

BID PROPOSAL DOCUMENTS

TOWN/CITY OF _____

B I D
PROPOSAL FORM

Proposal of
(Name)

.....
(Address)

to furnish all labor, materials, tools and appliances, required to complete the construction of the Project described elsewhere herein.

Proposals will be received at the office of
.....
until the hour and date set in the "Advertisement for Proposals".

To the
....., Connecticut.

Sir:
In accordance with the advertisement of the City/Town of
inviting proposals for the construction of the Project hereinafter names, and in conformity with the plans and specifications on file in the office of
.....

I/We certify that I am/we are the only person or persons interested in this proposal as principals, that it is made without collusion with any person, firm, or corporation; that an examination has been made of the Specifications and Contract Form, including the "Special Provisions" contained herein, also of the plans and of the Site of Work, and I/we propose to furnish all necessary machinery, equipment, tools, labor and other means of construction, and to furnish all materials specified in the manner and at the time prescribed, all in accordance with the Contract and Specifications and in conformity with Plans and the requirements of the City/Town of

I/We agree to accept the prices set forth herein for any additions or deductions caused by variations in quantities due to more accurate measurements, or by any changes or alterations in the plans or specifications during the progress of the work.

I/We further proposed to execute the form of contract and begin work within ten days from the day of the "Notice to Proceed" and to prosecute said work so as to complete the project and its appurtenances within the time limit stipulated; and to furnish a Performance Contract Bond in the required amount as security for the construction and completion of the Project and its appurtenances in accordance with Plans, Specifications and Contract, and a Payment Bond for the payment for all materials or labor, used or employed in the execution of the Contract.

Accompanying this proposal is (Surety Co. Bond) in the amount of
..... (\$.....),
as a proposal guarantee which it is understood will be forfeited in the event the Form of Contract is not executed if awarded to the undersigned.

Signed
(Legal name of person, firm or corporation)

Address
(Street, City State and Zip Code)

IMPORTANT – INSTRUCTIONS FOR SIGNATURE

1. If this BID PROPOSAL FORM is executed by an individual, it must be signed by the individual.
2. If executed by a Corporation, it must have the signature of a duly authorized officer or representative thereof, with his title, and the Corporate Seal, if any, must be affixed.

3. If executed by a partnership, the partnership name, if any, will be signed and each partner will sign as a co-partner, unless a power of attorney is attached authorizing one partner to execute the contract for all the partners.
4. If executed by an individual doing business under a trade name, it shall be signed by this individual doing a business as (as trade name).

SCHEDULE OF PRICES

ON 11' X 17" SHEETS

NAME OF PRINCIPAL

(Contractor, Second Party, Etc.):

TOWN/CITY OF _____

Project or Contract Identification

STANDARD BID BOND

KNOW ALL PERSONS BY THESE PRESENTS:

That We,
of
hereinafter called the "Principal", as Principal, and
.....
a corporation organized and existing under the laws of the State of
and duly authorized to transact a surety business in the State of Connecticut, hereinafter called the "Surety," as Surety,
are held and firmly bound unto the Town/City of as "Obligee," in the penal
sum of **THIRTY PERCENT (30%) OF THE AMOUNT OF THE ATTACHED BID** in lawful money of the United
States of America, for the payment of which, well and truly to be made to the Obligee, we bind ourselves, our heirs,
successors, and assigns, jointly and severally, firmly by these presents.

Signed, sealed and delivered this day of....., 20.....

THE CONDITION OF THIS OBLIGATION is such, that whereas the said Principal has herewith submitted, his bid
dated 20___, for
.....
.....
.....
.....
.....

NOW, THEREFORE, if the Principal shall not withdraw its bid within sixty (60) days after the opening of the same,
and if said bid shall be accepted and the contract awarded to said Principal, and the Principal shall, when required by
the, or his authorized agent, execute and agreement in writing for the
work bid upon, and deliver such surety bonds as shall be acceptable to said
for the performance of the work according to said written agreement and for the protection of person supplying labor or
materials in the prosecution of said work, and shall in all other respects perform the agreement created by the acceptance
of said bid, then this obligation shall be void; otherwise the Principal and Surety hereto agree to pay unto the Obligee
the difference between the amount of the bid of said Principal, submitted herewith, and the amount for which the Obligee
may contract with another party to perform the work covered by the said bid of the Principal.

The Surety executing this Instrument hereby agrees that its obligation shall not be impaired by any extension(s) of the
time for acceptance of the bid that the Principal may grant to the Obligee, notice of which extension(s) the Surety being
hereby waived; provided that such waiver of notice shall apply only with respect to extensions aggregating not more
than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid.

IN TESTIMONY WHEREOF, the said
.....
have caused these presents to be signed by their duly authorized representatives and their name and corporate seal to be
hereunto affixed, the day and year first written.

SURETY

PRINCIPAL

Print Name

Print Name

Agent's Signature and date
enclose valid Power of Attorney

Signature and date of Authorized Representative

NON-COLLUSION AFFIDAVIT

This Affidavit must be completed, notarized and attached to your Bid Proposal. Failure to do so will result in the rejection of your Bid. A separate Affidavit must be submitted by each principal of a Joint Venture.

State Project No. _____
F.A. # _____
City/Town _____
Description of Project _____

I, _____, acting in behalf of _____
(Name of Party Signing Affidavit)

_____ of which
(person, firm, association, corporation or organization)

I am the _____, submitting a bid for the above project, certify
(Title of Person)

and affirm in accordance with Section 112(c) of Title 23, U.S. Code Highways that the _____
(person, firm, association, corporation or organization)

has neither directly or indirectly entered into any agreements, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with such bid. False statements made herein may be the subject of criminal prosecution.

Name of Corporation or Firm

Signature and Title of Official
Making the Affidavit

Subscribed and sworn to before me, this _____ day of _____ 20__.

Notary Public/Commissioner of the Superior Court
My Commission Expires _____

CERTIFICATE OF CORPORATION

I, _____, certify that I am the _____

Secretary of the Corporation named in the foregoing instrument: that I have been duly authorized to affix the seal of the Corporation to such papers as require the seal; that _____, who signed said instrument on behalf of the Corporation, was then _____ of said Corporation; that said instrument was duly signed for and in behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

(Corporate Seal)

Signature of Person Certifying

STATEMENT OF BIDDER'S QUALIFICATIONS

CITY/TOWN _____ PROJECT NO. _____

All bidders are required to file this form, properly completed, WITH THEIR PROPOSAL. Failure of a bidder to answer any question or provide required information may be grounds for the awarding authority to disqualify and reject their bid. If a question or request for information does not pertain to your organization in any way, use the symbol "NA" (Not Applicable). Use additional 8½" x 11" sheets with your letterhead as necessary.

1. Indicate exactly the name by which this organization is known:

Name _____

2. How many years has this organization been in business under its present business name?

Years _____

3. How many years has this organization been in business as a General Contractor?

Years _____

1. If this organization has not always been a General Contractor, list the trade(s) that your firm customarily performed prior to the time that you became a General Contractor:

1. _____

2. _____

3. _____

2. Indicate all other names by which this organization has been known and the length of time known by each name:

1. _____

2. _____

3. _____

3. This firm is a _____ Corporation _____ Partnership _____ Sole Proprietorship
_____ Joint Venture _____ Other.

4. Attach resumes of all supervisory personnel, such as Principals, Project Managers, and Superintendents, who will be directly involved with projects on which you are now a bidder. Indicate the number of years of construction experience and number of years of which they were in a supervisory capacity.

5. List all sub-trades which your firm customarily performs with own employees.
 1. _____
 2. _____
 3. _____

6. Trade References: Names, addresses and telephone numbers of several firms with whom your organization has regular business dealings.

(Attach separate sheet)

10. All Construction Projects Your Organization has in Process:

TITLE & LOCATION	CONTR. AMOUNT	PRIME* OR SUB-CONTRACTOR	OWNER	DESIGNER	START DATE	FINISH DATE	ANY COMPLAINT AS TO QUALITY OR MANAGEMENT	NAME & PHONE OF OWNER'S REP	NAME & PHONE OF DESIGNER REP

Please attach a separate sheet explaining any negative entry in these three columns

Notes: Indicate "Prime" only if your organization performed 51% or greater of the total contract amount.

11. All Construction Projects Your Organization has completed in the past five years or the twenty projects most recently completed:

TITLE & LOCATION	CONTR. AMOUNT	PRIME* OR SUB-CONTRACTOR	OWNER	DESIGNER	START DATE	FINISH DATE	ANY COMPLAINT AS TO QUALITY OR MANAGEMENT	NAME & PHONE OF OWNER'S REP	NAME & PHONE OF DESIGNER REP

Please attach a separate sheet explaining any negative entry in these three columns

Notes: Indicate "Prime" only if your organization performed 51% or greater of the total contract amount.

12. Has your organization ever failed, or has any officer or partner of your organization ever been an officer or partner of another organization that failed to complete a contract in any jurisdiction. If so, indicate the circumstances leading to the project failure.

13. List all legal or administrative proceedings currently pending or concluded adversely within the last five years which relate to procurement or performance of any public or private construction contracts in any jurisdiction.

1. _____ Attached 2. _____ N/A

Dated at _____
this _____ day of _____ 20 _____.

Name of Organization:

Signature _____ (Seal)

(Print Name) _____

Title _____

Notary Statement:

Mr./Mrs./Ms. _____ being duly

sworn deposes and says that he/she is the _____
(Position or Title)

of _____, and that the answers to the foregoing questions and all statements therein
(Firm Name)

contained are true and correct.

Subscribed and sworn before me this _____ day of _____
_____ 20 _____.

Notary Public: _____

My Commission Expires _____ 20 _____

DESIGN STATEMENT

FEDERAL PROJECT NO. 6119(006)
STATE PROJECT NO. 0119-0121
MUNICIPALITY: Town of Roxbury
BRIDGE NO. 05068
LOCATION: Wellers Bridge Road over Shepaug River
DISTRICT NO. 4
PROPOSED WORK: Bridge Replacement

FINAL MAINTENANCE RESPONSIBILITY: To be maintained by Town of Roxbury

PUBLIC UTILITIES:

The Southern New England Telephone Company dba Frontier Communications of Connecticut
The Connecticut Light and Power Company dba Eversource Energy - Electric
Charter Communications, Inc. (aka Spectrum)
Connecticut Education Network
Crown Castle Fiber LLC
Lumen Technologies, Inc. (fka CenturyLink Communications, LLC)

SALVAGE: Metal beam rail panels, posts and hardware, bridge rail and town owned signage, barrier and detour components. See Notice to Contractor – Salvage for additional information.

PERMITS AND AGREEMENTS:

Flood Management Certification – Approval Anticipated December 30, 2025
Town of Roxbury Inland Wetlands and Watercourses – Approval Anticipated December 16, 2025
Army Corps of Engineers Self-Verification Notification – Approval Pending – Submission upon receipt of Flood Management Certification and Town of Roxbury Inland Wetlands and Watercourses permit.

MAINTENANCE AND PROTECTION OF TRAFFIC:

Traffic will be maintained by detour.

SPECIAL CONSIDERATIONS: State listed Northern Long-Eared Bat, Little Brown Bat, Eastern Small-Footed Bat, Tri-Colored Bat, Rapids Clubtail Dragonfly, Eastern Box Turtle and Wood Turtle may be present on site. See Section 1.10 for best management practices and mitigation report.

CALENDAR DAYS: 488

PLAN DISTRIBUTION: Town of Roxbury

Consultant Design Engineer: **McFARLAND JOHNSON, INC.**
Consultant Liaison Engineer: **VANASSE HANGEN BRÜSTLIN, INC.**

Federal Project No. 6119(006)
State Project No. 0119-0121
Municipality: Town of Roxbury

INDEX TO SPECIAL PROVISIONS

Note: This index has been prepared for the convenience of those using this contract with the sole express purpose of locating quickly the information contained herein; and no claims shall arise due to omissions, additions, deletions, etc., as this index shall not be considered part of the contract.

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Federal Project No. 6119(006)
State Project No. 0119-0121
Municipality: Town of Roxbury

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DATE: August 27, 2025
FEDERAL PROJECT NO. 6119(006)
STATE PROJECT NO. 0119-0121

Replacement of Bridge No. 05068
Wellers Bridge Road over Shepaug River
Town of Roxbury

The State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 819, 2024, as revised by the Supplemental Specifications dated January 2025 (otherwise referred to collectively as "CTDOT Form 819") is hereby made part of this contract, as modified by the Special Provisions contained herein. Form 819 is available at the following DOT website link [Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 819](#). The current edition of the State of Connecticut Department of Transportation's "Construction Contract Bidding and Award Manual" ("Manual"), is hereby made part of this contract. If the provisions of this Manual conflict with provisions of other Department documents (not including statutes or regulations), the provisions of the Manual will govern. The Manual is available at the following DOT website link [constructioncontractbidding-awardmanual.pdf](#). The Special Provisions relate in particular to the Replacement of Bridge No. 05068 in the Town of Roxbury.

CONTRACT TIME AND LIQUIDATED DAMAGES

Four Hundred Eighty-Eight (488) calendar days will be allowed for completion of the work on this Contract and the liquidated damages charge to apply will be Two Thousand Four Hundred Dollars (\$2,400.00) per calendar day.

NOTICE TO CONTRACTOR - FEDERAL WAGE DETERMINATIONS **(Davis Bacon Act)**

The following Federal Wage Determinations are applicable to this Federal- Aid contract and are hereby incorporated by reference. During the bid advertisement period, it is the bidder's responsibility to obtain the latest Federal wage rates from the US Department of Labor website, as may be revised 10 days prior to bid opening. Any revisions posted 10 days prior to the bid opening shall be the wage determinations assigned to this contract.

Check Applicable WD# (DOT Use Only)	WD#	Construction Type	Counties
✓	CT1	Highway	Fairfield, Litchfield, Middlesex, New Haven, Tolland, Windham
	CT2	Highway	New London
	CT3	Highway	Hartford
	CT5	Heavy Dredging (Hopper Dredging)	Fairfield, Middlesex, New Haven, New London
	CT6	Heavy Dredging	Statewide
	CT13	Heavy	Fairfield
	CT14	Heavy	Hartford
	CT15	Heavy	Middlesex, Tolland
	CT16	Heavy	New Haven
	CT17	Heavy	New London
	CT26	Heavy	Litchfield, Windham
	CT18	Building	Litchfield
	CT19	Building	Windham
	CT20	Building	Fairfield
	CT21	Building	Hartford
	CT22	Building	Middlesex
	CT23	Building	New Haven
	CT24	Building	New London
	CT25	Building	Tolland
	CT4	Residential	Litchfield, Windham
	CT7	Residential	Fairfield
	CT8	Residential	Hartford
	CT9	Residential	Middlesex
	CT10	Residential	New Haven
	CT11	Residential	New London
	CT12	Residential	Tolland

The Federal wage rates (Davis-Bacon Act) applicable to this Contract shall be the Federal wage rates that are current on the US Department of Labor website ([SAM.gov](https://www.sam.gov) | [Wage Determinations](#)) as may be revised 10 days prior to bid opening. The Department will no longer physically include revised

Federal wage rates in the bid documents or as part of addenda documents. These applicable Federal wage rates will be incorporated in the final contract document executed by both parties.

If a conflict exists between the Federal and State wage rates, the higher rate shall govern.

To obtain the latest Federal wage rates, go to the US Department of Labor website (link above). Under Davis-Bacon Act, choose "Selecting DBA WDs" and follow the instruction to search the latest wage rates for the State, County and Construction Type.

NOTICE TO CONTRACTOR - BID REJECTION

Bidders are hereby notified that until the award of the Contract, the Municipality reserves the right to reject any or all bids for any reason whatsoever and to waive technicalities as deemed to be in the best interests of the Municipality.

NOTICE TO CONTRACTOR – POTENTIAL MODIFIED AWARD SCHEDULE

The Contractor is hereby given notice that this Contract may not be awarded until all Federal and State financial approvals have been received. If all financial approvals are not received, this Contract may be withdrawn and readvertised at the direction of the Municipality, in consultation with the State. This shall not be the basis for any claims by any bidder.

NOTICE TO CONTRACTOR – PRE-AWARD DOCUMENTS/ NON-RESPONSIVE BIDDER

Bidders are hereby notified that all required pre-award submittals, properly executed on the forms provided by the Municipality shall be furnished by the determined low bidder to the Municipality NO LATER THAN FOURTEEN (14) calendar days after the bid opening. These documents include but are not limited to: Contractor's Proposed Progress Chart; Anticipated Source of Materials; Statement of Bidder's Qualifications.

The Municipality may reject a bid as non-responsive if the bidder does not make all required pre-award submittals within the herein stipulated calendar days.

NOTICE TO CONTRACTOR - INSURANCE

The insurance industry's standard ACORD Certificate of Liability Insurance will replace the CON-32 Form. All required levels (\$) of insurance coverage governed by the Connecticut DOT's Standard Specifications (Form 819) Section 1.03.07, or as amended by special provision, shall be identified on the ACORD Form.

The ACORD Form shall identify the Municipality, with its official address, as the certificate holder. The project description together with the State Project number shall be included under "Description of Operations". The Municipality and the State shall be named as additional insured, as required in Section 1.03.07.

NOTICE TO CONTRACTOR – SUPERVISION AND INSPECTION

This project will be supervised and inspected by the Municipality or its authorized agent. The "Notice to Proceed", stipulating the date on which the Contractor will begin the construction and from which date the contract time will be charged, will be issued by the Municipality.

NOTICE TO CONTRACTOR – APPROVALS AND INSPECTION BY THE STATE

The Contractor is hereby notified that pursuant to an Agreement between the State and the Municipality for the construction, inspection and maintenance of this project, the Municipality is required to obtain written approvals from the State of Connecticut Department of Transportation for the following contract administration matters prior to the Municipality giving its approval to the Contractor:

- Award and Execution of Contract
- Changes in Scope of Work including Extra Work and Value Engineering Proposals
- Extensions of Contract Time

The Contractor is also hereby notified that pursuant to the aforementioned Agreement, the Department will provide certain services, including, but not limited to, materials testing, periodic construction inspection, and liaison services with other governmental agencies to ensure satisfactory adherence to state and federal requirements for this project.

NOTICE TO CONTRACTOR - VERIFICATION OF EXISTING CONDITIONS

Included in this contract is the modification, alteration and/or addition to existing structures. Contractors are cautioned that it is their responsibility to verify locations, conditions, and field dimensions of all existing features, as actual conditions may differ from information shown on the plans or contained elsewhere in the specifications.

NOTICE TO CONTRACTOR - UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES

Cultural resources consist of a broad array of structures, features, and artifacts ranging from self-evident and even striking historic properties like remarkable older or unique buildings, to less apparent buried archaeological sites, to natural aspects of topography where important historical or cultural events may have transpired upon the landscape. Although every attempt is made to identify such properties in advance of transportation related undertakings, some resources particularly those of an archaeological nature are virtually impossible to completely account for beforehand. These properties are nonetheless protected by state and federal laws and must be respected.

Archaeological resources are minimally defined by federal regulations as material remains of 50 to 100 years of age or older. They typically consist of subsurface concentrations of bone, ceramic, shaped or flaked stone artifacts. They may also consist of features such as buried building foundations, trash-filled pits, linear or circular walls made of individual stones rather than concrete or cement, patches of burned earth, and/or distinct patterns of neatly circular or elliptical discolorations in newly exposed soil accompanied by the materials described above.

If any substantial concentrations of such materials or features or any sets of bone that could be human are unexpectedly encountered during construction or other project related activity, the contractor should immediately cease all construction activities in the vicinity of the find extending to the area that may reasonably be assumed to affect the resource. The Contractor or supervisor on site should immediately contact both his supervising engineer per Connecticut Department of Transportation (CTDOT)'s own Standard Specifications for Construction Form 819, Section 1.10.06, AND the CTDOT Office of Environmental Planning (OEP) who will arrange for a qualified OEP archaeologist to assess the find as soon as possible. Any historic properties discovered in this manner should be protected in situ pending identification by the OEP archaeologist. The specialist will attempt to determine whether or not the remains are historic, Native American, or are medico-legally relevant. If there is a possibility that the remains may have forensic significance, the OEP archaeologist will immediately arrange for authorities to be contacted per Connecticut General Statutes (CGS) Title 10, Chapter 184a, Section 10-388. In the event that such finds are deemed to be historically significant and/or subject to legal protections, the resources will be left in place long enough to allow for consultation among the project proponents, the State Historic Preservation Office, the State Archaeologist, Tribal Officials, and any other key stake holding parties, as appropriate. If the remains are deemed not to qualify as historic properties by the OEP archaeologist, he or she may give permission for the work to resume.

Any identified historic properties may be preserved in situ or mitigated on a case-by-case basis as determined through consultation with the Parties and the Tribes. No artifacts should be removed from the site unless approved by all parties. Notwithstanding anything to the contrary herein, the curation and disposition of any cultural resources shall be consistent with Connecticut Statutes and other applicable law. All artifacts removed from State land should be recovered and documented by a qualified professional archaeologist and transferred to the Connecticut State Museum of Natural History under the domain of the Office of the State Archaeologist per CGS Title 10,

Chapter 184a, Section 10-383. From there, any archaeological materials may be conserved or repatriated as determined to be appropriate among the consulting parties.

Human remains are protected by particularly stringent laws. If skeletal remains believed to be human are unexpectedly encountered during project construction, all work that could potentially affect the remains must stop, the remains protected in place and treated in a respectful manner, and the Chief Medical Examiner and the State Archaeologist must be contacted in accordance with CGS Title 10, Chapter 184a, Section 10-388. If the remains are determined to be Native American, the Native American Heritage Advisory Council shall be contacted to assist in the determination of how to proceed. No work may resume until authorized by both the Chief Medical Examiner and the State Archaeologist or five (5) days have passed from the time of notification of these authorities.

NOTICE TO CONTRACTOR – PERMITS/PERMIT APPLICATIONS

The Contractor is hereby notified that all permit approvals and permit applications (contained elsewhere in these specifications) shall be made a part of this Contract, and that the Contractor shall be bound to comply with all requirements of such permits and permit applications as though the Contractor were the permittee. If at the time the permit is received its contents differ from that which is outlined in the application, the permit shall govern.

Should the permit be received after the receipt of bids and the permit requirements significantly change the character of the work, adjustment will be made to the contract in accordance with the appropriate articles in Section 1.04. The requirements and conditions set forth in the permit and permit application shall be binding on the Contractor just as any other specification would be. In the case of a conflict between a provision of the environmental permit or permit application and another provision in the contract documents, the former shall govern.

NOTICE TO CONTRACTOR – FLOOD CONTINGENCY PLAN REQUIREMENTS

The Contractor is hereby made aware that under "Article 1.10.03 – Water Pollution Control" of Form 819, as amended by the Supplemental Specifications, the Contractor is required to submit a contingency plans for flood events, in writing, to the Municipality or its authorized agent for approval. The contingency plan must be submitted by the Contractor and approved by the Municipality or its authorized agent prior to the commencement of any Project construction in the waterway.

NOTICE TO CONTRACTOR – HAZARDOUS MATERIAL INVESTIGATIONS

A limited hazardous materials site investigation has been conducted for the replacement of Bridge No. 05068, Wellers Bridge Road over Shepaug River, Roxbury, CT. The scope of the inspection was limited to the representative components projected for impact.

At Bridge No. 05068, Wellers Bridge Road over Shepaug River, Roxbury, CT, lead paint is presumed present on the structural steel/metal bridge components scheduled for impact. Any paint waste stream generated from the structural steel/metal bridge components is presumed as CTDEEP/RCRA hazardous waste. The metal railing support and guardrail/guardrail support components were galvanized (unpainted) and the wooden railing components were also unpainted; therefore, no lead paint was identified.

All steel and metal generated from work tasks (painted or not) shall be segregated and recycled as scrap metal at a scrap metal recycling facility. The recycling of scrap metal (regardless of lead paint concentration) is exempt from USEPA RCRA and CTDEEP Hazardous Waste Regulation.

All suspect asbestos containing materials (light grey bridge caulk, black speckled expansion joint, tan expansion joint caulk) identified and sampled at Bridge No. 05068 were found to be non-ACM.

No bird/pigeon guano accumulations, mice droppings/nests, bloodborne pathogens (BBP) concerns, homeless activity or other hazmat/regulated items were observed in accessible areas of Bridge No. 05068.

The Contractor is hereby notified that these hazardous materials requiring special management or disposal procedures will be encountered during various construction activities conducted within the project limits. The Contractor will be required to implement appropriate health and safety measures for all construction activities impacting these materials. These measures shall include, but are not limited to, air monitoring, engineering controls, personal protective equipment and decontamination, equipment decontamination and personnel training. **WORKER HEALTH AND SAFETY PROTOCOLS WHICH ADDRESS POTENTIAL AND/OR ACTUAL RISK OF EXPOSURE TO SITE SPECIFIC HAZARDS ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.**

The Department, as Generator, will provide an authorized representative to sign all manifests and waste profile documentation required by disposal facilities for disposal of hazardous materials.

The Sections which shall be reviewed by the Contractor include, but are not limited to, the following:

- Item No. 0020903A – Lead Compliance for Miscellaneous Exterior Tasks

The Contractor is alerted to the fact that a Department environmental consultant may be on site for abatement and related activities, to collect environmental samples (if necessary), and to observe site conditions for the State.

Information pertaining to the results of the limited hazardous materials investigation discussed can be found in the document listed below. This document shall be available for review electronically.

- HazMat Inspection – Replacement of Bridge No. 05068, Wellers Bridge Road over Shepaug River, Roxbury, Connecticut, TRC Environmental Corporation, June 9, 2025.

NOTICE TO CONTRACTOR - ENVIRONMENTAL INVESTIGATIONS

The following information provides guidance regarding the management of surplus soil generated during the Project. An estimated 1,585 cubic yards (CY) of soil have been designated as surplus for the Project, and the surplus soil volume is designated as Controlled Materials.

Historical investigations associated with roadway construction projects have shown consistency with finding low levels of semi-volatile organic compounds (SVOCs), extractable petroleum hydrocarbons (ETPH), pesticides, and metals within Project limit soils. Soil within the construction limits of Project 0119-0121 should be considered the same for surplus soil management purposes. Contaminants are expected to be at concentrations above the RCS-1 Acceptance Criteria for approved facilities under Policy #COMM-15-01 (Massachusetts Department of Environmental Protection (MassDEP) Interim Policy on the Re-Use of Soil for Large Reclamation Projects) or similar state policy. Actual contaminants and concentration levels found during construction may vary and such variations will not be considered a change in condition provided the material can still be disposed of as non-hazardous.

All excavated soils shall be reused within the Project limits to the maximum extent possible unless deemed unsuitable by the Engineer due to physical indications of contamination or the geotechnical characteristics of the material.

Excavated material that is suitable for reuse shall be managed at the point of origin for use as backfill. In instances where such soil cannot be reused directly at the point of origin or within several days of excavation, the surplus material, excluding existing pavement structure (asphalt and subbase), rock, ledge, and concrete, shall be brought to the WSA. It is noted that the WSA's location will be designated by the Contractor and approved by the Engineer prior to Project commencement.

Material that has not been reused within the Project limits by the end of the project or is deemed unsuitable for reuse due to physical indications of contamination shall be disposed of at a Municipality-approved treatment, recycling, or disposal facility. The Contractor shall effectively manage the soil to reuse as much as possible, to minimize the need for off-site disposal.

Material sampling will be performed by a Municipality representative and the analytical data will be provided to the Contractor to secure appropriate disposal arrangements. A Municipality representative will aid in the Contractor's waste profile paperwork preparation and will sign disposal paperwork (e.g., waste profile, shipping papers, etc.) as Generator.

Worker health and safety protocols that address potential risks of exposure to site-specific contaminant hazards shall be incorporated in a site-specific Environmental Health and Safety Plan. This plan shall be updated to include Project worker protocols that protect against the referenced compounds anticipated to be found in soils.

In the event groundwater is encountered during construction, any dewatering associated with the construction shall be performed in accordance with the CTDEEP's "*General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities*" unless evidence of contamination (oily sheen, etc.) is observed by the Engineer.

The Sections which shall be reviewed by the Contractor include, but are not limited to, the following:

- Item No. 0101000A - Environmental Health and Safety
- Item No. 0101128A - Securing, Construction and Dismantling of a Waste Stockpile and Treatment Area
- Item No. 0202315A - Disposal of Controlled Materials

NOTICE TO CONTRACTOR – TRANSMITTAL OF APPROVED DRAWINGS

The Contractor is hereby notified that, upon receipt of any and all approved shop drawings, and working drawings for permanent construction, the Contractor shall transmit one set of such approved drawings and product data to the Municipality, the oversight Construction District and Eliana V. Carlson, Connecticut Department of Transportation, Material Evaluation and Specification Unit, Division of Construction Operations, 280 West Street, Rocky Hill, Connecticut 06067, telephone (860) 258-0312.

NOTICE TO CONTRACTOR - MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC)

The Contractor is hereby notified that changes have been made to the referenced Membrane Waterproofing special provision and that the Contractor shall comply with all requirements of such specification.

The major changes include the following:

- Addition of language to clarify the definition of a Manufacturer is as described in Article 1.06.01 of the Standard Specifications,
- Allowance for single pass application of 80 mil membrane thickness by hand application provided a demonstration on a test section shows the Applicator is able to meet the specified tolerances and is acceptable to the Engineer. Similar test section allowance requirements will apply to mechanical applicator systems,
- Addition of requirements for taking measurements of ambient air and dew point temperatures and that no primer or membrane applications shall be allowed if the difference between these two temperatures is 5° F or less, and
- Addition of language clarifying that all components shall be from the same batch as identified on original packaging (barrels, etc), or be discarded – no mixing of like material from different batches shall be allowed.

NOTICE TO CONTRACTOR - RIGHTS OF WAY RESTRICTIONS

The Contractor is hereby advised that at the time of advertising for bids not all the property may be acquired by the State, certain residences and/or business establishments had not been vacated, and asbestos removal by others from buildings to be disposed of had not been completed. A complete listing of the affected properties and the anticipated dates that they will become available is hereinafter provided. The Contractor is further advised that limitations, as enumerated herein below, are imposed which may interfere with the physical construction of the project. Following are statements which will set forth the restrictions on the right of entrance to property and conditions governing construction of the project.

1) The Contractor shall not occupy properties that are unacquired, perform any work thereon, or inhibit access thereto until the properties have been acquired and right of possession has been obtained. If the Contractor is allowed to proceed with the physical construction of the project, no action will be taken that will result in unnecessary inconvenience such as the discontinuance of utilities, the prevention of ingress and egress to the property, or will result in disproportionate injury or any action coercive in nature to occupants of residences (businesses, farms, or non-profit organization) who have not yet moved from the right-of-way.

2) It should be anticipated that each of the properties listed herein may be considered to have an effect upon construction operations.

3) The Contractor shall be aware that extensions of time will be granted, if necessary, for delays in construction operations caused by continued occupancy of residences, properties being unacquired or asbestos abatement concluding beyond the estimated time period.

The following is a complete listing of properties which have not been acquired, vacated and asbestos abated as of July 30, 2025, with the anticipated dates such properties will be acquired and/or vacated and abated.

Serial No.	Type	Name	Title Estimate	Location
001	Partial Taking/Easement	Roxbury Land Trust, Inc.	3/31/2026	Between Stations 10+33 and 12+24 Right of Baseline
002	Easement	Roxbury Land Trust, Inc.	3/31/2026	Between Stations 10+37 and 13+19 Left of Baseline
003	Easement	Michael Patterson	3/31/2026	Between Stations 13+77 and 14+14 Left of Baseline

NOTICE TO CONTRACTOR - SALVAGE

The Contractor shall remove and salvage the following items that are currently located on the existing bridge and within the limits of the project:

Metal Beam Rail

The Contractor shall remove and salvage the following materials that have been inspected and determined to be salvageable by the Town of Roxbury:

- Metal Beam Rail, Posts and Hardware

Payment for the removal, loading, delivery and unloading of the salvaged posts, rail elements and miscellaneous hardware, if required, to the location referenced below shall be paid for under the item "Remove Metal Beam Rail".

Bridge Rail

The Contractor shall remove and salvage all bridge rail from the existing structure.

Payment for the removal, loading, delivery and unloading of the salvaged bridge rail to the location referenced below shall be paid for under the item "Removal of Superstructure".

Bridge Closure/Detour Signage, Barrier and Various Detour Components

Prior to the start of construction, the Contractor and Engineer shall inventory the existing signage, barrier and various detour components that are in place and owned by the Town. Upon completion of construction, the Contractor shall return all inventoried items to the Town of Roxbury.

Payment for the removal, loading, delivery and unloading of the salvaged signage, barrier and detour components to the location referenced below shall be paid for under the item “Maintenance and Protection of Traffic”.

The Contractor shall coordinate with the Town of Roxbury, Public Works Department a minimum of 48 hours in advance of the delivery of the salvaged materials.

Salvaged material shall be delivered to:

Town of Roxbury
Public Works Department Yard
Sherman Park
13 Lower Falls Road
Roxbury, CT 06783
(860) 354-8343

NOTICE TO CONTRACTOR – CONSTRUCTION SIGNS

The Contractor shall furnish, install, and maintain Bipartisan Infrastructure Law project signs for the duration of the Contract. The Contractor shall also remove the signs upon completion of the work under the project. A special provision for these signs has been added to the Contract for Item No. 1220027A - Construction Signs.

SECTION 1.01

DEFINITIONS OF TERMS AND PERMISSIBLE ABBREVIATIONS

1.01.01—Definitions: is amended and supplemented as follows:

Substitute the word "Municipality" or "Municipal" for "Department" wherever "Department" appears in the definitions for each of the following terms: Award, Contract, Highway, Plans, and Project.

Substitute the word "Engineer" for "Commissioner" wherever "Commissioner" appears in the definitions for each of the following terms: Subcontractor and Sub-subcontractor.

Engineer: Delete the definition in its entirety and replace with the following:

The Municipality's First Selectman, acting directly or through a duly authorized representative.

Add the following:

Municipal: Of or relating to the Municipality.

Municipal Liaison: That individual identified by the Municipality to act as liaison with the State of Connecticut, Department of Transportation.

Municipality: Town of Roxbury, Connecticut

SECTION 1.02 PROPOSAL REQUIREMENTS AND CONDITIONS

Section 1.02 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Engineer" for "Commissioner" and for "Division of Contracts."

Substitute "Municipality" or "Municipal" for "Department" and for "Contract Section".

1.02.01—Contract Bidding and Award: is amended as follows:

Add the following:

Should the Municipality NOT allow electronically submitted bids, then each paper bid proposal must be submitted in a sealed envelope large enough to hold the proposal documents (recommended size 10-1/2 x 13). **The envelope must clearly state the name and address of the firm submitting the bid, the name of the Town and Project Number for the bid.** The envelope must be delivered to the Municipality on or before the hour and date, and to the location, set forth in the bid advertisement for the opening of proposals, unless the bidder is otherwise directed.

On the date and at the time and place designated in the bid advertisement and in the related Notice to Contractor or addendum notice, the sealed paper bid proposals shall be publicly opened and read out loud. At the time that paper bid proposal is opened, it shall be checked for "responsiveness" in various respects, to determine if it complies with applicable statutes, regulations, and the Municipality's Specifications, including Connecticut DOT's Standard Specifications. Each bidder is required to include with its paper bid proposal the following documents: the completed paper bid proposal form (incl. the schedule of prices), the required bid bond, a non-collusion affidavit, Bidder's Prequalification approval letter signed by the CTDOT Contracts Manager and any other information required by the bid documents or by the bid advertisement. Each paper bid proposal shall be governed by the terms and conditions, as applicable, that are stipulated in the Connecticut DOT's Construction Bidding and Award Manual, for electronically submitted bids.

Prequalification by the State of Connecticut Department of Transportation is required for this project. Prospective bidders must have a current sworn Statement (CON-16) on file with the Connecticut Department of Transportation. The bidder's prequalification approval letter signed by the CTDOT Contracts Manager shall be included as part of the bid package submitted to the Municipality (see attached sample).

In accordance with the provisions of the Construction Contract Bidding and Award Manual, bidders must be prequalified for **Group No. 9 – Intermediate Bridges**, to be eligible to bid on this project. Bidders that are not prequalified for this work classification will not be approved to bid on this project.



**STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION**

**2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546**

Phone: 860-594-3128



October 26, 2018

ABC Construction
Mr. Doe
123 Main St.
Santa Clara, Connecticut 06000

Re: Contractor's Prequalification
Statement (CON-16)

Dear Mr. Doe;

This is to notify you that your Firm's subject statement has been found to be satisfactory by this Department.

It will expire August 31, 2021

Your Maximum Capacity Rating is \$60,000,000.00

Your Construction Classification is:

Group No. 1 Earthwork: Site Work
Group No. 2 Earthwork: Utility Work
Group No. 3 Concrete Restoration
Group No. 4 Specialized Concrete Repair
Group No. 5 Paving and Associated Construction
Group No. 6 Road Construction and Rehabilitation: Local Roads & Streets and non-freeways.
Group No. 7 Road Construction and Rehabilitation: Limited Access Highways, freeways, and major reconstruction of non-freeway state routes.
Group No. 8 Minor Bridges
Group No. 9 Intermediate Bridges
Group No. 10 Major Bridges
Group No. 11 Bridge Painting
Group No. 12 Marine repairs, Marine Construction or Salvaging
Group No. 13 Traffic Control & Illumination/Electrical
Group No. 14 Signing Delineation

Group No. 15 Intelligent Transportation Systems (ITS)
Group No. 16 Pavement Markings
Group No. 17 Incidental Construction: Fencing
Group No. 18 Incidental Construction: Guide Rail
Group No. 19 Incidental Construction: Bridge Joints & Membranes
Group No. 20 Incidental Construction: Temporary Traffic Control
Group No. 21 Railroad Construction
Group No. 22 Railroad Construction Electrical
Group No. 23 Landscaping/Environmental Improvements
Group No. 24 Environmental
Group No. 25A Vertical Construction
Group No. 25B Vertical Construction Includes Group 25 A
Group No. 25C Vertical Construction Includes Groups 25 A & B

A Proposal Request (Part "C") can be obtained via this link:
<http://www.ct.gov/dot/lib/dot/documents/dcontractdev/partc.xls>

No bidders that have mutual financial interests, or common ownership, directors, officers or principal shareholders (i.e., shareholders holding at least five percent [5%] of either the common or the preferred shares of the company's stock) may bid for the same Department contract. Such proscribed bidders shall include, but not be limited to, affiliates and subsidiaries of each other.

If any non-bidding party has an ownership interest in more than one bidder that is bidding for a given contract, either directly or through the former's ownership interests in another company, no matter how high up or far removed in a vertical or horizontal chain of ownership that party might be from the bidders, the bids of those bidders shall not be accepted.

In addition, with respect to any given Department contract that is advertised for bidding, no bidder owned by, or in the chain of ownership of, a company which provides surety bonds may bid against a bidder for whom a bond has been or will be provided by that company for the given contract bidding. All bids proscribed by the terms of this paragraph will be rejected by the Commissioner.

Please be aware that the Department, prior to the awarding of any contract, may require further financial and other information from any applicant who becomes the low bidder for that contract.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Gregory D. Straka

Gregory D. Straka
Contracts Manager
Division of Contracts Administration

1.02.03—Examination of Contract Documents and Work Site:

Delete the last paragraph and replace with the following:

"Bidders must inform the Municipality's Designer, at the earliest opportunity, in writing, of any and all omissions, errors, and/or discrepancies that the bidder discovers within or among the plans, specifications, and bidding documents. Information and inquiries concerning such matters, and any other information or inquiry concerning the conditions of bidding or award or the interpretation of contract documents must be transmitted in writing to:

Mr. Tim Cruse, P.E.
Regional Director of Transportation
McFarland-Johnson, Inc.
180 Glastonbury Blvd, Suite 403
Glastonbury, CT 06033
tcruise@mjinc.com
Office: (860) 430-8135
Mobile: (704) 989-5209

The Municipality and/or the Municipality's Designer cannot ensure a response to inquiries received later than ten (10) days prior to the scheduled bid opening of the related bid. When deemed warranted by the Municipality and/or the Municipality's Designer, responses to such inquiries that relate to changes in or interpretations of the Project documents (plans and specifications) will be issued to all bidders in the form of addenda and made a part of the Contract. Bidders are responsible for ensuring that they are aware of all addenda. Failure by the Municipality, Municipality's Designer or postal or other courier services to deliver addenda or other information regarding a Contract being bid does not release the bidder from any obligations under said addenda or the conditions of the bid."

SECTION 1.03
AWARD AND EXECUTION OF CONTRACT

Section 1.03 is supplemented and amended as follows:

Throughout this Section, except for Article 1.03.07, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Engineer" for "Commissioner," for "Manager of Contracts" and for "Transportation Manager of Contracts".

Substitute "Municipality" for "Department" and "State".

1.03.07—Insurance: is amended as follows:

Substitute "State and Municipality" for "Department" and "State".

It is the intent of this Article to designate the State and Municipality as additional insured, as applicable.

SECTION 1.04 SCOPE OF WORK

Section 1.04 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Engineer" for "Department's Assistant District Engineer".
Substitute "Municipality" for "Department" and for "State".

1.04.05 – Extra Work: is amended as follows:

Add the following after the fourth sentence:

Bonding costs shall not be included in the contractor's compensation request. However, if the contractor incurs or will incur increased bonding costs related to the extra work, the contractor shall request separate compensation for such costs. The contractor's request shall be itemized and include a certified statement from the bonding company stating that the value of the work will require an increase in bonding coverage and shall detail the additional costs (within allowable contract amount limitations). If *satisfactory* substantiation is provided, a new item for increased bonding costs will be incorporated into the contract by means of a construction order.

Insert the following immediately following "Department's Assistant District Engineer" near the bottom of the paragraph: "and/or the Municipality's authorized representative".

SECTION 1.05 CONTROL OF THE WORK

Section 1.05 is supplemented and amended as follows:

Substitute "Municipality" for "Department" and/or "State" and "Engineer" for "Department's Assistant District Engineer".

1.05.02-1. Plans: Substitute "Municipality" for "Department.

Add the following sentence to the end of the Subarticle: "The Working Drawings, Shop Drawings and Product Data shall be submitted to the Designer as hereinafter noted; copies of transmittal letters shall be sent to the oversight District and the Municipality.

Designer

Mr. Tim Cruse, P.E.
Regional Director of Transportation
McFarland-Johnson, Inc.
180 Glastonbury Blvd, Suite 403
Glastonbury, CT 06033
tcruise@mjinc.com
Office: (860) 430-8135
Mobile: (704) 989-5209

Oversight District

Mr. Joseph Mancini, P.E.
Assistant District Engineer – District 4
359 South Main Street
Thomaston, CT 06787
Phone: (203) 591-3544

Municipality

Mr. Patrick Roy
First Selectman
Town of Roxbury
29 North Street
P.O. Box 203
Roxbury, CT 06783
proy@roxburyct.com
Phone: (860) 354-9938
Fax: (860) 354-5060

1.05.02-2. Working Drawings: Substitute "Municipality" for "Assistant District Engineer".

1.05.02-5. Submittal Preparation and Processing – Review Timeframes: Substitute "Designer" for "Department".

Add the following paragraphs:

"Prior to the submission of any working, shop or erection drawings, the Contractor shall prepare and submit to the Engineer, for approval, a schedule for all proposed working and shop drawings. This initial schedule should be submitted within thirty (30) days of contract award and must be submitted before the Notice to Proceed. The Contractor shall coordinate, schedule and control all submittals of working and shop drawings including those of his various subcontractors, suppliers and engineers to provide for an orderly and balanced distribution of the work.

Each Shop Drawing shall include the name and telephone number of the fabricator's contact person who is familiar with the drawing and who will be available to answer questions by the Engineer or Designer should any arise during the review process.

It is incumbent upon the Contractor to submit his shop drawings in accordance with the approved working and shop drawing schedule to facilitate expeditious review. Voluminous submittals of shop drawings at one time are discouraged and may result in increased review time. In no case will the Municipality accept liability for resulting delays, added costs and related damages when the time required for approval extends beyond the approximate times shown herein when the shop drawings are not submitted in conformance with the approved schedule."

1.05.02-5(a). Submissions: Substitute "oversight" for "administering" when citing the Construction District and add "and Municipality" to the end of the sentence.

1.05.02-5(b). Submissions: Substitute "Designer" for "Assistant District Engineer of the administering Construction District".

1.05.02-5(c). Submissions: Substitute "Designer" for "administering Construction District".

1.05.06 – Cooperation with Utilities (including railroads):

Add the following:

Within the project there may be public utility structures; and, notwithstanding any other clause or clauses of this Contract, the Contractor cannot proceed with his work until he has made diligent inquiry with the utility companies, municipal authorities or other utility owners to determine their exact location, and notified "Call Before You Dig". The Contractor shall notify, in writing, the utility companies, municipalities or other owners involved of the nature and scope of the project

and of his operations that may affect their facilities or property. Copies of such notices shall be sent to the Engineer.

SECTION 1.06
CONTROL OF MATERIALS

Section 1.06 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute “Department/Municipality” or “Municipal” for “Department”.

SECTION 1.07
LEGAL RELATIONS AND RESPONSIBILITIES

1.07.01—Laws to be Observed: is amended as follows:

In the second sentence of the first paragraph, after the word "State" add the words "and Municipality".

1.07.03—Proprietary Devices, Materials and Processes: is amended as follows:

After the word "State" add the words "and Municipality" throughout this Article.

1.07.04—Restoration of Surfaces Opened Pursuant to Permit or Contract: is amended as follows:

Replace the word "Department" with "Municipality" throughout this Article.

1.07.07—Safety and Public Convenience: is amended as follows:

In the penultimate paragraph, after the word "Department," add the words "or Municipality".

1.07.09—Protection and Restoration of Property: is supplemented and amended as follows:

Add the words "or Municipality" after the word "State" wherever the word "State" appears in this Article.

Add the phrase "or Municipality, as applicable" after the word "Department" wherever the word "Department" appears in this Article.

Add the following:

The Contractor shall notify the Tree Warden of the Municipality in which the bridge project is located, five (5) days prior to flagging so that the Tree Warden may be present during the flagging.

All trees scheduled to be removed outside of the proposed gutter or curb lines of the highway shall be visibly marked or flagged by the Contractor at least five (5) days prior to cutting of such trees.

The Engineer will inspect the identified trees and verify the limits of tree removal prior to the Contractor proceeding with his cutting operation, should such an operation be required elsewhere in this contract.

1.07.10—Contractor's Duty to Indemnify the State Against Claims for Injury or Damage: is amended as follows:

Revise the title of this Article to read "Contractor's Duty to Indemnify the State and/or Municipality Against Claims for Injury or Damage."

In the first sentence, delete the words "the Department".

Replace the word "State" with "State and/or Municipality" throughout this Article.

Replace the word "Commissioner" with "Engineer" throughout this Article.

1.07.11—Opening of Section of Project to Traffic or Occupancy: is amended as follows:

Replace the word "State" with "Municipality" or "Municipal" throughout this Article.

Article 1.07.13 - Contractor's Responsibility for Adjacent Property, Facilities and Services is supplemented as follows:

The following company and representative shall be contacted by the Contractor to coordinate the protection of their utilities on this project 30 days prior to the start of any work on this project involving their utilities:

Mr. Gabriel Gonzalez
District 4 Electrical Supervisor
Department of Transportation
Southbury, Connecticut 06488
(203) 264-9590

**Charter Communications, Inc. (aka Spectrum)
(fka Charter Communications Entertainment I, LLC)**

Mr. Nick L. Felix
Construction Supervisor
9 Commerce Road
Newtown, CT 06470
Phone: (475) 444-5174
E-mail: Nick.Felix@charter.com

Connecticut Education Network

Mr. Ryan Kocsondy
Executive Director
55 Farmington Avenue, 6th Floor
Hartford, CT 06105
Phone: (860) 622 4563
E-mail: rk@uconn.edu

**The Connecticut Light and Power Company
dba Eversource Energy - Electric Distribution**

Mr. Mark Bonjuklian
Manager - Distribution Projects and Programs
9 Tindall Avenue
Norwalk, CT 06851
Phone: (203) 845-3456
E-mail: mark.bonjuklian@eversource.com

Crown Castle Fiber LLC

Mr. Mark Bonanno
Manager, Network Construction
1800 West Park Drive, Suite 250
Westborough, MA 01581
Phone: (508) 616-7818
E-mail: Mark.Bonanno@crowncastle.com

**Lumen Technologies, Inc. (fka CenturyLink Communications, LLC)
(previously Level 3 Communications, LLC)**

Mr. David Vega
Project Manager, OSP Relocations
71 Clinton Road
Garden City, NY 11530
Phone: (917) 207-4604
E-mail: David.Vega@lumen.com

**The Southern New England Telephone Company
dba Frontier Communications of Connecticut**

Ms. Lynne M. DeLucia
Manager - Engineering & Construction
1441 North Colony Road
Meriden, CT 06450-4101
Phone: (203) 238-5000
E-mail: Lynne.m.delucia@ftr.com

All work shall be in conformance with Rules and Regulations of Public Utility Regulatory Authority (PURA) concerning Traffic Signals attached to Public Service Company Poles.

1.07.14—Personal Liability of Representatives of the State: is amended as follows:

Add the words "and Municipality" after the word "State".

1.07.15—No Waiver of Legal Rights: is amended as follows:

Replace the words "Commissioner" and "Department" with "Municipality" or "Municipal" throughout this Article.

1.07.16—Unauthorized Use of Area(s) within the Project Site: is amended as follows:

Replace the words "Commissioner" and "State" with "Municipality" throughout this Article.

Add the following new Subarticle:

1.07.19—Personal Liability of Representatives of the Municipality

In carrying out any of the provisions of these specifications, or in exercising any power or authority granted to them by or within the scope of the Contract, the Engineer and his authorized representatives, including consultant engineering firms and their employees, shall be subject to no liability, either personally or as officials of the Municipality, it being understood that in all such matters they act solely as agents and representatives of the Municipality.

SECTION 1.08 PROSECUTION AND PROGRESS

Section 1.08 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Municipality" or "Municipal" for "Department" and for "State".

Substitute "Engineer" for "Commissioner".

Article 1.08.04 - Limitation of Operations - Add the following:

In order to provide for traffic operations as outlined in the Special Provision "Maintenance and Protection of Traffic," the Contractor will not be permitted to perform any work which will interfere with the described traffic operations on all project roadways as follows:

1. Monday through Friday between 6:00 a.m. and 9:00 a.m. & between 3:00 p.m. and 6:00 p.m.
2. Saturday and Sunday between 10:00 a.m. and 6:00 p.m.

Wellers Bridge Road

Restrictions:

1. Wellers Bridge Road at Shepaug River (Bridge #05068) is currently closed to traffic with a detour of traffic in place. The Contractor will be allowed to maintain the closure of Wellers Bridge Road at Shepaug River (Bridge #05068) and detour traffic as shown in the contract plans and as specified in the contract for the duration of the project as approved by the Engineer.

Baker Road (CT Route 67)

Contractor shall be allowed to maintain an alternating one-way traffic operation Monday through Friday between 9:00 a.m. and 3:00 p.m. only. The one-way operations must be terminated if vehicle queues exceed 300 feet in length in either direction.

Baker Road shall be fully re-opened when the Contractor is not actively working on the road.

Additional Lane Closure Restrictions

It is anticipated that work on adjacent projects will be ongoing simultaneously with this project. The Contractor shall be aware of those projects and anticipate that coordination will be required to maintain proper traffic flow at all times on all project roadways, in a manner consistent with these specifications and acceptable to the Engineer.

The Contractor will not be allowed to perform any work that will interfere with traffic operations on a roadway when traffic operations are being restricted on that same roadway, unless there is at least a one-mile clear area length where the entire roadway is open to traffic or the closures have been coordinated and are acceptable to the Engineer. The one-mile clear area length shall be measured from the end of the first work area to the beginning of the signing pattern for the next work area.

SECTION 1.09

MEASUREMENT AND PAYMENT

Section 1.09 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

"Municipality" or "Municipal" for "Department" and for "State".

Substitute "Engineer" for "Commissioner".

Article 1.09.06—Partial Payments

Subarticle B. Payment for Stored Materials is amended as follows:

B. Payment for Stored Materials: Non-perishable materials that are required for Project construction and that the Contractor has produced or purchased specifically for incorporation into the Project, but which have not yet been so incorporated, may be included in a payment estimate if

- (i) the materials meet all applicable Contract specifications,
- (ii) the materials have been delivered to the Project site or to another location approved by the Engineer, and
- (iii) the Contractor has submitted to the Engineer, as evidence of the Contractor's purchase of the materials, copies of notarized receipted bills and a notarized Certificate of Title, lien waiver, and right of entry to the materials, in the form approved by the Department, duly executed by the Contractor, the Vendor and any other parties deemed necessary by the Engineer to satisfy proof of unencumbered ownership.

The Engineer will decide at what fair and appropriate fraction of the applicable Contract price such materials may be included in a payment estimate.

Offsite storage may be approved by the Engineer, provided that the materials proposed for payment are stored in a secure area, segregated from other materials, clearly labeled as being owned by the Department for use on the identified Project, otherwise handled in compliance with Article 1.06.03 and stored in accordance with the manufacturer's recommendations. All such materials must be readily available for inventory and inspection by the Engineer. Storage outside of the State of Connecticut may be considered only when a representative of the Department is able to verify that the above requirements have been satisfied.

For items requiring extended fabrication, manufacturing or assembly time, the Contractor may propose to the Engineer a schedule of values for completely fabricated portions of the related material. If the Engineer accepts such a schedule of values, it shall become the Basis of Payment for the stored materials, so long as all other pertinent Contract requirements have been satisfied.

Generic materials having a use on many projects will be considered for payment prior to their incorporation into the Project only if stored in unopened packaging or in large lots stored at the project site.

Stock and raw materials will not be considered for such advance payment without the Engineer's prior written consent thereto.

In no case shall material payments exceed the Contract unit price or lump sum price less the actual value of the remaining work under the item, including but not limited to delivery and installation of the materials. If the proposed material costs do exceed such a price, the Engineer reserves the right to reduce any related payment accordingly. In such an instance the Contractor shall provide documentation of ownership and written acceptance of the amount to be paid in a form acceptable to the Engineer prior to any payments being made by the Engineer. Such reductions in payment shall in no way affect the Department's ownership interest in the stored materials or release the Contractor from any other requirements of the Contract.

SECTION 1.10 ENVIRONMENTAL COMPLIANCE

1.10.02—Compliance with Laws and Regulations: is amended as follows:

Replace the word "Department" with "Municipality" throughout this Article.

1.10.03—Water Pollution Control: is amended as follows:

Replace the word "Department" with "Municipality" throughout this Article.

Add the following sentence after the second sentence of the third paragraph:

The following items may also be superseded by specific permits from the Connecticut Department of Energy and Environmental Protection (DEEP) and/or the appropriate local wetlands and watercourses regulatory authority.

In Paragraph No. 13, replace "State right-of-way" with "State or Municipal right-of-way."

In Article 1.10.03-Water Pollution Control: REQUIRED BEST MANAGEMENT PRACTICES

Add the following after Required Best Management Practices Number 13:

14. The Contractor is hereby notified that one or more State and/or federally listed species of bat has been documented within the Project limits. In Connecticut, the Eastern small-footed bat (*Myotis leibii*), tri-colored bat (*Perimyotis subflavus*), little brown bat (*Myotis lucifugus*), Northern long-eared bat (*Myotis septentrionalis*) and the Indiana bat (*Myotis sodalis*) are listed as State endangered; while the silver-haired bat (*Lasionycteris noctivagans*), hoary bat (*Lasiurus cinereus*) and the red bat (*Lasiurus borealis*) are listed as State species of special concern. The Northern long-eared bat, tri-colored bat, and the Indiana bat are also federally listed endangered species. Bats are the only mammals capable of actual flight and are primarily nocturnal. During the daylight, bats roost in trees and caves, but many have now adapted to roost in or on buildings including barns, houses, tunnels, and bridges. Within the Project limits, bats will use the snags, cavities, and underside of bark to roost and raise young. **This Project will have a Time of Year restriction for tree clearing, trimming and removal to protect the bat species listed.**

The Contractor shall, through the Engineer and at least 10 days prior to the commencement of any construction activities, arrange a meeting with the District Environmental Coordinator (DEC) and Office of Environmental Planning (OEP) (or their authorized delegate) to discuss proper protocol for maintaining environmental commitments made for the protection of these bat species and their habitat. OEP will provide oversight through the DEC and Engineer to ensure that the following protocols are followed and maintained during the Project:

- a. The Contractor, through the Engineer, shall arrange a pre-construction tree-clearing Site walk to review all trees proposed to be removed for the Project.

- b. Clearing, trimming or removal of any tree three (3) inches diameter at breast height (DBH) or greater will be prohibited between April 15 and October 31.
- c. This restriction shall also apply to invasive species removal work and shall be reflected in the Contractor's Invasive Vegetation Removal Plan, if applicable.

These practices will be applied to the entire Project unless a specified location is identified within the Project plans, which denotes specific areas of concern.

If any bats are observed in or around the Project area, the Engineer will notify the DEC to facilitate further coordination with OEP's Environmental Resource Compliance Unit. If the DEC is unable to be reached, notify OEP at Andrew.Piraneo@ct.gov or at Marilyn.Gould@ct.gov.

The OEP will be responsible for completing and submitting the Natural Diversity Data Base (NDDDB) Vertebrate Sheet ([Contribute Data to the NDDDB](#)). This completed document allows CTDEEP to update their database.

All listed bat species are protected by federal and/or State laws which prohibit killing, harming, taking, harassing, or keeping them in your possession. A CTDEEP fact sheet(s) for the listed bats noted above shall be posted in the Contractor's and Inspection field offices and can be downloaded at the link below.

CTDEEP's Fact Sheet for Bats:
[Bat Fact Sheet](#)

- 15. The Contractor is hereby notified that State Threatened Gomphus quadricolor (Rapids clubtail) dragonfly has been documented within the Project limits. The Gomphus quadricolor (Rapids clubtail) dragonfly is very sensitive to degradation of clear, cold water habitats including siltation in the waterways and hardening of the shoreline. This species has an aquatic life stage that persists for multiple years.

To avoid impact to the State Threatened dragonfly species:

Retain the fast -flowing water system downstream. Ensure that water flow to swiftly-flowing waters downstream is not impeded temporarily during the course of your work, or permanently after the course of your project

Incorporate BMPs for minimizing sedimentation and erosion that will meet water quality criteria

Materials used for sediment and erosion control should NOT contain plastic netting/mesh which has been shown to entangle wildlife

Keep natural shorelines. Minimize the use of riprap and minimize the amount of tree cutting and vegetation removal along the banks of the river

Plant or replant riparian vegetation native to the northeast United States in disturbed shoreline areas.

Water quality criteria targets that will help protect this species include the following:

Suspended sediments or Maximum induced suspended sediments in any 24 hr period should be less than 25mg/L over background levels.

Induced suspended sediments averaged over 30 day period should be less than 5mg/L over background levels.

Water temperature should not increase 1° C (~1.8°F)

16. The Contractor is hereby notified that the State listed species of Special Concern Eastern box turtle (*Terrapene carolina carolina*), is present within the Project limits. In Connecticut, this terrestrial turtle lives in a variety of habitats, including woodlands, field edges, thickets, marshes, bogs, and stream banks. Typically, however, Eastern box turtles are found in well-drained forest bottomlands and open deciduous forests. They will use wetland areas at various times during the season. During the hottest part of a summer day, they will wander to find springs and seepages where they can burrow into the moist soil. Eastern box turtles overwinter in upland forest, typically covered by leaf litter or woody debris. As temperatures drop, the turtles burrow down into soft ground.

All construction activities taking place within the Project limits will need to be coordinated with the District Environmental Coordinator (DEC) and Office of Environmental Planning (OEP) through the Engineer. At least 10 days prior to the commencement of any construction activities, the Contractor shall, through the Engineer, arrange a meeting with the DEC and CTDOT Environmental Inspector from the OEP (or their authorized delegate) to discuss proper protocol for maintaining environmental commitments made for the protection of this species and habitat. OEP will provide oversight through the DEC and Engineer to ensure that the following protocols are followed and maintained during the Project.

For any work done during the Eastern box turtle's active period (April 1 to October 31), the CTDOT will require the following precautionary measures to protect the Eastern box turtle and Eastern box turtle habitat:

- a. All areas with the Project limits must be surveyed to verify the presence of any active Eastern box turtle activity prior to commencement of the initial clearing and grubbing activities.
- b. All construction personnel working within Eastern box turtle habitat must be apprised of the species description and the possible presence of this listed species.
- c. Exclusionary practices will be required in order to prevent any Eastern box turtle access to construction areas. These measures will need to be installed at the limits of disturbance as shown on the plans.
- d. Exclusionary fencing shall be at least 20" tall and must be secured to and remain in contact with the ground. The Contractor shall regularly inspect and maintain the fencing to prevent any gaps or openings at ground level. Silt fence with netting shall not be used.

- e. The Contractor must search the work area each morning for the presence of this listed species prior to any work being done.
- f. Any Eastern box turtles encountered within the Project shall be carefully moved outside of the excluded work area and the Engineer shall be immediately informed in order to contact the DEC and OEP with the location.

When a species is found, the OEP will be responsible for completing and submitting the Natural Diversity Data Base (NDDB) Vertebrate Sheet (<https://portal.ct.gov/DEEP/Endangered-Species/Contributing-Data>). This completed document allows CTDEEP to update their database.

- g. All staging and storage areas within the vicinity of the Project limits of the Eastern box turtle habitat must be submitted to the DEC and Engineer and receive written approval from the OEP.
- h. The Contractor shall not park heavy machinery or vehicles within the Eastern box turtle habitat without submitting to the DEC and Engineer and receiving written approval from the OEP.
- i. Exclusionary fencing shall be removed at the completion of the Project and when final stabilization has occurred to allow for reptile and amphibian passage to resume.

Work may take place during the Eastern box turtle's inactive (hibernation) period (November 1 to March 31) with the following additional precautionary measure:

- a. Exclusionary fencing must be installed, and the area inspected for turtles by the Engineer or Engineer's approved representative prior to October 31.

These practices will be applied to the entire Project unless a sketch is attached, which identifies specific areas of concern.

If any Eastern box turtles are observed in or around the Project area, the Engineer will notify the DEC to facilitate further coordination with OEP's Environmental Resource Compliance Unit. If the DEC is unable to be reached, notify OEP at Andrew.Piraneo@ct.gov or at Marilyn.Gould@ct.gov.

This species is protected by State laws, which prohibit killing, harming, taking, or keeping them in your possession. A CTDEEP's fact sheet of the Eastern box turtle shall be posted in the Contractor's and Inspection field offices and can be downloaded at the link below.

CTDEEP's Fact Sheet for the Eastern Box Turtle:

https://portal.ct.gov/-/media/DEEP/wildlife/pdf_files/outreach/fact_sheets/boxturtlepdf.pdf

17. The Contractor is hereby notified that the State listed species of Special Concern wood turtle (*Glyptemys insculpta*), is present within the Project limits. Wood turtles require riparian habitats bordered by floodplain, woodland, or meadows. Their summer habitat includes pastures, fields, woodlands, power line cuts, and railroad beds bordering or adjacent to streams and rivers. Wood turtles spend most of their summer on land and can use areas up to 1500 feet from the streams/rivers where they overwinter. They hibernate submerged in tangled tree roots along riverbanks or in deep pools.

All construction activities taking place within the Project limits will need to be coordinated with the District Environmental Coordinator (DEC) and Office of Environmental Planning (OEP) through the Engineer. At least 10 days prior to the commencement of any construction activities, the Contractor shall, through the Engineer, arrange a meeting with DEC and CTDOT Environmental Inspector from the OEP (or their authorized delegate) to discuss proper protocol for maintaining environmental commitments made for the protection of this species and habitat. OEP will provide oversight through DEC and Engineer to ensure that the following protocols are followed and maintained during the Project.

During the wood turtle's dormant period (November 1 to March 31):

- Construction activities will be allowed in upland areas.
- Work is not allowed in wetland/watercourse areas unless these areas were in active construction prior to November 1, and additionally, do not contain any areas of turtle habitat (no stream edge vegetation, stumps, or roots).

For any work done during the wood turtle's active period (April 1 to October 31) the Department will require the following precautionary measures to protect the wood turtle and wood turtle habitat:

- a. All areas within the Project limits must be surveyed to verify the presence of any active wood turtle activity prior to commencement of the initial clearing and grubbing activities.
- b. All construction personnel working within wood turtle habitat must be apprised of the species description and the possible presence of this listed species.
- c. Exclusionary practices will be required in order to prevent any wood turtle to access construction areas. These measures will need to be installed at the limits of disturbance as shown on the plans.
- d. Exclusionary fencing shall be at least 20" tall and must be secured to and remain in contact with the ground. The Contractor shall regularly inspect and maintain the fencing to prevent any gaps or openings at ground level. Silt fence with netting shall not be used.
- e. The Contractor must search the work area each morning for the presence of this listed species prior to any work being done.
- f. Any wood turtles encountered within the Project shall be carefully moved outside of the excluded work area and the Engineer shall be immediately informed in order to contact the DEC and OEP with the location.

When a species is found, the OEP will be responsible for completing and submitting the Natural Diversity Data Base (NDDB) Vertebrate Sheet (<https://portal.ct.gov/DEEP/Endangered-Species/Contributing-Data>). This completed document allows CTDEEP to update their database.

- g. All staging and storage areas within the vicinity of the Project limits of the wood turtle habitat must be submitted to the DEC and Engineer and receive written approval from the OEP.
- h. The Contractor shall not park heavy machinery or vehicles within the wood turtle habitat without submitting to the DEC and Engineer and receiving written approval from the OEP.
- i. Exclusionary fencing shall be removed at the completion of the Project and when final stabilization has occurred to allow for reptile and amphibian passage to resume.
- j. When felling trees adjacent to watercourses, they shall be cut to fall away from the waterway and not dragged across the waterway. Stumps shall be left in waterway banks where possible.

These practices will be applied to the entire Project unless a sketch is attached, which identifies specific areas of concern.

If any wood turtles are observed in or around the Project area, the Engineer will notify the DEC to facilitate further coordination with OEP's Environmental Resource Compliance Unit. If the DEC is unable to be reached, notify OEP at Andrew.Piraneo@ct.gov or at Marilyn.Gould@ct.gov.

This species is protected by State laws, which prohibit killing, harming, taking, or keeping them in your possession. A CTDEEP's fact sheet of the wood turtle shall be posted in the Contractor's and Inspection field offices and can be downloaded at the link below.

CTDEEP's Fact Sheet for the Wood Turtle:

https://portal.ct.gov//media/DEEP/wildlife/pdf_files/outreach/fact_sheets/woodturtlepdf.pdf

The Contractor shall adhere to the mitigation plan for State-Listed Reptiles contained herein. The requirements of the mitigation plan will apply for the duration of the project. If a conflict exists between a Best Management Practice and a requirement of the mitigation plan, the mitigation plan shall prevail.

Invasive Species Plan Review and Habitat Assessment with Species Surveys to Develop a Comprehensive Reptile Habitat Mitigation Plan for the Design, During, and Post-Construction Remediation Phases

Project: Preliminary Assessment of the Replacement of Bridge No. 05068

Wellers Bridge Road over the Shepaug River in Roxbury, Connecticut

NDDB Determination No.: 202202013

Prepared By:

Dennis P. Quinn – Owner/Herpetologist
Quinn Ecological, LLC

Prepared for:

Thomas Weldon
Vanasse Hangen Brustlin, Inc.

July 16, 2025

Scope of Services:

1. Quinn Ecological, LLC conducted a Site Visit to meet with VHB representatives to review the site and discuss various mitigation measures that will be needed throughout the construction of the Project. Quinn Ecological assessed habitats within the project area for suitability to support a wood turtle population.
2. Review the review of the existing mitigation plan for invasive species removal will be conducted. A summary of specifications which may potentially impact wood and box turtles will be provided.
3. Based on the result of the field investigation, a comprehensive report detailing a reptile species and habitat mitigation plan, to be used during design, during construction, and post construction is provided in this report.

The proposed mitigation/protection plan focuses on protection of the wood turtle (*Glyptemys insculpta*), the protection measures provided will also serve as suitable protection measures for the eastern box turtle (*Terrapene c. carolina*) The wood turtle and box turtle are state-listed (special concern) reptiles under Connecticut's Endangered Species Act. The wood turtle is currently under review by the United States Fish and Wildlife Service for potential listing under the federal Endangered Species Act. Both species of turtle have been identified as a "species of greatest conservation need" in Connecticut's Wildlife Action Plan (CTDEEP Wildlife Division 2025). The occurrence of both box turtles and wood turtles within, or in the vicinity of the project area has been confirmed, and suitable habitat exists to support a population (CTDEEP-NDDB; Klemens et.al 2021).

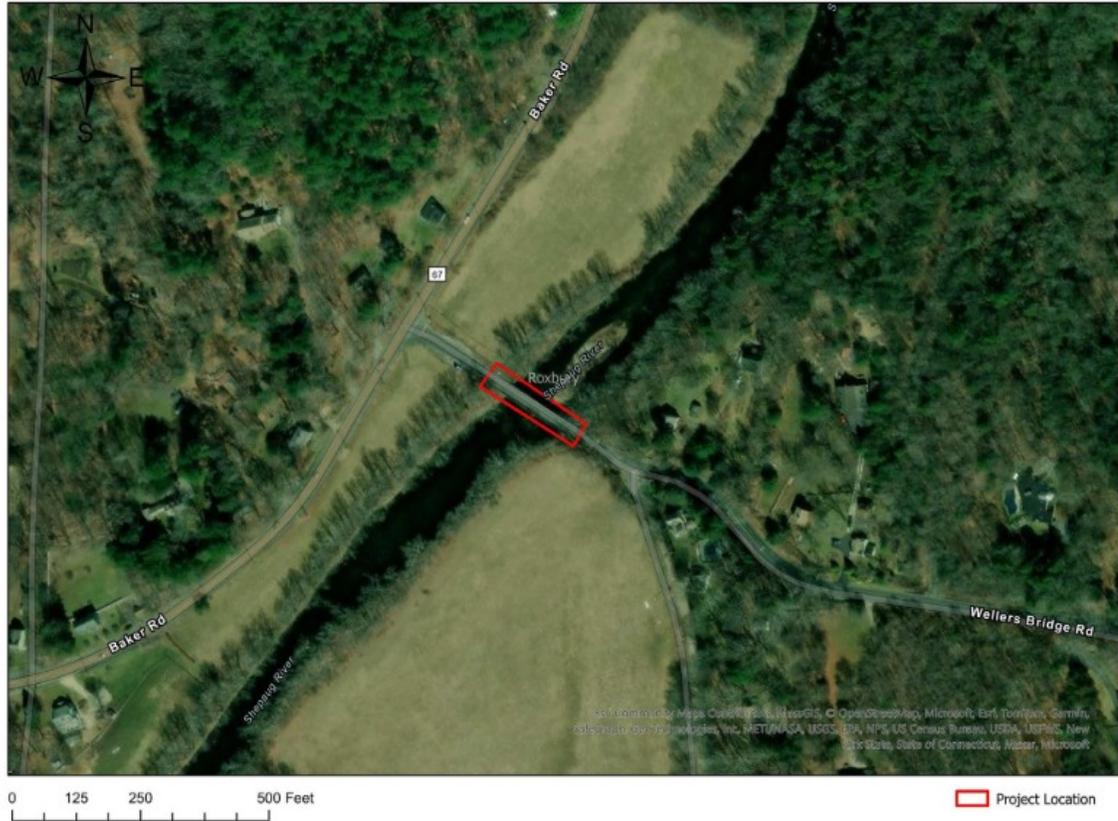


Figure 1. Location of the bridge replacement project and approximate area of disturbance along the Shepaug River.

SPECIES OVERVIEW AND HABITAT ASSESSMENT

Wood turtles are semi-aquatic riverine species that over-winter within rivers and streams, either tucked under embankments, among root tangles and fallen logs, or in deeper pools with accumulations of leaves and other organic matter. In the spring and fall, wood turtles typically remain close to the river, where they move along short stretches of the river frequently basking among protected open areas along the embankments. Because of the wood turtle’s close association with the river from late September through May, careful assessment of the characteristics of the habitat along a particular stretch of river (i.e., potential seasonal use by turtles), and consideration of any disturbances occurring within, and along the banks of the river (typically within 300 feet) is important in determining the potential for negative impacts of a proposed project, and for guiding decisions related to the seasonal timing of any activities.

Eastern box turtles approach their northeastern range limit in Connecticut, inhabiting primarily low-lying portions of the State below 500-foot elevation. As Connecticut’s only terrestrial species of turtle, eastern box turtles use a mosaic of habitats seasonally (Klemens et al. 2021, Quinn et al., 2017 and Quinn, 2008). During the spring and early summer months they favor early and late successional habitats (fields and shrublands), with a shift to forested habitats during the late-summer and fall seasons. Nesting occurs exclusively during the months of May and June in sparsely vegetated early successional habitat, with

hibernation occurring exclusively in forested uplands for adult individuals and forested or shrub/scrub habitats for juveniles and hatchlings. (Nicolson et al., 2020, Quinn et al., 2017 and Quinn, 2008). The largest threat to eastern box turtles continues to be mortality relating to the fragmentation of habitat mosaics.

As a long-lived species with delayed sexual maturity and low reproductive output, the ability of wood turtle and box turtle populations to rebound from significant loss of adults is problematic. To ensure survivorship of these populations, reducing impacts, such as habitat fragmentation and road mortality, and maintaining ecological connectivity within habitat mosaics is critical.

Potential overwintering habitat: The physical characteristics of the river within the immediate construction zone north and south of the bridge crossing are not suitable for overwintering (i.e., lack undercut banks, shallow depth with a mostly rocky bottom, lack woody debris, etc.). A study of overwintering sites utilized by wood turtles in rivers in eastern Connecticut identified typical microhabitat features as: areas of relatively low flow velocity, located within a meter of the river bank, and with bottom substrates dominated by silt/muck/organic deposits. A strong correlation with submerged root tangles and undercut banks was also noted (Gruner, unpublished data). No suitable hibernation habitat for eastern box turtles occurs within the project area.

Early spring and fall seasonal basking habitat: Patches of open canopy, shrub and herbaceous habitat located along streambanks provide important habitat for wood turtles to bask and thermoregulate during early and late season periods. The immediate area surrounding the river within the project area consists of forest and agricultural lands with suitable river embankment and terrestrial basking habitat present to attract turtles. During the spring and early summer months, eastern box turtles favor early and late successional habitats (fields and shrublands). The meadows adjacent to the project site are suitable for spring and early summer movements of box turtle.

Seasonal turtle activity and nesting habitat: Wood turtles begin to disperse away from the immediate river environs to their summer habitat in the surrounding floodplain and upland areas in late spring. Similarly, box turtles will disperse for forested habitats into early to late successional habitats. *Therefore, a primary consideration within the construction zone is the installation of exclusionary fencing to prevent dispersing turtles from moving into areas of disturbance.* This is especially important to prevent female turtles from nesting in disturbed areas from late May through early July. Female turtles are attracted to open areas of bare, or sparsely vegetated soil to deposit their eggs. Areas such as this are often created by site clearing and grubbing during construction projects. Location of this project along a road may result in the creation of disturbances that expose nesting females and/or hatchlings to mortality unless these areas are excluded from access during the construction period, and planted, or allowed to naturally revegetate post-construction.

Beyond consideration of potential impacts associated with the project's immediate construction zone, careful consideration of potential impacts associated with locating and preparing staging areas for the project need to be taken into consideration. Wood and box turtles disperse into various upland habitat habitats seasonally. Areas extending from 300 feet to as much as 1,000 feet from each river embankment into surrounding floodplain and upland habitats are considered important conservation zones for wood turtles based on studies of their seasonal movements (Northeast Wood Turtle Working Group, GLIN_Mapping_Guidelines_2017 (northeastturtles.org).

In addition to the forested floodplain, early successional herbaceous or shrub dominated habitats, edges of agricultural and hay fields, and sand/gravel pits, all provide important habitat during the spring-fall activity season. Areas of critical habitat, in this case the early successional meadows, adjacent to the construction area need to be excluded from the construction area and any temporary staging areas within these meadows must be excluded with turtle exclusionary barrier.

No other critical seasonal habitat that would attract wood or box turtles to the project area throughout their active season were observed.

The *primary goal* of the mitigation plan is to avoid inadvertent injury/mortality of turtles that may be dispersing through the area over the course of their spring - fall active season. A *secondary goal* is to prevent the establishment of conditions along the roadway that will attract turtles to nest, exposing both adults and hatchlings to road mortality.

The proposed mitigation plan consists of three phases: (1) pre-construction, including site clearing/grubbing and the installation of cofferdams, (2) active construction monitoring, and (3) post-construction and site restoration.

The objectives of the **pre-construction phase** are:

(a) identify appropriate locations for staging construction equipment, temporary construction office trailers, work crew parking, and stock-piling of materials including fill, (b) identify areas where exclusionary fencing will be required, (c) guide installation of the exclusion fencing, (e) provide construction personnel with information on wood turtles and what to do if they encounter them, (f) conduct sweeps of the project area and monitor site clearing and grubbing activities when heavy equipment is in use, and (g) complete regular inspections and make timely repairs as necessary to maintain the integrity of the exclusion fencing.

The objectives of the **construction phase** are:

(a) conduct regular on-site monitoring to ensure integrity of the exclusion fencing and relocate any animals encountered to suitable habitat outside of the project area, (b) conduct sweeps (aquatic and/or terrestrial searches as necessary) of work areas, or where heavy machinery is in use to relocate any reptiles encountered to suitable habitat away from the project area, and (c) provide construction personnel with information on wood turtles and what to do if they encounter them during the project

The objectives of the **post-construction restoration phase** focus' on:

(a) restoration of areas that were disturbed during the project, including staging areas, and (b) removal of the exclusionary fencing once the disturbed areas are stabilized, (c) conduct a site inspection to review the restored areas to ensure that no hazards remain for turtles (i.e., "ecological traps" – see Klemens et.al 2021).

REQUIREMENTS OF THE PROTECTION PLAN

Requirement #1: Avoid important habitat, within or outside, of the primary construction zone by locating appropriate staging areas for the project:

It is anticipated that equipment, materials, and fill will be staged along the immediate roadway and shoulder areas due to the necessity of road closure for the project. However, once a location(s) for

staging has been identified by the contractor, the site(s) should be reviewed by the project herpetologist to determine if there is a need to conduct sweeps for any of the target species. Beyond the scope of the project construction easement, the meadows surrounding the project site should be avoided to the greatest extent possible. If these areas are required to be used for staging, an appropriate exclusionary barrier will need to be installed. If the meadow areas are proposed for staging, the location and extent should be coordinated and reviewed by the project herpetologist.

Requirement #2: Identify areas requiring the installation of exclusionary fencing and appropriately install the fencing:

Exclusionary fencing at least 20 inches in height (above ground level) should be installed at the limits of disturbance within the construction zone. The fencing should be staked (12 inches into the ground) at appropriate distances to maintain rigidity (6-10 feet intervals), and the fencing buried at least 4 inches into the ground and back-filled. Standard erosion control/silt fencing (geotextile) can be used, but not fencing with a wider nylon mesh lining, which can entangle snakes (WI DNR 2015).

