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Proposal No. 16291R2  
September 18, 2018

## **AGREEMENT FOR ENGINEERING SERVICES**

### **1. CLIENT**

This Agreement is between the New England Service Company, 37 Northwest Drive, Plainville, CT 06062, attn.: Mr. Donald Vaughan (Client), and Horizons Engineering, Inc. (Engineer), of Littleton, New Hampshire.

### **2. PROJECT UNDERSTANDING**

The Client intends to implement reconfiguration of the Rosebrook Water System to reduce operating pressures in the system. This effort is being undertaken to address recurring pressure surge issues throughout the water system, as well as to reduce operational issues associated with high system-wide pressures. To facilitate the pressure reduction the Client intends on ultimately constructing a new atmospheric storage tank at an elevation of approximately 1,810, which will reduce operating pressures in the system from approximately 185 psi to approximately 100 psi at the well field pump station. In the interim, a new booster station will be used to boost water to the existing atmospheric tank, and a pressure reducing valve will allow flow from the tank to bypass the booster pump and flow back into the system during higher demand periods.

In order to serve existing customers and new development at elevations above approximately 1,700 three new booster pump stations will be required. Additional system modifications to facilitate the pressure reductions will include reconfiguration of the existing well pumps (2) to operate at lower pressures without over pumping the wells, and additional valving to isolate high pressure zones.

### **3. SCOPE OF SERVICES**

Horizons Engineering, Inc. proposes to provide the following engineering services associated with the Rosebrook Water Company, Bretton Woods, New Hampshire in accordance with currently accepted engineering practices:

#### **1) Basis of Design Report**

Horizons will prepare a basis of design for the proposed improvements. This basis of design will be submitted to the State of New Hampshire



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Department of Environmental Services (NHDES) for review and approval prior to proceeding with final design of the individual system components. Horizons will also coordinate with the Town of Carroll to determine permitting requirements for the pump stations and atmospheric storage tank. Landowner coordination has not been included in this scope, but can be provided.

- 2) Pump Station Designs – Horizons will complete design and permitting for three booster pump stations to supply both potable demand and fire flows to service connections above the ~1,700 grade line. Designs will include field survey, electrical, mechanical, site, building, and water system interconnection. Design effort will also include coordination with the local power utility to provide electrical service to the stations. Scope assumes that Horizons will coordinate with Blake Equipment for pumping equipment specification, and pump skid specifications and electrical/mechanical/control design will be provided by Blake for incorporation into the project plan set. Wetlands delineations are assumed to be unnecessary, but can be provided as an additional service if required. Scope assumes Horizons will prepare building, mechanical, electrical, and site design plans for each station.
- 3) Well Yield Assessment and Well Pump Design - Horizons will complete an analysis of current pumping water levels in the two system supply wells. Horizons will install data loggers in the two wells for a period of approximately 5 days and will monitor pumping water levels in the wells. Scope assumes the system operator can coordinate collection of corresponding pumping rate information. Using data collected during the monitoring period, Horizons will complete an assessment of current well yield and prepare recommendations for an appropriate pumping rate. Horizons will then work with the Client to identify if pumping rate adjustments can be completed using variable frequency drive adjustment of the well pumps. If new pumps are required, Horizons will prepare design specifications for the new pumps. Scope assumes the Client will install stilling tubes in each of the two wells to allow installation of 1” diameter data loggers if such tubes are not already present. Scope assumes Client will provide make and model number of the existing well pumps and details on their installation including pump depth, drop pipe size, etc.
- 4) Water Main and PRV Valve Design - Horizons will prepare a design for approximately 350 linear feet of water main to complete a water main loop at the end of Mt. Adams Lane. Design will include field survey, water main design plans and specifications include water main connection. Scope assumes wetlands delineation will not be required. In addition to the Mt. Adams Lane water main, Horizons will also identify locations and prepare plans and details as required for additional system bypass and PRV valves as required.



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- 5) Atmospheric Storage Tank Design and Permitting – We will complete a wetlands delineation and field survey including survey of the wetlands and soils delineation of the atmospheric storage tank site and pipe alignment, and, using a subcontractor, will complete a geotechnical analysis of the tank site. Using this information we will prepare a grading plan and specification package suitable for forwarding to tank manufactures for pricing. Horizons will coordinate with the Client to review and select a tank vendor and incorporate tank design plans and specifications into a design plan set. The set will include design of the tank site, yard piping and connecting water main and electrical service to the tank site (if desired). Scope assumes that total earth disturbance (including the tank site and access road) may exceed 100,000 square feet and therefore a land conversion Alteration of Terrain permit may be required. As such, scope includes completion of pre- and post-construction stormwater modeling for the proposed tank site if needed. Scope assumes one day of geotechnical exploration observed by a qualified geotechnical contractor, and a geotechnical report that will specify foundation design requirements for the tank vendor.

