibits the discharge of untreated water into, upon, across or over any resource areas and/or buffer zones. Upstream surface water routed around the construction sites shall be reintroduced downstream of the construction sites and directly into the main channel of the brook/stream/river. Said discharge shall occur onto temporary stone pads place upon the substrate of said channel. Any free water removed from the construction sites shall be routed through a mobile weir tank or its equivalent, as approved by the Commission. Final discharge of free water from the construction sites shall occur into a temporary "sedimentation basin" within an upland area as approved by the Commission.

VII. DREDGING:

72. (Army Corps PGP) All dredging shall be conducted in accordance with seasonal limitation imposed by the U.S. Army Corps of Engineers in accordance with Section 404 of the Clean Water Act and provisions of the Programmatic General Permit. This restriction may include, but not be limited to, spawning periods between March 15 and June 15.

73. (use of equipment) Only mechanical dredging with the use of [equipment type] is authorized by the Order. No hydraulic or pneumatic equipment shall be used for the removal of dredged material.

74. (location of equipment) All dredging operations shall be conducted from upland areas or from water home equipment.

75. (dredging rig size) The removal of dredged material shall be accomplished through the use of a large size dredging rig in order to minimize the number of bucket trips required to complete the project.

76. (spoils) All dredge spoils shall be dewatered and disposed of outside all jurisdictional areas at an upland location, or as indicated on the approved Plans.

77. (use of ECs) A siltation fence, straw bales and drainage ditch system shall be installed at the dewatering area to ensure that no materials from the dewatering area will enter any resource areas.

78. (non-impediment to fish) The removal of material from the river bottom shall be done in such a manner as to ensure that the reconfigured bottom area will not impede or obstruct fish migration, or interfere with the natural flow of water.

79. (no vehicles) No vehicular traffic shall enter into any wetland resource area.

80. (hand removal) For small ditches and streams work shall be done using hand shovels or small backhoes. No other machinery shall enter the resource area.

VIII. WETLAND REPLICATION:

81. (replication monitor) **Prior to the construction of the replication,** unless an environmental monitor is required elsewhere under this Order, the applicant shall furnish the name of the person responsible to supervise and monitor the replication to the Commission for approval. The replication monitor shall have at least 5 years' experience in wetlands, compliance with the Act, wetland replication, wetland hydrology and a working knowledge of botany. Such a person shall be retained to supervise and monitor construction of the wetland replication areas until the replication area meets the requirements of the Order.

82. (growing seasons) Unless otherwise specified in the Order, the wetland replication shall be performed in accordance with the Notice of Intent, the Plans, and any supplemental documents. The Commission reserves the right to require additional plantings to ensure achievement of 75% cover of wetland plant species within two full growing seasons, as specified in 310 CMR I 0.55(4)(b). As listed in the Department of Environmental Protection's Massachusetts Inland Wetland Replication Guidelines March 2002, the growing season for Berkshire County is from April 6th to October 27th. Thus, two growing seasons will always include at least two calendar years.

IX. UPON COMPLETION OF CONSTRUCTION:

83. (permanent stabilization) Within 30 days of final grading, (or within 30 calendar days after the commencement of the following growing season if the project is completed after October 31st), all disturbed areas shall be permanently stabilized with rapidly growing cover and a minimum of 4 to 6 inches or organic topsoil, if necessary and a USDA, Natural Resources Conservation Service-approved native seed mixture should be used in accordance with the measures outlined in "Vegetative Practices in Site Development: Massachusetts Conservation Guide, Volume II," or other acceptable stabilization method to assure long- term stabilization of disturbed areas. Maintenance of these areas shall be in a manner that assures permanent stabilization and precludes any soil erosion and shall be the responsibility of the owner of record of the property or the responsibility of the applicant. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

84. Only upon completion of the project, when all soils are permanently stabilized and with approval by the Commission or its Coordinator shall all erosion controls be removed.

85. (COC requirements) Upon completion of construction and final soil stabilization, the applicant shall submit the following to the Conservation Commission to request a Certificate of Compliance (COC):
    - A Completed Request for a Certificate of Compliance form (WPA Form 8A).
    - *IF* the project has any stormwater structure(s) requiring routine cleaning and/or maintenance, the applicant or current owner shall submit a signed agreement between the applicant or current owner and a company who has been contracted to clean and maintain such structures on the project.
    - As-Built plans signed and stamped by a registered professional engineer, architect, landscape architect or land surveyor and a written statement from such professional certifying substantial compliance with the Plans and describing what deviation, if any, exists from the Plans approved in the Order. This plan shall include at a minimum:
        - o All wetland resource area boundaries with associated buffer zones and regulatory setback areas taken from the plan(s) approved in the Order;
        - o Locations and elevations of all stormwater management conveyances, structures, and best management designs, including foundation drains, constructed under the Order within any wetland resource area or buffer zone;
        - o Distances from any structures constructed under the Order to wetland resource areas - "structures" include, but are not limited to, all buildings, septic system components, wells, utility lines, fences, retaining walls, and roads/driveways;
        - o A line delineating the limit of work - "work" includes any filling, excavating and/or disturbance of soils or vegetation approved under the Order;
        - o Wetland resource replication areas constructed under the Order.

X. THE FUTURE OF THESE ORDERS:

86. (future buyer) A copy of the Order shall be provided to any future buyer of the property.

87. *JF* the project has any stormwater structure(s) requiring routine cleaning and/or maintenance, the applicant or current owner shall annually submit bill(s) from the company who has been contracted to clean and maintain such structures on the project. This condition is ongoing ***and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

88. {O&M Plan) The applicant shall take full legal responsibility for implementation of the Operation and Management Plan (O&M Plan), as submitted within the Notice of Intent, until such time as another party or entity exerts legal responsibility and the Commission is notified in writing and of such a transfer. Upon this transfer of responsibility, that party shall maintain all stormwater structures within the Commission's jurisdiction. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

89. (conditions in perpetuity) The following conditions will remain in force in perpetuity and not extinguished by the issuance of a Certificate of Compliance:

THE FOLLOWING CONDITION IS ONLY APPLICABLE UNDER THE TOWN OF XXXXXXX WETLAND PROTECTION BYLAW #xxxx:

90. (cash bond) A cash bond, deposited in a savings **with XXXXXX Bank only,** an account payable to the Town of X:XXXXXX, shall be provided in the amount of _____ ,which shall be posted with the Treasure of the Town of XXXXXXX before commencement of work. Said bond shall be conditioned on the completion of all conditions hereof, shall be signed by a party or parties satisfactory to the XXXXXXX Conservation Commission. Bond release shall be contingent on requesting and receiving a Certificate of Compliance, provided that provisions satisfactory to the Commission have been made for any conditions in perpetuity. A copy of the deed is needed when requesting bond release.

Order of Conditions/ Performance Bond Information Requested

Instructions: Fill in your project information below (PLEASE PRINT) and bring this Performance Bond Information Request with you when you post your performance bond.

Date: _____

DEP File Number: _____

Developer: _____

Home Address: _____

_____

Project Location: _____

Social Security Number (For Individual Projects): _____

Federal Identification Number (For Corporate Projects): _____

Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbits-Nutt, Secretary and CEO
Jonathan L. Gulliver, Highway Administrator

MassDOT
Massachusetts Department of Transportation
Highway Division

July 9, 2025

David Seligman
Conservation Chair
Town of Egremont
171 Egremont Plain Road
Egremont, MA 01258

RE: DEP File #: 153-0240
Request for Amended Order
Reconstruction of Mount Washington Road (Phase I)
Egremont, Massachusetts
MassDOT Project #: 608547

Dear Mr. Seligman and Members of the Commission,

The Town of Egremont, in coordination with the Massachusetts Department of Transportation – Highway Division (MassDOT), is filing this Request for an Amended Order of Conditions to alter the Order issued by the Egremont Conservation Commission on February 5, 2025, for the Reconstruction of Mount Washington Road in Egremont, MA.
After the issuance of the February 5, 2025 Order, the project proponents and designers realized that this project will require some additional rock cutting in order to expand the catchment area adjacent to the rock face. This is an essential safety feature designed to prevent collisions drivers and falling rocks. The revised plans sheets (pages 26 & 27) are included in this submission.

Additionally, several of the conditions included in the Order of Conditions are not feasible for MassDOT to implement during construction or may make maintenance unfeasible for the Town of Egremont. MassDOT respectfully requests that the Egremont Conservation Commission consider the following changes to the issued Order of Conditions.

Special Conditions: (located on page 7 within WPA Form 5 – Order of Conditions)

1. SELECTBOARD DETERMINATION WITH REGARD TO SHADE TREES
2. LICENSED CERTIFIED PERSON TO REMOVE INVASIVE SPECIES

Response: *MassDOT is unsure what these Special Conditions are intended to require. The Standard Conditions attached to the Order as Special Conditions also has Special Conditions 1 & 2 that differ from these conditions. We respectfully request clarification or revisions as appropriate on these conditions.*

Ten Park Plaza, Suite 4160, Boston, MA 02116
Tel: 857-368-4636, TTY: 857-368-0655
mass.gov/massdot

Special Condition 4: The term **"Plans"** as used in the Order shall refer to the Plans entitled _____ and dated _____ The Order permits only the work as shown on the approved plans.

Response: *MassDOT would like to offer the opportunity to specify the approved plans.*

Special Condition 6: Members of the Commission and/or its Coordinator shall have the right to enter and inspect the premises to evaluate and ensure compliance with these conditions and performance standards as stated in the Order, the Act, and/or the Ordinance, and may require additional information, measurements, photographs, observations, and/or materials or submittal of data or information deemed necessary by the Commission for that evaluation.

Response: *Due to the use of heavy equipment and other threats to safety such as open trenches, MassDOT cannot allow the Commission or its agents to enter the work site without notice or proper safety gear. However, the Egremont Conservation Commission and their agents can, with advance notice to the MassDOT Resident Engineer, inspect the project site during construction. We respectfully request that this condition be revised to allow for inspections after prior coordination.*

Special Condition 11: Delineation flags and/or markers should not be removed and shall remain until a Certificate of Compliance is issued.

Response: *Due to the length of the project MassDOT cannot guarantee that flags will remain in place for the duration of construction. Reflagging of the resource areas will be expensive and an inefficient use of taxpayer funds. MassDOT respectfully requests that this condition is interpreted to mean, or re-written to say, that all flags currently on site shall not be intentionally removed until the Certificate of Compliance is issued.*

Special Condition 15: Any material placed in any resource area without specific authorization under the Order shall be removed immediately upon demand of the Conservation Commission or its Coordinator. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.*** Activities prohibited within any resource area and their buffer zones:

- operation of equipment, storage of materials, stockpiling of soil, or other site disturbance;
- stockpiling of debris, aggregate, fill, excavated material, construction material and building material; it shall also be stockpiled far enough away to prevent sediment from entering any wetland resource area;
- burying or disposal of debris or any other materials, other than that fill which may be allowed by the Order and as shown on the approved Plans herein;
- underground storage of fuel or other hazardous substances;
- dumping of leaves, grass clippings, brush, stumps, construction and yard debris or materials of any kind, unless expressly permitted by the Order or the Plans approved herein;
- refueling, servicing, and repair of motorized construction vehicles. Equipment operators shall be prepared to immediately respond to accidental releases of fuel, motor oil, and other liquids through containment. If any release of fuel, motor oil, lubricating oils, etc.

occurs, the applicant and other responsible parties. in addition to all obligations under GL c. 21E (Massachusetts Oil and Hazardous Material Release Prevention and Response Act) and the Massachusetts Contingency Plan (MCP), shall immediately notify the Department of Environmental Protection's Western Regional Office at 1-413-784-1100. Any response action or cleanup shall be conducted pursuant to GL c. 21E and the MCP.

- use of pesticides, herbicides, fungicides, fertilizers, or any other chemicals. Organic pesticides, herbicides, fungicides, and fertilizers may be used subject to the review and approval of the Conservation Commission.
- use of de-icing chemicals (e.g., sodium, potassium, and calcium chloride) on driveways located in wetland resource areas and buffer zones. Optional: environmentally friendly material as approved by the Commission may be used.

Response:

- *Operation of equipment and other site disturbance must occur within resource areas such as Riverfront and Bank as part of this project, however erosion and sedimentation controls as well as other protections will ensure no additional impact to resource areas. Additionally, requiring this condition in perpetuity prevents future improvement projects that would impact resource areas.*
- *The Town of Egremont and MassDOT cannot comply with this condition in perpetuity as stockpiling of snow is a regular part of the maintenance of their roadways. The activity of plowing the roadway leaves a stockpile of snow on the roadway shoulders that cannot feasibly be located elsewhere.*
- *The Town of Egremont and MassDOT cannot comply with this condition in perpetuity as regular mowing, sight line trimming, etc. conducted under the WPA minor exempt activities, which are required for safe travel, may result in grass clippings and debris from tree trimming being left in place within the Commission's jurisdiction.*
- *Some equipment is unable to relocate to outside resource areas to refuel and repair, however, the resource areas will be properly protected by erosion and sedimentation controls to ensure no additional impacts other than what has been authorized.*
- *The Town of Egremont and MassDOT cannot comply with this condition in perpetuity as the use of herbicides is a regular part of maintenance of their roadways, in particular for the control of invasive species. Additionally, this project may require the use of herbicides to manage invasive species as herbicide is the most effective method of management and removal for certain species.*
- *The Town of Egremont and MassDOT cannot comply with this condition in perpetuity as the use of de-icing chemicals is a regular part of maintenance of their roadways.*

MassDOT respectfully requests that this condition be revised to remove certain portions and remove the reference to "in perpetuity".

Special Condition 24 (deed restriction language): Prior to the initiation of any work, the applicant shall submit proof to the Commission that parcels abutting or containing wetland or resource areas as identified on the Plans have the following restrictions, and a covenant so noted on each deed. See attached Declaration of Restrictions to be recorded at the Registry of Deeds.

Response: *MassDOT records Orders of Conditions which are issued by Conservation Commissions against the Right-of-Way takings associated with the project. The MassDOT*

eminent domain process does not make revisions to property deeds. As this Order of Conditions will be recorded on the land records and will not be released until the issuance of a Certificate of Compliance, there exists adequate protection for the interests set forth in the Act. Additionally, the Order did not have a Declaration of Restrictions attached. Therefore, MassDOT respectfully requests that this special condition be removed.

Special Condition 25 (wildlife habitat deed language): Prior to the initiation of any work, Parcels that have altered land significant to the protection of wildlife habitat as shown on the Plans shall record and submit proof to the Commission the following as a covenant on the deed. See attached Declaration of Restrictions to be recorded at the Registry of Deeds.

Response: *MassDOT records Orders of Conditions which are issued by Conservation Commissions against the Right-of-Way takings associated with the project. The MassDOT eminent domain process does not make revisions to property deeds. As this Order of Conditions will be recorded on the land records and will not be released until the issuance of a Certificate of Compliance, there exists adequate protection for the interests set forth in the Act. Additionally, the Order did not have a Declaration of Restrictions attached. Therefore, MassDOT respectfully requests that this special condition be removed.*

Special Conditions 34 & 35: These conditions require proof of Title V compliance and Water Quality Certificate compliance.

Response: *As this project does not require any Title V permitting nor a Water Quality Certificate, MassDOT respectfully requests that the Egremont Conservation Commission confirm these conditions do not apply to this project.*

Special Condition 36: Prior to the initiation of any work, applicant shall mark the line of no disturbance by the installation of permanent markers as shown on the Plans that shall consist of: (pick one from the following):

a. Cement permanent markers, not less than 4″ X 4″, shall be submerged below the frost line and be at least 6″ above ground level, painted orange or other bright color. Such markers shall be located as referenced on the Plans and shall be placed no less than every 50″ or at every change of direction.
b. Large (1,000 lb. or greater in size) boulders shall be placed as referenced on the Plans and shall be placed no less than every 50″ or at every change of direction.

Response: *The approved plans do not show permanent markers and raised structures within the right of way present a significant road hazard. Additionally, MassDOT and municipal highway departments frequently find that future projects may require work beyond the limit of work for this particular project. This Special Condition appears to be more applicable to non-transportation projects and may not be applicable due to the lack of permanent markers shown on the approved plans. However, the line of no disturbance will be marked by sedimentation controls, which will be inspected by a SWPPP Inspector. MassDOT respectfully requests that the Egremont Conservation Commission revise this condition or confirm this is sufficient to comply with SC #36.*

Special Condition 37: Before the beginning of other site work, temporary retention/detention basins shall be constructed in order to trap and detain water and sediments.

Response: *MassDOT cannot dictate means and methods to Contractors. The Contractor may elect to use other means of retaining and treating construction period stormwater during construction due to the constraints of the Right of Way or other field restrictions. MassDOT respectfully requests that the Egremont Conservation Commission revise this condition to allow for alternate means and methods to trap and detain water and sediments.*

Special Condition 39: Grading shall be accomplished so that runoff shall not be directed towards the property of others. This project shall not increase runoff, nor cause flood or storm damage, to abutters or the property of others.

Response: *While this project will not cause flood or storm damage to the property of others, it is unfeasible to grade the roadway shoulders to avoid directing runoff towards abutting properties. Additionally, any increases in impervious area will increase the amount of runoff which may eventually discharge to other properties. MassDOT respectfully requests that this condition be revised or clarified to allow for roadway shoulder grading and the eventual discharge of stormwater from municipal or state stormwater management systems.*

Special Condition 42: If construction continues into Autumn and Winter months, all disturbed areas shall be graded, loamed, and seeded prior to October 30 of each year.

Response: *MassDOT cannot comply with this condition because some areas such as access roads may need to stay unstabilized during the fall and winter due to the need for construction equipment to frequently access and move through areas, but resource areas will be adequately protected by erosion and sedimentation controls. Temporary cover may interfere with machinery tracks. MassDOT respectfully requests that this condition be revised to require stabilization to the extent practicable.*

Special Condition 43: Unless expressly allowed elsewhere in the Order, during snow removal operations, snow shall not be piled or placed beyond the limit of work. Road salt shall not be used on any surfaces where surface drainage discharges into any wetland or buffer zone. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

Response: *The Town of Egremont and MassDOT cannot comply with this condition in perpetuity as snowplowing is a regular part of the maintenance of their roadways. The activity of plowing the roadway will result in snow being pushed beyond the limit of work for this project. It is the responsibility of the Town of Egremont and MassDOT to maintain reasonably safe conditions on State roads and, as such, we respectfully request that this condition be removed.*

Special Condition 44: Permanent signs designating NO SALT ZONE shall be displayed in prominent locations, easily read from the road, on all approaches to the site.