The terminus of each length of fencing should be angled back away from the road to divert animals moving along the exterior of the fence back into undisturbed habitat to discourage them from moving around the fence. Installation of each length of fence should be coordinated with the project herpetologist to determine the best angle and placement depending upon the location, topography, and surrounding habitat. In general, a “J-hook” loop design with an interior width of no more than 18 inches, and return length of fencing of approximately 10 feet should be used (see Figure 4). The exclusionary fencing must be tied into the cofferdam to prevent turtles from accessing the work area in the river from the embankments. Figure 5 illustrates approximate locations for exclusionary fencing. The exact location and layout of the fencing will be determined in coordination with the consulting herpetologist at the time of installation.

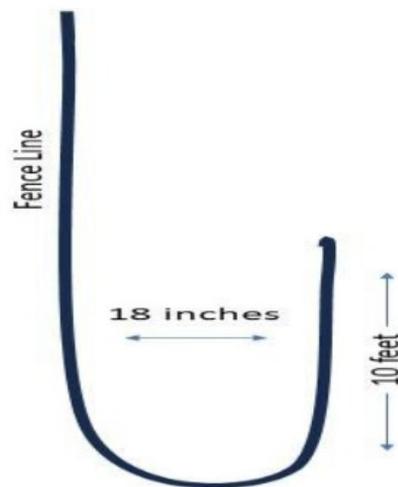


Figure 4. “J-hook” loop design for the end points of the exclusion fencing.

Exclusionary fencing may also be required to be installed around other staging areas for the project, depending upon their location and the habitat present. The project herpetologist should be consulted to review the selected areas.

Installation of the exclusionary fencing must be completed by April 15th to prevent turtles from entering the construction zone. If installation is delayed, additional steps to survey for, and relocate any individuals within the construction zone may be required.

If so, a qualified herpetologist must conduct surveys of the construction zone and relocate any reptiles encountered to appropriate habitat outside of the construction zone, and within a distance representative of the species' typical home range based on published studies. The sweeps must be conducted on the same day that the construction activity is occurring, and the herpetologist should work directly with the contractors mowing or clearing areas to guide these activities based on the type and density of vegetation.

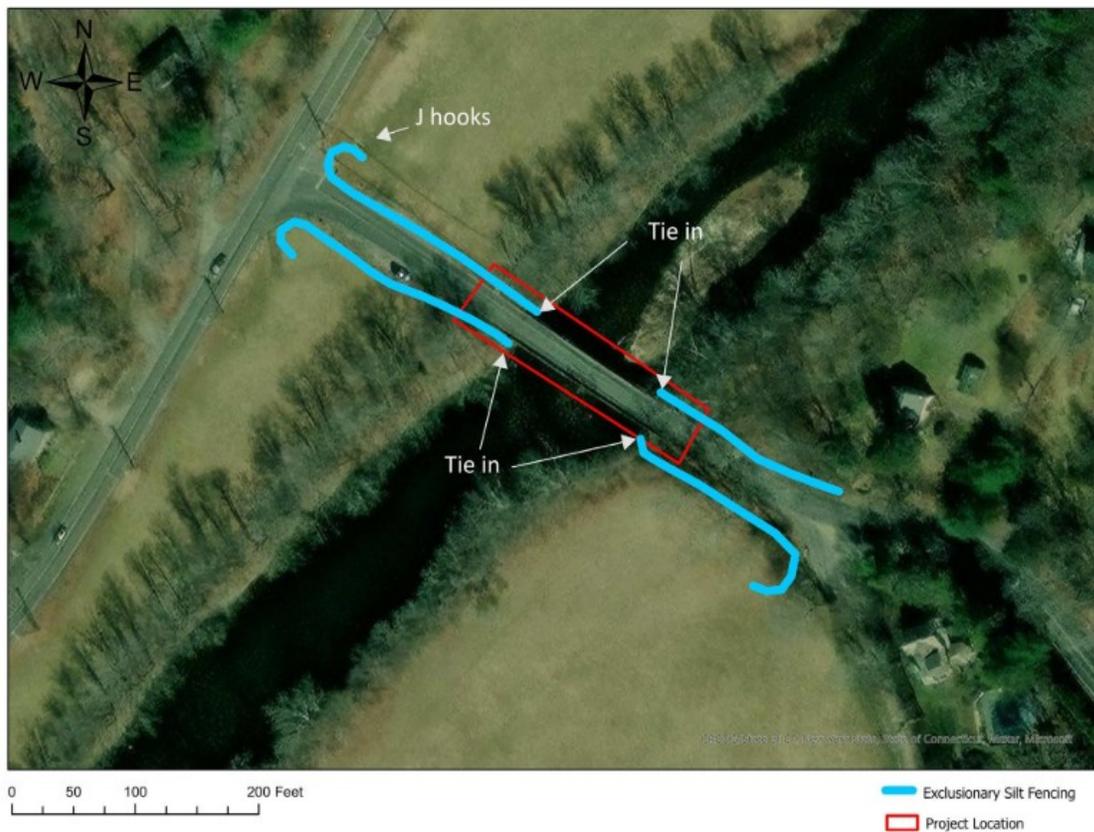


Figure 5. Approximate location of exclusionary fencing to prevent turtles from entering the construction zone.

Requirement #3: Conduct in-stream, and bank sweeps for turtles along the banks of the Shepaug River prior to any work in this area from April 1- May 30. This is especially important during the period prior to the installation of the exclusionary fencing (April 1-15).

Wood turtles will be active during this period so there is no concern for disturbing over-wintering individuals. However, this timing coincides with a period of high activity where turtles are associated with both instream and near-stream habitats, thus caution is warranted.

Sweeps should be conducted by a qualified herpetologist with experience in conducting surveys for wood turtles. The sweeps must occur no more than 24 hours prior to any work. If any wood turtles are encountered, the consulting herpetologist will relocate them to appropriate habitat outside of the project area along the Shepaug River.

Construction Phase

The focus of protection strategies during the construction phase of the project center around maintaining the integrity of the exclusion fencing and conducting sweeps to relocate any individual turtles to appropriate habitat outside of the construction area. Turtles have evolved a reproductive life history that depends upon high survivorship in the adult stage. Loss of individuals, especially adult females, can contribute to local population declines.

Requirement #4: Inform construction personnel on what to do if they encounter any of the reptile species:

An informal "construction team meeting" should be convened in the field to provide information on wood and box turtles, including, identification, and what to do if any individuals are encountered. This will also be an opportunity to summarize the components and goals of the protection plan for the work crew. It is also important to stress to construction personnel that any turtles encountered should not be removed. Not infrequently, turtles encountered by individuals are taken from the wild and brought home as pets. Collection of wild turtles can be a significant contributing factor in population declines. The information session should be presented by a qualified herpetologist and coordinated with the construction project manager.

Requirement #5: Conduct regular monitoring of the exclusionary fencing.

It is important to monitor the integrity of the exclusion fencing on a regular basis to ensure that animals cannot enter active construction areas. This is especially important during the turtle nesting season when females are actively moving around seeking appropriate sites in which to deposit their eggs. The exclusionary fencing should be inspected by the project herpetologist weekly from March 1-July 15th and biweekly between July 16-October 15.

Installation of exclusionary fencing within or adjacent to habitats sometimes results in individuals encountered moving along the exterior of the fence and being directed linearly along the fence for some distance (Quinn pers. obs.). This can expose them to predation. Thus, it is important that a qualified herpetologist conduct the inspections, as they are capable of capturing, and relocating any individuals encountered to appropriate habitat within the area that would fall within the species typical home range, yet safely away from the project.

The environmental monitor is responsible for daily silt fence checks to ensure damaged silt fence is immediately repaired. This is especially true following any heavy rain events or windstorms it is imperative that the fencing be inspected within 24 hours, and any necessary repairs made. These events often lead to fencing being pulled away from stakes, and branches falling on the fence creating gaps.

Requirement #6: Conduct sweeps of any areas to be cleared, or where heavy machinery will be in use throughout the duration of the project:

Prior to clearing any areas, including any temporary staging areas, a qualified herpetologist should conduct visual sweeps to capture and relocate any animals that may be encountered.

Post-construction Restoration Phase

The focus of mitigation strategies during the post-construction phase of the project is on restoration of areas disturbed during the project, including any staging areas, as well as the removal of the exclusionary fencing.

Requirement #7: Restore disturbed areas in a manner that avoids impacts to surrounding habitat or individual animals:

All open areas with bare, or sparsely vegetated soil that remain in the construction zone should be seeded and/or planted. A conservation seed mix that utilizes natural species should be used to avoid the spread of non-native, invasive plants into surrounding habitat. Because of the location of disturbances along a roadway, it is important to eliminate any potential areas that may attract turtles to nest.

Consultation with the project herpetologist is recommended in reviewing these areas of disturbance during the restoration phase of the project.

Requirement #8: Invasive Plant Species Removal:

Within the project area, all invasive plant species should be removed. This should be done through hand-clearing in areas outside of exclusionary silt fence areas. Spot treatment, using CTDEEP approved herbicides can be conducted.

Requirement #9: Remove all exclusionary fencing:

At the completion of the project, and once areas of disturbance are stabilized, the exclusionary fencing should be removed from all areas, including the staging areas, to avoid impeding the dispersal of animals.

REFERENCES CITED

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- Connecticut Department of Energy and Environmental Protection, Wildlife Division. 2025. *Connecticut Wildlife Action Plan: Protecting our wildlife and habitats together*. July 2025 draft, 2025 CT Wildlife Action Plan Draft
- Gruner and Quinn, 2022. *Amphibian and Reptile Management Considerations, Bernstein and Hibbert Open Space Properties, Hebron, CT*. Unpublished Report, CT-ERT, June 16, 2022.
- Klemens, M.W., H.J. Gruner, D.P. Quinn, and E. R. Davison. 2021. *Conservation of Amphibians and Reptiles in Connecticut*. Revision to State Geological and Natural History Survey Bulletin 112. Department of Energy and Environmental Protection, Hartford, CT.
- Northeast Wood Turtle Working Group. Wood turtle Site Mapping Guidelines. Appendix X, *Conservation Plan for the Wood Turtle in the Northeastern United States* (Jones, Robert, and Wiley 2018): GLIN_Mapping_Guidelines_2017 (northeastturtles.org).
- (WI DNR) 2015. Amphibian and reptile exclusion fencing protocols. Wisconsin Department of Natural Resources, Endangered Resources Review Program. Revised February
- Quinn, D., H. Gruner, and S. Cronkite. 2017. Eastern box turtle and eastern hog-nosed snake final monitoring report 2011. Parsons Transportation Group. Project 18-113/129. U.S. Route 7 Bypass, Brookfield, Connecticut. Connecticut Department of Transportation
- Quinn, D. 2008. A radio-telemetric study of the Eastern Box Turtle (*Terrapene carolina carolina*) home range, habitat use, and hibernacula selection in Connecticut. M. Sc Thesis. Central Connecticut State University, New Britain, CT. 84 pp.

1.10.07—Controlled and Hazardous Materials: is amended as follows:

Replace the word "Department" with "Municipality" throughout this Article.

SECTION 1.11
CLAIMS

Section 1.11 is supplemented and amended as follows:

Throughout this Section make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Chief Administrative Official of the Municipality" for "Commissioner".

Substitute "Municipality" or "Municipal" for "Department".

CODE OF ETHICS

The Contractor shall comply with the provisions contained in Section 1-86e of the Connecticut General Statutes, which provides as follows:

- (a) No person hired by the state as a Contractor or independent contractor shall:
 - (1) Use the authority provided to the person under the contract, or any confidential information acquired in the performance of the contract, to obtain financial gain for the person, an employee of the person or a member of the immediate family of any such person or employee;
 - (2) Accept another state contract which would impair the independent judgment of the person in the performance of the existing contract; or
 - (3) Accept anything of value to a person hired by the state as a Contractor or independent contractor based on an understanding that the actions of the Contractor or independent contractor on behalf of the state would be influenced.
- (b) No person shall give anything of value to a person hired by the state as a Contractor or independent contractor based on an understanding that the actions of the Contractor or independent contractor on behalf of the state would be influenced.

The following clause is applicable to those contracts with a value of Five Hundred Thousand Dollars (\$500,000) or more:

The Contractor shall comply with the Code of Ethics for Public Officials, Conn. Gen. Stat. §§ 1-79 *et seq.*, and Code of Ethics for Lobbyists, Conn. Gen. Stat. §§ 1-91 *et seq.*, when and where applicable. Insofar as state contractors are concerned, a summary of the most relevant provisions of the Codes of Ethics is contained in the Summary of State Ethics Laws for Current and Potential State Contractors. The Contractor acknowledges receiving such Summary, which is incorporated herein by reference. The Summary may change from time to time and may be accessed via the Internet at www.ethics.state.ct.us.

The Contractor agrees that the above clause will also be incorporated in all of its contracts with its subcontractors and consultants.

The Contractor agrees that any instance of its violating the Code of Ethics or the Department of Transportation Ethics Policy will be sufficient cause for the Department to terminate any or all of the Contractor's pending contracts with the Department.

In addition, the Contractor hereby acknowledges and agrees to comply with the policies enumerated in "Connecticut Department of Transportation Policy Statement Policy No. F&A-10, Subject: Code of Ethics Policy", dated June 1, 2007, a copy of which is attached hereto and made a part hereof.



CONNECTICUT DEPARTMENT OF TRANSPORTATION POLICY STATEMENT

POLICY NO. F&A-10
June 1, 2007

SUBJECT: Code of Ethics Policy

The purpose of this policy is to establish and maintain high standards of honesty, integrity, and quality of performance for all employees of the Department of Transportation ("DOT" or "Department"). Individuals in government service have positions of significant trust and responsibility that require them to adhere to the highest ethical standards. Standards that might be acceptable in other public or private organizations are not necessarily acceptable for the DOT.

It is expected that all DOT employees will comply with this policy as well as the Code of Ethics for Public Officials, and strive to avoid even the appearance of impropriety in their relationships with members of the public, other agencies, private vendors, consultants, and contractors. This policy is, as is permitted by law, in some cases stricter than the Code of Ethics for Public Officials. Where that is true, employees are required to comply with the more stringent DOT policy.

The Code of Ethics for Public Officials is State law and governs the conduct of all State employees and public officials regardless of the agency in which they serve. The entire Code, as well as a summary of its provisions, may be found at the Office of State Ethics' web site: www.ct.gov/ethics/site/default.asp. For formal and informal interpretations of the Code of Ethics, DOT employees should contact the Office of State Ethics or the DOT's Ethics Compliance Officer or her designee.

All State agencies are required by law to have an ethics policy statement. Additionally, all State agencies are required by law to have an Ethics Liaison or Ethics Compliance Officer. The DOT, because of the size and scope of its procurement activities, has an Ethics Compliance Officer who is responsible for the Department's: development of ethics policies; coordination of ethics training programs; and monitoring of programs for agency compliance with its ethics policies and the Code of Ethics for Public Officials. At least annually, the Ethics Compliance Officer shall provide ethics training to agency personnel involved in contractor selection, evaluation, and supervision. A DOT employee who has a question or is unsure about the provisions of this policy, or who would like assistance contacting the Office of State Ethics, should contact the Ethics Compliance Officer or her designee.

The DOT Ethics Compliance Officer is:

Denise Rodosevich, Managing Attorney
Office of Legal Services

**For questions, contact the Ethics
Compliance Officer's Designee:**

Alice M. Sexton, Principal Attorney
Office of Legal Services
2800 Berlin Turnpike
Newington, CT 06131-7546
Tel. (860) 594-3045

To contact the Office of State Ethics:

Office of State Ethics
20 Trinity Street, Suite 205
Hartford, CT 06106
Tel. (860) 566-4472
Facs. (860) 566-3806
Web: www.ethics.state.ct.us

Enforcement

The Department expects that all employees will comply with all laws and policies regarding ethical conduct. Violations of the law may subject an employee to sanctions from agencies or authorities outside the DOT. Whether or not another agency or authority imposes such sanctions, the Department retains the independent right to review and respond to any ethics violation or alleged ethics violation by its employees. Violations of this policy or ethics statutes, as construed by the DOT, may result in disciplinary action up to and including dismissal from State service.

Prohibited Activities

1. ***Gifts:*** DOT employees (and in some cases their family members) are prohibited by the Code of Ethics and this Policy from accepting a gift from anyone who is: (1) doing business with, or seeking to do business with, the DOT; (2) directly regulated by the DOT; (3) prequalified as a contractor pursuant to Conn. Gen. Stat. §4a-100 by the Commissioner of the Department of Administrative Services (DAS); or (4) known to be a registered lobbyist or a lobbyist's representative. These four categories of people/entities are referred to as "restricted donors." A list of registered lobbyists can be found on the web site of the Office of State Ethics (www.ct.gov/ethics/site/default.asp). A list of prequalified consultants and contractors, *i.e.*, those seeking to do business with the DOT, can be found on the DOT's Internet site under "Consultant Information" and "Doing Business with ConnDOT," respectively.

The term "gift" is defined in the Code of Ethics for Public Officials, Conn. Gen. Stat. §1-79(e), and has numerous exceptions. For example, one exception permits the acceptance of food and/or beverages valued up to \$50 per calendar year from any one donor and consumed on an occasion or occasions while the person paying or his representative is present. Therefore, such food and/or beverage is not a "gift." Another exception permits the acceptance of items having a value up to ten dollars (\$10) provided the aggregate value of all things provided by the donor to the recipient during a calendar year does not exceed fifty dollars (\$50). Therefore, such items are not a "gift." Depending on the circumstances, the "donor" may be an individual if the individual is bearing the expense, or a donor may be the individual's employer/group if the individual is passing the expense back to the employer/group he/she represents.

This policy requires DOT employees to immediately return any gift (as defined in the Code of Ethics) that any person or entity attempts to give to the employee(s). If any such gift or other item of value is received by other than personal delivery from the subject person or entity, the item shall be taken to the Office of Human Resources along with the name and address of the person or entity who gave the item. The Office of Human Resources, along with the recipient of the item of value, will arrange for the donation of the item to a local charity (e.g., Foodshare, local soup kitchens, etc.). The Office of Human Resources will then send a letter to the gift's donor advising the person of the item's donation to charity and requesting that no such gifts be given to DOT employees in the future.

2. ***Contracting for Goods or Services for Personal Use With Department Contractors, Consultants, or Vendors:*** Executive Order 7C provides that: "Appointed officials and state employees in the Executive Branch are prohibited from contracting for goods and services, for personal use, with any person doing business with or seeking business with his or her agency, unless the goods or services are readily available to the general public for the price which the official or state employee paid or would pay."

3. **Gift Exchanges Between Subordinates and Supervisors/Senior Staff:** A recent change in the Code of Ethics prohibits exchanges of gifts valued at \$100 or more between (*i.e.*, to and from) supervisors and employees under their supervision. The Citizen's Ethics Advisory Board has advised that: (1) the monetary limit imposed by this provision is a per-gift amount; (2) gifts given between supervisors and subordinates (or *vice versa*) in celebration of a "major life event," as defined in the Code of Ethics, need not comply with the \$100 limit; and (3) the limitations imposed by this provision apply to a direct supervisor and subordinate *and to any individual up or down the chain of command*. The Citizen's Ethics Advisory Board has also advised that supervisors or subordinates may not pool their money to give a collective or group gift valued at \$100 or more, even though each of the individual contributions is less than \$100.
4. **Acceptance of Gifts to the State:** A recent change to the Code of Ethics for Public Officials modified the definition of the term "gift" to limit the application of the so-called "gift to the State" exception. In general, "gifts to the State" are goods or services given to a State agency for use on State property or to support an event and which facilitate State action or functions. Before accepting any benefit as a "gift to the State," DOT employees should contact the Ethics Compliance Officer.
5. **Charitable Organizations and Events:** No DOT employee shall knowingly accept any gift, discount, or other item of monetary value for the benefit of a charitable organization from any person or entity seeking official action from, doing or seeking business with, or conducting activities regulated by, the Department.
6. **Use of Office/Position for Financial Gain:** DOT employees shall not use their public office, position, or influence from holding their State office/position, nor any information gained in the course of their State duties, for private financial gain (or the prevention of financial loss) for themselves, any family member, any member of their household, nor any "business with which they are associated." In general, a business with which one is associated includes any entity of which a DOT employee or his/her immediate family member is a director, owner, limited or general partner, beneficiary of a trust, holder of 5 percent or more stock, or an officer (president, treasurer, or executive or senior vice president).

DOT employees shall not use or distribute State information (except as permitted by the Freedom of Information Act), nor use State time, personnel, equipment, or materials, for other than State business purposes.

7. **Other Employment:** DOT employees shall not engage in, nor accept, other employment that will either impair their independence of judgment with regard to their State duties or require or induce them to disclose confidential information gained through their State duties.

Any DOT employee who engages in or accepts other employment (including as an independent contractor), or has direct ownership in an outside business or sole proprietorship, shall complete an Employment/Outside Business Disclosure Form (see attached) and submit it to the Department's Human Resources Administrator. Disclosure of other employment to the DOT Human Resources Administrator shall *not* constitute approval of the other employment for purposes of the Code of Ethics for Public Officials.

Inquiries concerning the propriety of a DOT employee's other employment shall be directed to the Office of State Ethics to assure compliance with the Code of Ethics for Public Officials. Employees anticipating accepting other employment as described above should give ample time (at least one month) to the Office of State Ethics to respond to such outside employment inquiries.

No employee of the DOT shall allow any private obligation of employment or enterprise to take precedence over his/her responsibility to the Department.

8. **Outside Business Interests:** Any DOT employee who holds, directly or indirectly, a financial interest in any business, firm, or enterprise shall complete an Employment/Outside Business Disclosure Form (see attached) and submit it to the Department's Human Resources Administrator. An indirect financial interest includes situations where a DOT employee's spouse has a financial interest in a business, firm, or enterprise. A financial interest means that the employee or his spouse is an owner, member, partner, or shareholder in a non-publicly traded entity. Disclosure of such outside business interests to the DOT Human Resources Administrator shall *not* constitute approval of the outside business interest under this Policy or the Code of Ethics for Public Officials. DOT employees shall not have a financial interest in any business, firm, or enterprise which will either impair their independence of judgment with regard to their State duties or require or induce them to disclose confidential information gained through their State duties. Inquiries concerning the propriety of a DOT employee's outside business interests shall be directed to the Office of State Ethics to assure compliance with the Code of Ethics for Public Officials.
9. **Contracts With the State:** DOT employees, their immediate family members, and/or a business with which a DOT employee is associated, may not enter into a contract with the State, other than pursuant to a court appointment, valued at \$100 or more unless the contract has been awarded through an open and public process.
10. **Sanctioning Another Person's Ethics Violation:** No DOT official or employee shall counsel, authorize, or otherwise sanction action that violates any provision of the Code of Ethics.
11. **Certain Persons Have an Obligation to Report Ethics Violations:** If the DOT Commissioner, Deputy Commissioner, or "person in charge of State agency procurement" and contracting has reasonable cause to believe that a person has violated the Code of Ethics or any law or regulation concerning ethics in State contracting, he/she *must* report such belief to the Office of State Ethics. All DOT employees are encouraged to disclose waste, fraud, abuse, and corruption about which they become aware to the appropriate authority (see also Policy Statement EX.O.-23 dated March 31, 2004), including, but not limited to, their immediate supervisor or a superior of their immediate supervisor, the DOT Office of Management Services, the Ethics Compliance Officer, the Auditors of Public Accounts, the Office of the Attorney General, or the Office of the Chief State's Attorney.
12. **Post-State Employment Restrictions:** In addition to the above-stated policies of the Department, DOT employees are advised that the Code of Ethics for Public Officials bars certain conduct by State employees *after they leave State service. Upon leaving State service:*
 - **Confidential Information:** DOT employees must never disclose or use confidential information gained in State service for the financial benefit of any person.
 - **Prohibited Representation:** DOT employees must *never* represent anyone (other than the State) concerning any "particular matter" in which they participated personally and substantially while in State service and in which the State has a substantial interest.

DOT employees also must not, for one year after leaving State service, represent anyone other than the State for compensation before the DOT concerning a matter in which the State has a substantial interest. In this context, the term "represent" has been very broadly defined. Therefore, any former DOT employee contemplating post-State employment work that might involve interaction with any bureau of DOT (or any Board or Commission administratively under the DOT) within

their first year after leaving State employment should contact the DOT Ethics Compliance Officer and/or the Office of State Ethics.

- **Employment With State Vendors:** DOT employees who participated substantially in, or supervised, the negotiation or award of a State contract valued at \$50,000 or more must not accept employment with a party to the contract (other than the State) for a period of one year after resigning from State service, if the resignation occurs within one year after the contract was signed.

13. **Ethical Considerations Concerning Bidding and State Contracts:** DOT employees also should be aware of various provisions of Part IV of the Code of Ethics that affect any person or firm who: (1) is, or is seeking to be, prequalified by DAS under Conn. Gen. Stat. §4a-100; (2) is a party to a large State construction or procurement contract, or seeking to enter into such a contract, with a State agency; or (3) is a party to a consultant services contract, or seeking to enter into such a contract, with a State agency. These persons or firms shall not:

- With the intent to obtain a competitive advantage over other bidders, solicit any information from an employee or official that the contractor knows is not and will not be available to other bidders for a large State construction or procurement contract that the contractor is seeking;
- Intentionally, willfully, or with reckless disregard for the truth, charge a State agency for work not performed or goods not provided, including submitting meritless change orders in bad faith with the sole intention of increasing the contract price, as well as falsifying invoices or bills or charging unreasonable and unsubstantiated rates for services or goods to a State agency; and
- Intentionally or willfully violate or attempt to circumvent State competitive bidding and ethics laws.

Firms or persons that violate the above provisions may be deemed a nonresponsible bidder by the DOT.

In addition, no person with whom a State agency has contracted to provide consulting services to plan specifications for any contract, and no business with which such person is associated, may serve as a consultant to any person seeking to obtain such contract, serve as a contractor for such contract, or serve as a subcontractor or consultant to the person awarded such contract.

DOT employees who believe that a contractor or consultant may be in violation of any of these provisions should bring it to the attention of their manager.

Training for DOT Employees

A copy of this policy will be posted throughout the Department, and provided to each employee either in hard copy or by e-mail. As set forth above, State law requires that certain employees involved in contractor/consultant/vendor selection, evaluation, or supervision must undergo annual ethics training coordinated or provided by the Ethics Compliance Officer. If you believe your duties meet these criteria, you should notify your Bureau Chief to facilitate compilation of a training schedule. In addition, the DOT Ethics Compliance Officer can arrange for periodic ethics training provided by the Office of State Ethics. Finally, the Department will make available, on its web site or otherwise, a copy of this policy to all vendors, contractors, and other business entities doing business with the Department.

Important Ethics Reference Materials

It is strongly recommended that every DOT employee read and review the following:

- Code of Ethics for Public Officials, Chapter 10, Part 1, Conn. General Statutes Sections 1-79 through 1-89a found at: www.ct.gov/ethics/site/default.asp
- Ethics Regulations Sections 1-81-14 through 1-81-38, found at: www.ct.gov/ethics/site/default.asp
- The Office of State Ethics web site includes summaries and the full text of formal ethics advisory opinions interpreting the Code of Ethics, as well as summaries of previous enforcement actions: www.ct.gov/ethics/site/default.asp. DOT employees are strongly encouraged to contact the Department's Ethics Compliance Officer or her designee, or the Office of State Ethics with any questions or concerns they may have.

(This Policy Statement supersedes Policy Statement No. F&A-10 dated January 6, 2006)

Ralph J. Carpenter
COMMISSIONER

Attachment

List 1 and List 3

(Managers and supervisors are requested to distribute a copy of this Policy Statement to all employees under their supervision.)

cc: Office of the Governor, Department of Administrative Services, Office of State Ethics

Department of Transportation Employment & Outside Business Disclosure Form

In accordance with Department of Transportation (Department) Policy Statement No. F&A-10, Code of Ethics Policy, I am hereby advising the Department that in addition to my current DOT position, I have other employment and/or a direct or indirect financial interest in an outside business as follows:

1. Full name of outside employer, or entity in which I or my spouse have a financial interest (e.g., ownership or member/partner): _____

2. Location of Employer/Entity disclosed above: _____

3. Nature of my/my spouse's relationship to employer/entity disclosed above (check at least one):

- Employee or Independent Contractor (circle one)
- Owner/Member/Partner/etc.
- Family Member of Owner/Member/Partner/etc.

4. State agency(ies) with which above employer/entity is doing business or seeking Business (write "N/A" if not applicable): _____

5. Job Title at Outside Employer: _____

6. Job Responsibilities at Outside Employer: _____

7. Current State Title: _____

8. Current State Job Responsibilities: _____

9. Name/Title of Current State Supervisor: _____

I understand that the filing of this Disclosure with the DOT Human Resources Administrator does not relieve me of any obligations I have to comply with the Code of Ethics for Public Officials, and does not constitute approval of my outside employment and/or financial interests under the Code of Ethics for Public Officials. *Employees engaging in outside employment are strongly urged to seek written approval of their outside employment from the Office of State Ethics, 20 Trinity Street, Hartford, CT 06106.* I also understand that if either my State or outside employment/financial interest changes in location or function I am required to notify the Department immediately.

Signed: _____
Printed Name: _____

Date: _____

ITEM #0020903A – LEAD COMPLIANCE FOR MISCELLANEOUS EXTERIOR TASKS

Description:

Work under this item shall include the special handling measures and work practices required for miscellaneous exterior tasks that impact materials containing or covered by lead paint. Lead paint includes paint found to contain **any** detectable amount of lead by Atomic Absorption Spectrophotometry (AAS) or X-Ray Fluorescence (XRF). Examples of typical miscellaneous exterior tasks includes; work impacting signs, guiderails, minor bridge rehabilitation, catenary structures, canopy structures, spot paint removal, etc.

All activities shall be performed in accordance with the OSHA Lead in Construction Regulations (29 CFR 1926.62), the USEPA RCRA Hazardous Waste Regulations (40 CFR Parts 260 through 274), and the CTDEEP Hazardous Waste Regulations (RCSA 22a-209-1 and 22a-449(c)).

All activities shall be performed by individuals with appropriate levels of OSHA lead awareness and hazard communication training and shall supervised by the Contractors Competent Person on the job site at all times. The Contractors Competent Person is one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Deviations from these Specifications require the written approval of the Engineer.

Materials:

All materials shall be delivered to the job site in the original packages, containers, or bundles bearing the name of the manufacturer, the brand name and product technical description, with MSDS sheets as applicable.

No damaged or deteriorating materials shall be used. If material becomes contaminated with lead, the material shall be decontaminated or disposed of as lead-containing waste material. The cost to decontaminate and dispose of this material shall be at the expense of the Contractor.

The following material requirements are to be met if to be used during the work:

Fire retardant polyethylene sheet shall be in roll size to minimize the frequency of joints, with factory label indicating minimum six (6) mil thickness.

Polyethylene disposable bags shall be minimum six (6) mils thick.

Tape (or equivalent) product capable of sealing joints in adjacent polyethylene sheets and for the attachment of polyethylene sheets to finished or unfinished surfaces must be capable of adhering under both dry and wet conditions.

Cleaning Agents and detergent shall be lead specific, such as TriSodium Phosphate (TSP).

Chemical strippers and chemical neutralizers shall be compatible with the substrate as well as with each other. Such chemical stripper shall contain less than 50% Volatile Organic Compounds (VOCs) by weight in accordance with RCMA 22a-174-40 Table 40-1.

Labels and warning signs shall conform to 29 CFR 1926.62, 40 CFR 260 through 274 and 49 CFR 172 as appropriate.

Air filtration devices and vacuum units shall be equipped with High-Efficiency Particulate Air (HEPA) filters.

Construction Methods:

(1) Pre-Abatement Submittals and Notices

A. Prior to the start of **any** work on a contiguous per site basis that will generate hazardous lead waste above conditionally exempt small quantities (greater than 100 kg/month or greater than 1000 kg at any time), the Contractor shall obtain from the Engineer on a contiguous per site basis a temporary EPA Hazardous Waste Generators ID number, unless otherwise directed by the Engineer.

B. Fifteen (15) working days prior to beginning work that impacts lead paint, the Contractor shall submit the following to the Engineer:

1. Work plan for work impacting lead paint including engineering controls, methods of containment of debris and work practices to be employed, as needed, to minimize employee exposure and prevent the spread of lead contamination outside the Regulated Area.
2. Copies of all employee certificates, dated within the previous twelve (12) months, relating to OSHA lead awareness and hazard communication training and training in the use of lead-safe work practices. SSPC training programs may be accepted as meeting these requirements if it can be demonstrated that such training addressed all required topics.

This information shall be updated and resubmitted annually, or as information changes, for the duration of the activities impacting lead to verify continued compliance.

3. Name and qualifications of Contractor's OSHA Competent Person under 29 CFR 1926.62.

4. Documentation from the Contractor, typed on company letterhead and signed by the Contractor, certifying that all employees listed therein have received the following:
 - a. medical monitoring within the previous twelve (12) months, as required in 29 CFR 1926.62;
 - b. biological monitoring within the previous six (6) months, as required in 29 CFR 1926.62;
 - c. respirator fit testing within the previous twelve (12) months, as required in 29 CFR 1910.134 (for those who don a tight-fitting face piece respirator)

This information shall be updated and resubmitted annually, or as information changes, for the duration of the activities impacting lead to verify continued compliance.

5. Names of the proposed scrap metal recycling facilities. The Contractor shall submit to the Engineer all documentation necessary to demonstrate the selected facility is able to accept lead-painted scrap metal.
6. Names of the proposed hazardous waste disposal facility (selected from the Department approved list provided herein), and copies of each facilities acceptance criteria and sampling frequency requirements.
7. Copies of the proposed hazardous waste transporters current USDOT Certificate of Registration for Hazardous Materials Transport, and the proposed transporters current Hazardous Waste Transporter Permits for the State of Connecticut and the waste destination State.
8. Negative exposure assessments conducted within the previous 12 months documenting that employee exposure to lead for each task is below the OSHA Action Level of 30 $\mu\text{g}/\text{m}^3$. If a negative exposure assessment has not been conducted, the Contractor shall submit its air monitoring program for the work tasks as part of the Work Plan. Until a negative exposure assessment is developed for each task impacting lead paint, the Contractor shall ensure that all workers and authorized persons entering the Regulated Area wear protective clothing and respirators in accordance with OSHA 29 CFR 1926.62.

No activity shall commence until all required submittals have been received and found acceptable to the Engineer. Those employees added to the Contractor's original list will be allowed to perform work only upon submittal of acceptable documentation to, and review by, the Engineer.

Contractor shall provide the Engineer with a minimum of 48 hours notice in advance of scheduling, changing or canceling work activities.

(2) Lead Abatement Provisions

A. General Requirements:

All employees of the Contractor who perform work impacting lead paint shall be properly trained to perform such duties. In addition, the Contractor shall instruct all workers in all aspects of personnel protection, work procedures, emergency evacuation procedures and use of equipment including procedures unique to this project.

Contractor shall provide all labor, materials, tools, equipment, services, testing, and incidentals which are necessary or required to perform the work in accordance with applicable governmental regulations, industry standards and codes, and these Specifications.

Prior to beginning work, the Engineer and Contractor shall perform a visual survey of each work area and review conditions.

As necessary, the Contractor shall:

Shut down and lock out electrical power, including all receptacles and light fixtures, where feasible. The use or isolation of electrical power will be coordinated with all other ongoing uses of electrical power at the site.

If adequate electrical supply is not available at the site, the Contractor shall supply temporary power. Such temporary power shall be sufficient to provide adequate lighting and power the Contractor's equipment. The Contractor is responsible for proper connection and installation of electrical wiring and shall ensure safe installation of electrical equipment in compliance with applicable electrical codes and OSHA requirements.

If water is not available at the site for the Contractor's use, the Contractor shall supply sufficient water for each shift to operate the wash facility/decontamination shower units in addition to the water needed at the work area.

The Engineer may provide a Project Monitor to monitor compliance of the Contractor and protect the interests of the Department. In such cases, no activity impacting lead paint shall be performed until the Project Monitor is on-site. Where no Project Monitor will be provided, Contractor shall proceed at the direction of the Engineer. Environmental sampling, including ambient air sampling, TCLP waste stream sampling, and dust wipe sampling, will be conducted by the State as it deems necessary throughout the project. Air monitoring to comply with the Contractor's obligations under OSHA remains solely responsibility of the Contractor.

If at any time, procedures for engineering, work practice, administrative controls or other topics are anticipated to deviate from those documented in the submitted and accepted Lead Work Plan, the Contractor shall submit a modification of its existing plan for review and acceptance by the Engineer prior to implementing the change.

If air samples collected outside of the Regulated Area during activities impacting lead paint indicate airborne lead concentrations greater than original background levels or 30 ug/m^3 , whichever is larger, or if at any time visible emissions of lead paint extend out from the Regulated Area, an examination of the Regulated Area shall be conducted and the cause of such emissions corrected. Cleanup of surfaces outside the Regulated Area using HEPA vacuum equipment or wet cleaning techniques shall be done prior to resuming work.

Work outside the initial designated area(s) will not be paid for by the Engineer. The Contractor will be responsible for all costs incurred from these activities including repair of any damage.

B. Regulated Area

The Contractor shall establish a Regulated Area through the use of appropriate barrier tape or other means to control unauthorized access into the area where activities impacting lead paint are occurring. Warning signs meeting the requirements of 29 CFR 1926.62 shall be posted at all approaches to Regulated Areas. These signs shall read:

DANGER
LEAD WORK AREA
MAY DAMAGE FERTILITY OR THE UNBORN CHILD
CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM
DO NOT EAT, DRINK, OR SMOKE IN THIS AREA

The Contractor shall implement appropriate engineering controls such as poly drop cloths, local exhaust ventilation, wet dust suppression methods, etc. as necessary, and as approved by the Engineer, to prevent the spread of lead contamination beyond the Regulated Area in accordance with the Contractor's approved work plan. Should the previously submitted work plan prove to be insufficient to contain the contamination, the Contractor shall modify its plan and submit it for review by the Engineer.

C. Wash Facilities:

The Contractor shall provide handwash facilities in compliance with 29 CFR 1926.51(f) and 29 CFR 1926.62 regardless of airborne lead exposure.

If employee exposure to airborne lead exceeds the OSHA Permissible Exposure Limit of 50 micrograms per cubic meter ($\mu\text{g/m}^3$), shower rooms must be provided. The Shower Room shall be of sufficient capacity to accommodate the number of workers. One shower stall shall be provided for each eight (8) workers. Showers shall be equipped with hot and cold or warm running water. Shower water shall be collected and filtered using best available technology and disposed of in accordance with all Federal, State and local laws, regulations and ordinances.

D. Personal Protection:

The Contractor shall initially determine if any employee performing construction tasks impacting lead paint may be exposed to lead at or above the OSHA Action Level of $30 \mu\text{g}/\text{m}^3$. Assessments shall be based on initial air monitoring results as well as other relevant information. The Contractor may rely on historical air monitoring data obtained within the past 12 months under workplace conditions closely resembling the process, type of material, control methods, work practices and environmental conditions used and prevailing in the Contractors current operations to satisfy the exposure assessment requirements. Monitoring shall continue as specified in the OSHA standard until a negative exposure assessment is developed.

Until a negative exposure assessment is developed for each task impacting lead paint, the Contractor shall ensure that all workers and authorized person entering the Regulated Area wear protective clothing and respirators in accordance with OSHA 29 CFR 1926.62. Protective clothing shall include impervious coveralls with elastic wrists and ankles, head covering, gloves and foot coverings. Sufficient quantities shall be provided to last throughout the duration of the project.

Protective clothing provided by the Contractor and used during chemical removal operations shall be impervious to caustic materials. Gloves provided by the Contractor and used during chemical removal shall be of neoprene composition with glove extenders.

Respiratory protective equipment shall be provided and selection shall conform to 42 CFR Part 84, 29 CFR Part 1910.134, and 29 CFR Part 1926.62. A formal respiratory protection program must be implemented in accordance with 29 CFR Part 1926.62 and Part 1910.134.

E. Air Monitoring Requirements

The Contractor shall:

1. Provide air monitoring equipment including sample filter cassettes of the type and quantity required to properly monitor operations and personnel exposure surveillance throughout the duration of the project.
2. Conduct initial exposure monitoring to determine if any employee performing construction tasks impacting lead paint may be exposed to lead at or above the OSHA Action Level of 30 micrograms per cubic meter. Monitoring shall continue as specified in the OSHA standard until a negative exposure assessment is developed.
3. Conduct personnel exposure assessment air sampling, as necessary, to assure that workers are using appropriate respiratory protection in accordance with OSHA Standard 1926.62. Documentation of air sampling results must be recorded at the work site within twenty-four (24) hours and shall be available for review until the job is complete.

F. Lead Abatement Procedures

The Contractor's Competent Person shall be at the job site at all times during work impacting lead.

Work impacting lead paint shall not begin until authorized by the Engineer, following a pre-work visual inspection by the Project Monitor or Engineer to verify existing conditions.

Any activity impacting lead painted surfaces shall be performed in a manner which minimizes the spread of lead dust contamination and generation of airborne lead.

The Contractor shall conduct exposure assessments for all tasks which impact lead paint in accordance with 29 CFR 1926.62(d) and shall implement appropriate personal protective equipment until negative exposure assessments are developed.

All work impacting the materials identified below shall be conducted within an established Regulated Area with a remote wash facility/decontamination system in accordance with "C. Wash Facilities" and the OSHA Lead in Construction Standard. In accordance with 29 CFR 1926.62, engineering controls and work practices shall be utilized to prevent the spread of lead dust and debris beyond the Regulated Area and limit the generation of airborne lead. All wastes containing lead paint shall be properly contained and secured for storage, transportation and disposal.

The Contractor shall ensure proper entry and exit procedures for workers and authorized persons who enter and leave the Regulated Area. All workers and authorized persons shall leave the Regulated Area and proceed directly to the wash or shower facilities where they will HEPA vacuum gross debris from work suit, remove and dispose of work suit, wash and dry face and hands, and vacuum clothes. Lead chips and dust must not be removed by blowing or shaking of clothing. Wash water shall be collected, filtered, and disposed of in accordance with Federal, State and local water discharge standards. Any permit required for such discharge shall be the responsibility of the Contractor.

No one shall eat, drink, smoke, chew gum or tobacco, or apply cosmetics while in the Regulated Area.

Data from the limited lead testing performed by the Engineer is documented in the reports listed in the "Notice to Contractor – Hazardous Materials Investigations" or is presented herein. Under no circumstances shall this information be the sole means used by the Contractor for determining the extent of lead painted materials. The Contractor shall be responsible for verification of all field conditions affecting performance of the work as described in these Specifications in accordance with OSHA, USEPA, USDOT and CTDEEP standards. Compliance with the applicable requirements is solely the responsibility of the Contractor.

The following details the extent of each phase of operation designated for this project. Phase areas may be combined or divided at the direction of the Engineer. Proceed through the sequencing of the work phases under the direction of the Engineer.

Bridge No. 05068, Wellers Bridge Road over Shepaug River, Roxbury, CT

- Lead paint is **presumed present** on the structural steel/metal bridge components (girders, bearings, rockers, diaphragms, crossbeams, connection plates, etc.) scheduled for impact. Any paint waste stream generated from the structural steel/metal bridge components is **presumed as CTDEEP/RCRA hazardous waste**.
- The metal railing support and guardrail/guardrail support components were galvanized (unpainted) and the wooden railing components were also unpainted; therefore, no lead paint was identified.

While conducting work to the bridge, where it is necessary to impact the lead painted metal surfaces, the Contractor shall either:

- a. Remove the paint to be impacted prior to impacting the substrate in accordance with OSHA Lead in Construction Standard 29CFR 1926.62, or
- b. Impact the substrate using mechanical means with the paint in place in accordance with OSHA Lead in Construction Standard 29CFR 1926.62.

The Contractor shall submit a Work Plan to ConnDOT outlining the exact procedures that will be used to perform the work, contain the spread of lead debris and protect the employees performing the required renovation work impacting the lead paint. No work shall be started by the Contractor until the Work Plan is approved by the Engineer.

All work impacting the lead paint materials shall be conducted within an established Regulated Area with a remote wash facility/decontamination system in accordance with “C. Wash Facilities” and the OSHA Lead in Construction Standard. In accordance with 29 CFR 1926.62, engineering controls and work practices shall be utilized to prevent the spread of lead dust and debris beyond the Regulated Area and limit the generation of airborne lead. All wastes containing lead paint shall be properly contained and secured for storage, transportation and disposal.

The Engineer has characterized/presumed the paint waste stream associated with the painted structural steel/metal bridge components at Bridge No. 05068 as CTDEEP/RCRA hazardous waste. If the paint is removed from the bridge surfaces, the paint shall be handled and disposed of in accordance with USEPA/CTDEEP Hazardous Waste Regulations as described under this Item 0020903A.

All steel and metal components generated from the miscellaneous exterior work tasks (painted or not) shall be segregated and recycled as scrap metal. The recycling of scrap metal

(regardless of lead paint concentration) is exempt from USEPA RCRA and CTDEEP Hazardous Waste Regulation.

Should lead contamination be discovered outside of the Regulated Area, the Contractor shall immediately stop all work in the Regulated Area, eliminate causes of such contamination and take steps to decontaminate non-work areas.

Special Requirements:

1. Demolition/Renovation:
 - a. Demolish/renovate in a manner which minimizes the spread of lead contamination and generation of lead dust.
 - b. Implement dust suppression controls, such as misters, local exhaust ventilation, etc. to minimize the generation of airborne lead dust.
 - c. Segregate work areas from non-work areas through the use of barrier tape, drop cloths, etc.
 - d. Clean up immediately after renovation/demolition has been completed
2. Chemical Removal:
 - a. Apply chemical stripper in quantities and for durations specified by manufacturer.
 - b. Where necessary, scrape lead paint from surface down to required level of removal (i.e. stabilized surface, bare substrate with no trace of residual pigment, etc.). Use sanding, hand scraping, and dental picks to supplement chemical methods as necessary.
 - c. Apply neutralizer compatible with substrate and chemical agent to substrate following removal in accordance with manufacturer's instructions.
 - d. Protect adjacent surfaces from damage from chemical removal.
 - e. Maintain a portable eyewash station in the work area.
 - f. Wear respirators that will protect workers from chemical vapors.
 - g. Do not apply caustic agents to aluminum surfaces.
3. Mechanical Paint Removal:

- a. Provide sanders, grinders, rotary wire brushes, or needle gun removers equipped with a HEPA filtered vacuum dust collection system. Cowling on the dust collection system for orbital-type tools must be capable of maintaining a continuous tight seal with the surface being abated. Cowling on the dust collection system for reciprocating-type tools shall promote an effective vacuum flow of loosened dust and debris. Inflexible cowlings may be used on flat surfaces only. Flexible contoured cowlings are required for curved or irregular surfaces.
 - b. Provide HEPA vacuums that are high performance designed to provide maximum static lift and maximum vacuum system flow at the actual operating vacuum condition with the shroud in use. The HEPA vacuum shall be equipped with a pivoting vacuum head.
 - c. Remove lead paint from surface down to required level of removal (i.e. stabilized surface, bare substrate with no trace of residual pigment, etc.). Use chemical methods, hand scraping, and dental picks to supplement abrasive removal methods as necessary.
 - d. Protect adjacent surfaces from damage from abrasive removal techniques.
 - e. "Sandblasting" type removal techniques shall not be allowed.
4. Component Removal/Replacement:
- a. Wet down components which are to be removed to reduce the amount of dust generated during the removal process.
 - b. Remove components utilizing hand tools and follow appropriate safety procedures during removal. Remove the components by approved methods which will provide the least disturbance to the substrate material. Do not damage adjacent surfaces.
 - c. Clean up immediately after component removals have been completed. Remove any dust located behind the component removed.

G. Prohibited Removal Methods:

The use of heat guns in excess of 700 degrees Fahrenheit to remove lead paint is prohibited.

The use of sand, steel grit, air, CO₂, baking soda, or any other blasting media to remove lead or lead paint without the use of a HEPA ventilated contained negative pressure enclosure is prohibited.

Power/pressure washing shall not be used to remove lead paint.

Compressed air shall not be utilized to remove lead paint.

Chemical strippers containing Methylene Chloride are prohibited. Any chemical stripping may be prohibited on a project by project basis.

Power tool assisted grinding, sanding, cutting, or wire brushing of lead paint without the use of cowled HEPA vacuum dust collection systems is prohibited.

Lead paint burning, busting of rivets painted with lead paint, welding of materials painted with lead paint, and torch cutting of materials painted with lead paint is prohibited. Where cutting, welding, busting, or torch cutting of materials is required, lead paint in the affected area must be removed first.

Chemical stripping of coatings from bridge components is generally prohibited unless specifically allowed on a project by project basis.

H. Clean-up and Visual Inspection:

The Contractor shall remove and containerize all lead waste material and visible accumulations of debris, paint chips and associated items.

During clean-up the Contractor shall utilize rags and sponges wetted with lead-specific detergent and water as well as HEPA filtered vacuum equipment.

The Engineer will conduct a visual inspection of the work areas in order to document that all surfaces have been maintained as free as practicable of accumulations of lead in accordance with 29 CFR 1926.62(h). If visible accumulations of waste, debris, lead paint chips or dust are found in the work area, the Contractor shall repeat the cleaning, at the Contractor's expense, until the area is in compliance. The visual inspection will detect incomplete work, damage caused by the abatement activity, and inadequate clean up of the work site.

I. Post-Work Regulated Area Deregulation:

Following an acceptable visual inspection, any engineering controls implemented may be removed.

A final visual inspection of the work area shall be conducted by the Competent Person and the Project Monitor or Engineer to ensure that all visible accumulations of suspect materials have been removed and that no equipment or materials associated with the lead paint removal remain. If this final visual inspection is acceptable, the Contractor will reopen the Regulated Area and remove all signage.

The Contractor shall restore all work areas and auxiliary areas utilized during work to conditions equal to or better than original. Any damage caused during the performance of the work activity shall be repaired by the Contractor at no additional expense to the State.

J. Waste Disposal/Recycling:

Metallic debris shall be segregated and recycled as scrap metal at an approved metal recycling facility.

Concrete, brick, etc. coated with any amount of lead paint cannot be crushed, recycled or buried on-site to minimize waste disposal unless tested and found to meet the RSR GA/Residential standards.

Hazardous lead debris shall be disposed of as described under this Item 0020903A.

The Contractor shall comply with the latest requirements of the USEPA RCRA Hazardous Waste Regulations 40 CFR 260-274 and the DEEP Hazardous/Solid Waste Management Standards 22a-449(c).

Hazardous lead debris shall be transported from the Project by a licensed hazardous waste transporter approved by the Department and disposed of at an EPA-permitted and Department-approved hazardous waste landfill within 90 days from the date of generation.

The Contractor must use one or more of the following Department-approved disposal facilities for the disposal of hazardous waste:

Clean Earth of North Jersey, Inc., (CENJ) 115 Jacobus Avenue, South Kearny, NJ 07105 Phone: (973) 344-4004; Fax: (973) 344-8652	Clean Harbors Environmental Services, Inc. 2247 South Highway 71, Kimball, NE 69145 Phone: (308) 235-8212; Fax: (308) 235-4307
Clean Harbors of Braintree, Inc. 1 Hill Avenue, Braintree, MA 02184 Phone: (781) 380-7134; Fax: (781) 380-7193	ACV Enviro(CycleChem)(General Chem Co) 217 South First Street, Elizabeth, NJ 07206 Phone: (908) 355-5800; Fax (908) 355-0562
Triumverate (EnviroSafe Corp Northeast) (Jones Environmental Services (NE), Inc.) 263 Howard Street, Lowell, MA 01852 Phone: (978) 453-7772; Fax: (978) 453-7775	US Ecology Environmental Quality Detroit, Inc. 1923 Frederick Street, Detroit, MI 48211 Phone: (800) 495-6059; Fax: (313) 923-3375
Stericycle (Republic Environmental Systems) 2869 Sandstone Drive, Hatfield, PA 19440 Phone: (215) 822-8995; Fax: (215) 997-1293	Clean Harbors – Spring Grove Facility 4879 Spring Grove Ave, Cincinnati OH 45322 Phone: (513) 681-6242; Fax: (513) 681-0869
Envirite of PA (US Ecology) 730 Vogel song Road, York, PA 17404 Phone: (717) 846-1900; Fax: (717) 854-6757	Stablex, Canada, Inc. 760 Industrial Bl, Blainville Quebec J7C3V4 Phone: (451) 430-9230; Fax: (451) 430-4642
Environmental Quality Company: Wayne Disposal Facility 49350 North I-94 Service Drive Belleville, MI 48111 Phone: (800) 592-5489; Fax: (800) 592-5329	Stericycle (Northland Environmental, Inc.) (PSC Environmental Systems) 275 Allens Avenue, Providence, RI 02905 Phone: (401) 781-6340; Fax: (401) 781-9710

The Contractor shall submit in writing (1) a letter listing the names of the hazardous waste disposal facilities (from the above list) that the Contractor will use to receive hazardous material from this Project, and (2) a copy of each facility's acceptance criteria and sampling frequency requirements.

Failure to comply with all of the above requirements may result in the rejection of the bid.

No facility may be substituted for the one(s) designated in the Contractor's submittal without the Engineer's prior approval. If the material cannot be accepted by any of the Contractor's designated facilities, the Department will supply the Contractor with the name(s) of other acceptable facilities.

Prior to the generation of any hazardous waste, the Contractor shall notify the Engineer of its selected hazardous waste transporter and disposal facility. The Contractor must submit to the Engineer (1) the transporter's current US DOT Certificate of Registration and (2) the transporter's current Hazardous Waste Transporter Permits for the State of Connecticut, the hazardous waste destination state and any other applicable states. The Engineer will then obtain on a contiguous per site basis a temporary EPA Generators ID number for the site that he will forward to the Contractor. Any changes in transporter or facility shall be immediately forwarded to the Engineer for review.

Handling, storage, transportation and disposal of hazardous waste materials generated as a result of execution of this project shall comply with all Federal, State and Local regulations including the USEPA RCRA Hazardous Waste Regulations (40 CFR Parts 260-271), the CTDEEP Hazardous Waste Regulations (22a-209 and 22a-449(c)), and the USDOT Hazardous Materials Regulations (49 CFR Part 171-180).

All debris shall be contained and collected daily or more frequently as directed by the Engineer, due to debris buildup. Debris shall be removed by HEPA vacuum collection. Such debris and paint chips shall be stored in leak-proof storage containers in the secured storage site, or as directed by the Engineer. The storage containers and storage locations shall be reviewed by the Engineer and shall be located in areas not subject to ponding. Storage containers shall be placed on pallets and closed and covered with tarps at all times except during placement, sampling and disposal of the debris.

Hazardous waste materials are to be properly packed and labeled for transport by the Contractor in accordance with EPA, CTDEEP and USDOT regulations. The disposal of debris characterized as hazardous waste shall be completed within 90 calendar days of the date on which it began to be accumulated in the lined containers. Storage of containers shall be in accordance with current DEEP/EPA procedures.

The Contractor shall label hazardous waste storage containers with a 6-inch square, yellow, weatherproof, Hazardous Waste sticker in accordance with USDOT regulations.

Materials other than direct paint related debris which are incidental to the paint removal work activities (tarps, poly, plywood, PPE, gloves, decontamination materials, etc.) which may be

contaminated with lead, shall be stored separately from the direct paint debris, and shall be sampled by the Engineer for waste disposal characterization testing. Such materials characterized as hazardous shall be handled/disposed of as described herein, while materials characterized as non-hazardous shall be disposed of as non-hazardous CTDEEP Solid Waste.

Direct paint related debris materials not previously sampled and characterized for disposal, which may be originally presumed to be hazardous waste, shall also be stored separately and sampled by the Engineer for ultimate waste disposal characterization testing and handled/disposed of based on that testing.

Project construction waste materials unrelated to the paint removal operations shall NOT be combined/stored with paint debris waste and/or incidental paint removal materials as they are not lead contaminated and shall NOT be disposed of as hazardous waste. The Engineer's on-site Inspectors shall conduct inspections to verify materials remain segregated.

The Contractor shall obtain and complete all paperwork necessary to arrange for material disposal, including disposal facility waste profile sheets. It is solely the Contractor's responsibility to coordinate the disposal of hazardous materials with its selected treatment/recycling/disposal facility(s). Upon receipt of the final approval from the facility, the Contractor shall arrange for the loading, transport and treatment/recycling/disposal of the materials in accordance with all Federal and State regulations. **No claim will be considered based on the failure of the Contractor's disposal facility(s) to meet the Contractor's production rate or for the Contractor's failure to select sufficient facilities to meet its production rate.**

The Contractor shall process the hazardous waste such that the material conforms with the requirements of the selected treatment/disposal facility, including but not limited to specified size and dimension. Refusal on the part of the treatment/disposal facility to accept said material solely on the basis of non-conformance of the material to the facility's physical requirements is the responsibility of the Contractor and no claim for extra work shall be accepted for reprocessing of said materials to meet these requirements.

All DOT shipping documents, including the Uniform Hazardous Waste Manifests utilized to accompany the transportation of the hazardous waste material shall be prepared by the Contractor and reviewed/signed by an authorized agent representing ConnDOT, as Generator, for each load of hazardous material that is packed to leave the site. The Contractor shall not sign manifests on behalf of the State as Generator. The Contractor shall forward the appropriate original copies of all manifests to the Engineer the same day the material leaves the Project site.

Materials not related to lead paint removal and/or characterized as non-hazardous waste shall NOT be shipped for hazardous waste disposal in accordance with USEPA RCRA hazardous waste minimization requirements.

A load-specific certificate of disposal, signed by the authorized agent representing the waste disposal facility, shall be obtained by the Contractor and promptly delivered to the Engineer for each load.

In addition to all pertinent Federal, State and local laws or regulatory agency polices, the Contractor shall adhere to the following precautions during the transport of hazardous materials off-site:

- All vehicles departing the site are to be properly logged to show the vehicle identification, driver's name, time of departure, destination, and approximate volume, and contents of materials carried. Vehicles shall display the proper USDOT placards for the type and quantity of waste;
- No materials shall leave the site unless a disposal facility willing to accept all of the material being transported has agreed to accept the type and quantity of waste;
- Documentation must be maintained indicating that all applicable laws have been satisfied and that the materials have been successfully transported and received at the disposal facility; and,
- The Contractor shall segregate the waste streams (i.e. concrete, wood, etc.) as directed by the receiving disposal facility.

Any spillage of debris during disposal operations during loading, transport and unloading shall be cleaned up in accordance with EPA 40 CFR 265 Subparts C & D, at the Contractor's expense.

The Contractor is liable for any fines, costs or remediation costs incurred as a result of their failure to be in compliance with this Item and all Federal, State and Local laws.

K. Project Closeout Data:

Provide the Engineer, within thirty (30) days of completion of the project site work, a compliance package; which shall include, but not be limited to, the following:

1. Competent persons (supervisor) job log;
2. OSHA-compliant personnel air sampling data;
3. Completed waste shipment papers for recycling and scrap metal recycling.
4. Copies of completed Hazardous Waste Manifests (signed by authorized disposal facility representative).

Method of Measurement:

The completed work shall be paid as a lump sum. This item will include all noted services, equipment, facilities, testing and other associated work for up to three (3) ConnDOT project representatives. Services provided to any ConnDOT project representatives in excess of three (3) representatives will be measured for payment in accordance with Article 1.09.04 – “Extra and Cost-Plus Work.”

Basis of Payment:

The lump sum price bid for this item shall include: services, materials, equipment, all permits, notifications, submittals, personal air sampling, personal protection equipment, temporary enclosures, incidentals, fees and labor incidental to activities impacting lead removal, treatment and handling of lead contaminated materials, and the transport and disposal of any hazardous lead waste.

Final payment will not be made until all project closeout data submittals have been completed and provided to the Engineer. Once the completed package has been received in its entirety and accepted by the Engineer, final payment will be made to the Contractor.

<u>Pay Item</u>	<u>Pay Unit</u>
Lead Compliance for Miscellaneous Exterior Tasks	Lump Sum

END OF SECTION

ITEM #0101000A - ENVIRONMENTAL HEALTH AND SAFETY

Description:

Under this item, the Contractor shall establish protocols and provide procedures to protect the health and safety of its employees and subcontractors as related to the proposed construction activities performed within the project limits. Work under this Item consists of the development and implementation of a written HASP that addresses the relative risk of exposure to documented hazards present within the project limits. The HASP shall establish health and safety protocols that address the relative risk of exposure to regulated substances in accordance with 29 CFR 1910.120 and 29 CFR 1926.65. Such protocols shall only address those concerns directly related to site conditions.

Note: The Engineer will prepare a site-specific health and safety plan which is compatible with the Contractor's plan and will be responsible for the health and safety of all project Inspectors, Municipality employees, and consulting engineers.

Materials:

The Contractor must provide chemical protective clothing (CPC) and personal protective equipment (PPE) as stipulated in the Contractor's HASP during the performance of work in areas identified as potentially posing a risk to worker health and safety for workers employed by the Contractor and all subcontractors.

Construction Methods:

1-Existing Information: Historical investigations associated with roadway construction projects have shown consistency with finding low levels of semi-volatile organic compounds (SVOCs), extractable petroleum hydrocarbons (ETPH), pesticides, and metals within project limit soils. Soils within the project limits of Project 0119-0121 should be considered the same for health and safety purposes. Additionally, while these conditions have been typically found along roadway soils, it is hereby noted that the above-referenced contaminant list should neither be considered exhaustive nor meant to imply encountered soil contaminant concentrations will fall within a specific range. The Contractor shall utilize all available information and existing records and data pertaining to chemical and physical hazards associated with any of the regulated substances identified to develop the HASP.

2-General: The requirements set forth herein pertain to the provision of workers' health and safety as it relates to proposed Project activities when performed in the presence of hazardous or regulated materials or otherwise environmentally sensitive conditions. THE PROVISION OF WORKER HEALTH AND SAFETY PROTOCOLS WHICH ADDRESS POTENTIAL AND/OR ACTUAL RISK OF EXPOSURE TO SITE SPECIFIC HAZARDS POSED TO CONTRACTOR EMPLOYEES IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

The Contractor shall be responsible for the development, implementation and oversight of the HASP throughout the performance of work within the project limits, as identified in the Contract Documents, and in other areas identified by the Engineer or by the HASP where site conditions may pose a risk to worker health and safety and/or the environment. **No physical aspects of the work within the project limits shall begin until the HASP is reviewed by the Engineer and is determined to meet the requirements of the specifications. However, the Contract time, in accordance with Article 1.03.08, will begin on the date stipulated in the Notice to Proceed.**

3-Regulatory Requirements: All construction related activities performed by the Contractor within the project limits where site conditions may pose a risk to worker health and safety and/or the environment shall be performed in conformance with 29 CFR 1926, Safety and Health Regulations for Construction and 29 CFR 1910, Safety and Health Regulations for General Industry. Conformance to 29 CFR 1910.120, Hazardous Waste Site Operations and Emergency Response (HAZWOPER) may also be required, where appropriate.

4-Submittals: Three copies of the HASP shall be submitted to the Engineer within four (4) weeks after the Award of Contract or four (4) weeks prior to the start of any work in the project limits, whichever is first, but not before the Award of the Contract.

The HASP shall be developed by a qualified person designated by the Contractor. This qualified person shall be a Certified Industrial Hygienist (CIH), Certified Hazardous Material Manager (CHMM), or a Certified Safety Professional (CSP). He/she shall have review and approval authority over the HASP and be identified as the Health and Safety Manager (HSM). The HASP shall bear the signature of said HSM indicating that the HASP meets the minimum requirements of 29 CFR 1910.120 and 29 CFR 1926.65.

The Engineer will review the HASP within four (4) weeks of submittal and provide written comments as to deficiencies in and/or exceptions to the plan(s), if any, to assure consistency with the specifications, applicable standards, policies and practices and appropriateness given potential or known site conditions. Items identified in the HASP which do not conform to the specifications will be brought to the attention of the Contractor, and the Contractor shall revise the HASP to correct the deficiencies and resubmit it to the Engineer for determination of compliance with this item. The Contractor shall not be allowed to commence work activities within the project limits, or where site conditions exist which may pose a risk to worker health and safety and/or the environment, until the HASP has been reviewed and accepted by the Engineer. No claim for delay in the progress of work will be considered for the Contractor's failure to submit a HASP that conforms to the requirements of the Contract.

5-HASP Provisions:

(a) General Requirements: The Contractor shall prepare a HASP covering all Project site work regulated by 29 CFR 1910.120(b)/ 1926.65(b) to be performed by the Contractor and all subcontractors under this Contract. The HASP shall establish in detail, the protocols

necessary for the recognition, evaluation, and control of all hazards associated with each task performed under this Contract. The HASP shall address site-specific safety and health hazards of each phase of site operation and include the requirements and procedures for employee protection. The level of detail provided in the HASP shall be tailored to the type of work, complexity of operations to be performed, and hazards anticipated. Details about some activities may not be available when the initial HASP is prepared and submitted. Therefore, the HASP shall address, in as much detail as possible, all anticipated tasks, their related hazards and anticipated control measures.

The HASP shall interface with the Contractor's Safety and Health Program. Any portions of the Safety and Health Program that are referenced in the HASP shall be included as appendices to the HASP. All topics regulated by the 29 CFR 1910.120(b)(4) and those listed below shall be addressed in the HASP. Where the use of a specific topic is not applicable to the Project, the HASP shall include a statement to justify its omission or reduced level of detail and establish that adequate consideration was given the topic.

(b) Elements:

(i) Site Description and Contamination Characterization: The Contractor shall provide a site description and contaminant characterization in the HASP that meets the requirements of 29 CFR 1910.120/1926.65.

(ii) Safety and Health Risk Analysis/Activity Hazard Analysis: The HASP shall address the safety and health hazards on this site for every operation to be performed. The Contractor shall review existing records and data to identify potential chemical and physical hazards associated with the site and shall evaluate their impact on field operations. Sources, concentrations (if known), potential exposure pathways, and other factors as noted in CFR 1910.120/126.65, paragraph (c)(7) employed to assess risk shall be described. The Contractor shall develop and justify action levels for implementation of engineering controls and personal protective equipment upgrades and downgrades for controlling worker exposure to the identified hazards. If there is no permissible exposure limit (PEL) or published exposure level for an identified hazard, available information from other published studies may be used as guidance. Any modification of an established PEL must be fully documented.

The HASP shall include a comprehensive section that discusses the tasks and objectives of the site operations and logistics and resources required to complete each task. The hazards associated with each task shall be identified. Hazard prevention techniques, procedures and/or equipment shall be identified to mitigate each of the hazards identified.

(iii) Staff Organization, Qualifications and Responsibilities: The HASP shall include a list of personnel expected to be engaged in site activities and certify that said personnel have completed the educational requirements stipulated in 29 CFR 1910.120 and 29 CFR 1926.65, are currently monitored under a medical surveillance program in compliance with those regulations, and that they are fit for work under "level C" conditions.

The Contractor shall assign responsibilities for safety activities and procedures. An outline or flow chart of the safety chain of command shall be provided in the HASP. Qualifications, including education, experience, certifications, and training in safety and health for all personnel engaged in safety and health functions shall be documented in the HASP. Specific duties of each on-site team member should be identified. Typical team members include but are not limited to Team Leader, Scientific Advisor, Site Safety Officer, Public Information Officer, Security Officer, Record Keeper, Financial Officer, Field Team Leader, and Field Team members.

The HASP shall also include the name and qualifications of the individual proposed to serve as Health and Safety Officer (HSO). The HSO shall have full authority to carry out and ensure compliance with the HASP. The Contractor shall provide a competent HSO on-site who is capable of identifying existing and potential hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees and who has authorization to take prompt corrective measures to eliminate or control them. The qualifications of the HSO shall include completion of OSHA 40-hour HAZWOPER training and 8-hour HAZWOPER supervisory training; a minimum of one year of working experience with the regulated compounds that have been documented to exist within Project limits; a working knowledge of Federal and State safety regulations; specialized training or documented experience (one year minimum) in personal and respiratory protective equipment program implementation; the proper use of air monitoring instruments, air sampling methods and procedures; and certification training in first aid and CPR by a recognized, approved organization such as the American Red Cross.

The primary duties of the HSO shall be those associated with worker health and safety. The Contractor's HSO responsibilities shall be detailed in the written HASP and shall include, but not be limited to the following:

(A) Directing and implementing the HASP.

(B) Ensuring that all Project personnel have been adequately trained in the recognition and avoidance of unsafe conditions and the regulations applicable to the work environment to control or eliminate any hazards or other exposure to illness or injury (29 CFR 1926.21). All personnel shall be adequately trained in procedures outlined in the Contractor's written HASP.

(C) Authorizing Stop Work Orders, which shall be executed upon the determination of an imminent health and safety concern.

(D) Contacting the Contractor's HSM and the Engineer immediately upon the issuance of a Stop Work order when the HSO has made the determination of an imminent health and safety concern.

(E) Authorizing work to resume, upon approval from the Contractor's HSM.

(F) Directing activities, as defined in the Contractor's written HASP, during emergency situations; and

(G) Providing personal monitoring where applicable, and as identified in the HASP.

(iv) Employee Training Assignments: The Contractor shall develop a training program to inform employees, supplier's representatives, and official visitors of the special hazards and procedures (including PPE, its uses and inspections) to control these hazards during field operations. Official visitors include but are not limited to Federal Agency Representatives, State Agency Representatives, Municipal Agency Representatives, Contractors, subcontractors, etc. This program shall be consistent with the requirements of 29 CFR 1910.120 and 29 CFR 1926.65.

(v) Personal Protective Equipment: The plan shall include the requirements and procedures for employee protection and should include a detailed section on respiratory protection. The Contractor shall describe in detail and provide appropriate personal protective equipment (PPE) to insure that workers are not exposed to levels greater than the action level for identified hazards for each operation stated for each work zone. The level of protection shall be specific for each operation and shall be in compliance with all requirements of 29 CFR 1910 and 29 CFR 1926. The Contractor shall provide, maintain, and properly dispose of all PPE.

(vi) Medical Surveillance Program: All on-site Contractor personnel engaged in 29 CFR 1910.120/1926.65 operations shall have medical examinations meeting the requirements of 29 CFR 1910.120(f) prior to commencement of work.

The HASP shall include certification of medical evaluation and clearance by the physician for each employee engaged in 29 CFR 1910.120/1926.65 operations at the site.

(vii) Exposure Monitoring/Air Sampling Program: The Contractor shall submit an Air Monitoring Plan as part of the HASP which is consistent with 29 CFR 1910.120, paragraphs (b)(4)(ii)(E), (c)(6), and (h). The Contractor shall identify specific air sampling equipment, locations, and frequencies in the air-monitoring plan. Air and exposure monitoring requirements shall be specified in the Contractor's HASP. The Contractor's CIH shall specify exposure monitoring/air sampling requirements after a careful review of the contaminants of concern and planned site activities.

(viii) Site Layout and Control: The HASP shall include a map, work zone delineation (support, contamination, reduction and exclusion), on/off-site communications, site access controls, and security (physical and procedural).

(ix) Communications: Written procedures for routine and emergency communications procedures shall be included in the Contractor's HASP.

(x) Personal Hygiene, Personal Decontamination and Equipment Decontamination: Decontamination facilities and procedures for personnel protective equipment, sampling equipment, and heavy equipment shall be discussed in detail in the HASP.

(xi) Emergency Equipment and First Aid Requirements: The Contractor shall provide appropriate emergency first aid kits and equipment suitable to treat exposure to the hazards identified, including chemical agents. The Contractor will provide personnel that have certified first aid/CPR training on-site at all times during site operations.

(xii) Emergency Response Plan and Spill Containment Program: The Contractor shall establish procedures in order to take emergency action in the event of immediate hazards (i.e., a chemical agent leak or spill, fire or personal injury). Personnel and facilities supplying support in emergency procedures will be identified. The emergency equipment to be present on-site and the Emergency Response Plan procedures, as required 29 CFR 1910.120, paragraph (1)(1)(ii) shall be specified in the Emergency Response Plan. The Emergency Response Plan shall be included as part of the HASP. This Emergency Response Plan shall include written directions to the closest hospital as well as a map showing the route to the hospital.

(xiii) Logs, Reports and Record Keeping: The Contractor shall maintain safety inspections, logs, and reports, accident/incident reports, medical certifications, training logs, monitoring results, etc. All exposure and medical monitoring records are to be maintained according to 29 CFR 1910 and 29 CFR 1926. The format of these logs and reports shall be developed by the Contractor to include training logs, daily logs, weekly reports, safety meetings, medical surveillance records, and a phase-out report. These logs, records, and reports shall be maintained by the Contractor and be made available to the Engineer.

The Contractor shall immediately notify the Engineer of any accident/ incident. Within two working days of any reportable accident, the Contractor shall complete and submit to the Engineer an accident report.

(xiv) Confined space entry procedures: Confined space entry procedures, both permit required and non permit required, shall be discussed in detail.

(xv) Pre-entry briefings: The HASP shall provide for pre-entry briefings to be held prior to initiating any site activity and at such other times as necessary to ensure that employees are apprised of the HASP and that this plan is being followed.

(xvi) Inspections/audits: The HSM or HSO shall conduct Inspections or audits to determine the effectiveness of the HASP. The Contractor shall correct any deficiencies in the effectiveness of the HASP.

6-HASP Implementation: The Contractor shall implement and maintain the HASP throughout the performance of work. In areas identified as having a potential risk to worker health and safety, and in any other areas deemed appropriate by the HSO, the Contractor shall be prepared to

immediately implement the appropriate health and safety measures, including but not limited to the use of personal protective equipment (PPE), and engineering and administrative controls.

If the Engineer observes deficiencies in the Contractor's operations with respect to the HASP, they shall be assembled in a written field directive and given to the Contractor. The Contractor shall immediately correct the deficiencies and respond, in writing, as to how each was corrected. Failure to bring the work area(s) and implementation procedures into compliance will result in a Stop Work Order and a written directive to discuss an appropriate resolution(s) to the matter. When the Contractor demonstrates compliance, the Engineer shall remove the Stop Work Order. If a Stop Work Order has been issued for cause, no delay claims on the part of the Contractor will be honored.

Disposable CPC/PPE, i.e. disposable coveralls, gloves, etc., which come in direct contact with hazardous or potentially hazardous material shall be placed into 55-gallon USDOT 17-H drums and disposed of in accordance with Federal, State, and local regulations. The drums shall be temporarily staged and secured within the WSA until the material is appropriately disposed.

7-HASP Revisions: The HASP shall be maintained on-site by the Contractor and shall be kept current with construction activities and site conditions under this Contract. The HASP shall be recognized as a flexible document which shall be subject to revisions and amendments, as required, in response to actual site conditions, changes in work methods and/or alterations in the relative risk present. All changes and modifications shall be signed by the Contractor's HSM and shall require the review and acceptance by the Engineer prior to the implementation of such changes.

Should any unforeseen hazard become evident during the performance of the work, the HSO shall bring such hazard to the attention of the Contractor and the Engineer as soon as possible. In the interim, the Contractor shall take action, including Stop Work Orders and/or upgrading PPE as necessary to re-establish and maintain safe working conditions and to safeguard on-site personnel, visitors, the public and the environment. The HASP shall then be revised/amended to reflect the changed condition.

Method of Measurement:

1-Within thirty (30) calendar days of the award of the Contract, the Contractor shall submit to the Engineer for acceptance a breakdown of its lump sum bid price for this item detailing:

- (a) The development costs associated with preparing the HASP in accordance with these Specifications.
- (b) The cost per month for the duration of the Project to implement the HASP and provide the services of the HSM and the HSO.

2-If the lump sum bid price breakdown is unacceptable to the Engineer; substantiation showing that the submitted costs are reasonable shall be required.

3-Upon acceptance of the payment schedule by the Engineer, payments for work performed will be made as follows:

- (a) The lump sum development cost will be certified for payment.
- (b) The Contractor shall demonstrate to the Engineer monthly that the HASP has been kept current and is being implemented and the monthly cost will be certified for payment.
- (c) Any month where the HASP is found not to be current or is not being implemented, the monthly payment for the Environmental Health and Safety Item shall be deferred to the next monthly payment estimate. If the HASP is not current or being implemented for more than thirty calendar days, there will be no monthly payment.
- (d) Failure of the Contractor to implement the HASP in accordance with this Specification shall result in the withholding of all Contract payments.

Basis of Payment:

This work will be paid for at the Contract lump sum price for “Environmental Health and Safety” which price shall include all materials, tools, equipment and labor incidental to the completion of this item for the duration of the Project to maintain, revise, monitor and implement the HASP. Such costs include providing the services of the HSM and HSO, Contractor employee training, chemical protective clothing (CPC), personal protective equipment (PPE), disposal of PPE and CPC, medical surveillance, decontamination facilities, engineering controls, monitoring and all other HASP protocols and procedures established to protect the Health and Safety for all on-site workers.

Pay Item	Pay Unit
Environmental Health and Safety	L.S.

**ITEM #0101128A - SECURING, CONSTRUCTION AND DISMANTLING
OF A WASTE STOCKPILE AND TREATMENT AREA**

Description:

Work under this Item shall consist of the securing, construction and dismantling of a temporary Waste Stockpile Area (WSA) at a location to be determined by the Contractor and approved by the Engineer prior to Project commencement. All surplus soils (Controlled Materials) excavated during construction activities shall be stockpiled in the WSA. The WSA is to be used exclusively for temporary stockpiling of surplus excavated soils from the Project limits for determination of disposal classification.

Materials:

The required materials are detailed on the Project Plans. All materials shall conform to the requirements of the Contract.

Construction blocks shall be solid precast rectangular concrete six feet in length, three in height, and two feet in depth.

Polyethylene plastic sheeting for underlayment shall be a thickness of 30 mil and minimum width of ten feet.

Sand bags used to secure polyethylene sheeting soil covers shall have a minimum weight of thirty pounds.

Bedding sand shall conform to Article M.08.03 of the Specifications.

Processed Aggregate Base shall conform to Section 3.04 of the Specifications.

Hay bales shall conform to the requirements of Section 2.18 of the Specifications.

Bituminous Concrete shall conform to Section 4.06 of the Specifications.

Roll-off/Storage Containers shall be of watertight, steel-body construction, of the size specified and able to handle the storage and subsequent transportation of material to the disposal facility.

Temporary Precast Concrete Barrier Curb shall conform to Section 8.22 of the Specifications.

Construction Methods:

Construction of the WSA shall be completed prior to the initiation of construction activities generating Controlled Materials. The Contractor is responsible for the maintenance and protection

of all utilities potentially affected during WSA construction. The Contractor shall locate and mark all existing utilities potentially affected prior to initiating WSA construction.

The proposed location of the WSA shall be cleared of any debris and vegetation as directed by the Engineer. Any objectionable materials, which may result in damage to the polyethylene sheeting underlayment, shall be removed prior to stockpiling excavated controlled materials.

The Contractor shall comply with the terms and conditions of the DEEP “General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer)”, including the General Operating Conditions and the Specific Operating Conditions, except that the Engineer will conduct all soil/sediment characterization and perform all record keeping. In particular, the Contractor shall:

1. Construct and repair the WSA in conformance with the requirements of the General Permit.
2. Prevent unauthorized entry onto the stockpiles by the use of fences, gates, or other natural or artificial barriers.
3. Install anti-tracking measures at the WSA to ensure the vehicles do not track soil from the WSA onto a public roadway at any time.
4. Post and maintain a sign that is visible from a distance of at least 25’ at the WSA identifying the name of the permittee (Municipality), the Municipality field office phone number, the hours of operation for the WSA, and the phrase, “Temporary Soil Staging Area”. Lettering shall be at least one inch (1”) high with a minimum overall sign dimension of four (4) feet wide by two (2) feet high. Such sign is only required if the capacity of the WSA is equal to or greater than 1,000 cubic yards. If initially the WSA capacity is less than 1,000 c.y. and the WSA capacity is subsequently increased, the Contractor shall post and maintain the required sign at no additional cost to the Municipality, prior to stockpiling the additional material.

