



TOWNSEND WATER DEPARTMENT
540 Main Street West Townsend, Massachusetts 01474

Nathan Mattila, Chairman
Paul L. Rafuse,
Water Superintendent

Lance Lewand, Vice-Chairman

Michael MacEachern, Clerk
Tel: (978) 597-2212
Email: water@townsend.ma.us

WATER COMMISSIONERS MEETING MINUTES

November 20, 2017 - 5:00 P.M.

Water Department 540 Main Street, Meeting Room

I. PRELIMINARIES:

- 1.1 NM called the meeting to order at 5:05 P.M. at 540 Main Street.
- 1.2 Roll call showed members present: Nathan Mattila (NM), Chairman, Lance Lewand (LL), Vice-Chair, and Michael MacEachern (MM), Clerk. Guest Present: Melissa Coady and Eric Ohanian of Tighe & Bond and Paul Rafuse.
- 1.3 NM announced that the meeting is being audio recorded.
- 1.4 Chairman's additions or deletions. None

II. APPOINTMENTS:

- 2.1 5:10 PM Melissa Coady and Eric Ohanian of Tighe & Bond: Main St. Station bridge replacement construction and conservation permitting.

III. MEETING BUSINESS:

- 3.1 Discuss Main St. Station Bridge Replacement Project.

Eric reported that the BOWC amended engineering proposal could not be drafted for just the permitting. Permitting was contingent on what type of temporary bridge would be utilized in task three. Discussion involved utilizing the steel framework of old rail cars that LL found on the internet. MM asked about using custom made road plates. The Board instructed Eric to focus on using the company Paragon that uses and supplies old rail car steel frame as it would be more cost effective and reduce the time frame to complete the project. Melissa explained applying for and getting an emergency permit requires proper coordination, communication, and scheduling of work to maximize the required time frame to install the temporary bridge. Once the Conservation Commission approves the emergency permit, we would have thirty days to install the temporary bridge. The Board and Eric asked that Paul check to see if the existing emergency waiver for bidding requirements can also be used for the temporary bridge.

IV. COMMISSIONERS UPDATES AND REPORT:

V. WATER SUPERINTENDENTS UPDATES AND REPORTS:

VI. OFFICE UPDATES AND REPORTS:

- 6.1 Review and Sign Bills Payable Warrants. None

ADJOURNMENT: NM moved to adjourn the BOWC meeting at 6:06 P.M. MM seconded. Unanimous vote.

Respectfully Submitted,

Brenda Boudreau

WATER DEPARTMENT MEETING

DATE November 20, 2017

NAME	ADDRESS	PH/EMAIL
MAISSA COMBY	TIGHE + BOND	413-572-3224 MPCOMBY@TIGHEBOND.COM
Eric Ohanian	Tighe + Bond	603-684-8641 eohanian@tighebond.com

COPY

T-0354-04
September 11, 2017

Paul Rafuse, Superintendent
Townsend Water Department
540 Main Street
West Townsend, MA 01474

Re: **Proposal for Engineering Services
Main Street Pump Station Access Bridge Replacement**

Dear Mr. Rafuse,

At the request of the Townsend Water Department (Water Department), Tighe & Bond has prepared this proposal to provide engineering services required to evaluate and design the replacement of the vehicular access bridge serving the Main Street Pumping Station located at 512 Main Street. We have modified our original proposal dated June 28, 2017 based on our meetings with the Board of Water Commissioners on August 7th & 23rd and our meeting with the Conservation Commission, and a Contech Representative on August 23, 2017.

Project Understanding

The Water Department's access bridge serves as the only access to the Main Street Pumping Station. The bridge is used daily by Water Department staff and approximately every 3-months by large tanker trucks for chemical deliveries. The bridge superstructure is comprised of steel girders, timber decking and running boards, and steel pipe rails; the substructure consists of concrete abutments and wingwalls.

The Water Department contacted Tighe & Bond and expressed immediate concerns regarding excessive bridge deflections. Tighe & Bond sent an experienced and licensed bridge engineer to evaluate the condition of the bridge and discuss possible repair options. Please refer to the Field Report dated June 15, 2017, attached. Due to the failed and critical condition of the bridge identified in the report, Tighe & Bond recommended that the bridge be closed to vehicular traffic immediately. We have developed the below scope of services to assist the Water Department in evaluating repair or replacement options for the bridge and to complete the design, bidding and constructions phase engineering services for the project.

Scope of Services

Task 1: Preliminary Condition Assessment (completed)

Tighe & Bond performed one (1) site visit and evaluated the condition of the existing bridge structure. We met with the Water Department to discuss our initial findings and submitted a brief field report which assessed the condition of the structure.

Task 2: Rehabilitation Analysis (completed)

Tighe & Bond identified and discussed conceptual alternatives for emergency bridge repairs including conceptual opinions of probable construction cost and an anticipated construction schedule. Alternatives included the following:

Alternative 1 – Replacement. This included complete demolition of the existing structure, including concrete abutments, and the installation of a new precast concrete buried structure (open-bottom arch or rigid frame on pedestal footings). Culverts were also considered as replacement alternatives.

Alternative 2 – Rehabilitation. This included repairs to the existing concrete abutments and replacement of the superstructure (bearings, steel beams, deck, and bridge rail). Deck replacement alternatives included concrete (alternative 2a) or timber (alternative 2b).

Tighe & Bond identified preliminary permitting requirements. Environmental permits are likely required for the contractor to work within the wetlands (for substructure repairs) and for access across the stream during construction.

Tighe & Bond attended one (1) Board of Water Commissioners meeting to discuss the bridge condition; attended one (1) site walk meeting with the Conservation Commission and a representative from a premanufactured bridge vendor; and we anticipate and have included one (1) additional meeting with the Board of Water Commissioners to verbally discuss our findings and recommendations on how to proceed with the project.

Tighe & Bond recommended replacement in discussions with the Water Department and the decision was made to replace the bridge in lieu of repairs.