Response: *It is the responsibility of the Town of Egremont and MassDOT to maintain reasonably safe conditions on State roads and, as such, any winter weather event that could result in the build-up of snow and/or ice on the roadways may warrant the application of deicing chemicals. MassDOT respectfully requests that this condition be removed.*

Special Condition 44: All work is to be done during low flow period from July 1 to October 1.

Response: *MassDOT cannot comply with this condition. The exact timing of construction and specifics for potential dewatering falls under the means and methods for the Contractor to determine during the construction period. Work is intended to be conducted "in the dry" but weather and project scheduling may make this infeasible. Should the Contractor require dewatering, a dewatering plan will be submitted to the District 1 Environmental Engineer for approval as well as submitted to the Egremont Conservation Commission prior to any dewatering activities. MassDOT respectfully requests that this condition be revised to reflect this.*

Special Condition 48: Sedimentation and erosion control measures shall be placed as shown on the approved Plans. Sedimentation and erosion control measures shall consist of:

a) A row of entrenched and staked siltation filter fabric fencing with one row of straw bales installed on up-gradient of the silt fencing.
b) All bales shall be weed-free, tightly against each other and be located no further than 12 inches from the down-gradient side of the silt fence barrier. Bales shall be bound with twine or wire, and shall be staked in place with 2 stakes per bale.
c) Siltation fabric fencing shall be no less than 15 inches high and shall be of sufficient porosity to pass detained water without allowing suspended sediments to pass through the fence. Excavated spoils from entrenching shall be deposited on the up-gradient side of the barrier.

Response: *MassDOT has a strong preference for compost filter tubes over straw bales and prefers to avoid using silt fencing due to the microplastics they release into our resource areas. Additionally, due to the presence of rare species in this area, NHESP is requiring non-mesh erosion and sedimentation controls. In particular, a non-mesh compost filter tube is the erosion and sedimentation control preferred by NHESP. We respectfully request that this condition be revised to allow for the use of non-mesh compost filter tubes (a biodegradable product made from composted organic materials) and/or a substantively equivalent alternative, and to not require silt fencing.*

Special Condition 49: To prevent erosion, soils exposed for periods greater than two months shall be stabilized with erosion control blanket or netting, or a covering of mulch, or a temporary cover of rye or other grass. Drainage ditches shall be hydro-seeded with perennial grass mixture. Any stabilization materials such as jute netting shall be firmly anchored to prevent them from being washed from slopes by rain or flooding. Preference should be given to

biodegradable materials. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

Response: *MassDOT cannot comply with this condition because some areas such as access roads may need to stay unstabilized for greater than two months due to the need for construction equipment to frequently access and move through areas, but the resources will be adequately protected by erosion and sedimentation controls. Temporary cover may interfere with machinery tracks. MassDOT respectfully requests that this condition be revised to require stabilization to the extent practicable.*

Special Condition 52: A minimum of 200 linear feet of both silt fencing and straw bales shall be stored on site to be used for replacement and/or emergency use.

Response: *MassDOT respectfully requests that this condition be revised to allow for the use of non-mesh compost filter tubes or a substantively equivalent alternative, and to not require silt fencing.*

Special Condition 53: Site grading and construction shall be scheduled to avoid periods of heavy rainfall and periods of high surface water.

Response: *MassDOT cannot comply with this condition as site grading and construction cannot be avoided during periods of heavy rain or high surface water without the possibility of significantly impacting the schedule and paying costly time delays to contractors for work shutdowns. More importantly, disallowing work during heavy rain or high surface water, if timed inconveniently, could lead to sediment escaping the work site and impacting resource areas, as well as creating unsafe driving conditions. Contracting teams take into account severe weather conditions and work only when appropriate. Proper controls will be in place to avoid additional impacts to resource areas. We respectfully request that this condition be removed.*

Special Condition 56: The areas of construction shall remain in stable condition at the close of each construction day. Erosion control measures shall be inspected at this time and maintained or reinforced as necessary. All devices shall be inspected, cleaned, or replaced during construction and shall remain in place until such time as stabilization of all areas that may impact resource areas is permanent. These devices shall also be inspected to ensure that the maximum control has been provided. Any entrapped silt shall be removed to an area outside the buffer zone and resource areas and maintained or reinforced, as necessary. **EROSION AND SEDIMENTATION CONTROLS SHALL BE CONTINUALLY MONITORED TO ENSURE PROPER OPERATION**.

Response: *MassDOT cannot comply with this condition as construction equipment will need frequent access to the area, however, stabilization will be maximized as much as possible. Daily stabilization of all areas cannot be guaranteed. MassDOT respectfully requests that this condition be revised to require stabilization to the extent practicable.*

Special Condition 58: All catch basin sumps which eventually discharge into a resource area shall be cleaned at a frequency insuring that sediment buildup does not exceed 50% of basin capacity as measure from the bottom of the sump to the lowest invert elevation of any outflow pipe, or at the request of the Commission.

Response: *MassDOT cannot take responsibility or ownership for the maintenance of the drainage systems on Town owned roads in order to comply with this condition. The Town of Egremont is not an MS4 community and does not have the capacity to conduct catch basin clean outs at this frequency. The Town of Egremont Highway Department conducts catch basin clean outs on an annual basis.*

Special Condition 59: All catch basins shall contain oil/grease traps. These traps shall be cleaned routinely, but at least every six months. The applicant, his successors, or assigns, shall have the continuing responsibility of this maintenance and shall forward a written statement or copy of maintenance log confirming compliance to the Commission annually.

Response: *The MassDOT Stormwater Design Guide requires the installation of catch basin hoods, which function as more easily maintained oil/grease traps in the following areas: roadways in commercial areas; rest areas; MassDOT maintenance yards; where open curb inlets are used; and along highways where no other containment device is provided for a stormwater discharge to a Critical Area. There are three locations where open curb inlets are proposed; the other proposed catch basins are not located nor designed to require oil/grease traps or hoods. We respectfully request that this condition be revised to require oil/grease traps in the form of catch basin hoods as required in the MassDOT SDG.*

Special Condition 64: This special condition pertains to Lot(s) _____. This lot has stormwater structures on the property. A deed restriction shall be prepared by your legal representative, included in the deed for each lot and submitted to the Commission for approval prior to the conveyance of a deed from the applicant to any entity. The deed restriction shall include the following language: (specific language in a. – g. has been omitted for brevity)

Response: *MassDOT records Orders of Conditions which are issued by Conservation Commissions against the Right-of-Way takings associated with the project. The MassDOT eminent domain process does not make revisions to property deeds. As this Order of Conditions will be recorded on the land records and will not be released until the issuance of a Certificate of Compliance, there exists adequate protection for the interests set forth in the Act. Additionally, the Order did not have a Declaration of Restrictions attached. Therefore, MassDOT respectfully requests that this special condition be removed.*

Special Condition 65: Prior to initiation of any work, and throughout the life of the project, the applicant shall designate and retain a qualified wetland specialist/environmental consultant. Such consultant shall have at least 5 years' experience in wetlands and compliance with the Act and is subject to approval by the Commission. ***No work shall begin until such a consultant is approved by the Commission.***

Response: *Due to the limited nature of impacts within resource areas, and particularly the lack of direct impact to Bordering Vegetative Wetlands or Land Under Water, a wetlands specialist or environmental consultant is not necessary and will not be an efficient use of taxpayer monies. The contract requires a SWPPP Inspector, who will perform weekly and storm/snowmelt inspections as required per the Construction General Permit. Inspection reports can be submitted to the Conservation Commission in lieu of hiring a costly Environmental Monitor. MassDOT respectfully requests that this condition be removed.*

Special Conditions 66, 67, 68 & 69: (conditions regarding the monitor's contact information, responsibilities, and authority, as well as a dewatering monitor; summarized for brevity)

Response: *We respectfully request that this condition be revised to allow the SWPPP inspector to conduct these inspections and provide these reports.*

Special Condition 70 and 71: Dewatering activities shall be conducted as shown on the approved Plans and shall be monitored daily to ensure that sediment-laden water is appropriately settled prior to discharge toward the wetland resource areas. No discharge of water is allowed directly into an area subject to jurisdiction of the Act or Ordinance. If emergency dewatering requirements arise, the applicant shall submit a contingency plan to the Commission for approval, which provides for the pumped water to be contained in a settling basin, to reduce turbidity prior to discharge into a resource area.

The Order specifically prohibits the discharge of untreated water into, upon, across or over any resource areas and/or buffer zones. Upstream surface water routed around the construction sites shall be reintroduced downstream of the construction sites and directly into the main channel of the brook/stream/river. Said discharge shall occur onto temporary stone pads place upon the substrate of said ehanne1. Any free water removed from the construction sites shall be routed through a mobile weir tank or its equivalent, as approved by the Commission. Final discharge of free water from the construction sites shall occur into a temporary "sedimentation basin" within an upland area as approved by the Commission

Response: *Due to the constrained Right of Way, the contractor may elect to use other means to treat construction period stormwater, such as dewatering bags in lieu of a settling or sedimentation basins. Limited project Right of Ways coupled with the need to provide access for construction equipment often precludes the allowance for settling basins on projects.*

Special Conditions 72 through 82: (conditions regarding dredging and wetland replication; summarized for brevity)

Response: *We respectfully request that these conditions be removed or confirmed not to be applicable to this project.*

Special Conditions 85 & 87: (conditions regarding a signed agreement and submitting bills for stormwater maintenance)

Response: *The Town of Egremont will be responsible for the maintenance of any stormwater structures. As such, there will be no agreement with a company and no bills to submit. We respectfully request these conditions be revised or clarified to allow for alternate means of demonstrating stormwater maintenance.*

Special Condition 90: A cash bond, deposited in a savings with XXXXXX Bank only, an account payable to the Town of XXXXXX, shall be provided in the amount of _____, which shall be posted with the Treasurer of the Town of XXXXXX before commencement of work. Said bond shall be conditioned on the completion of all conditions hereof, shall be signed by a party or parties satisfactory to the XXXXXX Conservation Commission. Bond release shall be contingent on requesting and receiving a Certificate of Compliance, provided that provisions satisfactory to the Commission have been made for any conditions in perpetuity. A copy of the deed is needed when requesting bond release.

Response: *The Contractor is already subject to a performance bond with MassDOT. It is unreasonable and may cause an economic hardship to the contractor to fulfill another bond with the Conservation Commission. MassDOT respectfully requests that this condition is considered fulfilled by MassDOT's existing bond requirements for the contractor.*

We look forward to discussing this with the Commission at the next available meeting. If you require additional information, please contact me at (857) 268-1729 or erica.n.larner@dot.state.ma.us.

Sincerely,

Erica Larner
Wetlands & Water Resources Coordinator
MassDOT Highway Division, Environmental Services

Attachments: Order of Conditions
Construction Plan pages 26 & 27

cc: Adam Kiel, MassDOT
Melissa Lenker, MassDOT
Mary Brazie, Town of Egremont
Jim Noe, Town of Egremont
Matt Lundsted, CEI Engineers
Ellen Moshier, CHA Companies
John Morgan, CHA Companies

Massachusetts Department of Environmental Protection

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Status of Transaction:	**Submitted**
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MassDEP File #:153-0240
eDEP Transaction #:1863539
City/Town:EGREMONT

A. General Information

1. Conservation Commission: EGREMONT
2. Issuance: a. ☑ OOC b. ☐ Amended OOC
3. Applicant Details
   a. First Name: b. Last Name:
   c. Organization: TOWN OF EGREMONT
   d. Mailing Address: 171 EGREMONT PLAIN ROAD (ROUTE 71)
   e. City/Town: EGREMONT f. State: MA g. Zip Code: 01258
4. Property Owner
   a. First Name: b. Last Name:
   c. Organization: TOWN OF EGREMONT
   d. Mailing Address: 171 EGREMONT PLAIN ROAD (ROUTE 71)
   e. City/Town: EGREMONT f. State: MA g. Zip Code: 01258
5. Project Location

a.Street Address	MT. WASHINGTON ROAD		
b.City/Town	EGREMONT	c. Zip Code	01230
d. Assessors Map/Plat#	N/A	e. Parcel/Lot#	N/A
f. Latitude	42.16010N	g. Longitude	73.47127W

6. Property recorded at the Registry of Deed for:

a. County	b. Certificate	c. Book	d. Page

7.Dates

a. Date NOI Filed : 6/5/2024 b. Date Public Hearing Closed: 1/9/2025 c. Date Of Issuance: 1/12/2025

8.Final Approved Plans and Other Documents

a. Plan Title:	b. Plan Prepared by:	c. Plan Signed/Stamped by:	d. Revised Final Date:	e. Scale:
EGREMONT, MA-MOUNT WASHINGTON ROAD (608547) CONSTRUCTION PLAN	CHA	JOHN G. MORGAN JR.	May 2024	1"=20'

B. Findings

1.Findings pursuant to the Massachusetts Wetlands Protection Act
Following the review of the the above-referenced Notice of Intent and based on thc information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act.

Check all that apply:

a. ☑ Public Water Supply	b. ☐ Land Containing Shellfish	c. ☑ Prevention of Pollution
d. ☑ Private Water Supply	e. ☑ Fisheries	f. ☑ Protection of Wildlifc Habitat

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g. ☑ Ground Water Supply h. ☑ Storm Damage Prevention i. ☑ Flood Control

2. Commission hereby finds the project, as proposed, is:

Approved subject to:

a. ☑ The following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

Denied because:

b. ☐ The proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**

c. ☐ The information submitted by the applicant is not sufficient to describe the site, the work or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the interests of the Act , and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**

3. ☐ Buffer Zone Impacts:Shortest distance between limit of project disturbance and the wetland resource area specified in 310CMR10.02(1)(a). _____ a. linear feet

Inland Resource Area Impacts:(For Approvals Only):

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☑ Bank	32.87 a. linear feet	_____ b. linear feet	32.87 c. linear feet	_____ d. linear feet
5. ☐ Bordering Vegetated Wetland	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
6. ☐ Land under Waterbodies and Waterways	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
	_____ e. c/y dredged	_____ f. c/y dredged		
7. ☐ Bordering Land Subject to Flooding	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
Cubic Feet Flood Storage	_____ e. cubic feet	_____ f. cubic feet	_____ g. cubic feet	_____ h. cubic feet
8. ☐ Isolated Land Subject to Flooding	_____ a. square feet	_____ b. square feet		

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Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9. ☑ Riverfront Area	107964 a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	74317 c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	33647 g. square feet	h. square feet	i. square feet	j. square feet

Coastal Resource Area Impacts:

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. ☐ Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. ☐ Coastal Beaches	a. square feet	b. square feet	c. c/y nourishment	d. c/y nourishment
14. ☐ Coastal Dunes	a. square feet	b. square feet	c. c/y nourishment	d. c/y nourishment
15. ☐ Coastal Banks	a. linear feet	b. linear feet		
16. ☐ Rocky Intertidal Shores	a. square feet	b. square feet		
17. ☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. ☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. ☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	c. c/y dredged	d. c/y dredged		
21. ☐ Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		

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22.

☐ Restoration/Enhancement (For Approvals Only)

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c & d or B.17.c & d above, please entered the additional amount here.

a. square feet of BVW _____ b. square feet of Salt Marsh _____

23.

☐ Streams Crossing(s)

If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossings.

a. number of new stream crossings _____ b. number of replacement stream crossings _____

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
   a. the work is a maintenance dredging project as provided for in the Act; or
   b. the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not exceed the issuance date of the original Final Order of Conditions.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work..

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10. A sign shall be displayed at the site not less then two square feet or more than three square feet in size bearing the words,

" Massachusetts Department of Environmental Protection"
[or 'MassDEP"]
File Number :"153-0240"

11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before Mass DEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.
17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

NOTICE OF STORMWATER CONTROL AND MAINTENANCE REQUIREMENTS

19. The work associated with this Order(the "Project") is (1) ☑ is not (2)☐ subject to the Massachusetts Stormwater Standards. If the work is subject to Stormwater Standards, then the project is subject to the following conditions;

a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollutant Discharge Elimination System Construction General Permit as required by Stormwater Standard 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.

b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that: *i.* all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all

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construction period sediment trapped in inlet and outlet control structures; *ii.*. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized; *iii.* any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10; *iv.* all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition; *v.* any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 19(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following: i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollutant Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 19(f) through 19(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 19(f) through 19(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.

g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.

h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.

i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.

j) The stormwater management system approved in the Order of Conditions shall not be changed without the

prior written approval of the issuing authority.

k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.

l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions:

1. SELECTBOARD DETERMINATION WITH RESPECT TO SHADE TREE REPLACEMENT. 2. LICENSED CERTIFIED PERSON TO REMOVE INVASIVE SPECIES.

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D. Findings Under Municipal Wetlands Bylaw or Ordinance

1.Is a municipal wetlands bylaw or ordinance applicable? ☐ Yes ☑ No

2.The Conservation Commission hereby(check one that applies):

a. ☐ DENIES the proposed work which cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw specifically:

1. Municipal Ordinance or Bylaw _____ 2. Citation _____

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order or Conditions is issued. Which are necessary to comply with a municipal ordinance or bylaw:

b. ☐ APPROVES the proposed work, subject to the following additional conditions.

1. Municipal Ordinance or Bylaw _____ 2. Citation _____

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows:

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E. Signatures

This Order is valid for three years from the date of issuance, unless otherwise specified pursuant to General Condition #4. If this is an Amended Order of Conditions, the Amended Order expires on the same date as the original Order of Conditions.

1/12/2025
1. Date of Original Order

Please indicate the number of members who will sign this form. This Order must be signed by a majority of the Conservation Commission.