Following the removal of all stockpiled material, the Contractor shall use dry decontamination procedures for all surfaces of the WSA as directed by the Engineer. Residual materials shall be disposed of as Controlled Materials. If the results from dry methods are unsatisfactory to the Engineer, the Contractor shall modify decontamination procedures as required.

The Contractor shall be responsible for the collection and treatment/recycling/disposal of any liquid wastes that may be generated by its decontamination activities in accordance with applicable regulations.

Upon completion of the Project and following removal of all residual Controlled Materials, the Contractor shall dismantle the WSA and return the area to original condition. During dismantling, the Contractor shall remove all materials such as polyethylene sheeting and sand bags. Materials shall be disposed of by the Contractor as solid waste in accordance with the Contract and all Federal, State and local regulations.

Operation and maintenance of the WSA shall be included under Item 0202315A – Disposal of Controlled Materials.

Method of Measurement:

This work will be measured for payment at the Lump Sum cost for securing, construction, and dismantling of a WSA.

Basis of Payment:

This work will be paid for at the Contract Lump Sum, which shall include all materials, tools, labor, equipment, permits, and work needed to secure, construct, decontaminate and dismantle the WSA, including all clearing, grubbing, grading, clean up, site restoration and seeding.

All materials, labor and equipment associated with compliance with the General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer) will not be measured separately but will be considered incidental to the item "Securing, Construction and Dismantling of a Waste Stockpile and Treatment Area".

Pay Item	Pay Unit
Securing, Construction and Dismantling Of a Waste Stockpile and Treatment Area	L.S.

ITEM #0201315A – RELOCATE EXISTING ROCK MONUMENT

Description:

Work under this item shall consist of the removal, storage, resetting or relocating an existing rock monument to the location shown on the plans, or as ordered by the Engineer.

Materials:

Existing rock monument.

Construction Methods:

At least 7 days prior to the start of construction, the Contractor shall stake the following features:

- Existing reveal and orientation of the monument
- Existing monument location.
- Proposed monument location as shown on the plans.
- Proposed curb line for at least 25 feet on each side of each monument(s).
- Provide stakes at a maximum spacing of 10 feet, unless otherwise directed by the

Engineer.

Within 7 days of the completed staking, the Engineer and the Town will review the staked monument locations in the field, and may make any adjustments necessary to the proposed locations. Prior to the removal, the Contractor shall provide the Engineer with photos of the existing monument and the secure storage location procured by the Contractor during the duration of the Project. Upon acceptance, the Contractor shall remove and store the existing rock monument, until the Site for the existing monument is finalized and ready to be relocated to the location as shown on the plans or as directed by the Engineer.

Monuments to be relocated shall be removed with care to avoid damage. If the monument becomes damaged during the removal and/or storage, it shall be restored to the original condition at the Contractor's expense.

The designated location must be compacted, leveled, and shaped to accommodate the monument. The monument shall be set upright, matching its existing orientation. Consideration shall be taken verifying the proposed grades and matching the existing reveal of the monument. When the installation of monument results in disturbance of surrounding surfaces, said surfaces shall be restored to their original condition at no additional cost to the Town.

Method of Measurement:

This work will be measured for payment by the number of each existing rock monument(s) removed, stored, relocated and accepted.

Basis of Payment:

This work will be paid for at the Contract unit price for each “Relocate Existing Rock Monument” completed and accepted. The price shall include all materials, equipment, tools and labor incidental thereto. The unit price shall include the cost of all staking, bed preparation, removal, photos, protection, storage, relocation and backfilling of each monument.

Pay Item	Pay Unit
Relocate Existing Rock Monument	EA

ITEM #0202216A – EXCAVATION AND REUSE OF EXISTING CHANNEL BOTTOM MATERIAL

Description: This work shall consist of excavating existing channel bottom material, herein referred to as natural streambed material, in areas where the channel bottom is to be disturbed and regraded to create a work area for a bridge, culvert, articulated concrete block placement, cofferdam installation, as shown on the plans or as directed by the Engineer. This item shall also include the stockpiling and protecting of the excavated material on-Site, subsequent placement, top dressing, or backfilling of the excavated stockpiled material within the watercourse, as shown on the plans or as directed by the Engineer.

Materials: The material for this item shall consist of the existing naturally-formed rocks, cobbles, gravel, soils and clean natural sediments from within the channel.

Any material excavated from shale, ledge (bedrock) formations broken from larger boulders, or material with sharp acute edges will not be accepted. Broken concrete will not be accepted.

Geotextile: Geotextile shall be as specified in M.08.01-19 Geotextiles.

Construction Methods:

1. Stockpiling of Material. The Contractor shall submit for the Engineer's approval a proposed location for stockpiling material. The proposed location shall be upland where disruption to the stream channel or impact to wetland areas caused by moving the natural streambed material to and from the stockpile are minimized. The Contractor shall prepare the area approved by the Engineer, suitable in size and location for stockpiling the natural streambed material.

The stockpile shall be located where it can remain undisturbed for the duration of the stream channel reconstruction or as shown on the plans and shall be protected using sedimentation control measures. The stockpile area shall be free of debris and cleaned adequately to prevent mixing with underlying soil or other materials, including the use of a separation barrier such as: Geotextile – (Separation Class 1), polyethylene sheeting, or similar. The stockpile area shall be adequately covered to protect the excavated natural streambed material from erosion by rain, wind, or other forces.

2. Excavation of Natural Streambed Material. The Contractor shall notify the Engineer 10 days in advance of excavation and placement of natural streambed material activities. The Engineer will identify the limits of the exposed natural streambed material during excavation under this item. The Engineer will identify the bottom limit of excavation, an amount up to but not exceeding 24 inches in depth, unless approved by the Engineer or their authorized delegate, based upon visual inspection of the natural streambed material. After the limits of excavation have been determined, the Contractor shall excavate the natural streambed material, separate from any other roadway, structure, channel or unsuitable material excavation on Site. After the natural streambed material has been excavated, it shall be placed in the pre-approved stockpile area.

3. Backfilling and Placement with Natural Streambed Material. The stockpiled natural streambed material shall be placed as fill material as specified at the designated location(s) to the required thickness and elevation as shown on the plans or as directed by the Engineer or their authorized delegate. Placement methods likely to cause segregation of the various sizes of stone will not be permitted. Placement techniques shall prevent integration with non-natural streambed material and shall keep the natural streambed material relatively homogenous. The natural streambed material shall be placed in a manner that replicates the original condition of the channel prior to excavation and to the elevation as shown on the plans.

4. Top Dressing with Natural Streambed Material. The stockpiled natural streambed material shall be used as top dressing over riprap or other material as specified at the designated location(s) to the required thickness and elevation as shown on the plans or as directed by the Engineer or their authorized delegate. Placement techniques shall prevent integration with the non-natural streambed material and shall keep the natural streambed material relatively homogenous. The natural streambed material shall be placed in a manner that replicates the original condition of the channel prior to excavation and to the elevation as shown on the plans.

5. Site Maintenance. When backfilling, placing, or top dressing, the Contractor shall perform all containment, diversion, or other separation of the channel flow to minimize sediment transport downstream.

The disposal of any surplus and/or unsuitable material shall be in accordance with Article 1.09.04.

If the Engineer determines that there is an insufficient quantity of natural streambed material within the Project limits, the Contractor shall procure Supplemental Streambed Channel Material as specified under Item #0202217A.

If it is required for the Project to have washing-in of supplemental streambed material, the Contractor shall procure Washing-in Supplemental Streambed Material as specified under Item #0202218A.

The pre-approved stockpile areas shall be restored to the satisfaction of the Engineer. Work to restore/regrade stockpile areas will be paid for under the respective pay item(s).

Method of Measurement: This work will be measured for payment by the number of cubic yards of natural streambed material excavated, stockpiled, maintained, installed, and accepted.

The Engineer will delineate the horizontal pay limit prior to the start of excavation. The vertical pay limit will be measured from the top of the existing channel bottom to the bottom of excavation required specifically for the stockpiling of channel bottom material.

Any material excavated beyond the approved horizontal pay limits or deeper than the depth of natural streambed material identified and approved by the Engineer will not be measured for payment under this item. Should such additional excavation be required to complete the Contract work, it will be measured for payment separately under the applicable pay item(s).

Basis of Payment: Payment for this work will be made at the Contract unit price per cubic yard for "Excavation and Reuse of Existing Channel Bottom Material." The price shall include all materials, equipment, geotextile, tools, and labor incidental to the preparation of the stockpile area, excavation of natural streambed material, hauling of the material to the stockpile, and separation of any rock ledge or concrete debris, storing, and protecting (including sedimentation controls and covering) excavated material.

Payment for clearing and grubbing of the approved stockpile area will be included in the item "Clearing and Grubbing."

Payment for the removal and proper disposal of all surplus and/or unsuitable material will be in accordance with Article 1.09.04 – Extra and Cost-Plus Work.

Riprap or other specified material as shown on the plan will be paid for under the respective items.

Payment for supplemental streambed channel material will be included in the Item #0202217A "Supplemental Streambed Channel Material."

Payment for washing in supplemental streambed channel material will be included in the Item #0202218A "Washing-in Supplemental Streambed Material."

Payment for all containment, diversion or other separation of stream flow will be included in the item "Cofferdam and Dewatering" or special provision for "Handling Water."

Pay Item	Pay Unit
Excavation and Reuse of Existing Channel Bottom Material	c.y.

ITEM #0202217A – SUPPLEMENTAL STREAMBED CHANNEL MATERIAL

Description: This work shall consist of procuring, transporting, and placing supplemental streambed channel material, herein referred to as supplemental streambed material, meeting the visual inspection requirements herein, along stream bank/channel improvement locations as shown on the plans or denoted on the Project's permit applications. This item shall also include any necessary temporary protection and stockpiling of the supplemental streambed material on-Site, subsequent placement, top dressing, or backfilling of the supplemental streambed material within the watercourse, as shown on the plans or as directed by the Engineer.

Materials: When a sufficient quantity of material is not available from the existing streambed channel for placement, top dressing, or backfilling within the permitted footprint of the stream bank/channel improvement locations, the Contractor shall furnish supplemental streambed material from an off-Site source. Supplemental streambed material must be visually inspected and accepted by the Engineer or their authorized delegate prior to being delivered to the Site. The Contractor shall notify the Engineer at least 10 working days in advance of the need for inspection of proposed off-Site material.

The supplemental streambed material for this item shall be consistent with the existing naturally-formed cobbles and rocks, gravel, and clean natural sediments found within the existing channel. Rock excavated from shale, ledge (bedrock) formations broken from larger boulders, broken concrete or angular material, or material with sharp acute edges will not be accepted.

Geotextile: Geotextile shall be as specified in M.08.01-19 Geotextiles.

Construction Methods:

1. Stockpiling of Material. At the start of construction, the Contractor shall prepare an area, approved by the Engineer, suitable in size and location for stockpiling the supplemental streambed material. The Contractor shall select an upland location where disruption to the stream channel or impact to wetland areas caused by moving the supplemental streambed material to and from the stockpile are minimized during the placement of material. The stockpile shall be located where it can remain undisturbed for the duration of the stream channel construction and shall be protected using sedimentation control measures.

The stockpile area shall be free of debris and cleaned adequately to prevent mixing with underlying soil or other materials, including the use of Geotextile – (Separation Class 1), or similar, if required. The stockpile area shall be adequately covered to protect the supplemental streambed channel material from erosion by rain or other forces. After supplemental streambed material and existing natural streambed material have been placed in the stockpile areas, no other excavated or off-Site material shall be placed in the stockpiles.

2. Backfilling and Placement with Supplemental Streambed Material. The stockpiled supplemental streambed material shall be placed as fill material as specified at the designated location(s) to the required thickness and elevation as shown on the plans or as directed by the

Engineer or their authorized delegate. Placing this material by methods likely to cause segregation of the various sizes of stone will not be permitted. Placement techniques shall prevent integration with non-natural streambed material and shall keep the streambed material relatively homogenous. The streambed material shall be placed in a manner that replicates the original condition of the channel prior to excavation and to the elevation as shown on the plans.

3. Top Dressing with Supplemental Streambed Material. The stockpiled supplemental streambed material shall be used as top dressing over riprap or other material as specified at the designated location(s) to the required thickness and elevation as shown on the plans or as directed by the Engineer or their authorized delegate. Placement techniques shall prevent integration with the non-natural streambed material and shall keep the streambed material relatively homogenous. The streambed material shall be placed in a manner that replicates the original condition of the channel prior to excavation and to the elevation as shown on the plans.

4. Site Maintenance. When placing, backfilling, or top dressing streambed material, the Contractor shall perform all containment, diversion, or other separation of the channel flow to minimize sediment transport downstream.

If it is required for the Project to have washing-in of supplemental streambed material, the Contractor shall procure Washing-in Supplemental Streambed Material as specified under Item #0202218A.

The pre-approved stockpile areas shall be restored to the satisfaction of the Engineer. Work to restore/regrade stockpile areas will be paid for under the respective pay item(s).

Method of Measurement: Work under this item will be measured for payment as provided under Article 1.09.04 – Extra and Cost-Plus Work.

The sum of money shown on the estimate and in the itemized proposal as “Estimated Cost” for this work will be considered the price bid even though payment will be made only for actual work performed. The estimated cost figure is not to be altered in any manner by the bidder. Should the bidder alter the amount shown, the altered figures will be disregarded and the original price will be used to determine the total amount bid for the Contract.

Basis of Payment: Payment for “Supplemental Streambed Material” shall include all materials, equipment, geotextile, tools, and labor incidental to the preparation of the stockpile area, hauling of the material to the stockpile, placement of supplemental streambed material, and separation of any rock ledge or concrete debris, storing, and protecting (including sedimentation controls and covering) excavated material.

Payment will be as specified under Article 1.09.04 – Extra and Cost-Plus Work.

Payment for clearing and grubbing of the approved stockpile area will be included in the item “Clearing and Grubbing.”

Payment for excavation and reuse of existing channel bottom material will be included in the Item #0202216A “Excavation and Reuse of Existing Channel Bottom Material.”

Payment for washing in supplemental streambed material will be included in the Item #0202218A “Washing-in Supplemental Streambed Material.” If no item appears in the proposal, the work will be in accordance with Article 1.09.04 – Extra and Cost-Plus Work.

Payment for all containment, diversion or other separation of stream flow will be included in the special provision for "Handling Water."

Pay Item	Pay Unit
Supplemental Streambed Channel Material	est.

ITEM #0202218A – WASHING-IN SUPPLEMENTAL STREAMBED MATERIAL

Description: This work shall consist of procuring, transporting, stockpiling, and washing in of supplemental streambed material, meeting the visual inspection requirements herein, along stream bank/channel improvement locations as shown on the plans or denoted on the Project's permit applications or as directed by the Engineer. This item shall also include any necessary temporary protection and stockpiling of the washing-in supplemental streambed material on-Site and subsequent washing in of supplemental streambed material for filling voids of riprap areas within the watercourse, as shown on the plans or as directed by the Engineer.

Materials: When washing in of supplemental streambed material is required, the Contractor shall furnish the washing-in supplemental streambed material from an off-Site source. The supplemental streambed material for washing in must be visually inspected and accepted by the Engineer or their authorized delegate prior to being delivered to the Site. The Contractor shall notify the Engineer at least 10 working days in advance of the need for inspection of proposed off-Site material.

Geotextile: Geotextile shall be as specified in M.08.01-19 Geotextiles.

Construction Methods:

1. Stockpiling of Material. At the start of construction, the Contractor shall prepare an area, approved by the Engineer, suitable in size and location for stockpiling the supplemental streambed material for washing in. The Contractor shall select an upland location where disruption to the stream channel or impact to wetland areas caused by moving the supplemental streambed material to and from the stockpile are minimized during the placement of material. The stockpile shall be located where it can remain undisturbed for the duration of the stream channel construction and shall be protected using sedimentation control measures. The stockpile of streambed material for washing in shall be kept separate from other streambed material stockpile areas.

The stockpile area shall be free of debris and cleaned adequately to prevent mixing with underlying soil or other materials, including the use of Geotextile – (Separation Class 1), or similar, if required. The stockpile area shall be adequately covered to protect the supplemental streambed material from erosion by rain or other forces. After supplemental streambed material for washing in has been placed in the stockpile area, no other excavated or off-Site material shall be placed in the stockpiles.

2. Washing-in Supplemental Streambed Material. If it is specified on the plans that washing-in supplemental streambed material for filling voids between riprap, or other material, is required, the Contractor must submit a Washing-In Supplemental Streambed Material Plan (SMP) for the Engineer's acceptance. The SMP shall include the following:

- 1) Provide a plan and section identifying the completed installation and preparation of riprap area to receive streambed material as shown on the plans or as directed by the Engineer or their authorized delegate.
- 2) Provide means and methods for washing in the supplemental streambed material. Means and methods shall include:
 - a. Equipment used to place material.
 - b. Washing in of material is to be done manually. Water from the watercourse shall be used to wash in the streambed material into the voided areas between the riprap or other material as specified on the plans. Washing in should be done carefully and at a controlled flow rate/velocity (approximately 4.0 gpm) to not cause erosion of adjacent erodible soils or cause turbid effluent to flow out of the riprap-filled area.
 - c. Provide a Catalogue Cut of type and size of pump and hose proposed to be used.
 - d. Measures to prevent turbidity from the work area. The Contractor may dewater the areas as defined under Article 2.04 Cofferdam and Dewatering or Item Handling Water.
- 3) Show calculations of estimated quantity of streambed material needed to wash in and fill riprap voids. The ratio of natural streambed material to riprap shall be approximately 1:3 (assuming 30% voids in the riprap).

Method for washing in supplemental streambed material:

Pre-blending riprap with the supplemental streambed material is prohibited. Placement and washing in of supplemental streambed material shall occur after all the riprap has been installed and shaped to final dimensions and grade as shown on the plans or as directed by the Engineer. Placement and washing in of supplemental streambed material must occur within a confined area.

- 1) Initially place approximately 12-inch lift of the washing-in streambed material over the riprap. Manually hand shovel/rake to assist with placing the streambed material into the riprap voids prior to washing in the streambed material.
- 2) Begin to manually wash the streambed material into the voids, slowly add more washing-in streambed material on top, in a manner to prevent turbid effluent flow from exiting the work area.
- 3) If turbidity is observed discharging from the confined work area, cease operations immediately and implement preventative measures as outlined in the approved SMP, until the water level subsides and naturally permeates. Continually observe the confined work area.
- 4) The Contractor may be allowed to move to different area(s) and continue the washing in process, as noted in Steps 1-3 above, if other locations need the water levels to subside and permeate. (It may be necessary to stop temporarily if the rate of water application exceeds the storage capacity and natural infiltration of the riprap area.)

- 5) The Contractor shall continue until all voids are filled with streambed material to the satisfaction of the Engineer or their authorized delegate. The ratio of streambed material to riprap shall be approximately 1:3 (assuming 30% voids in the riprap). This ratio should be considered as a guideline in deciding whether riprap voids are likely to be filled. If the calculated volume of streambed material based on 30% void space has not been washed in, it should be assumed that the voids are not fully filled.
- 6) Partially remove water-handling-cofferdams or cofferdams to allow watercourse to flow through the area in a controlled manner. Observe watercourse over a period of time; should the water flow go under the surface through the recently created riprap area, reinstall water-handling-cofferdams and continue washing streambed material into riprap voids. Repeat this process as necessary until subsurface flow is no longer observed.

The Contractor may propose alternative methods to meet the requirements noted above. The means and methods will be reviewed by the Engineer or their authorized delegate for acceptance.

3. Site Maintenance. When washing in supplemental streambed material, the Contractor shall perform all containment, diversion, or other separation of the channel flow to minimize sediment transport downstream.

The pre-approved stockpile areas shall be restored to the satisfaction of the Engineer. Work to restore the stockpile areas shall be paid for under the respective pay item.

Method of Measurement: Work under this item shall be measured for payment as provided under Article 1.09.04 – Extra and Cost-Plus Work.

The sum of money shown on the estimate and in the itemized proposal as “Estimated Cost” for this work will be considered the price bid even though payment will be made only for actual work performed. The estimated cost figure is not to be altered in any manner by the bidder. Should the bidder alter the amount shown, the altered figures will be disregarded, and the original price will be used to determine the total amount bid for the Contract.

Basis of Payment: The price shall include all materials, equipment, geotextile, pumps, hoses, tools, and labor incidental to the preparation of the stockpile area, hauling of the material to the stockpile, placement and washing-in supplemental streambed material to fill riprap voids, and separation of any rock ledge or concrete debris, storing, and protecting (including but not limited to sedimentation controls and covering of excavated material).

Payment for Washing-in Supplemental Streambed Material will be paid for under Article 1.09.04 – Extra and Cost-Plus Work.

Payment for clearing and grubbing of the approved stockpile area will be included in the Item “Clearing and Grubbing.”

Payment for excavation and reuse of existing channel bottom material will be included in the ITEM #0202216A "Excavation and Reuse of Existing Channel Bottom Material."

Payment for supplemental streambed channel material, other than washing-in streambed material, will be included in the Item #0202217A "Supplemental Streambed Channel Material."

Payment for all containment, diversion or other separation of stream flow will be included in the item "Cofferdam and Dewatering" or special provision for "Handling Water."

Pay Item

Washing-in Supplemental Streambed Material

Pay Unit

est.

ITEM #0202315A - DISPOSAL OF CONTROLLED MATERIALS

Description:

Work under this item shall include all materials, equipment, tools, and labor required to perform the following:

- (1) Loading and transportation of surplus soils (Controlled Materials) excavated from the Project limits to the designated temporary Waste Stockpile Area (WSA);
- (2) Stockpiling, covering, securing, and maintaining Controlled Materials transported to the WSA throughout the duration of the Project;
- (3) Maintaining the WSA throughout the duration of the Project; and
- (4) Loading, transportation, and disposal of Controlled Materials to a Municipality-approved treatment, recycling, or disposal facility for final off-site disposal/ recycling/treatment.

An estimated 1,585 cubic yards (CY) of soil have been designated as surplus and are therefore considered Controlled Materials for the Project.

Project soils are assumed to be contaminated with regulated substances at non-hazardous levels. Further information regarding anticipated soil conditions is noted in the “Notice to Contractor – Environmental Investigations.” It is noted that actual levels found during construction may vary and such variations will not be considered a change in condition provided the Controlled Materials can still be disposed as non-hazardous at one or more of the disposal facilities listed herein. Worker health and safety protocols that address potential risks of exposure to site-specific hazards shall be incorporated in the site-specific Health and Safety Plan.

The Contractor must use one or more of the following Municipality-approved treatment/recycle/disposal facilities for the disposal of non-hazardous materials:

Advanced Disposal Services Greentree Landfill 635 Toby Road Kersey, PA 15846 (814) 265-1744; Tony LaBenne	Allied Waste Niagara Falls Landfill, LLC 5600 Niagara Falls Boulevard Niagara, NY 14304 (716) 285-3344; David Hanson
Clean Earth of Carteret 24 Middlesex Avenue Carteret, NJ 07008 (732) 541-8909; Cheryl Coffee	Clean Earth of Connecticut (Formerly Phoenix Soil, LLC) 58 North Washington Street Plainville, CT 06062 (860) 747-8888; Dave Green

Clean Earth of Southeast Pennsylvania, Inc. 7 Steel Road Morrisville, PA 19067 (215) 428-1700; Joe Siravo	Clean Earth of Philadelphia, Inc. 3201 S. 61 Street Philadelphia, PA 19153 (215) 724-5520; Mike Kelly
Clinton Landfill 242 Church Street Clinton, MA 01510 (978) 365-4110; Chris McGown	Colonie Landfill Waste Connections, Inc. 1319 Loudon Road Cohoes, NY 12047 (518) 786-7331; Eric Morales
Coplay Aggregates Regulated Fill Site 5101 Beekmantown Road Whitehall, PA 18052 (610) 262-3804; Brian Hilliard	ESMI of New York, LLC 304 Towpath Road Fort Edward, NY 12828 (518) 747-5500; Peter Hansen
ESMI of New Hampshire, LLC 67 International Drive Louden, NH 03307 (603) 783-0228; Steve Bennitt	Hazelton Creek Properties, LLC* 280 South Church Street Hazelton, PA 18201 (570) 207-2000; Allen Swantek
Manchester Landfill 311 Olcott Street Manchester, CT 06040 (860) 647-3248; Brooks Parker	Ontario County Landfill 3555 Post Farm Road Stanley, NY 14561 (603) 235-3597; Scott Sampson
Red Technologies Soil 232 Airline Avenue Portland, CT 06980 (860) 342-1022; Christopher Wingdale	Republic Services Conestoga Landfill 420 Quarry Road Morgantown, PA 19543 (717) 246-4640; James Kuhn
Soil Safe, Inc. 378 Route 130 Logan Township Bridgeport, NJ 08085	Rhode Island Resource Recovery Corporation 65 Shun Pike Johnston, RI 02919
Ted Ondrick Company, LLC 58 Industrial Road Chicopee, MA 01020 (413) 592-2565; Alan Desrosiers	Turnkey Landfill - Waste Management of NH; TLR III Refuse Disposal Facility 90 Rochester Neck Road P.O. Box 7065 Rochester, NY 03839
The Southbridge Recycling and Disposal Park 165 Barefoot Road Southbridge, MA 01550 (508) 765-9723; Tracey Markham	Waste Management RCI Fitchburg Landfill Fitchburg Princeton Road Westminster, MA 01473 (974) 355-6821; Frank Sepiol

Tunnel Hill Reclamation 2500 Township Road 205 Route 2 New Lexington, OH 43764 (914) 713-0203; William Gay	
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* Note: each bin will require an additional 10 days (or more) for PADEP to review analytical data and approve material for disposal prior to facility acceptance of material. This is in addition to all other restrictions and wait periods defined below.

The above list contains treatment/recycle/disposal facilities which can accept the waste stream generated by the project in quantities that may be limited by their permits and their operations restrictions. It is the responsibility of the contractor to verify that a facility will be available and capable of handling the volume as well as the chemical and physical characteristics of material generated by the project.

Construction Methods:

A. Material Disposal

The Engineer will sample materials stored at the WSA at a frequency established by the selected treatment/recycling/disposal facilities. The Contractor shall designate to the Engineer which facility it intends to use, as well as the facility acceptance criteria and sampling frequency, prior to samples being taken. The Contractor is hereby notified that laboratory turnaround time is expected to be fifteen (15) working days. Turnaround time is the period of time beginning when the Contractor notifies the Engineer which facility it intends to use and that the bin within the WSA is full and ready for sampling and ending with the Contractor’s receipt of the laboratory analytical results. Any change of intended treatment/recycling/disposal facility may prompt the need to resample and will therefore restart the time required for laboratory turnaround. The laboratory will furnish such results to the Engineer. Upon receipt, the Engineer will make available to the Contractor the results of the final waste characterization determinations. **No delay claim will be considered based upon the Contractor’s failure to accommodate the laboratory turnaround time as identified above.**

The Contractor shall obtain and complete all paperwork necessary to arrange for material disposal (such as disposal facility waste profile sheets). It is solely the Contractor’s responsibility to coordinate the disposal of controlled materials with its selected treatment/recycling/disposal facility(s). Upon receipt of the final approval from the facility, the Contractor shall arrange for the loading, transport and treatment/recycling/disposal of the materials in accordance with all Federal and State regulations. **No claim will be considered based on the failure of the Contractor’s selected disposal facility(s) to meet the Contractor’s production rate or for the Contractor’s failure to select sufficient facilities to meet its production rate.**

Any material processing (including but not limited to the removal of woody debris, scrap metal, pressure-treated and untreated wood timber, large stone, concrete, polyethylene sheeting or similar

material) required by the Contractor's selected facility will be completed by the Contractor prior to the material leaving the site. It is solely the Contractor's responsibility to meet any such requirements of its facility. Any materials removed shall be disposed of or recycled in a manner acceptable to the Engineer at no additional cost. If creosote treated timbers are removed, they will be disposed of under the item "Disposal of Contaminated Timber Piles", "Disposal of Contaminated Railroad Ties" or in accordance with Article 1.04.05 in the absence of such items.

All manifests or bills of lading utilized to accompany the transportation of the material shall be prepared by the Contractor and signed by an authorized Municipality representative, as Generator, for each truck load of material that leaves the site. The Contractor shall forward the appropriate original copies of all manifests or bills of lading to the Engineer the same day the material leaves the Project.

A load-specific certificate of treatment/recycling/disposal, signed by the authorized agent representing the disposal facility, shall be obtained by the Contractor and promptly delivered to the Engineer for each load.

B. Material Transportation

In addition to all pertinent Federal, State and local laws or regulatory agency polices, the Contractor shall adhere to the following precautions during the transport of controlled materials off-site:

- Transported Controlled Materials are to be covered sufficiently to preclude the loss of material during transport prior to leaving the site and are to remain covered until the arrival at the selected treatment/recycling/disposal facility.
- All vehicles departing the site are to be properly logged to show the vehicle identification, driver's name, time of departure, destination, and approximate volume, and contents of materials carried.
- No materials shall leave the site unless a treatment/recycling/disposal facility willing to accept all of the material being transported has agreed to accept the type and quantity of waste.

C. Equipment Decontamination

All equipment shall be provided to the work site free of gross contamination. The Engineer may prohibit from the site any equipment that in his opinion has not been thoroughly decontaminated prior to arrival. Any decontamination of the Contractor's equipment prior to arrival at the site shall be at the expense of the Contractor. The Contractor is prohibited from decontaminating equipment on the Project that has not been thoroughly decontaminated prior to arrival.

The Contractor shall furnish labor, materials, tools and equipment for decontamination of all equipment and supplies that are used to handle Controlled Materials. Decontamination shall be conducted at an area designated by the Engineer and shall be required prior to equipment and

supplies leaving the Project, between stages of the work, and between work in different areas within the Project limits.

The Contractor shall use dry decontamination procedures. Residuals from dry decontamination activities shall be collected and managed as Controlled Materials. If the results from dry methods are unsatisfactory to the Engineer, the Contractor shall modify decontamination procedures as required.

Following the removal of all stockpiled Controlled Materials from the WSA, residuals shall be removed from surfaces as directed by the Engineer. This operation shall be accomplished using dry methods such as shovels, brooms, mechanical sweepers or a combination thereof. Residuals shall be disposed of as Controlled Materials. If the results from dry methods are unsatisfactory to the Engineer, the Contractor shall modify decontamination procedures as required.

The Contractor shall be responsible for the collection and treatment/recycling/disposal of any liquid wastes that may be generated by its decontamination activities in accordance with applicable regulations.

Method of Measurement:

The work of “DISPOSAL OF CONTROLLED MATERIALS” will be measured for payment as the actual net weight in tons of material delivered to the treatment/recycling/disposal facility. Such determinations shall be made by measuring each hauling vehicle on the certified permanent scales at the treatment/recycling/disposal facility. Total weight will be the summation of weight bills issued by the facility specific to this Project. Excess excavations made by the Contractor beyond the payment limits specified in Specification Sections 2.02, 2.03, 2.06, and 2.86, or the Contract Special Provisions (as appropriate) will not be measured for payment and the Contractor assumes responsibility for all costs associated with the appropriate handling, management and disposal of this material.

Equipment decontamination, the collection of residuals, and the collection and disposal of liquids generated during equipment decontamination activities will not be measured separately for payment.

Any material processing required by the Contractor-selected disposal facility, including the proper disposal of all removed materials other than creosote treated wood, will not be measured for payment.

Basis of Payment:

This work will be paid for at the Contract unit price, which shall include the loading and transportation of surplus soils (Controlled Materials) to the WSA; stockpiling, covering, securing, and maintaining Controlled Materials in the WSA; maintaining the WSA; loading and transportation of Controlled Materials from the WSA to the treatment/recycling/disposal facility; any fees paid to the facility for treatment/recycling/ disposal; preparation of all related paperwork;

and all equipment, materials, tools, and labor incidental to this work. **This unit price will be applicable to all of the listed disposal facilities and will not change for the duration of the Project.**

This price shall also include equipment decontamination; the collection of residuals generated during decontamination and placement of such material in the WSA; and the collection and disposal of any liquids generated during equipment decontamination activities.

<u>Pay Item</u>	<u>Pay Unit</u>
Disposal of Controlled Materials	Ton

ITEM #0202452A – TEST PIT

Description: Work under this Item shall consist of the excavation and backfilling of test pits by the Contractor where it may be necessary to locate or examine drainage pipes, rock, public utilities, subsurface structures, or any other obstacles or conditions. Unless otherwise specified or ordered by the Engineer, the Contractor shall dig the test pit and all excavated material shall be placed back in the test pit hole and compacted in 6 inch layers. This work shall be done where directed and/or approved by the Engineer. All work shall be done in conformance with the applicable Safety Code.

Construction Methods: The Contractor is hereby advised that underground utilities exist throughout the project work area. Test pits shall be dug where conflicts with utilities are anticipated, or as directed by the Engineer.

The Contractor shall coordinate the excavation of all test pits with the respective utility owners having facilities in the vicinity of the location of test pits. If so desired by the respective utility owners, all or part of the work under this item may be accomplished by their crews and/or supervised by them. The Contractor shall give sufficient notice to the respective utility owners to afford reasonable time for coordination.

Unless otherwise specified, the Contractor shall dig test pits where indicated by the Engineer and the Contractor shall notify the Engineer of the results at least 28 calendar days prior to the start of any underground installations within said test pit area. The Contractor shall notify the Engineer and/or utility companies of any conflict uncovered which may require design revisions, relocations and/or adjustments. No work shall be started within these areas of conflict until so authorized by the Engineer.

Test pit excavation shall have neat, clean cut and vertical sides.

The Contractor shall measure and record the size, configuration, and exact horizontal and vertical location of all utilities, pipes or other obstacles uncovered in the various pits dug under this item.

The Engineer shall be notified three (3) calendar days in advance of excavation, so that he also may make the necessary measurements to locate all objects within test pits.

Excavation of test pits shall be accomplished by such means as are required to ensure the underground utilities or structures that may be encountered are not damaged. It is the Contractor's sole responsibility for any damages incurred during excavation operations. Any such damages shall be repaired or replaced by them (if permitted) to the satisfaction of the Owner/Responsible Agency/Engineer at the Contractor's own expense. Where the repair and/or replacement must be done by the Owner/Responsible Agency any and all costs thereof shall be borne by the Contractor.

Where existing pavement has been removed for the test pit excavation, the surface shall be restored to a condition equal or better than the original, as directed by the Engineer. When restoring the

bituminous patch the tack coat shall be applied to the edges of the bituminous patch to ensure a lasting repair.

Method of Measurement: Test pits will be measured for payment and will be measured as each. The cutting of bituminous pavement, pavement or base removed under this item will not be measured for payment nor will the replacement pavement and subsequent replacement processed base material. Water removed will not be measured for payment.

Test pits dug by the respective utility owner will not be measured for payment.

Basis of Payment: Payment under this item shall be made at the contract unit per each for “Test Pit”, which price shall include the excavation of all materials as required. Included in the unit price will be excavation, sheeting, shoring, dewatering, backfilling, compaction and the restoration of the surface of the Test Pit, and all other materials, equipment, tools, labor and work incidental to, or necessary for the completion of the item.

Where a utility owner or company elects to perform all or part of the work under this item, no payment shall be made to either the Contractor of the participating utility for work performed by the utility under this Item, nor shall the Contract time be extended for any time lost due to poor coordination by the Contractor.

Pay Item
Test Pit

Pay Unit
ea.

ITEM #0204151A - HANDLING WATER

Description: Work under this item shall consist of designing, furnishing, installing, maintaining, and removing of a temporary water handling system. This may include water-handling-cofferdams, bypass pipes, bypass pumps/hoses, temporary energy dissipation, sump pumps, drainage channels, water handling for ancillary drainage, and dewatering.

A temporary water handling system redirects water beyond, through, or around the limits of construction to allow work to be done in the dry.

Materials: The materials required for this work shall be as shown on the plans, on the accepted Contractor's Working Drawing submittal, or as ordered by the Engineer.

Construction Methods: The Contractor shall prepare and submit written procedures for handling water. Working Drawings, in accordance with Article 1.05.02, shall also be prepared and submitted.

The Contractor shall consider stream conditions, water elevations, expected weather, and risks associated with the Site to determine the type of temporary water handling system required to redirect water away from work being performed. The system shall be designed to comply with the Temporary Hydraulic Table in the Contract plans and be compatible with the stage of construction and Maintenance and Protection of Traffic scheme, as indicated in the Contract, and shall conform to Section 1.10.

The Contractor shall be responsible to maintain and repair the water handling system throughout the duration of the Contract. If the system becomes damaged, displaced, or not functioning properly due to construction activities, stream conditions or storm events, the Contractor shall be responsible to remediate the system back to working order per plan or as required at the direction of the Engineer.

Unless otherwise directed by the Engineer, all temporary water handling system components shall be removed in an acceptable manner when no longer required.

Bypass Pumping:

The bypass pump system shall be designed by the Contractor to comply with the Temporary Hydraulic Table in the Contract plans.

When incorporating a bypass pump/hose system, the Contractor shall provide a means to maintain continuous flow to the downstream channel to protect resources, unless otherwise noted in the Contract plans or as accepted by the Engineer. The Contractor shall provide for both maintaining continuous flow and accommodating temporary design flows using appropriate pump size for each case, valving, metering, or adjusting the flow during construction.

A pump screen shall be provided on the intake with maximum 0.5-inch diameter openings.

Method of Measurement: The work under this item, being paid on a lump sum basis, will not be measured for payment.

Basis of Payment: This work will be paid for at the Contract lump sum price for “Handling Water” completed and accepted, which price shall include designing (including submittals and Working Drawings), furnishing, installing, maintaining, and removing of all temporary water handling system components as are necessary for completion of the work. This price shall include all materials, equipment, tools, labor and work incidental thereto.

A schedule of values for payment shall be submitted to the Engineer for review and comment.

Pay Item	Pay Unit
Handling Water	l.s.

ITEM #0210306A - TURBIDITY CONTROL CURTAINS

Description: This work consists of furnishing, assembling, installing, relocating, maintaining, and removing turbidity control curtains to minimize the drift of suspended sediment within the watercourse. The layout of the turbidity control curtains shall be as indicated on the plans, permits or as directed by the Environmental Scientist from the Office of Environmental Planning (OEP) or their authorized delegate.

Materials: The Contractor shall use Type 3 Permeable Turbidity Barriers when working within tidally influenced waters.

Length: The length of the turbidity control curtain shall be as specified in the plans, permit.

Fabric: Turbidity control curtains fabric shall consist of 22 oz./yd² Nylon reinforced Vinyl Fabric (PVC), with UV inhibitors. The material shall have a tensile strength of not less than 200 lbs. when measured lengthwise or crosswise.

Skirt Depth: The depth of the skirt shall be measured to maintain a 1-foot offset above the bottom of the watercourse at all locations during high tide.

Color: The color of the turbidity control curtains shall be yellow.

Seams: All horizontal seams shall be 100% heat welded and all vertical seams shall be 100% RF welded.

Flotation Units: The flotation unit shall be a 12-inch polystyrene float with a buoyancy of 50 lbs./ft² and shall be capable of keeping the turbidity control curtain at a minimal elevation of 3 inches above the water line.

Top Tension Cables: The top tension cable shall be 5/16-inch galvanized steel cable placed on each side of the curtains. The breaking strength of the tension cable shall be 10,000 lbs. per cable with a total breaking strength of 20,000 lbs.

Bottom Ballast Chain: The bottom ballast chain shall be 3/8-inch galvanized steel chain placed at the bottom of the skirt. The chain shall be finished on both ends with stress plates with a 1-ton hook on one end and ring on the other end. The breaking strength shall be 10,600 lbs. and the weight shall be 1.50 lb./ft.

Fasteners: The top 18 inches shall consist of marine grade aluminum slide connectors and grommets for lacing from below the connector to the bottom edge of skirt. The edges shall be reinforced with 5/8 inch poly rope with a minimum breaking strength of 800 lbs.

Anchors: The anchor shall consist of a leader chain, nylon rope, heavy duty marker buoy and 6 feet of painted line. The anchor can be a grappling hook, plow or fluke-type that digs into the

watercourse bottom/harbor. The nylon rope shall act as an anchor line between the anchor and buoy. The anchor line shall have enough slack to allow the barrier to float freely with tidal changes without pulling the curtain below the water surface. The anchors shall be placed every 50 to 100 feet. Alternate anchoring methods such as heavy concrete weights, driven pilings, or stakes may be used, if approved prior to use by the Environmental Scientist or their authorized delegate.

Product Data: Prior to any watercourse disturbance within the Project limits, the Contractor shall submit to the Environmental Scientist for review and approval, through the Engineer, Product Data for the Type 3 Permeable Turbidity Barriers to be used. Within 30 days of receipt of the submittal, the Engineer will notify the Contractor whether the submittal is approved, rejected or requires modifications. If any part of the proposed barriers are not approved, the Contractor shall promptly make any necessary changes and re-submit for approval. The proposed barriers must be approved in writing prior to beginning any in-water work on the Project.

Construction Methods: When assembling and installing turbidity control curtains, the Contractor shall follow the directions of the manufacturer.

Unless otherwise directed by the Environmental Scientist or their authorized delegate, the Contractor shall begin installation from the shoreline anchorage and work with the current in a downstream direction.

The turbidity control curtains shall form a continuous vertical and horizontal barrier able to contain suspended sediment or turbidity within the watercourse. The bottom skirt shall be suspended a minimum of 12 inches above the bottom of the watercourse for the entire length of the turbidity curtains at high tide.

Installation of Turbidity Curtains: The turbidity control curtains shall be floated into position, attached to the anchor lines, and then unfurled.

The Contractor shall securely attach curtain panel ends together using rope lashings. The top lashing shall be securely tied to the anchor line.

The Contractor shall place the anchors such that the turbidity control curtains remain in the proper location and none of the flotation devices are pulled under the water surface. If directed by the Engineer, the Contractor shall supply and place additional anchorage.

Maintenance of Turbidity Curtains: Throughout the Project duration, the Contractor shall maintain the turbidity control curtains so that no sediment caused by the Project enters the watercourse beyond the limits of the turbidity control curtains.

Turbidity control curtains damaged prior to installation, during installation, or during the life of the Contract shall be repaired or replaced to the satisfaction of the Environmental Scientist or their authorized delegate.

Removal of Turbidity Curtains: The turbidity control curtains shall remain in place until removal

of the existing pier stem is complete.

When directed by the Environmental Scientist or their authorized delegate, the turbidity control curtains shall be furled in place, then released from the anchors and towed out of the water. The turbidity control curtains and all materials incidental to the assembly of the turbidity control curtains shall be removed in such a manner as to minimize turbidity within the watercourse.

The turbidity control curtains and related components shall be removed from the Project and shall become the property of the Contractor after removal.

Method of Measurement: This work will be measured for payment by the actual number of linear feet of turbidity control curtains installed and accepted.

Basis of Payment: Payment for this work will be made at the Contract unit price per linear foot of "Turbidity Control Curtains," completed in place, which shall include all materials, equipment, tools and labor incidental to the furnishing, assembling, installing, maintaining, relocating and removing of the turbidity control curtains.

Pay Item	Pay Unit
Turbidity Control Curtains	l.f.

ITEM #0210821A—WATER POLLUTION CONTROL

Description: This work shall consist of measures to control water pollution and soil erosion which become necessary for the completion of the work, but for which no item is provided in the Contract. Such measures include:

- temporary check dams, water bars, berms, dikes, dams
- temporary sediment traps
- pump settling basins
- silt fence
- inlet protection
- hay bales
- erosion control matting
- fiber rolls, coir rolls, wattles
- gravel, stone, riprap
- mulch
- permanent or temporary seeding
- slope drains, ditches, channels, temporary drainage measures
- dust control
- topsoil
- other erosion control materials, devices, or methods

If a situation arises that requires immediate deployment of water pollution control measures, the Engineer will direct the Contractor to use this item to prosecute the work.

If the Contractor proposes changes in construction methods or staging which would affect the as designed pollution controls, plans for revised pollution controls shall be submitted for the Engineer's approval prior to start of work.

Materials: The materials shall meet the pertinent articles of the Standard Specifications. The Contractor shall submit Product Data for the materials.

Construction Methods: The Engineer has the authority to control the surface area of earth material exposed by construction operations and to direct the Contractor to immediately provide permanent or temporary pollution control measures to protect watercourses, wetlands, or other natural resources. Every effort shall be made by the Contractor to prevent erosion on the Site and prevent runoff onto abutting property.

All disturbed areas shall be permanently or temporarily stabilized by mulching, seeding or other methods as the work progresses to comply with the intent of this specification.

All damaged slopes shall be repaired as soon as possible. The Engineer will limit the surface area of earth material exposed if the Contractor fails to sufficiently protect the slopes.

The Contractor shall always have on hand the necessary materials and equipment to provide for slope stabilization and corrective measures to damaged slopes.

Temporary channels, ditches, water bars and outfalls shall be protected prior to directing water into them.

The erosion control features installed by the Contractor shall be maintained by the Contractor, and such installations shall be removed if ordered by the Engineer. Maintenance of erosion control measures by the Contractor shall include the clean out of accumulated sediment.

Method of Measurement: The work and materials required for Water Pollution Control measures will be measured for payment as provided for under 1.09.04 - Extra and Cost-Plus Work.

The sum of money shown on the estimate and in the itemized proposal as "Estimated Cost" for this work will be considered the price bid even though payment will be made only for actual work performed. The estimated cost figure is not to be altered in any manner by the bidder. Should the bidder alter the amount shown, the altered figures will be disregarded, and the original price will be used to determine the total amount bid for the Contract.

Basis of Payment: Work will be paid for as provided under 1.09.04 - Extra and Cost-Plus Work.

Control measures that are made necessary by the Contractor's failure to install and maintain controls as a part of the work as scheduled or ordered by the Engineer shall be performed by the Contractor at its own expense.

Control work at off-Site areas selected by the Contractor shall be the responsibility of the Contractor.

Pay Item	Pay Unit
Water Pollution Control	est

ITEM #0219011A – SEDIMENT CONTROL SYSTEM AT CATCH BASIN

Description: Work under this item shall consist of furnishing, installing, maintaining, replacing, and removing sediment control system at catch basins, herein referred to as Silt Sack, at the locations as shown on plans or as directed by the Engineer. The work shall also include removal of accumulated sediment, and disposal of accumulated sediment,

Materials: The Silt Sack must be commercially produced and marketed for the specific application(s) on the Project. All Silt Sack must be manufactured from a specially designed woven polypropylene geotextile sewn material. The Silt Sack must be able to handle flows of at least 180 gallons per minute per square foot, fit any sized catch basin or drop inlet, and be UV resistant.

The Silt Sack product shall be one of the following or an approved equal:

1. Siltsack®
2. Dandy Sack®
3. FleXstorm Catch-It™
4. PIG®Sediment-Drain Filter
5. ACF Environmental Silt Sack

The Sediment Control System at Catch Basin must have the following features: two dump straps attached at the bottom to facilitate the emptying of the Silt Sack and lifting straps to be used to lift the Silt Sack from the catch basin or drop inlet. The Silt Sack shall have a restraint cord approximately halfway up to keep the sides away from the catch basin or drop inlet walls. When required, a curb deflector shall be installed as directed by the Engineer.

Product Data for the Silt Sack to be used by the Contractor must be submitted for review and acceptance by the Engineer or their authorized delegate prior to the installation on-Site.

Construction Methods: The Contractor shall install the Silt Sack per the manufacturer's instructions and recommendations at each catch basin or drop inlet as shown on the plans or as directed by the Engineer to provide inlet protection to prevent silt, sediment, or debris from entering the stormwater drainage system.

When the Silt Sack becomes 1/2 full of accumulated sediment, the Contractor shall empty, clean, and replace the Silt Sack back into the catch basin or drop inlet. Sediment emptied shall be considered unsuitable material and be disposed of at an off-Site approved upland facility per federal, State, and local environmental laws and regulations.

At the completion of the Project, the Contractor shall remove all Silt Sacks within the Project limits. Any spilled sediment material during removal operations shall be removed by the Contractor at no cost to the State.

Method of Measurement: Sediment Control System at Catch Basin will be measured as each installed, maintained, accepted, and removed. There will be no separate measurement for maintenance or replacement associated with this item.

Basis of Payment: The item “Sediment Control System at Catch Basin” will be paid at the Contract unit price for each completed system in place and accepted, which price shall include installing, maintaining, replacing, removal of material, off-Site disposal of accumulated material, materials, equipment, tools, and labor incidental thereto.

The cost of installing hay bales, geotextile, check dam, or fiber roll for inlet protection shall be paid for under their respective Contract item or special provision.

Pay Item	Pay Unit
Sediment Control System at Catch Basin	ea.

ITEM #0406303A – SAWING AND SEALING JOINTS

Description: This work shall consist of sawing bituminous concrete pavement and applying hot-applied asphalt crack sealant to create a sealed pavement joint at the locations specified on the Plans. It shall be constructed in close conformity with the lines, grades, thicknesses, and typical cross sections shown on the Plans or established by the Engineer.

Materials:

1. Crack Seal: The crack seal material shall be composed of a hot-applied asphalt meeting ASTM D6690 Type II requirements.

Prior to the start of work, the Contractor shall submit a Materials Certification (MC) in accordance with Article 1.06.07 certifying the joint seal material meets these requirements. The Contractor must submit to the Engineer all Safety Data Sheets (SDS) from the material manufacturer prior to the commencement of work.

2. Blotting Agent – Detackifier: This material shall be a fine-graded granular material with 100% aggregate passing the 3/16-inch sieve and no more than 5% passing the #200 sieve when tested in accordance with AASHTO T 27 and T 11.

The material shall be one recommended by the supplier of the crack sealant and shall be used as recommended by the supplier, except that no paper, cotton, or other organic materials will be allowed. Product Data shall be submitted to the Engineer for review in accordance with Article 1.05.02.

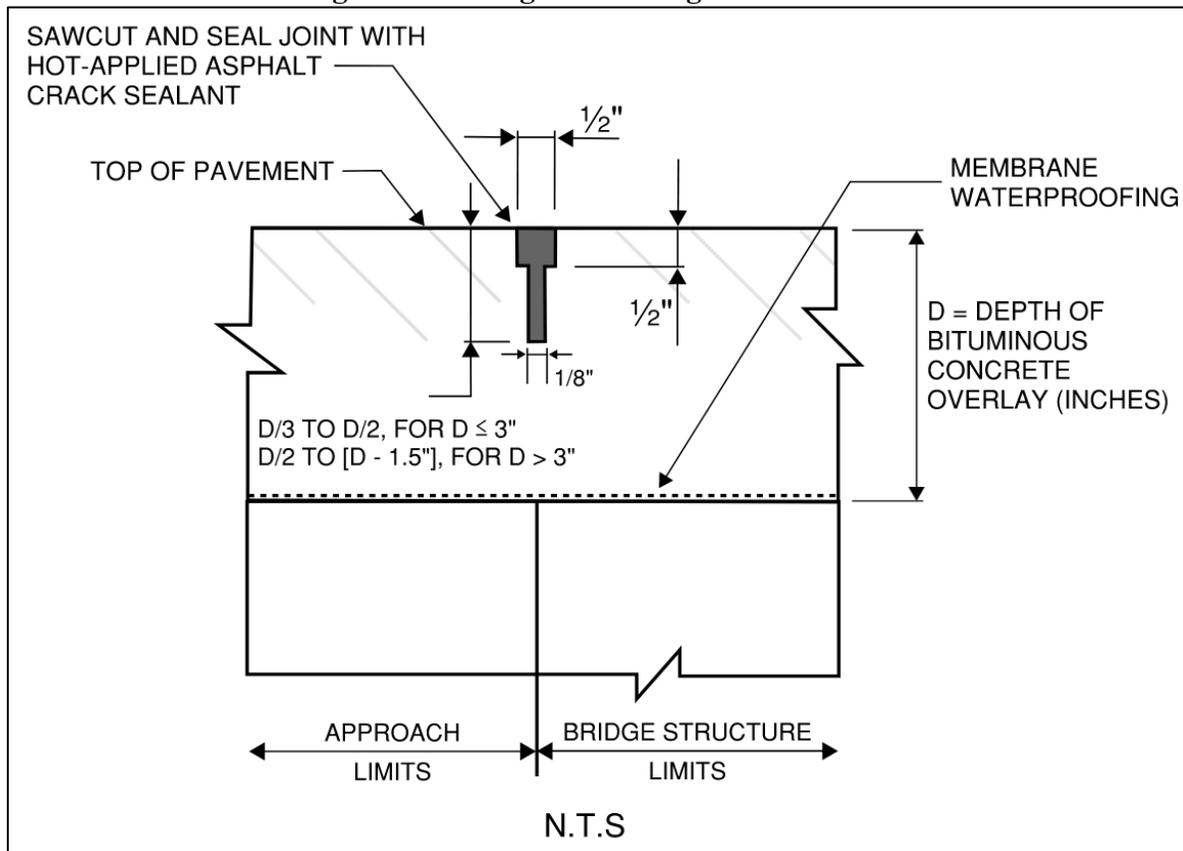
Construction Methods: The sawing and sealing operation shall proceed in accordance with the requirements of the “Maintenance and Protection of Traffic” and “Prosecution and Progress” specifications.

1. Equipment: The equipment used by the Contractor shall include the following:
 - a. Saw and Blades: A minimum of one (1) power saw shall be used for the cutting of bituminous concrete. The saw shall be capable of providing straight, clean cuts of uniform depth and width to the dimensions shown on the Plans. The saw(s) shall be capable of making both a single, deeper cut (for reflective crack control) as well as a wider, shallower cut (to form the upper sealant reservoir), in one single pass, using multiple blades mounted side-by-side in “gang blade” arrangement. The saw shall have diamond-tipped blades.
 - b. Melter Applicator: This shall consist of a boiler kettle equipped with pressure pump, hose, and applicator wand; the boiler kettle may be a combination melter and pressurized applicator of a double-boiler type with space between the inner and outer shells filled with heat transfer oil. Heat transfer oil shall have a flash point of not less

- than 600°F. The kettle shall include a temperature control indicator. The kettle shall be capable of maintaining the crack seal material at the manufacturer's specified application temperature range. The kettle shall include an insulated applicator hose and application wand. The hose shall be equipped with a shutoff control. The kettle shall include a mechanical full sweep agitator to provide continuous blending. Thermometers shall monitor the material temperature and the heating oil temperature. Thermostatic controls shall allow the operator to regulate material temperature up to at least 425°F.
- c. **Application Wand and Squeegee Applicator:** The material shall be applied with a wand followed by a squeegee applicator. The squeegee applicator shall be of commercial/industrial quality designed with a "U" shaped configuration. It shall be of a size adequate to strike off, flush with the surrounding pavement surface and without overflow around the sides, all crack seal material placed. This tool shall be either attached to the applicator wand or be a separate long handled tool.
 - d. **Hot Air Lance:** This shall be designed for cleaning and drying the pavement saw cuts. Minimum compressed air capacity shall be 100 psi. The compressed air emitted from the tip of the lance shall be oil free and capable of achieving a temperature of at least 1500°F.
2. **Weather Requirements:** Work shall be performed only when the pavement is dry. No frost, snow, ice, or standing water may be present on the roadway surface or within the pavement saw cuts. The ambient temperature must be at least 40°F during field application operations.
 3. **Material Mixing Procedure:** The prepackaged material shall be added to the melter applicator in the presence of the Engineer. It shall then be mixed and heated to the recommended application temperature. The crack sealant shall never exceed 400°F.
 4. **Delineation of Transverse Joints:** Prior to the sawing and sealing operation, the Contractor shall establish sufficient controls to determine the exact location of each transverse joint. This shall include setting markers at each joint to reference its location and alignment, while having each of these markers tied. Survey shall be established while the joint elements are exposed and must be done before placement of the proposed pavement, base, or other fill materials. A written procedure for this work shall be submitted to the Engineer for review prior to commencement.
 5. **Cutting of Bituminous Concrete:** Saw cutting shall be performed a minimum of 48 hours and a maximum of 5 days after the surface lift of the bituminous concrete overlay is placed. After final paving is completed, the proposed saw cut lines shall be marked on the overlay by the Contractor. The saw cut lines must be approved by the Engineer before performing the work.

The joint shall consist of a gang-blade saw cut made in a single pass and shall span from edge-of-road to edge-of-road, as shown on the Plans. The cuts shall be made using blades of appropriate thickness to achieve the joint detail shown in Figure 1.

Figure 1: Sawing and Sealing – Joint Detail



The inner 1/8-inch-wide cut shall be made in a straight line across the pavement directly over the transverse joint. For total bituminous concrete overlay depths of 3 inches and less, the depth of the inner saw cut shall be between one third ($D/3$) and one half ($D/2$) the specified depth of the overlay as shown on the Plans. For total overlay depths exceeding 3 inches, the minimum required depth of the inner saw cut shall be one half ($D/2$) the specified depth of the bituminous concrete overlay as shown on the Plans, and a maximum of 1.5 inches above the bottom of the overlay ($D - 1.5$). The saw cut shall not damage or impact any portion of the membrane waterproofing, bridge deck, joint, or other structural element.

The outer cuts shall be made using a gang blade arrangement within the same pass as the inner cut to form the 1/2-inch by 1/2-inch upper reservoir and properly support the installation of the sealant.

The saw cut shall provide straight, clean vertical faces with no cracking, tearing, or breakage along the cut edge.

6. **Saw Cut Preparation:** Saw cuts to be sealed shall be treated with a hot air lance immediately prior to application of the crack seal material. Two (2) passes minimum shall be made with the

hot air lance. There shall be no more than 10 minutes between the second hot air lance treatment and the material application.

The use of the hot air lance is not intended to heat the saw cut. It is to be used to blow all debris from the saw cut to the depths specified below and to remove any latent moisture from the saw cut until the inside of the saw cut is completely dry as determined by the Engineer. "Moisture" does not include standing water. The hot air lance is not to be used to boil off or blow standing water from the bottom of a saw cut. If standing water is present in the bottom of any saw cut, the sealing operation shall be postponed until such time that the standing water evaporates naturally. The Contractor may use compressed, oil-free air (not heated) to blow standing water from a saw cut to help accelerate the natural evaporation process. If standing water remains after using compressed air, the saw cut shall be allowed to dry naturally until remaining standing water evaporates. The hot air lance shall be used after visible water has evaporated. If a saw cut is already completely dry as determined by the Engineer, the hot air lance shall be operated at its lowest temperature possible.

7. Crack Sealing: Immediately after saw cuts have been prepared, they shall be filled to refusal along their entire length with the crack sealant material. The treatment material shall be maintained at the manufacturer's specified/recommended application temperature range at all times. The sealing operation shall be suspended if the temperature of the crack seal material falls outside the specified temperature range and shall remain suspended until the crack seal material is brought within the specified range.

Sealed saw cuts shall be squeegeed immediately following application of the crack sealant material, striking the excess even with the adjacent pavement surface. There shall be no build-up of treatment material above or adjacent to the crack. If the initial application of crack sealant material fails to fill the saw cut or shrinks upon cooling with a depression of 1/8 inch or greater, a second application of sealant shall be placed. Care shall be taken during the sealing operation to ensure that overfilling and spilling of material is avoided.

8. Protection of Sealed Joints: Traffic shall not be permitted on the pavement until the crack seal material is set, so that the material does not deform or track and be pulled out by tires. If work under this item is not followed by placement of an overlay of any kind, a detackifier or blotting agent shall be used. If the work under this item is being performed prior to placing a surface treatment (e.g., chip seal), a detackifier or blotting agent will not be allowed.
9. Removal and Disposal of Material: All debris generated from the operations described above shall be removed by the Contractor. Treatment material remaining in the Contractor's kettle at the end of the work shift shall be discarded. Treatment material shall not be re-heated for use in subsequent crack sealing applications unless permitted by the Engineer. All debris and surplus treatment material shall be properly disposed of in accordance with Article 1.10.03 and State of Connecticut regulations.
10. Acceptance of Work: When work is complete, an inspection shall be scheduled. The Engineer will note all deficiencies including areas exhibiting adhesion failure, cohesion failure, tracking

of sealant material, locations of missing, incompletely, or incorrectly constructed joints, or other factors that show the work is not acceptable. Work identified by the Engineer as not acceptable shall be repaired at the Contractor's expense. The Contractor shall notify the Engineer upon completion of any corrective work performed.

Any reflective cracking attributable to improper joint referencing or construction methods shall be repaired at the expense of the Contractor, in a manner approved by the Engineer.

Method of Measurement: This work will be measured by the total number of linear feet of sawn and sealed joints, verified and accepted by the Engineer.

Basis of Payment: This work will be paid for at the Contract unit price per linear foot for "Sawing and Sealing Joints" complete and accepted in place. The price shall include all submittals, materials, equipment, tools, and labor incidental thereto. No payment will be made to the Contractor prior to submittal of required documents.

Pay Item
Sawing and Sealing Joints

Pay Unit
l.f.

ITEM #0406312A – GUTTER LINE SEALING FOR BRIDGES

Description: This work shall consist of applying hot-applied asphalt crack sealant along the gutter line of bridges after paving to seal the joint between the bituminous concrete overlay and parapet, curb, or barrier at the locations and to the limits shown on the Plans.

Materials:

3. Crack Seal: The crack seal material shall be composed of a hot-applied asphalt meeting ASTM D6690 Type II requirements.

Prior to the start of work, the Contractor shall submit a Materials Certification (MC) in accordance with Article 1.06.07 certifying the joint seal material meets these requirements. The Contractor must submit to the Engineer all Safety Data Sheets (SDS) from the material manufacturer prior to the commencement of work.

4. Blotting Agent – Detackifier: This material shall be a fine-graded granular material with 100% aggregate passing the 3/16-inch sieve and no more than 5% passing the #200 sieve when tested in accordance with AASHTO T 27 and T 11.

The material shall be as recommended by the supplier of the crack sealant and shall be used as recommended by the supplier, except that no paper, cotton, or other organic materials will be allowed. Product Data shall be submitted to the Engineer for review in accordance with Article 1.05.02.

Construction Methods: The sealing operation shall proceed in accordance with the requirements of the “Maintenance and Protection of Traffic” and “Prosecution and Progress” specifications.

11. Equipment: The equipment used by the Contractor shall include the following:

- e. Melter Applicator: This shall consist of a boiler kettle equipped with pressure pump, hose, and applicator wand; the boiler kettle may be a combination melter and pressurized applicator of a double-boiler type with space between the inner and outer shells filled with heat transfer oil. Heat transfer oil shall have a flash point of not less than 600°F. The kettle shall include a temperature control indicator. The kettle shall be capable of maintaining the crack seal material at the manufacturer’s specified application temperature range. The kettle shall include an insulated applicator hose and application wand. The hose shall be equipped with a shutoff control. The kettle shall include a mechanical full sweep agitator to provide continuous blending. Thermometers shall monitor the material temperature and the heating oil temperature. Thermostatic controls shall allow the operator to regulate material temperature up to at least 425°F.

- f. **Application Wand and Squeegee Applicator:** The material shall be applied with a wand followed by a squeegee applicator. The squeegee applicator shall be of commercial/industrial quality and be designed with a configuration to properly strike off the sealant placed along the gutter line of the bridge, adjacent bituminous concrete overlay and parapet, curb, or barrier to the dimensions specified. It shall be of a size adequate to strike off, flush with the surrounding areas, all crack seal material placed. This tool shall be either attached to the applicator wand or be a separate long handled tool.
 - g. **Hot Air Lance:** This shall be designed for cleaning and drying the pavement edge along the curb parapet or barrier. Minimum compressed air capacity shall be 100 psi. The oil-free compressed air emitted from the tip of the lance shall be oil free and capable of achieving a temperature of at least 1500°F.
12. **Weather Requirements:** The pavement shall be dry without frost, snow, ice, or standing water on the roadway surface and within the areas to be sealed. The ambient temperature must be at least 40°F and rising during application.
13. **Material Mixing Procedure:** The prepackaged material shall be added to the melter applicator in the presence of the Engineer. It shall then be mixed and heated to the recommended application temperature. The crack sealant shall never exceed 400°F. The treatment material shall be maintained at the manufacturer's specified/recommended application temperature range during application. The sealing operation shall be suspended if the temperature of the crack sealant falls outside the specified temperature range and shall remain suspended until the crack sealant is brought within the specified range.
14. **Delineation of Areas to be Sealed:** Prior to the sealing operation, the Contractor shall locate and mark out the start and end limits of the work. The sealing shall span the entire length of the structure and be done along each side of the bridge such that both gutter lines are completely sealed, as shown on the Plans. Sealing shall be performed after the surface lift of the bituminous concrete overlay is placed, at a time determined by the Engineer, not to exceed 4 weeks after final paving is completed. The sealing operation shall not damage or otherwise negatively impact the performance of any portion of the overlay, membrane waterproofing, bridge deck, joint, or other structural element.

Sealing Preparation: Areas to be sealed shall be treated with a hot air lance prior to application of the crack seal material. A minimum of two (2) passes shall be made. Within 10 minutes of the second hot air lance treatment the sealant shall be applied. The use of the hot air lance is not intended to heat the areas to be sealed. It is to be used to blow away all debris and remove any latent moisture from the areas to be sealed until the area is completely dry as determined by the Engineer. "Moisture" does not include standing water. The hot air lance is not to be used to boil off or blow standing water. If standing water is present, the sealing operation shall be postponed until such time that the standing water evaporates naturally. The Contractor may use compressed, oil-free air (not heated) to blow standing water to help accelerate the natural evaporation process.

If standing water remains after using compressed air, the area shall be allowed to dry naturally until remaining standing water evaporates. The hot air lance shall be used after visible water has evaporated. If an area is already completely dry as determined by the Engineer, the hot air lance shall be operated at its lowest temperature possible.

The parapet, curb, or barrier face shall be masked off above the sealant line to ensure straight, clean, and neat lines are provided along the vertical surface and that crack seal material is placed within the dimensions specified below.

15. Sealing Operation: Once prepared, all specified areas shall be sealed along their entire length with the crack seal applicator. Crack seal shall be placed 2 inches up onto the parapet, curb, or barrier face and 4 to 6 inches onto the adjacent bituminous concrete overlay. There shall be no build-up of sealant material above or adjacent to the sealed areas beyond these limits. Sealed areas are to be flattened with the squeegee applicator immediately following application of the crack sealant, striking excess material flat and even with the adjacent surface(s). If the initial application of crack sealant fails to fill the area flush or shrinks upon cooling with a depression of 1/8 inch or greater, additional applications of sealant shall be placed where necessary. Care shall be taken during the sealing operation to ensure that overfilling and spilling of material is avoided.
16. Protection of Sealed Areas: Traffic shall not be permitted on the sealed area of pavement along the gutter line until the crack sealant is set, so that the material does not deform or track and be pulled out by tires. If work under this item is not followed by placement of an overlay of any kind, a detackifier or blotting agent shall be used. If the work under this item is being performed prior to placing a surface treatment (e.g., chip seal), a detackifier or blotting agent will not be allowed.
17. Removal and Disposal of Material: All debris generated from the operations described above shall be removed by the Contractor. Treatment material remaining in the Contractor's kettle at the end of the work shift shall be properly discarded. Treatment material shall not be re-heated for use in subsequent crack sealing applications unless permitted by the Engineer. All debris and surplus treatment material shall be properly disposed of in accordance with Article 1.10.03 and State of Connecticut regulations.
18. Acceptance of Work: When work is complete, an inspection shall be scheduled. The Engineer will note all deficiencies including areas exhibiting adhesion failure, cohesion failure, tracking of sealant material, locations of missing, incompletely or incorrectly constructed sealant, or other factors that show the work is not acceptable. Work identified by the Engineer as not acceptable shall be repaired at the Contractor's expense. The Contractor shall notify the Engineer upon completion of any corrective work performed.

Method of Measurement: This work will be measured by the total number of linear feet sealed, verified and accepted by the Engineer.

Basis of Payment: This work will be paid for at the Contract unit price per linear foot for “Gutter Line Sealing for Bridges” complete and accepted in place. The price shall include all submittals, materials, equipment, tools, and labor incidental thereto. No payment will be made to the Contractor prior to submittal of required documents.

Pay Item
Gutter Line Sealing for Bridges

Pay Unit
l.f.

ITEM #0406999A - ASPHALT ADJUSTMENT COST

Description: The Asphalt Adjustment Cost will be based on the variance in price for the performance-graded binder component of the following:

- I. Hot Mix Asphalt (HMA) and Polymer Modified Asphalt (PMA),
- II. Ultra-Thin Bonded HMA (UTB-HMA) and Ultra-Thin Bonded PMA (UTB-PMA),
- III. Thin Friction Wearing Course (TFWC),
- IV. Binder Rich Intermediate Courses (BRIC) and Stone Matrix Asphalt (SMA),
- V. Balanced Mix Design (BMD), and
- VI. Asphalt Rubber Chip Seal (ARCS) treatments completed and accepted during the Contract

The Asphalt Price is available on the Department of Transportation website at:

<http://www.ct.gov/dot/asphaltadjustment>

Construction Methods:

An asphalt adjustment will be applied only if all the following conditions are met per mixture:

- I. For HMA, PMA, TFWC, BRIC, SMA, and BMD mixtures:
 - a. The HMA, PMA, TFWC, BRIC, SMA, or BMD mixture for which the adjustment would be applied is listed as a Contract item with a pay unit of tons.
 - b. ***The total quantity for all HMA, PMA, TFWC, BRIC, SMA, and BMD mixtures in the Contract or individual purchase order (Department of Administrative Service contract awards) exceeds 1000 tons or the Project duration is greater than 6 months.***
 - c. The difference between the posted *Asphalt Base Price* and *Asphalt Period Price* varies by more than \$5.00 per ton.
- II. For UTB-HMA and UTB-PMA mixtures:
 - a. The UTB-HMA or UTB-PMA mixture for which the adjustment would be applied is listed as a Contract item.
 - b. ***The total quantity for the UTB-HMA or UTB-PMA mixture in the Contract exceeds:***
 - i. 800 tons if the UTB-HMA or UTB-PMA item has a pay unit of tons,***
 - ii. 30,000 square yards if the UTB-HMA or UTB-PMA item has a pay unit of square yards,***
 - or***
 - iii. the Project duration is greater than 6 months.***

Note: The quantity of UTB-HMA or UTB-PMA measured in tons shall be determined from the material documentation requirements set forth in the UTB-HMA or UTB-PMA item specification.
 - c. The difference between the posted *Asphalt Base Price* and *Asphalt Period Price* varies by more than \$5.00 per ton.
 - d. No Asphalt Adjustment Cost will be applied to the liquid emulsion that is specified as part of the UTB-HMA or UTB-PMA mixture system.
- III. For Asphalt Rubber Chip Seal (ARCS) treatments:
 - a. The ARCS treatment for which the adjustment would be applied is listed as a Contract item.

- b. ***The total quantity for the ARCS treatment in the Contract exceeds 30,000 square yards or the Project duration is greater than 6 months.***

Note: The quantity of asphalt binder measured in tons used for the Asphalt Rubber Chip Seal treatment shall be determined from the material documentation requirements set forth in the ARCS item specification. The Asphalt Adjustment Cost will also be applied to the asphalt binder used to pre-coat the cover aggregate as part of the ARCS and will be considered as a portion of the total tons of binder for the treatment. The additional quantity of binder measured in tons will be determined based on a percentage of the cover aggregate weight per the requirements set forth in the ARCS item specification.

- c. The difference between the posted *Asphalt Base Price* and *Asphalt Period Price* varies by more than \$5.00 per ton.

Regardless of the binder used in all mixtures or treatments, the Asphalt Adjustment Cost will be based on PG 64-22.

The Connecticut Department of Transportation (CTDOT) will post on its website, the average per ton selling price (asphalt price) of the performance-graded binder. The average is based on the high and low selling price published in the most recent available issue of the **Asphalt Weekly Monitor**® furnished by Poten & Partners, Inc. under the “East Coast Market – New England, New Haven, Connecticut area,” F.O.B. manufacturer’s terminal.

The selling price furnished from the Asphalt Weekly Monitor ® is based on United States dollars per standard ton (US\$/ST).

Method of Measurement:

A.

Formula A: $HMA \times [PG\%/100] \times [(Period\ Price - Base\ Price)] = \\$ \underline{\hspace{2cm}}$
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Where:

- **HMA:**
 1. For HMA, PMA, UTB-HMA, UTB-PMA, TFWC, BRIC, SMA, and BMD mixtures with pay units of tons:

The quantity in tons of accepted HMA, PMA, UTB-HMA, UTB-PMA, TFWC, BRIC, SMA, or BMD mixture measured and accepted for payment.
 2. For UTB-HMA and UTB-PMA mixtures with pay units of square yards:

The quantity of UTB-HMA and UTB-PMA mixture delivered, placed, and accepted for payment, calculated in tons as reported according to the Material Documentation provision of the UTB-HMA and UTB-PMA specification.
- **Asphalt Base Price:** The asphalt price posted on the CTDOT website 28 days before the actual bid opening posted.
- **Asphalt Period Price:** The asphalt price posted on the CTDOT website during the period the HMA, PMA, UTB-HMA, UTB-PMA, TFWC, BRIC, SMA, or BMD mixture was placed.
- **PG% (Performance-Graded Binder percentage):**
 1. For HMA or PMA mixes:
 - PG% = 4.5 for HMA S1 and PMA S1

- PG% = 5.0 for HMA S0.5 and PMA S0.5
- PG% = 6.0 for HMA S0.375, PMA S0.375, HMA S0.25 and PMA S0.25
- 2. For UTB-HMA, UTB-PMA, TFWC, BRIC, SMA, and BMD mixes:
 - PG% = Design % PGB (Performance Graded Binder) in the approved job mix formula, expressed as a percentage to the tenth place (e.g. 5.1%)

B. For Asphalt Rubber Chip Seal:

Formula B: Total Tons x [(Period Price - Base Price)] = \$ ____

Where:

- **Total tons:** The tons of asphalt binder for each lot of asphalt rubber produced, as reported according to the Testing and Certification article of the specification for Asphalt Rubber Chip Seal, and the tonnage of binder used to coat the cover aggregate calculated as follows: 0.6% x tons of cover aggregate.
- **Asphalt Base Price:** The asphalt price posted on the CTDOT website 28 days before the actual bid opening posted.
- **Asphalt Period Price:** The asphalt price posted on the CTDOT website during the period the Asphalt Rubber Chip Seal mixture was placed.

The Asphalt Adjustment Cost shall not be considered as a changed condition in the Contract as result of this provision since all bidders are notified before submission of bids.

Basis of Payment: The "Asphalt Adjustment Cost" will be calculated using the applicable formula(s) indicated above. A payment will be made for an increase in costs. A deduction from monies due the Contractor will be made for a decrease in costs.

The sum of money shown on the Estimate and in the itemized proposal as "Estimated Cost" for this item will be considered the bid price although the adjustment will be made as described above. The estimated cost figure is not to be altered in any manner by the bidder. If the bidder should alter the amount shown, the altered figure will be disregarded and the original cost figure will be used to determine the amount of the bid for the Contract.

Pay Item	Pay Unit
Asphalt Adjustment Cost	est.

ITEM #0502188A – TEMPORARY TRESTLE

Description:

Work under this item shall include the construction, maintenance and removal of the temporary trestles required for the construction of the new bridge, and removal of the existing bridge as shown on the plans or as directed by the engineer. Temporary trestles may consist of clear span or cantilevered sections as required to avoid possible conflicts with existing or proposed features. The contractor shall design and submit for approval plans, details and computations showing temporary trestles capable of safely supporting machinery, equipment and loads necessary for the construction of the new bridge and removal of the existing bridge.

Construction Methods:

The temporary trestles shall not exceed the limits shown on the plans or approved under the permit. The Contractor shall maintain the required hydraulic opening as shown on the plans. Any increases to the overall footprint of the temporary trestles must be approved by the engineer prior to construction.

At least 21 days prior to installation, the contractor shall submit to the Engineer for review, plans, details and computations for any temporary trestle structures, prepared by a professional engineer licensed to practice in the State of Connecticut. Review, acceptance or approval of proposed plans or methods shall not relieve the contractor of any of his obligations to provide a safe and usable temporary trestle.

All temporary trestle structures shall be substantially built in a workmanlike manner, using a sufficient number of piles, supporting members, decking systems and fasteners, all of which shall be safe for performing the work and suitable for the intended purpose.

The Contractor shall also maintain the temporary trestle structures condition by renewing or repairing damaged structural elements. Upon completion of construction operations associated with the use of the temporary trestles, the contractor shall remove and properly dispose of any temporary trestle structures.

Method of Measurement:

This item will be measured on a lump sum basis, which will include all temporary trestle structures as required for the construction of the new bridge and removal of the existing bridge.

Basis of Payment:

This item will be paid for at the contract lump sum price for “Temporary Trestle” necessary for the construction of the new bridge and removal of the existing bridge, which price shall include construction, maintenance and removal of the temporary trestles, design and preparation of plans and details, as well as all excavation, backfilling, materials, tools, equipment and labor incidental thereto.

Pay Item
Temporary Trestle

Pay Unit
L.S.

ITEM #0503001A – REMOVAL OF SUPERSTRUCTURE

Section 5.03 is supplemented as follows:

Article 5.03.01 – Description is supplemented with the following:

Work under this item shall also include the careful removal, loading, transporting and unloading of the existing bridge rail designated for salvage to the Town of Roxbury Public Works Department. See Notice to Contractor - Salvage for further information.

Article 5.03.03 – Construction Methods is supplemented with the following:

Prior to commencement of work, the Contractor and Engineer shall inventory the existing bridge rail within the project limits to determine which materials are suitable for salvage.

Article 5.03.05 – Basis of Payment is supplemented with the following:

The loading, transporting and unloading of the salvaged bridge rail shall be included in the unit price of this work.

Pay Item

Removal of Superstructure

Pay Unit

l.s.

ITEM #0520032A - ELASTOMERIC CONCRETE HEADER

Description: Work under this item consists of furnishing and installing elastomeric concrete headers as shown on the plans. Work also includes saw-cutting and removal of bituminous concrete; disposal of removed materials and all debris from the header cut-out; abrasive blast cleaning; and, drilling, furnishing and installing adhesive bonded reinforcing bars to anchor the headers to the concrete below.

Materials:

1. **Field-mixed bridge joint header elastomeric concrete material.** The elastomeric concrete material shall be field-mixed and shall consist of two-part polymer, kiln-dried pre-graded aggregate, and bonding agent with the material being supplied as a unit by the Manufacturer.

A Materials Certificate will be required in accordance with the requirements of Article 1.06.07 certifying the conformance of the elastomeric concrete for bridge expansion joint header components to the requirements set forth in this specification.

Each container of product furnished shall be delivered to the Site in the Manufacturer’s original sealed container. Each container shall be labeled to include the name of the material, Manufacturer’s name and contact information, expiration date, mixing instructions and the Manufacturer’s lot/batch number. Material safety data sheets shall accompany each shipment. All materials must be stored in accordance with the Manufacturer’s written recommendations and as approved by the Engineer. Materials whose shelf-life has expired shall not be used in the Project.

Provide material that complies with the following minimum requirements at either 14 days or at the end of the specified curing time. In addition to the following requirements, the bridge elastomeric concrete header shall be resistant to water absorption, chemical, UV, ozone exposure and shall be capable of withstanding temperature extremes.