Task 3: Temporary Bridge Coordination and Permitting

Tighe & Bond will work with local contractors for the installation of a temporary bridge to be located west of the existing bridge. By installing the temporary bridge adjacent to the existing bridge, the contractor can use the temporary bridge for site access during construction of the replacement bridge without the need for additional permitting. Tighe & Bond assumes that the approved Emergency Waiver for Bidding Requirements will allow the Town to contract directly with a contractor without the need for bid phase services. After a temporary bridge is constructed, it is assumed that the waiver would not be valid since the temporary structure would resolve emergency circumstances.

Temporary bridge work will likely require the installation of shallow footings, a bridge structure, fence removal, a temporary gravel road, and re-seeding after completion of the project. To coordinate this work, Tighe & Bond will contact local contractors for the availability of a temporary bridge and will assist with preparing a contract between the Town and Contractor. Services during construction will be similar to the work identified in Task 8. Tighe & Bond has anticipated and included three site visits during installation of the temporary bridge.

Based upon the immediate need to maintain service to the pumping station, Tighe & Bond will work with the Water Department to request an Emergency Certification under the Wetlands Protection Act. We will also work with the Massachusetts Natural Heritage and Endangered Species Program (NHESP) to complete an expedited review under the Massachusetts Endangered Species Act as the project area is mapped for Priority Habitats of Rare Species and Estimated Habitats of Rare Wildlife. It is assumed that no work will be performed within Bordering Vegetated Wetlands or Land Under Water, but will be performed within the 100-foot buffer zone.

Tighe & Bond will provide site civil services to tie in a temporary gravel access driveway from the existing access road to the temporary bridge and onto the property. Currently survey and subsurface explorations are not included as part of the temporary bridge work. The contractor shall be responsible for determining elevation changes on site during installation of the bridge.

Task 4: Pre-Design Services

Task 4.1: Wetland Resource Delineation

Tighe & Bond wetland scientists will identify wetland resource areas within approximately 100 feet of the proposed limits of work in accordance with local, state and federal criteria. Each wetland resource area will be surveyed (Task 4.3) and added to the site plans for design and permitting purposes.

Task 4.2: Geotechnical Explorations, Evaluation, and Recommendations

Tighe & Bond will coordinate a subsurface exploration program to evaluate the suitability of the site's subsurface conditions to support the proposed bridge. The exploration program will include the following components:

- **Site History and Geologic Conditions** – Review available existing United States Geologic Survey (USGS) mapping for the area to aid in preparation of the subsurface exploration and sampling program.
- **Exploration Layout and Coordination** – Mark the proposed exploration locations prior to the required utility clearance notification. Locations will be recorded in the topographical survey (Task 4.3). Tighe & Bond will coordinate the exploration efforts upon completion of the drilling subcontractor's notification to "Dig Safe" and their field markings.
- **Test Borings** – Subcontract with a drilling contractor to complete one day of borings within or near the proposed bridge footprint. It is assumed that the boring locations will be truck rig accessible, presuming the use of a skid rig or a temporary bridge will be in place. It is anticipated that two borings will be completed within the time budgeted. Borings not completed within this time frame will either be eliminated or completed under a contract amendment. A boring will be placed at each proposed bridge abutment. Borings will be advanced with hollow-stem augers or flush joint casing using drive and wash methods to target depths of 30 feet below the existing ground surface, 15 feet into glacial till, or refusal, whichever is shallower.

Split-spoon samples using Standard Penetration Test (SPT) procedures will be obtained continuously through existing fill or organic soils to a maximum depth of 12 feet, and at 5-foot maximum intervals thereafter. A 5-foot rock core will be taken in one of the borings, if refusal is encountered within proposed exploration depths. Groundwater monitoring wells are not proposed but groundwater levels will be noted during drilling, if encountered.

Boreholes will be backfilled with cuttings or sand if there is an insufficient amount of cuttings to fill the hole. An asphalt "cold patch" will be used at borings completed in paved areas and the area will be swept clean. No other surface repair is included. Any cuttings unable to be returned to the hole will be spread near the boring location in a vegetated upland area.

A Tighe & Bond representative will be onsite to observe and document the test borings.

- **Permits/Coordination** – Scheduling of our field work will be coordinated with Water Department personnel. We have assumed that the borings will be conducted outside the street right of way. Therefore, it is assumed that no police detail will be required during the exploration program. Our scope currently includes no local permitting effort for these subsurface explorations. We will inquire with the Town prior to performing the explorations and if a local permit is required, we will amend our scope and fee accordingly.

Noise from the test boring drill rig can be disruptive. However, it is assumed that explorations can be performed within an 8-hour period during weekdays sometime between 7 AM and 5 PM without interruption to reduce cost.

- **Material Testing** – Conduct four grain size analyses on select samples obtained in the explorations to aid in soil classification, assist with correlating properties of the subsurface materials, and evaluation of the suitability of materials for re-use as fill on-site.

Tighe & Bond will prepare a geotechnical evaluation letter report to summarize our findings. Our report will provide the following:

- **Proposed Development** – Provide a brief description of the proposed structure and site grading.
- **Subsurface Conditions** – Provide a description of observed subsurface conditions, including exploration logs, a subsurface exploration location plan, and laboratory test results.
- **Subsurface Suitability** – Provide an evaluation of the subsurface conditions with regard to their suitability as a bearing stratum to support the proposed bridge. This evaluation will be based upon review of the SPT data, laboratory testing, and visual observation of the subsurface conditions.
- **Foundation Requirements** – Provide recommendations regarding suitable foundation types for the subsurface conditions encountered and a commentary on standard requirements as they pertain to foundation design, including frost depth and minimum footing dimensions.

For the purposes of this proposal, it is assumed that the structure will be founded on non-cohesive and reasonably dense soils suitable to support a conventional, shallow spread footing foundation system. If actual subsurface conditions require a deep foundation or ground improvement to support the proposed structure, additional explorations, laboratory testing, and analyses may be required under a revised scope and fee.