5
2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Signatures:

David Seligman

Jeff Nathan

Alexis Wreden

Katie Rubright

Joyce Frater

☐ by hand delivery on

Date January 24 2025

☒ by certified mail, return receipt requested, on

Date 1/15/25

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, 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 MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed 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 Order. 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.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

G. Recording Information

This Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 - Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:153-0240
eDEP Transaction #:1863539
City/Town:EGREMONT

subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

EGREMONT
Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

EGREMONT
Conservation Commission

Please be advised that the Order of Conditions for the Project at:

MT. WASHINGTON ROAD — Project Location

153-0240 — MassDEP File Number

Has been recorded at the Registry of Deeds of:

County — Book — Page

for:

Property Owner

and has been noted in the chain of title of the affected property in:

Book — Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

Rev. 4/1.2010

Standard Conditions
DEP File# 153-0240

I. GENERAL:

1. In case of emergencies, problems, or the need to discuss site conditions with the Conservation Commission, please contact the Commission during business hours at (413) **xxx-xxxx.**

2. The term **"Act"** as used in the Order of Conditions (hereinafter the "Order"), shall refer to the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131, Section 40) and Massachusetts Wetlands Regulations (310 CMR 10.00).

3. The term **"Applicant"** as used in the Order shall refer to the owner, any successor in interest or successor in control of the property referenced in the Notice of Intent, supporting documents and the Order. The Order shall apply to all successors in interest and successors in control.

4. The term **"Plans"** as used in the Order shall refer to the Plans entitled _____ and dated _____ The Order permits only the work as shown on the approved Plans.

5. The term **"Ordinance"** as used in the Order shall refer to the Town of.XXXXX:XX Wetlands Protection Bylaw #xxxx.

6. Members of the Commission and/or its Coordinator shall have the right to enter and inspect the premises to evaluate and ensure compliance with these conditions and performance standards as stated in the Order, the Act, and/or the Ordinance, and may require additional information, measurements, photographs, observations and/or materials or submittal of data or information deemed necessary by the Commission for that evaluation.

7. The Commission reserves the right to impose additional conditions on any portion of this project that causes impact to any area of jurisdiction under the Act or the Ordinance.

8. Erosion control devices shall not block passage between uplands and vernal pools between the dates of March 1 and July 30. Where erosion controls have been placed in areas between uplands and vernal pools, exposed soils are to be stabilized, and silt fencing or other devices that could block migration of amphibians to and from the pools is to be removed, no later than March 1 if construction has been occurring during the winter. If soils are not be stabilized by March 1, temporary stabilization measures shall be approved by the Commission.

9. Unless otherwise specified in the Notice of Intent and/or accompanying plans, all plantings and seed mixes shall consist of native species only, shall emphasize the natural flora and be of proven value to local wildlife. All plantings and seeding shall be watered as necessary to ensure growth.

10. It is the responsibility of the applicant to complete any review required by all agencies with jurisdiction over the activity that is the subject of the Order, and to procure all required

permits or approvals. These reviews, permits and approvals may include but are not limited to the following:

- Review by the U.S. Anny Corps of Engineers for any Category 2 or Individual Permit Activity, and procurement of any permits or approvals identified by the Corps.
- Review by the Department of Environmental Protection (the "DEP") and procurement of any permits or approvals identified by the DEP.
- Review by the Massachusetts Natural Heritage and Endangered Species Program for any projects within estimated and/or priority habitat and any permits or approvals identified by the program.
- Review by local planning boards, boards of health, zoning boards, and building inspectors, and procurement of any permits or approvals required by these boards or agencies.

11. Delineation flags and/or markers shall not be moved and/or removed and shall remain until a Certificate of Compliance is issued.

12. Erosion control measures shall not be removed and shall remain intact until removal is approved by the Commission and/or the Coordinator. The sediment collected by these devices shall be removed and placed at an upland location and in a manner that will prevent its later erosion to any resource area.

13. Unless another limit of work line has been noted on the Plans and approved by the Commission, the geotextile/sedimentation/siltation barriers shall constitute a limit-of-work. ***Under no circumstances is any work allowed to take place on the down-gradient side (the wetland/resource side) of the limit of work. This includes stockpiling of any and all materials, vegetation waste and extra erosion controls.***

14. At no time shall sediments be allowed to flow into or accumulate in any wetland or resource area on or off the property.

15. Any material placed in any resource area without specific authorization under the Order shall be removed immediately upon demand of the Conservation Commission or its Coordinator. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.*** Activities prohibited within any resource area and their buffer zones:

    - operation of equipment, storage of materials, stockpiling of soil, or other site disturbance;
    - stockpiling of debris, aggregate, fill, excavated material, construction material and building material; it shall also be stockpiled far enough away to prevent sediment from entering any wetland resource area;
    - burying or disposal of debris or any other materials, other than that fill which may be allowed by the Order and as shown on the approved Plans herein;
    - underground storage of fuel or other hazardous substances;
    - dumping of leaves, grass clippings, brush, stumps, construction and yard debris or materials of any kind, unless expressly permitted by the Order or the Plans approved herein;
    - refueling, servicing, and repair of motorized construction vehicles. Equipment operators shall be prepared to immediately respond to accidental releases of fuel, motor oil, and other liquids through containment. If any release of fuel, motor oil,

lubricating oils, etc. occurs, the applicant and other responsible parties, in addition to all obligations under GL c. 21E (Massachusetts Oil and Hazardous Material Release Prevention and Response Act) and the Massachusetts Contingency Plan (MCP), shall immediately notify the Department of Environmental Protection's Western Regional Office at 1-413-784-1100. Any response action or cleanup shall be conducted pursuant to GL c. 21E and the MCP.

- use of pesticides, herbicides, fungicides, fertilizers, or any other chemicals. Organic pesticides, herbicides, fungicides, and fertilizers may be used subject to the review and approval of the Conservation Commission.
- use of de-icing chemicals (e.g., sodium, potassium, and calcium chloride) on driveways located in wetland resource areas and buffer zones. Optional: an environmentally friendly material as approved by the Commission may be used.

16. The Order shall be included with all construction-related documents. All contractors working at the site shall be made aware of the provisions contained within the Order and adhere to all Special Conditions herein. At all times, the site supervisor, supervision engineer or construction manager shall have a copy of the Order at the site and direct compliance with the requirements of the Order.

17. The Order authorizes only the activity described on · the approved Plans and approved documents referenced in the Order. No future work of any kind, including but not limited to site grading, clearing, or cutting of vegetation, installation of fences, storage shed, yard or garden sheds, above-ground or in-ground swimming pools and related buildings, or any other structure not specifically addressed by this filing shall be allowed beyond the limit of work line as shown on the approved Plans.

18. Any changes made to the approved Plans, unless otherwise specified in the Order, which will alter an area subject to protection under the Act or Ordinance, shall require applicant to inquire of the Commission, in writing, whether the change is significant enough to require the filing of a new Notice of Intent or an Amendment .

19. The applicant and any person involved in the activity that is the subject of the Order shall notify the Commission or its Coordinator immediately upon discovery of any matter related to the Order that may affect any area within the jurisdiction of the Commission.

20. Whether from on-site or off-site, any fill used in connection with this project shall be clean granular material essentially free of masonry, stumps, frozen clumps of earth, wood, tree branches, trash, and waste material.

21. Any water released as a result of this project shall make use of a temporary stilling/detention pond or similar method to remove sediment prior to release from the site.

22. In the event that this property/project is sold or conveyed, the new owner(s) shall meet with the Conservation Commission or its Coordinator prior to commencing or continuing any work permitted by this order.

PRIOR TO CONSTRUCTION:

23. (deed recording) **Prior to the initiation of any work,** the applicant shall submit to the Commission a receipt from the Berkshire County Registry of Deeds of the recording of the Order.

24. (deed restriction language) **Prior to the initiation of any work,** the applicant shall submit proof to the Commission that parcels abutting or containing wetland or resource areas as identified on the Plans have the following restrictions, and a covenant so noted on each deed. See attached Declaration of Restrictions document to be recorded at the Registry of Deeds.

25. (wildlife habitat deed language) **Prior to initiation of any work,** Parcels that have altered land significant to the protection of wildlife habitat as shown on the Plans shall record and submit proof to the Commission the following as a covenant on the deed. See attached Declaration of Restrictions document to be recorded at the Registry of Deeds.

26. (applicant letter of understanding) **Prior to the initiation of any work,** the applicant shall submit a letter of understanding to the Commission stating that he/she has received, read, understand, and shall comply with the Order.

27. (contractor letter of understanding) **Prior to the initiation of any work,** the contractor, site supervisor and/or construction manager shall submit a letter of understanding to the Commission stating that they have received, read, understand, and shall comply with the Order.

28. (excavator copy of OOC) **Prior to the commencement of any earth moving activities,** whoever shall be employed to execute earth-moving activities must be provided a copy of the Order. Thereafter, they may be held responsible with the applicant and property owner for violations, and may be subject to penalties authorized by law and/or regulation for those violations.

29. (construction sequence) **Prior to the initiation of any work,** the applicant shall submit to the Commission for approval a construction sequence including erosion and sedimentation control installation, the construction of compensatory storage, all permanent and temporary detention/retention basins/areas, any replication areas and revegetation areas to be completed with supporting plans and details as appropriate.

30. (EC's) **Prior to the initiation of any work,** unless otherwise agreed upon by the applicant and Commission or its Coordinator, all erosion control measures shall be constructed and installed as shown on the approved Plans. The erosion control specifications provided in the Notice of Intent and the erosion control provision in the Order will be the minimum standards for this project; additional measures may be required. ***No work shall begin until the Commission has inspected and approved of all erosion controls.***

31. (pre-construction meeting) **Prior to the initiation of any work,** a pre-construction meeting shall be held (other than of an emergency nature) between the Commission and/or its Coordinator and the applicant and his/her environmental consultant, contractor, site supervisor or construction manager. The applicant shall notify the Commission in writing the week before the desired meeting in order to arrange for a mutually agreed upon time and date. Prior to the agreed meeting date and time, all erosion control measures shall be installed as shown on the approved Plans unless otherwise agreed upon by the applicant and Commission.

32. (emergeney eontact information) **Prior to initiation of any work,** emergency eontact phone numbers, ineluding eell phone numbers of the applicant, their environmental eonsultant, contraetor, site supervisor and eonstruction manager shall be furnished to the Commission.

33. (48 hours notiee) **Prior to initiation of any work,** if a pre-eonstruetion meeting is deemed unneeessary, the applicant shall give the Commission at least forty-eight (48) hours weekday notice after the erosion control measures are in place to allow the Commission to inspect and approve of sueh measures. ***No work shall begin until the Commission has inspected and approved of all erosion controls.***

34. (submit Title V) **Prior to the initiation of any work,** as per 310 CMR Part 1 sec. 15.02 (5), the applicant shall submit to the Commission proof of Title V eomplianee.

35. (water quality eert) **Prior to the initiation of any work,** as per 314 CMR 9.00, the applieant shall submit to the Commission proof of Water Quality Certifieation compliance.

36. (permanent markers) **Prior to the initiation of any work,** applicant shall mark the line of no disturbanee by the installation of permanent markers as shown on the Plans that shall eonsist of: (pick one from the following):
    a. Cement permanent markers, not less than 4" X 4", shall be submerged below the frost line and at be at least 6" above ground level, painted orange or other bright color. Such markers shall be located as referenced on the Plans and shall be placed no less than every 50' or at every change in direction.
    b. Large (1,000 lb. or greater in size) boulders shall be placed as referenced on the Plans and shall be plaeed no less than every 50' or at every ehange in direetion.

37. (temporary basins) **Before the beginning of other site work,** temporary retention/detention basins shall be eonstrueted in order to trap and detain water and sediments.

II. DURING CONSTRUCTION:

38. (tagged trees) Only trees tagged and approved by the Commission shall be removed. All limbs, braneh es, slash, and deadwood shall be removed from the area of statutory interest.

39. (run-oft) Grading shall be aeeomplished so that runoff shall not be directed towards the property of others. This projeet shall not inerease runoff, nor cause flood or storm damage, to abutters or the property of others.

40. (permanent basins) All permanent retention/detention basins shall be eonstrueted to the speeifieations as shown on the approved Plans. Outlet pipes will not be installed (or funetional) until the detention basin and site grading is completed. The basins shall be cleaned out prior to installation (or opening) of the outlet pipe. Excess sediment deposited in the basins during eonstruetion shall be removed when all exposed surfaees have been satisfaetorily stabilized and prior to installing topsoil and planting the proposed vegetation within the basins. Sediments removed shall be placed at an upland location, in a manner that will prevent its later erosion in a waterway or wetland.

41. (protection of stockpiled materials) No disturbed areas or stockpiled materials shall be left unprotected or without sufficient erosion controls to ensure such materials will not cause any impacts to any wetland.

42. (over-winter stabilization) If construction continues into Autumn and Winter months, all disturbed areas shall be graded, loamed, and seeded prior to October 30, of each year.

43. (snow removal) Unless expressly allowed elsewhere in the Order, during snow removal operations, snow shall not be piled or placed beyond the limit of work. Road salt shall not be used on any surfaces where surface drainage discharges into any wetland or buffer zone. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

44. (No Salt Zone sign) Permanent signs designating NO SALT ZONE shall be displayed in prominent locations, easily read from the road, on all approaches to the site.

45. (liquid fertilizer) No salts or salt compounds, liquid or solid chemical lawn fertilizers, pesticides, herbicides or chemical or petroleum dust control agents shall be applied within the area of statutory interest or anywhere that the surface drainage is discharged into an area of statutory interest. Also, no petroleum or liquid or solid chemical storage is permitted in any area of statutory interest,

46. (low flow) All work is to be done during low flow period from July I to October 1.

III. EROSION AND SEDIMENT CONTROL REQUIREMENTS:

47. (straw bales only) **Hay bales are not permitted** - because of the propensity for hay bales to spread invasive species, only straw bales ("bales") shall be used.

48. (installation of ECs) Sedimentation and erosion control measures shall be placed as shown on the approved Plans. Sedimentation and erosion control materials shall consist of:
    a. A row of entrenched and staked siltation filter fabric fencing with one row of staked bales installed on up-gradient of the silt fencing.
    b. All bales shall be weed-free, tightly against each other and shall be located no further than 12 inches from the down-gradient side of the silt fence barrier. Bales shall be bound with twine or wire, and shall be staked in place with 2 stakes per bale.
    c. Siltation filter fabric fencing shall be no less than 15 inches high and shall be of sufficient porosity to pass detained water without allowing suspended sediments to pass through the fence. Excavated spoils from entrenching shall be deposited on the up-gradient side of the barrier.

49. (exposed soils) To prevent erosion, soils exposed for periods greater than two months shall be stabilized with erosion control blanket or netting, or a covering of mulch, or a temporary cover of rye or other grass. Drainage ditches shall be hydro-seeded with a perennial grass mixture. Any stabilization materials such as jute netting shall be firmly anchored to prevent them from being washed from slopes by rain or flooding. Preference should be given to biodegradable materials. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

50. (ECs maintenance) All sedimentation and erosion controls shall be maintained in proper functioning condition until all disturbed areas have been stabilized with final vegetative cover or until the Commission or its Coordinator has determined that the control measures are no longer necessary. Structural failure of erosion and sedimentation controls required by the Order can constitute a violation of the Order, and can result in enforcement actions and fines from the Commission and possibly other regulatory agencies.

51. (stockpile of ECs) An adequate stockpile of erosion control materials shall be on site at all times for routine and emergency replacement and shall include materials to repair or replace silt fences, straw bales, erosion control blankets, riprap, filter berms or other devices planned for use during construction.

52. (stockpile of ECs) A minimum of 200 linear feet of both silt fencing and straw bales shall be stored on site to be used for replacement and/or emergency use.

53. (avoid heavy rain) Site grading and construction shall be scheduled to avoid periods of heavy rainfall and periods of high surface water.

54. (EC inspection) It is the responsibility of the applicant to ensure that erosion controls are inspected after every rainfall, to assure that maximum control has been provided and to repair and replace them, as necessary. The applicant shall also remove any sediments that accumulate at the erosion control line and shall properly dispose of those sediments outside all jurisdictional areas.

55. (fix erosion) The applicant shall immediately control or correct any erosion problems that occur at the site and shall also immediately notify the Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary.

56. (site in stable condition) The areas of construction shall remain in a stable condition at the close of each construction day. Erosion control measures shall be inspected at this time and maintained or reinforced · as necessary. All such devices shall be inspected, cleaned or replaced during construction and shall remain in place until such time as stabilization of all areas that may impact resource areas is permanent. These devices shall also be inspected to assure that the maximum control has been provided. Any entrapped silt shall be removed to an area outside the buffer zone and resource areas and maintained or reinforced, as necessary. **EROSION AND SEDIMENTATION CONTROLS SHALL BE CONTINUALLY MONITORED TO ENSURE PROPER OPERATION.•**

57. (siltsacks in catch basins) Siltsacks shall be used and maintained in any catch basin where construction is taking place, until the site is stable. Accumulated sediment in the siltsacks shall be removed as it accumulates.

58. (cleaning catch basins) All catch basin sumps which eventually discharge into a resource area shall be cleaned at a frequency insuring that sediment buildup does not exceed 50% of basin capacity, as measured from the bottom of the sump to the lowest invert elevation of any outflow pipe, or at the request of the Commission or its Coordinator.

59. (grease traps) All catch basins shall contain oil/grease traps. These traps shall be cleaned routinely, but at least once every six months. The applicant, his successors, or assigns, shall

have the continuing responsibility of this maintenance and shall forward a written statement or copy of maintenance log confirming compliance to the Commission annually.

JV. STORMWATER REQUIREMENTS

60. (stormwater structures) All detention/retention and stormwater basins and/or structures shall be built and maintained according to the specifications as referenced in the Notice of Intent and/or Plans and supplemental documents as presented to the Commission. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

61. (stormwater requirements) All construction and post-construction stormwater management shall be conducted in accordance with the Order, the Plan and supplemental documents submitted with the Notice of Intent and with the Department of Environmental Protection's Stormwater Management Policy.

62. (street sweeping) During construction street sweeping shall occur as needed and shall continue after completion of the project at least every six months and/or when requested by the Commission or its Coordinator.

63. (construction entrance) In accordance with Federal and State Stormwater requirements, all project sites shall incorporate trap rock at all construction entrances and shall maintain either a 25 foot undisturbed buffer of vegetation or a sedimentation/silt fence barrier between the work site and any public roads, or neighboring properties to prevent erosion and sedimentation from being carried off site.