Elastomeric Concrete Properties at 24 hr. Cured Stage	Test Method	Requirement
Compressive Strength, Method B	ASTM C579	Min. 2000 psi
Bond Shear Strength	ASTM C882	Min. 700 psi
Abrasion Resistance Wear Index	ASTM C501	Max. 1
Resilience	ASTM D695	Min. 70%

Elastomeric Concrete Properties at 24 hr. Cured Stage	Test Method	Requirement
Durometer Hardness	ASTM D2240	Min. 50
Bond Strength to Concrete	ASTM C882	Min. 450 psi

The following Elastomeric Concrete products are qualified for use under this item:

Manufacturer:

Sika Corporation
 Emseal Joint Systems, LTD
 25 Bridle Lane
 Westborough, MA 01581
 Phone: (508) 836-0280

Qualified Product

Emcrete II

Silicone Specialties Inc.
 430 S. Rockford
 Tulsa, OK 74120
 Phone: (918) 587-5567

Silspec 900 Polymer Nosing System

Watson Bowman Acme Corp.
 95 Pineview Drive
 Amherst, NY 14228
 Phone: (800) 677-4922

Wabo Crete II

R. J. Watson Inc.
 11035 Walden Ave
 Alden, NY 14004
 Phone: (716) 901-7020

Poly-Tron Elastomeric Concrete

2. **Reinforcing Bars:** Reinforcing bars shall be glass fiber-reinforced polymer (GFRP) meeting the requirements of ASTM D7957, “Standard Specification for Solid Round Glass Fiber Reinforced Polymer Bars for Concrete Reinforcement.” All GFRP reinforcement shall be deformed or sand-coated. When hooks or bends are shown on the plans, bars shall be fabricated as shown. Bending of bars in the field will not be allowed. A Materials Certificate will be required for the reinforcing bars in accordance with the requirements of Article 1.06.07.

3. **Chemical Anchor Material:** Chemical anchor material to secure the GRFP reinforcement in drilled holes within the header cut-out shall meet the requirements of Article 6.10.02.

Construction Methods:

Submittals:

The Contractor shall submit the following in accordance with the requirements of Article 1.05.02:

- Product data for the elastomeric concrete header, reinforcing bars and chemical anchor material
- Written installation instructions for the elastomeric concrete headers, including surface preparation, conditions that are unacceptable for installation of the headers, the materials and methods for forming the headers while allowing thermal movement of the bridge, finishing and curing requirements. The instructions shall also address, where applicable, the proper preparation of stage construction joints in the headers.
- Submittals for the adhesive bonding material shall be as specified in Article 6.10.03 and shall be acceptable before the holes are drilled.

Installation:

An experienced technical representative from the manufacturer, acceptable to the Engineer, shall be present during initial installations of the elastomeric concrete headers to provide the Contractor aid and independent instruction to obtain an installation satisfactory to the Engineer.

Block-outs shall be formed between elastomeric concrete headers as required to accept the subsequent installation of the preformed joint seal.

Work under this item shall consist of installing the bridge elastomeric concrete header at the locations shown on the plans and in stages in accordance with the traffic requirements in the special provisions “Maintenance and Protection of Traffic” and “Prosecution and Progress.”

Elastomeric concrete is moisture-sensitive. Therefore, after properly curing new decks and deck ends that have been reconstructed or patched, the Contractor shall measure and document the moisture content of the concrete before installation of elastomeric concrete headers. The Contractor shall not install the elastomeric concrete against the concrete deck if the moisture content exceeds 6% (or lower, if required by the manufacturer’s technical representative). Measurement of moisture content shall be conducted on the substrate by the Contractor using a “Sovereign Portable Electronic Moisture Master Meter,” a “Tramex CMEXpertII Concrete Moisture Meter” or approved equal. One measurement shall be taken at the gutterline below each proposed header. The minimum frequency shall be one measurement every twelve feet along each proposed header. Additional measurements may be ordered by the Engineer.

Tools, equipment, and techniques used to prepare the bridge elastomeric concrete header shall be supplied by the Contractor and approved by the Engineer and the Manufacturer’s technical representative prior to the start of construction.

The Contractor shall provide sufficient material in storage at the Site prior to beginning work on this item, to complete the entire bridge elastomeric concrete header as detailed on the plans or as directed by the Engineer.

The Contractor shall saw cut the overlay full depth in order to delineate the location of the elastomeric concrete headers. At the time of installation of the bridge elastomeric concrete header, all existing material shall be removed from the proposed bridge joint header, including all existing joint systems in the deck, sidewalk, parapet and median.

All surfaces in the bridge headers shall be cleaned of all pavement, membrane, dust, dirt, debris, and other loose materials as recommended by the Manufacturer and shall be free of frost or dew that could affect the bond of the header material to the concrete. Additionally, the concrete to which the header will be bonded shall be blast cleaned as recommended by the Manufacturer. When blast cleaning is performed under this specification the Contractor shall take adequate measures to ensure that the blast cleaning will not cause damage to adjacent traffic or other facilities. Following blast cleaning, the surfaces shall again be cleaned to remove any remaining dust.

Forms shall be used to keep the elastomeric concrete from entering the open joint between the concrete deck slabs. The completed headers shall be parallel and straight within 1/8 inch in 10 feet of length. **The joint gap between the headers may not be formed with polystyrene, polyurethane, polyisocyanurate or any other similar material.** The forms for each pair of headers shall be secured so each can move independently of the other, to allow for thermal movement of the deck. Forms shall be designed so that, upon completion of the headers, the forms can be removed. Form, place and cast the elastomeric concrete headers to smoothly follow the surface of the finished roadway at the depth below the surface detailed on the plans.

The Contractor shall drill holes in the concrete and secure with adhesive bonding material the hooked reinforcing bars as detailed on the plans and as specified in Article 6.10.03. After cleaning any debris and dust from this operation, additional bars shall be placed along the header and secured to the hooked dowels as detailed on the plans.

No elastomeric concrete shall be installed below 45°F. The mixing and installation of the two-part bridge elastomeric concrete header shall be done in strict conformance with the Manufacturer's written recommendations including the use of static mixing devices if so indicated. The elastomeric concrete shall be placed to completely fill the forms, using a trowel to consolidate the material and prevent honeycombing and voids. Finish the surface to a moderately rough texture such as that produced by a wood float.

Traffic must not be allowed on the newly-placed bridge elastomeric concrete header until the material cures properly in accordance with the Manufacturer's specification. During curing time the elastomeric concrete header shall be protected from damage. If recommended by the manufacturer or technical representative, the elastomeric concrete shall be heat-cured with the use of external heat sources. Curing may require that heat be applied for approximately 2 to 3 hours. Traffic shall not be permitted over the joint until proper cooling of the material has occurred and

the elastomeric concrete has developed adequate strength in accordance with the manufacturer's recommendations.

Method of Measurement: This work will be measured for payment by the number of cubic feet of elastomeric concrete header installed and accepted into the final work. The volume will be calculated using measured width, length and depth of header. No calculation will be made to deduct the block-out area above the shelf. The width of header will be measured perpendicular to the joint, from the end of the bridge deck, approach slab or face of backwall to the specified pavement sawcut. The length will be measured along the joint side of the header, from face of curb to face of curb. Measurements of header depth shall be taken at sufficient frequency to calculate the average depth of header over its entire length. Elastomeric concrete material in the parapet curb will not be measured for payment.

Basis of Payment:

This work will be paid for at the Contract unit price per cubic foot for "Elastomeric Concrete Header," complete, which price shall include all equipment, tools, labor, and materials, incidental thereto, including preparation of the surface and proper disposal of debris. The cost of the technical representative shall also be included in the cost of this item.

Work associated with the preformed joint seal to be installed in the deck joint gap will be paid for under a separate item.

Pay Item	Pay Unit
Elastomeric Concrete Header	c.f.

ITEM #0520036A - ASPHALTIC PLUG EXPANSION JOINT SYSTEM

Description: Work under this item shall consist of furnishing and installing an asphaltic plug expansion joint system (APJ) in conformance with ASTM D6297, as shown on the plans, and as specified herein.

Work under this item shall also consist of the removal and disposal of bituminous concrete, membrane waterproofing, existing joint components and sealing elements, cleaning and sealing median barrier joints, parapet joints, and sidewalk joints.

Work under this item excludes the removal of Portland cement concrete headers.

Materials: The APJ component materials shall conform to ASTM D6297 and the following:

Aggregate: The aggregate shall meet the following requirements:

- a) Loss on abrasion: The material shall show a loss on abrasion of not more than 25% using AASHTO Method T96.
- b) Soundness: The material shall not have a loss of more than 10% at the end of five cycles when tested with a magnesium sulfate solution for soundness using AASHTO Method T 104.
- c) Gradation: The aggregate shall meet the requirements of Table A below:
- d) Dust: aggregate shall not exceed 0.5% of dust passing the #200 sieve when tested in accordance with AASHTO T-11.

Table A

<u>Square Mesh Sieves</u>	1" (25.0 mm)	¾" (19.0 mm)	½" (12.5 mm)	⅜" (9.5 mm)	No. 4 (4.75 mm)
% passing	100	90 - 100	20 - 55	0 - 15	0 - 5

A sample of the aggregate shall be submitted to the Department with a Certified Test Report in accordance with Article 1.06.07 for each 20 tons of loose material or its equivalent number of bags delivered to the job site. The Certified Test report must include a gradation analysis resulting from a physical test performed on the actual material that accompanies the report.

Anti-Tacking Material: This material shall be a fine graded granular material with 100% passing the 3/16" sieve and no more than 5% passing the #200 when tested in accordance with AASHTO T-27.

Backer Rod: All backer rods shall satisfy the requirements of ASTM D5249, Type 1.

Bridging Plate: The bridging plates shall be steel conforming to the requirements of ASTM A36 and be a minimum ¼" thick and 8" wide. For joint openings in excess of 3" the minimum

plate dimensions shall be $\frac{3}{8}$ " thick by 12" wide. Individual sections of plate shall not exceed 4' in length. Steel locating pins for securing the plates shall be size 16d minimum, hot-dip galvanized, and spaced no more than 12" apart.

Concrete Leveling Material: Shall be a cementitious-based material that conforms to ASTM C928 Standard Specification for Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repair, for R3 performance requirements in Table 1 and achieve the following:

- a. Final set in 45 Minutes
- b. 2500 psi compressive strength in 24 hours
- c. 5000 psi compressive strength in 7 days

Parapet Sealant: The sealant used in parapet joint openings shall be a single component non-sag silicone sealant that conforms to the requirements of ASTM D5893.

Sidewalk Sealant: The sealant used in sidewalk joint openings shall be a rapid cure, self-leveling, cold applied, two-component silicone sealant. The silicone sealant shall conform to the requirements listed in Table B:

Table B

Properties - As Supplied	Test Method	Requirement
Extrusion Rate	ASTM C1183	200-600 grams/min
Leveling	ASTM C639	Self-Leveling
Specific Gravity	ASTM D792	1.20 to 1.40
Properties - Mixed	Test Method	Requirement
Tack Free Time	ASTM C679	60 min. max.
Joint Elongation – Adhesion to concrete	ASTM D5329 ^{1,2,3}	600% min
Joint Modulus @ 100% elongation	ASTM D5329 ^{1,2,3}	15 psi max
Cure Evaluation	ASTM D5893	Pass @ 5 hours

1. Specimens cured at $77\pm 3^{\circ}\text{F}$ and $50\pm 5\%$ relative humidity for 7 days
2. Specimens size: $\frac{1}{2}$ " wide by $\frac{1}{2}$ " thick by 2" long
3. Tensile Adhesion test only

The date of manufacture shall be provided with each lot. No sealant shall be used beyond its maximum shelf-life date.

The two-part silicone sealants shown in Table C are known to have met the specified requirements:

Table C

Product	Supplier
Dow Corning 902RCS	Dow Corning Corporation 2200 W Salzburg Road Auburn, Michigan 48611
Wabo SiliconeSeal	BASF/Watson Bowman Acme Corporation 95 Pineview Drive Amherst, New York 14228

Other two-component silicone joint sealants expressly manufactured for use with concrete that conform to the aforementioned ASTM requirements will be considered for use provided they are submitted in advance for approval to the Engineer. Other joint sealants will be considered for use only if a complete product description is submitted, as well as documentation describing at least five installations of the product. These documented installations must demonstrate that the product has performed successfully for at least three years on similar bridge expansion joint applications.

A Materials Certificate and Certified Test Report for the asphaltic binder shall be submitted by the Contractor in accordance with the requirements of Article 1.06.07 certifying that the asphaltic binder satisfies the requirements of the most current version of ASTM D6297.

A Materials Certificate for all other components of the APJ, leveling material, backer rod and sealant used in sealing parapet and sidewalk joint openings, shall be submitted by the Contractor in accordance with the requirements of Article 1.06.07

Construction Methods: The APJ shall be installed at the locations shown on the plans and in stages in accordance with the traffic requirements in the special provisions “Maintenance and Protection of Traffic” and “Prosecution and Progress”.

At least 30 days prior to start of the work, the Contractor shall submit to the Engineer for approval a detailed Quality Control Plan for the installation of the APJ. The submittal shall include:

- a) A list of all manufactured materials and their properties to be incorporated in the joint system, including, but not limited to the asphaltic binder, anti-tack material, backer rod, sealant, leveling material, as well as the aggregate’s source.
- b) A detailed step by step installation procedure and a list of the specific equipment to be used for the installation. The Quality Control Plan must fully comply with the specifications and address all anticipated field conditions, including periods of inclement weather.

The APJ shall not be installed when bituminous concrete overlay or joint cutout is wet. The APJ shall only be installed when the bridge superstructure surface temperature is within the limits

specified in Table D and when the ambient air temperature is within the range of 45°F to 95°F. The bridge superstructure surface temperature range is determined using the thermal movement range provided on the contract plans for the proposed APJ deck installation location and the selected APJ product.

Table D

Installation Restrictions	
Designed Deck Joint Thermal Movement Range²	Bridge Superstructure Surface Temperature¹
0" to 1"	45° F to 95° F
1-1/8"	45° F to 90° F
1-1/4"	45° F to 80° F
1-3/8"	45° F to 70° F
1-1/2"	45° F to 65° F

1. *The superstructure surface temperature shall be determined from the average of three or more surface temperature readings taken at different locations on the interior girder surfaces by the Contractor as directed by the Engineer. Temperature measurements of the superstructure shall be taken by the contractor with a calibrated hand held digital infrared laser-sighted thermometer on the surfaces of an interior steel girder, or interior concrete girder protected from direct sunlight. The infrared thermometer to be supplied by the Contractor for this purpose shall meet certification requirements of EN61326-1, EN61010-1, and EN60825-1 maintained by the European Committee for Electrotechnical Standardization (CENELEC). The thermometer shall have a minimum distance-to-spot ratio of 50:1 and shall have adjustable emissivity control. The thermometer shall have a minimum accuracy value of $\pm 1\%$ of reading or $\pm 2^\circ\text{F}$, whichever is greater. The thermometer shall be used in strict accordance with the manufacturer's written directions. An additional infrared thermometer satisfying the same standards to be used in this application shall also be provided to the Engineer for quality assurance purposes.*
2. *Linear interpolation may be used to determine an allowable surface temperature range for thermal movement ranges in between values shown in the table, as approved by the Engineer.*

Prior to installing the APJ, the Contractor shall determine the exact location of the deck joint beneath the bituminous concrete overly.

The APJ shall be installed symmetrically about the deck joint opening to the dimensions shown on the plans or as directed by the Engineer; not to exceed 24 inches measured perpendicular to the deck joint. The proposed saw cut lines shall be marked on the bituminous concrete overlay by the Contractor and approved by the Engineer, prior to saw-cutting. The saw-cuts delineating the edges of the APJ shall extend full depth of the bituminous concrete overlay.

The existing bituminous concrete overlay, waterproofing membrane and/or existing expansion joint material, within the saw cut limits shall be removed and disposed of by the Contractor to create the joint cutout.

Concrete surfaces that will support the bridging plates shall be smooth and form a plane along and across the deck joint. Rough or damaged concrete surfaces shall be repaired with a leveling compound meeting the requirements of this specification. Deteriorated concrete areas within the joint limits shall be repaired as directed by the Engineer: such repairs, when deemed necessary by the Engineer, shall be compensated for under the applicable concrete deck repair items in the Contract. The existing and repaired concrete surfaces shall provide continuous uniform support for the bridging plate and prevent the plate from rocking and deflecting.

Prior to the installation of the backer rod, all horizontal and vertical surfaces of the joint cutout shall be abrasive blast cleaned using an oil-free, compressed air supply. The entire cutout shall then be cleared of all loose blast media, dust, debris and moisture using an oil-free, hot air lance capable of producing an air stream at 3,000°F with a velocity of 3,000 feet per second.

A single backer rod, with a diameter at least 25% greater than the existing joint opening at the time of installation, shall be installed at an inch below the bridging plate in the existing deck joint opening between the concrete edges.

Asphaltic binder shall be heated to a temperature within the manufacturer's recommended application temperature range which shall be provided in the Quality Control Plan. During application, the temperature of the binder shall be maintained within this range. In no case shall the temperature of the binder go below 350° F nor exceed the manufacturer's recommended maximum heating temperature.

Asphaltic binder shall then be poured into the joint opening until it completely fills the gap above the backer rod. A thin layer of binder shall next be applied to the all horizontal and vertical surfaces of the joint cutout.

Bridging plates shall be abrasive blast-cleaned on-site prior to installation and then placed over the deck joint opening in the joint cutout. The plates shall be centered over the joint opening and secured with locating pins along its centerline. The plates shall be placed end to end, without overlap, such that the gap between plates does not exceed ¼". The plates shall extend to the gutter line and be cut to match the joint's skew angle, where concrete support exists on both sides of the

joint. Within APJ installation limits, where concrete support does not exist at both sides of the joint opening (such as where a bridge deck end abuts a bituminous concrete roadway shoulder), bridging plates shall not be installed. Installed bridging plates shall not rock or deflect in any way. After installation of bridging plates, a thin layer of asphaltic binder shall be applied to all exposed surfaces of the plates.

The remainder of the joint cutout shall then be filled with a mixture of hot asphaltic binder and aggregate prepared in accordance with the submitted Quality Control Plan and the following requirements:

- The aggregate shall be heated in a vented, rotating drum mixer by the use of a hot-compressed air lance to a temperature of between 370° F. to 380° F. This drum mixer shall be dedicated solely for the heating and, if necessary, supplemental cleaning of the aggregate. Venting of the gas and loose dust particles shall be accomplished through ¼” drilled holes spaced no more than 3” on center in any direction along the entire outside surface of the drum
- Once the aggregate has been heated, it shall then be transferred to a secondary drum mixer where it shall be fully coated with asphaltic binder. A minimum of two gallons of binder per 100lbs of stone is required.
- The temperature of the aggregate and binder shall be monitored by the contractor with a calibrated digital infrared thermometer.
- The coated aggregate shall be loosely placed in the joint cutout in lifts not to exceed 2 inches.
- Each lift shall be leveled, compacted and then flooded with hot asphaltic binder to the level of the aggregate to fill all voids in the coated aggregate layer. The surface of each lift shall be flooded until only the tips of the aggregate protrude out of the surface.
- The final lift shall be placed such that no stones shall project above the level of the adjacent overlay surface following compaction of the coated aggregate.
- Following installation of the final lift, sufficient time and material shall be provided to allow all voids in the mixture to fill. This step may be repeated as needed.
- The joint shall then be top-dressed by heating the entire area with a hot-compressed air lance and applying binder. The final joint surface must be smooth with no protruding stones and be absent of voids.
- Once top-dressed, the joint shall have an anti-tack material spread evenly over the entire surface to prevent tracking.

The Contractor shall be responsible for removing all binder material that leaks through the joint and is deposited on any bridge component, including underside of decks, headers, beams, diaphragms, bearings, abutments and piers.

Traffic shall not be permitted over the joint until it has cooled to 130° F when measured with a digital infrared thermometer. Use of water to cool the completed joint is permitted.

Sidewalk, parapet, and/or curb joint openings

Before placement of any sealing materials in parapets, curbs, or sidewalks, the joints shall be thoroughly cleaned of all scale, loose concrete, dirt, dust, or other foreign matter by abrasive blast cleaning. Residual dust and moisture shall then be removed by blasting with oil free compressed air using a hot air lance. Projections of concrete into the joint space shall also be removed. The backer rod shall be installed in the joint as shown on the plans. The joint shall be clean and dry before the joint sealant is applied. Under no circumstances is the binder material to be used as a substitute for the joint sealant.

Whenever abrasive blast cleaning is performed under this specification, the Contractor shall take adequate measures to ensure that the abrasive blast cleaning will not cause damage to adjacent traffic or other facilities.

The joint sealant shall be prepared and placed in accordance with the manufacturer's instructions and with the equipment prescribed by the manufacturer. Extreme care shall be taken to ensure that the sealant is placed in accordance with the manufacturer's recommended thickness requirements.

The joint sealant shall be tooled, if required, in accordance with the manufacturer's instructions.

Primer, if required, shall be supplied by the sealant manufacturer and applied in accordance with the manufacturer's instructions.

When the sealing operations are completed, the joints shall be effectively sealed against infiltration of water. Any sealant which does not effectively seal against water shall be removed and replaced at the Contractor's expense.

Any installed joint that exhibits evidence of failure, as determined by the Engineer, such as debonding, cracking, rutting, or shoving of the APJ mixture shall be removed and replaced full-width and full-depth to a length determined by the Engineer at no additional cost to the State.

Method of Measurement: This work will be measured for payment by the number of cubic feet of "Asphaltic Plug Expansion Joint System" installed and accepted within approved horizontal limits. No additional measurement will be made for furnishing and installing backer rod and joint sealant in the parapets, concrete medians, curbs and/or sidewalks.

Basis of Payment: This work will be paid for at the contract unit price per cubic foot for "Asphaltic Plug Expansion Joint System," complete in place, which price shall include the saw-cutting, removal and disposal of bituminous concrete, membrane waterproofing, existing joint components and sealing elements, the furnishing and placement of the leveling compound, cleaning of the joint surfaces, furnishing and installing bridging plates, the furnishing and installing of the asphaltic plug joint mixture, the cost of furnishing and installing joint sealant in the parapets,

concrete medians, curbs and sidewalks, and all other materials, equipment including, but not limited to, portable lighting, tools, and labor incidental thereto. No additional payment shall be made for the 12" wide bridging plates that are required for deck joint openings with widths in excess of 3".

If directed by the Engineer, additional deck repairs will be addressed and paid for under the applicable concrete deck repair items in the Contract.

ITEM #0520041A - PREFORMED JOINT SEAL

Description: Work under this item consists of furnishing and installing a preformed joint seal as shown on the plans. Work also includes a pre-installation survey to measure the pavement depth at all locations where the joint meets the curb.

Materials: One of the following Preformed Joint Seals specified on the plans shall be supplied:

V-Shaped Silicone Seals:

1. Silicoflex:
RJ Watson, Inc.
11035 Walden Ave
Alden, New York 14004
Tel: (716) 901-7020
Website: <http://www.rjwatson.com>

2. V-Seal:
D.S. Brown Company
300 East Cherry Street
North Baltimore, Ohio 45872
Tel: (419) 257-3561
Website: <http://www.dsbrown.com>

Foam-Supported Silicone Seals:

3. Bridge Expansion Joint System (B.E.J.S.):
EMSEAL Joint Systems Ltd.
25 Bridle Lane,
Westborough, MA 01581
Tel: (508) 836-0280
Website: <http://www.emseal.com>

4. Wabo FS Bridge Seal
Watson Bowman Acme Corp.
95 Pineview Drive
Amherst, NY 14228
Tel: (716) 691-9239
Website: <https://wbacorp.com/products/bridge-highway/joint-seals/wabofsbridge/>

When foam-supported silicone joint seals are the only type allowed on the plans (such as at bridge joints that extend through sidewalks), the CTDOT will consider products from other foam-supported silicone joint manufacturers, if the products have been installed by another State Department of Transportation, are functioning successfully in a similar climate to Connecticut's for at least one year, and are deemed by the CTDOT to be suitable

for use in the specific application for which the Contractor is requesting. To be considered, the Contractor shall submit documentation indicating the product name, manufacturer, the contact information for a Department of Transportation official who can confirm the successful installation and continued success of the product, the date of installation and the nature of the installation, including thermal movement range and skew of the installed joint.

A Materials Certificate for all components of the selected preformed joint seal shall be submitted by the Contractor in accordance with the requirements of Article 1.06.07

Construction Methods: All work at each joint location shall be accomplished in accordance with “Maintenance and Protection of Traffic” and “Prosecution and Progress.”

Submittals:

Prior to ordering preformed joint seals, and prior to forming block-outs for the preformed joint seals in the headers, the Contractor shall submit the following to the Engineer:

- The Manufacturer and product information of the selected joint system;
- Material safety data sheets (MSDS) and technical product information;
- Name and credentials of a qualified technical representative supplied by the manufacturer and acceptable to the Engineer. This person shall be available to provide assistance at the beginning of the work and be available to provide training and guidance throughout the project.
- A detailed, step-by-step installation procedure, including surface preparation, splicing of the preformed joint seal, and a list of the specific equipment to be used for the installation.

Installation: The technical representative of the accepted joint system shall be notified of the scheduled installation a minimum of 2 weeks in advance and be present to provide direction and assistance for the first joint installation and succeeding joint installations until the Contractor becomes proficient in the work and to the satisfaction of the Engineer.

The minimum ambient temperature for installing any of the qualified, preformed joint seals is 40°F and rising. When the manufacturer’s requirement for minimum installation temperature is greater than 40°F, the manufacturer’s requirement will govern.

All concrete surfaces to which sealing glands will be bonded shall be prepared in accordance with International Concrete Repair Institute (ICRI) concrete surface profile standards. The minimum acceptable surface profile is CSP2 (grinding), but CSP3 (light abrasive blast) is preferred. Any discontinuities or sharp projections into the plane of the joint shall be ground smooth prior to blasting. Whenever abrasive blast cleaning is performed, the Contractor shall take adequate measures to ensure that the abrasive blast cleaning will not cause damage to adjacent traffic or other facilities. Traffic will not be allowed to pass over the joint after blasting has occurred.

Following blasting, the joint surfaces shall be wiped down or blown clean as recommended by the manufacturer.

The joint surfaces shall be completely dry before installing any of the components of the selected joint seal. The selected joint seal shall not be installed immediately after precipitation or if precipitation is forecast. Joint preparation and installation of the selected preformed joint seal must be done during the same day.

The selected joint sealing system shall be installed continuously with no field splices in the preformed seal in the roadway section, unless field splices are allowed by the manufacturer of the selected preformed joint seal. In no case shall field splices of the preformed joint seal be allowed in a wheel path or within the roadway shoulder. When splices cannot be avoided due to traffic constraints, the splice shall be at a painted lane line.

After the joint seal has been installed, water shall not be able to penetrate the joint. Any joint seal that does not effectively seal against water shall be removed and replaced at the Contractor's expense.

Method of Measurement: This work will be measured for payment by the number of linear feet of preformed joint sealing system installed and accepted. The measurement will be made along the centerline of the joint at the top surface of header, curb, sidewalk and parapet.

Basis of Payment: This work will be paid for at the Contract unit price per linear foot for "Preformed Joint Seal," complete in place, including all materials, equipment, tools, and labor incidental thereto.

The Contract unit price shall include the cost of assistance from a technical representative of the selected joint system.

Pay Item	Pay Unit
Preformed Joint Seal	l.f.

ITEM #0603473A - METALLIZING STRUCTURAL STEEL (SITE NO. 2)

Description:

Work under this item shall consist of the surface preparation, shop application of a thermal spray (metallizing) coating, shop application of a sealer and topcoat, and field painting and touch-up painting operations of new structural steel used for the fabrication of the proposed 3-Tube Curb Mounted Bridge Rail, as shown on the plans, or as directed by the Engineer.

Materials:

Only one metallizing supplier and one sealer and topcoat manufacturer may be used for the Project including material supplied for field painting and touch-up painting operations.

Abrasives:

Abrasives shall conform to the following:

1. SSPC AB 1 for mineral slag abrasives
2. SSPC AB 2 for recycled ferrous metal abrasives
3. SSPC AB 3 for new steel abrasives

Thermal Spray Coating (TSC) Materials: The thermal spray coating (TSC) wire feedstock material used for metallizing must be 85%/15% (Zn/Al alloy) and meet the Chemical Composition requirements stated in Table 2 of AWS C2.25, classification W-ZnAl-2. The Contractor shall provide a Certified Test Report (CTR) in accordance with 1.06.07 for the feedstock from the feedstock supplier.

Sealer and Topcoat: The Contractor shall select one of the following semi-gloss topcoats of the color shown on the plans from the list below:

AkzoNobel: *International Interthane 870UHS*
Carboline: *Carbothane 133 LV*
Sherwin Williams: *Hi-Solids Polyurethane 250*
or approved equal

The Contractor shall select a sealer compatible with the topcoat chosen. The sealer shall be capable of penetrating into the body of the TSC to seal the interconnected surface porosity as defined in AWS C2.18-93R.

The sealer and topcoats shall be packaged and sealed, in the original container with labeling bearing the manufacturer's name, type of material, brand name, shelf life, batch number, and instructions for mixing and thinning. The topcoat shall meet the color and gloss retention performance criteria of SSPC Paint 36, Level 3, for accelerated weathering. The Contractor shall provide Materials Certificates in accordance with 1.06.07. The color of the topcoat shall be AMS-STD-16165 (Tree Bark).

Caulking Materials: Caulking shall be as recommended by the coating manufacturer.

Construction Methods:

The Contractor shall implement procedures that comply with this specification. If a state or local regulation is more restrictive than the requirements of this specification, the more restrictive requirements shall prevail. The Contractor must comply with all local OSHA and EPA standards and regulations, even if the regulation or standard is not specifically referenced herein.

The complete coating system shall be shop-applied except for surfaces that are otherwise listed on the plans or otherwise noted in this specification. Such surfaces shall be coated only after all members are erected and bolts are fully tensioned.

Metallizing Contractor Worker Qualifications: The Metallizing Contractor shall be certified by the SSPC Painting Contractor Certification Program QP-6, entitled "Thermal Spray (Metallizing) Contractor Certification Program" in the *enclosed shop* category or be certified in the American Institute of Steel Construction (AISC) Sophisticated Paint Endorsement (SPE) category – *enclosed shop* P1 or *covered shop* P2. A list of approved contractors can be found on the AISC website at www.AISC.org.

The Metallizing Contractor shall be fully certified, including endorsements, for the duration of the time they are doing the surface preparation and coating application. The certification(s) must be kept current for the duration of the Project work. If a Contractor's, subcontractor's or any craft-worker's certification expires, the firm will not be allowed to do any work on this item until the certification is reissued. Requests for extension of time for any delay to the completion of the Project due to an inactive certification will not be considered, and liquidated damages will apply.

Each person applying a metallized coating shall be qualified according to ANSI/AWS C2.18-93R.

The Metallizing Contractor shall have a certified NACE Coatings Inspector Program (CIP) Level 3 inspector, or approved equal, on staff for the duration of the project and actively engaged in the metallizing activities before during and after the coating application.

The Metallizing Contractor and subcontractors are required to have at least one (1) **Coating Application Specialist (CAS) (SSPC ACS/NACE No. 13)** – certified (Level II-Interim Status Minimal) craft-worker. CAS-certified (Level II-Interim Status-Minimal) craft-worker(s) are required for all crews/craft-workers up to four (4) crew members. For each crew larger than four (4), an additional CAS-certified (Level II-Interim Status-Minimal) craft-worker shall be present on each painting/blasting crew during blast cleaning and spray application (Atmospheric and Immersion Service) operations. A crew-member is a person who is on the job performing hand-held nozzle blast cleaning and/or spray application of protective coatings on a steel structure. The certification(s) must be kept current for the duration of the Project work. If a Contractor's, subcontractor's or any craft-worker's certification expires, the firm will not be allowed to do any work on this item until the certification is reissued.

Submittals: The Contractor shall submit the following to the Material Evaluation and Specification Unit (MESU), the Designer of Record and the Project Engineer, for review a minimum of thirty (30) days prior to metallizing.

Metallizing Quality Control (QC) Plan, including:

- A. Written procedures for the preparation of surfaces and the application of the metallizing, the sealer, and topcoat in the shop; and procedures for the repair and touch up of any damage that occurs to the newly applied metallizing or coatings. Shop and field repair procedures must be clearly identified.
- B. Hold points for surface preparation, metallizing application, adhesion testing of metallizing application and top coating thickness measurements.
- C. Identification of the metallizing and coating materials to be applied, including manufacturer's name, product names, and product numbers.
- D. Product Data Sheets, VOC levels for liquid coatings, MSD sheets, and written application instructions including mixing requirements, proposed thinners, and manufacturer's recommended thinner amounts for liquid coatings.
- E. Identification of the type and brand name of the abrasive proposed for use.
- F. Copies of qualification records along with continuity logs for all thermal spray operators.
- G. Copies of NACE CIP Level 3 certifications, or approved equal, for all staff required to possess same. Copies of CAS (SSPC ACS/NACE No. 13) certifications, for all staff required to possess same.
- H. Identification of the thermal spray equipment.
- I. A work schedule that includes timelines for surface preparation, metallizing, sealing and topcoating.
- J. Color chips to be supplied for the review and approval of the Engineer and the Municipality.

Notification: Contact the Material Evaluation and Specification Unit (MESU) at DOT.Steel@ct.gov a minimum of two (2) weeks prior to the start of work.

Surface Preparation:

- A. Weld Spatter, Sharp Edges, and Holes: All slag, flux deposits, and weld spatter and steel irregularities such as fins, tears and slivers shall be removed from the surfaces to be metallized. Any resulting burrs from such removal shall be ground smooth, including burrs around holes. All corners and edges shall be rounded to a 0.0625 inch radius or chamfered to a 0.0625 inch chamfer.
- B. Cleaning of Steel: All visible contaminants shall be removed from surfaces in accordance with SSPC-SP 1 using only solvents or detergents.
- C. Compressed Air Cleanliness: The cleanliness of the compressed air shall be confirmed in accordance with ASTM D4285 at least once per shift for each compressor system.
- D. Surface Requirements: The required surface preparation shall meet SSPC SP 5. Surface preparation shall not be performed under damp environmental conditions or when the surface temperature of the steel is less than 5°F above the dewpoint temperature as determined by a surface thermometer and an electric or sling psychrometer.
- E. Abrasives/Profile:

1. The Contractor shall use abrasives that are free of oil, soluble salts and other similar substances that could contaminate the surface.
 2. A uniform sharp angular profile with a profile of 3.0 to 6.0 mils shall be provided in accordance with ASTM D4417, Method B or C.
- F. Acceptance Prior to Metallizing: The cleaned surface shall be accepted by the Engineer before application of metallizing. Failure of the Contractor to prepare and clean the surfaces to be metallized in accordance with these specifications shall be cause for rejection by the Engineer. All surfaces that are rejected shall be re-cleaned to the satisfaction of the Engineer at no additional cost to the Municipality.
- G. Pre-Production Test Section and Bend Tests:
1. The Contractor shall blast clean and metallize at least 9 square feet of steel surface prior to initiating the full-scale metallizing operation using the same metallizing equipment, set up, materials, and calibration and operating procedures in the test section(s) that shall be used for the production operations.
 2. Spray parameters shall be validated by passing a bend test as follows:
 - a. Five (5) steel coupons $2 \times 8 \times 0.05$ inches shall be fabricated of the same steel grade proposed as the member being coated.
 - b. The coupons shall receive the same surface preparation, and metallizing as the actual member.
 - c. The coupons may be fastened to larger pieces of stock during the blast cleaning and metallizing operations.
 - d. Bend coupons 180 degrees around a 0.5 inch diameter mandrel.
 - e. The bend test passes if there is no cracking or only minor cracking visually observed on the bend radius.
 - f. The bend test fails if the coating cracks and lifts from the substrate.
 3. Additional coupons and testing may be required by the Engineer to establish the suitability of the surface preparation and the thermal spray coating. Full-scale metallizing shall not commence until the Engineer has inspected and approved the Test Section and coupons.

Metallizing Application:

- A. Quality of Surface Preparation: The Contractor shall verify that the surface meets the specified SSPC-SP 5 surface requirements immediately prior to application of the metallized coating.
- B. Surface Cleanliness: Subsequent coats shall not be applied until overspray, spent abrasive, dirt, dust, and other contaminants have been removed in accordance with SSPC-SP 1.
- C. Ambient Conditions: Metallizing shall be applied when the relative humidity is less than 80%. Metallizing shall not be applied under damp environmental conditions or when the surface temperature of the steel is less than 5°F above the dewpoint temperature as determined by a surface thermometer and an electric or sling psychrometer.
- D. Metallizing: The coating shall be applied by thermal spray employing multiple passes to achieve a uniform thickness of 0.008 to 0.012 inches (8-12 mils) unless otherwise specified. No single pass shall deposit more than 0.004 inches.
- E. Metallizing Adhesion: Adhesion strength of the metallizing shall be 700 psi minimum as measured with approved equipment per ASTM D4541, Annex A4. Measurements shall be taken on companion coupons $4 \times 6 \times 0.25$ inches of the same steel grade as the member being coated and processed concurrently. If adhesion is less than 700 psi but greater than 560 psi,

four (4) additional adhesion tests shall be made. If any of the additional adhesion tests are less than 700 psi, the coating shall be removed and re-applied. Any single adhesion test result less than 560 psi, will be justification for the Engineer to have the Contractor remove the entire coating. All corrective action will be at the Contractor's expense.

F. Quality Control of Metallizing Operation:

1. The Metallizing Contractor shall verify proper spray equipment set up, calibration, and operating procedures by performing a bend test at the beginning of each work shift that metallizing is to be applied in accordance with requirements described in the Pre-Production Test Section.
2. In addition to the bend test, a cut test shall be performed on the companion coupons, one during the production day and one at the end of each shift, to confirm that metallizing is being properly applied. The cut test consists of a single cut 1.5 inches long through the thermal spray coating to the substrate without severely cutting the substrate. A cut shall be made with a hammer and sharp chisel. The chisel cut shall be made at a shallow angle. The bond of the metallizing is considered unsatisfactory if any part of the metallizing lifts from the substrate along the cut.
3. The Engineer shall be notified immediately of any unsatisfactory tests.

G. Bolted Connections and Other Areas:

1. The Contractor shall state in writing to the Engineer a list of areas they believe are inaccessible prior to the start of work. The Engineer will have the final determination as to the accessibility of those areas.
2. All connection points shall be appropriately masked off either before or after metalizing and prior to the application of seal coat.
3. After members have been erected in the field, all previously masked areas that remain exposed shall be thoroughly cleaned and lightly sanded by hand to receive a brush-applied coat of the same sealer and topcoat used in the shop.
4. Areas such as bolt holes, backs of snipes and other similar areas where the standard application of a metallized coating cannot be performed shall be cleaned and free of dirt and any loose overspray, and shall receive a brush applied coating of the approved coating system.
5. Metallized coating applied to surfaces not required to be coated may remain if found to be tightly adhered, as determined by the Engineer.

Sealer and Topcoat Application:

A. The sealer shall be applied in a single mist coat followed by a full topcoat.

1. The Metallizing Contractor shall apply the sealer in accordance with the manufacturer's recommendations, unless otherwise specified.
2. The sealer shall be applied no more than 8 hours after application of the metallizing, and in no case shall the sealer be applied over dust, rust that may have bled through (if there was not enough thickness), loose oxides or other visible contaminants that would interfere with the sealer.
3. When conventional spray equipment is used, the Contractor shall verify that the compressed air supply is clean and dry as determined by the blotter test (ASTM D4285).
4. The topcoat shall be applied to achieve a 4 to 6 mils dry film thickness and shall be applied after the seal coat has been allowed to dry as required by the recoat time in the

manufacturer's written instructions, but in no case shall a coat remain exposed for longer than ten (10) calendar days prior to overcoating.

- B. Coverage and Continuity: All surfaces shall be completely coated and free of voids, runs, sags or other defects. Special attention shall be given to hard-to-reach or inaccessible areas and irregular surfaces. Some configurations may require spraying from multiple directions to assure complete coverage.
- C. Sealer and Topcoat Adhesion to Metallized Surfaces:
 - 1. The Metallizing Contractor shall apply the sealer and topcoat in such a manner to assure adherence to the underlying surface. Any lifting of an underlying coat, or poor adhesion between coats or to the substrate, will require removal of the coating in the affected area to adjacent intact, adherent, coating, and reapplication of the material.
 - 2. Topcoat adhesion shall be verified using adhesion tests in accordance with ASTM D4541 as directed by the Engineer.

D. Coating Thickness

- 1. Wet Film Thickness: The Contractor shall verify and document the thickness of each liquid coat at the time of application using wet film thickness gages in accordance with ASTM D4414.
- 2. Dry Film Thickness: The dry film thicknesses of the completed coating shall be:

Metallizing	8 to 12 mils
Topcoat	<u>4 to 6 mils</u>
TOTAL SYSTEM	12 to 18 mils

The Contractor shall measure the thickness of each coat using nondestructive magnetic dry film thickness gages. The procedure shall comply with SSPC-PA2 for the calibration and use of the gages, and the frequency of thickness measurements. Spot readings both 20% above and 20% below the thicknesses shown above are permitted, provided the average thicknesses are within the specified tolerances.

Field Required Coating Operations: Any areas requiring sealer or topcoat after erection shall be done in accordance with the previously submitted and approved field coating procedures and shall be in accordance with the manufacturer's recommendations.

Repair of Film Discontinuities and Damage to Coating System after Erection: A repair procedure shall be submitted for concurrence by the Engineer prior to the start of repair work.

Shipping and Storage: All materials shall be shipped and stored in a manner to prevent damage from all physical and environmental factors.

Method of Measurement:

The work under this item, being paid on a lump sum basis, will not be measured for payment.

Basis of Payment:

The coating of structural steel, incorporated in the completed and accepted metal bridge rail, along with the field coating of the exposed galvanized bolts, nuts and washers will be paid for at the Contract lump sum price for “Metallizing Structural Steel (Site No. 2).” The lump sum price shall include all materials, equipment, tools, transportation, repairs, corrective actions, inspection access, and labor incidental thereto.

A schedule of values shall be submitted to the Engineer for review and comment prior to application of the metallizing coating.

<u>Pay Item</u>	<u>Pay Unit</u>
Metallizing Structural Steel (Site No. 2)	l.s.

ITEM #0603474A - METALLIZING STRUCTURAL STEEL (SITE NO. 1)

Description: Work under this item shall consist of the surface preparation, shop application of a thermal spray (metallizing) coating, shop application of a sealer and topcoat, and field painting and touch-up painting operations of new structural steel, as shown on the plans, or as directed by the Engineer.

Materials: Only one metallizing supplier and one sealer and topcoat manufacturer may be used for the Project including material supplied for field painting and touch-up painting operations.

Abrasives:

Abrasives shall conform to the following:

1. SSPC AB 1 for mineral slag abrasives
2. SSPC AB 2 for recycled ferrous metal abrasives
3. SSPC AB 3 for new steel abrasives

Thermal Spray Coating (TSC) Materials: The thermal spray coating (TSC) wire feedstock material used for metallizing must be 85%/15% (Zn/Al alloy) and meet the Chemical Composition requirements stated in Table 2 of AWS C2.25, classification W-ZnAl-2. The Contractor shall provide a Certified Test Report (CTR) in accordance with 1.06.07 for the feedstock from the feedstock supplier.

Sealer and Topcoat: The Contractor shall select one of the following semi-gloss topcoats of the color shown on the plans from the list below:

AkzoNobel: *International Interthane 870UHS*
Carboline: *Carbothane 133 LV*
Sherwin Williams: *Hi-Solids Polyurethane 250*
or approved equal

The Contractor shall select a sealer compatible with the topcoat chosen. The sealer shall be capable of penetrating into the body of the TSC to seal the interconnected surface porosity as defined in AWS C2.18-93R.

The sealer and topcoats shall be packaged and sealed, in the original container with labeling bearing the manufacturer's name, type of material, brand name, shelf life, batch number, and instructions for mixing and thinning. The topcoat shall meet the color and gloss retention performance criteria of SSPC Paint 36, Level 3, for accelerated weathering. The Contractor shall provide Materials Certificates in accordance with 1.06.07. The color of the topcoat shall be AMS-STD-XXXX(XXXX)

Caulking Materials: Caulking shall be as recommended by the coating manufacturer.

Construction Methods: The Contractor shall implement procedures that comply with this specification. If a state or local regulation is more restrictive than the requirements of this specification, the more restrictive requirements shall prevail. The Contractor must comply with

all local OSHA and EPA standards and regulations, even if the regulation or standard is not specifically referenced herein.

The complete coating system shall be shop-applied except for surfaces that are otherwise listed on the plans or otherwise noted in this specification. Such surfaces shall be coated only after all members are erected, bolts are fully tensioned, and temporary deck formwork is removed. The tops of bridge girder top flanges shall be primer coated only and shall not be metallized or sealed.

Metallizing Contractor Worker Qualifications: The Metallizing Contractor shall be certified by the SSPC Painting Contractor Certification Program QP-6, entitled "Thermal Spray (Metallizing) Contractor Certification Program" in the *enclosed shop* category or be certified in the American Institute of Steel Construction (AISC) Sophisticated Paint Endorsement (SPE) category – *enclosed shop* P1 or *covered shop* P2. A list of approved contractors can be found on the AISC website at www.AISC.org.

The Metallizing Contractor shall be fully certified, including endorsements, for the duration of the time they are doing the surface preparation and coating application. The certification(s) must be kept current for the duration of the Project work. If a Contractor's, subcontractor's or any craft-worker's certification expires, the firm will not be allowed to do any work on this item until the certification is reissued. Requests for extension of time for any delay to the completion of the Project due to an inactive certification will not be considered, and liquidated damages will apply.

Each person applying a metallized coating shall be qualified according to ANSI/AWS C2.18-93R.

The Metallizing Contractor shall have a certified NACE Coatings Inspector Program (CIP) Level 3 inspector, or approved equal, on staff for the duration of the project and actively engaged in the metallizing activities before during and after the coating application.

The Metallizing Contractor and subcontractors are required to have at least one (1) **Coating Application Specialist (CAS) (SSPC ACS/NACE No. 13)** – certified (Level II-Interim Status Minimal) craft-worker. CAS-certified (Level II-Interim Status-Minimal) craft-worker(s) are required for all crews/craft-workers up to four (4) crew members. For each crew larger than four (4), an additional CAS-certified (Level II-Interim Status-Minimal) craft-worker shall be present on each painting/blasting crew during blast cleaning and spray application (Atmospheric and Immersion Service) operations. A crew-member is a person who is on the job performing hand-held nozzle blast cleaning and/or spray application of protective coatings on a steel structure. The certification(s) must be kept current for the duration of the Project work. If a Contractor's, subcontractor's or any craft-worker's certification expires, the firm will not be allowed to do any work on this item until the certification is reissued.

Submittals: The Contractor shall submit the following to the Division of Materials Testing, the Designer of Record and the Project Engineer, for review a minimum of thirty (30) days prior to metallizing.

Metallizing Quality Control (QC) Plan, including:

- K. Written procedures for the preparation of surfaces and the application of the metallizing, the sealer, and topcoat in the shop; and procedures for the repair and touch up of any damage that occurs to the newly applied metallizing or coatings. Shop and field repair procedures must be clearly identified.
- L. Hold points for surface preparation, metallizing application, adhesion testing of metallizing application and top coating thickness measurements.
- M. Identification of the metallizing and coating materials to be applied, including manufacturer's name, product names, and product numbers.
- N. Product Data Sheets, VOC levels for liquid coatings, MSD sheets, and written application instructions including mixing requirements, proposed thinners, and manufacturer's recommended thinner amounts for liquid coatings.
- O. Identification of the type and brand name of the abrasive proposed for use.
- P. Metallizing Manufacturer's Slip Critical Class B Certificate of Compliance.
- Q. Copies of qualification records along with continuity logs for all thermal spray operators.
- R. Copies of NACE CIP Level 3 certifications, or approved equal, for all staff required to possess same. Copies of CAS (SSPC ACS/NACE No. 13) certifications, for all staff required to possess same.
- S. Identification of the thermal spray equipment.
- T. A work schedule that includes timelines for surface preparation, metallizing, sealing and topcoating.

Notification: Contact the Division of Materials Testing at DOT.Steel@ct.gov a minimum of two (2) weeks prior to the start of work.

Surface Preparation:

- H. Weld Spatter, Sharp Edges, and Holes: All slag, flux deposits, and weld spatter and steel irregularities such as fins, tears and slivers shall be removed from the surfaces to be metallized. Any resulting burrs from such removal shall be ground smooth, including burrs around holes. All corners and edges shall be rounded to a 0.0625 inch radius or chamfered to a 0.0625 inch chamfer.
- I. Cleaning of Steel: All visible contaminants shall be removed from surfaces in accordance with SSPC-SP 1 using only solvents or detergents.
- J. Compressed Air Cleanliness: The cleanliness of the compressed air shall be confirmed in accordance with ASTM D4285 at least once per shift for each compressor system.
- K. Surface Requirements: The required surface preparation shall meet SSPC SP 5. Surface preparation shall not be performed under damp environmental conditions or when the surface temperature of the steel is less than 5°F above the dewpoint temperature as determined by a surface thermometer and an electric or sling psychrometer.
- L. Abrasives/Profile:
 - 1. The Contractor shall use abrasives that are free of oil, soluble salts and other similar substances that could contaminate the surface.
 - 2. A uniform sharp angular profile with a profile of 3.0 to 6.0 mils shall be provided in accordance with ASTM D4417, Method B or C.
- M. Acceptance Prior to Metallizing: The cleaned surface shall be accepted by the Engineer before

application of metallizing. Failure of the Contractor to prepare and clean the surfaces to be metallized in accordance with these specifications shall be cause for rejection by the Engineer. All surfaces that are rejected shall be re-cleaned to the satisfaction of the Engineer at no additional cost to the State.

N. Pre-Production Test Section and Bend Tests:

1. The Contractor shall blast clean and metallize at least 9 square feet of steel surface prior to initiating the full-scale metallizing operation using the same metallizing equipment, set up, materials, and calibration and operating procedures in the test section(s) that shall be used for the production operations.
2. Spray parameters shall be validated by passing a bend test as follows:
 - a. Five (5) steel coupons $2 \times 8 \times 0.05$ inches shall be fabricated of the same steel grade proposed as the member being coated.
 - b. The coupons shall receive the same surface preparation, and metallizing as the actual member.
 - c. The coupons may be fastened to larger pieces of stock during the blast cleaning and metallizing operations.
 - d. Bend coupons 180 degrees around a 0.5 inch diameter mandrel.
 - e. The bend test passes if there is no cracking or only minor cracking visually observed on the bend radius.
 - f. The bend test fails if the coating cracks and lifts from the substrate.
3. Additional coupons and testing may be required by the Engineer to establish the suitability of the surface preparation and the thermal spray coating. Full-scale metallizing shall not commence until the Engineer has inspected and approved the Test Section and coupons.

Metallizing Application:

- H. Quality of Surface Preparation: The Contractor shall verify that the surface meets the specified SSPC-SP 5 surface requirements immediately prior to application of the metallized coating.
- I. Surface Cleanliness: Subsequent coats shall not be applied until overspray, spent abrasive, dirt, dust, and other contaminants have been removed in accordance with SSPC-SP 1.
- J. Ambient Conditions: Metallizing shall be applied when the relative humidity is less than 80%. Metallizing shall not be applied under damp environmental conditions or when the surface temperature of the steel is less than 5°F above the dewpoint temperature as determined by a surface thermometer and an electric or sling psychrometer.
- K. Metallizing: The coating shall be applied by thermal spray employing multiple passes to achieve a uniform thickness of 0.008 to 0.012 inches (8-12 mils) unless otherwise specified. No single pass shall deposit more than 0.004 inches.
- L. Metallizing Adhesion: Adhesion strength of the metallizing shall be 700 psi minimum as measured with approved equipment per ASTM D4541, Annex A4. Measurements shall be taken on companion coupons $4 \times 6 \times 0.25$ inches of the same steel grade as the member being coated and processed concurrently. If adhesion is less than 700 psi but greater than 560 psi, four (4) additional adhesion tests shall be made. If any of the additional adhesion tests are less than 700 psi, the coating shall be removed and re-applied. Any single adhesion test result less than 560 psi, will be justification for the Engineer to have the Contractor remove the entire coating. All corrective action will be at the Contractor's

expense.

M. Quality Control of Metallizing Operation:

1. The Metallizing Contractor shall verify proper spray equipment set up, calibration, and operating procedures by performing a bend test at the beginning of each work shift that metallizing is to be applied in accordance with requirements described in the Pre-Production Test Section.
2. In addition to the bend test, a cut test shall be performed on the companion coupons, one during the production day and one at the end of each shift, to confirm that metallizing is being properly applied. The cut test consists of a single cut 1.5 inches long through the thermal spray coating to the substrate without severely cutting the substrate. A cut shall be made with a hammer and sharp chisel. The chisel cut shall be made at a shallow angle. The bond of the metallizing is considered unsatisfactory if any part of the metallizing lifts from the substrate along the cut.
3. The Engineer shall be notified immediately of any unsatisfactory tests.

N. Bolted Connections and Other Areas:

6. The Contractor shall state in writing to the Engineer a list of areas they believe are inaccessible prior to the start of work. The Engineer will have the final determination as to the accessibility of those areas.
7. Bolted connections shall be processed in a manner that achieves the required Slip Critical Classification detailed on the approved steel shop drawings.
8. Thickness in bolted, Class B, connection areas shall not exceed those listed on the Metallizing Manufacturer's Class B Slip Critical Certificate of Compliance. Under no circumstance shall any thickness reading exceed 16 mils.
9. All connection points shall be appropriately masked off either before or after metalizing and prior to the application of seal coat.
10. After members have been erected in the field, all previously masked areas that remain exposed shall be thoroughly cleaned and lightly sanded by hand to receive a brush-applied coat of the same sealer and topcoat used in the shop.
11. Areas such as bolt holes, backs of snipes and other similar areas where the standard application of a metallized coating cannot be performed shall be cleaned and free of dirt and any loose overspray, and shall receive a brush applied coating of the approved coating system.
 12. The top of the top flange shall NOT be metallized but shall be coated with an inorganic zinc-rich primer from the [NEPCOAT Qualified Products List](#). No sealer shall be applied over the zinc-rich primer.
13. Metallized coating applied to surfaces not required to be coated may remain if found to be tightly adhered, as determined by the Engineer.

Sealer and Topcoat Application:

D. The sealer shall be applied in a single mist coat followed by a full topcoat.

5. The Metallizing Contractor shall apply the sealer in accordance with the manufacturer's recommendations, unless otherwise specified.
6. The sealer shall be applied no more than 8 hours after application of the metallizing, and in no case shall the sealer be applied over dust, rust that may have bled through (if there was not enough thickness), loose oxides or other visible contaminants that would interfere

with the sealer.

7. When conventional spray equipment is used, the Contractor shall verify that the compressed air supply is clean and dry as determined by the blotter test (ASTM D4285).
 8. The topcoat shall be applied to achieve a 4 to 6 mils dry film thickness and shall be applied after the seal coat has been allowed to dry as required by the recoat time in the manufacturer's written instructions, but in no case shall a coat remain exposed for longer than ten (10) calendar days prior to overcoating.
- E. Coverage and Continuity: All surfaces shall be completely coated and free of voids, runs, sags or other defects. Special attention shall be given to hard-to-reach or inaccessible areas and irregular surfaces. Some configurations may require spraying from multiple directions to assure complete coverage.
- F. Sealer and Topcoat Adhesion to Metallized Surfaces:
1. The Metallizing Contractor shall apply the sealer and topcoat in such a manner to assure adherence to the underlying surface. Any lifting of an underlying coat, or poor adhesion between coats or to the substrate, will require removal of the coating in the affected area to adjacent intact, adherent, coating, and reapplication of the material.
 2. Topcoat adhesion shall be verified using adhesion tests in accordance with ASTM D4541 as directed by the Engineer.

D. Coating Thickness

1. Wet Film Thickness: The Contractor shall verify and document the thickness of each liquid coat at the time of application using wet film thickness gages in accordance with ASTM D4414.
2. Dry Film Thickness: The dry film thicknesses of the completed coating shall be:

Metallizing	8 to 12 mils
Topcoat	<u>4 to 6 mils</u>
TOTAL SYSTEM	12 to 18 mils

The Contractor shall measure the thickness of each coat using nondestructive magnetic dry film thickness gages. The procedure shall comply with SSPC-PA2 for the calibration and use of the gages, and the frequency of thickness measurements. Spot readings both 20% above and 20% below the thicknesses shown above are permitted, provided the average thicknesses are within the specified tolerances.

Field Required Coating Operations: Any areas requiring sealer or topcoat after erection shall be done in accordance with the previously submitted and approved field coating procedures and shall be in accordance with the manufacturer's recommendations.

Repair of Film Discontinuities and Damage to Coating System after Erection: A repair procedure shall be submitted for concurrence by the Engineer prior to the start of repair work.

Shipping and Storage: All materials shall be shipped and stored in a manner to prevent damage from all physical and environmental factors.

Date of Completion: The words "METALLIZED AND TOPCOATED" followed by the month and year the coating of the structure is completed along with the CTDOT Project Number and the manufacturer's abbreviations, shall be stenciled on the inside of a fascia girder at mid-depth of the

girder in three (3) inch high block letters located near the abutment, so as to be clearly visible from the ground below. Paint for stenciling information shall be of a contrasting color and be compatible with the topcoat and shall be approved by the Engineer prior to application of the stenciled information.

Method of Measurement: The work under this item, being paid on a lump sum basis, will not be measured for payment.

Basis of Payment: The coating of structural steel, incorporated in the completed and accepted structure, will be paid for at the Contract lump sum price for “Metallizing Structural Steel (Site No. 1).” The lump sum price shall include all materials, equipment, tools, transportation, repairs, corrective actions, inspection access, and labor incidental thereto

A schedule of values shall be submitted to the Engineer for review and comment prior to application of the metallizing coating.

Pay Item	Pay Unit
Metallizing Structural Steel (Site No. 1)	l.s.

ITEM #0702929A – DRILL ROCK SOCKET FOR PILE FOUNDATIONS

Work under this item shall conform to the requirements of Section 7.02, altered and supplemented as follows:

Description:

This work shall consist of all labor, materials, and services necessary for the construction of rock socket in accordance with the contract drawings and latest standard procedures as per FHWA and AASHTO.

Construction Methods:

Engineer shall verify the elevation of competent bedrock before rock socket installation can begin.

The temporary casing shall be installed as per specifications. Temporary casing shall be embedded into bedrock approximately 6 inches prior to drilling for rock socket.

The Contractor shall perform the excavations required for rock sockets through whatever materials are encountered, to the dimensions and elevations shown in the plans or otherwise required by the Engineer. The Contractor's methods and equipment shall be suitable for the intended purpose and to drill a rock socket to a depth of up to 5 ft. as directed by the engineer.

Drilling tools lost in the excavation shall not be considered obstructions and shall be promptly removed by the Contractor without compensation. All costs due to lost tool removal shall be borne by the Contractor including, but not limited to, costs associated with the repair of hole degradation due to removal operations or due to the hole's remaining open for an excessively long time.

The contractor shall clean the rock socket to the engineer's satisfaction prior to installation of H-piles and concreting activities. The Contractor shall check the dimensions and alignment of each rock socket excavation. Final rock socket depths shall be measured with a suitable weighted tape or other approved method after final cleaning. The Contractor shall provide equipment and access to the Engineer for confirming dimension, alignment, and bottom cleanliness. Acceptable shaft cleanliness will be determined by the Engineer.

There shall be a minimum of 2 inch of clearance around the H-pile. The diameter of the rock socket shall be 24 inches. Rock sockets shall extend a minimum of 5 ft. into the competent rock and as directed by the Engineer.

Excavation equipment and methods shall be designed so that the completed shaft excavation will have a planar bottom. The cutting edges of excavation equipment shall be normal to the vertical axis of the equipment within a tolerance of +/- 1 inch.

Rock socket excavations not constructed within the required tolerances are unacceptable. The Contractor shall be responsible for correcting all unacceptable rock socket excavations to the satisfaction of the Engineer. Materials and work necessary, including engineering analysis and redesign, in order to complete corrections for out-of-tolerance rock socket excavations, shall be furnished without cost to the Municipality or extension of Contract time.

Concrete Placement: Concrete shall be placed as soon as possible after placement of H-piles and after the Engineer has accepted the cleanliness of the rock socket. The Engineer may re-inspect the rock socket for cleanliness should there be any delays between initial acceptance of rock socket cleanliness and commencement of the concrete placement. If during such a delay the Engineer has determined that rock socket cleanliness has deteriorated, the Engineer may require the Contractor to re-clean the rock socket. The Contractor may be required to remove the H-pile should it be necessary in order to achieve the required rock socket cleanliness. The Contractor will not be compensated for any cost or loss of time due to the need to re clean the rock socket.

Concrete placement shall be continuous from the bottom to the top elevation of the rock socket. Concrete placement shall continue after the rock socket excavation is filled and good quality concrete is evident 1 ft. above the top of the competent bedrock. Concrete shall be placed using a tremie.

Pile Testing: Pile Loading Test shall be conducted on test pile as per CTDOT Specifications, Section 7.02.03.

Method of Measurement:

Rock excavation for rock socket including haul will be measured by the linear feet of 24 inch diameter rock socket. The lineal feet will be computed using the top of rock line defined as the highest bedrock point within the rock socket diameter and the bottom elevation shown in the contract drawings, unless adjusted by the Engineer.

Basis of Payment:

There shall be no direct measurement for cleaning of the hole or for the cement concrete surrounding the pile in and above the rock to the dimensions shown on the plans, but the cost thereof shall be considered as included in the cost of the “Drill Rock Socket for Pile Foundations”.

Payment for pile testing will be included in the item “Pile Loading Test”.

Pay Item

Pay Unit

Drill Rock Socket for Pile Foundations

L.F.

ITEM #0703042A – RELOCATE BOULDER

Description: Work under this item shall consist of removing existing boulders identified on the plans and placing the removed boulders at the location identified on the plans. This item shall also include maintaining a stockpile of the removed material on the Site, and the removal and proper disposal of all unused and unacceptable material.

Materials: The existing boulders shall be reused on-Site as noted on the plans or as directed by the Engineer or their authorized delegate. If the existing boulders are damaged by the Contractor during handling, removal, or placement, boulders from an off-Site source must be obtained.

Off-site boulders provided by the Contractor must be of similar size, shape and geologic composition, color and replicate to the extent possible the existing boulders on-Site. Individual boulder material for this item shall be sound, durable, and free from decomposed stones or other defects.

The Contractor shall provide the Engineer at least 10 workdays' notice for the inspection and approval of the individual boulders from an off-site source.

Construction Methods: The Contractor shall submit for the Engineer's approval a proposed location plan for stockpiling the boulders. The stockpile area shall be prepared in accordance with the "Required Best Management Practices" in Article 1.10.03.

The contractor shall submit for the Engineer's approval all equipment to be used to handle the boulders during removal, stockpiling, transport to and from the stockpile area and placement of the boulders in their permanent location.

Prior to removing the boulders from their existing location, the Contractor shall field survey their location with measurements, sketches and photographs and provide the Engineer with the surveyed documentation.

Prior to the placement of the boulders in their permanent location as indicated on the plans, the Contractor shall stake out the location for the placement of the individual boulders, based on the previous documentation. The final location and orientation of the boulders will be directed by the Engineer or their authorized delegate.

The Contractor shall provide the Engineer at least 10 workdays' notice prior to initiating the placement of the individual boulders. The work and placement of the boulders shall be in accordance with the plans or as directed by the Engineer or their authorized delegate. No work will be allowed on-Site without presence of the Engineer or their authorized delegate to oversee the construction activities.

All disturbed areas, including the stockpile area, shall be permanently stabilized using approved

sediment and erosion control measures and in accordance with the required “Erosion and Sedimentation Control Plan.”

Method of Measurement: This item, being paid on a lump sum basis, will not be measured for payment. The use of Sedimentation Control Fence to protect the stockpile if required shall be paid under the Contract Item-Sedimentation Control System.

Basis of Payment: This work will be paid for at the Contract lump sum price for "Relocate Boulder," completed and accepted. The price shall include all materials, equipment, tools, and labor incidental to the creation of the stockpile area, removal of the existing boulders, transportation to and from the stockpile area, storage, preparation of the area to support the boulders, and placement of the existing boulders in their final location. Damaged boulders shall be replaced and supplied at no additional cost to the Town.

Pay Item	Pay Unit
Relocate Boulder	l.s.

ITEM #0707009A - MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC)

Description: Work under this item consists of furnishing and installing a seamless elastomeric waterproofing membrane system applied to a concrete or steel surface as shown on the plans, and as directed by the Engineer. Work shall also include conditioning of the surface to be coated, and all submittals and quality-control testing noted herein.

The completed membrane system shall be comprised of a primer coat, reinforcing material as specified or directed, membrane coating (minimum total thickness of 80 mil and maximum total thickness not to exceed 120 mil), an additional 40 mil membrane layer with aggregate broadcast into the material while still wet, and an application of tack coat.

Materials: The Contractor shall select a waterproofing membrane system from the Department's Qualified Products List (QPL) for Spray-Applied Membrane Waterproofing System. All materials incorporated in the work shall meet the Manufacturer's specification for the chosen system. A Manufacturer is the original source of supply as defined in Article 1.06.01 of CTDOT's Standard Specifications. The Engineer will reject any system that is not on the QPL.

Reinforcing material (to bridge gaps, joints and cracks) shall be as recommended by the manufacturer.

Aggregate: The aggregate shall be a nonfriable, durable #8 aggregate stone with no more than one-half percent (0.5%) passing the #200 sieve by weight.

Concrete Deck Repair Material: Depressions greater than ½ inch that are required to be filled before application of the membrane shall be repaired with a neat repair mortar as approved by the Engineer. If the repair includes engagement of reinforcing steel, the repair shall be performed under separate, appropriate Contract items.

Construction Methods:

1. Submittals:

At least 30 days prior to installation of the membrane system, the Contractor shall submit to the Engineer the following:

- (a) A Site-specific Installation Plan that includes, but is not limited to, the manufacturer's recommended equipment, materials and procedure for:
 - 1) Authorization by Manufacturer of applicator
 - 2) Safety precautions, SDS documents
 - 3) On site storage of material
 - 4) preparation of the deck surface and recommended surface moisture content at time of priming
 - 5) Pre-treatment or preparation procedure at cracks and gaps, treatment at curbs, vertical surfaces or discontinuities
 - 6) Overspray protections (masking and shielding)

- 7) Method and equipment for taking/calculating onsite temperatures and dewpoint temperatures as well as listing of acceptable temperature and dewpoint ranges for application of primer and/or membrane
- 8) Method and equipment for application of the primer and membrane
- 9) Treatment of already primed areas when delays occur; include allowable time frame for covering already placed primer or treatment if the primed surface is compromised
- 10) Treatment at overlap areas
- 11) Method for placement of the aggregated coat
- 12) All Quality Control (QC Plan) tests and procedures to be performed prior to and during the membrane system's installation
- 13) Recommended repair methods for system non-compliant issues identified during application

(b) Materials Certificate for the primer, membrane and aggregate in accordance with the requirements of Article 1.06.07.

(c) Concrete Mix Design: At least two weeks before installation, the Contractor shall submit the concrete mix design to the Engineer for acceptance. For RSCP material, NTPEP lab test data shall be submitted that demonstrates that the concrete mix matches the mix that was tested by NTPEP and meets the pre-qualification criteria in the QPL. This test data shall be submitted with a Materials Certificate and a Certified Test Report in accordance with Article 1.06.07.

Automated mechanical applicators will be considered for approval for use, provided there is a trial installation area to demonstrate that the required thickness can be consistently achieved. The Installation Plan shall identify and differentiate between areas using automated applicators and areas where hand application will be used, such as on vertical surfaces and at areas prior to installation of reinforcing material.

2. A technical representative, in the employ of the manufacturer, shall be present on-Site immediately prior to and during application of the membrane. The technical representative shall not be an employee of the installation contractor but is on Site solely to perform QC. The technical representative shall review environmental conditions for proper application, inspect and approve the surface prior to priming, provide guidance on the handling, mixing and addition of components, observe application of the primer and membrane. The technical representative is required to notify the Engineer immediately when conditions are not within acceptable parameters and any further installation will be analyzed by the Engineer under Article 1.06.04. The technical representative shall be qualified and shall perform all required QC testing and remain on the Project site until the membrane has fully cured.

All QC testing, including verbal direction or observations at the time of installation, shall be recorded and submitted to the Engineer for inclusion in the Project records. The QC testing data shall be received by the Department's Project personnel prior to any paving over the finished membrane, or within 24 hours following completion of any staged portion of the work.

3. **Applicator Approval:** The Contractor's membrane Applicator shall be fully trained and authorized by the membrane manufacturer and shall have successfully completed at least six spray membrane projects in the past two years. The Contractor shall furnish references from those projects, including names of contact persons and the names, addresses and phone numbers of persons who supervised the projects. This information shall be submitted to the Engineer prior to the submittal of the Installation Plan. The Engineer shall have sole authority to determine the adequacy and compliance of the submitted information. Inadequate proof of ability to perform the work will be grounds to reject proposed applicators.

4. **Job Conditions:**

(a) **Environmental Requirements:** Air and substrate temperatures shall be between 40°F and 104°F and the substrate shall be above the dew point. Outside of this range, the Manufacturer shall be consulted.

The Applicator shall be provided with adequate disposal facilities for nonhazardous waste generated during installation of the membrane system. The applicator shall follow safety instructions regarding respirators and safety equipment.

Extra care shall be taken to prevent the introduction of moisture onto the area to be membraned including, but not limited to, locating water rest break areas/devices away from the works, prevent vehicles from accessing the prepared areas that may have AC units that drip water. If there is any potential for moisture to impact application, operations shall cease until conditions warrant proper adherence to specification requirements.

(b) **Safety Requirements:** All open flames and spark producing equipment shall be removed from the work area prior to commencement of application.

Personnel not involved in membrane application or inspection duties shall be kept out of the work area.

5. **Delivery, Storage and Handling:**

(a) **Packaging and Shipping:** All components of the membrane system shall be delivered to the Site in the Manufacturer's packaging, clearly identified with the product type, lot and batch number, manufactured date and expiry or "Best-used-by Date."

(b) **Storage and Protection:** The Applicator shall be provided with a storage area for all components. The area shall be cool, dry and out of direct sunlight and shall be in accordance with the Manufacturer's recommendations and relevant health and safety regulations.

Copies of Safety Data Sheets (SDS) for all components shall be kept on Site for review by the Engineer or other personnel.

- (c) Shelf Life - Membrane Components: Packaging of all membrane components shall include a shelf-life date sealed by the Manufacturer. No membrane components whose original shelf life has expired shall be used.
- 6. Pre-application Meeting: A minimum one week prior to beginning any membrane waterproofing work, an on-site Pre-application meeting shall be scheduled to review all requirements of the approved Installation Plan. This meeting shall include representatives from the membrane system's Manufacturer and from the Installer as well as the Prime Contractor.
- 7. Surface Preparation:
 - (a) Protection: The Contractor shall be responsible for the protection of equipment, adjacent areas, and affected pedestrians/traffic from over spray or other contamination. Permanent highway features adjacent to the work such as, but not limited to, curbs, parapets, sidewalks and bridge joints shall be masked prior to application of the materials.
 - (b) Surface Preparation: Surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae, growth, laitance, friable matter, dirt, bituminous products, previous waterproofing materials or any material that will affect the proper bonding/adhesion of the membrane to the surface receiving the membrane application. If required, degreasing shall be done by detergent washing in accordance with ASTM D4258.

Sharp peaks and discontinuities within the areas to be coated shall be ground smooth. Any peak greater than ¼ inch above the surface profile of the prepared substrate shall be ground to the surrounding elevation and voids and holes greater than ½" in the surface patched with appropriate material. The surface shall be abrasively cleaned, in accordance with ASTM D4259, to provide a sound substrate free from laitance and shall achieve a Concrete Surface Profile (CSP) as defined by the International Concrete Repair Institute (ICRI) of between 4 and 6. The QC representative shall have on their person and available for use by Department Engineers, a full CSP Chip Set to confirm concrete surface meets above profile requirement. Areas not falling within the noted range shall be re-addressed as needed.

Steel components to receive membrane waterproofing shall be blast cleaned in accordance with the Society of Steel Protective Coatings' SSPC-SP6, Commercial Blast Cleaning, and shall be coated with the membrane waterproofing system within the same work shift.

- 8. Inspection and Testing: Prior to priming of the surface, the Engineer, the Applicator and Manufacturer's technical representative shall inspect and approve the prepared substrate.
 - (a) Random tests for deck moisture content shall be conducted on the substrate by the Contractor at the Site using a "Sovereign Portable Electronic Moisture Master

Meter,” “Tramex CMEXpertII Concrete Moisture Meter” or approved equal. The minimum frequency shall be one test per 1000 s.f. but not less than three tests per shift for each contiguous section worked on during that shift. Additional tests may be required if atmospheric conditions change and retesting of the substrate moisture content is warranted.

The membrane system shall not be installed on substrate with a moisture content greater than 6%, or at a moisture content above the amount recommended by the written submittal installation documentation from the system’s Manufacturer.

- (b) The ambient air temperature and dew point temperature readings shall be taken immediately prior to starting any primer or membrane application and continuously throughout the installation process. No primer or membrane application shall be allowed if the difference between the two is 5° deg or less, or is not within the recommended air and dew point temperature ranges noted in the submitted Installation Plan from the system’s Manufacturer.
- (c) Random tests for adequate tensile bond strength shall be conducted by the Contractor on the substrate using an adhesion tester in accordance with the requirements of ASTM D7234 for concrete substrate or ASTM D4541 for steel substrate. The minimum frequency shall be one test per 5,000 s.f. but not less than three adhesion tests per shift for each contiguous section worked on during that shift. The locations of the pull tests shall be at least a distance from each other equal to or greater than 1/3 of the width or length (whichever is greater) of the area being worked in that section. The location of the pull tests shall be located in accordance with ASTM D3665 or a statistically based procedure of stratified random sampling approved by the Engineer.

Adequate surface preparation will be indicated by tensile bond strengths of the substrate greater than or equal to 150 psi or failure in a concrete surface and greater than or equal to 300 psi for steel surfaces.

If the tensile bond strength is lower than the minimum specified, the Engineer may request additional substrate preparation.

- (d) Grouted joints, materials that the membrane cannot bond to, and cracks or discontinuities that cannot be bridged over by the membrane material shall be covered by a reinforcing material recommended by the membrane system’s Manufacturer prior to application of membrane layers as approved or directed by the Engineer.

9. Application:

- (a) The System shall be applied in the following distinct steps as follows:
 - 1) Substrate preparation,
 - 2) Priming,
 - 3) Reinforcing material application over grouted joints, cracks, etc., embedded in wet membrane bonding layer,

- 4) Membrane application,
 - 5) Membrane with aggregate.
- (b) Immediately prior to the application of any components of the System, the surface shall be adequately dry (see Section 8(a) of this specification) and any remaining dust or loose particles shall be removed using clean, dry, oil-free compressed air or industrial vacuum.
 - (c) Where the area to be treated is bound by a vertical surface (e.g. curb or wall), the membrane system shall be continued up the vertical, if shown on the plans or directed by the Engineer.
 - (d) The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results, in accordance with the Manufacturer's recommendations or as approved or directed by the Engineer. All components shall be used from its original packaging (barrels) or be discarded – no mixing of like materials from different batches shall be allowed.
 - (e) A neat finish with well-defined boundaries and straight edges shall be provided by the Applicator.
 - (f) Primer: The primer shall consist of one coat with an overall coverage rate of 125 to 175 s.f./gal unless otherwise recommended in the Manufacturer's written instructions.

All components shall be measured and mixed in accordance with the Manufacturer's recommendations.

The primer shall be spray applied using a single component spray system approved for use by the Manufacturer. If required by Site conditions and allowed by the manufacturer brush, squeegee or roller application will be allowed.

The primer shall be allowed to cure tack-free for a minimum of 30 minutes or as required by the Manufacturer's instructions, whichever time is greater, prior to application of the first lift of waterproofing membrane.

Porous concrete (brick) may require a second coat of primer should the first coat be absorbed.

Bond Strength: Random tests for adequate adhesion capacity shall be conducted on the primed substrate in accordance with the requirements of ASTM D7234 for concrete or ASTM D4541 for steel substrate. The minimum frequency shall be one test per 5,000 s.f. but not less than three adhesion tests per shift for each contiguous section worked on during that shift. The locations of the pull tests shall be at least a distance from each other equal to or greater than 1/3 of the width or length (whichever is greater) of the area being worked in that section. The location of the pull tests shall be located in accordance

with ASTM D3665 or a statistically based procedure of stratified random sampling approved by the Engineer.

Adequate adhesion will be indicated by tensile bond strengths of primer to the substrate greater than or equal to 150 psi or failure in a concrete surface and greater than or equal to 300 psi for steel surfaces.

Any primer not adequately applied shall be removed and new primer applied at the Contractor's expense, as directed by Engineer.

Delays to the membrane installation following installation of the primer may necessitate remedial measures. Re-application of the primer or any work required due to, but not limited to, precipitation, ambient or dew point temperatures falling out of allowable zone, materials dropped on the surface, shall be accomplished as outlined in the Installation Plan.

- (g) Membrane and Reinforcing Material: Application of the membrane on the primed surface shall not commence until the primer is cured and adequate adhesion capacity achieved as described in Section 9(f) of this specification.

The waterproofing membrane shall consist of two equal 40 mil coats for a total dry film thickness of a minimum 80 mils but not to exceed 120 mils. successive coats shall be of a contrasting color to aid in Quality Assurance and inspection.

Hand sprayer application of a single layer at 80 mils may be allowed after demonstration on a test section of not less than 100 sq. feet, of the applicator's ability to meet specified tolerances has been reviewed and found acceptable to the Engineer.

Use of an automated mechanical applicator to achieve the required thicknesses in either one or two equal layers, may be allowed after demonstration on a test section of not less than 100 sq. feet, of the applicator's ability to meet specified tolerances has been reviewed and found acceptable to the Engineer.

Reinforcing material, if required, shall be applied as described in the Installation Plan.

The substrate shall be coated in a methodical manner.

Thickness checks: For each layer, checks for wet film thickness using a gauge pin or standard comb-type thickness gauge shall be carried out once every 100 s.f. Where rapid set time of the membrane does not allow for wet film thickness checks, ultrasonic testing (steel surfaces only), calibrated point-penetrating (destructive) testing, in-situ sampling (cutout of small sections for measuring thicknesses), or other methods approved by the Engineer shall be employed for determination of dry film thickness. The measured thickness of each and every individual test of the membrane shall be greater than or equal to the required thickness.

Bond Strength: Random tests for adequate adhesion shall be conducted on the membrane in accordance with the requirements of ASTM D7234 for concrete substrate or ASTM D4541 for steel substrate. The minimum test frequency shall be one test per 5,000 s.f. but no less than three adhesion tests per bridge. Adequate adhesion will be indicated by tensile bond strengths of the membrane to the substrate of greater than or equal to 150 psi or failure in a concrete surface, and greater than or equal to 300 psi for steel surfaces.