- **Bearing Pressure and Settlement** – Provide an allowable bearing pressure, and estimated elevation for the anticipated stratum. Provide an estimate of anticipated total and differential settlements under the recommended allowable bearing pressures. Again, this assume that the structure can be support on a conventional, shallow foundation system.
- **Lateral Earth Pressures** – Provide recommendations for anticipated lateral earth pressures for bridge abutment walls.
- **Seismic Design Criteria** – Identify the seismic design parameters as required under AASHTO guidelines.
- **Geotechnical Construction Recommendations** – Provide commentary concerning geotechnical aspects of construction. This will include excavation and backfilling, temporary excavation support and dewatering, protection of adjacent structures to remain, demolition of existing structures to avoid conflicts with new foundations, suitability of site soils for re-use as backfill, and foundation subgrade preparation.

Task 4.3: Site Plan & Survey

At the request of the Conservation Commission, Tighe & Bond will prepare a detailed topographic survey of the crossing area. We will subcontract a local licensed professional land surveyor to complete this work. The survey will include the existing

bridge, stream, roadway, elevations, wetland flags, and site utilities. The survey will extend from the bridge to encompass Pearl Hill Brook, the pump station buildings, the far side of Route 119, and 200-feet downstream of the bridge. A site visit will be made to review and verify the existing conditions as identified in the survey.

Task 4.4: Watershed Hydrology

At the request of the Conservation Commission, Tighe & Bond will perform a hydrologic analysis for the bridge using HydroCAD, a computer model based on USDA-SCS Technical Release No. 20 (TR-20). Watershed hydrologic conditions will include information from available GIS mapping in the area and from the USGS StreamStats tool. Precipitation data will be obtained from precipitation data published in the National Oceanic and Atmospheric Administration (NOAA) Atlas 14, which is the current accepted standard. The geometry of the existing bridge will be determined from the site visit and site survey. Storage volumes upstream of the bridge will be calculated using publicly available elevation data from MassGIS. The HydroCAD model will be used to determine the peak discharge to the bridge.

Task 4.5: Crossing Hydraulics

At the request of the Conservation Commission, A hydraulic evaluation will be performed using HEC-RAS, a riverine hydraulics computer model, to determine the required capacity of the roadway structure to pass the 2-, 10-, 25-, and 100-year return period storm events. The capacity of the existing and proposed structures will be evaluated and compared to recommended industry standards (e.g., MassDOT Project Development and Design Guide), and local regulations.

Task 5: Replacement Alternatives Analysis

Task 5.1: Evaluate Replacement Alternatives

Tighe & Bond will identify and evaluate three (3) replacement alternatives. Each bridge alternative will be conceptually designed to meet structural and geometric requirements based on permitting, H&H, and preliminary geotechnical data.

Task 5.2: Opinion of Probable Construction Cost

Tighe & Bond will prepare an Engineers Opinion of Probable Construction Cost for each of the alternatives evaluated.

Task 5.3: Replacement Alternatives Analysis Report

Tighe & Bond will prepare an alternatives analysis report that summarizes the results of Tasks 4, 5.1, and 5.2. The report will be submitted to the Water Department for consideration.

Task 6: Permitting

The proposed activities will occur within areas subject to protection and jurisdiction under the Massachusetts Wetlands Protection Act (M.G.L. chapter 131 § 40) and its implementing regulations (310 CMR 10.00), as well as the Townsend Wetland Bylaw (Chapter 138) and regulations (Chapter 150), which are administered by the Townsend Conservation Commission (Commission). Based on the proximity to and extent of work anticipated in wetland resource areas and Buffer Zone, and Tighe & Bond's experience permitting similar projects, we will prepare a Notice of Intent (NOI) for the Commission's review.

The NOI will present the proposed activities, as well as proposed mitigation if determined to be necessary. The application will also include a discussion of compliance with state stormwater management standards.

To prepare the NOI, Tighe & Bond will perform the following tasks:

- Prepare permit application forms
- Develop a project narrative including construction sequence
- Prepare resource maps (e.g., USGS, floodplain, rare species)
- Include site photographs
- Attach site plans and drawings depicting the proposed activities.
- Submit the NOI to the Townsend Conservation Commission and MassDEP, and undertake required abutter notification and legal notice.

We have included in this proposal attendance at two public hearings with the Conservation Commission, and attendance at one Commission site walk, if required. We will issue one written response to comments generated by a regulatory agency during their review of the NOI. Upon issuance of the Order of Conditions, Tighe & Bond will coordinate recording the document at the Middlesex County Registry of Deeds, and submit proof of recording to the Commission.

The proposed project area also appears to be situated in close proximity to mapped Priority Habitat of Rare Species and Estimated Habitat of Rare Wildlife per the Massachusetts Natural Heritage Atlas (14th edition, effective August 1, 2017). As such, and upon the advice of the Townsend Conservation Commission, we will submit a Request for Information to the Massachusetts Natural Heritage and Endangered Species Program (NHESP). In the event NHESP confirms that the project is within the limits of Priority and Estimated Habitat, a copy of the NOI will be submitted to NHESP for streamlined review under both the MAWPA and the Massachusetts Endangered Species Act (MESA).

Work below the Ordinary High Water (OHW) of a Water of the United States that results in a "discharge of dredge or fill material" is also subject to Section 404 of the Clean Water Act, which is administered under the Massachusetts General Permit (MA GP) by the United States Army Corps of Engineers (Corps). The project appears to qualify under Massachusetts General Permits 1 (repair, replacement, and maintenance of authorized structures and fills) and 14 (temporary construction, access and dewatering). Based on the anticipated scope of work of excavating behind the existing abutments and utilization of an adjacent temporary bridge crossing, it is anticipated that a Self-Verification Notification Form submittal to the Corps will not be required.

If it is determined that the proposed work will require a Self-Verification or that a Pre-Construction Notification (PCN) will be required to be filed with the Corps, a contract amendment will be required to perform this additional permitting.

Though work may be required within a Water of the United States, we have assumed that the Order of Conditions issued by the Townsend Conservation Commission will serve as the 401 Water Quality Certificate per 314 CMR 9.03(1), and that the work will not result in dredging of more than 100 cubic yards of material below the OHW line and/or that MassDEP will not invoke discretionary authority (314 CMR 9.04(11)).