64. (deed restriction for lots containing stormwater structures) This special condition pertains to Lot(s) _____. This lot has stormwater management structures on the property. A deed restriction shall be prepared by your legal representative, included in the deed for each lot and submitted to the Commission for approval prior to the conveyance of a deed from the applicant to any entity. The deed restriction shall include the following language:
    a. *Reference to and a copy of the as-built plans of the parcel that identifies proposed structures, property lines, permanent markers, and resource areas.*
    b. *Prohibition of mowing, clearing, dumping, or composting in areas beyond the permanent markers except to the extent that is required to maintain drainage structures.*
    c. *Maintenance of the stormwater structures shall be the responsibility of the property owner of record. The maintenance of the grassed swales and detention basin shall include mowing at least twice a year, after July 15th and in the fall. Grass shall not be cut lower than 4" in height and grass clippings shall be removed and disposed of properly. The maintenance of the stormwater structures shall also include periodic removal of .debris, leaves, and excess sediment accumulations that shall be properly disposed of*
    d. *Subject to a Storm Drain Easement as shown on said Plans.*
    e. *The applicant and its successors and/or assigns agree the failure to repair and/or maintain the grassed swales, detention basins, and stormwater management structures shall be irreparable harm to the*

public and the owners of the property in the area. A court shall be authorized to enter equitable relief by way of an injunction requiring the owners to repair and maintain the same, if after notice from the Town to do so, the owner fails and/or refuses to maintain and/or repair the storm drainage easement, stormwater structures detention basins, or grassed swales, as required by these restrictions.

f. *The failure of any party to enforce any restrictions or provisions hereof shall not be deemed a waiver of the right to do so thereafter as to the same breach or to one occurring subsequent thereto.*

g. *The restrictions contained herein shall remain in effect and be enforceable forever, unless modified by a Subsequent Order of Conditions issued by the appropriate legal authority and imposed on said land or a portion thereof by the fee simple owner.*

V. ENVIRONMENTAL MONITOR REQUIREMENT:

65. (monitor approval) **Prior to initiation of any work,** and throughout the life of the project, the applicant shall designate and retain a qualified wetland specialist/environmental consultant. Such consultant shall have at least 5 years experience in wetlands and compliance with the Act, and is subject to approval by the Commission. ***No work shall begin until such consultant is approved by the Commission.***

66. (monitor contact information) **Prior to initiation of any work,** the name, work phone and cell phone number of such consultant shall be provided to the Commission so that in the event of any emergency at the site this person can be contacted.

67. (monitor responsibilities) Such environmental consultant shall directly and visually supervise on-site operations as necessary and oversee any emergency placement of controls and/or regulate inspection or replacement of erosion and sedimentation control devices, and any wetland replication if applicable. Said environmental consultant shall keep a weekly/monthly written log of compliance with the Order, and shall make weekly/monthly written reports to the Commission. Reports shall also be furnished to the Commission upon request of the Commission. The monitor shall be given full access and authority to:
    a. inspect all erosion control measures and current construction activities and oversee the cleaning and the proper disposal of waste products;
    b. submit weekly/monthly reports (or when otherwise requested by the Commission) during construction (via e-mail, facsimile, or regular mail) to the Commission regarding site conditions, ongoing and future work, and any erosion or sedimentation problems and their resolution; and
    c. is fully authorized to stop construction for erosion control correction or other wetlands protection jurisdictional issues.

68. (monitor authority) The applicant and all other parties subject to the Order shall comply with all orders and instructions of the environmental monitor, including orders to cease all activity within the Commission's jurisdiction when non-compliance with the Order is observed. The applicant and all other parties subject to the Order shall not resume activity until such time as the Commission has authorized the resumption of activity, which authorization may be written or verbal, direct or through the environmental monitor.

VI. DEWATERING PROCEDURES:

69. (dewatering monitor) All project dewatering shall be conducted under the supervision of an environmental control monitor. Unless an environmental monitor is required elsewhere under this Order, the dewatering monitor shall have at least 5 years experience in wetlands and compliance with the Act, and is subject to approval by the Commission.

70. (dewatering) Dewatering activities shall be conducted as shown on the approved Plans and shall be monitored daily to ensure that sediment-laden water is appropriately settled prior to discharge toward the wetland resource areas. No discharge of water is allowed directly into an area subject to jurisdiction of the Act or Ordinance. If emergency dewatering requirements arise, the applicant shall submit a contingency plan to the Commission for approval, which provides for the pumped water to be contained in a settling basin, to reduce turbidity prior to discharge into a resource area.

71. (discharge prohibition) The Order specifically prohibits the discharge of untreated water into, upon, across or over any resource areas and/or buffer zones. Upstream surface water routed around the construction sites shall be reintroduced downstream of the construction sites and directly into the main channel of the brook/stream/river. Said discharge shall occur onto temporary stone pads place upon the substrate of said channel. Any free water removed from the construction sites shall be routed through a mobile weir tank or its equivalent, as approved by the Commission. Final discharge of free water from the construction sites shall occur into a temporary "sedimentation basin" within an upland area as approved by the Commission.

VII. DREDGING:

72. (Army Corps PGP) All dredging shall be conducted in accordance with seasonal limitation imposed by the U.S. Army Corps of Engineers in accordance with Section 404 of the Clean Water Act and provisions of the Programmatic General Permit. This restriction may include, but not be limited to, spawning periods between March 15 and June 15.

73. (use of equipment) Only mechanical dredging with the use of [equipment type] is authorized by the Order. No hydraulic or pneumatic equipment shall be used for the removal of dredged material.

74. (location of equipment) All dredging operations shall be conducted from upland areas or from water home equipment.

75. (dredging rig size) The removal of dredged material shall be accomplished through the use of a large size dredging rig in order to minimize the number of bucket trips required to complete the project.

76. (spoils) All dredge spoils shall be dewatered and disposed of outside all jurisdictional areas at an upland location, or as indicated on the approved Plans.

77. (use of ECs) A siltation fence, straw bales and drainage ditch system shall be installed at the dewatering area to ensure that no materials from the dewatering area will enter any resource areas.

78. (non-impediment to fish) The removal of material from the river bottom shall be done in such a manner as to ensure that the reconfigured bottom area will not impede or obstruct fish migration, or interfere with the natural flow of water.

79. (no vehicles) No vehicular traffic shall enter into any wetland resource area.

80. (hand removal) For small ditches and streams work shall be done using hand shovels or small backhoes. No other machinery shall enter the resource area.

VIII. WETLAND REPLICATION:

81. (replication monitor) **Prior to the construction of the replication,** unless an environmental monitor is required elsewhere under this Order, the applicant shall furnish the name of the person responsible to supervise and monitor the replication to the Commission for approval. The replication monitor shall have at least 5 years' experience in wetlands, compliance with the Act, wetland replication, wetland hydrology and a working knowledge of botany. Such a person shall be retained to supervise and monitor construction of the wetland replication areas until the replication area meets the requirements of the Order.

82. (growing seasons) Unless otherwise specified in the Order, the wetland replication shall be performed in accordance with the Notice of Intent, the Plans, and any supplemental documents. The Commission reserves the right to require additional plantings to ensure achievement of 75% cover of wetland plant species within two full growing seasons, as specified in 310 CMR I 0.55(4)(b). As listed in the Department of Environmental Protection's Massachusetts Inland Wetland Replication Guidelines March 2002, the growing season for Berkshire County is from April 6th to October 27th. Thus, two growing seasons will always include at least two calendar years.

IX. UPON COMPLETION OF CONSTRUCTION:

83. (permanent stabilization) Within 30 days of final grading, (or within 30 calendar days after the commencement of the following growing season if the project is completed after October 31st), all disturbed areas shall be permanently stabilized with rapidly growing cover and a minimum of 4 to 6 inches or organic topsoil, if necessary and a USDA, Natural Resources Conservation Service-approved native seed mixture should be used in accordance with the measures outlined in "Vegetative Practices in Site Development: Massachusetts Conservation Guide, Volume II," or other acceptable stabilization method to assure long- term stabilization of disturbed areas. Maintenance of these areas shall be in a manner that assures permanent stabilization and precludes any soil erosion and shall be the responsibility of the owner of record of the property or the responsibility of the applicant. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

84. Only upon completion of the project, when all soils are permanently stabilized and with approval by the Commission or its Coordinator shall all erosion controls be removed.

85. (COC requirements) Upon completion of construction and final soil stabilization, the applicant shall submit the following to the Conservation Commission to request a Certificate of Compliance (COC):
    - A Completed Request for a Certificate of Compliance form (WPA Form 8A).
    - *IF* the project has any stormwater structure(s) requiring routine cleaning and/or maintenance, the applicant or current owner shall submit a signed agreement between the applicant or current owner and a company who has been contracted to clean and maintain such structures on the project.
    - As-Built plans signed and stamped by a registered professional engineer, architect, landscape architect or land surveyor and a written statement from such professional certifying substantial compliance with the Plans and describing what deviation, if any, exists from the Plans approved in the Order. This plan shall include at a minimum:
        - o All wetland resource area boundaries with associated buffer zones and regulatory setback areas taken from the plan(s) approved in the Order;
        - o Locations and elevations of all stormwater management conveyances, structures, and best management designs, including foundation drains, constructed under the Order within any wetland resource area or buffer zone;
        - o Distances from any structures constructed under the Order to wetland resource areas - "structures" include, but are not limited to, all buildings, septic system components, wells, utility lines, fences, retaining walls, and roads/driveways;
        - o A line delineating the limit of work - "work" includes any filling, excavating and/or disturbance of soils or vegetation approved under the Order;
        - o Wetland resource replication areas constructed under the Order.

X. THE FUTURE OF THESE ORDERS:

86. (future buyer) A copy of the Order shall be provided to any future buyer of the property.

87. *JF* the project has any stormwater structure(s) requiring routine cleaning and/or maintenance, the applicant or current owner shall annually submit bill(s) from the company who has been contracted to clean and maintain such structures on the project. This condition is ongoing ***and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

88. {O&M Plan) The applicant shall take full legal responsibility for implementation of the Operation and Management Plan (O&M Plan), as submitted within the Notice of Intent, until such time as another party or entity exerts legal responsibility and the Commission is notified in writing and of such a transfer. Upon this transfer of responsibility, that party shall maintain all stormwater structures within the Commission's jurisdiction. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

89. (conditions in perpetuity) The following conditions will remain in force in perpetuity and not extinguished by the issuance of a Certificate of Compliance:

THE FOLLOWING CONDITION IS ONLY APPLICABLE UNDER THE TOWN OF XXXXXXX WETLAND PROTECTION BYLAW #xxxx:

90. (cash bond) A cash bond, deposited in a savings **with XXXXXX Bank only,** an account payable to the Town of X:XXXXXX, shall be provided in the amount of _____ ,which shall be posted with the Treasure of the Town of XXXXXXX before commencement of work. Said bond shall be conditioned on the completion of all conditions hereof, shall be signed by a party or parties satisfactory to the XXXXXXX Conservation Commission. Bond release shall be contingent on requesting and receiving a Certificate of Compliance, provided that provisions satisfactory to the Commission have been made for any conditions in perpetuity. A copy of the deed is needed when requesting bond release.

Order of Conditions/ Performance Bond Information Requested

Instructions: Fill in your project information below (PLEASE PRINT) and bring this Performance Bond Information Request with you when you post your performance bond.

Date: _____

DEP File Number: _____

Developer: _____

Home Address: _____

_____

Project Location: _____

Social Security Number (For Individual Projects): _____

Federal Identification Number (For Corporate Projects): _____

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 248+49 TO STA 255+00, OFFSET RT
PROP GUARDRAIL, TL-3 (SINGLE FACED) (ITEM 620.13), STA 255+00 TO STA 257+50, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 257+50 TO STA 263+12, OFFSET RT
PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 253+12 TO STA 253+50, OFFSET LT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 253+50 TO STA 261+29, OFFSET LT
PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 261+29 TO STA 261+67, OFFSET LT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

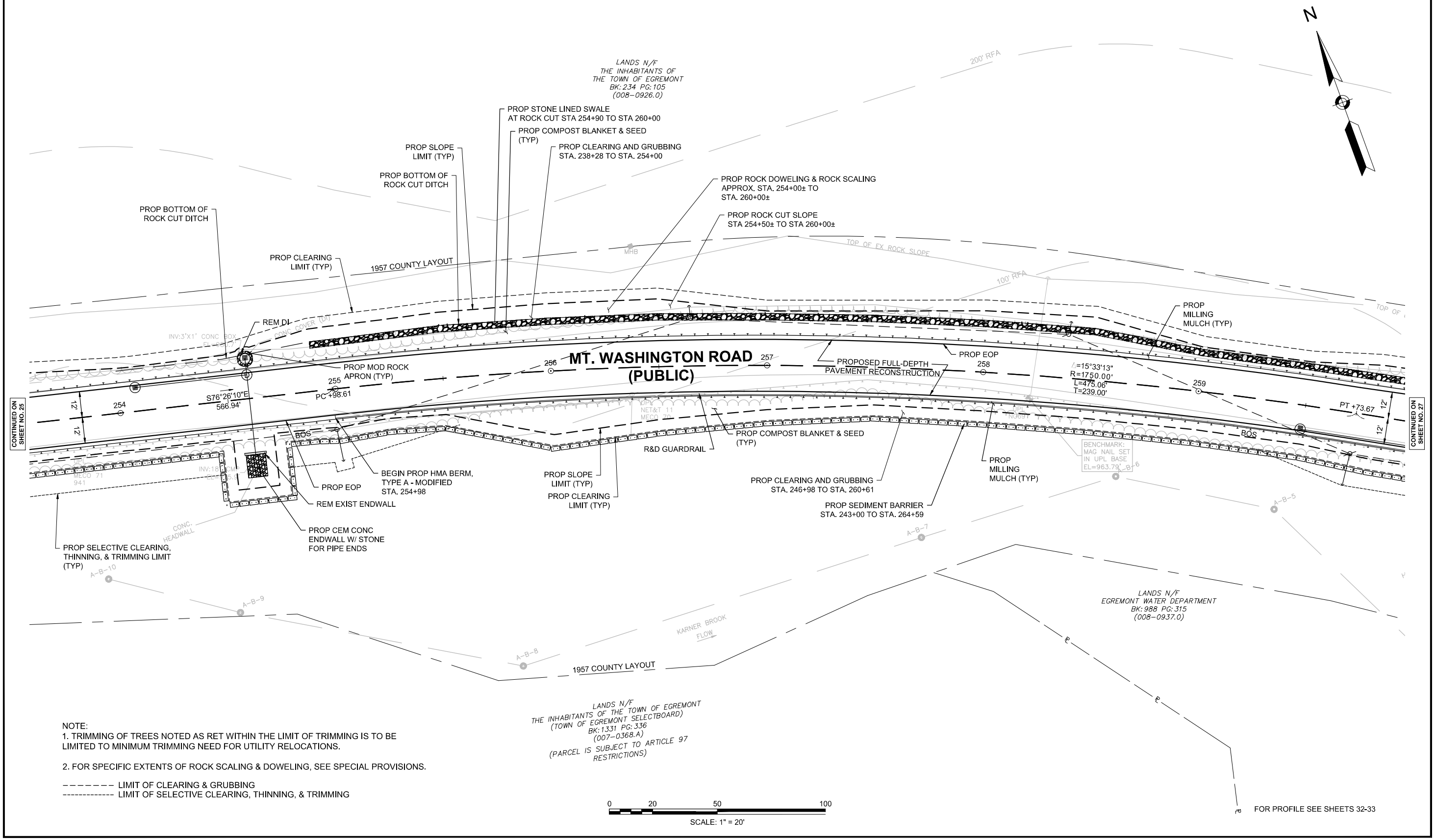
SEE SHEET 84

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	26	219
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 11

608547_HD(CP).DWG Plotted on 19-Jun-2025 9:40 AM



NOTE:
1. TRIMMING OF TREES NOTED AS RET WITHIN THE LIMIT OF TRIMMING IS TO BE LIMITED TO MINIMUM TRIMMING NEED FOR UTILITY RELOCATIONS.

2. FOR SPECIFIC EXTENTS OF ROCK SCALING & DOWELING, SEE SPECIAL PROVISIONS.

– – – – – – – – LIMIT OF CLEARING & GRUBBING
---------- LIMIT OF SELECTIVE CLEARING, THINNING, & TRIMMING

0 20 50 100
SCALE: 1" = 20'

A008610 - 63

HIGHWAY GUARD DETAILS

PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 257+50 TO STA 263+12, OFFSET RT
PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 263+12 TO STA 263+50, OFFSET RT
PROP GUARDRAIL, DEEP POST (SINGLE FACED) (ITEM 620.131), STA 258+13 TO STA 261+29, OFFSET LT
PROP GUARDRAIL TANGENT END TREATMENT, TL-3 (ITEM 627.83), STA 261+29 TO STA 261+67, OFFSET LT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

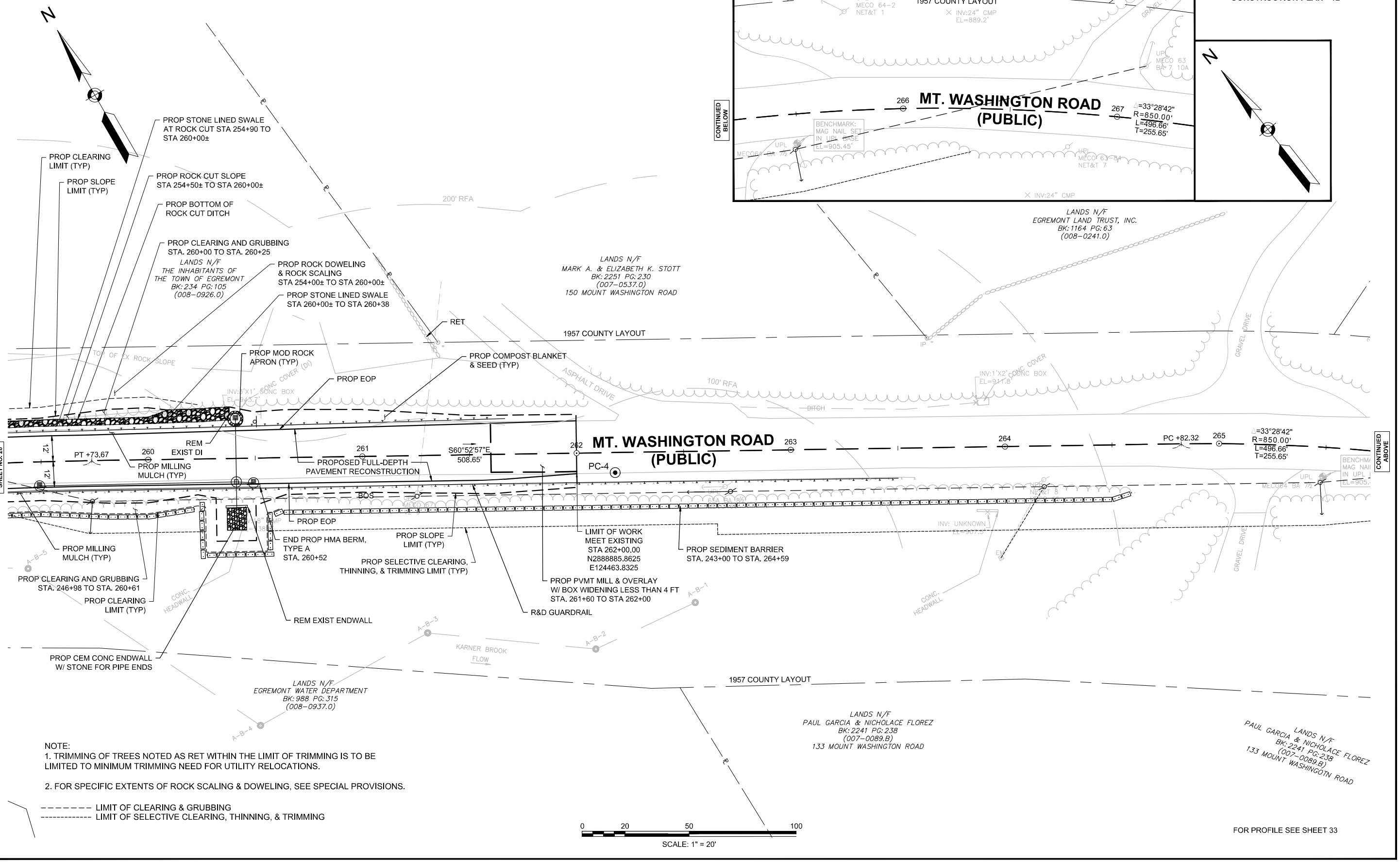
DRAINAGE DETAILS

SEE SHEET 85

EGREMONT
MOUNT WASHINGTON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	27	219
PROJECT FILE NO.	608547		

CONSTRUCTION PLAN - 12



NOTE:
1. TRIMMING OF TREES NOTED AS RET WITHIN THE LIMIT OF TRIMMING IS TO BE LIMITED TO MINIMUM TRIMMING NEED FOR UTILITY RELOCATIONS.