Foundation design is excluded from this scope and assumed to be part of the vendor storage tank pricing. The Client will be responsible for providing an excavator and operator for one day of test pits at the tank location.

If an Alteration of Terrain Permit is determined to be required we will submit site design plans, stormwater calculations, and associated application package to NHDES for review and approval.

- 6) NHDES Permit Submittals - Horizons will prepare the following final design submittals for the State of New Hampshire Department of Environmental Services:
- a. NHDES Drinking Water and Groundwater Bureau: We will submit design plans and specifications for the three proposed pump stations, Dartmouth Ridge water main extension, atmospheric storage tank design, and well pump/pump station upgrades.
  - b. NHDES Wetlands Bureau: If wetlands impacts are required, we will submit a wetlands application package to NHDES for review and approval.
- 7) Local Permitting: If required, Horizons will prepare and submit a Carroll Planning Board Site Plan Review application and attend Planning Board and associated meetings as required.



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- 8) Contract Document Preparation Horizons will prepare contract documents for the portions of the proposed project that will be formally bid based on the EJCDC Construction Contract. Contract documents will include contract front ends, design plans, and project specifications. Separate bid and contract documents will be prepared for the following:
- a. Contract 1 - Three pump stations, Mt. Adams Lane water main extension, well pump upgrade, and additional valves/hydrants. Scope assumes owner will furnish pump skids for each of the stations.
  - b. Contract 2 – Atmospheric storage tank site work and access road. Scope assumes tank will construction and connection to yard piping will be excluded from the contract
  - c. Contract 3 - Construction of the atmospheric storage tank and connection to the yard piping provided under Contract 2.
- 9) Bidding: Horizons will coordinate bidding of the contracts and proposal solicitation, coordinate invitations to bid/requests for proposal, attend up to three pre-bid meetings, answer contractor and vendor questions during the bidding/proposal process, and attend bid openings. Horizons will then review bids, prepare bid tabulations, and submit bid results to the Client for review.

### 3. SCHEDULE

Horizons proposes the following approximate schedule:

*Within 65 days* – Completion of Scope Item 1: Basis of Design Report

*Within 140 days* - Completion of Scope Items 2 –9 (and Alternate Items if included) including final design and permit submittals for the pump stations, water main, valving, well pump upgrades, SCADA and atmospheric storage tank. Schedule may be able to be accelerated if the Client has specific deadline needs.

It is anticipated that NHDES and local approvals will require approximately 60 days once permit applications have been submitted. Horizons proposes to bid the project while design plans and specifications are under review. Bid submittal due dates can be timed to correspond to after the anticipated receipt of regulatory comments, and therefore any design changes that result from NHDES review can be incorporated.



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#### 4. **ADDITIONAL SERVICES**

Horizons has not included the following scope items in this proposal:

- Construction administration
- Construction observation
- Stormwater Pollution Prevention Plan preparation
- Easement and/or boundary surveys
- As built utility location and as-built drawings
- Other scope items outside the proposed scope of services

These additional services can be provided for an additional fee as requested.

#### 4. **FEE**

As changes to the final scope are likely, Horizons proposes to complete the project on a time and materials basis. We anticipate the following estimated fees:

Item 1 Preliminary Engineering and Property Coordination	\$4,500
Item 2. Pump Station Survey and Designs	\$27,100
Item 3 Well Testing and Well Pump Design	\$8,500
Item 4. Water Main Survey and Design	\$7,900
Item 5. Atmospheric Storage Tank Design	\$30,500
Item 7 State of NH Permitting	\$5,600
Item 8 Local Permitting	\$3,500
Item 9 Contract Document Preparation	\$5,400
Item 10 Bidding and Contract Negotiation	\$6,700

**ESTIMATED PROJECT TOTAL** **\$99,700**

In addition to engineering fees, the Client will also be responsible for State and Local application fees directly, and will be responsible for providing an excavator and operator for one day of test pits at the atmospheric storage tank Site. Horizons can arrange a suitable contractor and ask that they bill the Client directly.



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Horizons hourly rates are as follows:

Principal Engineer	\$176
Construction Manager	\$176
Principal	\$145
Senior Project Manager	\$131
Project Manager II	\$116
Project Manager I	\$97
Survey Manager	\$100
Survey Crew Rate	\$120
Engineer III	\$92
Engineer II	\$82
Engineer I	\$65
Technician	\$78
Survey Technician	\$60
Administrative Assistant	\$55
Mileage	\$0.57/mile
Full Size (24"x36" prints)	\$4.00/sheet

## **5. CONDITIONS FOR ENGAGEMENT**

The attached Standard Conditions for Engagement are considered to be part of this Agreement.