Task 7: Final Design

Based upon the results of the field data collection, the completion of our replacement alternatives analysis, and a preferred option determined by the Water Department, we will proceed with the design of the chosen alternative. For the purposes of developing this scope & fee, Tighe & Bond presumes the existing structure will be replaced with a precast concrete structure on concrete footings. It is assumed that since the driveway is gated and not for public travel, Chapter 85 approval through MassDOT will not be required.

Preliminary design plans will be developed for the selected alternative. Plans will include the proposed structure's footprint, dimensions, site constraints considerations, and resource area impacts. We will develop and submit 60% preliminary plan sheets to the Town which will detail the intended design including the structure, channel, roadway approaches, and guardrail.

Tighe & Bond will work with appropriate fabricators and develop geometry, details, and construction requirements for the proposed structure. The structure will be specified to meet the applicable standards and regulations as provided by the American Association of State Highway and Transportation Officials (AASHTO) and MassDOT standards for HL-93 bridge loading (AASHTO specification).

Tighe & Bond will advance the preliminary design plans to a level sufficient for a qualified general contractor to construct the replacement structure. We will update the engineer's opinion of probable construction cost, and have one (1) meeting with the Water Department when the design plans are approximately 90% complete. Any comments received will be incorporated into the final design plans and the documents will be stamped and signed by a Professional Engineer, registered in the Commonwealth of Massachusetts.

Tighe & Bond will provide the Water Department with a stamped Project Manual, including technical specifications and specifications outlining the administrative requirements of the project.

Task 8: Bid Phase Services

Although the Water Department has received an emergency waiver of bid requirements from the Division of Capitol Asset Management and Maintenance, the project may be required to go to public bid as a temporary bridge may eliminate emergency time constraints. The services listed below may be amended in the event the waiver is still in effect. Tighe & Bond proposes to perform the following services during bid phase:

- Provide advertisement for bids
- Host documents on Tighe & Bond's bidding website
- Attend one (1) pre-bid meeting at site
- Prepare and distribute addenda to bid documents (assume 2 addendum)
- Attend bid opening and assist Water Department with opening of bids
- Review bids received and make a recommendation to award
- Prepare contract documents for signing upon award

Task 9: Construction Administration

Tighe & Bond will provide construction administration services. These include review of shop drawings (assume 6) and requests for information (RFIs) (assume 2), attendance at a preconstruction meeting, checks for adherence to construction requirements, review of payment applications (assume 3) and change order proposals (assume 1), recommendations for payment, and review of project progress. Tighe & Bond will also perform tasks required to support the closure of the project, including development of a punch list and record drawings.

Our proposal includes periodic on-site observation services during the active construction period. For budgeting purposes, we have included six (6) site visits during the construction period. These services will include construction observation by our engineering staff, and monitoring of environmental permit compliance.

We will monitor construction progress and visually observe that the contractor's work is in general compliance with the contract documents. Such observations are not intended to be an exhaustive check or a detailed inspection of the Contractor's work, but rather to allow us to become generally familiar with the Work in progress and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. Based upon this general observation, Tighe & Bond will report to the Water Department about the progress of the Work.

Tighe & Bond will not supervise, direct or have control over the Contractor's work nor have any responsibility for the Contractor's safety precautions or programs. Field reports will be prepared summarizing the work completed at the time of our visit. Digital photographs will be taken periodically to document our observations. Full-time construction observation of the project is currently not included in this scope of services.

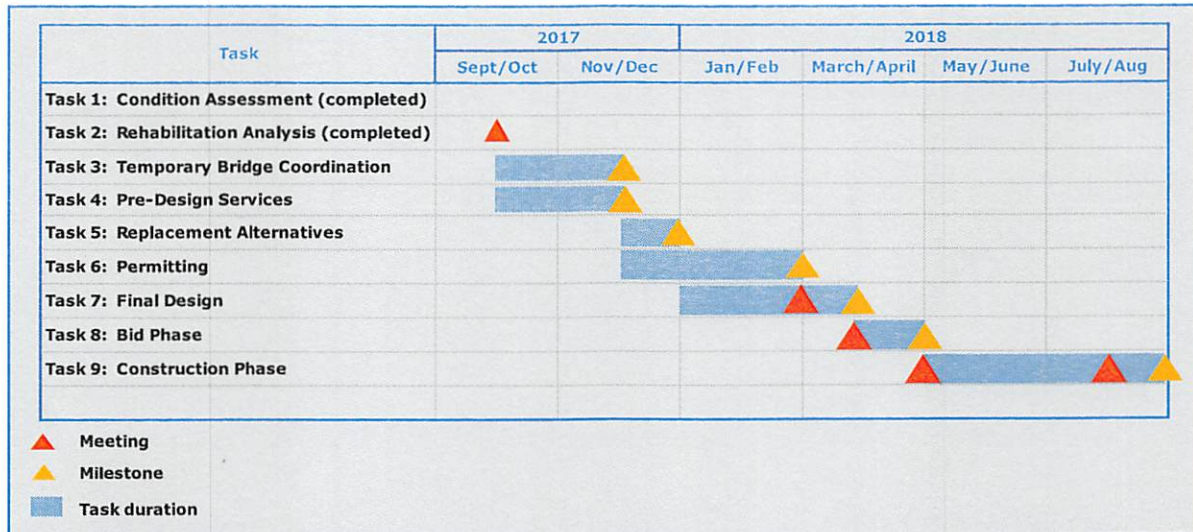
Excluded Services

In an effort to provide the Water Department with a reasonable budget for the desired services, we have prepared a detailed scope of services based upon our understanding of the project scope. In this same regard, the following section describes those services that were not included in the development of our budgetary estimate. If these services are required, we will modify our proposal accordingly.

- Road Design
- Sampling and testing to determine the presence of Hazardous Materials
- Traffic control and police detail for on-site wetlands mapping or inspection
- Right-of-way acquisition
- Scour Analysis
- Existing Abutment Analysis
- Chapter 85 Approval
- Full-time construction observation
- Environmental permit close-out
- Rare species survey(s)
- Final load rating

Schedule

An anticipated project schedule is outlined below:



Engineering Budget

Tighe & Bond will perform the above services for a lump sum fee of **\$114,100**, invoiced monthly based on percentage complete. In the event that the scope of work is increased for any reason, the lump sum fee to complete the work shall be mutually revised by written amendment. Our attached Terms and Conditions is part of this letter agreement.