Repair the membrane system following destructive testing and correct any deficiencies in the membrane system or substrate noted during QC testing in accordance with the Manufacturer's recommendations to the satisfaction of the Engineer at no additional cost to the State.

- (h) Repairs: For areas left untreated or where the membrane hasn't bonded or becomes damaged, a patch repair shall be carried out to restore the integrity of the system. The damaged areas shall be cut back to sound materials, abraded and wiped with solvent (e.g. acetone or other manufacturer-recommended material) up to a width of at least six inches on the periphery, removing any contaminants unless otherwise recommended by the Manufacturer. The substrate shall be primed as necessary and tested for adhesion before the membrane layer(s) are applied. A continuous layer shall be obtained over the substrate with a six-inch overlap onto any adjacent existing membrane. The repaired area shall be tested for adhesion, with a minimum of one test per repair area.
- (i) Overlapped areas: Where the membrane is to be joined to existing cured material, the overlapped area shall be cut back to sound material if necessary, abraded and wiped with solvent (e.g. acetone or other manufacturer-recommended material) or cleaned in accordance with the Installation Plan, up to a width of at least six inches prior to application of the overlapping membrane material. A continuous layer shall be obtained over the substrate with a six-inch overlap onto existing membrane. The overlapped section shall be tested for adhesion, with a minimum of one test per 200 lineal feet.
- (j) Aggregated Finish:
 - 1) Apply an additional 40 mil thick layer of the membrane material immediately followed by an aggregate coating, before the membrane cures, at a rate to fully cover the coated area to a point where no membrane material is visible. The membrane and aggregate shall be fully integrated after the aggregate has been applied and the membrane cured.
 - 2) Using motorized mechanical sweepers followed by a vacuum or motorized blower apparatus, remove all loose and excess aggregate and fines from the surface, to the satisfaction of the Engineer, and dispose of properly prior to application of tack coat and overlay.
 - 3) Traffic shall not be allowed to travel on the completed membrane system without prior approval of Engineer upon consultation with Manufacturers technical representative.

- 4) Localized areas not fully coated following removal of loose aggregate, defined as being at least 90% covered with well-adhered aggregate within any one square foot area, shall be touched-up with additional membrane and aggregate as needed. These areas shall then be swept and/or vacuumed or blown again prior to application of tack coat and overlay.
 - 5) Tack coat: a Tack Coat Emulsion shall be applied to the aggregated finish prior to covering with a bituminous concrete mat. Material shall be applied in two coats of 0.06 - 0.08 gal/s.y. allowing it to break in between coats. This work shall be done as part of the paving operation and paid under separate, applicable Contract items.
10. Final Review: The Engineer and the Applicator shall jointly review the area(s) over which the completed system has been installed. Any irregularities or other criteria that do not meet the requirements of the Engineer shall be addressed at this time.

Method of Measurement: This item will be measured by the number of square yards of waterproofed surface completed and accepted.

Basis of Payment: This item will be paid for at the Contract unit price per square yard of “Membrane Waterproofing (Cold Liquid Elastomeric),” complete and accepted in place, which price shall include submittals, Pre-Work Meeting, all surface preparation, furnishing, storing and applying the system, technical representative and Quality Control testing, and any necessary repairs and remediation work as well as all materials, equipment, tools, labor incidental to this work.

The asphalt emulsion (tack coat) will be paid separately.

Pay Item	Pay Unit
Membrane Waterproofing (Cold Liquid Elastomeric)	s.y.

ITEM #0819002A - PENETRATING SEALER PROTECTIVE COMPOUND

Description: Work under this item shall consist of cleaning concrete surfaces of dirt, dust, and debris, and furnishing and applying a clear, penetrating sealer to concrete surfaces where shown on the plans, to provide a barrier against the intrusion of moisture and chlorides. This work also includes furnishing, installing, and removing platforms, scaffolding, ladders, and other means of access as well as shields, as required, to protect adjacent areas and traffic from overspray.

Materials: The penetrating sealer shall conform to Article M.03.09. A Materials Certificate shall be submitted for the penetrating sealer in accordance with Article 1.06.07. A product not listed on the Qualified Products List (QPL) may be considered for approval. A Certified Test Report shall be submitted in accordance with Article 1.06.07 indicating that the product being considered conforms to the Test Requirements listed on the QPL.

Construction Methods:

Submittals: The Contractor shall submit to the Engineer Safety Data Sheets (SDS), Technical Data Sheets and product literature for the approved sealer. The literature shall include written instructions how to apply the sealer to vertical and horizontal surfaces, and where required, overhead surfaces. Application rate and number of applications of sealer shall be addressed.

The Contractor shall submit to the Engineer, in accordance with Article 1.05.02, written procedures for cleaning the concrete surfaces prior to sealer application. The submittal shall include proposed equipment and materials and shall address how adjacent traffic and other areas shall be protected from dust, debris and overspray during the cleaning and application processes. Where the sealer is to be applied to parapets before pavement is placed, the submittal shall address protection of the deck and curb to which membrane waterproofing will be applied. Should the membrane already be present, the submittal shall address shielding of the membrane. It shall also indicate how vegetation and regulated areas shall be protected from overspray. The submittal shall address the conditions under which work may proceed, including wind speed, temperature and precipitation. It shall also include procedures to be followed to protect the work should unfavorable weather conditions occur before the product has been absorbed.

The Contractor shall inspect the surfaces to be sealed to identify surface cleaning needs before submitting the procedures. The Contractor shall identify concrete surfaces that:

- Need repair
- Require special attention or cleaning procedures
- Have been previously treated with coatings or curing compounds that would hinder penetration of the sealer into the concrete
- Will be new or newly repaired

Written procedures shall include observations listed above. Application of penetrating sealer to new concrete shall be addressed in the application procedures. Forms for surfaces of new concrete to receive penetrating sealer shall not be treated using form release oil, which can inhibit or prevent penetration of the sealer into the concrete.

Surface Preparation: Concrete surfaces to which penetrating sealer will be applied shall be clean and free of grease, oil, and other surface contaminants, including biological growth. Dry surfaces may be cleaned by sweeping with brushes or brooms, and blowing clean with oil-free, compressed air. The Contractor shall take care not to damage the concrete surface finish during cleaning operations. Care shall be taken so that cleaning methods do not damage joint sealant or other components of the structure that are to remain.

Application: Application of the sealer may begin only after the Engineer evaluates the concrete surfaces and determines that conditions for installation comply with the accepted written application procedures.

The sealer shall be applied in accordance with the accepted application procedures at the rate specified by the manufacturer. The Contractor shall monitor and record the number of square feet of concrete surface sealed and the number of gallons of sealer applied over that surface area to verify that the required application rate is being met. A minimum of three applications of sealer shall be assumed to be needed. After the first application of the sealer, curing time shall be recorded and submitted to the Engineer. Additional applications of sealer shall be applied as specified in the application instructions, provided adequate time between applications and appropriate curing of the sealer have occurred. For each application, the Contractor shall record the area and number of gallons of sealer applied as well as the curing time for that application. The Contractor may be directed to apply sealer in up to three separate applications if concrete surfaces readily absorb the previous application.

If the Contractor is directed to apply more than three applications of sealer, the additional applications will be compensated as extra work. Should salts, oil or other visually undesirable materials be evacuated from the concrete by the penetrating sealer and remain on the surface after sufficient rain events have occurred, the Engineer may order surface cleaning of the concrete as extra work.

The Engineer shall be provided access to inspect the concrete surface during application and after the sealer has had adequate time to cure.

Method of Measurement: This work will be measured for payment by the actual number of square yards of concrete, sealed and accepted, within the designated limits. The area will be measured once, regardless of the number of applications required.

Basis of Payment: This work will be paid for at the Contract unit price per square yard for “Penetrating Sealer Protective Compound,” complete, which price shall include all equipment tools, labor and materials, incidental thereto, including the preparation of the concrete surfaces and proper disposal of debris.

The following are not included in the cost of this item and will be considered Extra Work:

- Special cleaning procedures ordered by the Engineer to properly prepare the concrete surface for application of the penetrating sealer (such as removal of tightly adherent biological growth, graffiti, or other difficult-to-remove surface contaminants)
- Additional applications of sealer as noted in the Construction Methods
- Cleaning of evacuated material from sealed surfaces as ordered by the Engineer.

Pay Item	Pay Unit
Penetrating Sealer Protective Compound	s.y.

ITEM #0904051A – 3-TUBE CURB MOUNTED BRIDGE RAIL

Description: Work under this item shall consist of fabricating, galvanizing, transporting and erecting a curb mounted bridge rail comprised of anchorages, concrete inserts, plates, posts, rails, fasteners and epoxy grout in accordance with the plans.

Materials: Structural steel shapes and plates shall meet the requirements of ASTM A572, Grade 50. Hollow structural sections shall meet the requirements ASTM A500, Grade C or ASTM A501, Grade B. Certified Test Reports and Materials Certificates shall be submitted in accordance with Article 1.06.07. The Certified Test Reports shall address that the steel meets the requirements of Article 1.06.01, Buy America.

All exposed steel shapes, plates and hollow structural sections shall have a controlled content of silicon within the range 0.0% to 0.4% or 0.15% to 0.25%. Before galvanizing, mill test certificates verifying silicon content shall be submitted to the Engineer and the galvanizer.

All steel shapes, plates and hollow structural sections shall be hot-dip galvanized in accordance with ASTM A123.

All high strength bolts shall meet the requirements of ASTM F3125, Grade A325, Type 1. Nuts shall conform to ASTM A563, Grade DH. Circular, flat, hardened steel washers shall meet the requirements of ASTM F436. The bolts, nuts and washers shall be galvanized in accordance with ASTM F2329 or ASTM B695, Class 55.

The anchor rods shall be fully threaded rods in accordance with ASTM F1554, Grade 105. The nuts shall meet the requirements of ASTM A563, Grade DH. The washers shall meet the requirements of ASTM F436. The bolts, nuts and washers shall be galvanized in accordance with ASTM F2329 or ASTM B695, Class 55.

Dome head bolts with wrench slots shall meet the requirements of ASTM F3125, Grade A325, Type 1 or ASTM A449, Grade 1. The nuts shall meet the requirements of ASTM A563, Grade DH. The washers shall meet the requirements of ASTM F436. The bolts, nuts and washers shall be galvanized in accordance with ASTM F2329 or ASTM B695, Class 55.

Concrete inserts shall meet the requirements shown on the plans. The concrete inserts shall be hot dip galvanized in accordance with ASTM A153. The bolts shall meet the requirements of ASTM A307 and the washers shall meet the requirements of ASTM F436. The bolts and washers shall be galvanized in accordance with ASTM F2329.

Epoxy grout shall capable of being installed in the void below the baseplate and meet the following requirements:

Compressive strength, ASTM C579, @ 73 degrees F, 10,000 psi
Tensile strength, ASTM C307 @ 7 days or ASTM D638 @ 7 days, 2,000 psi

Bond strength to concrete, ASTM C882, concrete failure
Bond strength to steel, ASTM C882, 2,500 psi
Volatile organic compounds (VOC), 0.0
Color, gray or concrete gray

Damaged areas of the hot-dip galvanized coatings shall be repaired in accordance with ASTM A780 amended as follows:

Paints containing zinc dust used for repairs shall contain either between 65% to 69% metallic zinc by weight or greater than 92% metallic zinc by weight in dry film.

Construction Methods:

A. Submittals: Prior to fabrication, the Contractor shall submit shop drawings for the bridge rail at each location in accordance with Article 1.05.02 and welding procedures in accordance with Article 1.05.17.

Prior to placing the epoxy grout, the Contractor shall submit the following to the Engineer for review in accordance with Article 1.05.02 Product Data requirements:

1.
 1. A copy of the epoxy grout manufacture's data sheet documenting the grout meets the specification requirements.
 2. A copy of the epoxy grout manufacturer's printed installation instructions (MPII)
 3. A copy of the epoxy grout manufacturer's printed safety instructions

B. Fabrication Requirements: The steel fabricator shall meet the requirements of the AISC Certification Program for Manufacturers of Bridge and Highway Components (CPT).

Shop fabrication of the bridge rail shall meet the requirements of Article 6.03.03-3. Structural steel elements of the bridge rail shall be prepared for galvanizing in accordance with Article M.06.02.

After galvanizing, surfaces with inadequate zinc thickness shall be repaired in the shop according to ASTM A780 and ASTM A123, with the exception that only brush applied flat, light gray zinc rich coating shall be permitted. Aerosol spray or galvanizing repair stick products shall not be used. Surfaces of galvanized steel that are damaged after the galvanizing operation shall be repaired in accordance with ASTM A780 whenever damage exceeds 0.1875 inch in width or 4 inches in length. Damage that occurs in the shop shall be repaired in the shop.

C. Installation Requirements: The anchor rods shall be securely bolted to anchor plates to create anchorage assemblies. The anchorage assemblies shall be accurately positioned and restrained to prevent movement during field placement of the concrete. The concrete inserts shall be accurately positioned and restrained against movement during the placement of concrete.

Field installation of the rail components shall be as shown on the plans.

The connection of the post baseplate to the anchor rods shall be a double nut connection. The post baseplate shall be installed on washers supported by leveling nuts. The baseplate shall be secured in place with a washer topped with a nuts at each anchor rod.

High-strength bolts, including nuts and washers, shall be installed and tensioned in accordance with Subarticle 6.03.03-5(f).

Dome headed bolts shall be installed with a washer, a lock washer and nut.

Epoxy grout shall be placed between the concrete curb and the baseplate at all post locations. The concrete and steel surfaces that will be in contact with the grout shall be dry, clean and free of all loose concrete and contaminants. The galvanized surface of the baseplate shall not be abrasively cleaned. Solvent cleaning is acceptable if allowed by the epoxy grout manufacturer. The grout shall be placed within an area formed around each baseplate. The forms shall be liquid tight and treated with a form release agent. The forms shall have chamfer strips placed along all vertical and horizontal finished grout edges. The vertical faces of the grout shall extend beyond the vertical edges of the baseplate.

Prior to placing the epoxy grout, the curb concrete shall have obtained the compressive strength shown on the plans.

The grout shall be mixed and placed in accordance with the manufacturer's printed installation and safety instructions. Conditions, including the temperature of the mixed grout, air and substrate, at the time of the installation shall meet the manufacturer's recommendations. The grout shall be placed from one side allowing it to flow beneath the baseplate to the formed surfaces and avoid air entrapment. After removal of the forms, rough surfaces and edges shall be trimmed or ground down to provide smooth surfaces and defined edges.

Damage that occurs to the hot-dip galvanized surfaces during transport or during installation shall be repaired in accordance with the requirements of ASTM A780. If paint containing zinc dust is used for repairs, the dry coating thickness shall be at least 50% greater than the thickness of the adjacent hot-dip galvanized coating, but no greater than 4.0 mils. The paint shall be brush applied. The use of aerosol spray cans or galvanizing repair stick is not permitted. The color of the finished repair area shall match the color of the adjacent hot-dip galvanized surface at the time of the repair to the satisfaction of the Engineer.

During installation of the rail and any component parts, the Contractor shall take necessary precautions to prevent any injury or property damage from any falling materials.

All work shall proceed in accordance with the special provisions "Maintenance and Protection of Traffic" and "Prosecution and Progress."

Method of Measurement: This work will be measured for payment by the number of linear feet of bridge rail installed, complete and accepted, measured within the pay limits shown on the plans.

Basis of Payment: This work will be paid for at the Contract unit price per linear foot for "3-Tube Curb Mounted Bridge Rail," complete and accepted in place, which price shall include all materials, equipment, tools, and labor incidental thereto.

Pay Item	Pay Unit
3-Tube Curb Mounted Bridge Rail	1.f.

ITEM #0912503A – REMOVE METAL BEAM RAIL

Section 9.12 is supplemented as follows:

Article 9.12.01 – Description is supplemented with the following:

Work under this item shall also include the loading, transporting and unloading of the metal beam rail panels, posts, and miscellaneous hardware designated for removal to the Town of Roxbury Public Works Department. See Notice to Contractor - Salvage for further information.

Article 9.12.03 – Construction Methods is supplemented with the following:

Prior to commencement of work, the Contractor and Engineer shall inventory the existing rail system within the project limits to determine which materials are suitable for salvage.

Article 9.12.04.04 – Method of Measurement is supplemented with the following:

No separate measurement will be taken for the loading, transporting, and unloading of the salvaged metal beam rail panels, posts and miscellaneous hardware.

Article 9.12.05.04 – Basis of Payment is supplemented with the following:

The loading, transporting and unloading of the salvaged metal beam rail panels, posts and miscellaneous hardware shall be included in the unit price of this work.

<u>Pay Item</u>	<u>Pay Unit</u>
Remove Metal Beam Rail	l.f.

ITEM #0921001A – CONCRETE SIDEWALK

Section 9.21 is supplemented and amended as follows:

Materials:

And add the following:

welded wire fabric meeting the requirements of M.06.01-3 shall be installed at the proper depth in those areas as shown on the plans or directed by the Engineer.

Basis of Payment:

And add the following:

This work will be paid for at the contract unit price for “Concrete Sidewalk”, complete in place which price shall also include all material, equipment, tools, excavation, labor incidental thereto to include welded wire fabric.

ITEM #0950019A – TURF ESTABLISHMENT - LAWN

Materials: The work included in this item shall consist of providing an accepted stand of grass by furnishing and placing seed as shown on the plans or as directed by the Engineer. This item shall include all coordination, labor, equipment and materials as specified below, or as otherwise directed by the Engineer.

Materials: The materials for this work shall conform to the requirements of Section 9.50 of Standard Specification Form 818, and as amended as follows:

The following mix shall be used for this item:

Turf Seed Mix:

In order to preserve and enhance the diversity, the source for seed mixtures shall be locally obtained within the Northeast USA including New England, New York, Pennsylvania, New Jersey, Delaware, or Maryland. One approved seed mixture is detailed below. Other proposed mixtures must be approved by the CTDOT Landscape Design office.

Proportion (Percent)	Species	
	Common name	Scientific name
20	Kentucky Bluegrass Improved varieties	Poa pratensis
45	Red Fescue Improved varieties	Festuca rubra
35	Perennial Ryegrass Improved varieties	Lolium perenne

Construction Methods: Construction Methods shall be those established as agronomically acceptable and feasible and that are approved by the Engineer. Rate of application shall be field determined in Pure Live Seed (PLS) based on the minimum purity and minimum germination of the seed obtained. Calculate the PLS for each seed species in the mix. Adjust the seeding rate for the above composite mix, based on 250 lbs. per acre. The seed shall be mulched in accordance with Article 9.50.03.

Method of Measurement: This work will be measured for payment by the number of square yards of surface area of accepted established grasses as specified or by the number of square yards of surface area of seeding actually covered and as specified

Basis of Payment: This work will be paid for at the contract unit price per square yard for “Turf Establishment - Lawn” which price shall include all materials maintenance, equipment, tools,

labor, and work incidental thereto. Partial payment of up to 60% may be made for work completed, but not accepted.

Pay Item	Pay Unit
Turf Establishment - Lawn	s.y.

ITEM #0969062A - CONSTRUCTION FIELD OFFICE, MEDIUM

Description: Under the item included in the bid documents, adequate weatherproof office quarters with related furnishings, materials, equipment, and other services, shall be provided by the Contractor for the duration of the work, and if necessary, for a close-out period determined by the Engineer. The office, furnishings, materials, equipment, and services are for the exclusive use of Municipal forces and others who may be engaged to augment Municipal forces with relation to the Contract. The office quarters shall be located convenient to the work site and installed in accordance with Article 1.08.02. This office shall be separated from any office occupied by the Contractor. Ownership and liability of the office quarters shall remain with the Contractor.

Furnishings/Materials/Supplies/Equipment: All furnishings, materials, equipment, and supplies shall be in like new condition for the purpose intended and require approval of the Engineer.

Office Requirements: The Contractor shall furnish the office quarters and equipment as described below:

Description\ Office Size	Medium
Minimum Sq. Ft. of floor space with a minimum ceiling height of 7 ft.	720
Minimum number of exterior entrances.	2
Minimum number of parking spaces.	7

Office Layout: The office shall have a minimum square footage as indicated in the table above and shall be partitioned as shown on the building floor plan as provided by the Engineer.

Unless otherwise approved by the Engineer, office space shall be partitioned into segregated work areas for each user as follows:

- A. Each work area (or cubicle) shall be a minimum of 8 feet x 8 feet, with full height walls or tall cubicle partitions (minimum 6 feet high), placed to provide a minimum of 6 feet walking space around and between each user work area (for social distancing).
- B. Only one user (workstation/desk) per work area.
- C. Desks, tables, and other work surfaces shall be arranged so that adjacent users do not face each other.

Tie-downs and Skirting: Modular offices shall be tied down and fully skirted to ground level.

Lavatory Facilities: For field offices' sizes Small and Medium the Contractor shall furnish a toilet facility at a location convenient to the field office for use by Municipal personnel and such assistants as they may engage. For all facilities the Contractor shall supply lavatory and sanitary supplies as required.

Windows and Entrances: The windows shall be of a type that will open and close conveniently, shall be sufficient in number and size to provide adequate light and ventilation, and shall be fitted with locking devices, blinds, and screens. The entrances shall be secure, screened, and fitted with a lock for which four keys shall be furnished. All keys to the construction field office shall be furnished to the Municipality and will be kept in their possession while Municipal personnel are using the office. Any access to the entrance ways shall meet applicable building codes, with appropriate handrails. Stairways shall be ADA/ABA compliant and have non-skid tread surfaces. An ADA/ABA compliant ramp with non-skid surface shall be provided with the Extra-Large field office.

Lighting: The Contractor shall equip the office interior with electric lighting that provides a minimum illumination level of 100 foot-candles at desk level height, and electric outlets for each desk and drafting table. The Contractor shall also provide exterior lighting that provides a minimum illumination level of 2 foot-candles throughout the parking area and for a minimum distance of 10 ft. on each side of the field office.

Parking Facility: The Contractor shall provide a parking area, adjacent to the field office, of sufficient size to accommodate the number of vehicles indicated in the table above. If a paved parking area is not readily available, the Contractor shall construct a parking area and driveway consisting of a minimum of 6 inches of processed aggregate base graded to drain. The base material will be extended to the office entrance.

Field Office Security: Physical Barrier Devices - This shall consist of physical means to prevent entry, such as: 1) All windows shall be barred, or security screens installed; 2) All field office doors shall be equipped with dead bolt locks and regular day-operated door locks; and 3) Other devices as directed by the Engineer to suit existing conditions.

Electric Service: The field office shall be equipped with an electric service panel, wiring, outlets, etc., to serve the electrical requirements of the field office, including lighting, general outlets, computer outlets, electronics, etc., and meet the following minimum specifications:

- A. 120/240 volt, 1 phase, 3 wire
- B. Ampacity necessary to serve all equipment. Service shall be a minimum 100 amp dedicated to the construction field office.
- C. The electrical panel shall include a main circuit breaker and branch circuit breakers of the size and quantity required.
- D. Additional 120-volt, single phase, 20-amp, isolated ground dedicated power circuit with dual NEMA 5-20 receptacles will be installed at each desk and personal computer table (workstation) location.
- E. Additional 120-volt, single phase, 20-amp, isolated ground dedicated power circuit with dual NEMA 5-20 receptacles will be installed, for use by the Telephone Company.

- F. Additional 120-volt circuits and duplex outlets as required meeting National Electric Code requirements.
- G. One exterior (outside) wall mounted GFI receptacle, duplex, isolated ground, 120-volt, straight blade.
- H. After work is complete and prior to energizing, the Municipality’s electrical inspector must be contacted.

Heating, Ventilation and Air Conditioning (HVAC): The field office shall be equipped with sufficient and properly operating, heating, air conditioning, and ventilation equipment to maintain a temperature range of 68°-80° Fahrenheit within the field office. The Contractor shall increase ventilation rates and increase the percentage of outdoor air that circulates into the system where possible.

Telephone Service: The Contractor shall provide telephone service with unlimited nation-wide calling plan. For a Small and Medium field office this shall consist of the installation of one (1) telephone line for phone/voice service

Data Communications Facility Wiring: The Contractor shall supply cables to connect the Computer(s), Wi-Fi printer and Multi-Function Laser Printer/Copier/Scanner to the Contractor supplied internet router and to workstations/devices as needed.

Additional Equipment, Facilities and Services: The Contractor shall provide at the field office at least the following to the satisfaction of the Engineer:

Furnishing Description	Office Size
	Medium
	Quantity
Office desk (2.5 ft. x 5 ft.) with drawers, locks, and matching desk chair(s) that have pneumatic seat height adjustment and dual wheel casters on the base.	3
Personal computer tables (4 ft. x 2.5 ft.).	3
Drafting type tables (3 ft. x 6 ft.) and supported by wall brackets and legs; and matching drafter’s stool that have pneumatic seat height adjustment, seat back and dual wheel casters on the base.	1
Office Chairs.	4
Fire resistant cabinet (legal size/4 drawer), locking.	1
Vertical plan racks for 2 sets of 2 ft. x 3 ft. plans for each rack.	1
Case of cardboard banker boxes (Min 10 boxes/case)	1
White Dry-Erase Board, 36” x 48” min. with markers and eraser.	1
Wastebaskets - 30 gal., including plastic waste bags.	1
Wastebaskets - 5 gal., including plastic waste bags.	3
Electronic Level	1
Telephone.	2

Furnishing Description	Office Size
	Medium
	Quantity
Full size stapler 20 (sheet capacity, with staples)	2
Desktop tape dispensers (with Tape)	2
8 Outlet Power Strip with Surge Protection	4
Rain Gauge	1
Mini refrigerator - 3.2 c.f. min.	1
Hot and cold-water dispensing unit. Disposable cups and bottled water shall be supplied by the Contractor for the duration of the project.	1
Microwave, 1.2 c.f., 1000W min.	1
Fire extinguishers - provide and install type and *number to meet applicable State and local codes for size of office indicated, including a fire extinguisher suitable for use on a computer terminal fire.	*
Electric pencil sharpeners.	2
Multi-Function Laser Printer/Copier/Scanner combination unit, network capable, as specified below under <u>Field Office Technology</u>	1
Field Office Internet Service and Hardware as specified below under <u>Field Office Technology</u>	1
Digital Camera as specified below under <u>Field Office Technology</u>	1
Infrared Thermometer, including annual third-party certified calibration, case, and cleaning wipes.	1
Concrete Curing Box as specified below under Concrete Testing Equipment.	1
Concrete Air Meter and accessories as specified below under Concrete Testing Equipment as specified below. Contractor shall provide third party calibration on a quarterly basis.	1
Concrete Slump Cone and accessories as specified below under Concrete Testing Equipment.	1
First Aid Kit	1
T-handle concrete cylinder mold splitter as specified below under Concrete Testing Equipment	1

The furnishings and equipment required herein shall remain the property of the Contractor. Any supplies required to maintain or operate the above listed equipment, or furnishings shall be provided by the Contractor for the duration of the project.

Field Office Technology: The Contractor shall supply by its own means the actual Personal Computer(s) for the Municipal representatives. The Contractor shall supply the internet service connection, Contractor supplied modem, associated hardware, Digital Camera(s), Wi-Fi Printer, Multifunction Laser Printer/Copier/Scanner, Teleconferencing Equipment, associated hardware and software meeting the requirements of this specification, as well as the latest minimum specifications posted, as of the Project advertising date, at CTDOT's [Construction Field Office Technology](#) web site.

Within 10 calendar days after the signing of the Contract, but before ordering/purchasing the Computer(s), Digital Camera(s), Wi-Fi Printer (separate from the Multifunction Laser Printer/Copier/Scanner), Field Office Wi-Fi, Multifunction Laser Printer/Copier/Scanner, as well as associated hardware, the Contractor must submit a copy of their proposed order(s) with catalog cuts and specifications to the Municipality or their proposed Representative for review and approval. The Computer(s), Wi-Fi printer, modem and digital cameras will be reviewed by Municipal Personnel or their Representative for approval. The Multifunction Laser Printer/Copier/Scanner will be reviewed by Municipal Personnel or their Representative. The Contractor shall not purchase the hardware, software, or services until the Municipality, or their Representative informs them that the proposed equipment, software, and services are approved. The Contractor will be solely responsible for the costs of any hardware, software, or services purchased without approval.

The Contractor and/or their internet service provider shall be responsible for the installation and setup of the field office Wi-Fi/internet service, Wi-Fi printer, Computer(s) and the configuration of the wireless router as directed by the Municipality. Installation will be coordinated with Municipal and Project personnel.

After the approval of the hardware and software, the Contractor shall contact the designated representatives of the Municipality, a minimum of 2 working days in advance of the proposed delivery or installation of the Field Office Wi-Fi / Internet Service Connection, Wi-Fi Printer, Computer(s), Digital Camera(s), Multifunction Laser Printer/Copier/Scanner as well as associated hardware, software, supplies, and support documentation.

The Contractor shall provide all supplies, paper, maintenance, service, and repairs (including labor and parts) for the computer(s), Wi-Fi printer(s), copiers, field office Wi-Fi / internet service, and other equipment and facilities required by this specification for the duration of the Contract. All repairs of contractor supplied equipment and internet service must be performed within 48 hours. If the repairs require more than 48 hours, then an equal or better replacement must be provided.

Once the Contract has been completed, the Contractor supplied hardware, and software will remain the property of the Contractor.

First Aid Kit: The Contractor shall supply a first aid kit adequate for the number of personnel expected based on the size of the field office specified and shall keep the first aid kit stocked for the duration that the field office is in service.

Rain Gauge: The Contractor shall supply, install and maintain a rain gauge for the duration of the Project, meeting these minimum requirements. The rain gauge shall be installed on the top of a post such that the opening of the rain gauge is above the top of the post an adequate distance to avoid splashing of rainwater from the top of the post into the rain gauge. The location of the rain gauge and post shall be approved by the Engineer. The rain gauge shall be made of a durable material and have graduations of 0.1 inches or less with a minimum total column height of 5 inches. If the rain gauge is damaged the Contractor shall replace it prior to the next forecasted storm event at no additional cost.

Electronic Level: The Contractor shall supply and maintain in working order, for the duration of the Contract, the number of electronic levels, identified in the Additional Equipment, Facilities and Services table of this specification. The electronic level(s) shall meet the following requirements:

- A. 48-inch length, box beam type
- B. IP65 water and dust proof
- C. 0.1-degree accuracy
- D. Backlit display
- E. Carrying case included
- F. New or like new condition

Concrete Testing Equipment: If the Contract includes items that require compressive strength cylinders for concrete, in accordance with the Schedule of Minimum Testing Requirements for Sampling Materials for Test, the Contractor shall provide the following equipment.

- A. Concrete Cylinder Curing Box – meeting the requirements of Section 6.12 of the Standard Specifications.
- B. Air Meter – The air meter provided shall be in good working order and meet the requirements of AASHTO T 152.
- C. Slump Cone Mold – Slump cone, base plate, and tamping rod shall be provided in like-new condition and meet the requirements of AASHTO T 119, Standard Test Method for Slump of Hydraulic-Cement Concrete.
- D. T-handle concrete cylinder mold splitter.

All testing equipment will remain the property of the Contractor at the completion of the Project.

Insurance Policy: The Contractor shall provide a separate insurance policy, with no deductible, in the minimum amount of five thousand dollars (\$5,000) to insure all Contractor supplied data equipment and supplies used in the office against all losses. The Contractor shall be named insured on that policy, and the Municipality shall be an additional named insured on the policy. Insured losses shall include, but not be limited to, theft, fire, and physical damage. In the event of loss, the Contractor shall provide replacement equipment in accordance with current CTDOT equipment specifications, within seven days of notice of the loss. If the Contractor is unable to provide the required replacement equipment within seven days, the Municipality may provide replacement equipment and deduct the cost of the equipment from monies due or which may become due the Contractor under the Contract or under any other contract. The Contractor's financial liability under this paragraph shall be limited to the amount of the insurance coverage required by this paragraph. If the cost of equipment replacement required by this paragraph should exceed the required amount of the insurance coverage,

the Municipality will reimburse the Contractor for replacement costs exceeding the amount of the required coverage.

Maintenance: During field office occupancy by the Municipality, the Contractor shall maintain all facilities and furnishings provided under the above requirements, and shall maintain and keep the office quarters clean through the use of professional cleaning including vacuuming carpet, washing and waxing floors, cleaning restrooms, removal of trash, general cleaning, etc.

Exterior areas shall be mowed and clean of debris. A trash receptacle (dumpster) with weekly pickup (trash removal) shall be provided. Snow removal, sanding and salting of all parking, walkway, and entrance way areas shall be accomplished during a storm if on a workday during work hours, immediately after a storm and prior to the start of a workday. If snow removal, salting and sanding are not completed by the specified time, the Municipality will provide the service, and all costs incurred will be deducted from the next payment estimate.

Method of Measurement: The furnishing and maintenance of the Construction Field Office, Medium will be measured for payment by the number of calendar months that the office is in place and in operation, rounded up to the nearest month.

There will not be any price adjustment due to any change in the minimum computer-related hardware and software requirements.

Basis of Payment: The furnishing and maintenance of the Construction Field Office will be paid for at the Contract unit price per month for “Construction Field Office, Medium,” which price shall include all material, equipment, labor, service contracts, licenses, software, repair or replacement of hardware and software, related supplies, utility services, parking area, external illumination, trash removal, snow and ice removal, and work incidental thereto, as well as any other costs to provide requirements specified herein.

Pay Item	Pay Unit
Construction Field Office, Medium	Month

ITEM #0971001A – MAINTENANCE AND PROTECTION OF TRAFFIC

Article 9.71.01 – Description *is supplemented by the following:*

The Contractor shall maintain and protect traffic as described by the following and as limited in the special provision for Section 1.08 - Prosecution and Progress:

Wellers Bridge Road

Wellers Bridge Road at Shepaug River (Bridge #05068) is currently closed to traffic with a detour of traffic in place. The Contractor will be allowed to maintain the closure of Wellers Bridge Road at Shepaug River (Bridge #05068) and detour traffic as shown on the Detour Plans.

Baker Road (CT Route 67)

The Contractor shall maintain and protect a minimum of 1 lane of traffic in each direction with each lane on a paved travel path.

Contractor shall be allowed to maintain an alternating one-way traffic operation Monday through Friday between 9:00 a.m. and 3:00 p.m. only. The one-way operations must be terminated if vehicle queues exceed 300 feet in length in either direction. Baker Road shall be fully re-opened when the contractor is not actively working on the road.

Commercial and Residential Driveways

The Contractor shall maintain access to and egress from all commercial and residential driveways throughout the Project limits. The Contractor will be permitted to temporarily close affected driveways while actively working with coordination and permission from the owner or proprietor.

Article 9.71.03 - Construction Methods *is supplemented as follows:*

General

Unpaved travel paths will only be permitted for areas requiring full depth and full-width reconstruction. The unpaved section shall be the full width of the road and shall be perpendicular to the travel lanes. The Contractor will be allowed to maintain traffic on processed aggregate for a duration not to exceed 10 calendar days and opposing traffic lane dividers shall be used as a centerline.

The Contractor is required to delineate any raised structures within the travel lanes, so that the structures are visible day and night, unless there are specific Contract plans and provisions to temporarily lower these structures prior to the completion of work.

The Contractor shall schedule operations so that pavement removal and roadway resurfacing shall be completed full width across a roadway or bridge section by the end of a work shift, or as directed by the Engineer.

When the installation of all intermediate courses of bituminous concrete pavement is completed for the entire roadway, the Contractor shall then install the final course of bituminous concrete pavement.

When the Contractor is excavating adjacent to the roadway, the Contractor shall provide a 3 foot shoulder between the work area and travel lanes, with traffic drums spaced every 50 feet. At the end of the work shift if the vertical drop-off exceeds 3 inches, the Contractor shall provide a temporary bituminous concrete traversable slope of 4:1 or flatter that is acceptable to the Engineer.

The Contractor, during the course of any active overhead construction work, shall close the lanes directly below the work area for the entire length of time overhead work is being undertaken.

When an existing sign is to be relocated or replaced, the work shall be completed during the same work shift except where noted otherwise on the plans.

The field installation of a signing pattern shall be subject to limitations of operations defined in Section 1.08 of these special provisions.

Existing Signing

The Contractor shall temporarily relocate signs and sign supports as many times as deemed necessary, and shall install temporary sign supports if necessary and as directed by the Engineer.

Requirements for Winter

The Contractor shall schedule a meeting with representatives of the Department, including the offices of Maintenance and Traffic, and the Town to determine any interim traffic control measures the Contractor shall accomplish prior to winter to provide safety to traveling public and permit adequate snow removal procedures. This meeting shall be held prior to October 31 of each year and will include, but not be limited to, discussion of the status and schedule of the following items: lane and shoulder widths, pavement restoration, traffic signal work, pavement markings, and signing.

Signing Patterns

The Contractor shall erect and maintain all signing patterns in accordance with the traffic control plans contained herein. Proper distances in accordance with the latest MUTCD and plans (whichever is more stringent) between advance warning signs and proper taper lengths are mandatory.

Pavement Markings - Non-Limited Access Roadways

During construction, the Contractor shall maintain all pavement markings on paved surfaces on all roadways throughout the limits of the Project.

Temporary pavement markings shall be installed on each intermediate course of bituminous concrete pavement and on any milled surface by the end of the work shift.

Permanent Epoxy Resin Pavement Markings shall be installed on the final course of bituminous concrete pavement within 10 calendar days of the final pavement installation if no Pavement Marking Grooves are proposed.

Temporary Pavement Markings

Temporary pavement markings that will be in place for less than 72 continuous hours may consist of temporary plastic pavement marking tape at the Contractor's expense. Additionally;

1. These temporary pavement markings shall include centerlines, lane lines (solid and broken), and stop bars.
2. Centerlines shall consist of two 4 inch wide yellow markings, 2 feet in length, side by side, 4 inches apart, at 40 foot intervals.
3. Lane lines shall consist of 4 inch wide white markings, 2 feet in length, at 40 foot intervals.
4. No passing zones shall be posted with signs in those areas where the final centerlines have not been established on two-way roadways.
5. Stop bars may consist of two 6 inch wide white markings or three 4 inch wide white markings placed side by side.
6. The temporary plastic pavement marking tape shall be installed in accordance with Section 12.12.
7. The Contractor shall remove and dispose of the temporary plastic pavement marking tape prior to another course of bituminous concrete pavement being installed.

Temporary pavement markings that will be in place for 72 continuous hours or more should consist of temporary painted pavement markings and shall be installed in accordance with Section 12.09. The markings shall include centerlines, edge lines, lane lines (solid and broken), lane-use arrows, and stop bars on each intermediate course of bituminous concrete pavement and on any milled surface by the end of the work shift. Edge lines and lane-use arrows are not required if the next course of bituminous concrete pavement will be placed within 10 calendar days.

All temporary pavement markings exposed throughout the winter shall be Epoxy Resin Pavement Markings, unless directed otherwise by the Engineer.

Temporary pavement markings, as described above, shall be maintained until the permanent pavement markings are installed.

Final Pavement Markings

Refer to Pavement Marking Groove special provisions for pavement marking requirements. Permanent epoxy resin pavement markings shall be installed in accordance with Section 12.10 and the applicable Traffic Engineering Standard Drawings.

If Temporary Plastic Pavement Marking Tape is installed, then the Contractor shall remove and dispose of these markings during the same work shift that the permanent epoxy resin pavement markings are to be installed. The cost of furnishing, installing and removing the Temporary Plastic Pavement Marking Tape shall be at the Contractor's expense.

Traffic Control During Construction Operations

The following guidelines shall assist field personnel in determining when and what type of traffic control patterns to use for various situations. These guidelines shall provide for a safer and more efficient movement of traffic through work zones and enhance the safety of work forces in the work area.

Traffic Control Patterns

Traffic control patterns shall be used when a work operation requires that all or part of any vehicle or work area protrudes onto any part of a travel lane or shoulder or is within the clear zone. For each situation, the installation of traffic control devices shall be based on the following:

- Speed and volume of traffic.
- Duration of operation.
- Exposure to hazards.

Traffic control patterns shall be uniform, neat, and orderly in order to command respect from the motorist.

Lane reduction tapers should be placed so that the entire length of the taper is installed on a tangent section of roadway and the entire taper area can be seen by the motorist.

All existing conflicting signs shall be removed, covered with an opaque material, or turned so that they are not legible to oncoming traffic prior to implementing a traffic control pattern. The existing signs shall be uncovered or reinstalled once the pattern is removed.

A buffer area should be provided during installation of a traffic control pattern and maintained for the duration of the work. The buffer area shall be free of any equipment, workers, materials, and parked vehicles.

Construction Traffic Control Plans 19 through 25 should be used for moving operations such as line striping, rumble strips, pothole patching, mowing, or sweeping when it is necessary for equipment to occupy a travel lane.

Traffic control patterns are not required for vehicles on an emergency patrol type activity or for a short duration stop of up to one hour, as long as the equipment is contained within the shoulder. Flashing lights, arrow boards, truck-mounted or trailer-mounted impact attenuators, and appropriate Trafficperson(s) shall be used when required.

In a situation not adequately covered by the Construction Traffic Control Plans, the Contractor shall contact the Engineer for assistance prior to setting up a traffic control pattern.

Placement of Signs

Signs shall be placed in a position that allows motorists the opportunity to reduce their speed prior to the work area. Signs shall be installed on the same side of the roadway as the work area. On multi-lane divided highways, advance warning signs shall be installed on both sides of the

highway. On directional roadways (on-ramps, off-ramps, one-way roads) where the sight distance to signs is restricted, these signs should be installed on both sides of the roadway.

Allowable Adjustment of Signs and Devices Shown on the Construction Traffic Control Plans

The Construction Traffic Control Plans contained herein show the location and spacing of signs and devices under ideal conditions. Signs and devices should be installed as shown on these plans.

The proper application of the Construction Traffic Control Plans and installation of traffic control devices is dependent upon actual field conditions.

In the case of a horizontal or vertical sight restriction in advance of the work area, the traffic control pattern shall be extended to provide adequate sight distance for approaching traffic.

Adjustments to the Construction Traffic Control Plans shall only be made at the direction of the Engineer.

Table 1 indicates the minimum taper lengths required for a lane closure based on the posted speed limit and lane width of the roadway. These taper lengths shall only be used when the recommended taper lengths shown on the Construction Traffic Control Plans cannot be achieved.

Table 1 – Minimum Taper Length

POSTED SPEED LIMIT (MPH)	MINIMUM TAPER LENGTH FOR A SINGLE LANE CLOSURE (FEET)	
	FREEWAYS	SECONDARY ROADS
30 OR LESS	180	165
35	245	225
40	320	295
45	540	495
50	600	550
55	660	605
65	780	715

1. Work Zone Safety Meetings

- 1.a) Prior to the commencement of work, a Work Zone Safety Meeting shall be conducted with representatives from DOT Construction, Connecticut State Police (Local Barracks), Municipal Police, the Contractor (Project Superintendent) and the Traffic Control Subcontractor (if different than the prime Contractor) to review the traffic operations, lines of responsibility, and operating guidelines which will be used on the Project. DOT Traffic Engineering shall be invited to the Work Zone Safety Meeting. Other Work Zone Safety Meetings during the course of the Project should be scheduled as needed.
- 1.b) A Work Zone Safety Meeting Agenda shall be developed and used at the Meeting to outline the anticipated traffic control issues during the construction of this Project. Any issues that can't be resolved at these Meetings will be brought to the attention of the District Engineer and the Office of Construction. The agenda shall include:
 - i. Review Project scope of work and time;
 - ii. Review Section 1.08, Prosecution and Progress;
 - iii. Review Section 9.70, Trafficpersons;
 - iv. Review Section 9.71, Maintenance and Protection of Traffic;
 - v. Review Contractor's schedule and method of operations;
 - vi. Review special concern areas: ramps, turning roadways, medians, lane drops, etc.;
 - vii. Open discussion of work zone questions and issues;
 - viii. Discussion of review and approval process for changes in Contract requirements as they relate to work zone areas.

2. General

- 2.a) Traffic control patterns shall only be installed if the required minimum number of signs, traffic cones, traffic drums, and other equipment (i.e. one Arrow Board for each lane closed, two Truck-Mounted or Trailer-Mounted Attenuators (TMAs), Changeable Message Sign, etc.) are on Site.
- 2.b) The Contractor shall have spare maintenance and protection of traffic equipment (TMAs, Arrow Board, Changeable Message Sign(s), construction signs, traffic cones, traffic drums, etc.) available at all times in case of mechanical failures, etc. Spare maintenance and protection of traffic equipment installed as a result of a sudden equipment breakdown shall be replaced by the Contractor within 24 hours.
- 2.c) Failure of the Contractor to have the required minimum number of signs, personnel, and equipment, which results in the pattern not being installed, shall not be a reason for a time extension or claim for lost time.
- 2.d) In cases of differences of opinion between the Contractor and the Inspection staff, the Contractor shall follow the directions of the Engineer. The matter shall be brought to the District Office for resolution immediately or, in the case of work after regular business hours, on the next business day.

3. Installing and Removing Traffic Control Patterns

- 3.a) Lane closures shall be installed beginning with the advance warning signs and proceeding forward toward the work area.
- 3.b) Lane closures shall be removed in the reverse order, beginning at the end of the work area, or traffic control pattern, and proceeding back toward the advance warning signs.
- 3.c) Stopping traffic may be allowed within the allowable hours stated in Section 1.08.04:
 - i. For those activities stated within the Contract.
 - ii. During paving, milling operations, or similar activities where, in the middle of the operation, it is necessary to flip the pattern to complete the operation on the other half of the roadway so traffic does not travel across the longitudinal joint or difference in roadway elevation.
 - iii. To move slow moving equipment across live traffic lanes into the work area.
- 3.d) The Contractor shall adhere to using the proper signs, placing the signs correctly, and ensuring the proper spacing of signs.
- 3.e) Additional devices are required on entrance ramps, exit ramps, and intersecting roads to warn and/or move traffic into the proper travel path prior to merging with or exiting from the mainline traffic. This shall be completed before installing the mainline pattern past the ramp or intersecting roadway.
- 3.f) Workers are prohibited from crossing the travel lanes on limited access roadways to install and remove signs or other devices on the opposite side of the roadway. Any signs or devices on the opposite side of the roadway shall be installed and removed separately.

4. Implementation of Rolling Road Block (RRB)

- 4.a) Temporary road closures using a RRB may be allowed on limited access highways for operations associated with the installation and removal of temporary lane closures. RRB may be allowed for the installation and removal of lead signs and lane tapers only and shall meet the following requirements:
 - i. Refer to the Limitation of Operations Chart provided in Section 1.08.04 for the hours allowed for implementing a RRB operation. The Contractor shall only implement a RRB operation within the hours shown in the Chart.
 - ii. In areas with good sight lines and full shoulders, signs on the side of the road opposite the traffic pattern should be installed in a separate operation.
 - iii. TMAs equipped with Arrow Boards shall be used to slow traffic to implement the RRB. State Police Officers in marked vehicles may be used to support the implementation of the RRB. The RRB shall start by having all vehicles, including TMAs and police vehicles, leave the shoulder or on-ramp and accelerate to normal roadway speeds in each lane. The vehicles will then position themselves side by side and decelerate to the RRB speed on the highway.

- iv. A Pre-Warning Vehicle, as specified elsewhere in the Contract, shall be used to advise the motorists that sign pattern installation or removal is underway.
- v. The RRB duration shall not exceed 15 minutes from the start of the traffic block until all lanes are opened as designated in the Limitation of Operations chart. If the RRB duration exceeds 15 minutes on 2 successive shifts, no further RRB will be allowed until the Contractor obtains approval for a revised installation procedure from the District.
- vi. RRB shall not be used to expand a lane closure pattern to an additional lane during the shift. The workers and equipment required to implement the additional lane closure should be staged from within the closed lane. TMAs (and State Police if available) shall be used to protect the workers installing the taper in the additional lane.
- vii. Exceptions to these work procedures may be submitted to the District Office for consideration. A minimum of 2 business days shall be allowed for review and comment by the District.
- viii. The Engineer and the Contractor will review and discuss the RRB procedures (including any revisions) in advance of the work. The implementation of the agreed upon plan will be reviewed with the State Police during the Work Zone Safety Meeting held before each shift involving temporary lane closures. If the State Police determine that alternative procedures should be implemented for traffic control during the work shift, the Department and Contractor will attempt to resolve any discrepancies with the duty sergeant at the Troop. If the discrepancies are unable to be resolved prior to the start of the shift, then the work will proceed as recommended by the Department. Any unresolved issues shall be addressed the following day.

5. Use of Arrow Boards

- 5.a) On limited access roadways, one Arrow Board shall be used for each lane that is closed. The Arrow Board shall be installed concurrently with the installation of the traffic control pattern and its placement shall be as shown on the Construction Traffic Control Plans. Additional Arrow Boards shall be deployed if sight distances are limited.
- 5.b) On non-limited access roadways, the use of an Arrow Board for lane closures is optional. The roadway geometry, sight distance, and traffic volume shall be considered in the decision to use the Arrow Board.
- 5.c) A vehicle displaying an arrow board shall be equipped with high-intensity rotating, flashing, oscillating, or strobe lights.
- 5.d) The flashing arrow mode shall be used for lane closure (merge) tapers.
- 5.e) The flashing arrow mode shall not be used for temporary alternating one-way traffic operations or to laterally shift lanes of traffic.

- 5.f) The flashing double arrow mode shall only be used for closing a center lane on a multilane roadway where adjacent left and right lanes remain open.
- 5.g) For shoulder work or roadside work near the shoulder, the Arrow Board shall be positioned in the shoulder and the flashing alternating diamond mode should be used.
- 5.h) The flashing alternating diamond caution mode should also be used when supplemental Arrow Boards are positioned in an already closed lane.

6. Use of Truck-Mounted or Trailer-Mounted Impact Attenuators (TMAs)

- 6.a) On limited access roadways, lane closures shall use a minimum of two TMAs to install and remove traffic control patterns. If two TMAs are not available, then the pattern shall not be installed.
- 6.b) On non-limited access roadways, the use of TMAs to install and remove patterns closing a lane(s) is optional. The roadway geometry, sight line distance, and traffic volume shall be considered in the decision to utilize the TMAs.
- 6.c) On limited access roadways, one TMA shall be placed on the shoulder and the second TMA shall be approximately 1,000 feet ahead blocking the lane to establish the advance and transition signing. The Arrow Board mounted on the TMA shall be in the arrow mode when taking the lane. The sign truck and workers shall be at sufficient distance ahead of the second TMA. In no case shall the TMA be used as the sign truck or a work truck. Once the transition is in place, the TMAs shall travel in the closed lane until all Portable Changeable Message Signs, signs, Arrow Boards, and cones/drums are installed. The Arrow Board mounted on the TMA should be in the flashing alternating diamond caution mode when traveling in the closed lane.
- 6.d) A TMA shall be placed prior to the first work area in the pattern. If there are multiple work areas within the same pattern, then additional TMAs shall be positioned at each additional work area as needed. The Arrow Board mounted on the TMA should be in the flashing alternating diamond caution mode when in the closed lane.
- 6.e) TMAs shall be positioned a sufficient distance prior to the workers or equipment being protected to allow for appropriate vehicle roll-ahead in the event that the TMA is hit, but not so far that an errant vehicle could travel around the TMA and into the work area. For additional placement and use details, refer to Section 18.06. Some operations, such as paving and concrete repairs, do not allow for placement of the TMA(s) within the specified distances. In these situations, the TMA(s) shall be placed at the beginning of the work area and shall be advanced as the paving or concrete operations proceed.
- 6.f) TMAs will be paid for in accordance with how the unit is used. If it is used as a TMA and is in the proper location as specified, then it will be paid for at the specified hourly rate for Truck-Mounted or Trailer-Mounted Impact Attenuator. When the TMA is used as an

Arrow Board, it will be paid for at the daily rate for Arrow Board. If a TMA is used to install and remove a pattern and is also used as an Arrow Board in the same day, then the unit will be paid for as a Truck-Mounted or Trailer-Mounted Impact Attenuator for the hours used to install and remove the pattern, typically 2 hours (1 hour to install and 1 hour to remove). If the TMA is also used as an Arrow Board during the same day, then the unit will only be paid for at the daily rate as an Arrow Board.

7. Use of Traffic Drums and Traffic Cones

- 7.a) On limited-access highways, ramps, and turning roadways:
 - i. Traffic drums shall be used for taper channelization.
 - ii. Traffic drums shall be used to delineate raised catch basins and other hazards.
 - iii. Traffic cones with a minimum height of 42 inches may be used in place of drums in the tangent section of a closed lane or shoulder.
 - iv. Traffic cones less than 42 inches in height shall not be used.
- 7.b) On all roadways:
 - i. Traffic drums shall be used in place of traffic cones in traffic control patterns that are in effect for more than a 36-hour duration.
 - ii. Traffic cones shall not be left unattended.
 - iii. Traffic cones with a minimum height of 42 inches shall be used when the posted speed limit is 45 MPH or above.
- 7.c) Typical spacing of traffic drums and/or cones shown on the Construction Traffic Control Plans in the Contract are maximum spacings and may be reduced to meet actual field conditions as required.

8. Use of Barricade Warning Lights

- 8.a) Barricade Warning Lights may be installed on channelizing devices when used in a merge taper. The Barricade Warning Lights shall flash in a sequential pattern when used in a merge taper. The successive flashing shall occur from the upstream end (beginning) of the merge taper to the downstream end (end) of the merge taper.
- 8.b) Type C Barricade Warning Lights may be used at night to delineate the edge of the travel way.
- 8.c) Type B Barricade Warning Lights shall be used on post-mounted advanced warning signs.

9. Use of Portable Changeable Message Signs (PCMS)

- 9.a) On limited access roadways, one PCMS shall be used in advance of the traffic control pattern for all lane closures. Prior to installing the pattern, the PCMS shall be installed and in operation, displaying the appropriate lane closure information. The PCMS shall be

positioned ½ to 1 mile ahead of the start of the lane closure taper. If the distance to the nearest exit ramp is greater than the specified ½ to 1 mile distance, then an additional PCMS shall be positioned a sufficient distance ahead of the exit ramp (and before the previous on-ramp where practical) to alert motorists to the work and therefore offer them an opportunity to take the exit.

- 9.b) On non-limited access roadways, the use of PCMS for lane closures is optional. The roadway geometry, sight line distance, and traffic volume shall be considered in the decision to use the PCMS.
- 9.c) PCMS should be placed off the shoulder of the roadway and behind a traffic barrier, if practical. Where a traffic barrier is not available to shield the PCMS, it should be placed off the shoulder and outside of the clear zone. If a PCMS has to be placed on the shoulder of the roadway or within the clear zone, it should be placed on the paved shoulder with a minimum of five traffic drums placed in a taper in front of it to delineate its position. The taper shall meet minimum distance requirements for a shoulder closure. The PCMS shall be protected if it is used for a continuous duration of 36 hours or more.
- 9.d) The PCMS shall be removed from the clear zone and have the display screen cleared and turned 90 degrees away from the roadway when the PCMS is no longer required.
- 9.e) The PCMS should not be used within 1,000 feet of an existing PCMS or Variable Message Sign (VMS).
- 9.f) A PCMS message shall:
 - i. consist of no more than two phases;
 - ii. contain no more than three lines of text per phase;
 - iii. have no more than eight characters per line, including spaces.
- 9.g) The PCMS should be used for specific situations that need to command the motorist's attention which cannot be conveyed with standard construction signs. The PCMS should not be used for generic messages (ex.: Road Work Ahead, Bump Ahead, Gravel Road, etc.) or for messages that need to be displayed for long periods of time, such as during stage construction. These types of messages should be displayed with construction signs. Special signs shall be coordinated with the Office of Construction and the Division of Traffic Engineering for the proper layout/dimensions required.
- 9.h) Typical messages that are allowed on the PCMS are shown below. Approval must be received from the Office of Construction for any message(s) different than the typical messages shown in Figure 1.
- 9.i) All messages shall comply with the information provided in Tables 2 and 3.

<u>Message No.</u>	<u>Phase 1</u>	<u>Phase 2</u>	<u>Message No.</u>	<u>Phase 1</u>	<u>Phase 2</u>
1	LEFT LANE CLOSED	MERGE RIGHT	9	LANES CLOSED AHEAD	REDUCE SPEED
2	2 LEFT LANES CLOSED	MERGE RIGHT	10	LANES CLOSED AHEAD	USE CAUTION
3	LEFT LANE CLOSED	REDUCE SPEED	11	EXIT XX CLOSED	USE EXIT YY
4	2 LEFT LANES CLOSED	REDUCE SPEED	12	EXIT XX CLOSED USE YY	FOLLOW DETOUR
5	RIGHT LANE CLOSED	MERGE LEFT	13	2 LANES SHIFT AHEAD	USE CAUTION
6	2 RIGHT LANES CLOSED	MERGE LEFT	14	3 LANES SHIFT AHEAD	USE CAUTION
7	RIGHT LANE CLOSED	REDUCE SPEED			
8	2 RIGHT LANES CLOSED	REDUCE SPEED			

Figure 1: Typical PCMS Messages

Table 2: Acceptable Abbreviations

Word Message	Standard Abbreviation	Word Message	Standard Abbreviation
Access	ACCS	Minimum	MIN
Afternoon / Evening	PM	Minor	MNR
Ahead	AHD	Minute(s)	MIN
Alternate	ALT	Monday	MON
Avenue	AVE, AV	Morning / Late Night	AM
Bicycle	BIKE	Mount	MT
Blocked	BLKD	Mountain	MTN
Boulevard	BLVD	National	NATL
Bridge	BR	Normal	NORM
CB Radio	CB	North	N
Center	CTR	Northbound	NBND
Center	CNTR	Oversized	OVRSZ
Chemical	CHEM	Parking	PKING
Circle	CIR	Parkway	PKWY
Compressed Natural Gas	CNG	Pavement	PVMT
Condition	COND	Pedestrian	PED
Congested	CONG	Place	PL
Construction	CONST	Pounds	LBS
Court	CT	Prepare	PREP
Crossing	XING	Quality	QLTY
Crossing (other than highway-rail)	XING	Right	RT
Downtown	DWNTN	Road	RD
Drive	DR	Roadwork	RDWK
East	E	Route	RT, RTE
Eastbound	EBND	Saint	ST
Electric Vehicle	EV	Saturday	SAT
Emergency	EMER	Service	SERV
Entrance, Enter	ENT	Shoulder	SHLDR
Exit	EX	Slippery	SLIP
Express	EXP	South	S
Expressway	EXPWY	Southbound	SBND
Feet	FT	Speed	SPD
Freeway	FRWY, FWY	State, county, or other non-US or non-Interstate numbered route	[Route Abbreviation determined by highway agency]**
Friday	FRI	Street	ST
Frontage	FRNTG	Sunday	SUN
Hazardous	HAZ	Telephone	PHONE
Hazardous Material	HAZMAT	Temporary	TEMP
High Occupancy Vehicle	HOV	Terrace	TER

Highway	HWY	Thruway	THWY
Highway-Rail Grade Crossing	RR XING	Thursday	THURS
Hospital	HOSP	Tons of Weight	T
Hour(s)	HR, HRS	Traffic	TRAF
Information	INFO	Trail	TR
International	INTL	Travelers	TRVLRS
Interstate	I-	Tuesday	TUES
Junction / Intersection	JCT	Turnpike	TPK
Lane	LN	Two-Way Intersection	2-WAY
Left	LFT	Two-Wheeled Vehicles	CYCLES
Liquid Propane Gas	LP-GAS	Upper	UPR
Local	LOC	US Numbered Route	US
Lower	LWR	Vehicle(s)	VEH, VEHS
Maintenance	MAINT	Warning	WARN
Major	MAJ	Wednesday	WED
Maximum	MAX	West	W
Mile(s)	MI	Westbound	WBND
Miles Per Hour	MPH		

** A space and no dash shall be placed between the abbreviation and the number of the route.

Table 3: Unacceptable Abbreviations

Unacceptable Abbreviation	Intended Word	Common Misinterpretation
ACC	Accident	Access (Road)
CLRS	Clears	Colors
DLY	Delay	Daily
FDR	Feeder	Federal
L	Left	Lane (Merge)
LT	Light (Traffic)	Left
PARK	Parking	Park
POLL	Pollution (Index)	Poll
RED	Reduce	Red
STAD	Stadium	Standard
WRNG	Warning	Wrong

10. Use of State Police Officers

- 10.a) State Police may be used only on limited access highways and secondary roadways that are under their primary jurisdiction. A minimum of one Officer may be used per critical sign pattern; however, a State Police presence is not required. Shoulder closures and right lane closures can generally be implemented without the presence of a State Police Officer. Left lane closures may also be implemented without State Police presence in areas with only moderate traffic and wide, unobstructed medians. It may be desirable to have a State Police presence, when available, under specific situations, such as nighttime lane closures; left lane closures with minimal width for setting up advance signs and staging; lane and shoulder closures on turning roadways/ramps or mainline where sight distance is minimal; and closures where extensive turning movements or traffic congestion regularly occur; however, they are not required.
- 10.b) If a State Police presence is provided, once the pattern is in place, the State Police Officer should be positioned in a non- hazardous location in advance of the pattern to provide advance warning to the motorist. If traffic backs up beyond the beginning of the pattern, then the State Police Officer shall reposition so that they are located prior to the backup. The State Police Officer should not be located immediately behind or within the roll ahead area of any TMA or within the work zone buffer area. The State Police Officer shall not be positioned in such a way that the State Police Officer obstructs any construction warning signs or PCMS from view of the motorist.
- 10.c) Other functions of the State Police Officer(s) may include:
- i. Assisting construction vehicles entering and exiting the work area.
 - ii. Enforcement of motor vehicle laws within the work area, if specifically requested by the Engineer.
- 10.d) State Police Officers assigned to a work site shall take direction from the Engineer.

11. Equipment Operation and Protection on Parkways

- 11.a) The following roads are designated as Parkways in the State of Connecticut:
- i. Route 15 (Merritt Parkway) - New York State Line, Greenwich to west begin of Housatonic River Bridge, Stratford
 - ii. Route 15 (Wilbur Cross Parkway) - West begin of Housatonic River Bridge, Stratford to begin overpass Interstate Route 91, Meriden
 - iii. State Route 796 (Milford Parkway - Officer Daniel S. Wasson, Milford Police Department, Connector) - United States Route 1 (Boston Post Road) to Route 15 (Wilbur Cross Parkway), Milford
- 11.b) All trucks using any road designated as a Parkway must be equipped with a lighting/signal system that shall be in operation continuously while on the Traveled Way, as follows:

- i. Two (2) amber strobe type flashers, visible from the rear only.
 - ii. Two (2) reflectorized “slow moving vehicle triangles” 14 inches H x 16 inches W mounted on the rear of the vehicle.
 - iii. The lights must show the full overall width of the vehicle.
 - iv. Each light shall be mounted on a hinged or telescoping post, so that the center of the light will not be less than 10 feet above the ground in the operating position.

- 11.c) In accordance with Section 14-298-237(b) of the State Traffic Administration Regulations, the Engineer has the authority to allow the Contractor’s trucks and equipment to travel over portions of the Parkway from which they are normally excluded. Prior to authorization the following must occur:
 - i. The Contractor shall provide the Engineer with a list of all trucks and equipment that will need to access the Parkway. The list shall include those truck and equipment specifications requested by the Engineer. The Engineer will contact the Department’s Oversize/Overweight Permit Section at DOT.OSOWPermits@ct.gov to request a review of the Contractor’s trucks and equipment to ensure they can safely travel on the Parkway to and from the work site. This will include verifying that any structures the trucks and equipment will have to travel under or traverse will have sufficient vertical clearance or weight carrying capacity. The Engineer shall inform the Contractor of the results of the review.
 - ii. The Contractor shall obtain oversize/overweight permits for any trucks and equipment requiring them as determined by the Oversize/Overweight Permit Section.
 - iii. The Engineer has inspected each vehicle and has found them to meet the specifications included within this section.

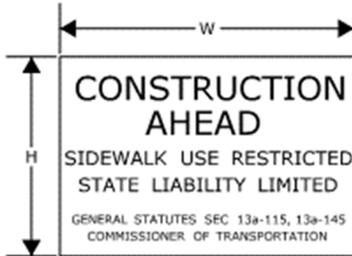
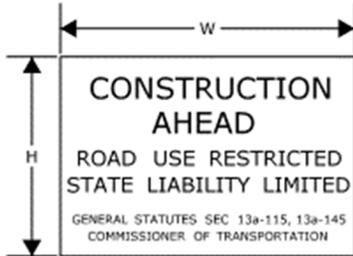
- 11.d) Each operator of such equipment shall be given instructions by the Contractor concerning the manner of operation while on the Parkway.

- 11.e) All vehicles shall be limited in travel between the nearest Parkway interchange and the work site.

- 11.f) The Contractor will not be permitted to park equipment on the median strip and will not be permitted to cross the median strip without specific permission of the Engineer.

- 11.g) The Engineer reserves the right to revoke authorization if the Contractor fails to abide by the regulations herein prescribed.

SERIES 16 SIGNS



		W	H
16-E	80-1605	84" x 60"	
16-H	80-1608	60" x 42"	
16-M	80-1613	30" x 24"	

		W	H
16-S	80-1619	48" x 30"	

SIGN 16-S SHALL BE USED ON ALL PROJECTS THAT REQUIRE SIDEWALK RECONSTRUCTION OR RESTRICT PEDESTRIAN TRAVEL ON AN EXISTING SIDEWALK.

SERIES 16 SIGNS SHALL BE INSTALLED IN ADVANCE OF THE TRAFFIC CONTROL PATTERNS. SERIES 16 SIGNS SHOULD BE LOCATED TO ALLOW MOTORISTS THE OPPORTUNITY TO AVOID A WORK ZONE. SERIES 16 SIGNS SHOULD BE INSTALLED ON MAJOR INTERSECTING ROADWAYS THAT APPROACH THE WORK ZONE. ON LIMITED-ACCESS HIGHWAYS, THESE SIGNS SHOULD BE LOCATED IN ADVANCE OF THE NEAREST UPSTREAM EXIT RAMP AND ON ANY ENTRANCE RAMPS PRIOR TO OR WITHIN THE WORK ZONE LIMITS.

SIGNS 16-E AND 16-H SHALL BE POST-MOUNTED.

SIGN 16-E SHALL BE USED ON ALL FREEWAYS AND EXPRESSWAYS.

SIGN 16-H SHALL BE USED ON ALL RAMPS, OTHER STATE ROADWAYS AND MAJOR TOWN/CITY ROADWAYS.

SIGN 16-M SHALL BE USED ON OTHER TOWN ROADWAYS.

CONSTRUCTION TRAFFIC CONTROL PLAN
SERIES 16 SIGNS

SCALE: NONE

CONNECTICUT DEPARTMENT OF TRANSPORTATION
 BUREAU OF ENGINEERING & CONSTRUCTION

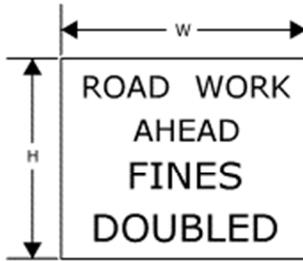
APPROVED 
 PRINCIPAL ENGINEER Tracy L. Fogarty, P.E.
 2013.10.09 16:30:32-0400

REGULATORY SIGN "ROAD WORK AHEAD, FINES DOUBLED"

THE REGULATORY SIGN "ROAD WORK AHEAD FINES DOUBLED" SHALL BE INSTALLED FOR ALL WORK ZONES THAT OCCUR ON ANY STATE HIGHWAY AND MUNICIPAL ROAD IN CONNECTICUT WHERE THERE ARE WORKERS PRESENT ON THE HIGHWAY.

THE "ROAD WORK AHEAD FINES DOUBLED" REGULATORY SIGN SHALL BE PLACED AFTER THE SERIES 16 SIGN AND IN ADVANCE OF THE "ROAD WORK AHEAD" SIGN.

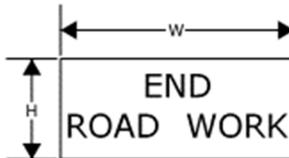
	W	H
31-1906	48"	42"
31-1907	60"	54"



"END ROAD WORK" SIGN

THE LAST SIGN IN THE PATTERN SHALL BE THE "END ROAD WORK" SIGN.

	W	H
80-9606	36"	18"
80-9612	48"	24"



CONSTRUCTION TRAFFIC CONTROL PLAN
**ROAD WORK AHEAD
 SIGNS**

SCALE: NONE

NOTES FOR TRAFFIC CONTROL PLANS

1. IF A TRAFFIC STOPPAGE OCCURS IN ADVANCE OF SIGN (A), THEN AN ADDITIONAL SIGN (A) SHALL BE INSTALLED IN ADVANCE OF THE STOPPAGE.
2. SIGNS (AA), (A), AND (D) SHOULD BE OMITTED WHEN THESE SIGNS HAVE ALREADY BEEN INSTALLED IN ADVANCE TO DESIGNATE A LARGER WORK ZONE THAN THE WORK ZONE THAT IS ENCOMPASSED ON THIS PLAN.
3. SEE TABLE 1 FOR ADJUSTMENT OF TAPERS IF NECESSARY.
4. TRAFFIC CONES AND PORTABLE CONSTRUCTION SIGNS SHALL NOT BE LEFT UNATTENDED.
5. ALL CONFLICTING SIGNS WITHIN THE LIMITS OF A ROADWAY / LANE CLOSURE AREA SHALL BE COVERED WITH AN OPAQUE MATERIAL WHILE THE CLOSURE IS IN EFFECT, AND UNCOVERED WHEN THE ROADWAY / LANE CLOSURE IS RE-OPENED TO ALL LANES OF TRAFFIC.
6. IF THIS PLAN REMAINS IN CONTINUOUS OPERATION FOR MORE THAN 48 HOURS, THEN ANY EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE ERADICATED OR COVERED, AND TEMPORARY PAVEMENT MARKINGS THAT DELINEATE THE PROPER TRAVELPATHS SHALL BE INSTALLED.
7. DISTANCES BETWEEN SIGNS IN THE ADVANCE WARNING AREA MAY BE REDUCED TO 100' ON LOW-SPEED URBAN ROADS (SPEED LIMIT \leq 40 MPH).
8. IF THIS PLAN IS TO REMAIN IN OPERATION FROM SUNSET TO SUNRISE, INSTALL BARRICADE WARNING LIGHTS - HIGH INTENSITY ON ALL POST-MOUNTED DIAMOND SIGNS IN THE ADVANCE WARNING AREA.
9. A PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE INSTALLED ONE HALF MILE TO ONE MILE IN ADVANCE OF THE LANE CLOSURE TAPER.
10. SIGN (P) SHALL BE MOUNTED A MINIMUM OF 7 FEET FROM THE PAVEMENT SURFACE TO THE BOTTOM OF THE SIGN.

TABLE 1 - MINIMUM TAPER LENGTHS

POSTED SPEED LIMIT (MILES PER HOUR)	MINIMUM TAPER LENGTH FOR A SINGLE LANE CLOSURE
30 OR LESS	180'
35	245'
40	320'
45	540'
50	600'
55	660'
65	780'

CONSTRUCTION TRAFFIC CONTROL PLAN

NOTES

SCALE: NONE

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

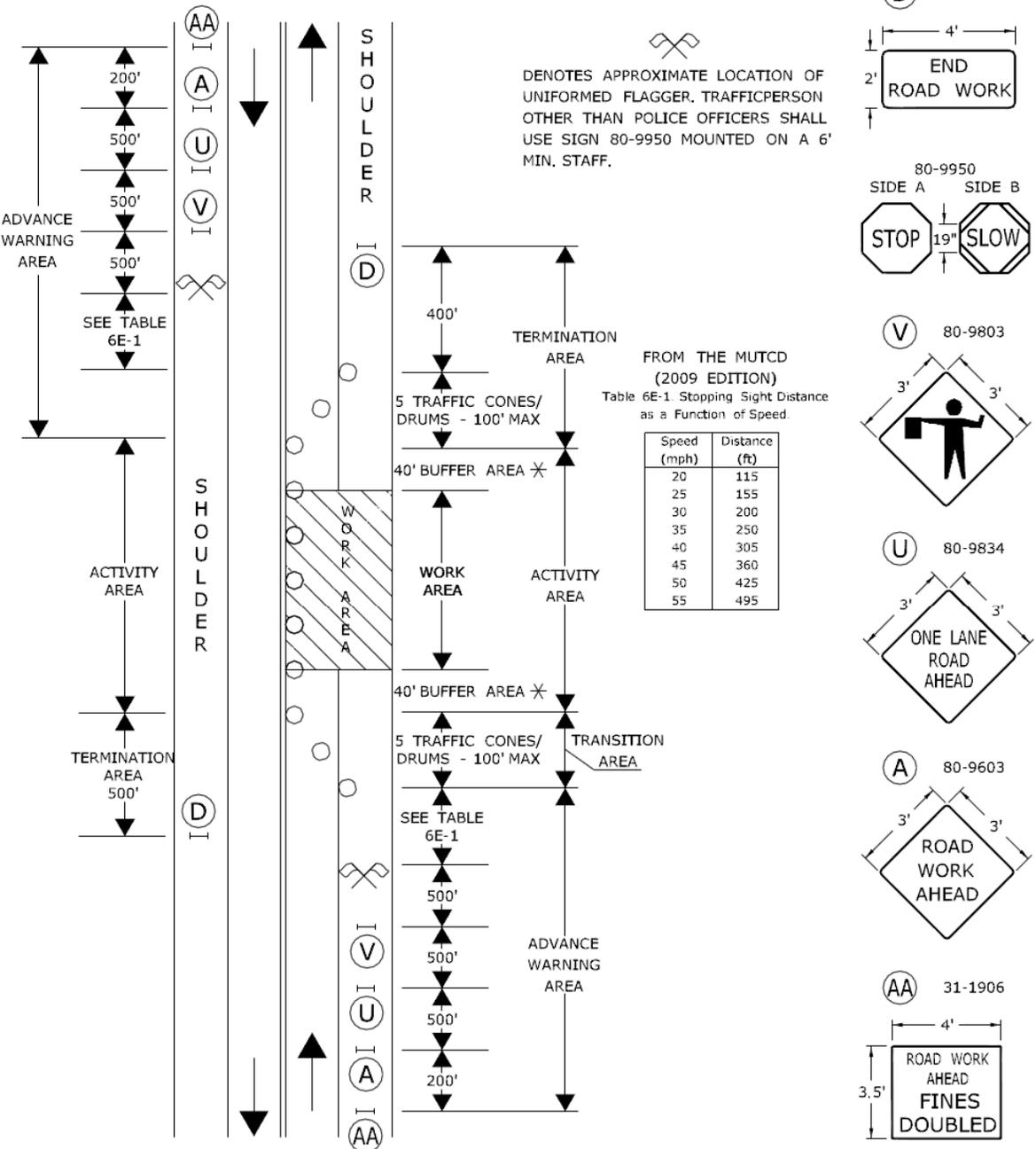
APPROVED

Tracy L. Fogarty
PRINCIPAL ENGINEER

Tracy L. Fogarty, P.E.
2019.09.13 08:47:47-0400

WORK IN TRAVEL LANE AND SHOULDER TWO LANE HIGHWAY ALTERNATING ONE-WAY TRAFFIC OPERATIONS

SIGN FACE
108 SQ. FT (MIN.)



- (D) 80-9612
4' x 2' END ROAD WORK
- 80-9950
SIDE A SIDE B
19" STOP SLOW
- (V) 80-9803
3' x 3' WORKER
- (U) 80-9834
3' x 3' ONE LANE ROAD AHEAD
- (A) 80-9603
3' x 3' ROAD WORK AHEAD
- (AA) 31-1906
4' x 3.5' ROAD WORK AHEAD FINES DOUBLED

○ TRAFFIC CONE OR TRAFFIC DRUM
 ✖ OPTIONAL ✕ TRAFFIC DRUM — PORTABLE SIGN SUPPORT
 ◀ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 13 - SHEET 1 OF 2
 SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
 BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow* Charles S. Harlow
 2012.06.05 15:56:23-04'00"
 PRINCIPAL ENGINEER

WORK IN TRAVEL LANE AND SHOULDER TWO LANE HIGHWAY ALTERNATING ONE-WAY TRAFFIC OPERATIONS

SIGN FACE
108 SQ. FT (MIN.)

HAND SIGNAL METHODS TO BE USED BY UNIFORMED FLAGGERS

THE FOLLOWING METHODS FROM SECTION 6E.07, FLAGGER PROCEDURES, IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," SHALL BE USED BY UNIFORMED FLAGGERS WHEN DIRECTING TRAFFIC THROUGH A WORK AREA. THE STOP/SLOW SIGN PADDLE (SIGN NO. 80-9950) SHOWN ON THE TRAFFIC STANDARD SHEET TR-1220 01 ENTITLED, "SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS" SHALL BE USED.

A. TO STOP TRAFFIC

TO STOP ROAD USERS, THE FLAGGER SHALL FACE ROAD USERS AND AIM THE STOP PADDLE FACE TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FREE ARM SHALL BE HELD WITH THE PALM OF THE HAND ABOVE SHOULDER LEVEL TOWARD APPROACHING TRAFFIC.



B. TO DIRECT TRAFFIC TO PROCEED

TO DIRECT STOPPED ROAD USERS TO PROCEED, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FLAGGER SHALL MOTION WITH THE FREE HAND FOR ROAD USERS TO PROCEED.



C. TO ALERT OR SLOW TRAFFIC

TO ALERT OR SLOW TRAFFIC, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. TO FURTHER ALERT OR SLOW TRAFFIC, THE FLAGGER HOLDING THE SLOW PADDLE FACE TOWARD ROAD USERS MAY MOTION UP AND DOWN WITH THE FREE HAND, PALM DOWN.