### **ACCEPTED AND AUTHORIZED TO PROCEED**

 _____ <b>Horizons Engineering, Inc.</b>	_____ <b>CEO</b> _____ <b>Title</b>	_____ <b>9/18/2018</b> _____ <b>Date</b>
_____ <b>CLIENT</b>	_____ <b>Title</b>	_____ <b>Date</b>



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## HORIZONS ENGINEERING, INC. STANDARD CONDITIONS FOR ENGAGEMENT

These Conditions are considered a part of the Agreement between the Client (Client) and Horizons Engineering, Inc. (HE).

**LIMITATION OF LIABILITY** – To the fullest extent permitted by law, the Client agrees to limit the liability of HE and its officers in connection with this agreement to the Client and to all contractors and subcontractors associated with the project, to the total compensation paid to HE under this agreement. This limitation will apply regardless of legal theory and will include but not be limited to claims alleging negligence, errors, omissions, or breach of contract. Any claim shall be deemed waived unless received by HE within three years of substantial completion of the project.

**INDEMNIFICATION** – To the fullest extent permitted by law, HE agrees to indemnify and hold the Client harmless from any liability associated with the performance of work under this agreement to the extent caused by the negligence or willful misconduct of HE. The Client agrees to indemnify and hold HE harmless from any liability associated with the performance of work under this agreement unless the liability is caused by negligence or willful misconduct by HE.

**ENVIRONMENTAL LIABILITY** – The Client agrees that HE has not contributed to the presence of hazardous materials, waste, or pollutants at the site. HE assumes no liability or responsibility for the known or unknown presence of such materials. The Client agrees to indemnify and hold HE harmless from all claims associated with the discovery, handling, transportation, and/or disposal of such materials. Further, HE cannot guarantee that a site is clean of contamination or advise the Client to purchase, use, or occupy the site.

**LESS THAN CUSTOMARY ENGINEERING SERVICE** – The Client agrees that it is customary for the engineer who is responsible for the design of a project to be retained to provide services during the construction phase of a project to interpret the design intent, to ensure that the work is completed in substantial conformance with the plans and specifications, and to render appropriate guidance with respect to inconsistencies with the design. Should HE not be retained to provide services during construction, the Client agrees to defend, indemnify, and hold harmless HE from any claims arising out of interpretation of the design by the Client or others. This paragraph shall not release HE from its duty to provide services in accordance with professional standards. The Client further acknowledges and agrees that HE has no control over the actions of the Contractor or others on the site and shall not be responsible for means and methods of construction, supervision of personnel, and safety in, on, or around the site.

**COST ESTIMATES** – The Client agrees that HE has no control over the cost of labor, materials, and construction and therefore cannot and does not warrant that costs to the Client will not vary from estimates prepared by HE.

**RIGHT OF ENTRY** – The Client agrees to allow, or obtain permission from the owner to allow, HE access to the site to complete the contracted services. HE will take reasonable precautions to prevent damage to the site but will not be responsible for damages caused through normal and customary execution of the work or damages caused by others.

**STANDARD OF CARE** – HE will perform services with the degree of care generally exercised by engineers providing similar services at the same time. These services are provided with no other warranty expressed or implied.

**COMPENSATION AND PAYMENT TERMS** – The Client agrees that payment is due and payable within fifteen (15) days of the date of invoice. Lump sum portions of the contract will be invoiced based on an estimate of percent complete as determined by HE. Hourly portions of contracts will be invoiced on a time, materials, and expense basis. A 1 ½% per month interest rate will be applied to all unpaid amounts after thirty (30) days. HE shall also be entitled to legal fees necessary for collection efforts.

**OWNERSHIP OF WORK PRODUCT** – All work product including drawings, specifications, calculations, reports, electronic files, and all other documents and information produced in connection with this agreement shall be considered instruments of service and shall be and remain the property of HE. Reuse or modification of these instruments of service without the expressed written permission of HE is not allowed.

**USE OF ELECTRONIC MEDIA** – Work product that may be relied upon by the Client is limited to printed copies that are signed and sealed by HE. Any conclusion or information obtained or derived from electronic files will be at the user's sole risk.

**SUSPENSION OF WORK** – The Client may at any time by a seven day written notice suspend work. The Client shall be responsible for and promptly pay HE all amounts due for services rendered to the date of termination plus additional costs related to terminating work. HE may suspend work for cause, including non-payment, by providing a seven day written notice to the Client. The Client shall indemnify and hold harmless HE from any claim associated with suspension of work for cause.

**FORCE MAJEURE** – Neither party shall be deemed at fault to the extent that delay or damages result from any cause beyond its reasonable control and without its negligence.



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**DISPUTE RESOLUTION** – At HE’s option the Client agrees to submit any claims rising out of this Contract, except claims by HE for non-payment for services, to non-binding mediation in New Hampshire in accordance with the Rules for Commercial Mediation of the American Arbitration Association before any other form of dispute resolution. Claims or disputes not resolved by mediation shall be decided by arbitration in New Hampshire in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association. In no event shall a demand for dispute resolution be made after the date legal proceedings would be barred by statute.

*(SCE – liability limited to fee amount (rev. 11/10))*