For information purposes, the below summary provides the anticipated break out of the project. The summary is presented to give a better understanding of the how the project budget was developed. Invoices will be submitted based on the total project fee and not individual line item budgets.

• Task 1: Preliminary Condition Assessment (completed)	\$1,400
• Task 2: Rehabilitation Alternatives Analysis (completed)	\$5,100
• Task 3: Temporary Bridge Coordination and Permitting	\$10,500
• Task 4: Pre-Design Services	\$25,200
• Task 5: Replacement Alternatives Analysis	\$7,700
• Task 6: Permitting	\$12,200
• Task 7: Final Design	\$26,700
• Task 8: Bid Phase Services	\$5,100
• Task 9: Construction Administration	<u>\$20,200</u>
Total Fee:	\$114,100

Thank you for the opportunity to provide this proposal to the Townsend Water Department for this important project. If you have any questions or require any additional information, please contact Craig S. French, P.E., Structural Engineering Manager or Thomas Mahanna. Mr. French will be the Project Manager for this project, and he can be reached at (413) 875-1311, or at csfrench@tighebond.com.

Very truly yours,

TIGHE & BOND, INC.



Craig S. French, P.E.
Structural Engineering Manager

APPROVED



Thomas J. Mahanna, P.E.
Vice President

Enclosures: Terms and Conditions; Field Report dated June 15, 2017; Approved Emergency Waiver of Bid Requirements

ACCEPTANCE:

On behalf of Townsend Water Department, the scope, fee, and terms of this proposal are hereby accepted:

Authorized Representative

Date

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Board of Selectmen:

Cindy King, Chairman

Date

Gordon Clark, Vice Chairman

Date

Sue Lisio, Clerk

Date

"CLIENT" is defined in the acceptance line of the accompanying proposal letter or the name the proposal is issued to; Tighe & Bond, Inc. is hereby referenced as "ENGINEER".

1. SCHEDULE OF PAYMENTS

1.1 Invoices will generally be submitted once a month for services performed during the previous month. Payment will be due within 30 days of invoice date. Monthly payments to ENGINEER shall be made on the basis of invoices submitted by ENGINEER and approved by CLIENT. If requested by CLIENT, monthly invoices may be supplemented with such supporting data as reasonably requested to substantiate them.

1.2 In the event of a disagreement as to billing, the CLIENT shall pay the agreed portion.

1.3 Interest will be added to accounts in arrears at the rate of one and one-half (1.5) percent per month (18 percent per annum) or the maximum rate allowed by law, whichever is less, of the outstanding balance. In the event counsel is retained to obtain payment of an outstanding balance, CLIENT will reimburse ENGINEER for all reasonable attorney's fees and court costs.

1.4 If CLIENT fails to make payment in full within 30 days of the date due for any undisputed billing, ENGINEER may, after giving seven days' written notice to CLIENT, suspend services and retain work product until paid in full, including interest. In the event of suspension of services, ENGINEER will have no liability to CLIENT for delays or damages caused by such suspension.

2. SUCCESSORS AND ASSIGNS

2.1 CLIENT and ENGINEER each binds itself, its partners, successors, assigns and legal representatives to the other parties to this Agreement and to the partners, successors, assigns and legal representatives of such other parties with respect to all covenants of this Agreement. ENGINEER shall not assign, sublet or transfer its interest in this Agreement without the written consent of CLIENT, which consent shall not be unreasonably withheld.

2.2 This Agreement represents the entire and integrated Agreement between CLIENT and ENGINEER and supersedes all prior negotiations, representations or Agreements, whether written or oral. This Agreement may be amended only by written instrument signed by both CLIENT and ENGINEER.

2.3 Nothing contained in this Agreement shall create a contractual relationship or cause of action in favor of a third party against CLIENT or against ENGINEER.

3. STANDARD OF CARE

3.1 In performing professional services, ENGINEER will use that degree of care and skill ordinarily exercised under similar circumstances by members of the profession practicing in the same or similar locality.

4. TERMINATION

4.1 This Agreement may be terminated by either party upon seven days' written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party. In addition, CLIENT may terminate this Agreement for its convenience at any time by giving written notice to ENGINEER. In the event of any termination, CLIENT will pay ENGINEER for all services rendered and reimbursable expenses incurred under the Agreement to the date of termination and all services and expenses related to the orderly termination of this Agreement.

5. RECORD RETENTION

5.1 ENGINEER will retain pertinent records relating to the services performed for the time required by law, during which period the records will be made available upon reasonable request and upon reimbursement for any applicable retrieval/copying charges.

5.2 Samples - All soil, rock and water samples will be discarded 30 days after submission of ENGINEER's report, unless mutually agreed otherwise or unless ENGINEER's customary practice is to retain for a longer period of time for the specific type of services which ENGINEER has agreed to perform. Upon request and mutual agreement regarding applicable charges, ENGINEER will ship, deliver and/or store samples for CLIENT.

6. OWNERSHIP OF DOCUMENTS

6.1 All reports, drawings, specifications, computer files, field data, notes, and other documents, whether in paper or electronic format or otherwise ("documents"), are instruments of service and shall remain the property of ENGINEER, which shall retain all common law, statutory and other reserved rights including, without limitation, the copyright thereto. CLIENT's payment to ENGINEER of the compensation set forth in the Agreement shall be a condition precedent to the CLIENT's right to use documents prepared by ENGINEER.

6.2 Documents provided by ENGINEER are not intended or represented to be suitable for reuse by CLIENT or others on any extension or modification of this project or for any other projects or sites. Documents provided by ENGINEER on this project shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party, other than regulatory agencies, without the prior written consent of ENGINEER. Reuse of documents by CLIENT or others on extensions or modifications of this project or on other sites or use by others on this project, without ENGINEER's written permission and mutual agreement as to scope of use and as to compensation, if applicable, shall be at the user's sole risk, without liability on ENGINEER's part, and CLIENT agrees to indemnify and hold ENGINEER harmless from all claims, damages, and expenses, including attorney's fees, arising out of such unauthorized use or reuse.