- TRAFFIC CONE **OR** TRAFFIC DRUM
- * OPTIONAL ⊗ TRAFFIC DRUM ⇨ PORTABLE SIGN SUPPORT
- ⇐ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

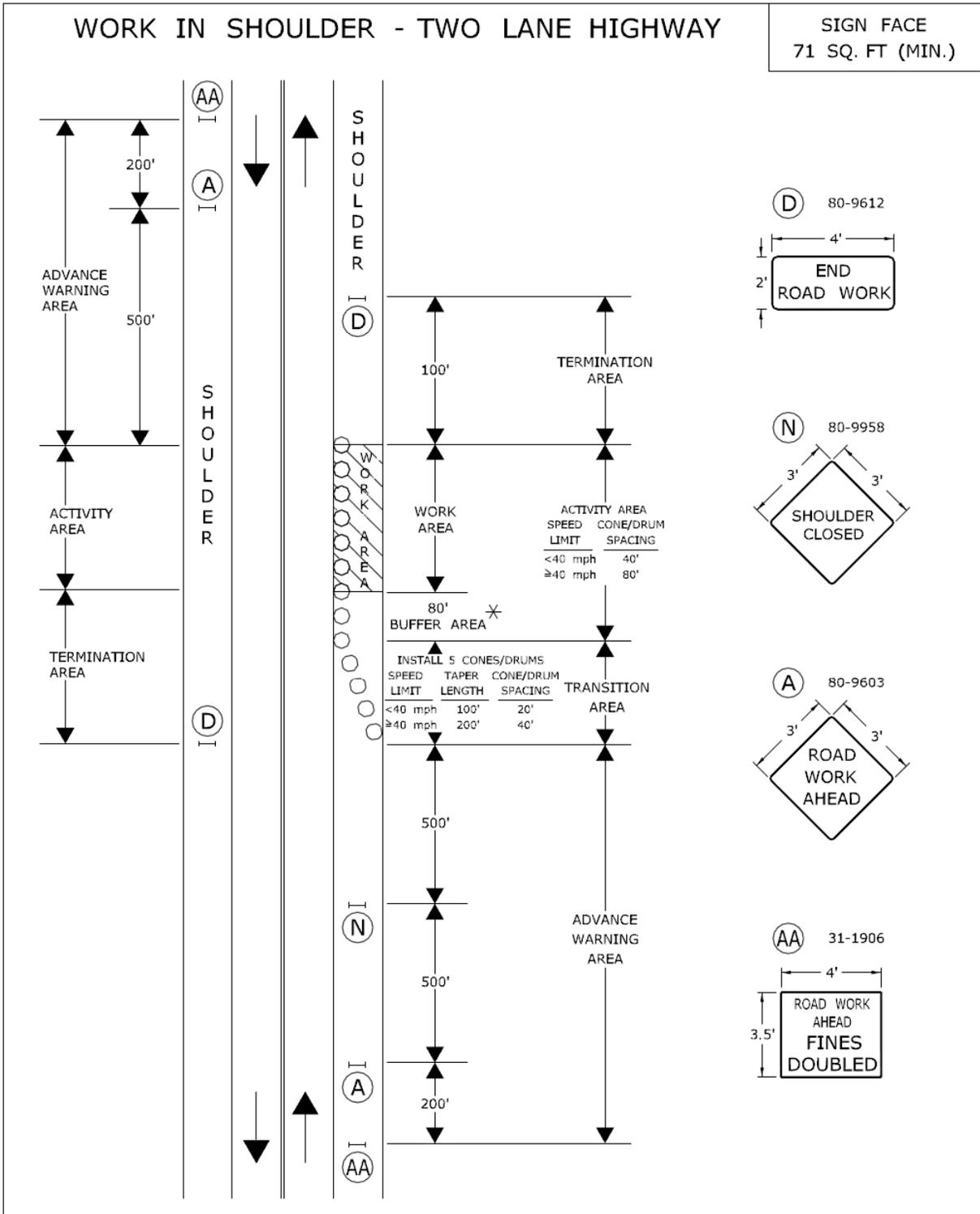


SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 13 - SHEET 2 OF 2
SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow*
PRINCIPAL ENGINEER
Charles S. Harlow
2012.06.05 15:55:45-04'00'



- TRAFFIC CONE **OR** TRAFFIC DRUM
- * OPTIONAL ⊗ TRAFFIC DRUM — PORTABLE SIGN SUPPORT
- ← HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

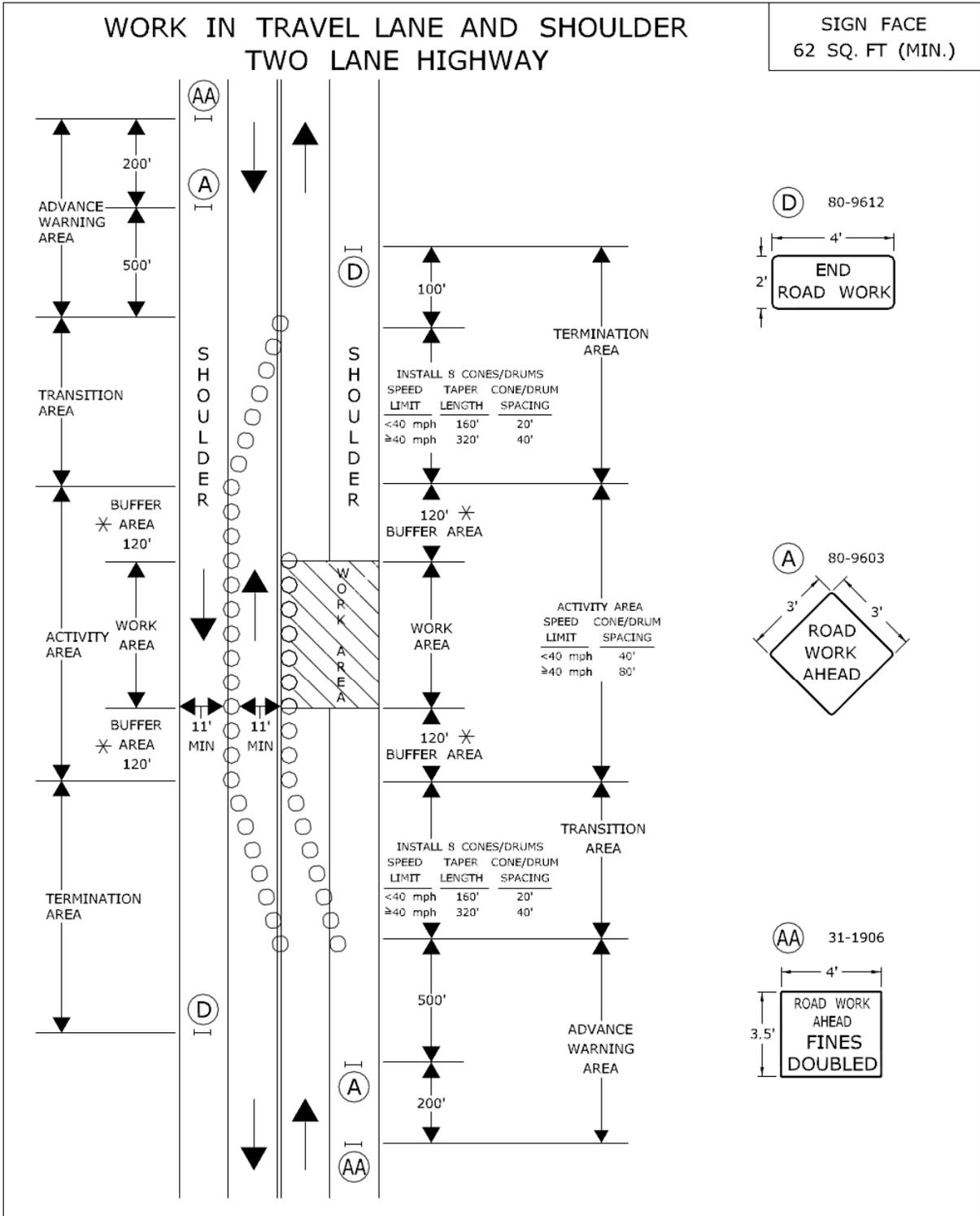
PLAN 14

SEE NOTES 1, 2, 4, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED

Charles S. Harlow
Charles S. Harlow
2012.08.05 15:56:09-04'00"
PRINCIPAL ENGINEER



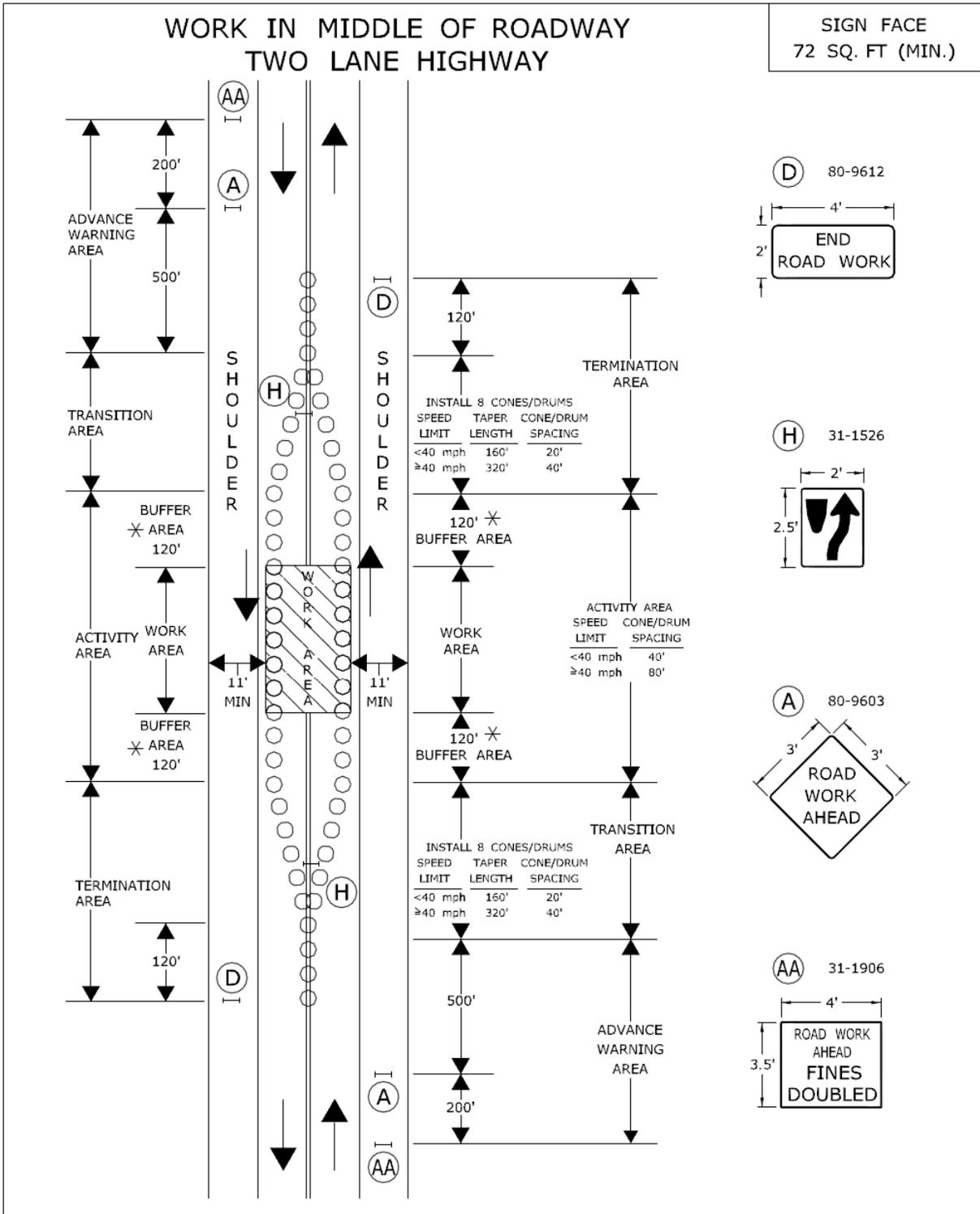
- TRAFFIC CONE **OR** TRAFFIC DRUM
- ✱ OPTIONAL ⊗ TRAFFIC DRUM — PORTABLE SIGN SUPPORT
- ← HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 15
SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow* 2012.06.05 15:56:29-04'00"
PRINCIPAL ENGINEER



- TRAFFIC CONE **OR** TRAFFIC DRUM
- ✱ OPTIONAL ⊗ TRAFFIC DRUM — PORTABLE SIGN SUPPORT
- ← HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

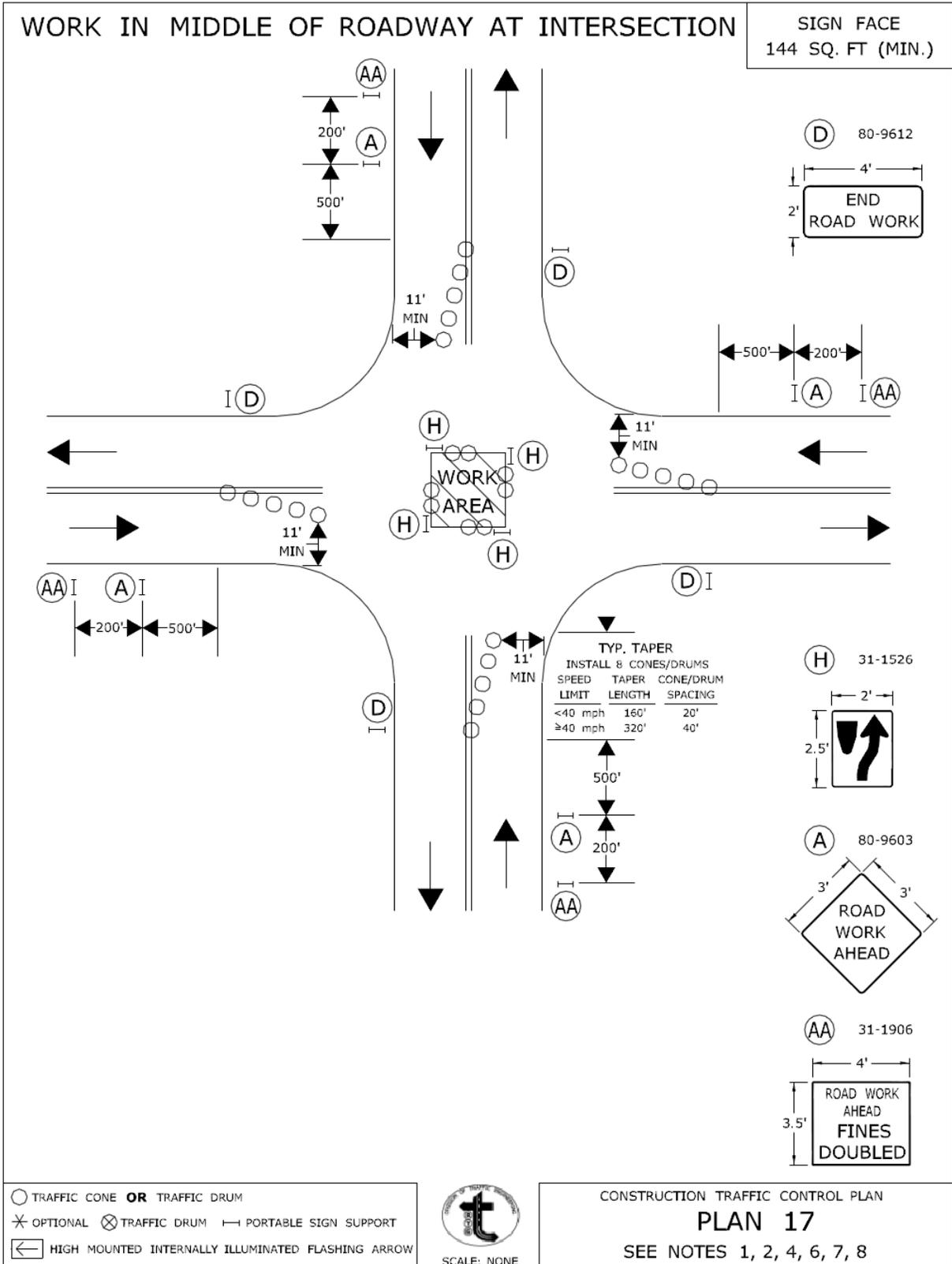


CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 16
SEE NOTES 1, 2, 4, 6, 7, 8

SCALE: NONE

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow* Charles S. Harlow
2012.08.05 15:56:51-04'00"
PRINCIPAL ENGINEER



CONNECTICUT DEPARTMENT OF TRANSPORTATION
 BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow*
 PRINCIPAL ENGINEER
 Charles S. Harlow
 2012.08.05 15:57:16-04'00"

Article 9.71.05 – Basis of Payment *is supplemented by the following:*

The temporary relocation of signs and supports, and the furnishing, installation and removal of any temporary supports shall be paid for under the item “Maintenance and Protection of Traffic”.

Temporary overhead sign supports and foundations shall be paid for under the appropriate item(s).

The cost of furnishing, installing, and removing the material for the 4H:1V traversable slope shall be paid for under the item “Maintenance and Protection of Traffic”.

The cost of the removal, loading, delivery and unloading of the salvaged town owned signage, barrier and detour components to the Town of Roxbury Public Works Department Yard, as described in the Notice to Contractor – Salvage, shall be paid for under the item “Maintenance and Protection of Traffic”.

ITEM #0974001A –REMOVAL OF EXISTING MASONRY

Work under this item shall conform to the requirements of Section 9.74 supplemented and amended as follows:

9.74.02 - Removal: Add the following:

Reinforcing steel and piles shall be cut and removed where shown on the plans. Reinforcing steel and piles shall be cleaned of all concrete and corrosion products by oil-free abrasive blasting, high-pressure water blasting or other methods accepted by the Engineer. The reinforcing steel, piles and concrete surfaces shall be free from dirt, oil, cement fines (slurry), or any material that may interfere with the bond of the proposed concrete. Tightly-bonded light rust on the reinforcing surface and piles is acceptable.

Pay Item Pay

Removal of Existing Masonry

Unit

c.y.

ITEM #1206023A - REMOVAL AND RELOCATION OF EXISTING SIGNS

Section 12.06 is supplemented as follows:

Article 12.06.01 – Description is supplemented with the following:

Work under this item shall consist of the removal and/or relocation of designated side-mounted extruded aluminum and sheet aluminum signs, sign posts, sign supports, and foundations where indicated on the plans or as directed by the Engineer. Work under this item shall also include furnishing and installing new sign posts and associated hardware for signs designated for relocation.

Article 12.06.03 – Construction Methods is supplemented with the following:

The Contractor shall take care during the removal and relocation of existing signs, sign posts, and sign supports that are to be relocated so that they are not damaged. Any material that is damaged shall be replaced by the Contractor at no cost to the State.

Foundations and other materials designated for removal shall be removed and disposed of by the Contractor as directed by the Engineer and in accordance with existing standards for Removal of Existing Signing.

Sheet aluminum signs designated for relocation are to be re-installed on new sign posts.

Article 12.06.04 – Method of Measurement is supplemented with the following:

Payment under Removal and Relocation of Existing Signs shall be at the contract lump sum price which shall include all extruded aluminum and sheet aluminum signs, sign posts, and sign supports designated for relocation, all new sign posts and associated hardware for signs designated for relocation, all extruded aluminum signs, sheet aluminum signs, sign posts and sign supports designated for scrap, and foundations and other materials designated for removal and disposal, and all work and equipment required.

Article 12.06.05 – Basis of Payment is supplemented with the following:

This work will be paid for at the contract lump sum price for “Removal and Relocation of Existing Signs” which price shall include relocating designated extruded aluminum and sheet aluminum signs, sign posts, and sign supports, providing new posts and associated hardware for relocated signs, removing and disposing of foundations and other materials, and all equipment, material, tools and labor incidental thereto. This price shall also include removing, loading, transporting, and unloading of extruded aluminum signs, sheet aluminum signs, sign posts, and sign supports designated for scrap and all equipment, material, tools and labor incidental thereto.

<u>Pay Item</u>	<u>Pay Unit</u>
Removal and Relocation of Existing Signs	L.S.

ITEM #1208931A – SIGN FACE - SHEET ALUMINUM (TYPE IX RETROREFLECTIVE SHEETING)

Section 12.08 is supplemented and amended as follows:

12.08.01—Description: Add the following:

All signs shall use Type XI retroreflective sheeting with the exception of side-mounted signs with white background which shall be Type IX.

This item shall also include field testing of metal sign base posts as directed by the Engineer.

Signs shall conform to the sign details located at <https://portal.ct.gov/DOT/Traffic-Engineering/Catalog-of-Signs> with legend for variable signs as shown in the plans.

12.08.03—Construction Methods: Delete the last sentence and add the following:

Metal sign base posts shall be whole and uncut. Sign base post embedment and reveal lengths shall be as shown on the plans. The Contractor shall drive the metal sign base posts by hand tools, by mechanical means or by auguring holes. If an obstruction is encountered while driving or placing the metal sign base post, the Contractor shall notify the Engineer who will determine whether the obstruction shall be removed, the sign base post or posts relocated, or the base post installation in ledge detail shall apply. Backfill shall be thoroughly tamped after the posts have been set level and plumb.

Field Testing of Metal Sign Posts: When the sign installations are complete, the Contractor shall notify the Engineer the Project is ready for field testing. Based on the number of posts in the Project, the Engineer will select random sign base posts which shall be removed by the Contractor for inspection and measurement by the Engineer. After such inspection is completed at each base post location, the Contractor shall restore or replace such portions of the work to the condition required by the Contract. Refer to the table in 12.08.05 for the number of posts to be field tested.

12.08.04—Method of Measurement: Add the following:

The work required to expose and measure sign base post length and embedment depth using field testing methods, and restoration of such work, will not be measured for payment and shall be included in the general cost of the work.

12.08.05—Basis of Payment: Replace the entire Article with the following:

This work will be paid for at the Contract unit price per square foot for “Sign Face - Sheet Aluminum” of the type specified complete in place, adjusted by multiplying by the applicable Pay Factor listed in the table below. The price for this work shall include the completed sign, metal sign post(s), span-mounted sign brackets and mast arm-mounted brackets, mounting hardware,

including reinforcing plates, field testing, restoration and replacement of defective base post(s), and all materials, equipment, and work incidental thereto.

Pay Factor Scale: Work shall be considered defective whenever the base post length or base post embedment depth is less than the specified length by more than 2 inches. If the number of defects results in rejection, the Contractor shall remove and replace all metal sign base posts on the Project, at no cost to the Department.

Number of Posts to be Tested and Pay Factors (Based on Number of Defects)

Number of Posts in Project =>	51-100	101-250	251-1000	>1000
Sample Size=>	5 Posts	10 Posts	40 Posts	60 Posts
0 Defects	1.0	1.0	1.025	1.025
1 Defect	0.9	0.95	0.975	0.983
2 Defects	Rejection	0.9	0.95	0.967
3 Defects	Rejection	Rejection	0.925	0.95
4 Defects	Rejection	Rejection	0.9	0.933
5 Defects	Rejection	Rejection	Rejection	0.917
6 Defects	Rejection	Rejection	Rejection	0.9
7 or more Defects	Rejection	Rejection	Rejection	Rejection

Note: Projects with 50 or fewer posts will not include field testing

Basis of Payment:

Pay Item
Sign Face – Sheet Aluminum (Type IX Retroreflective Sheeting)

Pay Unit
s.f.

ITEM #1220027A – CONSTRUCTION SIGNS

Section 12.20 *is supplemented and amended as follows:*

Article 12.20.01 – Description:

Add the following:

The Contractor shall also furnish, install, maintain, and remove Bipartisan Infrastructure Law project signs. The Bipartisan Infrastructure Law project signs shall be of the details, colors and materials as shown on the attached detail sheet.

The sign legend for this Project shall include the U.S. Department of Transportation pictograph on the lower right side of the sign with the legend Federal Highway Administration, FTA, FRA, or NHTSA.

Article 12.20.03 — Construction Methods:

Add the following:

The Contractor shall install the Bipartisan Infrastructure Law (BIL) project signs prior to initiating construction.

The Contractor shall install BIL project sign 80-5957 on each major roadway approach to the construction Site in advance of the Project limit(s).

The sign detail is included and is also available at [80-5957](#).

The Contractor shall maintain the BIL project signs for the entire duration of the Project. The Contractor shall relocate the BIL project signs during construction as needed and shall remove the signs after construction work is completed.

Article 12.20.05 – Basis of Payment:

Add the following:

The price shall also include furnishing, installing, maintaining, relocating, and removing the Bipartisan Infrastructure Law project signs and sign posts and all hardware, materials, and labor incidental thereto.

SIGN DETAIL
1:35

LEGEND NOTE: THE LEGEND NEXT TO THE US DOT LOGO SHALL BE ONE OF THE FOLLOWING BASED ON PROJECT FUNDING SOURCE:

Blue (RGB COLOR: 0-1-101) Font: 0.66" Century Gothic (Bld) U.S. Department of Transportation Federal Highway Administration

Blue (RGB COLOR: 0-1-101) Font: 0.66" Century Gothic (Bld) U.S. Department of Transportation FTA

Blue (RGB COLOR: 0-1-101) Font: 0.66" Century Gothic (Bld) U.S. Department of Transportation FRA

Blue (RGB COLOR: 0-1-101) Font: 0.66" Century Gothic (Bld) U.S. Department of Transportation NHTSA



Dimensions are In Inches
Material : 0.125" Thick Sheet Aluminum
Ground Mounted

REV'D 7/24

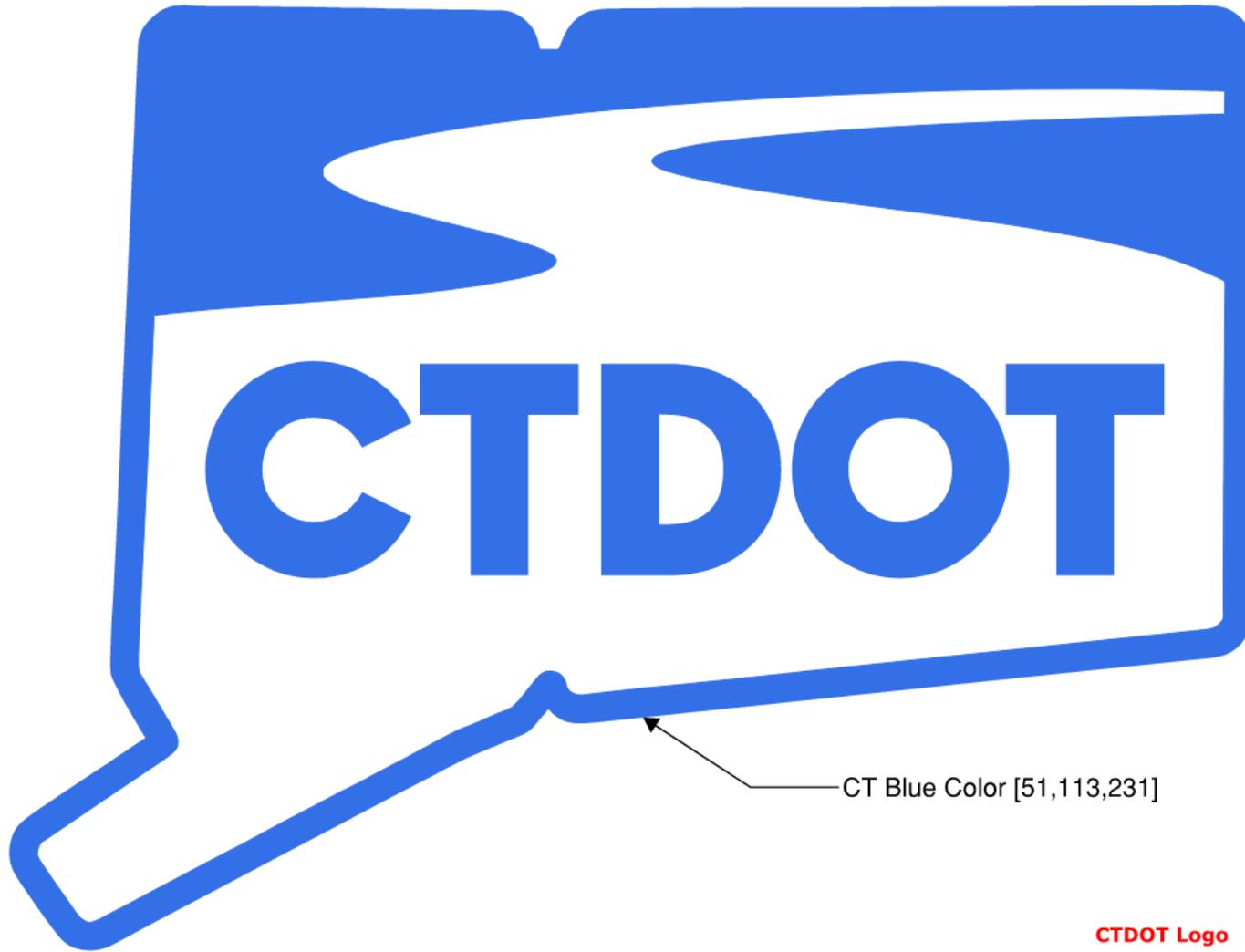
File name: 80-5957

Printed: 9/13/2024

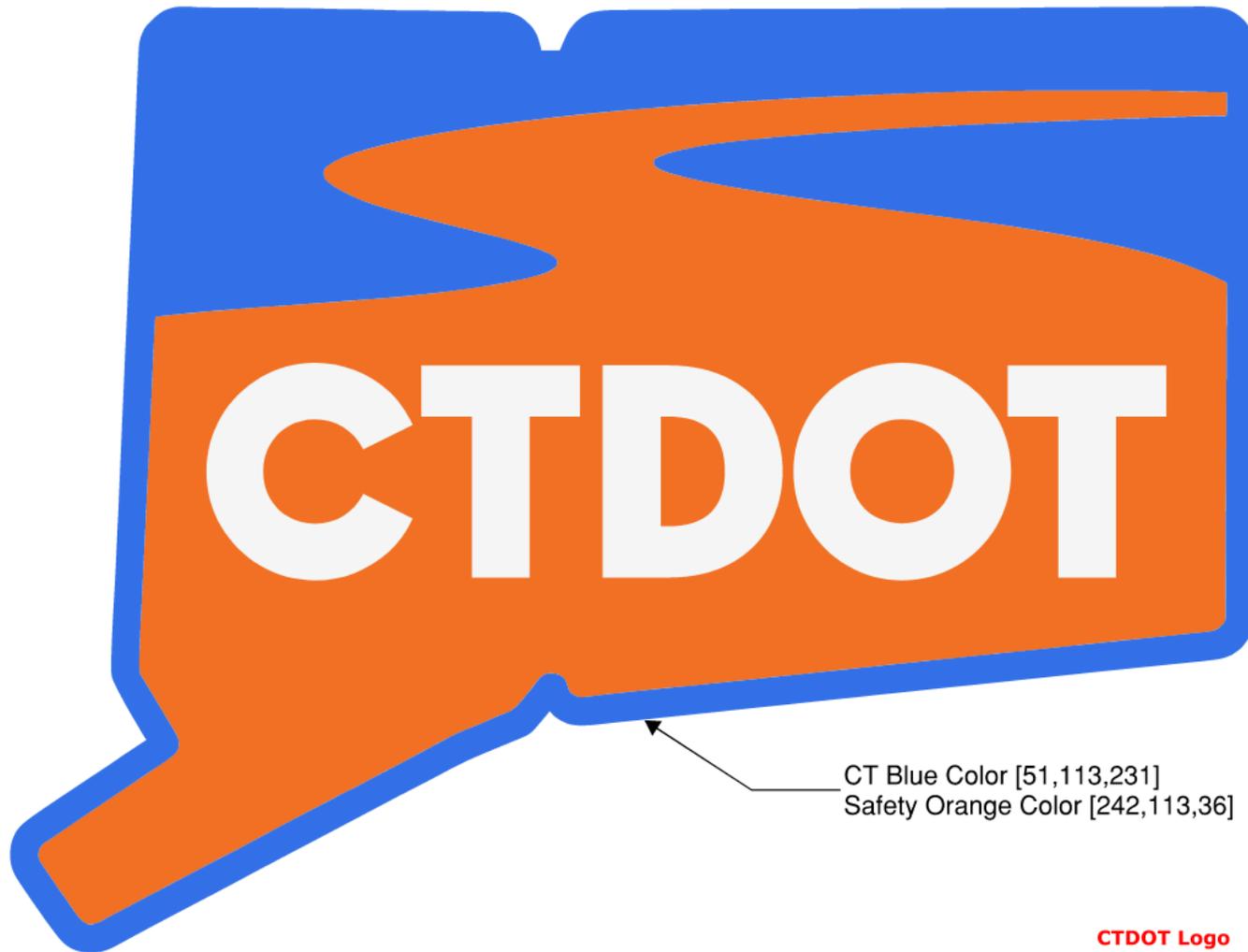
SIGN NUMBER	80-5957
PANEL SIZE	8'-0" x 5'-0"
TOTAL AREA	40.0 Sq.Ft.
MUTCD	N/A
BDR INSET/WIDTH	0" / 0.75"
CORNER RADIUS	3"
BACKGROUND	TYPE: IX COLOR: Green
LEGEND/BORDER	TYPE: IX COLOR: White/White
* REFER TO CATALOG OF SIGNS FOR SHEETING TYPE. WHEN COLOR IS BLACK TYPE IS "PLAIN".	

SYMBOL	ROT	X	Y	WID	HT
CT DOT LOGO	0	3.5	3.5	9.21	7
US DOT LOGO	0	75.0	3.5	17.5	7

LETTER POSITIONS (X)															LENGTH	SERIES/SIZE							
P	R	O	J	E	C	T	F	U	N	D	E	D	B	Y	T	H	E				D 2000		
5.8	9.9	14.1	18.3	22.7	26.5	30.6	37.7	41.5	46.1	50.7	55.2	59.2	66.6	70.4	78.7	82.6	87.2				84.5	5	
B	I	p	a	r	t	I	s	a	n														
3.4	7.6	9.6	13.2	17.1	19.2	21.8	23.4	26.2	30.2														
I	n	f	r	a	s	t	r	u	c	t	u	r	e	L	a	w							D 2000
36.1	38.2	41.8	44.3	46.6	50.2	52.8	55.4	57.9	61.8	65	67.6	71.6	74	79.9	83.5	87						89.3	5/3,8
I	N	V	E	S	T	I	N	G	I	N													Arial Black
22	24.9	29.9	35.4	40	44.7	49.9	52.8	58.2	66.8	69.7												52.1	4.5
A	M	E	R	I	C	A																	Arial Black
30.8	36.4	42.8	47.7	52.9	55.5	60.3																34.3	4.5

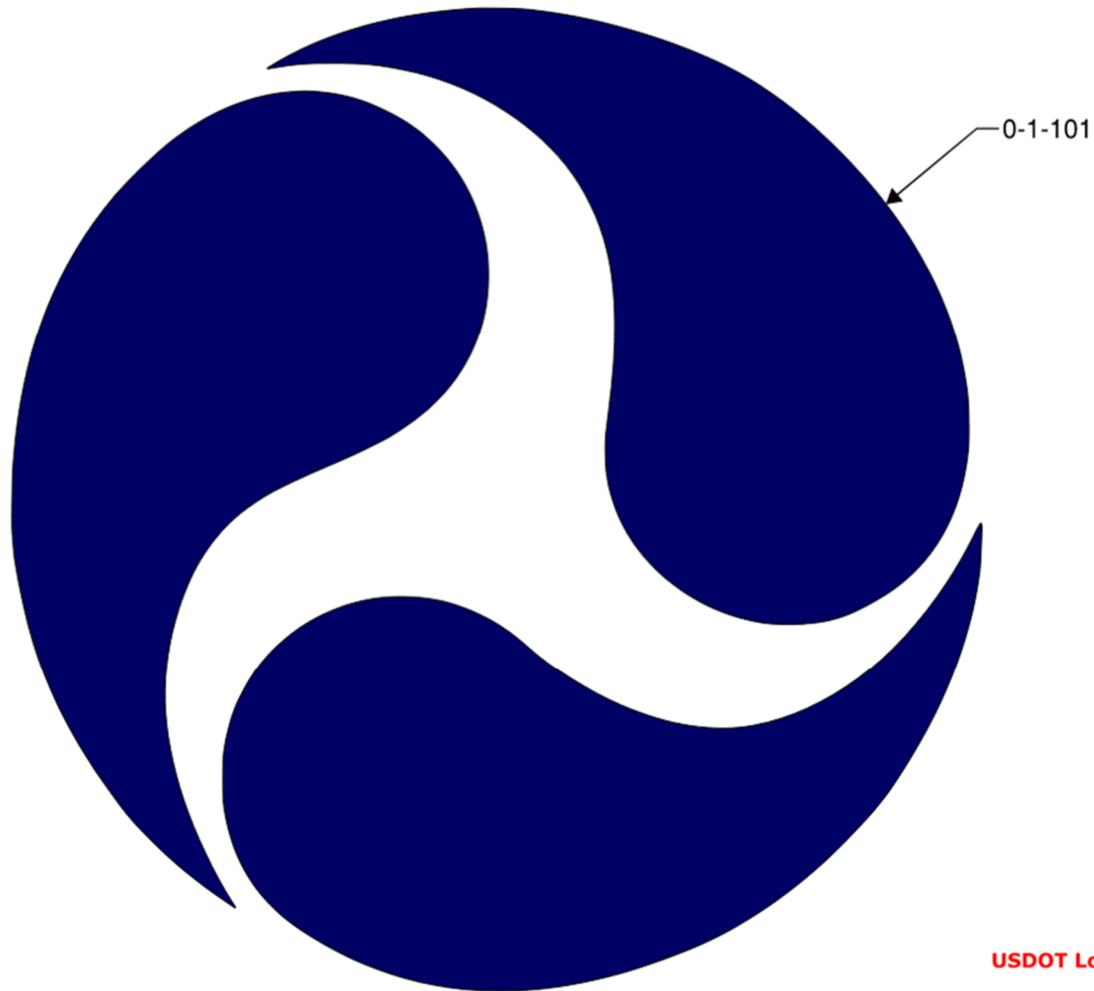


CTDOT Logo



Link to .dgn file: [New_CTDOT_Logos.dgn](#)

Link to .dgn file:



USDOT Logo

[USDOT_logo.dgn](#)

PERMITS AND REQUIRED PROVISIONS

The following Permits and/or Required Provisions follow this page and are hereby made part of this Contract.

- **PERMITS AND/OR PERMIT APPLICATIONS**

Permit	Approval Date
Flood Management Certification	Approval Anticipated December 30, 2025
Town of Roxbury Inland Wetlands and Watercourses	Approval Anticipated December 16, 2025
Army Corps of Engineers Self-Verification Notification	Approval Pending – Submission upon receipt of Flood Management Certification and Town of Roxbury IWW permit.

- **Construction Contracts - Required Contract Provisions (FHWA Funded Contracts)**

Street Number	<u>29</u>	Street Name	<u>North Street</u>		
City	<u>Roxbury</u>	State	<u>CT</u>	Zip	<u>06783</u>

SECTION 5 - ACTIVITY DETAILS

Proposed Activity

Replacement of Bridge No. 05068 carrying Wellers Bridge Road over Shepaug River

Wetlands Alteration Proposed? Yes No

Watercourse Alteration Proposed? Yes No Lineal Feet 110

Description of Activity or Use (include within the description a measurement of the distance to each wetland area and watercourse, the proposed protection of the wetland and watercourse, and chronological schedule for the activity):

Project Description:

This is a Town of Roxbury project to replace the bridge on Wellers Bridge Road over the Shepaug River. The Town owns and maintains the bridge. This project is CTDOT administered, federally funded, as such, it has a State Project Number 0119-0121. The 2-span bridge with central pier will be replaced with a single span bridge, removing the pier. There are state-only wetlands located on the vegetated island north of the bridge that will not be affected by the project. Work conducted below the OHW line consists of temporary water handling cofferdams to remove the existing substructure and install new embankments, and a temporary trestle for access to remove the pier. Upland work consists of removing the bridge structure, installing riprap, and incidental roadway reconstruction.

Measured Distance to Wetlands and Watercourses (within 200 feet of proposed activity):

0 feet. Permanent and temporary watercourse impacts are unavoidable in order to replace the existing bridge

Project Schedule (Include the start and finish date(s) for any & all phases):

Spring 2026 to Fall 2027

Description of alternatives to the proposed activity considered by applicant:

Several alternatives for different superstructure types (steel beams or concrete), as well as replacement of the bridge with and without a central pier. Ultimately, removal of the central pier was selected as an environmental improvement to return the river to a more natural condition.

Describe the method and destination of material to be disposed of if excavation is required:

TBD by contractor. Typically, an area is selected on site, or if there is not sufficient area, an offsite area will be coordinated with the Town.

The Applicant shall certify whether any of the following circumstances apply:

- Any portion of the property on which the regulated activity is proposed is located within 500 feet of the boundary of an adjoining municipality Yes No
- Traffic attributable to the completed project on the site will use streets within an adjoining municipality to enter or exit the site Yes No
- Sewer or water drainage from the project site will flow through and impact the sewerage or drainage system within an adjoining municipality Yes No
- Water run-off from the improved site will impact streets or other municipal or private property with an adjoining municipality Yes No

5. The proposed activity upon the Applicant's property may affect a watercourse lying with, partly within, or flowing through or adjacent to the Applicant's property.

Yes
 No

If yes, the Applicant shall submit information relative to the present character and the projected impact of the proposed activity:

The character of the Shepaug River is described in the Wetland Delineation Report included with this application. Minimal impacts are proposed to the watercourse to remove the existing bridge and install the new bridge. The existing pier will be removed as an improvement to the character of the river. Provisions will be implemented during construction to minimize impacts to the riverine ecosystem; additional details are provided in the included project description. The new bridge will be widened to allow the natural channel to flow through the bridge, improve flooding, and allow safe wildlife passage below the bridge.

Indicate other state or local regulatory approvals required to proceed with the proposed activity:

USACE GP 19 SV, CTDOT/CTDEEP Flood Management Certificate MOU, CTDEEP NDDB, CTDEEP Fisheries

Any other information deemed necessary to the understanding of the application:

See attached additional information

The engineering design of the project is prepared by:

VHB and Macfarland Johnson

The operations are to be supervised by:

The Town of Roxbury, 3rd party construction inspection, CTDEEP

The work on the site is to be performed by:

Contractor TBD

Every application submitted must include a Statewide Inlands Wetlands & Watercourses Activity Reporting Form.

SECTION 6 - DECLARATION

I, ***VHB - Greg Gerrish*** as hereby declare that the statements and information on the foregoing application are true and accurate, to the best of my knowledge and belief.

This application may require additional documents to be considered complete including, but not limited to, a site/subdivision plan, engineering/construction plan, soil scientist report, hydrographic study, and stormwater discharge.

The signature on this application indicates that the owner is familiar with all information provided in the application and is aware of the penalties for obtaining a permit through deception or through inaccurate or misleading information.

The owner authorizes the Roxbury Inland Wetlands and Watercourses Commission or its agents to enter on, inspect, and investigate the property, at reasonable times, both before and after a final decision has been issued.

By typing in your name, and clicking on the certification box, you are submitting an electronic signature for this application.

Name ***GREGORY GERRISH***

I do hereby certify under the pains & penalties of perjury that the information provided above is true and correct.

Date ***11/18/25***

**Town of Roxbury
Inland Wetlands Commission Application
State Project No. 0119-0121
Replacement of Bridge No. 05068
Wellers Bridge Road over Shepaug River**

PROJECT DESCRIPTION

Bridge No. 05068 is situated on Wellers Bridge Road over the Shepaug River, approximately 200 feet east of Route 67 (Baker Road), in the Town of Roxbury.

The bridge, constructed in 1956 and rehabilitated in 2001, consists of a two-span steel multi-girder superstructure with composite concrete deck on reinforced cast-in-place abutments and center pier. Wellers Bridge Road is classified as a rural minor collector with an estimated current average daily traffic (ADT) of 4,784 in 2021. The existing structure is oriented in an east-west direction with an approximate 14-degree skew angle and does not have sidewalks. Vertically, the bridge and its immediate approaches are located a slight tangent that slopes down gradient towards the west. The structure length is approximately 147 feet with a maximum span of 68 feet, and the total structure width measures 25.5 feet. The roadway on the bridge has a bituminous concrete surface and curb-to-curb width of 21.2 feet. The approach roadway has a posted speed limit of 30 miles per hour and a 24-foot-wide approach width that provides for two lanes of vehicular traffic (one lane in each direction). There are metal beam guiderails on the approaches, and galvanized steel posts with timber rails run along the full length of the bridge between parapet concrete end blocks. There are concrete rail bases with vertical granite curbs. Three fiber optic conduits are located under the deck, and overhead utility wires span the river parallel to the bridge on the north side of the structure.

Bridge No. 05068 is functionally substandard, scour critical, and the deck condition is poor. The bridge is functional substandard for the average daily traffic volume (3000 ADT) due to the roadway curb-to-curb width of 21.2 feet. Deck structural deficiencies observed under the bridge during the 2023 DOT inspection include large areas of light to moderate scale with efflorescence frosting and isolated areas of map cracking. There are also isolated areas of severe scale and random areas of discoloration and efflorescence stains throughout. Span 2 shows severe scale, punky concrete, exposed rebar, hollow sounding areas, stalactites, and a 6-inch-deep spall with exposed and deboned rebar. Span 1 exhibits an isolated longitudinal crack, honeycombing up to ½-inch deep, a 3-inch-deep spall with exposed rebar, map hairline cracks with light efflorescence, and a hollow area. Due to the further deterioration of the deck, the bridge is now closed to traffic.

Rehabilitation of the structure was considered and dismissed due to age and condition of the existing structure. Full replacement alternatives investigated include a steel multi-girder and reinforced concrete deck superstructure supported by concrete abutments and wingwalls, a Northeast Extreme Tee (NEXT) D Beams superstructure supported by concrete abutments, wingwalls, and central pier, and a precast AASHTO concrete box beam superstructure supported by concrete abutments, wingwalls, and central pier. All the investigated alternative structures had 37 feet out-to-out width, one lane in each direction, a 5 foot-6-inch-wide sidewalk, and concrete substructure supported on piles driven to competent bedrock. Replacement of the existing structure considers environmental impacts, structural improvements, hydraulic improvements, elimination of scour criticality, constructability, traffic, and cost. The alternatives including piers were ultimately eliminated due to environmental impacts, construction complexity, extended construction duration, and cost.

The contributing drainage area at Bridge No. 05068 is 132 square miles. The regulated resources at the site include State Regulated Wetlands and Federally Regulated Waters of the U.S. The project is located with a FEMA mapped Flood Zone AE. CTDEEP Fisheries noted that this river supports a diverse fish community and that 750± trout are stocked in the Shepaug River annually. CTDEEP Fisheries also indicated that care should be exercised so as not to increase turbidity levels. Coordination has taken place with CTDEEP Fisheries and recommendations have been incorporated to maintain unrestricted fish passage at the bridge. The project site is located within a CTDEEP National Diversity Data Base (NDDB) area. CTDEEP identified several state-listed species of concern in the project area including bats, dragonflies, turtles, and birds. Coordination has taken place with CTDEEP and CTDOT OEP to incorporate all guidance and recommendations into the project. The project site is not within a public water supply watershed and will not impact public drinking water supply sources.

**Town of Roxbury
Inland Wetlands Commission Application
State Project No. 0119-0121
Replacement of Bridge No. 05068
Wellers Bridge Road over Shepaug River**

PROJECT DESCRIPTION

The proposed bridge replacement is a single span metallized steel beam superstructure with a reinforced concreted deck. The deck would be covered with a liquid waterproofing membrane and bituminous wearing surface. The structure would be supported on cast-in-place concrete abutments and wingwalls founded on piles driven to competent rock. The new bridge will have an improved curb-to-curb width of 28 feet with a 5.5-foot sidewalk running along the south side. Incidental work on roadway approaches would include pavement reconstruction, upgrading existing guide railing near the bridge, grading of roadway embankments, and all other work associated with the realignment of Wellers Bridge Road at the west approach. There are proposed drainage improvements at each approach. The project will be completed under full closure of Weller's Bridge Road with a detour. The project is not within 500 feet of an adjoining municipality. Construction is anticipated to begin in the spring of 2026 and last approximately 16 months.

Replacement of the existing, two-span structure with a single-span bridge will address structural deficiencies and scour critical designations. The existing abutments and pier will be removed in their entirety. Removal of the pier will return the river to a more natural condition. The increased clear span will increase hydraulic efficiency and improve flooding, as well as allow for the installation of riparian shelves for the safe passage of wildlife under the bridge. Open bridge rail will also improve hydraulic performance. The presence of membrane waterproofing will reduce the structure's susceptibility to water infiltration and road salts. A sidewalk will be constructed on the proposed structure in compliance with 23 U.S. Code 217(e) and in accordance with request by the Town to allow safe pedestrian access across the bridge and future connection at both ends of the bridge to a proposed Roxbury Land Trust trail.

Impacts to the stream will be minimized through adherence to CDOT form 819, Section 1.10 Best Management Practice and the 2004 Connecticut Stormwater Manual. During construction, proper water handling measures will be implemented to allow work to occur in the areas confined within those water handling devices. Sedimentation and erosion control systems will be installed to limit disturbances to protect the wetlands and watercourses through adherence to the latest Connecticut Soil and Erosion Control Guidelines. Additional management practices will include but are not limited to the following: sediment control systems placed at the toe of all disturbed slopes, riprap aprons will be installed at the drainage outlets, storage of construction materials and vehicle refueling outside of regulated areas, and proper care of vehicles and equipment.

Total permanent and temporary impacts to regulated areas amount to 4,160 square feet (0.096 ac). There are no impacts to the state delineated wetlands. Permanent impacts below the ordinary high water line amount to 1680 square feet (0.039 ac). Permanent impacts are due to the removal of the existing structure, grading of new embankments, and installation of riprap to protect the new embankments and foundation. Temporary impacts below the ordinary high water line amount to 2480 square feet (0.057 ac). The temporary impacts are due to the temporary access trestle for pier removal and temporary water handling cofferdams for replacing the substructure behind confinement.

The Town of Roxbury Upland Review Area is regulated within 200 feet of the ordinary high-water line (OHW) of the Shepaug River. In total, there are 40,419 square feet (0.93 ac.) of proposed upland impacts due to the proposed project. These impacts are a result of the realignment of Weller's Bridge Road, the construction of the new bridge, full depth roadway reconstruction and all associated incidental work, proposed drainage improvements, and installation of sidewalk. Areas for stockpiling materials will be determined by the contractor and any material that cannot be stockpiled onsite may be coordinated with the Town at an offsite location.

Proposed avoidance, minimization, and mitigation measures: The proposed clear span will be increased from 134.7 feet (including pier) to a single clear span length of 161.2 feet. The increased clear span improves the

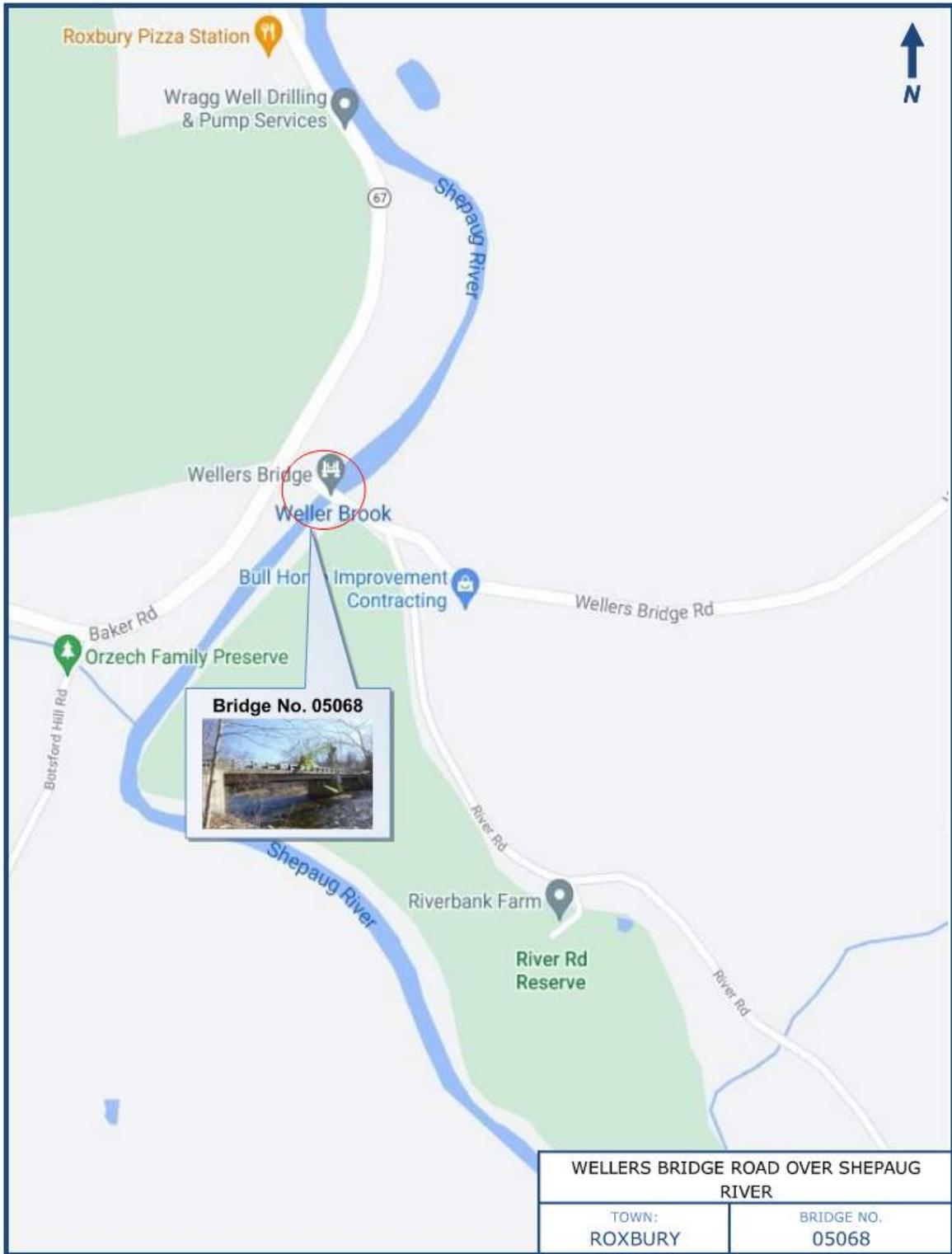
**Town of Roxbury
Inland Wetlands Commission Application
State Project No. 0119-0121
Replacement of Bridge No. 05068
Wellers Bridge Road over Shepaug River**

PROJECT DESCRIPTION

efficiency of the hydraulic opening and returns water surface elevations closer to the natural conditions in which the stream was formed. Prior to removal of the superstructure, a debris shield will be installed to prevent debris from falling into the river. Prior to demolition of the center pier a temporary access trestle is proposed to be installed from the west bank to the center of the channel, allowing for unrestricted flow of the river. Temporary water handling cofferdams will be installed around the center pier to complete removal behind confinement. Temporary water handling cofferdams will be installed at each abutment for dewatering and soil retention. Any pumping will occur into an appropriate filtration basin. Water handling systems will be directly tied into sedimentation control systems at the toe of engineered slopes to prevent infiltration of materials into the watercourse. A minimum channel for fish passage will be provided as coordinated with CTDEEP Fisheries and is noted on the permit plans. Native streambed material excavated during construction will be stockpiled and reused to maintain the riverine characteristics. Upon completion of the project, all disturbed areas within the project limits will be stabilized and restored with grass turf establishment where appropriate. In coordination with CTDEEP NDDDB, a planting plan is proposed with approved plantings, as well as conservation/wildflower mix placed over riprap, to promote proliferation of protected species. In accordance with CTDEEP Fisheries guidance, any unconfined in-stream work within the Shepaug River will be restricted to the period from June 1st to September 30th, inclusive.

The project is in a FEMA-mapped flood zone; therefore, State Flood Management Certification approval is required. Approval from the Roxbury Inland Wetlands Commission is required. A Self Verification under the U.S. Army Corps of Engineers General Permit issued for the State of Connecticut is also approved based on the project activities. A CTDEEP Statewide Inland Wetlands & Watercourses Activity Reporting Form is included with the application.

LOCATION MAP



AERIAL VIEW



Bridge No. 05068

PERMIT PLANS

BEGIN STATE PROJECT 119-121
 F.A.P. # 6119(004)
 STA. 10+00.00

CC8
 F=303.11
 L=299.51
 E=298.24

**CT ROUTE 67
 BAKER ROAD**
 N3744102.7'E
 400.40'

WELLERS BRIDGE ROAD
 11+00'

PT 22+00.25
 N 761725.33
 E 841171.05

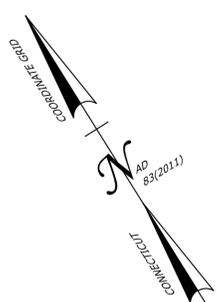
TEMPORARY IMPACTS FOR WATER-HANDLING COFFERDAM

ACCESS FOR EXISTING PIER STEM REMOVAL
 SEE NOTES 1 & 2

TEMPORARY IMPACTS FOR RIPRAP CONSTRUCTION

BRIDGE NO. 05068

MATCH MARK - SEE DRAWING NO. PMT-05



WATERCOURSE IMPACTS TABLE		
AREA IMPACTS		
TEMPORARY IMPACTS (SF)	PERMANENT IMPACTS (SF)	TOTAL
2480	1680	4160

NOTES

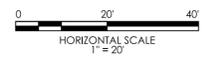
1. MEANS FOR REMOVING THE EXISTING PIER STEM WILL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED FOR ENGINEER APPROVAL.
2. THE CONTRACTOR WILL NOT BE PERMITTED TO BLOCK THE CHANNEL AS MEANS FOR ACCESS FOR PIER STEM REMOVAL.
3. THE CONTRACTOR SHALL NOT WORK WITHIN THE LIMITS OF THE WETLANDS AND WATECOURSE WITH THE EXCEPTION OF THOSE AREAS DELINEATED AS TEMPORARY OR PERMANENT IMPACTS TO THE WATERCOURSE. ALL DISTURBED AREAS SHALL BE RESTORED.

LEGEND	
	LIMITS OF ORDINARY HIGH WATER
	EDGE OF WATER
	SEDIMENTATION CONTROL SYSTEM (SCS)
	EXISTING 100-YR. FLOOD (CALCULATED)
	STATE ONLY WETLAND AREA (ALLUVIAL ISLAND)
	PERMANENT WATERCOURSE IMPACTS
	TEMPORARY WATERCOURSE IMPACTS

REV.	DATE	REVISION DESCRIPTION

ENVIRONMENTAL PERMIT PLANS
 DATED: 11/14/2025

DESIGNER/DRAFTER: _____ CHECKED BY: _____

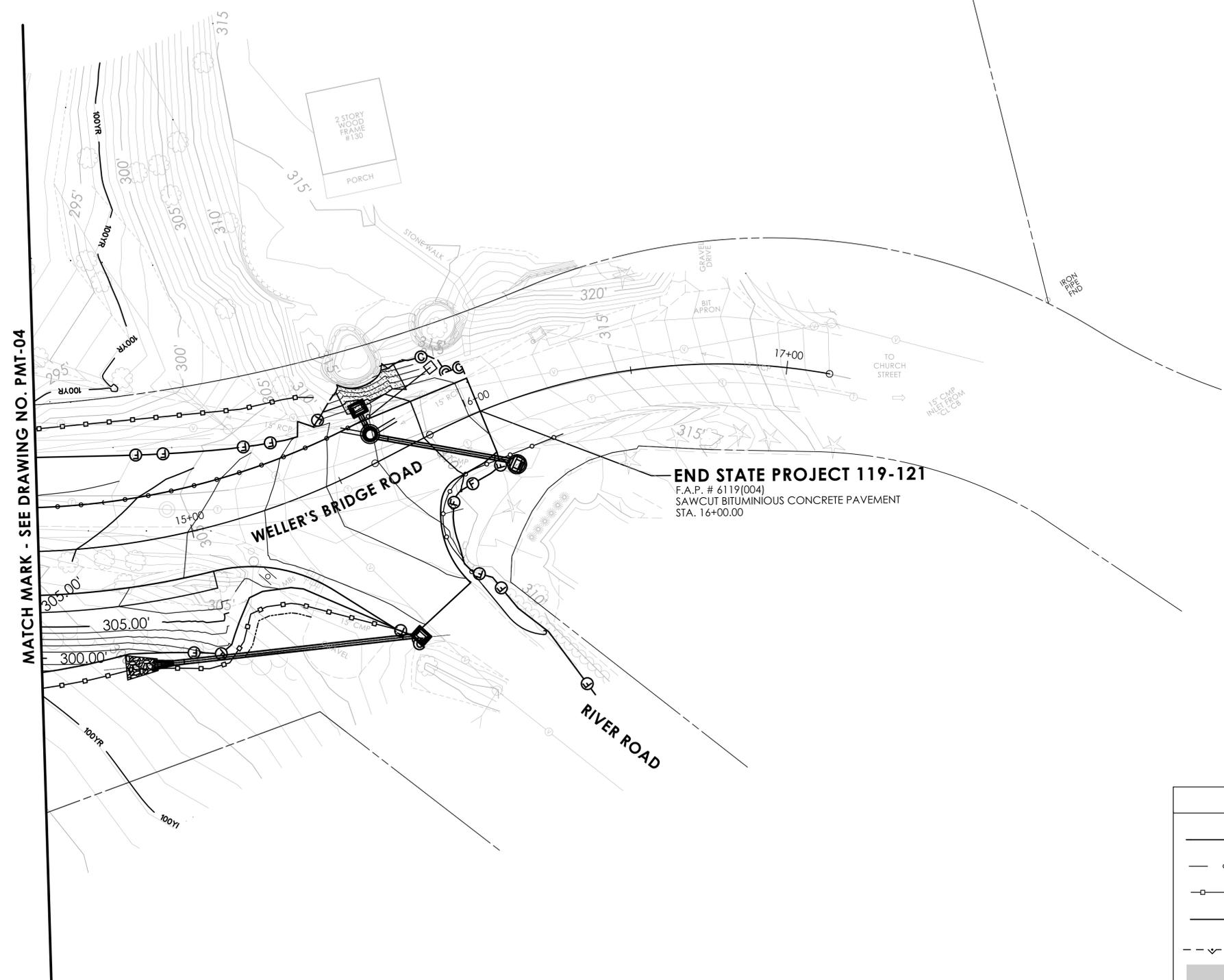
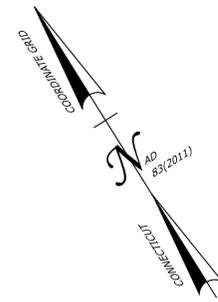


SIGNATURE/BLOCK: _____
 MCFARLAND JOHNSON
 53 REGIONAL DRIVE
 CONCORD, NH 03301



PROJECT NUMBER: 0119-0121
 PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 05068-WELLERS BRIDGE ROAD OVER SHEPAUG RIVER
 TOWN(S): ROXBURY
 DRAWING TITLE: ENVIRONMENTAL IMPACT PLAN - WATERCOURSE

DRAWING NO. PMT-04
 SHEET NO. _____



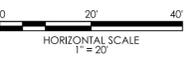
END STATE PROJECT 119-121
 F.A.P. # 6119(004)
 SAWCUT BITUMINIOUS CONCRETE PAVEMENT
 STA. 16+00.00

MATCH MARK - SEE DRAWING NO. PMT-04

LEGEND	
	OHW — LIMITS OF ORDINARY HIGH WATER
	— o o o — EDGE OF WATER
	— □ □ □ □ — SEDIMENTATION CONTROL SYSTEM (SCS)
	— o o o — EXISTING 100-YR. FLOOD (CALCULATED)
	- - - △ △ △ △ - - - STATE ONLY WETLAND AREA (ALLUVIAL ISLAND)
	PERMANENT WATERCOURSE IMPACTS
	TEMPORARY WATERCOURSE IMPACTS

REV.	DATE	REVISION DESCRIPTION

ENVIRONMENTAL PERMIT PLANS
 DATED: 11/14/2025



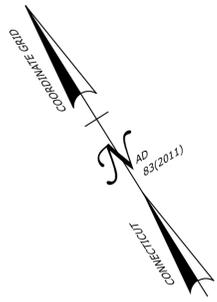
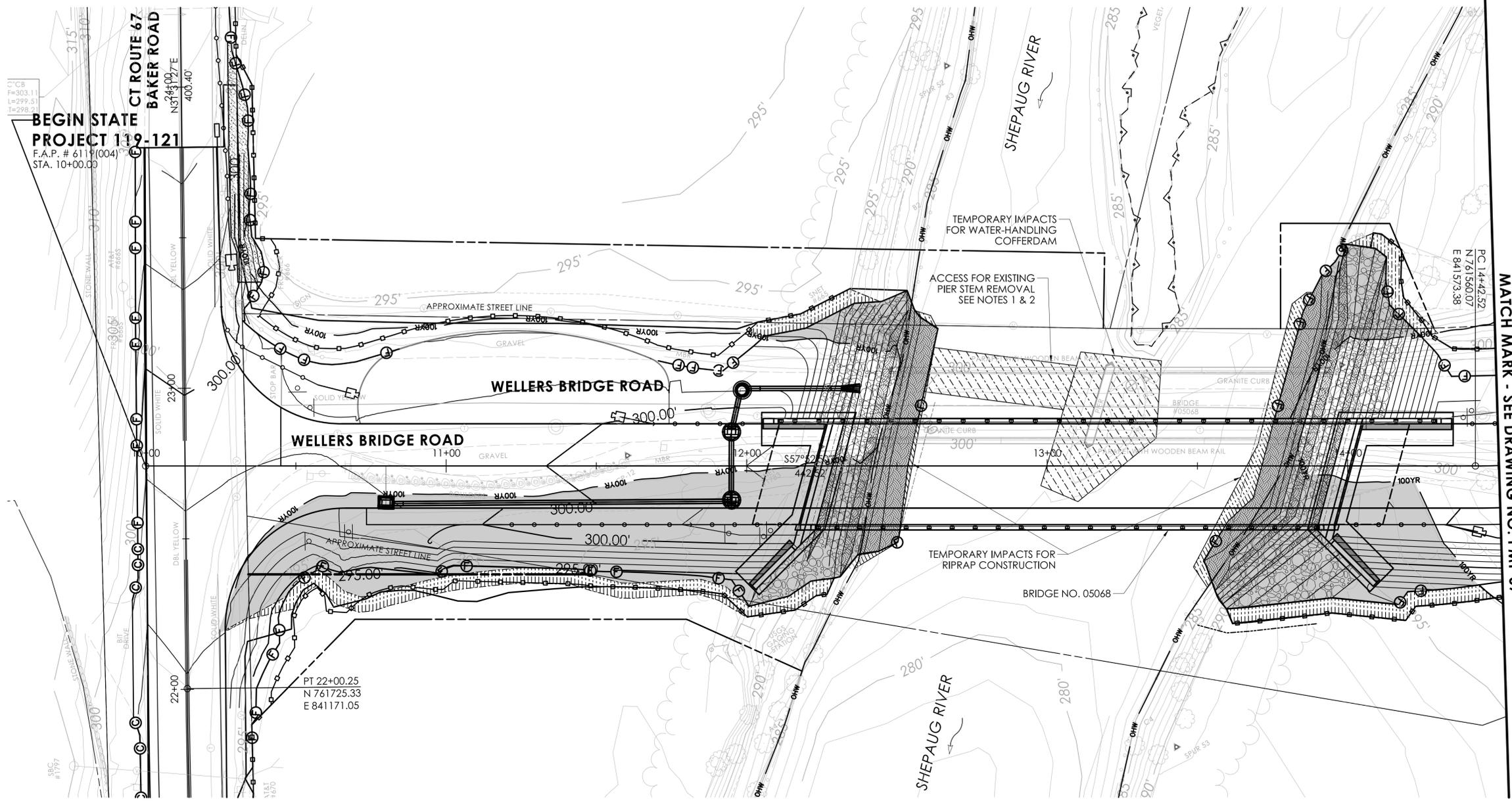
SIGNATURE/
 BLOCK:

McFARLAND JOHNSON
 53 REGIONAL DRIVE
 CONCORD, NH 03301



PROJECT NUMBER: 0119-0121
 PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 05068-WELLERS BRIDGE ROAD OVER SHEPAUG RIVER
 TOWN(S): ROXBURY
 DRAWING TITLE: ENVIRONMENTAL IMPACT PLAN - WATERCOURSE

DRAWING NO.
 PMT-05
 SHEET NO.



CC8
 F=303.11
 L=299.51
 E=298.2
BEGIN STATE PROJECT 119-121
 F.A.P. # 6119(004)
 STA. 10+00.00

**CT ROUTE 67
 BAKER ROAD**
 N 3744102.7'E
 400.40

MATCH MARK - SEE DRAWING NO. PMT-07
 PC 14+42.52
 N 761560.07
 E 841573.38

100-YEAR FLOODPLAIN IMPACTS TABLE	
VOLUME IMPACTS	
EXCAVATION IN FEMA FLOODPLAIN (CY)	FILL IN FEMA FLOODPLAIN (CY)
2680	3080

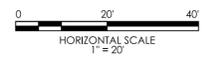
NOTES

- MEANS FOR REMOVING THE EXISTING PIER STEM WILL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED FOR ENGINEER APPROVAL.
- THE CONTRACTOR WILL NOT BE PERMITTED TO BLOCK THE CHANNEL AS MEANS FOR ACCESS FOR PIER REMOVAL.

LEGEND	
	LIMITS OF ORDINARY HIGH WATER
	EDGE OF WATER
	SEDIMENTATION CONTROL SYSTEM (SCS)
	EXISTING 100-YR. FLOOD (CALCULATED)
	STATE ONLY WETLAND AREA (ALLUVIAL ISLAND)
	PERMANENT FLOODPLAIN IMPACTS
	TEMPORARY FLOODPLAIN IMPACTS

REV.	DATE	REVISION DESCRIPTION

ENVIRONMENTAL PERMIT PLANS
 DATED: 11/14/2025



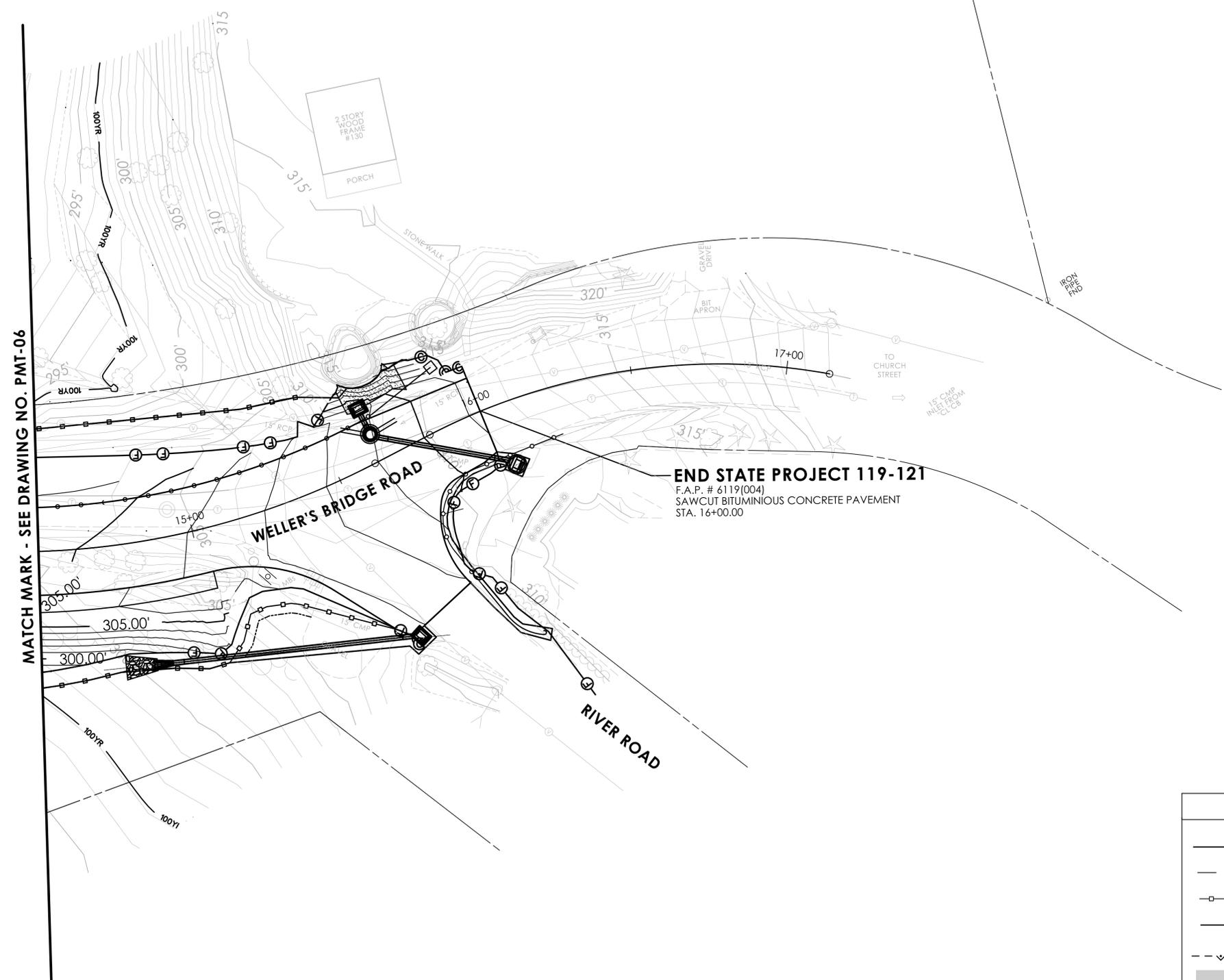
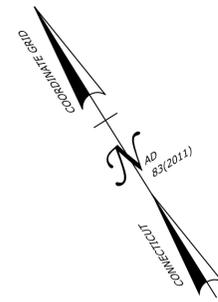
SIGNATURE/BLOCK:

 JEFFREY A. JOHNSON
 53 REGIONAL DRIVE
 CONNOR, CT 06330



PROJECT NUMBER: 0119-0121
 PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 05068-WELLERS BRIDGE ROAD OVER SHEPAUG RIVER
 TOWN(S): ROXBURY
 DRAWING TITLE: ENVIRONMENTAL IMPACT PLAN - FLOOD PLAIN

DRAWING NO.
PMT-06
 SHEET NO.

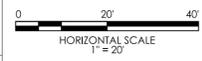


END STATE PROJECT 119-121
 F.A.P. # 6119(004)
 SAWCUT BITUMINIOUS CONCRETE PAVEMENT
 STA. 16+00.00

LEGEND	
	OHW LIMITS OF ORDINARY HIGH WATER
	EDGE OF WATER
	SEDIMENTATION CONTROL SYSTEM (SCS)
	EXISTING 100-YR. FLOOD (CALCULATED)
	STATE ONLY WETLAND AREA (ALLUVIAL ISLAND)
	PERMANENT FLOODPLAIN IMPACTS
	TEMPORARY FLOODPLAIN IMPACTS

REV.	DATE	REVISION DESCRIPTION

ENVIRONMENTAL PERMIT PLANS
 DATED: 11/14/2025



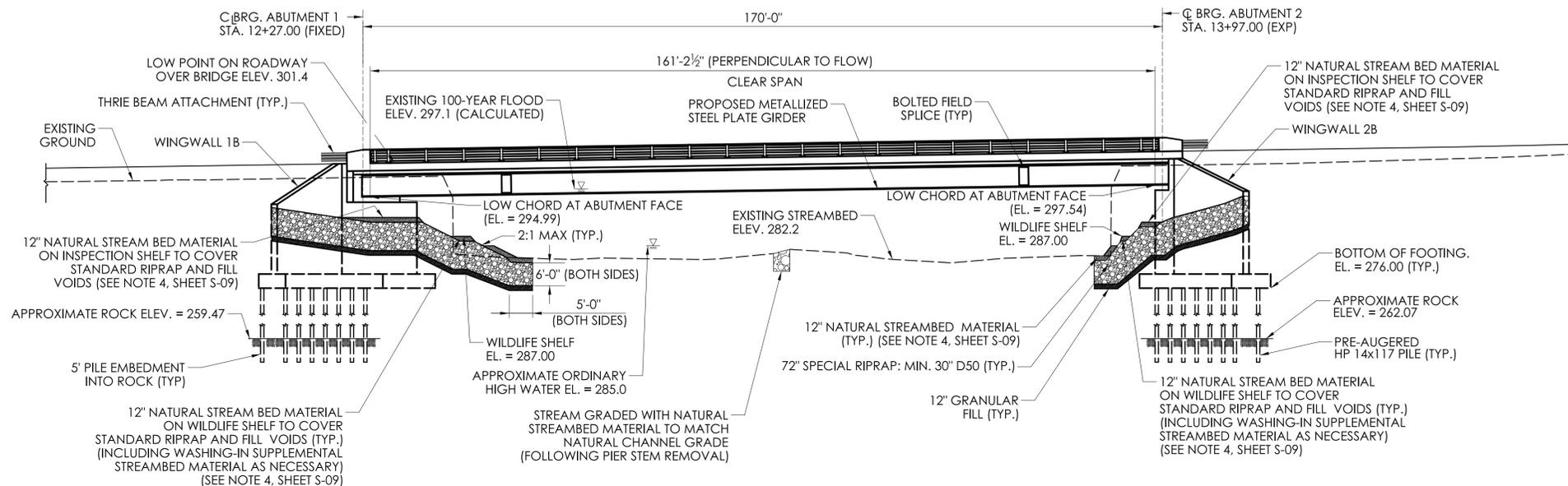
SIGNATURE/
 BLOCK:

M. FARLAND JOHNSON
 53 REGIONAL DRIVE
 CONCORD, NH 03301



PROJECT NUMBER: 0119-0121
 PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 05068-WELLERS BRIDGE ROAD OVER SHEPAUG RIVER
 TOWN(S): ROXBURY
 DRAWING TITLE: ENVIRONMENTAL IMPACT PLAN - FLOOD PLAIN

DRAWING NO.
 PMT-07
 SHEET NO.