2. FOR SPECIFIC EXTENTS OF ROCK SCALING & DOWELING, SEE SPECIAL PROVISIONS.

– – – – – – – – LIMIT OF CLEARING & GRUBBING
---------- LIMIT OF SELECTIVE CLEARING, THINNING, & TRIMMING

FOR PROFILE SEE SHEET 33

608547_HD(CP).DWG Plotted on 19-Jun-2025 9:41 AM

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 - Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:153-0240
eDEP Transaction #:1917815
City/Town:EGREMONT

A. General Information

1. Conservation Commission: EGREMONT
2. Issuance: a. ☐ OOC b. ☑ Amended OOC
3. Applicant Details
   a. First Name: b. Last Name:
   c. Organization: TOWN OF EGREMONT
   d. Mailing Address: 171 EGREMONT PLAIN ROAD (ROUTE 71)
   e. City/Town: EGREMONT f. State: MA g. Zip Code: 01258
4. Property Owner
   a. First Name: b. Last Name:
   c. Organization: TOWN OF EGREMONT
   d. Mailing Address: 171 EGREMONT PLAIN ROAD (ROUTE 71)
   e. City/Town: EGREMONT f. State: MA g. Zip Code: 01258
5. Project Location

a.Street Address	MT. WASHINGTON ROAD		
b.City/Town	EGREMONT	c. Zip Code	01258
d. Assessors Map/Plat#	N/A	e. Parcel/Lot#	N/A
f. Latitude	42.16010N	g. Longitude	73.47127W

6. Property recorded at the Registry of Deed for:

a. County	b. Certificate	c. Book	d. Page

7.Dates

a. Date NOI Filed : 6/5/2024 b. Date Public Hearing Closed: 7/24/2025 c. Date Of Issuance: 7/26/2025

8.Final Approved Plans and Other Documents

a. Plan Title:	b. Plan Prepared by:	c. Plan Signed/Stamped by:	d. Revised Final Date:	e. Scale:
EGREMONT, MA-MOUNT WASHINGTON ROAD (608547) CONSTRUCTION PLAN	CHA	JOHN G. MORGAN JR.	May 2024	1"=20'
UPDATED EGREMONT, MA MOUNT WASHINGTON ROAD (608547) CONSTRUCTION PLAN	CHA	JOHN G. MORGAN JR.	July 2025	1"=20'

B. Findings

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 - Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:153-0240
eDEP Transaction #:1917815
City/Town:EGREMONT

1.Findings pursuant to the Massachusetts Wetlands Protection Act
Following the review of the the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act.

Check all that apply:

a. ☑ Public Water Supply	b. ☐ Land Containing Shellfish	c. ☑ Prevention of Pollution
d. ☑ Private Water Supply	e. ☑ Fisheries	f. ☑ Protection of Wildlife Habitat
g. ☑ Ground Water Supply	h. ☑ Storm Damage Prevention	i. ☑ Flood Control

2. Commission hereby finds the project, as proposed, is:

Approved subject to:

a. ☑ The following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

Denied because:

b. ☐ The proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**

c. ☐ The information submitted by the applicant is not sufficient to describe the site, the work or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the interests of the Act , and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**

3. ☐ Buffer Zone Impacts:Shortest distance between limit of project disturbance and the wetland resource area specified in 310CMR10.02(1)(a). _____ a. linear feet

Inland Resource Area Impacts:(For Approvals Only):

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☑ Bank	32.87 a. linear feet	_____ b. linear feet	32.87 c. linear feet	_____ d. linear feet
5. ☐ Bordering Vegetated Wetland	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
6. ☐ Land under Waterbodies and Waterways	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet

Massachusetts Department of Environmental Protection
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Provided by MassDEP:
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eDEP Transaction #:1917815
City/Town:EGREMONT

	e. c/y dredged	f. c/y dredged		
7.☐ Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8.☐ Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9.☑ Riverfront Area	107964 a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet

Coastal Resource Area Impacts:

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10.☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11.☐ Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12.☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13.☐ Coastal Beaches	a. square feet	b. square feet	c. c/y nourishment	d. c/y nourishment
14.☐ Coastal Dunes	a. square feet	b. square feet	c. c/y nourishment	d. c/y nourishment
15.☐ Coastal Banks	a. linear feet	b. linear feet		
16.☐ Rocky Intertidal Shores	a. square feet	b. square feet		
17.☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18.☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19.☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet

Massachusetts Department of Environmental Protection
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Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
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City/Town:EGREMONT

20.☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above _____ _____ c. c/y dredged d. c/y dredged
21.☐ Land Subject to Coastal Storm Flowage	_____ _____ a. square feet b. square feet

22.

☐ Restoration/Enhancement (For Approvals Only)

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c & d or B.17.c & d above, please entered the additional amount here.

_____ _____
a. square feet of BVW b. square feet of Salt Marsh

23.

☐ Streams Crossing(s)

If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossings.

_____ _____
a. number of new stream crossings b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
   a. the work is a maintenance dredging project as provided for in the Act; or
   b. the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not exceed the issuance date of the original Final Order of Conditions.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.

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Bureau of Resource Protection - Wetlands
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Provided by MassDEP:
MassDEP File #:153-0240
eDEP Transaction #:1917815
City/Town:EGREMONT

9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work..
10. A sign shall be displayed at the site not less then two square feet or more than three square feet in size bearing the words,

" Massachusetts Department of Environmental Protection"
[or 'MassDEP"]
File Number :"153-0240"

11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before Mass DEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.
17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

NOTICE OF STORMWATER CONTROL AND MAINTENANCE REQUIREMENTS

19. The work associated with this Order(the "Project") is (1) ☑ is not (2)☐ subject to the Massachusetts Stormwater Standards. If the work is subject to Stormwater Standards, then the project is subject to the following conditions;

a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollutant Discharge Elimination System Construction General Permit as required by Stormwater Standard 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain

in place until the site is fully stabilized.

b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that: *i.* all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures; *ii.*. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized; *iii.* any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10; *iv.* all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition; *v.* any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 19(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following: i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollutant Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 19(f) through 19(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 19(f) through 19(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.

g) The responsible party shall:

1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and

3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.

h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.

i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.

j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.

k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.

l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions:

1. SELECTBOARD DETERMINATION WITH RESPECT TO SHADE TREE REPLACEMENT WHERE THEY WILL BE LOCATED. 2. OBTAIN A LICENSED CERTIFIED PERSON TO REMOVE INVASIVE SPECIES FOR ANY HERBICIDE TREATMENT.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 - Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:153-0240
eDEP Transaction #:1917815
City/Town:EGREMONT

D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? ☐ Yes ☑ No

2. The Conservation Commission hereby(check one that applies):

a. ☐ DENIES the proposed work which cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw specifically:

1. Municipal Ordinance or Bylaw _____ 2. Citation _____

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order or Conditions is issued. Which are necessary to comply with a municipal ordinance or bylaw:

b. ☐ APPROVES the proposed work, subject to the following additional conditions.

1. Municipal Ordinance or Bylaw _____ 2. Citation _____

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 - Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:153-0240
eDEP Transaction #:1917815
City/Town:EGREMONT

subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

EGREMONT
Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

EGREMONT
Conservation Commission

Please be advised that the Order of Conditions for the Project at:

MT. WASHINGTON ROAD — Project Location
153-0240 — MassDEP File Number

Has been recorded at the Registry of Deeds of:

County — Book — Page

for:

Property Owner

and has been noted in the chain of title of the affected property in:

Book — Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

Rev. 4/1/2010

Standard Conditions
DEP File# 153-0240

I. GENERAL:

1. In case of emergencies, problems, or the need to discuss site conditions with the Conservation Commission, please contact the Commission during business hours at
(413) **XXX-XXXX.**

2. The term "**Act**" as used in the Order of Conditions (hereinafter the "Order"), shall refer to the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131, Section 40) and Massachusetts Wetlands Regulations (310CMR10.00).

3. The term "**Applicant**" as used in the Order shall refer to the owner, any successor in interest or successor in control of the property referenced in the Notice of Intent, supporting documents and the Order. The Order shall apply to all successors in interest and successors in control.

4. The term "**Plans**" as used in the Order shall refer to the Plans entitled EGREMONT, MA - MT WASHINGTON RD (608547 CONSTRUCTION PLAN and dated 07/09/25
The Order permits only the work as shown on the approved Plans.

5. The term "**Ordinance**" as used in the Order shall refer to the Town **of.XXXXX:XX** Wetlands Protection Bylaw **#xxxx.**

6. Members of the Commission and/or its Coordinator shall have the right to enter and inspect the premises to evaluate and ensure compliance with these conditions and performance standards as stated in the Order, the Act, and/or the Ordinance, and may require additional information, measurements, photographs, observations and/or materials or submittal of data or information deemed necessary by the Commission for that evaluation.
THE MASS DOT WILL COORDINATE WITH EGRE. CONCOM PRIOR TO SITE VIST.

7. The Commission reserves the right to impose additional conditions on any portion of this project that causes impact to any area of jurisdiction under the Act or the Ordinance.

8. Erosion control devices shall not block passage between uplands and vernal pools between the dates of March 1 and July 30. Where erosion controls have been placed in areas between uplands and vernal pools, exposed soils are to be stabilized, and silt fencing or other devices that could block migration of amphibians to and from the pools is to be removed, no later than March 1 if construction has been occurring during the winter. If soils are not be stabilized by March 1, temporary stabilization measures shall be approved by the Commission.

9. Unless otherwise specified in the Notice of Intent and/or accompanying plans, all plantings and seed mixes shall consist of native species only, shall emphasize the natural flora and be of proven value to local wildlife. All plantings and seeding shall be watered as necessary to ensure growth.

10. It is the responsibility of the applicant to complete any review required by all agencies with jurisdiction over the activity that is the subject of the Order, and to procure all required permits or approvals. These reviews, permits and approvals may include but are not limited to the following:

    Review by the U.S. Anny Corps of Engineers for any Category 2 or Individual Permit Activity, and procurement of any permits or approvals identified by the Corps.

    Review by the Department of Environmental Protection (the "DEP") and procurement of any permits or approvals identified by the DEP.

    Review by the Massachusetts Natural Heritage and Endangered Species Program for any projects within estimated and/or priority habitat and any permits or approvals identified by the program.

    Review by local planning boards, boards of health, zoning boards, and building inspectors, and procurement of any permits or approvals required by these boards or agencies.

11. Delineation flags and/or markers shall not be moved and/or removed and shall remain until a Certificate of Compliance is issued. SHALL NOT BE INTENTIONALLY

12. Erosion control measures shall not be removed and shall remain intact until removal is approved by the Commission and/or the Coordinator. The sediment collected by these devices shall be removed and placed at an upland location and in a manner that will prevent its later erosion to any resource area.

13. Unless another limit of work line has been noted on the Plans and approved by the Commission, the geotextile/sedimentation/siltation barriers shall constitute a limit of-work. *Under no circumstances is an work allowed to take lace on the down rradient side the wetland/resourceside) of the limit of work. This includes stockpiling of any and all materials, vegetation waste and extra erosion controls.*

14. At no time shall sediments be allowed to flow into or accumulate in any wetland or resource area on or off the property.

15. Any material placed in any resource area without specific authorization under the Order shall be removed immediately upon demand of the Conservation Commission or its Coordinator. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.*** Activities prohibited within any resource area and their buffer zones:

    - operation of equipment, storage of materials, stockpiling of soil, or other site disturbance;
    - stockpiling of debris, aggregate, fill, excavated material, construction material and building material; it shall also be stockpiled far enough away to prevent sediment from entering any wetland resource area;

COMMISSION ACCEPTS THAT MOWING DOES NOT CONSTITUTE DUMPING

- burying or disposal of debris or any other materials, other than that fill which may be allowed by the Order and as shown on the approved Plans herein;
  underground storage of fuel or other hazardous substances;
- dumping of leaves, grass clippings, brush, stumps, construction and yard debris or materials of any kind, unless expressly permitted by the Order or the Plans approved herein; refueling, servicing, and repair of motorized construction vehicles. Equipment operators shall be prepared to immediately respond to accidental releases of fuel, motor oil, and other liquids through containment. If any release of fuel, motor oil, lubricating oils, etc. occurs, the applicant and other responsible parties, in addition to all obligations under GL c. 21E (Massachusetts Oil and Hazardous Material Release Prevention and Response Act) and the Massachusetts Contingency Plan (MCP), shall immediately notify the Department of Environmental Protection's Western Regional Office at 1- 413-784-11 00. Any response action or cleanup shall be conducted pursuant to GL c. 21E and the MCP.
- use of pesticides, herbicides, fungicides, fertilizers, or any other chemicals. Organic pesticides, herbicides, fungicides, and fertilizers may be used subject to the review and approval of the Conservation Commission.
- use of de-icing chemicals (e.g., sodium, potassium, and calcium chloride) on driveways located in wetland resource areas and buffer zones. Optional: an environmentally friendly material as approved by the Commission may be used.

THE COMMISSION HAS THE RIGHT TO REVIEW THE WORK INVOLVING HERBICIDES. NOTIFICATION OF USE SHALL BE REQUIRED

CONCOM ACKNOWLEDGES NECESSARY USE OF DE-ICING MATERIALS ON ROADWAYS

16. The Order shall be included with all construction-related documents. All contractors working at the site shall be made aware of the provisions contained within the Order and adhere to all Special Conditions herein. At all times, the site supervisor, supervision engineer or construction manager shall have a copy of the Order at the site and direct compliance with the requirements of the Order.

17. The Order authorizes only the activity described on the approved Plans and approved documents referenced in the Order. No future work of any kind, including but not limited to site grading, clearing, or cutting of vegetation, installation of fences, storage shed, yard or garden sheds, above-ground or in-ground swimming pools and related buildings, or any other structure not specifically addressed by this filing shall be allowed beyond the limit of work line as shown on the approved Plans.

18. Any changes made to the approved Plans, unless otherwise specified in the Order, Which will alter an area subject to protection under the Act or Ordinance, shall require applicant to inquire of the Commission, in writing, whether the change is significant enough to require the filing of a new Notice of Intent or an Amendment .

19. The applicant and any person involved in the activity that is the subject of the Order shall notify the Commission or its Coordinator immediately upon discovery of any matter related to the Order that may affect any area within the jurisdiction of the Commission.

20. Whether from on-site or off-site, any fil) used in connection with this project shall be clean granular material essentially free of masonry, stumps, frozen clumps of earth, wood, tree branches, trash, and waste material.

21. Any water released as a result of this project shall make use of a temporary stilling/detention pond or similar method to remove sediment prior to release from the site.

22. In the event that this property/project is sold or conveyed, the new owner(s) shall meet with the Conservation Commission or its Coordinator prior to commencing or continuing any work permitted by this order.

PRIOR TO CONSTRUCTION:

23. (deed recording) **Prior to the initiation of any work,** the applicant shall submit to the Commission a receipt from the Berkshire County Registry of Deeds of the recording of the Order.

24. (deed restriction language) **Prior to the initiation of any work,** the applicant shall submit proof to the Commission that parcels abutting or containing wetland or resource areas as identified on the Plans have the following restrictions, and a covenant so noted on each deed. See attached Declaration of Restrictions document to be recorded at the Registry of Deeds.

25. (wildlife habitat deed language) **Prior to initiation of any work,** Parcels that have altered land significant to the protection of wildlife habitat as shown on the Plans shall record and submit proof to the Commission the following as a covenant on the deed. See attached Declaration of Restrictions document to be recorded at the Registry of Deeds.

26. (applicant letter of understanding) **Prior to the initiation of any work,** the applicant shall submit a letter of understanding to the Commission stating that he/she has received, read, understand, and shall comply with the Order.

27. (contractor letter of understanding) **Prior to the initiation of any work,** the contractor, site supervisor and/or construction manager shall submit a letter of understanding to the Commission stating that they have received, read, understand, and shall comply with the Order.

28. (excavator copy of OOC) **Prior to the commencement of any earth moving activities,** whoever shall be employed to execute earth-moving activities must be provided a copy of the Order. Thereafter, they may be held responsible with the applicant and property owner for violations, and may be subject to penalties authorized by law and/or regulation for those violations.