6.3 Electronic Documents - ENGINEER cannot guarantee the authenticity, integrity or completeness of data files supplied in electronic format. If ENGINEER provides documents in electronic format for CLIENT's convenience, CLIENT agrees to waive any and all claims against ENGINEER resulting in any way from the unauthorized use, alteration, misuse or reuse of the electronic documents, and to defend, indemnify, and hold ENGINEER harmless from any claims, losses, damages, or costs, including attorney's fees, arising out of the unauthorized use, alteration, misuse or reuse of any electronic documents provided to CLIENT.

6.4 Electronic Data Bases - In the event that ENGINEER prepares electronic data bases, geographical information system (GIS) deliverables, or similar electronic documents, it is acknowledged by CLIENT and ENGINEER that such project deliverables will be used and perhaps modified by CLIENT and that ENGINEER's obligations are limited to the deliverables and not to any subsequent modifications thereof. Once CLIENT accepts the delivery of maps, databases, or similar documents developed by ENGINEER, ownership is passed to CLIENT. ENGINEER will retain the right to use the developed data and will archive the data for a period of three years from the date of project completion.

7. INSURANCE

7.1 ENGINEER will retain Workmen's Compensation Insurance, Professional Liability Insurance with respect to liabilities arising from negligent errors and omissions, Commercial General Liability Insurance, Excess Liability, and Automobile Liability during this project. ENGINEER will furnish certificates at CLIENT's request.

7.2 Risk Allocation - For any claim, loss, damage, or liability resulting from error, omission, or other professional negligence in the performance of services, the liability of ENGINEER to all claimants with respect to this project will be limited to an aggregate sum not to exceed \$50,000 or ENGINEER's compensation for consulting services, whichever is greater.

7.3 Damages - Notwithstanding any other provision of this Agreement, and to the fullest extent permitted by law, neither CLIENT nor ENGINEER, their respective officers, directors, partners, employees, contractors or subconsultants shall be liable to the other or shall make any claim for any incidental, indirect or consequential damages arising out of or connected in any way to the project or to this Agreement. This mutual waiver of certain damages shall include, but is not limited to, loss of use, loss of profit, loss of business, loss of income, loss of reputation and any other consequential damages that may be incurred from any cause of action including negligence, strict liability, breach of contract and breach of strict or implied warranty. Both CLIENT and ENGINEER shall require similar waivers of consequential damages protecting all the entities or persons named herein in all contracts and subcontracts with others involved in this project.

8. INDEMNIFICATION AND DISPUTE RESOLUTION

8.1 ENGINEER agrees, to the fullest extent permitted by law, to indemnify and hold CLIENT harmless from any damage, liability or cost to the extent caused by ENGINEER's negligent acts, errors or omissions in the performance of professional services under this Agreement and those of its subconsultants or anyone for whom ENGINEER is legally liable. ENGINEER is not obligated to indemnify CLIENT in any manner whatsoever for CLIENT's own negligence.

8.2 CLIENT agrees, to the fullest extent permitted by law, to indemnify and hold ENGINEER harmless from any damage, liability or cost to the extent caused by CLIENT's negligent acts, errors or omissions in the performance of this Agreement or anyone for whom CLIENT is legally liable. CLIENT is not obligated to indemnify ENGINEER in any manner whatsoever for ENGINEER's own negligence.

8.3 CLIENT agrees that any and all limitations of ENGINEER's liability, waivers of damages by CLIENT to ENGINEER shall include and extend to those individuals and entities ENGINEER retains for performance of the services under this Agreement, including but not limited to ENGINEER's officers, partners, and employees and their heirs and assigns, as well as ENGINEER's subconsultants and their officers, employees, and heirs and assigns.

8.4 In the event of a disagreement arising out of or relating to this Agreement or the services provided hereunder, CLIENT and ENGINEER agree to attempt to resolve any such disagreement through direct negotiations between senior, authorized representatives of each party. If any disagreement is not resolved by such direct negotiations, CLIENT and ENGINEER further agree to consider using mutually acceptable non-binding mediation service in order to resolve any disagreement without litigation.

9. SITE ACCESS

9.1 Right of Entry - Unless otherwise agreed, CLIENT will furnish right-of-entry on the land for ENGINEER to make any surveys, borings, explorations, tests or similar field investigations. ENGINEER will take reasonable precautions to limit damage to the land from use of equipment, but the cost for restoration of any damage that may result from such field investigations is not included in the agreed compensation for ENGINEER. If restoration of the land is required to its former condition, upon mutual agreement this may be accomplished as a reimbursable additional service at cost plus ten percent.

9.2 Damage to Underground Structures - Reasonable care will be exercised in locating underground structures in the vicinity of proposed subsurface explorations. This may include contact with the local agency coordinating subsurface utility information and/or a review of plans provided by CLIENT or CLIENT representatives for the site to be investigated. ENGINEER shall be entitled to rely upon any information or plans prepared or made available by others. In the absence of confirmed underground structure locations, CLIENT agrees to accept the risk of damage and costs associated with repair and restoration of damage resulting from the exploration work.

10. OIL AND HAZARDOUS MATERIALS

10.1 If, at any time, evidence of the existence or possible existence of asbestos, oil, or other hazardous materials or substances is discovered, ENGINEER reserves the right to renegotiate the terms and conditions of this Agreement, the fees for ENGINEER's services and ENGINEER's continued involvement in the project. ENGINEER will notify CLIENT as soon as practical if evidence of the existence or possible existence of such hazardous materials or substances is discovered.

10.2 The discovery of the existence or possible existence of hazardous materials or substances may make it necessary for ENGINEER to take accelerated action to protect human health and safety, and/or the environment. CLIENT agrees to compensate ENGINEER for the cost of any and all measures that in its professional opinion are appropriate to preserve and/or protect the health and safety of the public, the environment, and/or ENGINEER's personnel. To the full extent permitted by law, CLIENT waives any claims against ENGINEER and agrees to indemnify, defend and hold harmless ENGINEER from any and all claims, losses, damages, liability, and costs, including but not limited to cost of defense, arising out of or in any way connected with the existence or possible existence of such hazardous materials substances at the site.