BRIDGE ELEVATION (DOWNSTREAM VIEW)

SCALE: 1/8" = 1'-0"

HYDRAULIC DATA	
DRAINAGE AREA	132 SQ. MILES
DESIGN FREQUENCY	100 YEAR
DESIGN DISCHARGE	20,900 CFS
AVERAGE DAILY FLOW ELEVATION	283.6 FT
UPSTREAM DESIGN WATER SURFACE ELEVATION	299.6 FT
DOWNSTREAM DESIGN WATER SURFACE ELEVATION	296.3 FT
MAXIMUM SCOUR ELEVATION	261.9 FT
FREQUENCY	500-YEAR
DISCHARGE	37,000 CFS
WORST CASE SCOUR SUB-STRUCTURE UNIT	BOTH ABUTMENTS

OPENNESS RATIO (OR):

OR = OPEN AREA / STRUCTURE LENGTH
 OR = 1,612.0 SF / 40.0 FT = 40.3 FT
 40.3 FT > 0.82 FT (RECOMMENDED MINIMUM)

BANKFULL WIDTH (BFW)

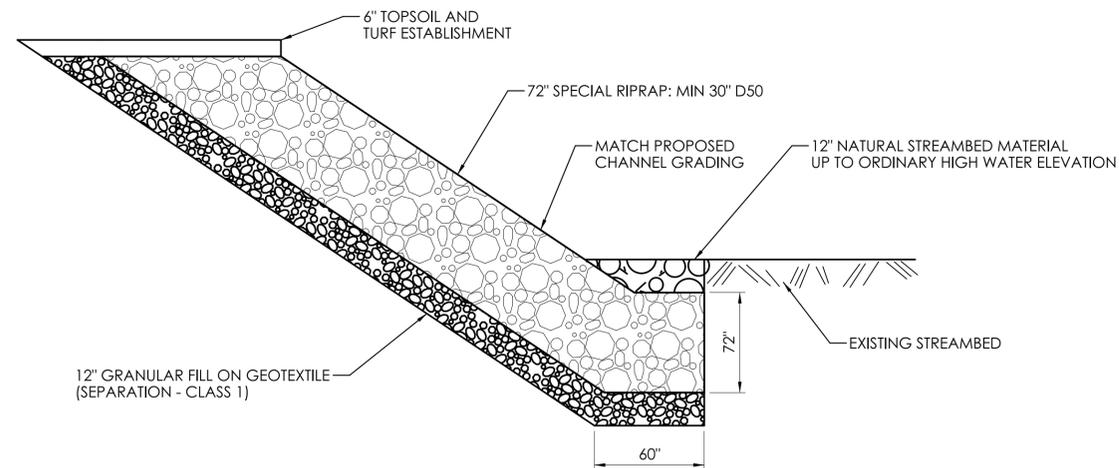
BFW = 108 FT
 1.2 X BFW = 129.6 FT
 129.6 FT < 161.2 FT PROPOSED BRIDGE CLEAR SPAN

NATIVE STREAMBED MATERIAL NOTES:

1. NATIVE STREAMBED MATERIAL EXCAVATED DURING THE INSTALLATION OF THE STRUCTURE SHALL BE STOCKPILED AND THEN REPLACED TO THE DEPTH SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH THE SPECIAL PROVISION "EXCAVATION AND REUSE OF EXISTING CHANNEL BOTTOM MATERIAL."
2. ADDITIONAL STREAMBED MATERIAL, IF REQUIRED SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION "SUPPLEMENTAL STREAMBED CHANNEL MATERIAL"
3. THE STOCKPILE SHALL BE LOCATED BEYOND OHW LIMITS AND PROTECTED WITH SEDIMENTATION CONTROL SYSTEM.
4. ANDREW MIANO OF DEEP FISHERIES AT Andrew.J.Miano@ct.gov SHALL BE CONTACTED TEN DAYS BEFORE THE GRADING OF THE WATERCOURSE

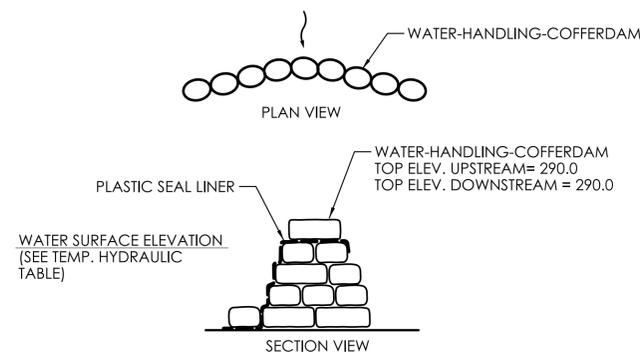
REV.	DATE	REVISION DESCRIPTION

ENVIRONMENTAL PERMIT PLANS DATED: 11/14/2025		SIGNATURE/BLOCK: MCFARLAND JOHNSON 53 REGIONAL DRIVE CONCORD, NH 03301	 ROXBURY CONNECTICUT	PROJECT NUMBER: 0119-0121 PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 05068-WELLERS BRIDGE ROAD OVER SHEPAUG RIVER TOWN(S): ROXBURY DRAWING TITLE: PROPOSED BRIDGE ELEVATION	DRAWING NO. PMT-08 SHEET NO.
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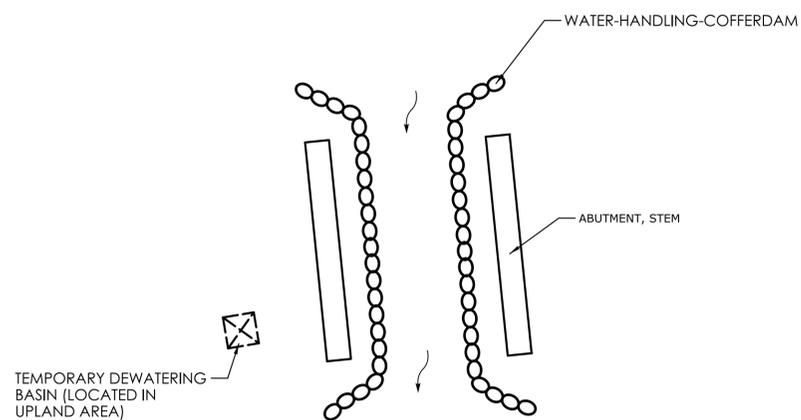


HANDLING WATER AROUND ABUTMENTS

(NOT TO SCALE)



WATER-HANDLING-COFFERDAM SANDBAGS
(NOT TO SCALE)



HANDLING WATER AROUND ABUTMENTS

(NOT TO SCALE)

WATER HANDLING NOTES

1. THE CONTRACTOR SHALL DESIGN THE TEMPORARY WATER HANDLING COFFERDAMS AND SUBMIT MEANS AND METHODS OF HANDLING WATER TO THE ENGINEER FOR APPROVAL.
2. WATER HANDLING SYSTEM, INCLUDING TEMPORARY DRAINAGE PIPES, DEWATERING BASINS, PUMPS AND ANY OTHER NECESSARY INCIDENTAL APPURTENANCES REQUIRED TO HANDLE THE WATER USED FOR THE CONSTRUCTION OF THE NEW ABUTMENTS AND WINGWALLS SHALL BE PAID FOR UNDER THE ITEM "HANDLING WATER".
3. ALL WORK SHALL BE PERFORMED USING BEST MANAGEMENT PRACTICES.
4. EQUIPMENT SHALL NOT BE PERMITTED IN THE RIVER.
5. THE TEMPORARY ACCESS TRESTLE LOW CHORD SHALL BE A MINIMUM ELEVATION OF 292.6 FEET.

SUGGESTED BRIDGE CONSTRUCTION SEQUENCE

1. INSTALL SEDIMENTATION CONTROL SYSTEM.
2. CLEAR AND GRUB SITE.
3. INSTALL DEBRIS SHIELD (MIN. ELEV. 287.0) AND DEMO EXISTING SUPERSTRUCTURE.
4. INSTALL TEMPORARY DEWATERING BASINS.
5. INSTALL TEMPORARY WATER HANDLING COFFERDAM SYSTEM AS SHOWN FOR BOTH ABUTMENTS.
6. INSTALL TEMPORARY EARTH RETAINING SYSTEM FOR BOTH ABUTMENTS.
7. EXCAVATE AND REMOVE EXISTING ABUTMENTS AND WINGWALLS.
8. PERFORM EXPLORATION TEST BORINGS.
9. PRE-AUGER AND INSTALL PROPOSED PILES.
10. FORM AND POUR FOOTINGS, ABUTMENT AND WINGWALLS.
11. PLACE PORTION OF RIPRAP IN FRONT OF PROPOSED ABUTMENTS.
12. BACKFILL BEHIND ABUTMENTS.
13. CONSTRUCT SUPERSTRUCTURE.
14. INSTALL TEMPORARY ACCESS TRESTLE FOR PIER REMOVAL.
15. REMOVE EXISTING PIER STEM.
16. REMOVE TEMPORARY ACCESS TRESTLE AND TURBIDITY CURTAIN.
17. FINAL GRADE AND INSTALL REMAINING RIPRAP.
18. REMOVE TEMPORARY SEDIMENTATION CONTROL SYSTEM FENCE.

TIME OF YEAR RESTRICTIONS

1. UNCONFINED IN-STREAM WORK WITHIN THE WATERCOURSE IS RESTRICTED TO THE PERIOD FROM JUNE 1ST TO SEPTEMBER 30TH, INCLUSIVE.
2. TREE CUTTING IS RESTRICTED TO THE PERIOD FROM APRIL 1ST TO APRIL 15TH INCLUSIVE. A HERPETOLOGIST SHALL BE ON SITE WHEN TREE CLEARING IS OCCURRING WITHIN 100 FEET OF THE WATERCOURSE.
3. THE CONDITIONS AND RESTRICTIONS NOTED IN THE CTDEEP NDDB DETERMINATION LETTER NUMBER: 202412321 DATED JUNE 3, 2025, SHALL BE ADHERED TO. A COPY OF THIS DOCUMENT CAN BE FOUND IN THE CONTRACT DOCUMENTS.

REV.	DATE	REVISION DESCRIPTION

ENVIRONMENTAL PERMIT PLANS
DATED: 11/14/2025

DESIGNER/DRAFTER: EAP/SLM CHECKED BY: DMK

SIGNATURE/BLOCK:

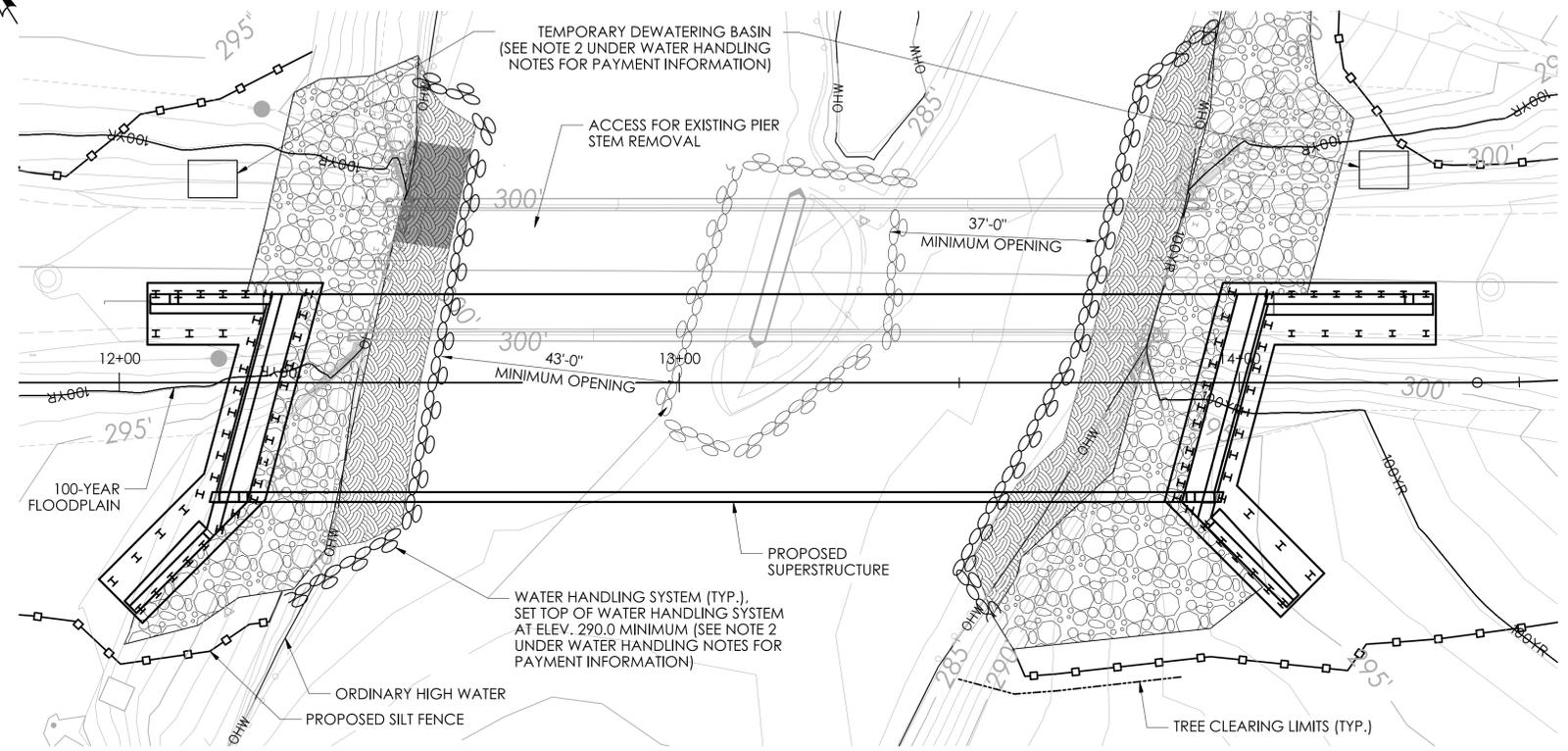
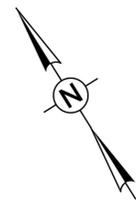
 MACFARLAND JOHNSON
 53 REGIONAL DRIVE
 CONNOR, NH 03303



PROJECT NUMBER: 0119-0121
 PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 05068-WELLERS BRIDGE ROAD OVER SHEPAUG RIVER
 TOWN(S): ROXBURY
 DRAWING TITLE: WATER HANDLING PLAN (DETAILS)

DRAWING NO.
PMT-09

SHEET NO.



WATER HANDLING PLAN
NOT TO SCALE

TEMPORARY HYDRAULIC SUMMARY DATA	
AVERAGE DAILY FLOW (ADF)	224 CFS
AVERAGE SPRING FLOW (ASF)	451 CFS
2 - YEAR DESIGN FREQUENCY DISCHARGE	3130 CFS
TEMPORARY FREQUENCY	3 YEAR
TEMPORARY DISCHARGE	4000 CFS
TEMPORARY DESIGN SURFACE ELEVATION (UPSTREAM)	289.1 FEET
TEMPORARY DESIGN SURFACE ELEVATION (DOWNSTREAM)	289.0 FEET

LEGEND	
— OHW —	LIMITS OF ORDINARY HIGH WATER
— o o o —	EDGE OF WATER
— 100YR —	FEMA 100-YR. FLOOD ELEVATION (CALCULATED) LIMIT
	TEMPORARY WATER HANDLING COFFERDAM

NOTES

1. MEANS FOR REMOVING THE EXISTING PIER STEM WILL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED FOR ENGINEER APPROVAL.
2. THE CONTRACTOR WILL NOT BE PERMITTED TO BLOCK THE CHANNEL AS MEANS FOR ACCESS FOR PIER STEM REMOVAL.

REV.	DATE	REVISION DESCRIPTION

ENVIRONMENTAL PERMIT PLANS
DATED: 11/14/2025

SIGNATURE/BLOCK: **MACFARLAND JOHNSON**
53 REGIONAL DRIVE
CONCORD, NH 03301



PROJECT NUMBER: 0119-0121
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 05068-WELLERS BRIDGE ROAD OVER SHEPAUG RIVER
TOWN(S): ROXBURY
DRAWING TITLE: WATER HANDLING PLAN

DRAWING NO. PMT-10
SHEET NO.

WETLAND DELINEATION REPORT

Wetland/Watercourse Delineation Report



Connecticut Federal-Local Bridge Program

Reconstruction of Bridge 05068 at Wellers Bridge Road over the Shepaug River

State Project No. 0119-0121

Roxbury, Connecticut
March 2024



Contents

1. INTRODUCTION	1
2. METHODOLOGY	1
3. RESULTS.....	2
4. DETAILED RESOURCE DESCRIPTIONS	2
5. NRCS MAPPED SOILS	3
6. SUMMARY.....	4
7. REFERENCES AND LITERATURE CITED.....	5

Appendices

- Appendix A Figures
- Appendix B U.S. Army Corps of Engineers (USACE) Wetland Determination Forms
- Appendix C USACE Wetland Function and Value Assessment Forms
- Appendix D Representative Photographs

1. INTRODUCTION

FHI Studio was retained by Close, Jensen and Miller, PC (CJM) to identify and delineate wetlands and watercourses within, or adjacent to, Bridge 05068 at Wellers Bridge Road over the Shepaug River in Roxbury, Connecticut (see **Figure 1, Project Overview Map** in **Appendix A** which depicts the project area). This work effort is to support State Project No. 0119-0121. FHI Studio conducted the wetland/watercourse boundary delineation in July 2023. The methods used and the results are detailed in this wetland/watercourse delineation report.

2. METHODOLOGY

Wetlands and watercourses were delineated in accordance with state and federal definitions and guidelines. The identification of Connecticut-regulated inland wetlands is determined by the limit of any of the soil types designated as poorly drained, very poorly drained, alluvial, or floodplain by the National Cooperative Soils Survey, of the Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture (USDA) (§22a-38-15). NRCS soil surveys were consulted to compare observed soil types to those mapped in the project area. The *Field Indicators for Identifying Hydric Soils in New England Version 4* (NEHSTC, 2017) and *Field Indicators of Hydric Soils in the United States, Version 8.2* (2018) were used to identify hydric soils, which include both poorly and very poorly drained soils.

Federal wetlands, as defined in the United States Army Corps of Engineers (USACE) 1987 *Wetland Delineation Manual* and the USACE 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region – Version 2.0*, were also assessed. Federal wetland boundaries are determined by the presence of dominant hydrophytic vegetation, presence of hydric soils, and evidence of wetland hydrology.

Identification of watercourses, as regulated by Connecticut, was based upon the definitions contained in Section 22a-38 of Chapter 440 of the Connecticut General Statutes (CGS); including the following hydrological systems under the term “watercourse”: rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs, and all other bodies of water, natural or artificial, vernal or intermittent, public or private. The Ordinary High Water (OHW) mark was marked along the watercourse following the guidance in the USACE, *National OHW mark Field Delineation Manual for Rivers and Stream-Interim Version* (November 2022).

The field work was conducted on July 19 and July 25, 2023. Soil, vegetation, and hydrology data were collected at representative locations in the watercourse and adjacent uplands and USACE Wetland Determination Forms were prepared (see **Appendix B**). Wetland functions and values were documented in accordance with the USACE *Highway Methodology Supplement* (1999) guidelines (see **Appendix C**). Photographs were taken at representative locations along the watercourse and adjacent uplands and are included in **Appendix D**.

3. RESULTS

The boundaries of one perennial watercourse, the Shepaug River, were delineated within the project area. The OHW mark associated with the Shepaug River was demarcated in the field within the project area. The OHW mark was not flagged on the vegetated alluvial island associated with the center pier on the north side of the bridge due to lack of obvious OHW. However, the OHW on the alluvial island was interpolated from the OHW elevations along the corresponding riverbank locations. The alluvial island is a State-regulated wetland. These regulatory resources are depicted on **Figure 2, Wetlands/Watercourse Map in Appendix A**. The NRCS soils map classifications on, and in the vicinity of, the project area, are depicted on **Figure 3, Soils Map in Appendix A**. FHI Studio's soil observations conducted during fieldwork support the NRCS mapped designation of Merrimac sandy loam, Hinkley fine sandy loam and Canton and Charlton soils in and adjacent to the Bridge 05068 project area. However, areas of disturbed soils (Udorthents) related to fill from the adjacent roads are also present.

4. DETAILED RESOURCE DESCRIPTIONS

Shepaug River: The segment of the Shepaug River in the project area is best described as a Riverine Upper Perennial Unconsolidated Bottom Permanently Flooded (R3UBH) watercourse. The southwest flowing watercourse is confined to the channel within the project area. According to the Connecticut Department of Energy and Environmental Protection (CT DEEP) online CT Environmental Conditions Online (CTECO), the Shepaug River is classified as a Class AA stream. The Shepaug River is stocked with trout. The principal functions and values of the Shepaug River in the project area are fish habitat and recreation.

Downstream (south) of the bridge the river is approximately 110 feet wide, 1 foot to 3 feet deep with the flow consisting of riffles. The substrate consists of sand, gravel and boulders. Unidentified fish were observed in the river. Vegetation along the banks consists of American Sycamore (*Platanus occidentalis*), Sugar Maple (*Acer saccharum*) and Cottonwood (*Populus deltoides*) trees and saplings; Winged Euonymus (*Euonymus alatus*), Multiflora Rose (*Rosa multiflora*), Autumn Olive (*Elaeagnus umbellata*) and Japanese Barberry (*Berberis thunbergii*) shrubs; Japanese Knotweed (*Fallopia japonica*), Garlic Mustard (*Allaria petiolata*), Common Ragweed (*Ambrosia artemisiifolia*) in the herbaceous stratum; along with Poison Ivy (*Toxicodendron radicans*), Virginia Creeper (*Parthenocissus quinquefolia*) and Oriental Bittersweet (*Celastrus orbiculatus*) vines.

Upstream (north) of the bridge an approximately 40 foot wide vegetated gravel island separates the river into two segments. Overall, the river is approximately 120 feet wide from bank to bank. The river is 1 foot to 3 feet deep with the flow consisting of riffles. The substrate consists of sand, gravel and boulders. Vegetation along the steep banks of the river includes

American Sycamore, Black Cherry (*Prunus serotina*), American Basswood (*Tilia americana*) and Green Ash (*Fraxinus pennsylvanica*) trees and saplings; Winged Euonymus, Multiflora Rose, Autumn Olive and Japanese Barberry shrubs; along with Virginia Creeper, Oriental Bittersweet, Poison Ivy and Fox Grape (*Vitis labrusca*) vines. The gravel island in the middle of the river is vegetated with American Sycamore saplings and a dense stand of Japanese Knotweed.

Alluvial Island: There is an alluvial island on the north side of the bridge that is 40 to 50 feet wide and approximately 200 feet long. The island is vegetated with American Sycamore saplings and Japanese Knotweed along with some Willow (*Salix sp.*) saplings. The soils are comprised of alluvial deposited sands and gravels and are subject to periodic flooding. This island is considered a State-only wetland resource since it is alluvial material, but not composed of hydric soils.

5. NRCS MAPPED SOILS

NRCS soils classifications on the project area are depicted in **Figure 3, NRCS Soils**. Only those found on the project area are described below. Although not mapped by NRCS, the alluvial island associated with the center pier is composed of the Suncook soil series.

Merrimac fine sandy loam, 0 to 3 percent slopes (34A): The Merrimac series consists of very deep, somewhat excessively drained soils formed in outwash. They are nearly level through very steep soils on outwash terraces and plains and other glaciofluvial landforms. Merrimac fine sandy loam, 3 to 8 percent slopes (34B) are also found in the eastern portion of the project area.

Hinkley loamy sand, 0 to 3 percent slopes (38A): The Hinkley series consists of very deep, excessively drained soils formed in glaciofluvial materials. They are nearly level through very steep soils on outwash terraces, outwash plains, outwash deltas, kames, kame terraces, and eskers. Hinkley loamy sand, 3 to 15 percent slopes (38C) are also found in the project area.

Canton and Charlton soils, 3 to 8 percent slopes (60D): The Canton series consists of very deep, well drained soils formed in a loamy mantle underlain by sandy till. They are on nearly level to very steep moraines, hills, and ridges. The Charlton series consists of very deep, well drained soils formed in loamy melt-out till. Charlton soils are also nearly level to very steep soils on moraines, hills, and ridges.

Suncook loamy fine sand, 0 to 3 percent slopes (100): The Suncook series consists of very deep, excessively drained sandy soils formed in alluvial sediments. They are nearly level soils on flood plains, subject to frequent or occasional flooding. The soils formed in recent sandy alluvium derived mainly from granite, gneiss, schist, and quartzite.

6. SUMMARY

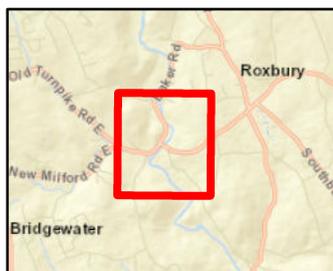
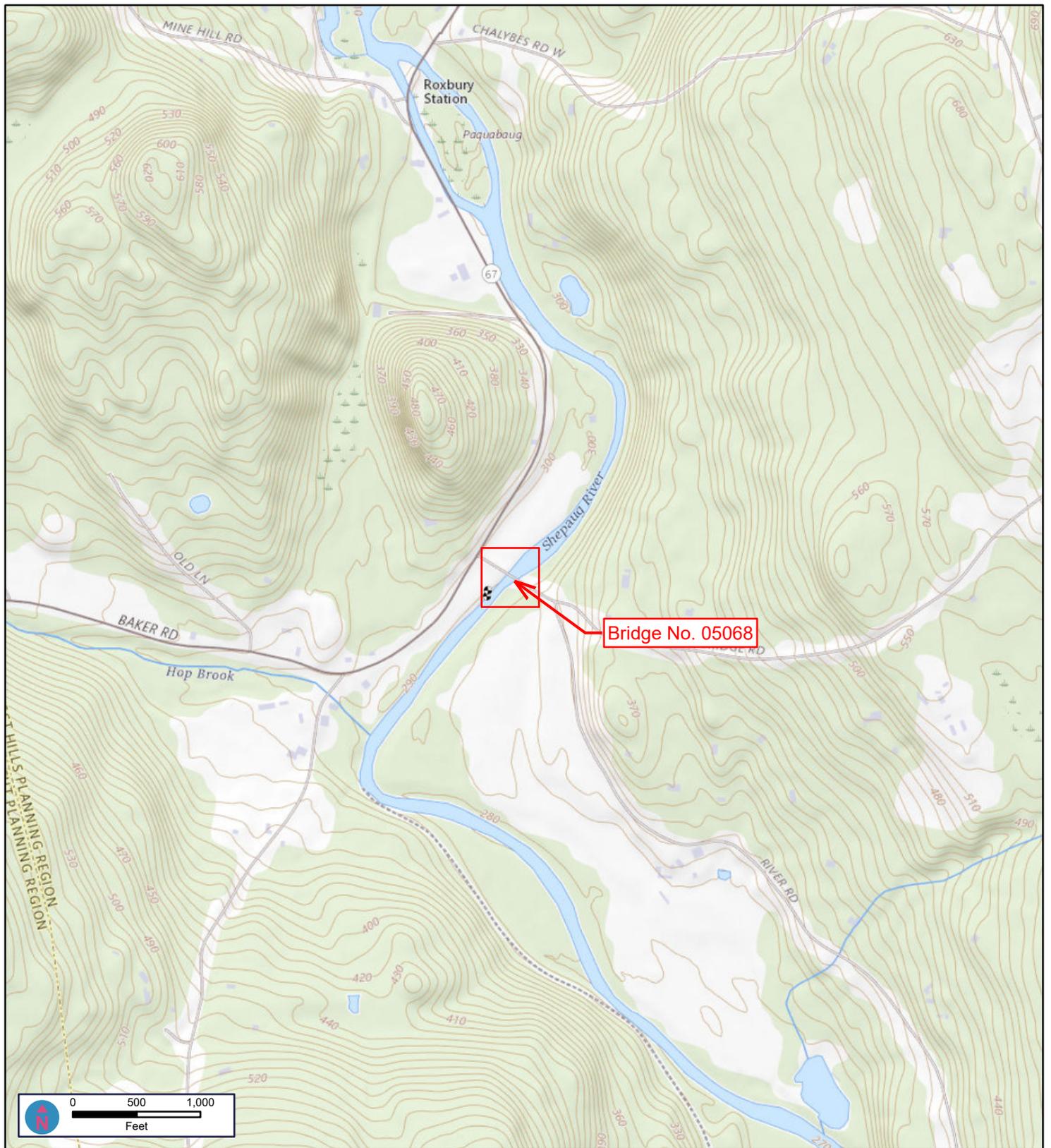
One State-regulated wetland and one watercourse were identified in the project area. The OHW mark of one perennial watercourse, the Shepaug River, and an alluvial island were delineated within the project area. The Shepaug River provides the following functions and values: fish habitat and recreation.

7. REFERENCES AND LITERATURE CITED

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APPENDIX A

FIGURES



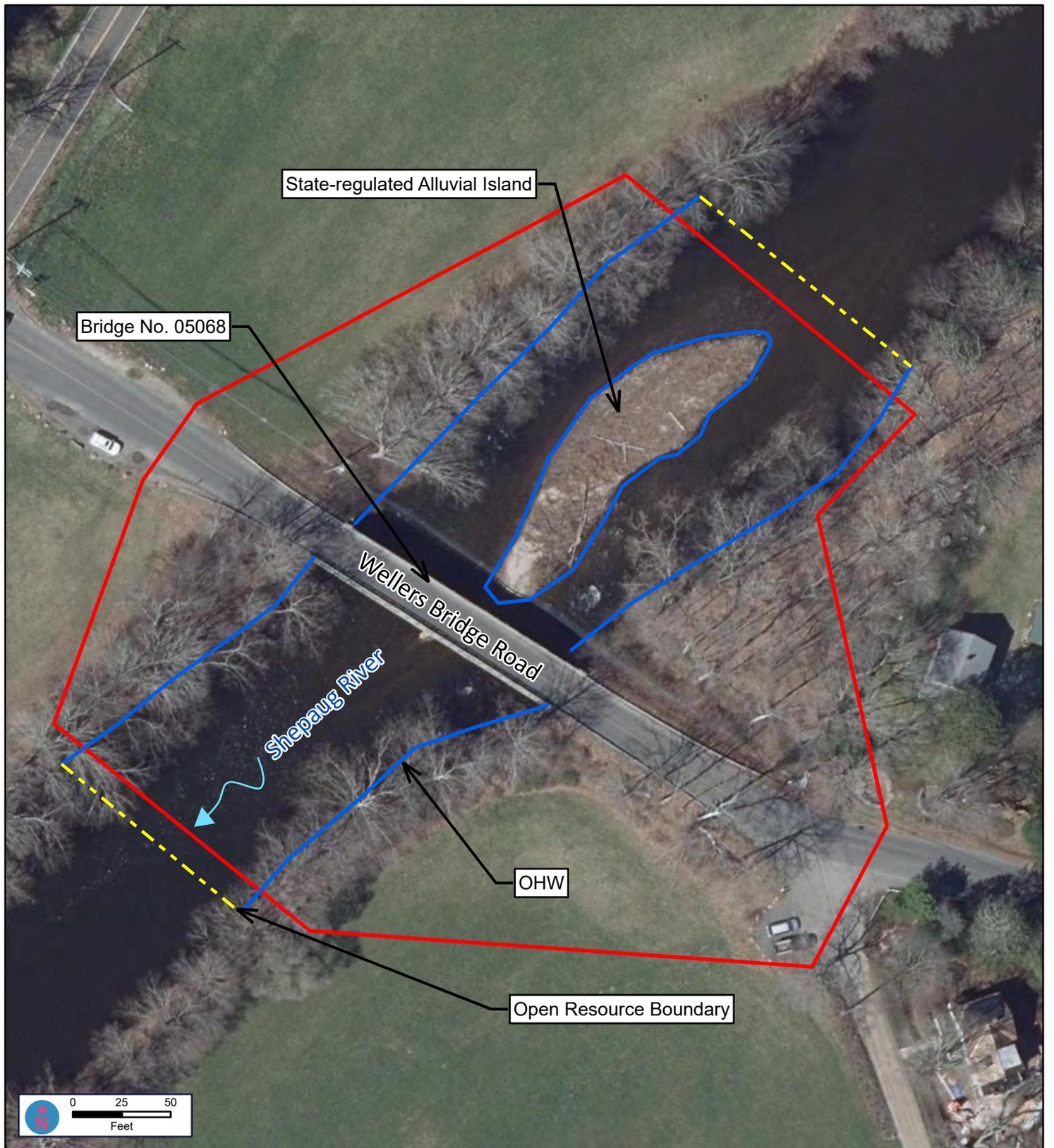
Wellers Bridge Road over Shepaug River Roxbury, CT State Project No. 119-0121

Figure 1
Project Overview Map

Map Produced: 4/21/2023

Data Source: FHI Studio 2023, USGS The National Map, ESRI

For Planning Purposes Only

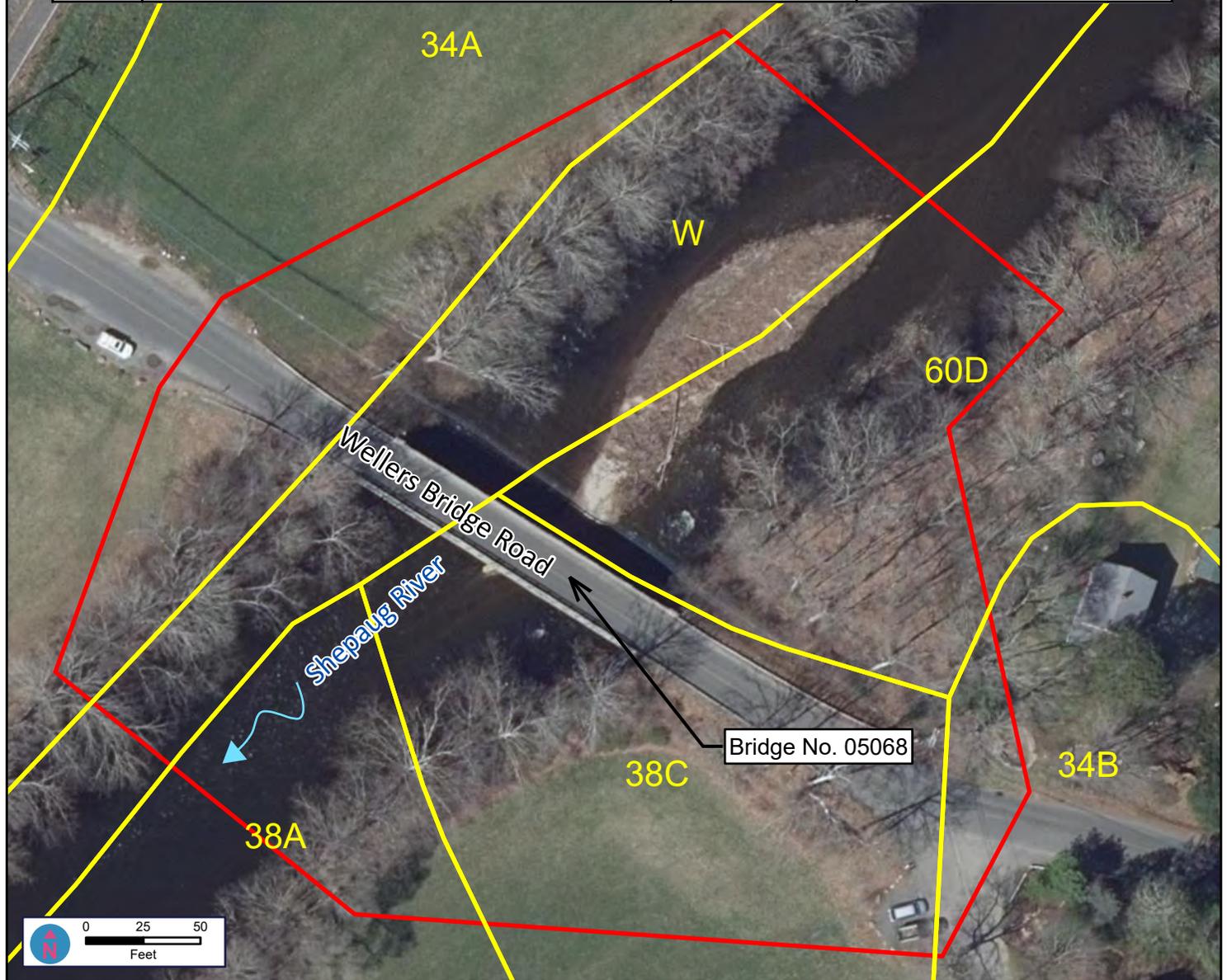


- Legend**
- ▭ Limits of Investigation
 - Ordinary High Water (OHW) Mark
 - Open Resource Boundary

Wellers Bridge Road over Shepaug River Roxbury, CT State Project No. 119-0121

Figure 2
Wetlands/Watercourse Map

Soil ID	Soil Series Name	Parent Material	Drainage Class
38C	Hinckley gravelly sandy loam, 3 to 15 percent slopes	Glaciofluvial	Excessively Drained
34A	Merrimac sandy loam, 0 to 3 percent slopes	Glaciofluvial	Somewhat excessively drained
38A	Hinckley gravelly sandy loam, 0 to 3 percent slopes	Glaciofluvial	Excessively drained
34B	Merrimac sandy loam, 3 to 8 percent slopes	Glaciofluvial	Somewhat excessively drained
60D	Canton and Charlton soils, 3 to 8 percent slopes	Melt-out Till	Well drained



Legend

- ▭ Limits of Investigation
- ▭ NRCS Mapped Soils

Wellers Bridge Road over Shepaug River Roxbury, CT State Project No. 119-0121

Figure 3
Soils Map

Map Produced: 4/21/2023

Data Source: FHI Studio 2023, USGS The National Map, ESRI

For Planning Purposes Only

APPENDIX B

USACE WETLAND

DETERMINATION FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Wellers Bridge Road over Shepaug River City/County: Roxbury/Litchfield Sampling Date: July 19, 2023
 Applicant/Owner: Town of Roxbury State: CT Sampling Point: UP-1
 Investigator(s): RG/SC Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR or MLRA): LRR R Lat: 41°33'0.18"N Long: 73°19'46.65"W Datum: NAD 83
 Soil Map Unit Name: Udorthents NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: UP-1

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>2827 ft2</u>)																				
1. <u>Platanus occidentalis</u>	<u>70</u>	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20.0%</u> (A/B)																
2. <u>Populus deltoides</u>	<u>15</u>	No	FAC																	
3. <u>Acer saccharum</u>	<u>5</u>	No	FACU																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>90</u>	=Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>90</u></td> <td>x 2 = <u>180</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>143</u></td> <td>x 4 = <u>572</u></td> </tr> <tr> <td>UPL species <u>135</u></td> <td>x 5 = <u>675</u></td> </tr> <tr> <td>Column Totals: <u>388</u> (A)</td> <td><u>1487</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>3.83</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>90</u>	x 2 = <u>180</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>143</u>	x 4 = <u>572</u>	UPL species <u>135</u>	x 5 = <u>675</u>	Column Totals: <u>388</u> (A)	<u>1487</u> (B)	Prevalence Index = B/A = <u>3.83</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>90</u>	x 2 = <u>180</u>																			
FAC species <u>20</u>	x 3 = <u>60</u>																			
FACU species <u>143</u>	x 4 = <u>572</u>																			
UPL species <u>135</u>	x 5 = <u>675</u>																			
Column Totals: <u>388</u> (A)	<u>1487</u> (B)																			
Prevalence Index = B/A = <u>3.83</u>																				
Sapling/Shrub Stratum (Plot size: <u>707 ft2</u>)																				
1. <u>Euonymus alatus</u>	<u>70</u>	Yes	UPL	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. <u>Platanus occidentalis</u>	<u>20</u>	No	FACW																	
3. <u>Rosa multiflora</u>	<u>20</u>	No	FACU																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>110</u>	=Total Cover																		
Herb Stratum (Plot size: <u>78.5ft2</u>)																				
1. <u>Ambrosia artemisiifolia</u>	<u>50</u>	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>																
2. <u>Daucus carota</u>	<u>5</u>	No	UPL																	
3. <u>Toxicodendron radicans</u>	<u>5</u>	No	FAC																	
4. <u>Solidago sp.</u>	<u>3</u>	No																		
5. <u>Alliaria petiolata</u>	<u>3</u>	No	FACU																	
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>66</u>	=Total Cover																		
Woody Vine Stratum (Plot size: <u>2827 ft2</u>)																				
1. <u>Celastrus orbiculatus</u>	<u>60</u>	Yes	UPL																	
2. <u>Parthenocissus quinquefolia</u>	<u>65</u>	Yes	FACU																	
3. _____																				
4. _____																				
	<u>125</u>	=Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Wellers Bridge Road over Shepaug River City/County: Roxbury/Lithfield Sampling Date: July 25, 2023
 Applicant/Owner: Town of Roxbury State: CT Sampling Point: WET-1
 Investigator(s): RG/SC Section, Township, Range: _____
 Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): flat Slope (%): 0
 Subregion (LRR or MLRA): LRR R Lat: 41°33'0.70"N Long: 73°19'43.87"W Datum: NAD 83
 Soil Map Unit Name: Suncook NWI classification: N/A - State wetland only

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No <u>N</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>N</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes _____	No <u>N</u>	
Wetland Hydrology Present?	Yes _____	No <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Well-drained alluvial soil			

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:		Wetland Hydrology Present? Yes _____ No <u>X</u>	
Surface Water Present?	Yes _____ No <u>X</u> Depth (inches): _____		
Water Table Present?	Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present?	Yes _____ No <u>X</u> Depth (inches): _____		
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION – Use scientific names of plants.

Sampling Point: WET-1

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>2827 ft2</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)																
1. <u>None observed</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
_____ =Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>90</u></td> <td>x 4 = <u>360</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>370</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.89</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>90</u>	x 4 = <u>360</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>95</u> (A)	<u>370</u> (B)	Prevalence Index = B/A = <u>3.89</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>5</u>	x 2 = <u>10</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>90</u>	x 4 = <u>360</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>95</u> (A)	<u>370</u> (B)																			
Prevalence Index = B/A = <u>3.89</u>																				
Sapling/Shrub Stratum (Plot size: <u>707 ft2</u>)																				
1. <u>Platanus occidentalis</u>	<u>5</u>	Yes	FACW																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
_____ =Total Cover																				
Herb Stratum (Plot size: <u>78.5ft2</u>)				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Fallopia japonica</u>	<u>90</u>	Yes	FACU																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
_____ =Total Cover																				
Woody Vine Stratum (Plot size: <u>2827 ft2</u>)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
1. <u>None observed</u>																				
2. _____																				
3. _____																				
4. _____																				
_____ =Total Cover																				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																				
Remarks: (Include photo numbers here or on a separate sheet.) Not a dominance of hydrophytic vegetation based on Prevalence Index.																				

APPENDIX C

USACE WETLAND FUNCTION AND VALUE FORMS

Wetland Function-Value Evaluation Form

Total area of wetland N/A Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? N

Adjacent land use roads, mowed fields, residential lots Distance to nearest roadway or other development <20 feet

Dominant wetland systems present R3UBH Contiguous undeveloped buffer zone present N

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? Upper

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. Shepaug River

Latitude 41°32'59.80"N Longitude 73°19'45.35"W

Prepared by: RG/SC Date 7/25/23

Wetland Impact:
Type N/A Area N/A

Evaluation based on:
Office X Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
 Groundwater Recharge/Discharge	<input type="radio"/>	<input checked="" type="radio"/>	1,5,7,12,15	+	
 Floodflow Alteration	<input type="radio"/>	<input checked="" type="radio"/>	2		There is little to no floodplain adjacent to the river in the project area.
 Fish and Shellfish Habitat	<input checked="" type="radio"/>	<input type="radio"/>	2,3,4,5,6,7,8,9,10,11	X	12,13,14,15,16,17 Fish were observed in the river. The water quality is high (Class AA).
 Sediment/Toxicant Retention	<input type="radio"/>	<input checked="" type="radio"/>	6,8,9,10		
 Nutrient Removal	<input type="radio"/>	<input checked="" type="radio"/>	8		
 Production Export	<input type="radio"/>	<input checked="" type="radio"/>	2,6,7,8,10,11		
 Sediment/Shoreline Stabilization	<input checked="" type="radio"/>	<input type="radio"/>	1,6,7,8,9,12,13,14		There are trees and shrubs along the steep banks of the river.
 Wildlife Habitat	<input checked="" type="radio"/>	<input type="radio"/>	1,2,3,6,7,8,19		The Shepaug River is a Class AA stream and contains a fish population.
 Recreation	<input checked="" type="radio"/>	<input type="radio"/>	1,2,4,5,6,7,8,9	X	Town landtrust property abuts portions of the river. The Shepaug River provides for recreational fishing and canoeing.
 Educational/Scientific Value	<input type="radio"/>	<input checked="" type="radio"/>	5,6,11		Town landtrust property abuts portions of the river.
 Uniqueness/Heritage	<input type="radio"/>	<input checked="" type="radio"/>	11,14,16,17,19,22		
 Visual Quality/Aesthetics	<input type="radio"/>	<input checked="" type="radio"/>	7,8,9,12		
ES Endangered Species Habitat	<input checked="" type="radio"/>	<input type="radio"/>	1		The project area is in a CT DEEP mapped Natural Diversity Database (NDDB) area. Further coordination with CT DEEP is required to determine the species information.
Other	<input type="radio"/>	<input checked="" type="radio"/>			

Notes:

* Refer to backup list of numbered considerations.

APPENDIX D REPRESENTATIVE PHOTOGRAPHS



Looking south (downstream) from the bridge (July 2023)



Looking south (downstream) from the bridge (July 2023)



Looking west from the north side of the bridge (July 2023)



Looking northwest at gravel island on north side of the bridge (July 2023)

CTDEEP NATURAL DIVERSITY DATABASE COORDINATION



6/3/2025

Connor Oakes

CLOSE, JENSEN AND MILLER, P.C.

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Wethersfield, CT 06109

coakes@vhb.com

Subject: State Project 0119 0121 Rehabilitation of Bridge 05068 Roxbury

Filing #: 122363

NDDDB - New Determination Number: 202412321

Expiration Date: 6/3/2027

Location Description: CT State Project 0119 0121 Replacement of Bridge No. 05068, Wellers Bridge Road over the Shepaug River in Roxbury, Connecticut

I have reviewed Natural Diversity Database maps and files regarding the area delineated on the map provided for State Project 0119 0121, the replacement of Bridge No. 05068, Wellers Bridge Road over the Shapaug River in Roxbury, Connecticut. According to our records there are known extant populations of State Listed species that occur within the vicinity of this project site. The species are:

State Listed Animals

Myotis septentrionalis (Northern long-eared bat) - Federal Threatened and State Endangered

Myotis lucifugus (Little brown bat) - Endangered

Myotis leibii (Eastern small-footed bat) - State Endangered

Perimyotis subflavus (Tri-colored bat) - Endangered

Gomphus quadricolor (Rapids clubtail) - State Threatened

Terrapene carolina carolina (Eastern box turtle) - State Threatened

Glyptemys insculpta (Wood turtle) – State Special Concern

Ammodramus caudacutus (Saltmarsh sharp-tailed sparrow) - State Special Concern

Protection for Eastern Box Turtle and Wood Turtle

Eastern Box Turtle (*Terrapene c. carolina*): Eastern box turtles inhabit old fields and deciduous forests,

which can include power lines and logged woodlands. They are often found near small streams and ponds. The adults are completely terrestrial but the young may be semiaquatic, and hibernate on land by digging down in the soil from October to April. They have an extremely small home range and can usually be found in the same area year after year. Eastern box turtles have been negatively impacted by the loss of suitable habitat. Some turtles may be killed directly by construction activities, but many more are lost when important habitat areas for shelter, feeding, hibernation, or nesting are destroyed. As remaining habitat is fragmented into smaller pieces, turtle populations can become small and isolated. Reducing the frequency that motorized vehicles enter box turtle habitat would be beneficial in minimizing direct mortality of adults.

Wood turtle: Wood turtles require riparian habitats bordered by floodplain, woodland or meadows. They hibernate in the banks of the river in submerged tree roots. Their summer habitat includes pastures, old fields, woodlands, powerline cuts and railroad beds bordering or adjacent to streams and rivers. This species has been negatively impacted by the loss of suitable habitat.

Recommended Protection Strategies for Turtles:

A qualified herpetologist must be hired to work on site with your construction crew during the project construction period to be sure that turtles will not be unintentionally killed during the moving of heavy equipment and tree clearing. This is especially important in May, June and July when turtles are choosing nest sites.

Work should occur when these turtles are active (April 1st to October 30th). Conducting land clearing while the turtle is active will allow the animal to move out of harm's way and minimize mortality to hibernating individuals. I recommend the additional following protection strategies in order to protect these turtles:

- Exclusionary practices will be required to prevent any turtle access into construction areas. These measures will need to be installed at the limits of disturbance.
- Exclusionary fencing must be at least 20 in tall and must be secured to and remain in contact with the ground and be regularly maintained (at least bi-weekly and after major weather events) to secure any gaps or openings at ground level that may let animal pass through. Do not use plastic netted or any netted silt-fence.
- All staging and storage areas, outside of previously paved locations, regardless of the duration of time they will be utilized, must be reviewed to remove individuals and exclude them from re-entry.
- All construction personnel working within the turtle habitat must be apprised of the species description and the possible presence of a listed species and instructed to relocate turtles found inside work areas or notify the appropriate authorities to relocate individuals.
- Any turtles encountered within the immediate work area shall be carefully moved to an adjacent area outside of the excluded area and fencing should be inspected to identify and remove access point.
- In areas where silt fence is used for exclusion, it shall be removed as soon as the area is stable to allow for reptile and amphibian passage to resume.
- No heavy machinery or vehicles may be parked in any turtle habitat.
- Special precautions must be taken to avoid degradation of wetland habitats including any wet meadows

and seasonal pools.

- The Contractor must search the work area each morning prior to any work being done.
- Avoid and limit any equipment use within 50 feet of streams and brooks. If trees must be removed within 50 feet of streams and brooks cut them to fall away from the waterway and do not drag trees across the waterway or remove any stumps.
- Any confirmed sighting of box, wood or spotted turtles will be reported and documented with the NDDDB (nddbrequestdep@ct.gov) on the appropriate special animal form found at (http://www.ct.gov/deep/cwp/view.asp?a=2702&q=323460&depNav_GID=1641)

Protection for Bat Species

Bat Protection Recommendations: Given the known concentrated seasonal use of this area by bats, we recommend that any tree cutting activities be conducted during the hibernation period of these animals. Tree cutting should be conducted from November 1 through March 30 to ensure that bats are safely situated in their hibernacula. Retaining larger diameter trees (12-inch DBH and larger) wherever possible on-site, may additionally minimize the potential for negative impacts to bats. Establishing this sort of wooded buffer adjacent to the wetland areas will help maintain potential roosting habitat. Trees with loose, rough bark such as maples, hickories, and oaks are more desirable than other tree species due to the increased cover that the loose bark provides. Large trees with cavities are also utilized by different bat species.

Protection for Dragonfly

State Threatened *Gomphus quadricolor* (Rapids clubtail) is very sensitive to degradation of clear, cold water habitats including siltation in the waterways and hardening of the shoreline. This species has an aquatic life stage that persists for multiple years.

To avoid impact to the State Threatened dragonfly species:

- Retain the fast-flowing water system downstream. Ensure that water flow to swiftly-flowing waters downstream is not impeded temporarily during the course of your work, or permanently after the course of your project
- Incorporate BMPs for minimizing sedimentation and erosion that will meet water quality criteria
- Materials used for sediment and erosion control should NOT contain plastic netting/mesh which has been shown to entangle wildlife
- Keep natural shorelines. Minimize the use of riprap and minimize the amount of tree cutting and vegetation removal along the banks of the river
- Plant or replant riparian vegetation native to the northeast United States in disturbed shoreline areas.

Water quality criteria targets that will help protect this species include the following:

- Suspended sediments o Maximum induced suspended sediments in any 24 hr period should be less than 25mg/L over background levels.
- Induced suspended sediments averaged over 30 day period should be less than 5mg/L over background levels.
- Water temperature should not increase 1° C (~1.8°F)

Your submission information indicates that your project requires a state permit, license, registration, or authorization, or utilizes state funding or involves state agency action. This NDDDB - New determination may be utilized to fulfill the Endangered and Threatened Species requirements for state-issued permit

applications, licenses, registration submissions, and authorizations.

Please be aware of the following limitations and conditions:

Natural Diversity Database information includes all information regarding listed species available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, land owners, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as enhance existing data. Such new information is incorporated into the Database and accessed through the ezFile portal as it becomes available. New information may result in additional review, and new or modified restrictions or conditions may be necessary to remain in compliance with certain state permits.

- During your work listed species may be encountered on site. A report must be submitted by the observer to the Natural Diversity Database promptly and additional review and restrictions or conditions may be necessary to remain in compliance with certain state permits. Please fill out the [appropriate survey form](#) and follow the instructions for submittal.
- Your project involves the state permit application process or other state involvement, including state funding or state agency actions; please note that consultations with your permit analyst or the agency may result in additional requirements. In this situation, additional evaluation of the proposal by the DEEP Wildlife Division may be necessary and additional information, including but not limited to species-specific site surveys, may be required. Any additional review may result in specific restrictions or conditions relating to listed species that may be found at or in the vicinity of the site.
- If your project involves preparing an Environmental Impact Assessment, this NDDDB consultation and determination should not be substituted for biological field surveys assessing on-site habitat and species presence.
- The NDDDB - New determination for the State Project 0119 0121 Rehabilitation of Bridge 05068 Roxbury as described in the submitted information and summarized at the end of this document is valid until 6/3/2027. This determination applies only to the project as described in the submission and summarized at the end of this letter. Please re-submit an updated Request for Review if the project's scope of work and/or timeframe changes, including if work has not begun by 6/3/2027.

If you have further questions, please contact me at the following:

Dawn McKay
CT DEEP Bureau of Natural Resources
Wildlife Division
Natural Diversity Database
79 Elm Street
Hartford, CT 06106-5127
(860) 424-3592
Dawn.McKay@ct.gov

Please reference the Determination Number 202412321 when you e-mail or write. Thank you for consulting the Natural Diversity Data Base.

Dawn McKay
Wildlife Division- Natural Diversity Data Base
79 Elm Street
Hartford, CT 06106-5127

(860) 424-3592
Dawn.McKay@ct.gov

Application Details:

Project involves federal funds or federal permit:	Yes
Project involves state funds, state agency action, or relates to CEPA request:	Yes
Project requires state permit, license, registration, or authorization:	Yes
DEEP enforcement action related to project:	
Project Type:	
Project Sub-type:	New Bridge Including Upland and In-water work
Project Name:	State Project 0119 0121 Rehabilitation of Bridge 05068 Roxbury
Project Description:	Bridge No. 05068 is a circa-1956 two-span bridge that carries Wellers Bridge Road over the Shepaug River. Land use in the immediate vicinity of the bridge is re

Invasive Species Plan Review and Habitat Assessment with Species Surveys to Develop a Comprehensive Reptile Habitat Mitigation Plan for the Design, During, and Post-Construction Remediation Phases

Project: Preliminary Assessment of the Replacement of Bridge No. 05068

Wellers Bridge Road over the Shepaug River in Roxbury, Connecticut

NDDB Determination No.: 202202013

Prepared By:

Dennis P. Quinn – Owner/Herpetologist
Quinn Ecological, LLC

Prepared for:

Thomas Weldon
Vanasse Hangen Brustlin, Inc.

July 16, 2025

Scope of Services:

1. Quinn Ecological, LLC conducted a Site Visit to meet with VHB representatives to review the site and discuss various mitigation measures that will be needed throughout the construction of the Project. Quinn Ecological assessed habitats within the project area for suitability to support a wood turtle population.
2. Review the review of the existing mitigation plan for invasive species removal will be conducted. A summary of specifications which may potentially impact wood and box turtles will be provided.
3. Based on the result of the field investigation, a comprehensive report detailing a reptile species and habitat mitigation plan, to be used during design, during construction, and post construction is provided in this report.

The proposed mitigation/protection plan focuses on protection of the wood turtle (*Glyptemys insculpta*), the protection measures provided will also serve as suitable protection measures for the eastern box turtle (*Terrapene c. carolina*) The wood turtle and box turtle are state-listed (special concern) reptiles under Connecticut's Endangered Species Act. The wood turtle is currently under review by the United States Fish and Wildlife Service for potential listing under the federal Endangered Species Act. Both species of turtle have been identified as a "species of greatest conservation need" in Connecticut's Wildlife Action Plan (CTDEEP Wildlife Division 2025). The occurrence of both box turtles and wood turtles within, or in the vicinity of the project area has been confirmed, and suitable habitat exists to support a population (CTDEEP-NDDB; Klemens et.al 2021).

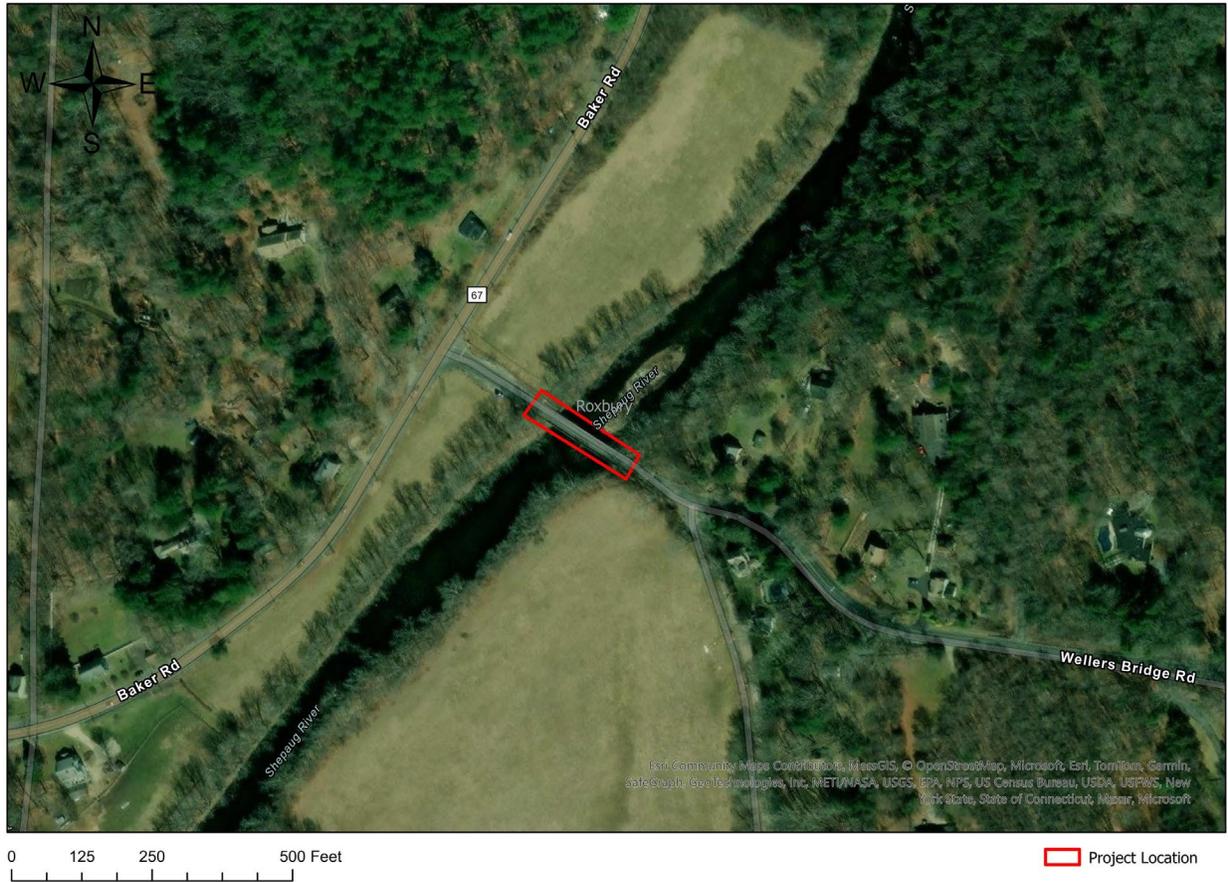


Figure 1. Location of the bridge replacement project and approximate area of disturbance along the Shepaug River.

SPECIES OVERVIEW AND HABITAT ASSESSMENT

Wood turtles are semi-aquatic riverine species that over-winter within rivers and streams, either tucked under embankments, among root tangles and fallen logs, or in deeper pools with accumulations of leaves and other organic matter. In the spring and fall, wood turtles typically remain close to the river, where they move along short stretches of the river frequently basking among protected open areas along the embankments. Because of the wood turtle’s close association with the river from late September through May, careful assessment of the characteristics of the habitat along a particular stretch of river (i.e., potential seasonal use by turtles), and consideration of any disturbances occurring within, and along the banks of the river (typically within 300 feet) is important in determining the potential for negative impacts of a proposed project, and for guiding decisions related to the seasonal timing of any activities.

Eastern box turtles approach their northeastern range limit in Connecticut, inhabiting primarily low-lying portions of the State below 500-foot elevation. As Connecticut’s only terrestrial species of turtle, eastern box turtles use a mosaic of habitats seasonally (Klemens et al. 2021, Quinn et al., 2017 and Quinn, 2008). During the spring and early summer months they favor early and late successional habitats (fields and shrublands), with a shift to forested habitats during the late-summer and fall seasons. Nesting occurs exclusively during the months of May and June in sparsely vegetated early successional habitat, with

hibernation occurring exclusively in forested uplands for adult individuals and forested or shrub/scrub habitats for juveniles and hatchlings. (Nicolson et al., 2020, Quinn et al., 2017 and Quinn, 2008). The largest threat to eastern box turtles continues to be mortality relating to the fragmentation of habitat mosaics.

As a long-lived species with delayed sexual maturity and low reproductive output, the ability of wood turtle and box turtle populations to rebound from significant loss of adults is problematic. To ensure survivorship of these populations, reducing impacts, such as habitat fragmentation and road mortality, and maintaining ecological connectivity within habitat mosaics is critical.

Potential overwintering habitat: The physical characteristics of the river within the immediate construction zone north and south of the bridge crossing are not suitable for overwintering (i.e., lack undercut banks, shallow depth with a mostly rocky bottom, lack woody debris, etc.). A study of overwintering sites utilized by wood turtles in rivers in eastern Connecticut identified typical microhabitat features as: areas of relatively low flow velocity, located within a meter of the river bank, and with bottom substrates dominated by silt/muck/organic deposits. A strong correlation with submerged root tangles and undercut banks was also noted (Gruner, unpublished data). No suitable hibernation habitat for eastern box turtles occurs within the project area.

Early spring and fall seasonal basking habitat: Patches of open canopy, shrub and herbaceous habitat located along streambanks provide important habitat for wood turtles to bask and thermoregulate during early and late season periods. The immediate area surrounding the river within the project area consists of forest and agricultural lands with suitable river embankment and terrestrial basking habitat present to attract turtles. During the spring and early summer months, eastern box turtles favor early and late successional habitats (fields and shrublands). The meadows adjacent to the project site are suitable for spring and early summer movements of box turtle.

Seasonal turtle activity and nesting habitat: Wood turtles begin to disperse away from the immediate river environs to their summer habitat in the surrounding floodplain and upland areas in late spring. Similarly, box turtles will disperse for forested habitats into early to late successional habitats. *Therefore, a primary consideration within the construction zone is the installation of exclusionary fencing to prevent dispersing turtles from moving into areas of disturbance.* This is especially important to prevent female turtles from nesting in disturbed areas from late May through early July. Female turtles are attracted to open areas of bare, or sparsely vegetated soil to deposit their eggs. Areas such as this are often created by site clearing and grubbing during construction projects. Location of this project along a road may result in the creation of disturbances that expose nesting females and/or hatchlings to mortality unless these areas are excluded from access during the construction period, and planted, or allowed to naturally revegetate post-construction.

Beyond consideration of potential impacts associated with the project's immediate construction zone, careful consideration of potential impacts associated with locating and preparing staging areas for the project need to be taken into consideration. Wood and box turtles disperse into various upland habitat habitats seasonally. Areas extending from 300 feet to as much as 1,000 feet from each river embankment into surrounding floodplain and upland habitats are considered important conservation zones for wood turtles based on studies of their seasonal movements (Northeast Wood Turtle Working Group, GLIN_Mapping_Guidelines_2017 (northeastturtles.org)).

In addition to the forested floodplain, early successional herbaceous or shrub dominated habitats, edges of agricultural and hay fields, and sand/gravel pits, all provide important habitat during the spring-fall activity season. Areas of critical habitat, in this case the early successional meadows, adjacent to the construction area need to be excluded from the construction area and any temporary staging areas within these meadows must be excluded with turtle exclusionary barrier.

No other critical seasonal habitat that would attract wood or box turtles to the project area throughout their active season were observed.

The *primary goal* of the mitigation plan is to avoid inadvertent injury/mortality of turtles that may be dispersing through the area over the course of their spring - fall active season. A *secondary goal* is to prevent the establishment of conditions along the roadway that will attract turtles to nest, exposing both adults and hatchlings to road mortality.

The proposed mitigation plan consists of three phases: (1) pre-construction, including site clearing/grubbing and the installation of cofferdams, (2) active construction monitoring, and (3) post-construction and site restoration.

The objectives of the **pre-construction phase** are:

(a) identify appropriate locations for staging construction equipment, temporary construction office trailers, work crew parking, and stock-piling of materials including fill, (b) identify areas where exclusionary fencing will be required, (c) guide installation of the exclusion fencing, (e) provide construction personnel with information on wood turtles and what to do if they encounter them, (f) conduct sweeps of the project area and monitor site clearing and grubbing activities when heavy equipment is in use, and (g) complete regular inspections and make timely repairs as necessary to maintain the integrity of the exclusion fencing.

The objectives of the **construction phase** are:

(a) conduct regular on-site monitoring to ensure integrity of the exclusion fencing and relocate any animals encountered to suitable habitat outside of the project area, (b) conduct sweeps (aquatic and/or terrestrial searches as necessary) of work areas, or where heavy machinery is in use to relocate any reptiles encountered to suitable habitat away from the project area, and (c) provide construction personnel with information on wood turtles and what to do if they encounter them during the project

The objectives of the **post-construction restoration phase** focus' on:

(a) restoration of areas that were disturbed during the project, including staging areas, and (b) removal of the exclusionary fencing once the disturbed areas are stabilized, (c) conduct a site inspection to review the restored areas to ensure that no hazards remain for turtles (i.e., "ecological traps" – see Klemens et.al 2021).

REQUIREMENTS OF THE PROTECTION PLAN

Requirement #1: Avoid important habitat, within or outside, of the primary construction zone by locating appropriate staging areas for the project:

It is anticipated that equipment, materials, and fill will be staged along the immediate roadway and shoulder areas due to the necessity of road closure for the project. However, once a location(s) for

staging has been identified by the contractor, the site(s) should be reviewed by the project herpetologist to determine if there is a need to conduct sweeps for any of the target species. Beyond the scope of the project construction easement, the meadows surrounding the project site should be avoided to the greatest extent possible. If these areas are required to be used for staging, an appropriate exclusionary barrier will need to be installed. If the meadow areas are proposed for staging, the location and extent should be coordinated and reviewed by the project herpetologist.

Requirement #2: Identify areas requiring the installation of exclusionary fencing and appropriately install the fencing:

Exclusionary fencing at least 20 inches in height (above ground level) should be installed at the limits of disturbance within the construction zone. The fencing should be staked (12 inches into the ground) at appropriate distances to maintain rigidity (6-10 feet intervals), and the fencing buried at least 4 inches into the ground and back-filled. Standard erosion control/silt fencing (geotextile) can be used, but not fencing with a wider nylon mesh lining, which can entangle snakes (WI DNR 2015).

The terminus of each length of fencing should be angled back away from the road to divert animals moving along the exterior of the fence back into undisturbed habitat to discourage them from moving around the fence. Installation of each length of fence should be coordinated with the project herpetologist to determine the best angle and placement depending upon the location, topography, and surrounding habitat. In general, a “J-hook” loop design with an interior width of no more than 18 inches, and return length of fencing of approximately 10 feet should be used (see Figure 4). The exclusionary fencing must be tied into the cofferdam to prevent turtles from accessing the work area in the river from the embankments. Figure 5 illustrates approximate locations for exclusionary fencing. The exact location and layout of the fencing will be determined in coordination with the consulting herpetologist at the time of installation.

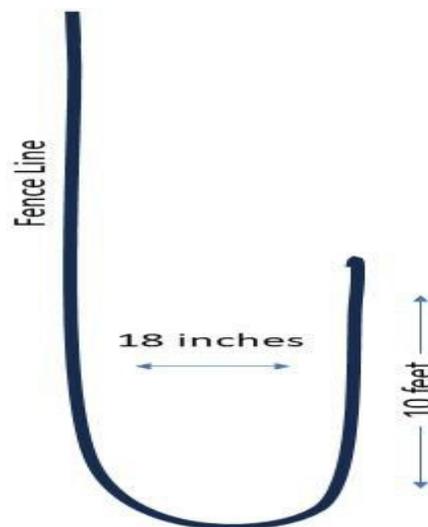


Figure 4. “J-hook” loop design for the end points of the exclusion fencing.

Exclusionary fencing may also be required to be installed around other staging areas for the project, depending upon their location and the habitat present. The project herpetologist should be consulted to review the selected areas.

Installation of the exclusionary fencing must be completed by April 15th to prevent turtles from entering the construction zone. If installation is delayed, additional steps to survey for, and relocate any individuals within the construction zone may be required.

If so, a qualified herpetologist must conduct surveys of the construction zone and relocate any reptiles encountered to appropriate habitat outside of the construction zone, and within a distance representative of the species' typical home range based on published studies. The sweeps must be conducted on the same day that the construction activity is occurring, and the herpetologist should work directly with the contractors mowing or clearing areas to guide these activities based on the type and density of vegetation.

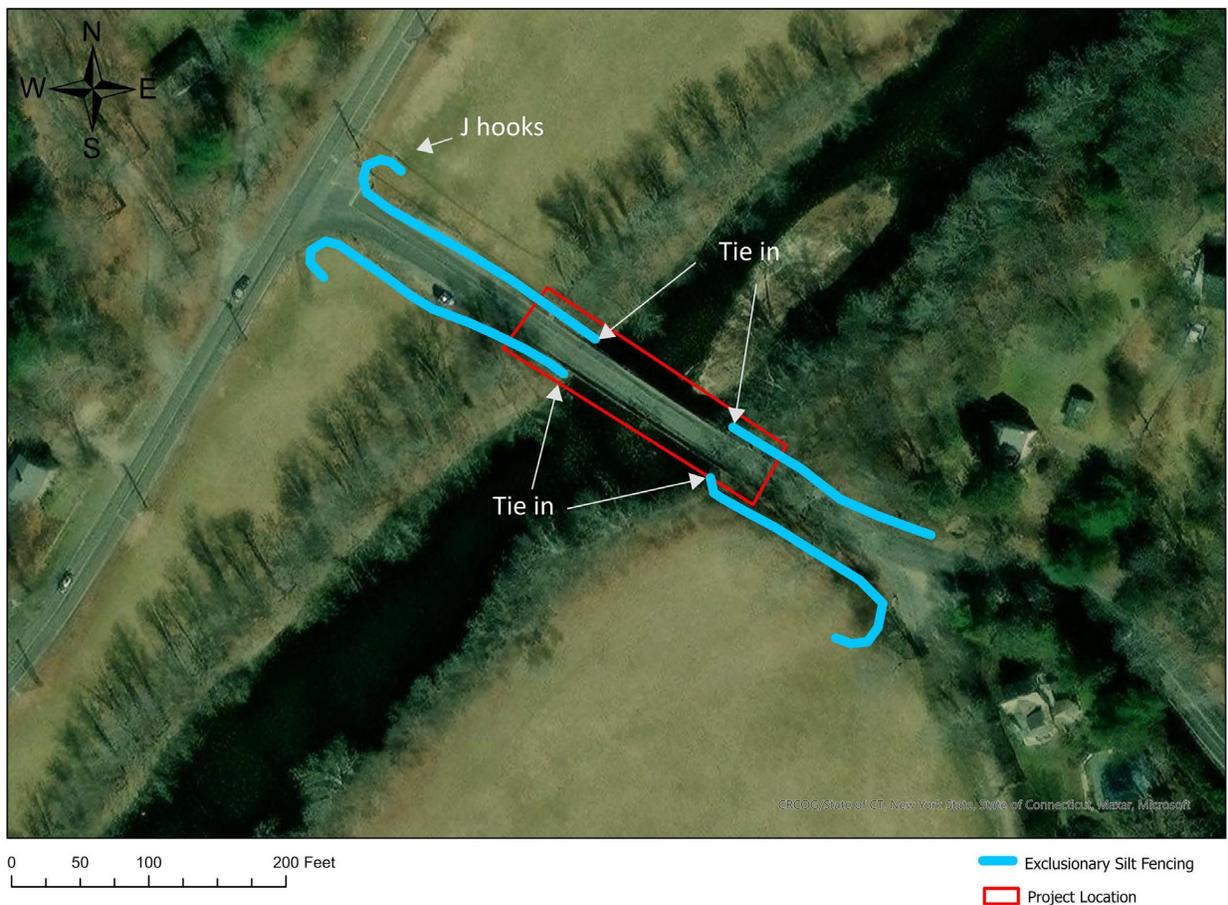


Figure 5. Approximate location of exclusionary fencing to prevent turtles from entering the construction zone.

Requirement #3: Conduct in-stream, and bank sweeps for turtles along the banks of the Shepaug River prior to any work in this area from April 1- May 30. This is especially important during the period prior to the installation of the exclusionary fencing (April 1-15).

Wood turtles will be active during this period so there is no concern for disturbing over-wintering individuals. However, this timing coincides with a period of high activity where turtles are associated with both instream and near-stream habitats, thus caution is warranted.

Sweeps should be conducted by a qualified herpetologist with experience in conducting surveys for wood turtles. The sweeps must occur no more than 24 hours prior to any work. If any wood turtles are encountered, the consulting herpetologist will relocate them to appropriate habitat outside of the project area along the Shepaug River.

Construction Phase

The focus of protection strategies during the construction phase of the project center around maintaining the integrity of the exclusion fencing and conducting sweeps to relocate any individual turtles to appropriate habitat outside of the construction area. Turtles have evolved a reproductive life history that depends upon high survivorship in the adult stage. Loss of individuals, especially adult females, can contribute to local population declines.

Requirement #4: Inform construction personnel on what to do if they encounter any of the reptile species:

An informal “construction team meeting” should be convened in the field to provide information on wood and box turtles, including, identification, and what to do if any individuals are encountered. This will also be an opportunity to summarize the components and goals of the protection plan for the work crew. It is also important to stress to construction personnel that any turtles encountered should not be removed. Not infrequently, turtles encountered by individuals are taken from the wild and brought home as pets. Collection of wild turtles can be a significant contributing factor in population declines. The information session should be presented by a qualified herpetologist and coordinated with the construction project manager.

Requirement #5: Conduct regular monitoring of the exclusionary fencing.

It is important to monitor the integrity of the exclusion fencing on a regular basis to ensure that animals cannot enter active construction areas. This is especially important during the turtle nesting season when females are actively moving around seeking appropriate sites in which to deposit their eggs. The exclusionary fencing should be inspected by the project herpetologist weekly from March 1-July 15th and biweekly between July 16-October 15.

Installation of exclusionary fencing within or adjacent to habitats sometimes results in individuals encountered moving along the exterior of the fence and being directed linearly along the fence for some distance (Quinn pers. obs.). This can expose them to predation. Thus, it is important that a qualified herpetologist conduct the inspections, as they are capable of capturing, and relocating any individuals encountered to appropriate habitat within the area that would fall within the species typical home range, yet safely away from the project.

The environmental monitor is responsible for daily silt fence checks to ensure damaged silt fence is immediately repaired. This is especially true following any heavy rain events or windstorms it is imperative that the fencing be inspected within 24 hours, and any necessary repairs made. These events often lead to fencing being pulled away from stakes, and branches falling on the fence creating gaps.

Requirement #6: Conduct sweeps of any areas to be cleared, or where heavy machinery will be in use throughout the duration of the project:

Prior to clearing any areas, including any temporary staging areas, a qualified herpetologist should conduct visual sweeps to capture and relocate any animals that may be encountered.

Post-construction Restoration Phase

The focus of mitigation strategies during the post-construction phase of the project is on restoration of areas disturbed during the project, including any staging areas, as well as the removal of the exclusionary fencing.

Requirement #7: Restore disturbed areas in a manner that avoids impacts to surrounding habitat or individual animals:

All open areas with bare, or sparsely vegetated soil that remain in the construction zone should be seeded and/or planted. A conservation seed mix that utilizes natural species should be used to avoid the spread of non-native, invasive plants into surrounding habitat. Because of the location of disturbances along a roadway, it is important to eliminate any potential areas that may attract turtles to nest.

Consultation with the project herpetologist is recommended in reviewing these areas of disturbance during the restoration phase of the project.

Requirement #8: Invasive Plant Species Removal:

Within the project area, all invasive plant species should be removed. This should be done through hand-clearing in areas outside of exclusionary silt fence areas. Spot treatment, using CTDEEP approved herbicides can be conducted.

Requirement #9: Remove all exclusionary fencing:

At the completion of the project, and once areas of disturbance are stabilized, the exclusionary fencing should be removed from all areas, including the staging areas, to avoid impeding the dispersal of animals.

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Barbara J. Nicholson, Quinn D. P., Rivadeneyra M.A. 2020. Post-natal Movement, Habitat Use, and Hibernacula Selection of Eastern Box Turtles (*Terrapene carolina carolina*) in Southern New England. *Northeastern Naturalist*. 27(2):358-380.

Connecticut Department of Energy and Environmental Protection, Wildlife Division. 2025. *Connecticut Wildlife Action Plan: Protecting our wildlife and habitats together*. July 2025 draft, 2025 CT Wildlife Action Plan Draft

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(WI DNR) 2015. Amphibian and reptile exclusion fencing protocols. Wisconsin Department of Natural Resources, Endangered Resources Review Program. Revised February

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Quinn, D. 2008. A radio-telemetric study of the Eastern Box Turtle (*Terrapene carolina carolina*) home range, habitat use, and hibernacula selection in Connecticut. M. Sc Thesis. Central Connecticut State University, New Britain, CT. 84 pp.

DEPARTMENT OF PUBLIC HEALTH
COORDINATION

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH



Manisha Juthani, MD
Commissioner

Ned Lamont
Governor
Susan Bysiewicz
Lt. Governor

Drinking Water Section

March 17th, 2022

James Otis, Project Engineer
Close, Jensen and Miller, P.C.
1137 Silas Deane Highway
Wethersfield, CT 06109

Re: Federal Local Bridge Program
Bridge No. 05068
Wellers Bridge Road over Shepaug River
State Project No. 119-121
Federal-aid Project No. 6119(TBD)

Dear Mr. Shepard,

The Drinking Water Section (DWS) of the Department of Public Health has reviewed the location of the following bridge project:

Project No.	Bridge No.	Town	Road	Feature Crossed	Scope
119-121	05068	Roxbury	Wellers Bridge Road	Shepaug River	Replacement

Based on our review it appears that the bridge project is not located in a public water supply source water area, therefore it does not appear that the above bridge project will impact public drinking water supply sources.

If you have any questions regarding this matter, please contact Lisette Stone of this office at (860) 509-7208.

Sincerely,

Eric McPhee
Supervising Environmental Analyst
Drinking Water Section

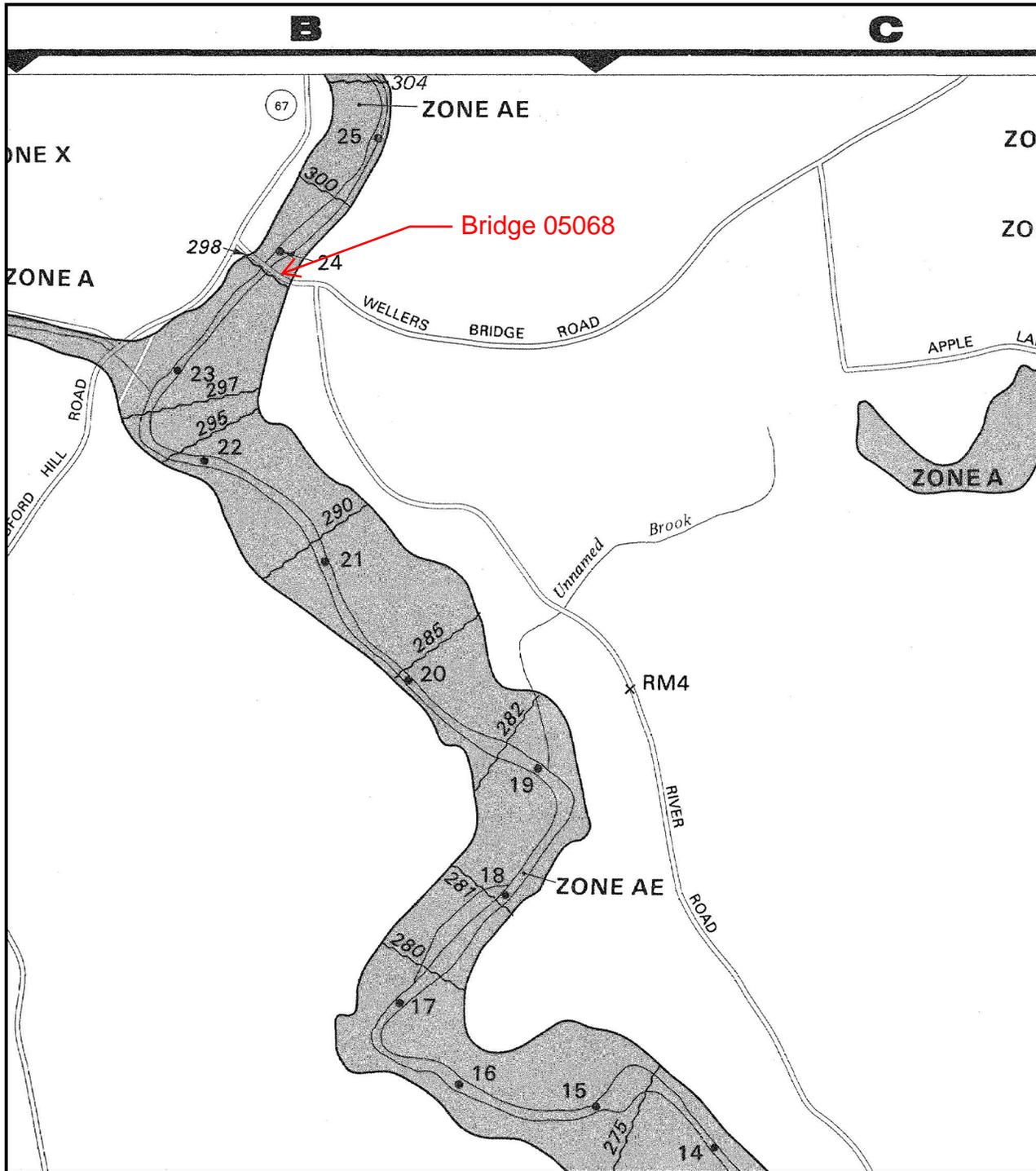


Phone: (860) 509-7101 • Fax: (860) 509-7111
Telecommunications Relay Service 7-1-1
410 Capitol Avenue, P.O. Box 340308
Hartford, Connecticut 06134-0308
www.ct.gov/dph

Affirmative Action/Equal Opportunity Employer



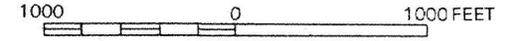
FEMA FIRM MAPPING



88-6620.