29. (construction sequence) **Prior to the initiation of any work,** the applicant shall submit to the Commission for approval a construction sequence including erosion and sedimentation control installation, the construction of compensatory storage, all permanent and temporary detention/retention

basins/areas, any replication areas and revegetation areas to be completed with supporting plans and details as appropriate.

30.(EC's) **Prior to the initiation of any work,** unless otherwise agreed upon by the applicant and Commission or its Coordinator, all erosion control measures shall be constructed and installed as shown on the approved Plans. The erosion control specifications provided in the Notice of Intent and the erosion control provision in the Order will be the minimum standards for this project; additional measures may be required. ***No work shall begin until the Commission has inspected and approved of all erosion controls.***

31. (pre-construction meeting) **Prior to the initiation of any work,** a pre-construction meeting shall be held (other than of an emergency nature) between the Commission
31. and/or its Coordinator and the applicant and his/her environmental consultant, contractor, site supervisor or construction manager. The applicant shall notify the Commission in writing the week before the desired meeting in order to arrange for a mutually agreed upon time and date. Prior to the agreed meeting date and time, all erosion control measures shall be installed as shown on the approved Plans unless otherwise agreed upon by the applicant and Commission.

32.(emergency contact information) **Prior to initiation of any work,** emergency contact phone numbers, including cell phone numbers of the applicant, their environmental consultant, contractor, site supervisor and construction manager shall be furnished to the Commission.

33.(48 hours notice) **Prior to initiation of any work,** if a pre-construction meeting is deemed unnecessary, the applicant shall give the Commission at least forty-eight (48) hours weekday notice after the erosion control measures are in place to allow the Commission to inspect and approve of such measures. ***No work shall begin until the Commission has inspected and approved of all erosion controls.***

34.(submit Title V) Prior to the initiation of any work, ~~as per 310 CMR Part 1~~ sec. 15.02 (5), the applicant ~~shall submit~~ to the Commission proof of Title V compliance.

35.(water quality cert) Prior to the initiation of any work, as per 314 CMR 9.00, the applicant shall submit to the Commission ~~proof of Water Quality Certification~~ compliance.

36.(permanent markers) Prior to the initiation of any work, applicant shall mark ~~the~~ line of no disturbance by the installation of permanent markers as shown on the Plans that shall consist of: (pick one from the following):

a. Cement permanent markers, ~~not~~ less than 4" X 4", shall be submerged below the ~~frost~~ line and at be at least 6" above ground level, ~~painted~~ orange or other bright color. Such markers shall be ~~located~~ as referenced on the Plans and shall be placed no less than every 50' or at every change in direction.

b. Large (1,000 lb. or greater in size) boulders shall be placed as referenced on the Plans and shall be placed no less than every 50' or at every change in direction..

37. (temporary basins) **Before the beginning of other site work,** temporary retention/detention basins shall be constructed in order to trap and detain water and sediments. CONTRACTOR TO SPECIFY ALTERNATE MEANS & NOTIFY CONCOM

II. **DURING CONSTRUCTION:**

38. (tagged trees) Only trees tagged and approved by the Commission shall be removed. All limbs, branches, slash, and deadwood shall be removed from the area of statutory interest.

39. (run-oft) Grading shall be accomplished so that runoff shall not be directed towards the property of others. This project shall not increase runoff, nor cause flood or storm damage, to abutters or the property of others.
SHOULDER GRADING IS PERMITTED.

40. (permanent basins) All permanent retention/detention basins shall be constructed to the specifications as shown on the approved Plans. Outlet pipes will not be installed (or functional) until the detention basin and site grading is completed. The basins shall be cleaned out prior to installation (or opening) of the outlet pipe. Excess sediment deposited in the basins during construction shall be removed when all exposed surfaces have been satisfactorily stabilized and prior to installing topsoil and planting the proposed vegetation within the basins. Sediments removed shall be placed at an upland location, in a manner that will prevent its later erosion in a waterway or wetland.

41. (protection of stockpiled materials) No disturbed areas or stockpiled materials shall be left unprotected or without sufficient erosion controls to ensure such materials will not cause any impacts to any wetland.

42. (over-winter stabilization) If construction continues into Autumn and Winter months, all disturbed areas shall be graded, loamed, and seeded prior to October 30, of each year. STABILIZATION TO THE MAXIMUM EXTENT PRACTICABLE

43. (snow removal) Unless expressly allowed elsewhere in the Order, during snow removal operations, snow shall not be piled or placed beyond the ~~limit of work~~. Road salt shall not be used on any surfaces ~~where surface~~ drainage discharges into any wetland or buffer ~~zone~~. ~~*This*~~ ***condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

44. (No Salt Zone sign) Permanent signs designating NO ~~SALT ZONE~~ shall be displayed in prominent locations, ~~easily read~~ from the road, on all approaches to ~~the site~~.

45. (liquid fertilizer) No salts or salt compounds, liquid or solid chemical lawn fertilizers, pesticides, herbicides or chemical or petroleum dust control agents shall be applied within the area of statutory interest or anywhere that the surface drainage is discharged into an area of statutory interest. Also, no petroleum or

liquid or solid chemical storage is permitted in any area of statutory interest,

46. (low flow) All work is to be done during low flow period from July I to October 1.

III. EROSION AND SEDIMENT CONTROL REQUIREMENTS:

47. (straw bales only) **Hay bales are not permitted** - because of the propensity for hay bales to spread invasive species, only straw bales ("bales") shall be used.

48. (installation of ECs) Sedimentation and erosion control measures shall be placed as shown on the approved Plans. Sedimentation and erosion control materials shall consist of:

CONCOM APPROVES USE OF NON-MESH COMPOST FILTER TUBE

a. A row of entrenched and staked siltation filter fabric fencing with one row of staked bales installed on up-gradient of the silt fencing.
b. All bales shall be weed-free, tightly against each other and shall be located no further than 12 inches from the down-gradient side of the silt fence barrier. Bales shall be bound with twine or wire, and shall be staked in place with 2 stakes per bale.
a. Siltation filter fabric fencing shall be no less than 15 inches high and shall be of sufficient porosity to pass detained water without allowing suspended sediments to pass through the fence. Excavated spoils from entrenching shall be deposited on the up-gradient side of the barrier.

49. (exposed soils) To prevent erosion, soils exposed for periods greater than two months shall be stabilized with erosion control blanket or netting, or a covering of mulch, or a temporary cover of rye or other grass. Drainage ditches shall be hydro seeded with a perennial grass mixture. Any stabilization materials such as jute netting shall be firmly anchored to prevent them from being washed from slopes by rain or flooding. Preference should be given to biodegradable materials. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

50. (ECs maintenance) All sedimentation and erosion controls shall be maintained in proper functioning condition until all disturbed areas have been stabilized with final vegetative cover or until the Commission or its Coordinator has determined that the control measures are no longer necessary. Structural failure of erosion and sedimentation controls required by the Order can constitute a violation of the Order, and can result in enforcement actions and fines from the Commission and possibly other regulatory agencies.

51. (stockpile of ECs) An adequate stockpile of erosion control materials shall be on site at all times for routine and emergency replacement and shall include materials to repair or replace silt fences, straw bales, erosion control blankets, riprap, filter berms or other devices planned for use during construction.

52. (stockpile of ECs) A minimum of 200 linear feet of both silt fencing and straw bales shall be stored on site to be used for replacement and/or emergency use.

STABILIZATION TO THE MAXIMUM EXTENT PRACTICABLE.

53.(avoid heavy rain) Site grading and construction shall be scheduled to avoid periods of heavy rainfall and periods of high surface water. REGULARLY INSPECTED AND REFRESHED AS NEEDED

54.(EC inspection) It is the responsibility of the applicant to ensure that erosion controls are inspected after every rainfall, to assure that maximum control has been provided and to repair and replace them, as necessary. The applicant shall also remove any sediments that accumulate at the erosion control line and shall properly dispose of those sediments outside all jurisdictional areas.

55.(fix erosion) The applicant shall immediately control or correct any erosion problems that occur at the site and shall also immediately notify the Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary.

56.(site in stable condition) The areas of construction shall remain in a stable condition at the close of each construction day. Erosion control measures shall be inspected at this time and maintained or reinforced as necessary. All such devices shall be inspected, cleaned or replaced during construction and shall remain in place until such time as stabilization of all areas that may impact resource areas is permanent. These devices shall also be inspected to assure that the maximum control has been provided. Any entrapped silt shall be removed to an area outside the buffer zone and resource areas and maintained or reinforced, as necessary. **EROSION AND SEDIMENTATION CONTROLS SHALL BE CONTINUALLY MONITORED TO ENSURE PROPER OPERATION.** TO THE MAXIMUM EXTENT PRACTICABLE

57.(siltsacks in catch basins) Siltsacks shall be used and maintained in any catch basin where construction is taking place, until the site is stable. Accumulated sediment in the siltsacks shall be removed as it accumulates.

58.(cleaning catch basins) All catch basin sumps which eventually discharge into a resource area shall be cleaned at a frequency insuring that sediment buildup does not exceed 50% of basin capacity, as measured from the bottom of the sump to the lowest invert elevation of any outflow pipe, or at the request of the Commission or its coordinator.

59.(grease traps) All catch basins shall contain oil/grease traps. These traps shall be cleaned routinely, but at least once every six months. The applicant, his successors, or assigns, shall have the continuing responsibility of this maintenance and shall forward a written statement or copy of maintenance log confirming compliance to the Commission annually.
SHALL APPLY TO 3 LOCATIONS ONLY

IV. STORMWATER REQUIREMENTS

60.(stormwater structures) All detention/retention and stormwater basins and/or structures shall be built and maintained according to the

specifications as referenced in the Notice of Intent and/or Plans and supplemental documents as presented to the Commission. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

61. (stormwater requirements) All construction and post-construction stormwater management shall be conducted in accordance with the Order, the Plan and supplemental documents submitted with the Notice of Intent and with the Department of Environmental Protection's Stormwater Management Policy.

62. (street sweeping) During construction street sweeping shall occur as needed and shall continue after completion of the project at least every six months and/or when requested by the Commission or its Coordinator.

63. (construction entrance) In accordance with Federal and State Stormwater requirements, all project sites shall incorporate trap rock at all construction entrances and shall maintain either a 25 foot undisturbed buffer of vegetation or a sedimentation/silt fence barrier between the work site and any public roads, or neighboring properties to prevent erosion and sedimentation from being earned off site.

64. (deed restriction for lots containing stormwater structures) This special condition pertains to Lot(s) _. This lot has stormwater management structures on the property. A deed restriction shall be prepared by your legal representative, included in the deed for each lot and submitted to the Commission for approval prior to the conveyance of a deed from the applicant to any entity. The deed restriction shall include the following language:

    a. *Reference to and a copy of the as-built plans of the parcel that identifies proposed structures, property lines, permanent markers, and resource areas.*
    b. *Prohibition of mowing, clearing, dumping, or composting in areas beyond the permanent markers except to the extent that is required to maintain drainage structures.*
    c. *Maintenance of the stormwater structures shall be the responsibility of the property owner of record. The maintenance of the grassed swales and detention basin shall include mowing at least twice a year, after July 1st and in the fall. Grass shall not be cut lower than 4" in height and grass clippings shall be Prohibition of mowing, clearing, dumping, or composting in areas beyond the permanent markers except to the extent that is required to maintain drainage structures.*
    d. *The maintenance of the stormwater structures shall also include periodic removal of .debris, leaves, and excess sediment accumulations that shall be properly disposed of Subject to a Storm Drain Easement as shown on said Plans.*
    e. *The applicant and its successors and/or assigns agree the failure to repair and/or maintain the grassed swales, detention basins, and stormwater management structures shall be irreparable harm to the public and the owners of the*

property in the area. A court shall be authorized to enter equitable relief by way of an injunction requiring the owners to repair and maintain the same, if after notice from the Town to do so, the owner jails and/or refuses to maintain and/or repair the storm drainage easement, stormwater structures detention basins, or grassed swales, as required by these restrictions.

f. The failure of any party to enforce any restrictions or provisions hereof shall not be deemed a waiver of the right to do so thereafter as to the same breach or to one occurring subsequent thereto.

g. The restrictions contained herein shall remain in effect and be enforceable forever, unless modified by a Subsequent Order of Conditions issued by the appropriate legal authority and imposed on said land or a portion thereof by the fee simple owner

V. ENVIRONMENTAL MONITOR REQUIREMENT:

65.(monitor approval) **Prior to initiation of any work,** and throughout the life of the project, the applicant shall designate and retain a qualified wetland specialist/environmental consultant. Such consultant shall have at least 5 years experience in wetlands and compliance with the Act, and is subject to approval by the Commission. ***No work shall begin until such consultant is approved by the Commission.*** THE ORIGINAL DELINEATOR OR THIER REPRESENTATIVE SHALL REVIEW AND REPORT TO THE CONCOM

66. (monitor contact information) **Prior to initiation of any work,** the name, work phone and cell phone number of such consultant shall be provided to the Commission so that in the event of any emergency at the site this person can be contacted.

67.(monitor responsibilities) Such environmental consultant shall directly and visually supervise on-site operations as necessary and oversee any emergency placement of controls and/or regulate inspection or replacement of erosion and sedimentation control devices, and any wetland replication if applicable. Said environmental consultant shall keep a weekly/monthly written log of compliance with the Order, and shall make weekly/monthly written reports to the Commission. Reports shall also be furnished to the Commission upon request of the Commission. The monitor shall be given full access and authority to:

a. inspect all erosion control measures and current construction activities and oversee the cleaning and the proper disposal of waste products;

b. submit weekly/monthly reports (or when otherwise requested by the Commission) during construction (via e-mail, facsimile, or regular mail) to the Commission regarding site conditions, ongoing and future work, and any erosion or sedimentation problems and their resolution; and

c. is fully authorized to stop construction for erosion control correction or other wetlands protection jurisdictional issues.

68.(monitor authority) The applicant and all other parties subject to the Order shall comply with all orders and instructions of the environmental monitor, including orders to cease all activity within the Commission's jurisdiction when non compliance with the Order is observed. The applicant and all other parties subject to the Order shall not resume activity until such time as the Commission has authorized the resumption of activity, which authorization may be written or verbal, direct or through the environmental monitor.

VI. DEWATERING PROCEDURES:

69. {dewatering monitor) All project dewatering shall be conducted under the supervision of an environmental control monitor. Unless an environmental monitor is required elsewhere under this Order, the dewatering monitor shall have at least 5 years experience in wetlands and compliance with the Act, and is subject to approval by the Commission.

70.(dewatering) Dewatering activities shall be conducted as shown on the approved Plans and shall be monitored daily to ensure that sediment-laden water is appropriately settled prior to discharge toward the wetland resource areas. No discharge of water is allowed directly into an area subject to jurisdiction of the Act or Ordinance. If emergency dewatering requirements arise, the applicant shall submit a contingency plan to the Commission for approval. which provides for the pumped water to be contained in a settling basin, to reduce turbidity prior to discharge into a resource area.

71. (discharge prohibition) The Order specifically prohibits the discharge of untreated water into, upon, across or over any resource areas and/or buffer zones. Upstream surface water routed around the construction sites shall be reintroduced downstream of the construction sites and directly into the main channel of the brook/stream/river. Said discharge shall occur onto temporary stone pads place upon the substrate of said channel. Any free water removed from the construction sites shall be routed through a mobile weir tank or its equivalent, as approved by the Commission. Final discharge of free water from the construction sites shall occur into a temporary "sedimentation basin" within an upland area as approved by the Commission.

USE OF DEWATERING BAG APPROVED

V. DREDGING:

72. {Army Corps PGP) All dredging shall be conducted in accordance with seasonal limitation imposed by the U.S. Army Corps of Engineers in accordance with Section 404 of the Clean Water Act and provisions of the Programmatic General Permit. This restriction may include, but not be limited to, spawning periods between March 15 and June 15.

73. (use of equipment) Only mechanical dredging with the use of [equipment type] is authorized by the Order. No hydraulic or pneumatic equipment shall be used for the removal of dredged material.

74. (location of equipment) All dredging operations shall be conducted from upland areas or from water home equipment.

75. (dredging rig size) The removal of dredged material shall be accomplished through the use of a large size dredging rig in order to minimize the number of bucket trips required to complete the project.

76. (spoils) All dredge spoils shall be dewatered and disposed of outside all jurisdictional areas at an upland location, or as indicated on the approved Plans.

77. (use of ECs) A siltation fence, straw bales and drainage ditch system shall be installed at the dewatering area to ensure that no materials from the dewatering area will enter any resource areas.

78. (non-impediment to fish) The removal of material from the river bottom shall be done in such a manner as to ensure that the reconfigured bottom area will not impede or obstruct fish migration, or interfere with the natural flow of water.

79. (no vehicles) No vehicular traffic shall enter into any wetland resource area.

80. (hand removal) For small ditches and streams work shall be done using hand shovels or small backhoes. No other machinery shall enter the resource area.

V. WETLAND REPLICATION:

81. (replication monitor) **Prior to the construction of the replication,** unless an environmental monitor is required elsewhere under this Order, the applicant shall furnish the name of the person responsible to supervise and monitor the replication to the Commission for approval. The replication monitor shall have at least 5 years' experience in wetlands, compliance with the Act, wetland replication, wetland hydrology and a working knowledge of botany. Such a person shall be retained to supervise and monitor construction of the wetland replication areas until the replication area meets the requirements of the Order.

82. (growing seasons) Unless otherwise specified in the Order, the wetland replication shall be performed in accordance with the Notice of Intent. the Plans, and any supplemental documents. The Commission reserves the right to require additional plantings to ensure achievement of 75% cover of wetland plant species within two full growing seasons, as specified in 310 CMR I 0.55(4)(b). As listed in the Department of Environmental Protection's Massachusetts Inland Wetland Replication Guidelines March 2002, the growing season for Berkshire County is from April 6th to October 27th. Thus, two growing seasons will always include at least two calendar years.