11. SUBSURFACE INVESTIGATIONS

11.1 In soils, groundwater, and other subsurface investigations, conditions may vary significantly between successive test points and sample intervals and at locations other than where observations, exploration, and investigations have been made. Because of the variability of conditions and the inherent uncertainties in subsurface evaluations, changed or unanticipated underground conditions may occur that may affect overall project costs and/or execution. These variable conditions and related impacts on cost and project execution are not the responsibility of ENGINEER.

12. FEDERAL AND STATE REGULATORY AGENCY AUDITS

12.1 For certain services rendered by ENGINEER, documents filed with federal and state regulatory agencies may be audited after the date of filing. In the event that CLIENT's project is selected for an audit, CLIENT agrees to compensate ENGINEER for time spent preparing for and complying with an

agency request for information or interviews in conjunction with such audit. CLIENT will be notified at the time of any such request by an agency, and ENGINEER will invoice CLIENT based on its standard billing rates in effect at the time of the audit.

13. CLIENT's RESPONSIBILITIES

13.1 Unless otherwise stated in the Agreement, CLIENT will obtain, arrange, and pay for all notices, permits, and licenses required by local, state, or federal authorities; and CLIENT will make available the land, easements, rights-of-way, and access necessary for ENGINEER's services or project implementation.

13.2 CLIENT will examine ENGINEER's studies, reports, sketches, drawings, specifications, proposals, and other documents and communicate promptly to ENGINEER in the event of disagreement regarding the contents of any of the foregoing. CLIENT, at its own cost, will obtain advice of an attorney, insurance counselor, accountant, auditor, bond and financial advisors, and other consultants as CLIENT deems appropriate; and render in writing decisions required by CLIENT in a timely manner.

14. OPINIONS OF COST, FINANCIAL ANALYSES, ECONOMIC FEASIBILITY PROJECTIONS, AND SCHEDULES

14.1 ENGINEER has no control over cost or price of labor and materials required to implement CLIENT's project, unknown or latent conditions of existing equipment or structures that may affect operation or maintenance costs, competitive bidding procedures and market conditions, time or quality of performance by operating personnel or third parties, and other economic and operational factors that may materially affect the ultimate project cost or schedule. Therefore, ENGINEER makes no warranty, expressed or implied, that CLIENT's actual project costs, financial aspects, economic feasibility, or schedules will not vary from any opinions, analyses, projections, or estimates which may be provided by ENGINEER. If CLIENT wishes additional information as to any element of project cost, feasibility, or schedule, CLIENT at its own cost will employ an independent cost estimator, contractor, or other appropriate advisor.

15. CONSTRUCTION PHASE PROVISIONS

The following provisions shall be applicable should the ENGINEER be retained to provide Construction Phase Services in connection with the Project:

15.1 CLIENT and Contractor - The presence of ENGINEER's personnel at a construction site, whether as onsite representatives or otherwise, does not make ENGINEER or ENGINEER's personnel in any way responsible for the obligations, duties, and responsibilities of the CLIENT and/or the construction contractors or other entities, and does not relieve the construction contractors or any other entity of their respective obligations, duties, and responsibilities, including, but not limited to, all construction methods, means, techniques, sequences, and procedures necessary for coordinating and completing all portions of the construction work in accordance with the construction contract documents and for providing and/or enforcing all health and safety precautions required for such construction work.

15.2 Contractor Control - ENGINEER and ENGINEER's personnel have no authority or obligation to monitor, to inspect, to supervise, or to exercise any control over any construction contractor or other entity or their employees in connection with their work or the health and safety precautions for the construction work and have no duty for inspecting, noting, observing, correcting, or reporting on health or safety deficiencies of the construction contractor(s) or other entity or any other persons at the site except ENGINEER's own personnel.

15.3 On-site Responsibility - The presence of ENGINEER's personnel at a construction site is for the purpose of providing to CLIENT an increased degree of confidence that the completed construction work will conform generally to the construction documents and that the design concept as reflected in the construction documents generally has been implemented and preserved by the construction contractor(s). ENGINEER neither guarantees the performance of the construction contractor(s) nor assumes responsibility for construction contractor's failure to perform work in accordance with the construction documents.

15.4 Payment Recommendations - Recommendations by ENGINEER to CLIENT for periodic construction progress payments to the construction contractor(s) are based on ENGINEER's knowledge, information, and belief from selective observation that the work has progressed to the point indicated. Such recommendations do not represent that continuous or detailed examinations have been made by ENGINEER to ascertain that the construction contractor(s) have completed the work in exact accordance with the construction documents; that the final work will be acceptable in all respects; that ENGINEER has made an examination to ascertain how or for what purpose the construction contractor(s) have used the moneys paid; that title to any of the work, materials, or equipment has passed to CLIENT free and clear of liens, claims, security interests, or encumbrances; or that there are no other matters at issue between CLIENT and the construction contractors that affect the amount that should be paid.

15.5 Record Drawings - Record drawings, if required as part of ENGINEER's agreed scope of work, will be prepared, in part, on the basis of information compiled and furnished by others, and may not always represent the exact location, type of various components, or exact manner in which the project was finally constructed. ENGINEER is not responsible for any errors or omissions in the information from others that are incorporated into the record drawings.

16. DESIGN WITHOUT CONSTRUCTION PHASE SERVICES

The following provisions shall be applicable should the ENGINEER be retained to provide design services but not be retained to provide Construction Phase Services in connection with the Project:

16.1 It is understood and agreed that the ENGINEER's Scope of Services under this proposal does not include project observation or review of the Contractor's performance or any other construction phase services, and that such services will be provided by the CLIENT or others. The CLIENT assumes all responsibility for interpretation of the Contract Documents and for construction observation, and the CLIENT waives any claims against the ENGINEER that may be in any way connected thereto.