APPROXIMATE SCALE



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
ROXBURY, CONNECTICUT
LITCHFIELD COUNTY

PANEL 10 OF 10
(SEE MAP INDEX FOR PANELS NOT PRINTED)



PANEL LOCATION

COMMUNITY-PANEL NUMBER

090051 0010 B

EFFECTIVE DATE:

DECEMBER 3, 1987



Federal Emergency Management Agency

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>.

CTDEEP SIWWAR



Statewide Inland Wetlands & Watercourses Activity Reporting Form

Please complete this form in accordance with the instructions on pages 2 and 3 and mail to:

DEEP Land & Water Resources Division, Inland Wetlands Management Program, 79 Elm Street, 3rd Floor, Hartford, CT 06106

Incomplete or incomprehensible forms will be mailed back to the inland wetlands agency.

PART I: Must Be Completed By The Inland Wetlands Agency

1. DATE ACTION WAS TAKEN: year: _____ month: _____
2. ACTION TAKEN (see instructions - one code only): _____
3. WAS A PUBLIC HEARING HELD (check one)? yes no
4. NAME OF AGENCY OFFICIAL VERIFYING AND COMPLETING THIS FORM:
(print name) _____ (signature) _____

PART II: To Be Completed By The Inland Wetlands Agency Or The Applicant

5. TOWN IN WHICH THE ACTIVITY IS OCCURRING (print name): _____
does this project cross municipal boundaries (check one)? yes no
if yes, list the other town(s) in which the activity is occurring (print name(s)): _____, _____
6. LOCATION (see instructions for information): USGS quad name: _____ or number: _____
subregional drainage basin number: _____
7. NAME OF APPLICANT, VIOLATOR OR PETITIONER (print name): _____
8. NAME & ADDRESS OF ACTIVITY / PROJECT SITE (print information): _____
briefly describe the action/project/activity (check and print information): temporary permanent description: _____

9. ACTIVITY PURPOSE CODE (see instructions - one code only): _____
10. ACTIVITY TYPE CODE(S) (see instructions for codes): _____, _____, _____, _____
11. WETLAND / WATERCOURSE AREA ALTERED (see instructions for explanation, must provide acres or linear feet):
wetlands: _____ acres open water body: _____ acres stream: _____ linear feet
12. UPLAND AREA ALTERED (must provide acres): _____ acres
13. AREA OF WETLANDS / WATERCOURSES RESTORED, ENHANCED OR CREATED (must provide acres): _____ acres

DATE RECEIVED:

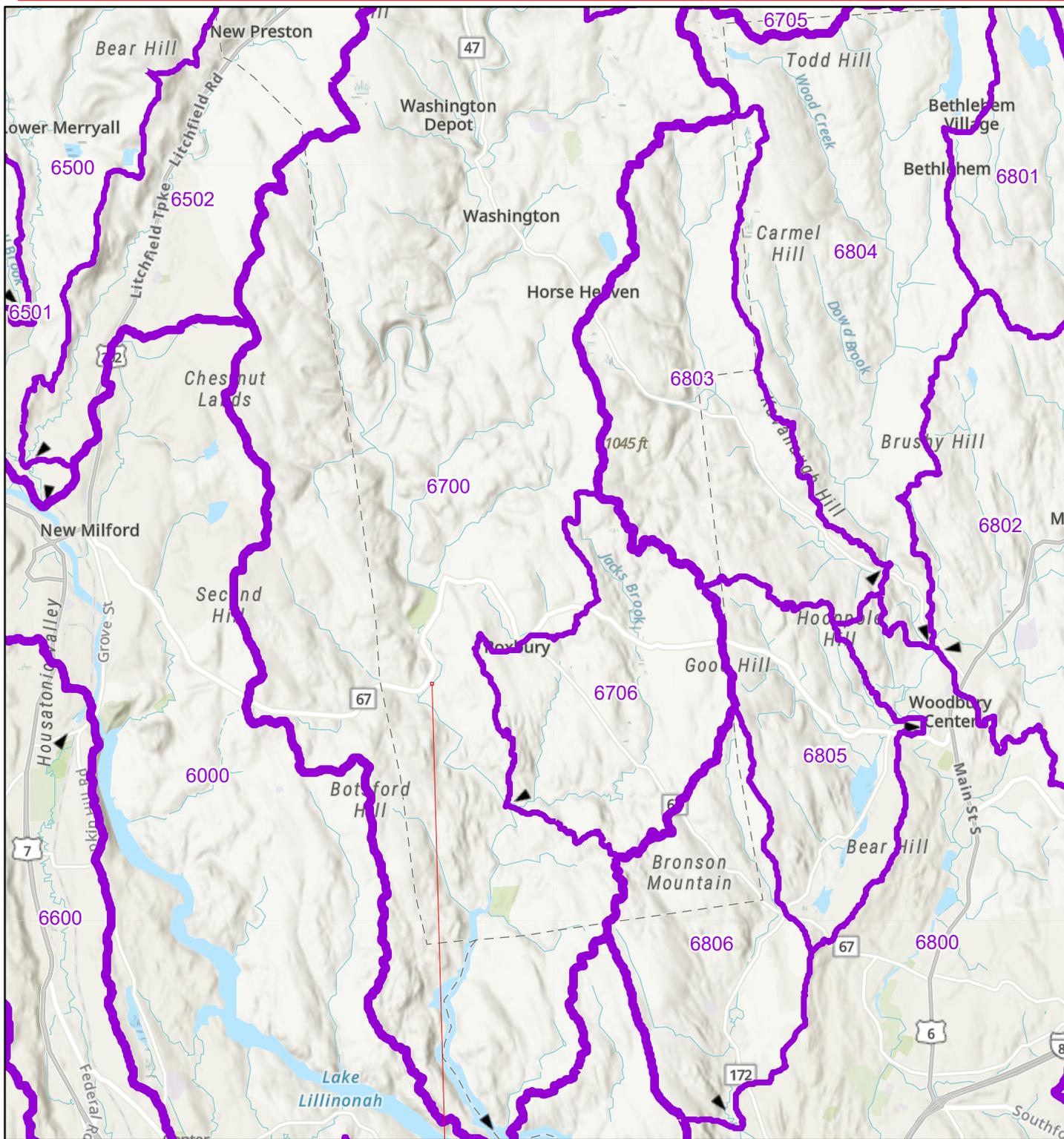
PART III: To Be Completed By The DEEP

DATE RETURNED TO DEEP:

FORM COMPLETED: YES NO

FORM CORRECTED / COMPLETED: YES NO

PROJECT 0119-0121 REPLACEMENT OF WELLER'S BRIDGE ROAD OVER SHEPAUG RIVER IN THE TOWN OF ROXBURY



6/26/2025

BRIDGE NO 05068

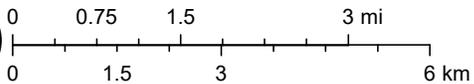
Subregional Basin Line

-  Regional Basin
-  Subregional Basin

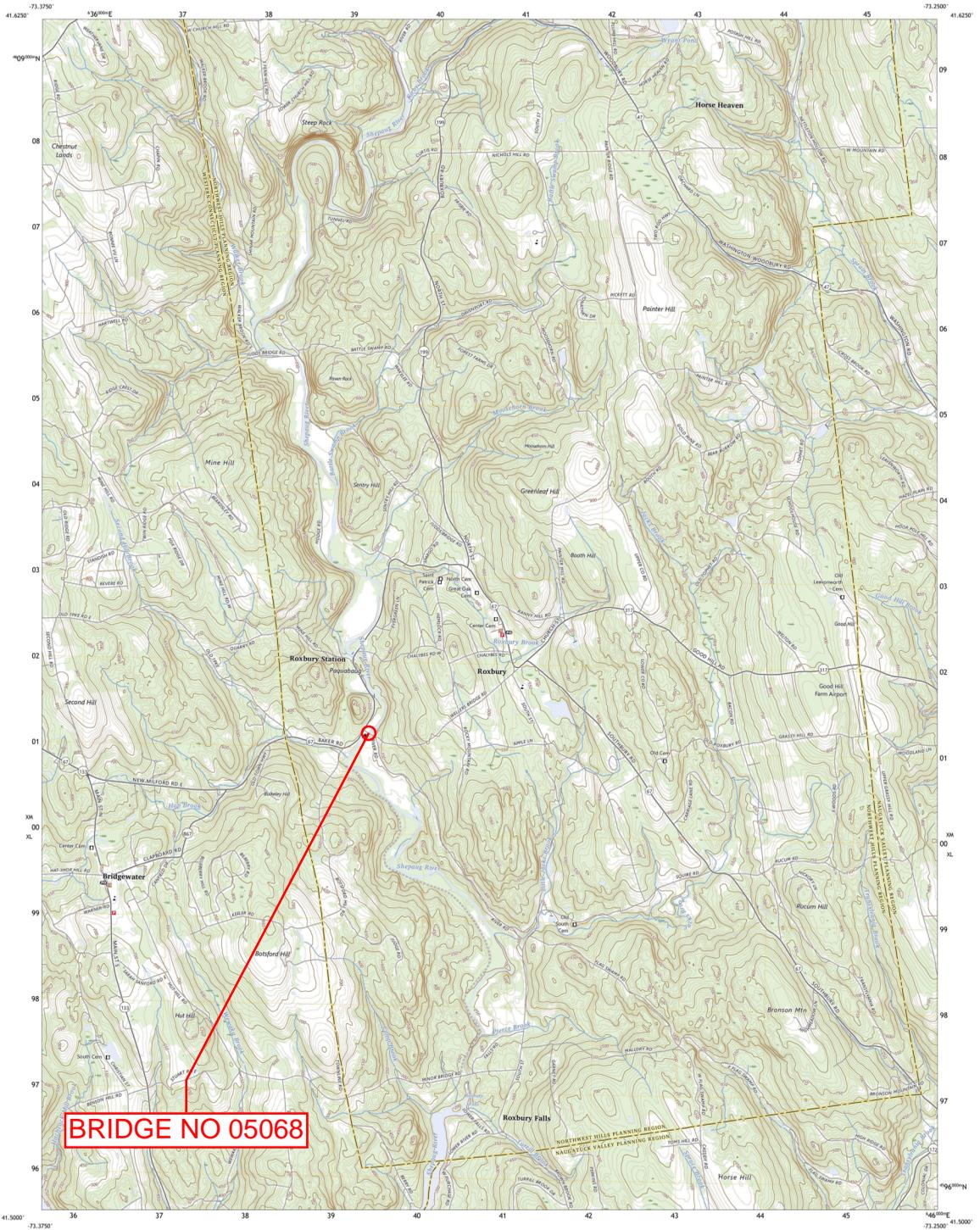
Subregional Basin Poly

 Outlet Direction

World_Hillshade



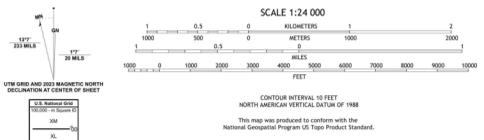
Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community



BRIDGE NO 05068

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84) Projection and
1000-meter grid Universal Transverse Mercator, Zone 18T
This map is not a legal document. It was generated by a computer program and is subject to change without notice. Please do not rely on this map for legal purposes. Obtain permission before entering private lands.

Imagery: NIP, August 2018 - August 2018
Roads: Census Bureau, 2018
Names: U.S. Census Bureau, 2018
Hydrography: National Hydrography Dataset, 2004 - 2012
Contours: National Elevation Dataset, 2011
Boundaries: Multiple sources; see metadata file 2021 - 2012
Wetlands: FWS National Wetlands Inventory, 2010



Construction Contracts - Required Contract Provisions (FHWA and State Funded Contracts)

Index

1. Federal Highway Administration (FHWA) Form 1273 (Revised October 2023)
2. Title VI of the Civil Rights Act of 1964 / Nondiscrimination Requirements
3. Requirements of Title 49, CFR, Part 26, Participation by DBEs
4. Contract Wage Rates
5. Americans with Disabilities Act of 1990, as Amended
6. Connecticut Statutory Labor Requirements
 - a. Construction, Alteration or Repair of Public Works Projects; Wage Rates
 - b. Debarment List - Limitation on Awarding Contracts
 - c. Construction Safety and Health Course
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 - e. Residents Preference in Work on Other Public Facilities (Not Applicable to Federal Aid Contracts)
7. Tax Liability - Contractor's Exempt Purchase Certificate (CERT – 141)
8. Executive Orders (State of CT)
9. Non-Discrimination Requirement and Certification
(pursuant to section 4a-60 and 4a- 60a of the Connecticut General Statutes, as revised)
10. Whistleblower Provision
11. Connecticut Freedom of Information Act
 - a. Disclosure of Records
 - b. Confidential Information
12. Service of Process
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15. Forum and Choice of Law

16. Summary of State Ethics Laws
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21. Consulting Agreement Representation
22. Federal Cargo Preference Act Requirements (46 CFR 381.7(a)-(b))
23. Sovereign Immunity
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28. Affirmative Action Policy Statement
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Index of Exhibits

- EXHIBIT A - FHWA Form 1273 (Begins on page 17)
- EXHIBIT B - Title VI Contractor Assurances (page 31)
- EXHIBIT C - Health Insurance Portability and Accountability Act of 1996 (HIPAA) (page 33)
- EXHIBIT D - Affirmative Action Policy Statement (page 41)
- EXHIBIT E - State Wage Rates & Other Related Information (Attached at the end)
- EXHIBIT F – Federal Wage Rates (Attached at the end)

1. Federal Highway Administration (FHWA) Form 1273

The Contractor shall comply with the Federal Highway Administration (FHWA), Form 1273 attached at Exhibit A, as revised, which is hereby made part of this contract. The Contractor shall also require its subcontractors to comply with the FHWA – Form 1273 and include the FHWA – Form 1273 as an attachment to all subcontracts and purchase orders.

2. Title VI of the Civil Rights Act of 1964 / Nondiscrimination Requirements

The Contractor shall comply with Title VI of the Civil Rights Act of 1964 as amended (42 U.S.C. 2000 et seq.), all requirements imposed by the regulations of the United States Department of Transportation (49 CFR Part 21) issued in implementation thereof, and the Title VI Contractor Assurances attached hereto at Exhibit B, all of which are hereby made a part of this Contract.

3. Requirements of Title 49, Code of Federal Regulations (CFR), Part 26, Participation by DBEs, as may be revised.

Pursuant to 49 CFR 26.13, the following paragraph is part of this Contract and shall be included in each subcontract the Contractor enters into with a subcontractor:

“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, Participation by DBEs, in the award and administration of U.S. 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 ConnDOT (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.”

4. Contract Wage Rates

The Contractor shall comply with:

The Federal and State wage rate requirements indicated in Exhibits F and G hereof, as revised, are hereby made part of this Contract. The Federal wage rates (Davis-Bacon Act) applicable to this Contract shall be the Federal wage rates that are current on the US Department of Labor website (<http://www.wdol.gov/dba.aspx>) as may be revised 10 days prior to bid opening. These applicable Federal wage rates will be physically incorporated in the final contract document executed by both parties. The Department will no longer physically include revised Federal wage rates in the bid documents or as part of addenda documents, prior to the bid opening date. During the bid advertisement period, bidders are responsible for obtaining the appropriate Federal wage rates from the US Department of Labor website.

To obtain the latest Federal wage rates go to the US Department of Labor website (link above). Under Davis-Bacon Act, choose “Selecting DBA WDs” and follow the instruction to search the latest wage rates for the State, County and Construction Type. Refer to the Notice to Contractor (NTC) - Federal Wage Determinations (Davis Bacon Act).

If a conflict exists between the Federal and State wage rates, the higher rate shall govern.

Prevailing Wages for Work on State Highways; Annual Adjustments. With respect to contracts for work on state highways and bridges on state highways, the Contractor shall comply with the provisions of Section 31-54 and 31-55a of the Connecticut General Statutes, as revised.

As required by Section 1.05.12 (Payrolls) of the State of Connecticut, Department of Transportation's Standard Specification for Roads, Bridges and Incidental Construction (FORM 819), as may be revised, every Contractor or subcontractor performing project work on a Federal aid project is required to post the relevant prevailing wage rates as determined by the United States Secretary of Labor. The wage rate determinations shall be posted in prominent and easily accessible places at the work site.

5. Americans with Disabilities Act of 1990, as Amended

This provision applies to those Contractors who are or will be responsible for compliance with the terms of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. 12101 et seq.), (Act), during the term of the Contract. The Contractor represents that it is familiar with the terms of this Act and that it is in compliance with the Act. Failure of the Contractor to satisfy this standard as the same applies to performance under this Contract, either now or during the term of the Contract as it may be amended, will render the Contract voidable at the option of the State upon notice to the contractor. The Contractor warrants that it will hold the State harmless and indemnify the State from any liability which may be imposed upon the State as a result of any failure of the Contractor to be in compliance with this Act, as the same applies to performance under this Contract.

6. Connecticut Statutory Labor Requirements

(a) Construction, Alteration or Repair of Public Works Projects; Wage Rates. The Contractor shall comply with Section 31-53 of the Connecticut General Statutes, as revised. The wages paid on an hourly basis to any person performing the work of any mechanic, laborer or worker on the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such person to any employee welfare fund, as defined in subsection (i) of section 31-53 of the Connecticut General Statutes, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such public works project is being constructed. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such persons to any such employee welfare fund shall pay to each mechanic, laborer or worker as part of such person's wages the amount of payment or contribution for such person's classification on each pay day.

(b) Debarment List. Limitation on Awarding Contracts. The Contractor shall comply with Section 31-53a of the Connecticut General Statutes, as revised.

(c) Construction Safety and Health Course. The Contractor shall comply with section 31-53b of the Connecticut General Statutes, as revised. The contractor shall furnish proof to the Labor Commissioner with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 of the Connecticut General Statutes, as revised, on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

Any employee required to complete a construction safety and health course as required that has not completed the course, shall have a maximum of fourteen (14) days to complete the course. If the employee has not been brought into compliance, they shall be removed from the project until such time as they have completed the required training.

Any costs associated with this notice shall be included in the general cost of the contract. In addition, there shall be no time granted to the contractor for compliance with this notice. The contractor's compliance with this notice and any associated regulations shall not be grounds for claims as outlined in Section 1.11 – "Claims".

(d) Awarding of Contracts to Occupational Safety and Health Law Violators Prohibited.

The Contract is subject to Section 31-57b of the Connecticut General Statutes, as revised.

(e) Residents Preference in Work on Other Public Facilities. NOT APPLICABLE TO FEDERAL AID CONTRACTS. Pursuant to Section 31-52a of the Connecticut General Statutes, as revised, in the employment of mechanics, laborers or workmen to perform the work specified herein, preference shall be given to residents of the state who are, and continuously for at least six months prior to the date hereof have been, residents of this state, and if no such person is available, then to residents of other states.

7. Tax Liability - Contractor's Exempt Purchase Certificate (CERT – 141)

The Contractor shall comply with Chapter 219 of the Connecticut General Statutes pertaining to tangible personal property or services rendered that is/are subject to sales tax. The Contractor is responsible for determining its tax liability. If the Contractor purchases materials or supplies pursuant to the Connecticut Department of Revenue Services' "Contractor's Exempt Purchase Certificate (CERT-141)," as may be revised, the Contractor acknowledges and agrees that title to such materials and supplies installed or placed in the project will vest in the State simultaneously with passage of title from the retailers or vendors thereof, and the Contractor will have no property rights in the materials and supplies purchased.

Forms and instructions are available anytime by:

Internet: Visit the DRS website at www.ct.gov/DRS to download and print Connecticut tax forms; or **Telephone:** Call 1-800-382-9463 (Connecticut calls outside the Greater Hartford calling area only) and select Option 2 or call 860-297-4753 (from anywhere).

8. Executive Orders and Other Enactments

- (a) All references in this Contract to any Federal, State, or local law, statute, public or special act, executive order, ordinance, regulation or code (collectively, “Enactments”) shall mean Enactments that apply to the Contract at any time during its term, or that may be made applicable to the Contract during its term. This Contract shall always be read and interpreted in accordance with the latest applicable wording and requirements of the Enactments. Unless otherwise provided by Enactments, the Contractor is not relieved of its obligation to perform under this Contract if it chooses to contest the applicability of the Enactments or the Client Agency’s authority to require compliance with the Enactments.
- (b) This Contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill, promulgated June 16, 1971, concerning labor employment practices, Executive Order No. Seventeen of Governor Thomas J. Meskill, promulgated February 15, 1973, concerning the listing of employment openings and Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999, concerning violence in the workplace, all of which are incorporated into and are made a part of this Contract as if they had been fully set forth in it.
- (c) This Contract may be subject to (1) Executive Order No. 14 of Governor M. Jodi Rell, promulgated April 17, 2006, concerning procurement of cleaning products and services; and (2) Executive Order No. 61 of Governor Dannel P. Malloy promulgated December 13, 2017, concerning the Policy for the Management of State Information Technology Projects, as issued by the Office of Policy and Management, Policy ID IT-SDLC-17-04. If any of the Executive Orders referenced in this subsection is applicable, it is deemed to be incorporated into and made a part of this Contract as if fully set forth in it.

9. Non-Discrimination Requirement and Certification (pursuant to section 4a-60 and 4a-60a of the Connecticut General Statutes, as revised): References to “minority business enterprises” in this Section are not applicable to Federal-aid projects/contracts. Federal-aid projects/contracts are instead subject to the Federal Disadvantaged Business Enterprise Program.

- (a) For purposes of this Section, the following terms are defined as follows:
 - i. "Commission" means the Commission on Human Rights and Opportunities;
 - ii. "Contract" and “contract” include any extension or modification of the Contract or contract;
 - iii. "Contractor" and “contractor” include any successors or assigns of the Contractor or contractor;
 - iv. "Gender identity or expression" means a person's gender-related identity, appearance or behavior, whether or not that gender-related identity, appearance or behavior is different from that traditionally associated with the person's physiology or assigned sex at birth, which gender-related identity can be shown by providing evidence including, but not limited to, medical history, care or treatment of the gender-related identity, consistent and uniform assertion of the gender-related identity or any other evidence that the gender-related identity is sincerely held, part of a person's core identity or not being asserted for an improper purpose;
 - v. “good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations;

- vi. "good faith efforts" includes, but is not limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements;
- vii. "marital status" means being single, married as recognized by the state of Connecticut, widowed, separated or divorced;
- viii. "mental disability" means one or more mental disorders, as defined in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", or a record of or regarding a person as having one or more such disorders;
- ix. "minority business enterprise" means any small contractor (1) fifty-one per cent or more of the capital stock, if any, or assets of which are owned by a person or persons who (a) exercise operational authority over the daily affairs of the enterprise, (b) have the power to direct the management and policies and receive the beneficial interest of the enterprise, (c) possess managerial and technical competence and experience directly related to the principal business activities of the enterprise, and (d) are members of a minority, as defined in C.G.S. § 32-9n, or are individuals with a disability, or (2) which is a nonprofit corporation in which fifty-one per cent or more of the persons who exercise operational authority over the enterprise, (a) possess managerial and technical competence and experience directly related to the principal business activities of the enterprise, (b) have the power to direct the management and policies of the enterprise, and (c) are member of a minority, as defined in C.G.S. § 32-9n, or are individuals with a disability; and
- x. "public works contract" means any agreement (A) for construction, rehabilitation, conversion, extension, demolition or repair of changes or improvements in real property, and (B) that is financed in whole or in part by the state, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees where such funding equals one hundred fifty thousand dollars or more.

For purposes of this Section, the terms "Contract" and "contract" do not include a contract where each contractor is (1) a political subdivision of the state, including, but not limited to, a municipality, unless the contract is a public works contract, (2) any other state, including but not limited to any federally recognized Indian tribal governments, as defined in C.G.S. § 1-267, (3) the federal government, (4) a foreign government, or (5) an agency of a subdivision, state or government described in the immediately preceding enumerated items (1), (2), (3), or (4).

(b) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, sexual orientation, gender identity or expression, status as a veteran, status as a victim of domestic violence, status as a victim of sexual assault or status as a victim of trafficking in persons, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut; and the Contractor further agrees to take affirmative action to ensure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, sexual orientation, status as a veteran, status as a victim of domestic violence, status as a victim of sexual assault or status as a victim of trafficking in persons,

intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by the Contractor that such disability prevents performance of the work involved;

(2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the Commission;

(3) the Contractor agrees to provide each labor union or representative of workers with which the Contractor has a collective bargaining Agreement or other contract or understanding and each vendor with which the Contractor has a contract or understanding, a notice to be provided by the Commission, advising the labor union or workers' representative of the Contractor's commitments under this Section and to post copies of the notice in conspicuous places available to employees and applicants for employment;

(4) the Contractor agrees to comply with each provision of this Section and Connecticut General Statutes §§ 46a-68e and 46a-68f and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes §§ 46a-56, 46a-68e, 46a-68f and 46a-86; and

(5) the Contractor agrees to provide the Commission with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this Section and Connecticut General Statutes § 46a-56. If the contract is a public works contract, the Contractor agrees and warrants that he or she will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works projects.

(c) Determination of the Contractor's good faith efforts shall include, but shall not be limited to, the following factors: The Contractor's employment and subcontracting policies, patterns and practices; the timing and value of bids; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the Commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.

(d) The Contractor shall develop and maintain adequate documentation, in a manner prescribed by the Commission, of its good faith efforts.

(e) The Contractor shall include the provisions of subsection (b) of this Section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State, and in every subcontract entered into in order to fulfill any obligation of a public works contract, and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions, including sanctions for noncompliance in accordance with Connecticut General Statutes § 46a-56; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

(f) The Contractor agrees to comply with the regulations referred to in this Section as they exist on the date of this Contract and as they may be adopted or amended from time to time during the term of this Contract and any amendments thereto.

(g) Pursuant to subsection (c) of section 4a-60 of the Connecticut General Statutes, the Contractor, for itself and its authorized signatory of this Contract, affirms that it understands the obligations of this Section and that it will maintain a policy for the duration of the Contract to assure that the Contract will be performed in compliance with the nondiscrimination requirements of such section. The Contractor and its authorized signatory of this Contract demonstrate their understanding of this obligation by (A) having provided an affirmative response in the required online bid or response to a proposal question which asks if the contractor understands its obligations under such sections, (B) signing this Contract, or (C) initialing this nondiscrimination affirmation in the following box:

10. Whistleblower Provision

The following clause is applicable if the Contract has a value of Five Million Dollars (\$5,000,000) or more.

Whistleblowing. This Contract may be subject to the provisions of Section 4-61dd of the Connecticut General Statutes. In accordance with this statute, if an officer, employee or appointing authority of the Contractor takes or threatens to take any personnel action against any employee of the Contractor in retaliation for such employee's disclosure of information to any employee of the contracting state or quasi-public agency or the Auditors of Public Accounts or the Attorney General under the provisions of subsection (a) of such statute, the Contractor shall be liable for a civil penalty of not more than five thousand dollars for each offense, up to a maximum of twenty per cent of the value of this Contract. Each violation shall be a separate and distinct offense and in the case of a continuing violation, each calendar day's continuance of the violation shall be deemed to be a separate and distinct offense. The State may request that the Attorney General bring a civil action in the Superior Court for the Judicial District of Hartford to seek imposition and recovery of such civil penalty. In accordance with subsection (f) of such statute, each large state contractor, as defined in the statute, shall post a notice of the provisions of the statute relating to large state contractors in a conspicuous place which is readily available for viewing by the employees of the Contractor.

11. Connecticut Freedom of Information Act

(a) **Disclosure of Records.** This Contract may be subject to the provisions of section 1-218 of the Connecticut General Statutes. In accordance with this statute, each contract in excess of two million five hundred thousand dollars between a public agency and a person for the performance of a governmental function shall (a) provide that the public agency is entitled to receive a copy of records and files related to the performance of the governmental function, and (b) indicate that such records and files are subject to FOIA and may be disclosed by the public agency pursuant to FOIA. No request to inspect or copy such records or files shall be valid unless the request is made to the public agency in accordance with FOIA. Any complaint by a person who is denied the right to inspect or copy such records or files shall be brought to the Freedom of Information Commission in accordance with the provisions of sections 1-205 and 1-206 of the Connecticut General Statutes.

(b) **Confidential Information.** The State will afford due regard to the Contractor's request for the protection of proprietary or confidential information which the State receives from the Contractor. However, all materials associated with the Contract are subject to the terms of the FOIA and all corresponding rules, regulations and

interpretations. In making such a request, the Contractor may not merely state generally that the materials are proprietary or confidential in nature and not, therefore, subject to release to third parties. Those particular sentences, paragraphs, pages or sections that the Contractor believes are exempt from disclosure under the FOIA must be specifically identified as such. Convincing explanation and rationale sufficient to justify each exemption consistent with the FOIA must accompany the request. The rationale and explanation must be stated in terms of the prospective harm to the competitive position of the Contractor that would result if the identified material were to be released and the reasons why the materials are legally exempt from release pursuant to the FOIA. To the extent that any other provision or part of the Contract conflicts or is in any way inconsistent with this section, this section controls and shall apply, and the conflicting provision or part shall not be given effect. If the Contractor indicates that certain documentation is submitted in confidence, by specifically and clearly marking the documentation as "CONFIDENTIAL," DOT will first review the Contractor's claim for consistency with the FOIA (that is, review that the documentation is actually a trade secret or commercial or financial information and not required by statute), and if determined to be consistent, will endeavor to keep such information confidential to the extent permitted by law. See, *e.g.*, Conn. Gen. Stat. §1-210(b)(5) (A-B). The State, however, has no obligation to initiate, prosecute or defend any legal proceeding or to seek a protective order or other similar relief to prevent disclosure of any information that is sought pursuant to a FOIA request. Should the State withhold such documentation from a Freedom of Information requester and a complaint be brought to the Freedom of Information Commission, the Contractor shall have the burden of cooperating with DOT in defense of that action and in terms of establishing the availability of any FOIA exemption in any proceeding where it is an issue. In no event shall the State have any liability for the disclosure of any documents or information in its possession which the State believes are required to be disclosed pursuant to the FOIA or other law.

12. Service of Process

The Contractor, if not a resident of the State of Connecticut, or, in the case of a partnership, the partners, if not residents, hereby appoints the Secretary of State of the State of Connecticut, and his successors in office, as agent for service of process for any action arising out of or as a result of this Contract; such appointment to be in effect throughout the life of this Contract and six (6) years thereafter.

13. Substitution of Securities for Retainages on State Contracts and Subcontracts

This Contract is subject to the provisions of Section 3-112a of the General Statutes of the State of Connecticut, as revised.

14. Health Insurance Portability and Accountability Act of 1996 (HIPAA)

The Contractor shall comply, if applicable, with the Health Insurance Portability and Accountability Act of 1996 and, pursuant thereto, the provisions attached at Exhibit D, and hereby made part of this Contract.

15. Forum and Choice of Law

The parties deem the Contract to have been made in the City of Hartford, State of Connecticut. Both parties agree that it is fair and reasonable for the validity and construction of the Contract to be, and it shall be, governed by the laws and court decisions of the State of Connecticut, without giving effect to its principles of conflicts of laws. To the extent that any immunities provided by Federal law or the laws of the State of Connecticut do not bar an action against the State, and to the extent that these courts are courts of competent jurisdiction, for the purpose of venue, the complaint shall be made returnable to the Judicial District of Hartford only or shall be brought in the United States District Court for the District of Connecticut only, and shall not be transferred to any other court, provided, however, that nothing here constitutes a waiver or compromise of the sovereign immunity of the State of Connecticut. The Contractor waives any objection which it may now have or will have to the laying of venue of any Claims in any forum and further irrevocably submits to such jurisdiction in any suit, action or proceeding.

16. Summary of State Ethics Laws

Pursuant to the requirements of section 1-101qq of the Connecticut General Statutes (a) the State has provided to the Contractor the summary of State ethics laws developed by the Office of State Ethics pursuant to section 1-81b of the Connecticut General Statutes, which summary is incorporated by reference into and made a part of this Contract as if the summary had been fully set forth in this Contract; (b) the Contractor represents that the chief executive officer or authorized signatory of the Contract and all key employees of such officer or signatory have read and understood the summary and agree to comply with the provisions of state ethics law; (c) prior to entering into a contract with any subcontractors or consultants, the Contractor shall provide the summary to all subcontractors and consultants and each such contract entered into with a subcontractor or consultant on or after July 1, 2021, shall include a representation that each subcontractor or consultant and the key employees of such subcontractor or consultant have read and understood the summary and agree to comply with the provisions of state ethics law; (d) failure to include such representations in such contracts with subcontractors or consultants shall be cause for termination of the Contract; and (e) each contract with such contractor, subcontractor or consultant shall incorporate such summary by reference as a part of the contract terms.

17. Audit and Inspection of Plants, Places of Business and Records

- (a) The State and its agents, including, but not limited to, the Connecticut Auditors of Public Accounts, Attorney General and State's Attorney and their respective agents, may, at reasonable hours, inspect and examine all of the parts of the Contractor's and Contractor Parties' plants and places of business which, in any way, are related to, or involved in, the performance of this Contract. For the purposes of this Section, "Contractor Parties" means the Contractor's members, directors, officers, shareholders, partners, managers, principal officers, representatives, agents, servants, consultants, employees or any one of them or any other person or entity with whom the Contractor is in privity of oral or written contract and the Contractor intends for such other person or entity to Perform under the Contract in any capacity.
- (b) The Contractor shall maintain and shall require each of the Contractor Parties to maintain, accurate and complete Records. The Contractor shall make all of its and the Contractor Parties' Records available at all reasonable hours for audit and inspection by the State and its agents.

- (c) The State shall make all requests for any audit or inspection in writing and shall provide the Contractor with at least twenty-four (24) hours' notice prior to the requested audit and inspection date. If the State suspects fraud or other abuse, or in the event of an emergency, the State is not obligated to provide any prior notice.
- (d) The Contractor shall keep and preserve or cause to be kept and preserved all of its and Contractor Parties' Records until three (3) years after the latter of (i) final payment under this Agreement, or (ii) the expiration or earlier termination of this Agreement, as the same may be modified for any reason. The State may request an audit or inspection at any time during this period. If any Claim or audit is started before the expiration of this period, the Contractor shall retain or cause to be retained all Records until all Claims or audit findings have been resolved.
- (e) The Contractor shall cooperate fully with the State and its agents in connection with an audit or inspection. Following any audit or inspection, the State may conduct, and the Contractor shall cooperate with an exit conference.
- (f) The Contractor shall incorporate this entire Section verbatim into any contract or other agreement that it enters into with any Contractor Party.

18. Campaign Contribution Restriction

Campaign Contribution Restriction. For all State contracts, defined in section 9-612 of the Connecticut General Statutes as having a value of \$50,000 or more, or a combination or series of such agreements or contracts having a value of \$100,000 or more in a calendar year, the authorized signatory to this Agreement represents that they have received the State Elections Enforcement Commission's notice advising state contractors of state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice.

19. Tangible Personal Property

- (a) The Contractor on its behalf and on behalf of its Affiliates, as defined below, shall comply with the provisions of Conn. Gen. Stat. §12-411b, as follows:

- (1) For the term of the Contract, the Contractor and its Affiliates shall collect and remit to the State of Connecticut, Department of Revenue Services, any Connecticut use tax due under the provisions of Chapter 219 of the Connecticut General Statutes for items of tangible personal property sold by the Contractor or by any of its Affiliates in the same manner as if the Contractor and such Affiliates were engaged in the business of selling tangible personal property for use in Connecticut and had sufficient nexus under the provisions of Chapter 219 to be required to collect Connecticut use tax;
- (2) A customer's payment of a use tax to the Contractor or its Affiliates relieves the customer of liability for the use tax;
- (3) The Contractor and its Affiliates shall remit all use taxes they collect from customers on or before the due date specified in the Contract, which may not be later than the last day of the month next succeeding the end of a calendar quarter or other tax collection period during which the tax was collected;
- (4) The Contractor and its Affiliates are not liable for use tax billed by them but not paid to them by a customer; and
- (5) Any Contractor or Affiliate who fails to remit use taxes collected on behalf of its customers by the due date specified in the Contract shall be subject to the interest and penalties provided for persons required to collect sales tax under chapter 219 of the general statutes.

- (b) For purposes of this section of the Contract, the word “Affiliate” means any person, as defined in section 12-1 of the general statutes, that controls, is controlled by, or is under common control with another person. A person controls another person if the person owns, directly or indirectly, more than ten per cent of the voting securities of the other person. The word “voting security” means a security that confers upon the holder the right to vote for the election of members of the board of directors or similar governing body of the business, or that is convertible into, or entitles the holder to receive, upon its exercise, a security that confers such a right to vote. “Voting security” includes a general partnership interest.
- (c) The Contractor represents and warrants that each of its Affiliates has vested in the Contractor plenary authority to so bind the Affiliates in any agreement with the State of Connecticut. The Contractor on its own behalf and on behalf of its Affiliates shall also provide, no later than 30 days after receiving a request by the State’s contracting authority, such information as the State may require to ensure, in the State’s sole determination, compliance with the provisions of Chapter 219 of the Connecticut General Statutes, including, but not limited to, §12-411b.

20. Bid Rigging and/or Fraud – Notice to Contractor

The Connecticut Department of Transportation is cooperating with the U.S. Department of Transportation and the Justice Department in their investigation into highway construction contract bid rigging and/or fraud.

A toll-free “HOT LINE” telephone number 800-424-9071 has been established to receive information from contractors, subcontractors, manufacturers, suppliers or anyone with knowledge of bid rigging and/or fraud, either past or current. The “HOT LINE” telephone number will be available during normal working hours (8:00 am – 5:00 pm EST). Information will be treated confidentially, and anonymity respected.

21. Consulting Agreement Representation

Pursuant to section 4a-81 of the Connecticut General Statutes, the person signing this Contract on behalf of the Contractor represents, to their best knowledge and belief and subject to the penalty of false statement as provided in section 53a-157b of the Connecticut General Statutes, that the Contractor has not entered into any consulting agreements in connection with this Contract, except for the agreements listed below or in an attachment to this Contract. "Consulting agreement" means any written or oral agreement to retain the services, for a fee, of a consultant for the purposes of

(A) providing counsel to a contractor, vendor, consultant or other entity seeking to conduct, or conducting, business with the State, (B) contacting, whether in writing or orally, any executive, judicial, or administrative office of the State, including any department, institution, bureau, board, commission, authority, official or employee for the purpose of solicitation, dispute resolution, introduction, requests for information, or (C) any other similar activity related to such contracts. "Consulting agreement" does not include any agreements entered into with a consultant who is registered under the provisions of chapter 10 of the Connecticut General Statutes as of the date such contract is executed in accordance with the provisions of section 4a-81 of the Connecticut General Statutes.

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 Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

- (3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

23. Sovereign Immunity

The parties acknowledge and agree that nothing in the Solicitation or the Contract shall be construed as a modification, compromise or waiver by the State of any rights or defenses of any immunities provided by Federal law or the laws of the State of Connecticut to the State or any of its officers and employees, which they may have had, now have or will have with respect to all matters arising out of the Contract. To the extent that this section conflicts with any other section, this section shall govern.

24. Large State Contract Representation for Contractor

Pursuant to section 4-252 of the Connecticut General Statutes and Acting Governor Susan Bysiewicz Executive Order No. 21-2, promulgated July 1, 2021, the Contractor, for itself and on behalf of all of its principals or key personnel who submitted a bid or proposal, represents:

- (1) That no gifts were made by (A) the Contractor, (B) any principals and key personnel of the Contractor, who participate substantially in preparing bids, proposals or negotiating State contracts, or (C) any agent of the Contractor or principals and key personnel, who participates substantially in preparing bids, proposals or negotiating State contracts, to (i) any public official or State employee of the State agency or quasi- public agency soliciting bids or proposals for State contracts, who participates substantially in the preparation of bid solicitations or requests for proposals for State contracts or the negotiation or award of State contracts, or (ii) any public official or State employee of any other State agency, who has supervisory or appointing authority over such State agency or quasi-public agency;
- (2) That no such principals and key personnel of the Contractor, or agent of the Contractor or of such principals and key personnel, knows of any action by the Contractor to circumvent such prohibition on gifts by providing for any other principals and key personnel, official, employee or agent of the Contractor to provide a gift to any such public official or State employee; and
- (3) That the Contractor is submitting bids or proposals without fraud or collusion with any person.

25. Large State Contract Representation for Official or Employee of State Agency

Pursuant to section 4-252 of the Connecticut General Statutes and Acting Governor Susan Bysiewicz Executive Order No. 21-2, promulgated July 1, 2021, the State agency official or employee represents that the selection of the person, firm or corporation was not the result of collusion, the giving of a gift or the promise of a gift, compensation, fraud or inappropriate influence from any person.

26. Iran Investment Energy Certification

(a) Pursuant to section 4-252a of the Connecticut General Statutes, the Contractor certifies that it has not made a direct investment of twenty million dollars or more in the energy sector of Iran on or after October 1, 2013, as described in Section 202 of the Comprehensive Iran Sanctions, Accountability and Divestment Act of 2010, and has not increased or renewed such investment on or after said date.

(b) If the Contractor makes a good faith effort to determine whether it has made an investment described in subsection (a) of this section, then the Contractor shall not be deemed to be in breach of the Contract or in violation of this section.

A "good faith effort" for purposes of this subsection includes a determination that the Contractor is not on the list of persons who engage in certain investment activities in Iran created by the Department of General Services of the State of California pursuant to Division 2, Chapter 2.7 of the California Public Contract Code. Nothing in this subsection shall be construed to impair the ability of the State agency or quasi-public agency to pursue a breach of contract action for any violation of the provisions of the Contract.

27. Access to Contract and State Data

The Contractor shall provide to the Client Agency access to any data, as defined in Conn. Gen Stat. Sec. 4e-1, concerning the Contract and the Client Agency that are in the possession or control of the Contractor upon demand and shall provide the data to the Client Agency in a format prescribed by the Client Agency and the State Auditors of Public Accounts at no additional cost.

28. Affirmative Action Policy Statement

The Contractor shall comply with the Affirmative Action Policy Statement, as applicable, attached at Exhibit E and hereby made part of this Contract.

29. Compliance with Consumer Data Privacy and Online Monitoring

Pursuant to section 4e-72a of the Connecticut General Statutes, Contractor shall at all times comply with all applicable provisions of sections 42-515 to 42-525, inclusive, of the Connecticut General Statutes, as the same may be revised or modified.

EXHIBIT A

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 to 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 procurement 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 journeymen 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 journeymen 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 procurement 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 contractor). "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.

* * * * *

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.

EXHIBIT B
TITLE VI CONTRACTOR ASSURANCES
APPENDIX A

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 Regulations relative to Nondiscrimination in Federally assisted programs of the United States Department of Transportation Federal Highway Administration and Federal Transit Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Nondiscrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin, sex, age, disability, income or Limited English Proficiency 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 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 Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by 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 Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

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 Recipient or the Federal Highway Administration or Federal Transit Administration 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 the Recipient or the Federal Highway Administration or the Federal Transit Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Non-compliance:** In the event of the contractor's non-compliance with the non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration or the Federal Transit Administration may determine to be appropriate, including, but not limited to:

- a. withholding contract payments to the contractor under the contract until the contractor complies; and/or
- b. cancelling, terminating, or suspending a contract, 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 the Recipient or the Federal Highway Administration or the Federal Transit Administration may direct as a means of enforcing such provisions including sanctions for non-compliance. 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 the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

APPENDIX B

TITLE VI CONTRACTOR ASSURANCES

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following nondiscrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. § 2000d et seq.), (prohibits discrimination on the basis of race, color, national origin), as implemented by 49 C.F.R. § 21.1 et seq. and 49 C.F.R. part 303;
- 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, as amended (29 U.S.C. § 794 et seq.) (prohibits discrimination on the basis of disability); and 49 C.F.R. 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 (Pub. L. 97-248 (1982)), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (102 Stat. 28) ("*... which restore[d] the broad scope of coverage and to clarify the application of Title IX of the Education Amendments of 1972, section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and Title VI of the Civil Rights Act of 1964.*");
- Titles II and III of the Americans with Disabilities Act, which prohibit 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 (42 U.S.C. §§ 12131 --12189), as implemented by Department of Justice regulations at 28 C.F.R. parts 35 and 36, and Department of Transportation regulations at 49 C.F.R. parts 37 and 38;

- 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, which ensures non-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 Persons 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 of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. § 1681 et seq).

EXHIBIT C

Health Insurance Portability and Accountability Act of 1996 (“HIPAA”).

- (a) If the Contactor is a Business Associate under the requirements of the Health Insurance Portability and Accountability Act of 1996 (“HIPAA”), the Contractor must comply with all terms and conditions of this Section of the Contract. If the Contractor is not a Business Associate under HIPAA, this Section of the Contract does not apply to the Contractor for this Contract.
- (b) The Contractor is required to safeguard the use, publication and disclosure of information on all applicants for, and all clients who receive, services under the Contract in accordance with all applicable federal and state law regarding confidentiality, which includes but is not limited to HIPAA, more specifically with the Privacy and Security Rules at 45 C.F.R. Part 160 and Part 164, subparts A, C, and E; and
- (c) The State of Connecticut Agency named on page 1 of this Contract (hereinafter the “Department”) is a “covered entity” as that term is defined in 45 C.F.R. § 160.103; and
- (d) The Contractor, on behalf of the Department, performs functions that involve the use or disclosure of “individually identifiable health information,” as that term is defined in 45 C.F.R. § 160.103; and
- (e) The Contractor is a “business associate” of the Department, as that term is defined in 45 C.F.R. § 160.103; and
- (f) The Contractor and the Department agree to the following in order to secure compliance with the HIPAA, the requirements of Subtitle D of the Health Information Technology for Economic and Clinical Health Act (hereinafter the HITECH Act), (Pub. L. 111-5, sections 13400 to 13423), and more specifically with the Privacy and Security Rules at 45 C.F.R. Part 160 and Part 164, subparts A, C, and E.
- (g) Definitions

- (1) "Breach shall have the same meaning as the term is defined in section 13400 of the HITECH Act (42 U.S.C. §17921(1))
 - (2) "Business Associate" shall mean the Contractor.
 - (3) "Covered Entity" shall mean the Department of the State of Connecticut named on page 1 of this Contract.
 - (4) "Designated Record Set" shall have the same meaning as the term "designated record set" in 45 C.F.R. § 164.501.
 - (5) "Electronic Health Record" shall have the same meaning as the term is defined in section 13400 of the HITECH Act (42 U.S.C. §17921(5))
 - (6) "Individual" shall have the same meaning as the term "individual" in 45 C.F.R. § 160.103 and shall include a person who qualifies as a personal representative as defined in 45 C.F.R. § 164.502(g).
 - (7) "Privacy Rule" shall mean the Standards for Privacy of Individually Identifiable Health Information at 45 C.F.R. part 160 and parts 164, subparts A and E.
 - (8) "Protected Health Information" or "PHI" shall have the same meaning as the term "protected health information" in 45 C.F.R. § 160.103, limited to information created or received by the Business Associate from or on behalf of the Covered Entity.
 - (9) "Required by Law" shall have the same meaning as the term "required by law" in 45 C.F.R. § 164.103.
 - (10) "Secretary" shall mean the Secretary of the Department of Health and Human Services or his designee.
 - (11) "More stringent" shall have the same meaning as the term "more stringent" in 45 C.F.R. § 160.202.
 - (12) "This Section of the Contract" refers to the HIPAA Provisions stated herein, in their entirety.
 - (13) "Security Incident" shall have the same meaning as the term "security incident" in 45 C.F.R. § 164.304.
 - (14) "Security Rule" shall mean the Security Standards for the Protection of Electronic Protected Health Information at 45 C.F.R. part 160 and parts 164, subpart A and C.
 - (15) "Unsecured protected health information" shall have the same meaning as the term as defined in section 13402(h)(1)(A) of HITECH. Act. (42 U.S.C. §17932(h)(1)(A)).
- (h) Obligations and Activities of Business Associates.
- (1) Business Associate agrees not to use or disclose PHI other than as permitted or required by this Section of the Contract or as Required by Law.

- (2) Business Associate agrees to use appropriate safeguards to prevent use or disclosure of PHI other than as provided for in this Section of the Contract.
- (3) Business Associate agrees to use administrative, physical and technical safeguards that reasonably and appropriately protect the confidentiality, integrity, and availability of electronic protected health information that it creates, receives, maintains, or transmits on behalf of the Covered Entity.
- (4) Business Associate agrees to mitigate, to the extent practicable, any harmful effect that is known to the Business Associate of a use or disclosure of PHI by Business Associate in violation of this Section of the Contract.
- (5) Business Associate agrees to report to Covered Entity any use or disclosure of PHI not provided for by this Section of the Contract or any security incident of which it becomes aware.
- (6) Business Associate agrees to ensure that any agent, including a subcontractor, to whom it provides PHI received from, or created or received by Business Associate, on behalf of the Covered Entity, agrees to the same restrictions and conditions that apply through this Section of the Contract to Business Associate with respect to such information.
- (7) Business Associate agrees to provide access, at the request of the Covered Entity, and in the time and manner agreed to by the parties, to PHI in a Designated Record Set, to Covered Entity or, as directed by Covered Entity, to an Individual in order to meet the requirements under 45 C.F.R. § 164.524.
- (8) Business Associate agrees to make any amendments to PHI in a Designated Record Set that the Covered Entity directs or agrees to pursuant to 45 C.F.R. § 164.526 at the request of the Covered Entity, and in the time and manner agreed to by the parties.
- (9) Business Associate agrees to make internal practices, books, and records, including policies and procedures and PHI, relating to the use and disclosure of PHI received from, or created or received by, Business Associate on behalf of Covered Entity, available to Covered Entity or to the Secretary in a time and manner agreed to by the parties or designated by the Secretary, for purposes of the Secretary determining Covered Entity's compliance with the Privacy Rule.
- (10) Business Associate agrees to document such disclosures of PHI and information related to such disclosures as would be required for Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.
- (11) Business Associate agrees to provide to Covered Entity, in a time and manner agreed to by the parties, information collected in accordance with clause h. (10) of this Section of the Contract, to permit Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated

thereunder. Business Associate agrees at the Covered Entity's direction to provide an accounting of disclosures of PHI directly to an individual in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.

- (12) Business Associate agrees to comply with any state or federal law that is more stringent than the Privacy Rule.
- (13) Business Associate agrees to comply with the requirements of the HITECH Act relating to privacy and security that are applicable to the Covered Entity and with the requirements of 45 C.F.R. sections 164.504(e), 164.308, 164.310, 164.312, and 164.316.
- (14) In the event that an individual requests that the Business Associate (a) restrict disclosures of PHI; (b) provide an accounting of disclosures of the individual's PHI; or (c) provide a copy of the individual's PHI in an electronic health record, the Business Associate agrees to notify the covered entity, in writing, within two business days of the request.
- (15) Business Associate agrees that it shall not, directly or indirectly, receive any remuneration in exchange for PHI of an individual without (1) the written approval of the covered entity, unless receipt of remuneration in exchange for PHI is expressly authorized by this Contract and (2) the valid authorization of the individual, except for the purposes provided under section 13405(d)(2) of the HITECH Act, (42 U.S.C. § 17935(d)(2)) and in any accompanying regulations
- (16) Obligations in the Event of a Breach
- A. The Business Associate agrees that, following the discovery of a breach of unsecured protected health information, it shall notify the Covered Entity of such breach in accordance with the requirements of section 13402 of HITECH (42 U.S.C. 17932(b) and the provisions of this Section of the Contract.
- B. Such notification shall be provided by the Business Associate to the Covered Entity without unreasonable delay, and in no case later than 30 days after the breach is discovered by the Business Associate, except as otherwise instructed in writing by a law enforcement official pursuant to section 13402 (g) of HITECH (42 U.S.C. 17932(g)). A breach is considered discovered as of the first day on which it is, or reasonably should have been, known to the Business Associate. The notification shall include the identification and last known address, phone number and email address of each individual (or the next of kin of the individual if the individual is deceased) whose unsecured protected health information has been or is reasonably believed by the Business Associate to have been, accessed, acquired, or disclosed during such breach.
- C. The Business Associate agrees to include in the notification to the Covered Entity at least the following information:

1. A brief description of what happened, including the date of the breach and the date of the discovery of the breach, if known.
 2. A description of the types of unsecured protected health information that were involved in the breach (such as full name, Social Security number, date of birth, home address, account number, or disability code).
 3. The steps the Business Associate recommends that individuals take to protect themselves from potential harm resulting from the breach.
 4. A detailed description of what the Business Associate is doing to investigate the breach, to mitigate losses, and to protect against any further breaches.
 5. Whether a law enforcement official has advised either verbally or in writing the Business Associate that he or she has determined that notification or notice to individuals or the posting required under section 13402 of the HITECH Act would impede a criminal investigation or cause damage to national security and; if so, include contact information for said official.
- D. Business Associate agrees to provide appropriate staffing and have established procedures to ensure that individuals informed by the Covered Entity of a breach by the Business Associate have the opportunity to ask questions and contact the Business Associate for additional information regarding the breach. Such procedures shall include a toll-free telephone number, an e-mail address, a posting on its Web site and a postal address. Business Associate agrees to include in the notification of a breach by the Business Associate to the Covered Entity, a written description of the procedures that have been established to meet these requirements. Costs of such contact procedures will be borne by the Contractor.
- E. Business Associate agrees that, in the event of a breach, it has the burden to demonstrate that it has complied with all notification's requirements set forth above, including evidence demonstrating the necessity of a delay in notification to the Covered Entity.
- (i) Permitted Uses and Disclosure by Business Associate.
- (1) General Use and Disclosure Provisions Except as otherwise limited in this Section of the Contract, Business Associate may use or disclose PHI to perform functions, activities, or services for, or on behalf of, Covered Entity as specified in this Contract, provided that such use or disclosure would not violate the Privacy Rule if done by

Covered Entity or the minimum necessary policies and procedures of the Covered Entity.

(2) Specific Use and Disclosure Provisions

(A) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI for the proper management and administration of Business Associate or to carry out the legal responsibilities of Business Associate.

(B) Except as otherwise limited in this Section of the Contract, Business Associate may disclose PHI for the proper management and administration of Business Associate, provided that disclosures are Required by Law, or Business Associate obtains reasonable assurances from the person to whom the information is disclosed that it will remain confidential and used or further disclosed only as Required by Law or for the purpose for which it was disclosed to the person, and the person notifies Business Associate of any instances of which it is aware in which the confidentiality of the information has been breached.

(C) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI to provide Data Aggregation services to Covered Entity as permitted by 45 C.F.R. § 164.504(e)(2)(i)(B).

(j) Obligations of Covered Entity.

(1) Covered Entity shall notify Business Associate of any limitations in its notice of privacy practices of Covered Entity, in accordance with 45 C.F.R. § 164.520, or to the extent that such limitation may affect Business Associate's use or disclosure of PHI.

(2) Covered Entity shall notify Business Associate of any changes in, or revocation of, permission by Individual to use or disclose PHI, to the extent that such changes may affect Business Associate's use or disclosure of PHI.

(3) Covered Entity shall notify Business Associate of any restriction to the use or disclosure of PHI that Covered Entity has agreed to in accordance with 45 C.F.R. § 164.522, to the extent that such restriction may affect Business Associate's use or disclosure of PHI.

(k) Permissible Requests by Covered Entity. Covered Entity shall not request Business Associate to use or disclose PHI in any manner that would not be permissible under the Privacy Rule if done by the Covered Entity, except that Business Associate may use and disclose PHI for data aggregation, and management and administrative activities of Business Associate, as permitted under this Section of the Contract.

(l) Term and Termination.

- (1) Term. The Term of this Section of the Contract shall be effective as of the date the Contract is effective and shall terminate when the information collected in accordance with clause h. (10) of this Section of the Contract is provided to the Covered Entity and all of the PHI provided by Covered Entity to Business Associate, or created or received by Business Associate on behalf of Covered Entity, is destroyed or returned to Covered Entity, or, if it is infeasible to return or destroy PHI, protections are extended to such information, in accordance with the termination provisions in this Section.
- (2) Termination for Cause Upon Covered Entity's knowledge of a material breach by Business Associate, Covered Entity shall either:
 - (A) Provide an opportunity for Business Associate to cure the breach or end the violation and terminate the Contract if Business Associate does not cure the breach or end the violation within the time specified by the Covered Entity; or
 - (B) Immediately terminate the Contract if Business Associate has breached a material term of this Section of the Contract and cure is not possible; or
 - (C) If neither termination nor cure is feasible, Covered Entity shall report the violation to the Secretary.
- (3) Effect of Termination
 - (A) Except as provided in (1)(2) of this Section of the Contract, upon termination of this Contract, for any reason, Business Associate shall return or destroy all PHI received from Covered Entity or created or received by Business Associate on behalf of Covered Entity. Business Associate shall also provide the information collected in accordance with clause h. (10) of this Section of the Contract to the Covered Entity within ten business days of the notice of termination. This provision shall apply to PHI that is in the possession of subcontractors or agents of Business Associate. Business Associate shall retain no copies of the PHI.
 - (B) In the event that Business Associate determines that returning or destroying the PHI is infeasible, Business Associate shall provide to Covered Entity notification of the conditions that make return or destruction infeasible. Upon documentation by Business Associate that return or destruction of PHI is infeasible, Business Associate shall extend the protections of this Section of the Contract to such PHI and limit further uses and disclosures of PHI to those purposes that make return or destruction infeasible, for as long as Business Associate maintains such PHI. Infeasibility of the return or destruction of PHI includes, but is not limited to, requirements under state or federal law that the Business Associate maintains or preserves the PHI or copies thereof.
- (m) Miscellaneous Provisions.

- (1) Regulatory References. A reference in this Section of the Contract to a section in the Privacy Rule means the section as in effect or as amended.
- (2) Amendment. The Parties agree to take such action as is necessary to amend this Section of the Contract from time to time as is necessary for Covered Entity to comply with requirements of the Privacy Rule and the Health Insurance Portability and Accountability Act of 1996, Pub. L. No. 104-191.
- (3) Survival. The respective rights and obligations of Business Associate shall survive the termination of this Contract.
- (4) Effect on Contract. Except as specifically required to implement the purposes of this Section of the Contract, all other terms of the Contract shall remain in force and effect.
- (5) Construction. This Section of the Contract shall be construed as broadly as necessary to implement and comply with the Privacy Standard. Any ambiguity in this Section of the Contract shall be resolved in favor of a meaning that complies, and is consistent with, the Privacy Standard.
- (6) Disclaimer. Covered Entity makes no warranty or representation that compliance with this Section of the Contract will be adequate or satisfactory for Business Associate's own purposes. Covered Entity shall not be liable to Business Associate for any claim, civil or criminal penalty, loss or damage related to or arising from the unauthorized use or disclosure of PHI by Business Associate or any of its officers, directors, employees, contractors or agents, or any third party to whom Business Associate has disclosed PHI contrary to the provisions of this Contract or applicable law. Business Associate is solely responsible for all decisions made, and actions taken, by Business Associate regarding the safeguarding, use and disclosure of PHI within its possession, custody or control.
- (7) Indemnification. The Business Associate shall indemnify and hold the Covered Entity harmless from and against any and all claims, liabilities, judgments, fines, assessments, penalties, awards and any statutory damages that may be imposed or assessed pursuant to HIPAA, as amended or the HITECH Act, including, without limitation, attorney's fees, expert witness fees, costs of investigation, litigation or dispute resolution, and costs awarded thereunder, relating to or arising out of any violation by the Business Associate and its agents, including subcontractors, of any obligation of Business Associate and its agents, including subcontractors, under this section of the contract, under HIPAA, the HITECH Act, the Privacy Rule and the Security Rule.

EXHIBIT D
AFFIRMATIVE ACTION POLICY STATEMENT (October 2023)

It is the policy of this firm to assure that applicants are employed, and that employees are treated during employment, without regard to an individual's race, color, religion, creed, sex, gender identity or expression, marital status, national origin, age, ancestry, status as a veteran, intellectual disability, mental disability, learning disability or physical disability, including but not limited to blindness, unless such disability prevents performance of the work involved and to promote the full realization of equal employment opportunity through positive and continuous affirmative efforts. Such action shall include employment, promotion, demotion or transfer, recruitment or recruitment advertising, layoff or terminations, rates of pay or other forms of compensation, selection for training/apprenticeship, pre-apprenticeship opportunities, and on-the-job training opportunities.

This firm will implement, monitor, enforce and achieve full compliance with this Affirmative Action Policy Statement in conjunction with the applicable Federal and State laws, regulations, executive orders, and contract provisions, including but not limited to those listed below:

Dissemination of Policy:

All members of the firm who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, this firm's Equal Employment Opportunity (EEO) policy and contractual responsibilities to provide EEO in each grade and classification of employment. These actions shall include:

1. 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 firm's EEO policy and its implementation will be reviewed and explained. These meetings will be conducted by the EEO officer.
2. 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.
3. All personnel who are engaged in direct recruitment for the firm will be instructed by the EEO Officer of the contractor's procedures for locating and hiring minority group employees.
4. Notices and posters setting forth the firm's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
5. The firm'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.
6. Sexual Harassment Prevention Resources including training and remedies must be available to all employees. See Connecticut General Assembly Public Acts 19-16 and 19-93.

Recruitment:

When advertising for employees, the firm will include in all advertisements the notation; "An Affirmative Action/Equal Opportunity Employer." All such advertisements will be placed in

publications having a large circulation among minority groups in the area where the workforce would normally be derived.

1. The firm will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority and female applicants. To meet this requirement, the firm will identify referral sources and establish procedures for recruitment to obtain the referral of minority and female applicants.
2. In the event the firm has a valid bargaining agreement providing for exclusive hiring referrals, he/she is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The United States Department of Labor has held that where implementation of such agreements has had the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)
3. The firm will encourage his/her present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

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 an individual's race, color, religion, creed, sex, gender identity or expression, marital status, national origin, age, ancestry, status as a veteran, intellectual disability, mental disability, learning disability or physical disability, including but not limited to blindness, unless such disability prevents performance of the work involved. The following procedures shall be followed:

1. The firm will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of personnel.
2. The firm 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 correction action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
3. The firm shall periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
4. The firm will promptly investigate all complaints of alleged discrimination made to the firm 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 actions shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

Training and Promotion:

The firm will assist in locating, qualifying, and increasing the skills of minorities and women. The firm will utilize the following tools to identify training and promotional opportunities in the firm:

1. The firm will advise employees and applicants for employment of available training programs and the entrance requirements.
2. The firm will periodically review the training and promotion of minority group and female employees and will encourage eligible employees to apply for such training and promotion.

Unions:

If the firm relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the firm either directly or through a contractor's association acting as agent will include the procedures set forth below:

1. The firm will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
2. The firm will use best efforts to incorporate an EEO clause into each union agreement to the extent that such union will be contractually bound to refer applicants without regard to their to an individual's race, color, religion, creed, sex, gender identity or expression, marital status, national origin, age, ancestry, status as a veteran, intellectual disability, mental disability, learning disability or physical disability, including but not limited to blindness, unless such disability prevents performance of the work involved.
3. The firm is to obtain information as to the referral practices and policies of the labor union except that to the extent that such information is within the exclusive possession of the labor union and such labor union refuses to furnish the information to the contractor, the contractor shall notify the Connecticut Department of Transportation (CTDOT) of the efforts made to obtain the information.
4. In the event the union is unable to provide the firm with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies. (The United States Department of Labor has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations under Executive Order 11246 as amended, and in compliance with 23 CFR Part 230, the firm will notify CTDOT.

Selection of Subcontractors:

The firm will not discriminate on the grounds race, color, religion, sex, sexual orientation, gender identity or expression, marital status, national origin, ancestry, age, intellectual disability, learning disability, physical disability, including, but not limited to, blindness, or status as a veteran in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

1. The firm shall use his/her best efforts to ensure subcontractor/subconsultant compliance with Federal and State Equal Opportunity (EO) and EEO requirements.

Records and Reports:

The Contractor shall keep records as necessary to document compliance with EO/EEO requirements. Such reports shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of CTDOT and/or the United States Department of Transportation. The following records should be maintained:

6. The number of minority and non-minority group members and women employed in each work classification;
7. The progress and efforts being made in cooperation with unions, when applicable to increase the employment opportunities for minorities and women;
8. The documentation showing progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
9. Complaints of Discrimination.

In implementing this policy and ensuring that affirmative action is being provided, each time a hiring opportunity occurs this firm will contact and request referrals from minority and female organizations, referral sources, and media sources. All advertising will emphasize that the firm is “An Affirmative Action/Equal Opportunity Employer.”

In order to substantiate this firm’s efforts and affirmative actions to provide equal opportunity, the firm will maintain and submit, as requested, documentation such as referral request correspondence, copies of advertisements utilized and follow-up documentation to substantiate that efforts were made in good faith. This firm will maintain the necessary internal audit procedures and record keeping systems to report the firm’s affirmative action efforts.

It is understood by Owner/CEO/President of the firm and the firm’s Equal Employment Opportunity Officer and supervisory and managerial personnel that failure to effectively implement, monitor and enforce this firm’s affirmative action program and/or failure to adequately document and submit as required, the affirmative actions taken and efforts made to recruit and hire minority and female applicants in accordance with our affirmative action program in each instance of hire, will result in this firm being required to recommit itself to a modified and more stringent affirmative action program as a condition of approval. It is recognized that this policy is a contractual requirement and is a prerequisite for performing services for the contracting agency. This policy in addition to CTDOT’s EO/EEO contract provisions and requirements, shall constitute the CTDOT Affirmative Program requirements.

The ultimate responsibility for the full implementation of this firm’s Affirmative Action Program rests with the Chief Executive Officer of this firm.

EXHIBIT E

(Federal wage rate package will be inserted at the end after State wages for the final executed contract only. Refer to NTC – Federal Wage Determinations)

EXHIBIT F
State Wages and Other Related Information

Please refer to the Department of Labor website for the latest updates, annual adjusted wage rate increases, certified payroll forms and applicable statutes.

<http://www.ctdol.state.ct.us/wgwkstnd/prevailwage.htm>

Prevailing Wage Law Poster Language

**THIS IS A PUBLIC WORKS PROJECT Covered by the
PREVAILING WAGE LAW CT General Statutes Section 31-53 If**

you have QUESTIONS regarding your wages CALL (860) 263-6790

Section 31-55 of the CT State Statutes requires every contractor or subcontractor performing work for the state to post in a prominent place the prevailing wages as determined by the Labor Commissioner.

Informational Bulletin

THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE (applicable to public building contracts entered into on or after July 1, 2007, where the total cost of all work to be performed is at least \$100,000)

- (1) This requirement was created by Public Act No. 06-175, which is codified in Section 31-53b of the Connecticut General Statutes (pertaining to the prevailing wage statutes);
- (2) The course is required for public building construction contracts (projects funded in whole or in part by the state or any political subdivision of the state) entered into on or after July 1, 2007;
- (3) It is required of private employees (not state or municipal employees) and apprentices who perform manual labor for a general contractor or subcontractor on a public building project where the total cost of all work to be performed is at least \$100,000;
- (4) The ten-hour construction course pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, and, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;
- (5) The internet website for the federal OSHA Training Institute is http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html;

(6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;

(7) Within 30 days of receiving a contract award, a general contractor must furnish proof to the Labor Commissioner that all employees and apprentices performing manual labor on the project will have completed such a course;

(8) Proof of completion may be demonstrated through either: (a) the presentation of a bona fide student course completion card issued by the federal OSHA Training Institute; or (2) the presentation of documentation provided to an employee by a trainer certified by the Institute pending the actual issuance of the completion card;

(9) Any card with an issuance date more than 5 years prior to the commencement date of the construction project shall not constitute proof of compliance;

(10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;

(11) Any employee found to be in non-compliance shall be subject to removal from the worksite if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in non-compliance;

(12) Any such employee who is determined to be in noncompliance may continue to work on a public building construction project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;

(13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;

(14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and

(15) Regulations clarifying the statute are currently in the regulatory process and shall be posted on the CTDOL website as soon as they are adopted in final form.

(16) Any questions regarding this statute may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of <http://www.ctdol.state.ct.us/wgwkstnd/wgmenu.htm>; or by telephone at (860)263-6790.

THE ABOVE INFORMATION IS PROVIDED EXCLUSIVELY AS AN EDUCATIONAL RESOURCE AND IS NOT INTENDED AS A SUBSTITUTE FOR LEGAL INTERPRETATIONS WHICH MAY ULTIMATELY ARISE CONCERNING THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.

November 29, 2006

Notice

To All Mason Contractors and Interested Parties Regarding Construction Pursuant to Section 31-53 of the Connecticut General Statutes (Prevailing Wage)

The Connecticut Labor Department Wage and Workplace Standards Division is empowered to enforce the prevailing wage rates on projects covered by the above referenced statute. Over the past few years, the Division has withheld enforcement of the rate in effect for workers who operate a forklift on a prevailing wage rate project due to a potential jurisdictional dispute. The rate listed in the schedules and in our Occupational Bulletin (see enclosed) has been as follows:

Forklift Operator:

- **Laborers (Group 4) Mason Tenders** - operates forklift solely to assist a mason to a maximum height of nine feet only.
- **Power Equipment Operator (Group 9)** - operates forklift to assist any trade and to assist a mason to a height over nine feet.

The U.S. Labor Department conducted a survey of rates in Connecticut, but it has not been published and the rate in effect remains as outlined in the above Occupational Bulletin.

Since this is a classification matter and not one of jurisdiction, effective January 1, 2007, the Connecticut Labor Department will enforce the rate on each schedule in accordance with our statutory authority.

Your cooperation in filing appropriate and accurate certified payrolls is appreciated.

**CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION**

**CONTRACTORS WAGE CERTIFICATION FORM
Construction Manager at Risk/General Contractor/Prime Contractor**

I, _____ of _____
Officer, Owner, Authorized Rep. Company Name

do hereby certify that the _____
Company Name

Street

City

and all of its subcontractors will pay all workers on the

Project Name and Number

Street and City

the wages as listed in the schedule of prevailing rates required for such project (a copy of which is attached hereto).

Signed

Subscribed and sworn to before me this _____ day of _____, _____.

Notary Public

Return to: Connecticut Department of Labor Wage
& Workplace Standards Division 200 Folly Brook
Blvd., Wethersfield, CT 06109

Rate Schedule Issued (Date): _____

Information Bulletin

Occupational Classifications

The Connecticut Department of Labor has the responsibility to properly determine "job classification" on prevailing wage projects covered under C.G.S. Section 31-53(d).

Note: This information is intended to provide a sample of some occupational classifications for guidance purposes only. It is not an all-inclusive list of each occupation's duties. This list is being provided only to highlight some areas where a contractor may be unclear regarding the proper classification. If unsure, the employer should seek guidelines for CTDOL.

Below are additional clarifications of specific job duties performed for certain classifications:

☐ **ASBESTOS WORKERS**

Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.

☐ **ASBESTOS INSULATOR**

Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.

☐ **BOILERMAKERS**

Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.

☐ **BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS, STONE MASONS, TERRAZZO WORKERS, TILE SETTERS**

Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.

☐ **CARPENTERS, MILLWRIGHTS, PILEDRIVERMEN, LATHERS, RESILEINT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS**

Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation of insulated material of all types whether blown, nailed or attached in

other ways to walls, ceilings and floors of buildings. Assembly and installation of modular furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.

☐ **LABORER, CLEANING**

- The clean up of any construction debris and the general (heavy/light) cleaning, including sweeping, wash down, mopping, wiping of the construction facility and its furniture, washing, polishing, and dusting.

☐ **DELIVERY PERSONNEL**

- If delivery of supplies/building materials is to one common point and stockpiled there, prevailing wages are not required. If the delivery personnel are involved in the distribution of the material to multiple locations within the construction site then they would have to be paid prevailing wages for the type of work performed: laborer, equipment operator, electrician, ironworker, plumber, etc.

- An example of this would be where delivery of drywall is made to a building and the delivery personnel distribute the drywall from one "stockpile" location to further sub-locations on each floor. Distribution of material around a construction site is the job of a laborer or tradesman, and not a delivery personnel.

☐ **ELECTRICIANS**

Install, erect, maintenance, alteration or repair of any wire, cable, conduit, etc., which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes, including the Installation or maintenance of telecommunication, LAN wiring or computer equipment, and low voltage wiring. *License required per Connecticut General Statutes: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9.

☐ **ELEVATOR CONSTRUCTORS**

Install, erect, maintenance and repair of all types of elevators, escalators, dumb waiters and moving walks. *License required by Connecticut General Statutes: R-1, 2, 5, 6.

☐ **FORKLIFT OPERATOR**

Laborers Group 4) Mason Tenders - operates forklift solely to assist a mason to a maximum height of nine (9) feet only.

Power Equipment Operator Group 9 - operates forklift to assist any trade, and to assist a mason to a height over nine (9) feet.

☐ **GLAZIERS**

Glazing wood and metal sash, doors, partitions, and 2 story aluminum storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior

walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers, which require equal composite workforce.

☐ **IRONWORKERS**

Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which require equal composite workforce.

☐ **INSULATOR**

- Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings.

☐ **LABORERS**

Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), decorative security fence (non-metal).

installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.

☐ **PAINTERS**

Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic artwork and drywall hhg for any and all types of building and residential work.

☐ **LEAD PAINT REMOVAL**

- Painter's Rate 1. Removal of lead paint from bridges. 2. Removal of lead paint as preparation of any surface to be repainted. 3. Where removal is on a Demolition project prior to reconstruction. • Laborer's Rate 1. Removal of lead paint from any surface NOT to be repainted. 2. Where removal is on a TOTAL Demolition project only.

☐ **PLUMBERS AND PIPEFITTERS**

Installation, repair, replacement, alteration or maintenance of all plumbing, heating, cooling and piping. *License required per Connecticut General Statutes: P-1,2,6,7,8,9 J1,2,3,4 SP-1,2 S-

1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4.

☐ **POWER EQUIPMENT OPERATORS**

Operates several types of power construction equipment such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers or motor graders, etc. Repairs and maintains equipment. ***License required, crane operators only, per Connecticut General Statutes.**

☐ **ROOFERS**

Covers roofs with composition shingles or sheets, wood shingles, slate or asphalt and gravel to waterproof roofs, including preparation of surface. (Demolition or removal of any type of roofing and or clean-up of any and all areas where a roof is to be re-laid.)

☐ **SHEETMETAL WORKERS**

Fabricate, assembles, installs and repairs sheet metal products and equipment in such areas as ventilation, air-conditioning, warm air heating, restaurant equipment, architectural sheet metal work, Sheetmetal roofing, and aluminum gutters. Fabrication, handling, assembling, erecting, altering, repairing, etc. of coated metal material panels and composite metal material panels when used on building exteriors and interiors as soffits, fascia, louvers, partitions, canopies, cornice, column covers, awnings, beam covers, cladding, sunshades, lighting troughs, spires, ornamental roofing, metal ceilings, mansards, copings, ornamental and ventilation hoods, vertical and horizontal siding panels, trim, etc. The sheet metal classification also applies to the vast variety of coated metal material panels and composite metal material panels that have evolved over the years as an alternative to conventional ferrous and non-ferrous metals like steel, iron, tin, copper, brass, bronze, aluminum, etc. Fabrication, handling, assembling, erecting, altering, repairing, etc. of architectural metal roof, standing seam roof, composite metal roof, metal and composite bathroom/toilet partitions, aluminum gutters, metal and composite lockers and shelving, kitchen equipment, and walk-in coolers. To include testing and air –balancing ancillary to installation and construction.

☐ **SPRINKLER FITTERS**

Installation, alteration, maintenance and repair of fire protection sprinkler systems. ***License required per Connecticut General Statutes: F-1, 2, 3, 4.**

☐ **TILE MARBLE AND TERRAZZO FINISHERS**

Assists and tends the tile setter, marble mason and terrazzo worker in the performance of their duties.

☐ **TRUCK DRIVERS**

~How to pay truck drivers delivering asphalt is under REVISION~

Truck Drivers are required to be paid prevailing wage for time spent "working" directly on the site. These drivers remain covered by the prevailing wage for any time spent transporting between the

actual construction location and facilities (such as fabrication, plants, mobile factories, batch plant, borrow pits, job headquarters, tool yards, etc.) dedicated exclusively, or nearly so, to performance of the contract or project, which are so located in proximity to the actual construction location that it is reasonable to include them. ***License required, drivers only, per Connecticut General Statutes.**

For example:

- Material men and deliverymen are not covered under prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.
- Hauling material off site is not covered provided they are not dumping it at a location outlined above.
- Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

□ Any questions regarding the proper classification should be directed to:

**Public Contract Compliance Unit
Wage and Workplace Standards Division
Connecticut Department of Labor
200 Folly Brook Blvd, Wethersfield, CT 06109
(860) 263-6543.**

**Connecticut Department of Labor
Wage and Workplace Standards Division
FOOTNOTES**

☐ Please Note: If the “Benefits” listed on the schedule for the following occupations includes a letter(s) (+ a or + a+b for instance), refer to the information below.

Benefits to be paid at the appropriate prevailing wage rate for the listed occupation.

If the “Benefits” section for the occupation lists only a dollar amount, disregard the information below.

Bricklayers, Cement Masons, Cement Finishers, Concrete Finishers, Stone Masons
(Building Construction) and (Residential- Hartford, Middlesex, New Haven, New London and
Tolland Counties)

a. Paid Holiday: Employees shall receive 4 hours for Christmas Eve holiday provided the employee works the regularly scheduled day before and after the holiday. Employers may schedule work on Christmas Eve and employees shall receive pay for actual hours worked in addition to holiday pay.

Elevator Constructors: Mechanics

a. Paid Holidays: New Year’s Day, Memorial Day, Independence Day, Labor Day, Veterans’ Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.

b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

Glaziers

a. Paid Holidays: Labor Day and Christmas Day.

Power Equipment Operators
(Heavy and Highway Construction & Building Construction)

a. Paid Holidays: New Year’s Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday. Holidays falling on Saturday may be observed on Saturday, or if the employer so elects, on the preceding Friday.

Ironworkers

a. Paid Holiday: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

Laborers (Tunnel Construction)

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

Roofers

a. Paid Holidays: July 4th, Labor Day, and Christmas Day provided the employee is employed 15 days prior to the holiday.

Sprinkler Fitters

a. Paid Holidays: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

Truck Drivers

(Heavy and Highway Construction & Building
Construction)

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas day, and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

Rev. 7/1/19

SEE BELOW FOR STATE WAGE RATES

EXHIBIT E

INSERT FEDERAL WAGES HERE
EXHIBIT F