V. UPON COMPLETION OF CONSTRUCTION:

83. (permanent stabilization) Within 30 days of final grading, (or within 30 calendar days after the commencement of the following growing season if the project is
completed after October 31st), all disturbed areas shall be permanently stabilized with rapidly growing cover and a minimum of 4 to 6 inches or organic topsoil, if necessary and a USDA, Natural Resources Conservation Service-approved native seed mixture should be used in accordance with the measures outlined in "Vegetative Practices in Site Development: Massachusetts Conservation Guide, Volume II," or other acceptable stabilization method to assure long term stabilization of disturbed areas. Maintenance of these areas shall be in a manner that assures permanent stabilization and precludes any soil erosion and shall be the responsibility of the owner of record of the property or the responsibility of the applicant. ***This condition is ongoing and does not expire upon completion of*** rain or flooding. Preference should be given to biodegradable materials. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

84. Only upon completion of the project, when all soils are permanently stabilized and with approval by the Commission or its Coordinator shall all erosion controls be removed.

85. (COC requirements) Upon completion of construction and final soil stabilization, the applicant shall submit the following to the Conservation Commission to request
a Certificate of Compliance (COC):
A Completed Request for a Certificate of Compliance form (WPA Form 8A).

- *IF* the project has any stormwater structure(s) requiring routine cleaning and/or maintenance, the applicant or current owner shall submit a signed agreement between the applicant or current owner and a company who has been contracted to clean and maintain such structures on the project.
- As-Built plans signed and stamped by a registered professional engineer, architect, landscape architect or land surveyor and a written statement from such professional certifying substantial compliance with the Plans and describing what deviation, if any, exists from the Plans approved in the Order. This plan shall include at a minimum:
    - All wetland resource area boundaries with associated buffer zones and regulatory setback areas taken from the plan(s) approved in the Order;
    - Locations and elevations of all stormwater management conveyances, structures, and best management designs, including foundation drains, constructed under the Order within any wetland resource area or buffer zone;
    - Distances from any structures constructed under the Order to wetland resource areas - '"structures" include, but are not limited to, all buildings,

septic system components, wells, utility lines, fences, retaining walls, and roads/driveways;

- A line delineating the limit of work - "work" includes any filling, excavating and/or disturbance of soils or vegetation approved under the Order;
- Wetland resource replication areas constructed under the Order.

VII. THE FUTURE OF THESE ORDERS:

86. (future buyer) A copy of the Order shall be provided to any future buyer of the property.

87. *JF* the project has any stormwater structure(s) requiring routine cleaning and/or maintenance, the applicant or current owner shall annually submit bill(s) from the company who has been contracted to clean and maintain such structures on the project. This condition is ongoing ***and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

88. {O&M Plan) The applicant shall take full legal responsibility for implementation of the Operation and Management Plan (O&M Plan), as submitted within the Notice of Intent, until such time as another party or entity exerts legal responsibility and the Commission is notified in writing and of such a transfer. Upon this transfer of responsibility, that party shall maintain all stormwater structures within the Commission's jurisdiction. ***This condition is ongoing and does not expire upon completion of this project or the issuance of a Certificate of Compliance.***

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 - Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:153-0240
eDEP Transaction #:1917815
City/Town:EGREMONT

E. Signatures

This Order is valid for three years from the date of issuance, unless otherwise specified pursuant to General Condition #4. If this is an Amended Order of Conditions, the Amended Order expires on the same date as the original Order of Conditions.

1/12/2025
1. Date of Original Order

Please indicate the number of members who will sign this form. This Order must be signed by a majority of the Conservation Commission.

5
2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Signatures:

David Seligman

Jeff Nathan

Alexis Wreden

☐ by hand delivery on

Date

Chris Baral

Joyce Frater

☐ by certified mail, return receipt requested, on

Date

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, 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 MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed 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 Order. 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.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

G. Recording Information

This Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land

DOCUMENT A00870

MASSACHUSETTS
DIVISION OF FISHERIES AND WILDLIFE

NATURAL HERITAGE AND ENDANGERED SPECIES PROGRAM

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MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

March 13, 2024

Julia Hoogeboom
Massachusetts Department of Transportation - Highway Division, Environmental Services
10 park plaza
Boston, MA 02116

RE: Applicant: Julia Hoogeboom
Project Location: Mount Washington Road from Egremont Town Line to 2000 feet before Jug End Road
Project Description: 608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)
NHESP File No.: 24-17251

Dear Applicant:

The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") received the MESA Project Review Checklist and supporting documentation for review pursuant to the Massachusetts Endangered Species Act (MESA) (MGL c.131A) and its implementing regulations (321 CMR 10.00).

The MESA is administered by the Division, and prohibits the Take of state-listed species. The Take of state-listed species is defined as "in reference to animals…harm…kill…disrupt the nesting, breeding, feeding or migratory activity…and in reference to plants…collect, pick, kill, transplant, cut or process…Disruption of nesting, breeding, feeding, or migratory activity may result from, but is not limited to, the modification, degradation, or destruction of Habitat" of state-listed species (321 CMR 10.02).

The Division has determined that this Project, as currently proposed, will occur **within** the actual habitat of the following species:

Scientific Name	Common Name	Taxonomic Group	State Status
Data Sensitive	Data Sensitive	Data Sensitive Vertebrate	Endangered

"Data Sensitive Species" are highly susceptible to collection and are therefore of high concern to Natural Heritage. Information about these species (including presence/absence) cannot be released to anyone (especially including release to third parties or published) unless such release is agreed to in writing by the Natural Heritage Program (See Massachusetts Public Records law: M.G.L. chapter 66 section 17D).

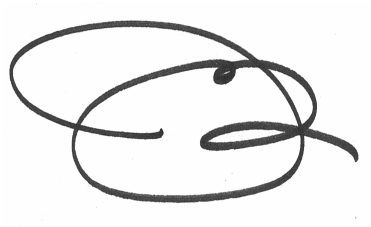
This species and their habitats are protected in accordance with the MESA.

Based on the information provided and the information contained in our database, the Division finds that a portion of this project, as currently proposed, **must be conditioned** to avoid a prohibited Take of state-listed species (321 CMR 10.18(2)(a)). **To avoid a prohibited Take of state-listed species, the conditions attached to this letter must be met.**

Provided the attached conditions are fully implemented and there are no changes to the project plans, this project will not result in a Take of state-listed species. We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. This determination is a final decision of the Division of Fisheries and Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with the Division pursuant to the MESA. This project may be subject to further review if no physical work is commenced within five years from the date of issuance of this determination, or if there is a change to the project.

Please note that this determination addresses only the matter of state-listed species and their habitats. If you have any questions regarding this letter please contact Melany Cheeseman, Endangered Species Review Assistant, at Melany.Cheeseman@mass.gov, (508) 389-6357.

Sincerely,



Jesse Leddick
Assistant Director

cc: david paulson, Massachusetts Department of Transportation
Julia Hoogeboom, Massachusetts Department of Transportation

Attachment: List of Conditions

List of Conditions

Applicant: Julia Hoogeboom
Project Location: Mount Washington Road from Egremont Town Line to 2000 feet before Jug End Road
Project Description: 608547 - EGREMONT- RECONSTRUCTION OF MOUNT WASHINGTON ROAD (PHASE I)
NHESP File No.: 24-17251
Heritage Hub Form ID: RC-84122
Approved Plan: Town of Egremont Mount Washington Road Reconstruction Phase 1
Plan date: December 2023 Revised Date: N/A

To avoid a prohibited Take of state-listed species, the following condition(s) must be met:

1. **Limits of Work:** No work or alteration to the soil, surface, or vegetation shall occur outside of the limits of work shown on the site plan unless otherwise approved in writing in advance by the Division.

2. **Rare Vertebrate Protection Plan**. Should any work be conducted during the active season, the Applicant is required to conduct such work under the supervision of a qualified biologist and the Division-approved "Snake Protection Plan" (SPP).
   a. The SPP is approved with the following additions/changes:
   1.Stockpiled materials shall be stored on mats such as double stacked pallets or similar materials, whenever possible. This allows the materials to be moved using the upper pallet while leaving the ground-contact pallet undisturbed.
   2.Contracts for the project shall stipulate that the qualified biologist may direct or temporarily halt onsite work to maximize protection of state-listed species and allow for additional sweeps/searches.
   b. A MESA Commercial Scientific Collection Permit must be obtained from the Division to handle state-listed species. The permit application should provide a description of the qualifications of the biologist(s) proposed to implement the plan relative to state-listed vertebrates.
   1.As part of the application, the biologist can update/modify/revise the SPP.
   2.The qualified biologist shall have the responsibility and obligation to increase or modify (but not decrease) the search area, hours of effort, days of effort and or approaches to maximize detection of state-listed species based on actual field conditions observed. In such a circumstance, the qualified biologist shall notify the Division as soon as possible of the deviation, and the reason for deviating from, the approved protocol.

3. **Mesh Construction Materials**. Mesh materials are addressed in the SPP. The following adds to the bullet points in the SPP. Mesh materials must be excluded from Project implementation unless otherwise approved in writing by the Division.
   1.No presence, stockpiling, or use of permanent or temporary mesh materials with a nominal opening between 1/4" and 2" shall be permitted, unless otherwise approved in writing by the Division or fully encased in a non-penetrable wrap or surface (e.g., poured concrete over rebar mesh).
   2.Netless rolled erosion control products may be utilized whenever mesh materials are necessary. Authorized materials include (1) standard, black silt fencing (i.e., 36-in wide, tightly woven), (2) orange safety fencing (aka barrier or snow fencing) with nominal 2" or greater openings installed tightly between supports *and* with a 6" minimum gap along the ground, and (3) chain-link fencing with 2" or greater openings and installed with a 6" minimum gap along the ground.

4. **Use of Native Species:** Unless otherwise approved in writing by the Division, all seed and plantings not thereafter maintained as lawn shall be native to the County as provided in The Vascular Plants of Massachusetts: A County Checklist, First Revision (Dow Cullina, Connolly, Sorrie & Somers, 2011).

5. **Restoration or Stabilization:** The Division does not approve of the planting of state-listed species, even if the seeds are sourced outside of Massachusetts. Please carefully review seed mixes at the time of purchase as the specific composition and mixes change within a year (https://www.mass.gov/info-details/list-of-endangered-threatened-and-special-concern-species#plants).

6. **Work Timing**.
   1.Inactive season: Work conducted between November 1 and April 14 may proceed without restrictions.
   2.Active season: Work conducted between April 15 and October 31, even if initiated earlier, must be conducted under the direct supervision of a Division-approved biologist in accordance with the SPP.

7. **Compliance Report:** Within thirty (30) days of the completion of work or as otherwise approved by the Division, the Applicant shall submit a brief written report to the Division documenting compliance with the condition(s) required herein, including representative photographs or supplemental documentation as necessary.

8. **Authorization Duration:** This authorization is valid for 5 years from the date of issuance. Work may be completed at any time during this 5-year period in compliance with the conditions herein. Thereafter, the Applicant must re-file pursuant to the MESA.

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

EGREMONT

For: **Reconstruction of Mount Washington Road (Phase I)**

COMMONWEALTH OF MASSACHUSETTS

LOCATION

The work referred to herein is in the Town of EGREMONT in Berkshire 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:

Mount Washington Road

Beginning – Station 200+00.00 +/-
Ending –Station 262+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 **1778 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 # 608547	Contract # 132397			
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
100.99	1	STRUCTURE AND GEOTECHNICAL MONITORING AT _____ LUMP SUM		
101.	1.6	CLEARING AND GRUBBING AT _____ PER ACRE		
102.	0.6	SELECTIVE CLEARING AND THINNING AT _____ PER ACRE		
102.1	3,300	TREE TRIMMING AT _____ PER FOOT		
120.	13,800	EARTH EXCAVATION AT _____ PER CUBIC YARD		
121.	1,710	CLASS A ROCK EXCAVATION AT _____ PER CUBIC YARD		
121.1	60	ROCK SCALING AT _____ PER HOUR		
122.	290	PRESPLITTING ROCK AT _____ PER SQUARE YARD		
140.	1,070	BRIDGE EXCAVATION AT _____ PER CUBIC YARD		

Project # 608547 Contract # 132397				
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
141.	790	CLASS A TRENCH EXCAVATION AT _____ PER CUBIC YARD		
141.1	160	TEST PIT FOR EXPLORATION AT _____ PER CUBIC YARD		
142.	230	CLASS B TRENCH EXCAVATION AT _____ PER CUBIC YARD		
144.	710	CLASS B ROCK EXCAVATION AT _____ PER CUBIC YARD		
146.	10	DRAINAGE STRUCTURE REMOVED AT _____ EACH		
151.	7,800	GRAVEL BORROW AT _____ PER CUBIC YARD		
151.2	540	GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES AT _____ PER CUBIC YARD		
156.	1,700	CRUSHED STONE AT _____ PER TON		
170.	17,000	FINE GRADING AND COMPACTING - SUBGRADE AREA AT _____ PER SQUARE YARD		

Project # 608547 Contract # 132397				
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
180.01	1	ENVIRONMENTAL HEALTH AND SAFETY PROGRAM AT _____ LUMP SUM		
180.02	10	PERSONAL PROTECTION LEVEL C UPGRADE AT _____ PER HOUR		
180.03	10	LICENSED SITE PROFESSIONAL SERVICES AT _____ PER HOUR		
181.11	21,100	DISPOSAL OF UNREGULATED SOIL AT _____ PER TON		
181.12	50	DISPOSAL OF REGULATED SOIL - IN-STATE FACILITY AT _____ PER TON		
181.13	50	DISPOSAL OF REGULATED SOIL - OUT-OF-STATE FACILITY AT _____ PER TON		
181.14	10	DISPOSAL OF HAZARDOUS WASTE AT _____ PER TON		
182.1	1	INSPECTION AND TESTING FOR ASBESTOS AT _____ LUMP SUM		
182.2	50	REMOVAL OF ASBESTOS AT _____ PER FOOT		

Project # 608547 Contract # 132397				
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
184.1	1	DISPOSAL OF TREATED WOOD PRODUCTS AT _____ PER TON		
201.	19	CATCH BASIN AT _____ EACH		
202.	15	MANHOLE AT _____ EACH		
203.6	4	SPECIAL MANHOLE - 6' DIAMETER AT _____ EACH		
209.1	20	DROP INLET, TYPE DF AT _____ EACH		
220.	53	DRAINAGE STRUCTURE ADJUSTED AT _____ EACH		
221.	18	FRAME AND COVER AT _____ EACH		
222.1	15	FRAME AND GRATE - MASSDOT CASCADE TYPE AT _____ EACH		
222.2	19	FRAME AND GRATE - MASSDOT DROP INLET AT _____ EACH		

Project # 608547 Contract # 132397				
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
223.1	10	FRAME AND GRATE (OR COVER) REMOVED AND STACKED AT _____ EACH		
227.3	20	REMOVAL OF DRAINAGE STRUCTURE SEDIMENT AT _____ PER CUBIC YARD		
227.31	25	REMOVAL OF DRAINAGE PIPE SEDIMENT AT _____ PER FOOT		
234.12	135	12 INCH DRAINAGE PIPE - OPTION AT _____ PER FOOT		
234.15	310	15 INCH DRAINAGE PIPE - OPTION AT _____ PER FOOT		
234.18	670	18 INCH DRAINAGE PIPE - OPTION AT _____ PER FOOT		
234.24	130	24 INCH DRAINAGE PIPE - OPTION AT _____ PER FOOT		
234.30	40	30 INCH DRAINAGE PIPE - OPTION AT _____ PER FOOT		
234.36	2	36 INCH DRAINAGE PIPE - OPTION AT _____ PER FOOT		

Project # 608547 Contract # 132397				
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
235.24	1	24 INCH DRAINAGE PIPE FLARED END - OPTION AT _____ EACH		
241.42	60	42 INCH REINFORCED CONCRETE PIPE CLASS III AT _____ PER FOOT		
241.48	50	48 INCH REINFORCED CONCRETE PIPE CLASS III AT _____ PER FOOT		
258.	240	STONE FOR PIPE ENDS AT _____ PER SQUARE YARD		
402.	1,820	DENSE GRADED CRUSHED STONE FOR SUB-BASE AT _____ PER CUBIC YARD		
402.13	4,240	PAVEMENT MILLING MULCH FOR SHOULDERS AT _____ PER FOOT		
415.2	180	PAVEMENT FINE MILLING AT _____ PER SQUARE YARD		
431.	60	HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE AT _____ PER SQUARE YARD		
443.	130	WATER FOR ROADWAY DUST CONTROL AT _____ PER 1000 GALLONS		

Project # 608547 Contract # 132397				
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
450.22	1,390	SUPERPAVE SURFACE COURSE – 9.5 (SSC – 9.5) AT _____ PER TON		
450.31	1,610	SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC -12.5) AT _____ PER TON		
450.42	3,200	SUPERPAVE BASE COURSE - 37.5 (SBC - 37.5) AT _____ PER TON		
451.	30	HMA FOR PATCHING AT _____ PER TON		
452.	2,310	ASPHALT EMULSION FOR TACK COAT AT _____ PER GALLON		
453.	6,400	HMA JOINT ADHESIVE AT _____ PER FOOT		
470.2	1,810	HOT MIX ASPHALT BERM, TYPE A - MODIFIED AT _____ PER FOOT		
472.	270	TEMPORARY ASPHALT PATCHING AT _____ PER TON		
504.	1,270	GRANITE CURB TYPE VA4 - STRAIGHT AT _____ PER FOOT		

Project # 608547 Contract # 132397				
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
514.	3	GRANITE CURB INLET - STRAIGHT AT _____ EACH		
620.13	2,250	GUARDRAIL, TL-3 (SINGLE FACED) AT _____ PER FOOT		
620.131	4,010	GUARDRAIL, DEEP POST (SINGLE FACED) AT _____ PER FOOT		
620.136	150	GUARDRAIL, TL-3 STIFFENING WITH HALF POST SPACING AT _____ PER FOOT		
620.138	70	GUARDRAIL, TL-3 STIFFENING WITH QUARTER POST SPACING AT _____ PER FOOT		
627.83	9	GUARDRAIL TANGENT END TREATMENT, TL-3 AT _____ EACH		
628.21	1	TRANSITION TO NCHRP 350 GUARDRAIL AT _____ EACH		
628.304	8	TEMPORARY IMPACT ATTENUATOR, NON-REDIRECTIVE, TL-2 AT _____ EACH		
628.4	24	TEMPORARY IMPACT ATTENUATOR, REMOVED AND RESET AT _____ EACH		