16.2 In addition, the client agrees, to the fullest extent permitted by law, to indemnify and hold harmless the ENGINEER, its officers, directors, employees and subconsultants (collectively, ENGINEER) against all damages, liabilities or costs, including reasonable attorney's fees and defense costs, arising out of or in any way connected with the performance of such services by other persons or entities and from any and all claims arising from modifications, clarifications, interpretations, adjustments or changes made to the Contract Documents to reflect changed field or other conditions, except for claims arising from the sole negligence or willful misconduct of the ENGINEER.

Townsend Water Department Access Bridge

Access Bridge Assessment

TO: Paul Rafuse, Superintendent Townsend Water Department
FROM: Eric Ohanian, P.E.
COPY: Louis Soracco, P.E.
DATE: June 15, 2017

Paul,

Based on deflection concerns you expressed to Louis Soracco on June 14, 2017, I performed a site visit and brief condition assessment of the access bridge to the Water Department's Main Street Pumping Station located at 512 Main Street in Townsend, MA on June 15, 2017. Based on my observations, it is recommended that this bridge be closed to vehicular traffic due to the critical and failed condition of the steel beams.

Please refer to the photos below with descriptions of my findings.

-Eric Ohanian, P.E.



Photograph 1 – Interior girder failed due to crushing and large slotted hole in web. Note the 3" to 4" separation between the timber blocking and the timber decking. Girder located under wheel path.



Photograph 2 - Rotting timber deck with 100% section loss.



Photograph 3 - Slotted holes along web of interior girder (B4) and significant sagging. Girder located under wheel path.



Photograph 4 - Spalling and delaminated concrete at North Abutment, hole in web of Easterly fascia girder (B1). Debris collected on abutment seat.



Photograph 5 - Debris collected on deck, rot in timber curb (note dislodged connection bolt)



Photograph 6 - Cracked northwest wingwall, separated from abutment



Photograph 7 - Deteriorated concrete at water line of North Abutment



TOWNSEND WATER DEPARTMENT
540 Main Street West Townsend, Massachusetts 01474

Nathan Mattila, Chairman
Paul L. Rafuse,
Water Superintendent

Lance Lewand, Vice Chairman

Michael MacEachern, Clerk
(978) 597-2212
Fax (978) 597-5611

June 20, 2017

BY EMAIL TO: emergencywaivers.dcammm@state.ma.us

Carol Gladstone, Commissioner
Division of Capital Asset Management and Maintenance
One Ashburton Place, 15th Floor
Boston, MA 02108
Attn: Office of the General Counsel

**Emergency Waiver of the Public bidding
laws under MGL c.149 sec.44A (4) &
44J (6) is hereby granted on this**
20 day of JUNE, 2017

Elizabeth Eromin, Esq
Deputy General Counsel
Emergency Waiver No. 2959

Re: Request for Emergency Waiver of Bid Requirements
Town of Townsend Water Department - Bridge Replacement Project

Dear Ms. Gladstone,

The Townsend Water Department (hereinafter referred to as the "Town") hereby requests an emergency waiver from the bidding requirements with respect to the replacement of a 25 foot bridge that provides vehicular and other access to one of the Town's pumping stations (the "Project"). The Town submits the following information in support of the waiver request, as stated in the DCAMM website guidance document:

1. The Town seeks a waiver from *both* the bidding requirements of G.L. c. 30, §39M and the advertising requirements of G.L. c. 149, §44J(6), pursuant to G.L. chapter 149, section 44A(4), with respect to the Project.
2. The entrance to one of the Town's pumping stations includes a bridge that spans 25 feet over a small brook. Upon noticing some deterioration of the top wooden deck and supporting steel I beams, the Town immediately commissioned an inspection be performed by a bridge structural engineer from the engineering firm Tighe & Bond. The engineer's report, which is attached for your reference, determined that there was a significant failure of the condition of the supporting steel beams and that the bridge should be closed to vehicular traffic until replaced. As the sole access to the pump station, closing the bridge to vehicles prevents the delivery of necessary water treatment chemicals, and other necessary activity at the facility, routine or otherwise, including but, not limited to: Access to the station by contractors if immediate repairs to pumping equipment are needed; and access to the garage where repair fittings are stored for emergency repairs to the distribution system. For these reasons, closure of the bridge is an immediate threat to the health and safety of the Town and its citizens.
3. The Water Department became aware of the seriousness of the situation when personnel observed some sagging of the main deck timbers when one of our service trucks drove over the

bridge while leaving the pump station on June 14, 2017. The Superintendent immediately contacted the Water Departments engineering firm of Tighe & Bond to request an inspection of the bridge. The following day on June 15, 2017, a structural engineer from Tighe & Bond came out to the site and performed an inspection of the bridge. As shown in the attached report provided to the Water Superintendent, the engineer found that the bridge must be immediately closed to vehicular traffic due to failure of the steel support system.

4. As stated in the engineering report, public health and safety requires a complete replacement of the bridge. The engineer's inspection determined that the structural condition of the bridge is such that a temporary repair to alleviate health and safety is not possible.
5. The current status of the bridge is disrupting the Town from accessing the pumping station and performing ordinary operations necessary for health and safety. The Town has other sources for redundancy, however, during this time of year when water demand is high, coupled with the fact we also have one of our two storage tanks out of service for a total rehabilitation project at this time, it is critical to public health and safety that this station be available for domestic use as well as fire protection. The standard bidding process will delay the necessary bridge replacement, and compromise the operation of the pumping station and needed water supply to our customers.
6. As stated above, a bid solicitation process will disallow the Town's access to the pumping station for necessary chemical treatment deliveries scheduled in the short term, thereby forcing the Town to take the station off line to preserve health and safety during the high demand time of year, which is not something the Town has the alternative sources to do.
7. The estimated cost of the work is between \$100,000 - \$200,000.
8. The Town understands that the provisions of the Prevailing Wage Law and statutory bonding requirements will apply to this work.

Given that the bridge is closed at this time per the engineer's safety inspection, and the Town must immediately replace the damaged bridge in order to meet the demand of sufficient, and properly treated water to the Town in high season, this Project is an emergency. Therefore, the Town requests that the waiver be granted.

If you have any questions please feel free to call or email me.

Thank you for your assistance.

Sincerely,



Paul Rafuse
Superintendent
Townsend Water Department