Project # 608547 Contract # 132397				
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
630.2	5,090	HIGHWAY GUARD REMOVED AND DISCARDED AT _____ PER FOOT		
685.	55	STONE MASONRY WALL IN CEMENT MORTAR AT _____ PER CUBIC YARD		
691.	20	BALANCE STONE WALL REMOVED AND REBUILT AT _____ PER FOOT		
697.1	35	SILT SACK AT _____ EACH		
698.3	7,090	GEOTEXTILE FABRIC FOR SEPARATION AT _____ PER SQUARE YARD		
702.	140	HOT MIX ASPHALT SIDEWALK OR DRIVEWAY AT _____ PER TON		
711.	3	BOUND REMOVED AND RESET AT _____ EACH		
715.	7	RURAL MAIL BOX REMOVED AND RESET AT _____ EACH		
722.2	1	SCHEDULE OF OPERATIONS (TYPE B) - FIXED PRICE $97500 AT Ninety Seven Thousand Five Hundred Dollars LUMP SUM	$97,500.00	$97,500.00

Project # 608547 Contract # 132397				
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
740.	59	ENGINEER'S FIELD OFFICE AND EQUIPMENT (TYPE A) AT _____ PER MONTH		
748.	1	MOBILIZATION AT _____ LUMP SUM		
751.7	500	COMPOST BLANKET AT _____ PER CUBIC YARD		
751.765	80	COMPOST AND SEED OVER MODIFIED ROCK AT _____ PER CUBIC YARD		
755.77	160	SNAKE BIOLOGIST AT _____ PER HOUR		
755.771	1	STATE-LISTED SNAKE PROTECTION PLAN AT _____ LUMP SUM		
756.	1	NPDES STORMWATER POLLUTION PREVENTION PLAN AT _____ LUMP SUM		
756.1	1	WELL WATER QUALITY TESTING AT _____ LUMP SUM		
765.411	14,200	SEEDING - SHORT GRASSLAND MIX AT _____ PER SQUARE YARD		

Project # 608547 Contract # 132397				
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
765.635	14,200	NATIVE SEEDING AND ESTABLISHMENT AT _____ PER SQUARE YARD		
767.121	4,900	SEDIMENT CONTROL BARRIER AT _____ PER FOOT		
767.9	3,200	JUTE MESH AT _____ PER SQUARE YARD		
769.	6,790	PAVEMENT MILLING MULCH UNDER GUARD RAIL AT _____ PER FOOT		
783.046	3	SERVICEBERRY - SHADBLOW 4-5 FEET AT _____ EACH		
797.001	15	SERVICEBERRY - SHADBLOW 4-5 FEET FURNISHED AND DELIVERED AT _____ EACH		
797.002	15	MAPLE - RED 2-2.5 INCH CALIPER FURNISHED AND DELIVERED AT _____ EACH		
797.003	15	OAK - WHITE 2-2.5 INCH CALIPER FURNISHED AND DELIVERED AT _____ EACH		
810.1	1	COORDINATION OF UTILITY DISCONNECTS AT _____ LUMP SUM		

Project # 608547 Contract # 132397				
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
813.811	1	SERVICE CONNECTION (UNDERGROUND) AT _____ LUMP SUM		
816.81	1	TEMPORARY TRAFFIC CONTROL SIGNAL AT _____ LUMP SUM		
832.	80	WARNING-REGULATORY AND ROUTE MARKER - ALUMINUM PANEL (TYPE A) AT _____ PER SQUARE FOOT		
847.1	28	SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL AT _____ EACH		
850.41	2,900	ROADWAY FLAGGER AT _____ PER HOUR		
851.1	300	TRAFFIC CONES FOR TRAFFIC MANAGEMENT AT _____ PER DAY		
852.	200	SAFETY SIGNING FOR TRAFFIC MANAGEMENT AT _____ PER SQUARE FOOT		
853.2	3,850	TEMPORARY BARRIER (TL-2) AT _____ PER FOOT		
853.21	8,950	TEMPORARY BARRIER REMOVED AND RESET AT _____ PER FOOT		

Project # 608547 Contract # 132397				
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
854.016	12,400	TEMPORARY PAVING MARKINGS - 6 INCH (PAINTED) AT _____ PER FOOT		
854.036	1,300	TEMPORARY PAVING MARKINGS - 6 INCH (TAPE) AT _____ PER FOOT		
856.12	1,500	PORTABLE CHANGEABLE MESSAGE SIGN AT _____ PER DAY		
859.	134,000	REFLECTORIZED DRUM AT _____ PER DAY		
859.1	3,600	REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS AT _____ PER DAY		
866.106	12,400	6 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) AT _____ PER FOOT		
867.106	12,400	6 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC) AT _____ PER FOOT		
874.4	6	TRAFFIC SIGN REMOVED AND STACKED AT _____ EACH		
901.	40	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE AT _____ PER CUBIC YARD		

Project # 608547 Contract # 132397				
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
901.1	952	PRECAST CONCRETE WALL PANELS AT _____ EACH		
904.3	60	5000 PSI, 3/4 INCH, 685 HP CEMENT CONCRETE AT _____ PER CUBIC YARD		
905.	50	4000 PSI, 3/8 INCH, 660 CEMENT CONCRETE AT _____ PER CUBIC YARD		
910.	680	STEEL REINFORCEMENT FOR STRUCTURES AT _____ PER POUND		
910.1	7,700	STEEL REINFORCEMENT FOR STRUCTURES - EPOXY COATED AT _____ PER POUND		
912.101	300	ROCK DOWELS AT _____ PER FOOT		
912.102	130	ROCK MECHANICS ENGINEER AT _____ PER HOUR		
942.145	4,194	GALVANIZED STEEL PILE HP 14 X 89 AT _____ PER FOOT		
945.101	1,440	DRILLED SHAFT EXCAVATION 3.0 FOOT DIAMETER AT _____ PER FOOT		

Project # 608547	Contract # 132397			
Location : EGREMONT				
Description : Reconstruction of Mount Washington Road (Phase I)				
ITEM #	**QUANTITY**	**ITEM WITH UNIT BID PRICE WRITTEN IN WORDS**	**UNIT PRICE**	**AMOUNT**
945.200	1,780	ROCK SOCKET EXCAVATION 2.5 FOOT DIAMETER AT _____ PER FOOT		
945.301	250	OBSTRUCTION EXCAVATION 3.0 FOOT DIAMETER AT _____ PER FOOT		
945.500	1,480	DRILLED SHAFT 2.5 FOOT DIAMETER AT _____ PER FOOT		
945.501	240	DRILLED SHAFT 3.0 FOOT DIAMETER AT _____ PER FOOT		
950.2	8,300	LAGGING FOR DOWNHILL WALLS 1 TO 3 AT _____ PER SQUARE FOOT		
950.3	1,740	LAGGING FOR UPHILL WALLS 4 TO 6 AT _____ PER SQUARE FOOT		
986.	4,000	MODIFIED ROCKFILL AT _____ PER TON		
991.11	1	CONTROL OF WATER - STRUCTURE NO. 1 AT _____ LUMP SUM		
991.12	1	CONTROL OF WATER - STRUCTURE NO. 2 AT _____ LUMP SUM		
Total Qty:	387,394.2			

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DOCUMENT B00853

SCHEDULE OF PARTICIPATION
BY DISADVANTAGED BUSINESS ENTERPRISES (DBEs)

PRIME BIDDER: _____

DATE OF BID OPENING: _____ MassDOT PROJECT NO.: 608547

FEDERAL AID PROJECT NUMBER: STP/TAP-0031(021)X

PROJECT LOCATION: EGREMONT

Name Address and Phone Number of DBE	Name of Activity	NAICS Code(s)	(a) DBE Contractor Activity Amount *Construction Work*	(b) DBE Other Business Amount *Services, Supplies, Material*	(c) Total amount eligible for credit
Total Bid Amount	TOTALS:		$		$
	DBE Percentage of Total bid:		%		%

A copy of the DBE's most recent certification and an original affidavit must be attached to this document.

Is a Joint Check Approval being submitted for any of the above? ☐ Yes X No
Will any of the contractors listed above be using a third party to deliver materials or perform any portion of work?
☐ Yes X No
(i.e. manufacturing)

SIGNATURE:_____ DATE_____

NAME AND TITLE (*PRINT*):_____

EMAIL ADDRESS: _____TEL NO.:_____

Rev'd 5/8/13

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DOCUMENT B00854

DBE Letter of Intent

(To be completed by the DBE – Page 1 of 2)

The DBE firm will also include the latest MassUCP letter with this Letter of Intent.

To: _____ (Prime Bidder)

From: _____ (DBE Firm)

Federal Aid Project No.: STP/TAP-0031(021)X Bid Opening or Due Date: _____

Project Name: _____ Project Location: EGREMONT

I, _____, authorized signatory of the above-reference DBE firm hereby declare:

(Print Name)

(a) My company is currently certified as a Disadvantaged Business Enterprise (DBE) by the Massachusetts Supplier Diversity Office (SDO), as a (check all that apply):

☐ CONTRACTOR ☐ REGULAR DEALER ☐ OTHER
☐ MANUFACTURER ☐ TRUCKING OPERATIONS ☐ PROFESSIONAL SERVICES

[Additional guidance is available at Title 49, Code of Federal Regulations, Part 26.55 (49 CFR Part 26.55)]

(b) My firm has the ability to manage, supervise and perform the activity described on page 3 of this Letter of Intent. If you are awarded the contract, my company intends to enter into a contract with your firm to perform the items of work or other activity described on the following sheet for the prices indicated.

(c) There have been no changes affecting the ownership, control or independence of my company since my last certification review on _____. If any such change is planned or occurs prior to my company's completion of this proposed work, I will give prior written notification to your firm and to the Office of Diversity and Civil Rights (ODCR)(MBTA/MassDOT) and SDO.

(d) I have read the MassDOT proposal for the Project, and acknowledge that my company will comply with that document and the requirements of 49 CFR Part 26.

(e) For the purpose of obtaining subcontractor approval from the MassDOT, my firm will provide to you:

a. ***The following construction work:***
   i. a complete list of contact information for proposed Superintendent, i.e., address, phone number and e-mail address, and;
   ii. a list of projects completed in the last 10 years. I shall also include, for each project: the name and telephone number of a contact person for the contracting authority, person, or organization; project title / location (City/State), dollar value of the work; a description of the work; and the date project completed .

b. The following professional services work:
   i. resume, stating the qualifications and experience of person responsible for project oversight and contact information, i.e., address, phone number and e-mail address.
   ii. proposed team and organization,
   iii. resumes of key personnel;
   iv. example projects

c. The following services, materials or supplies:
   i. a written agreement and invoices for the materials or supplies, and any other documents evidencing the terms of providing such items to be sent to the Office of Diversity and Civil Rights Government Compliance Unit designee;
   ii. information concerning brokers fees and commissions for providing services or materials.

DBE Firm Authorized Signature _____ Date _____

DBE Letter of Intent (Continued)

(To be completed by the DBE – Page 2 of 2)

Prime Bidder: _____

DBE Firm: _____

Federal Aid Project No.: STP/TAP-0031(021)X Bid Opening or Due Date: _____

Project Name: _____ Project Location: EGREMONT

Item number if applicable	NAICS Code	Description of Activity with notations such as Services, or Brokerage, Labor Only, Material Only, or Complete	Quantity	Unit Price	Amount
			TOTAL AMOUNT:		

Please give full explanations, attach additional sheets if necessary.

I HEREBY VERIFY THAT _____

(DBE Firm)

WILL SOLELY PERFORM THE WORK, OR PROVIDE THE SERVICES OR MATERIALS, AS DESCRIBED ABOVE.

DBE Authorized Signature: _____

_____

Name (Print): _____

Title: _____

Email Address: _____

Phone Number: _____ Fax Number: _____

END OF DOCUMENT

DOCUMENT B00855

DBE JOINT CHECK ARRANGEMENT APPROVAL FORM

(to be submitted by Prime Contractor)

Contract No: 132397 **Project No.** 608547 **Federal Aid No.:** STP/TAP-0031(021)X

Location: EGREMONT **Bid Opening Date:** _____

Project Description: Reconstruction of Mount Washington Road (Phase I)

We have received the attached request for the use of a joint check arrangement from _____ _____ , a DBE on the above- referenced Contract and _____ _____, a Material Supplier/Vendor for the subject Contract. The DBE has complied with the requirements of 49 CFR Part 26.55(c)(1). In particular, the DBE has:

- a written agreement with the material supplier/vendor;
- applied for credit with the subject material supplier and has supplied the vendor's response;
- shown that it will place all orders to the subject material supplier/vendor;
- made and retains all decision-making responsibilities concerning the materials; and
- provided a Joint Check Agreement that is acceptable to MassDOT;

As the Contractor for the Project, we agree to issue joint checks (made payable to the Material Supplier/Vendor and the DBE) for payment of sums due pursuant to invoices from the Supplier/Vendor and DBE.

Contractor:

_____ _____
Company Name Signature
Duly Authorized

_____
Printed Name

_____ _____
Date Title

SubContractor:

_____ _____
Company Name Signature –
Duly Authorized

_____
Printed Name

_____ _____
Date Title

*** END OF DOCUMENT ***

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DOCUMENT B00856

JOINT VENTURE AFFIDAVIT

(All Firms)

- All Information Requested By This Schedule Must Be Answered. Additional Sheets May Be Attached.
- If, there is any change in the information submitted, the Joint Venture parties must inform MassDOT Pre-Qualifications Office (and, if one of the companies is a DBE, the Director of Contract Compliance, Office of Civil Rights) *prior* to such change, in writing, either directly or through the Prime Contractor if the Joint Venture is a subcontractor.
- If the Joint Venture Entity will be the bidder on a prime Contract, it must bid and submit all required documents (insurance, worker's compensation, bonds, etc.) in the name of the Joint Venture Entity.

I. Name of Joint Venture: _____

Type of Entity if applicable (Corp., LLC):_____Filing State _____

Address of joint venture: _____

_____

Phone No(s) for JV Entity: _____E-mail:_____

Contact Person(s)_____

Tax ID/EIN of Joint Venture: _____Vendor Code:_____

II. Identify each firm or party to the Joint Venture:

Name of Firm: _____

Address: _____

Phone : _____E-mail:_____

Contact person(s) _____

Name of Firm: _____

Address: _____

Phone: _____E-mail:_____

Contact Person(s)_____

III. Describe the role(s) of the each party to the Joint Venture:

_____

_____

IV. Attach a copy of the Joint Venture Agreement. The proposed Joint Venture Agreement should include specific details including, but not limited to: (1) the contributions of capital and equipment; (2) work items to be performed by each company's forces, (3) work items to be performed under the supervision of any DBE Venturer; (4) the commitment of management, supervisory and operative personnel employed by the DBE to be dedicated to the performance of the Project; and (5) warranty, guaranty, and indemnification clauses.

V. Attach any applicable Corporate or LLC Votes, Authorizations, etc.

VI. Ownership of the Joint Venture:

A. What is the percentage(s) of each company's ownership in the Joint Venture?

ownership percentage(s): _____

ownership percentage(s): _____

B. Specify percentages for each of the following (provide narrative descriptions and other detail as applicable):

1. Sharing of profit and loss: _____
2. Capital contributions:

(a) Dollar amounts of initial contribution: _____

(b) Dollar amounts of anticipated on-going contributions: _____

(c) Contributions of equipment (specify types, quality and quantities of equipment to be provided by each firm): _____

_____

4. Other applicable ownership interests, including ownership options or other agreements, which restrict or limit ownership and/or control:

_____

_____

5. Provide copies of all other written agreements between firms concerning bidding and operation of this Project or projects or contracts.

6. Identify all current contracts and contracts completed during the past two (2) years by either of the Joint Venture partners to this Joint Venture:

_____

_____

VII. Control of and Participation in the Joint Venture. Identify by name and firm those individuals who are, or will be, responsible for and have the authority to engage in the following management functions and policy decisions. (Indicate any limitations to their authority such as dollar limits and co-signatory requirements.):

A. Joint Venture check signing:

_____

_____

B. Authority to enter Contracts on behalf of the Joint Venture:

_____

_____

C. Signing, co-signing and/or collateralizing loans:

_____

_____

D. Acquisition of lines of credit:

_____

_____

E. Acquisition and indemnification of payment and performance bonds:

_____

_____

F. Negotiating and signing labor agreements:

_____

_____

G. Management of contract performance. *(Identify by name and firm only)*:

1. Supervision of field operations: _____
2. Major purchases: _____
3. Estimating: _____
4. Engineering: _____

VIII. Financial Controls of Joint Venture:

A. Which firm and/or individual will be responsible for keeping the books of account?

_____

_____

B. Identify the "Managing Partner," if any, and describe the means and measure of their compensation:

_____

_____

C. What authority does each firm have to commit or obligate the other to insurance and bonding companies, financing institutions, suppliers, subcontractors, and/or other parties participating in the performance of this Contract or the work of this Project?

_____

IX. Personnel of Joint Venture: State the approximate number of personnel (by trade) needed to perform the Joint Venture's work under this Contract. Indicate whether they will be employees of the majority firm, DBE firm, or the Joint Venture.

	Firm 1 (number)	Firm 2 (number)	Joint Venture (number)
Trade			
Professional			
Administrative/Clerical			
Unskilled Labor			

Will any personnel proposed for this Project be employees of the Joint Venture?: _____

If so, who: _____

A. Are any proposed Joint Venture employees currently employed by either firm?

Employed by Firm 1: _____ Employed by firm 2 _____

B. Identify by name and firm the individual who will be responsible for Joint Venture hiring: ____

_____

X. Additional Information. Please state any material facts and additional information pertinent to the control and structure of this Joint Venture.

_____

_____

XI. AFFIDAVIT OF JOINT VENTURE PARTIES. The undersigned affirm that the foregoing statements and attached documents are correct and include all material information necessary to identify and explain the terms and operations of our Joint Venture and the intended participation of each firm in the undertaking. Further, the undersigned covenant and agree to provide to MassDOT current, complete and accurate information regarding actual Joint Venture work, payments, and any proposed changes to any provisions of the Joint Venture, or the nature, character of each party to the Joint Venture. We understand that any material misrepresentation will be grounds for terminating any Contract awarded and for initiating action under Federal or State laws concerning false statements.

Firm 1	Firm 2
Signature Duly Authorized	Signature Duly Authorized
Printed Name and Title	Printed Name and Title
Date	Date

*** END OF DOCUMENT ***