



February 10, 2022

Mr. Paul Mantello  
Town Manager  
Town of Boonsboro  
21 North Main Street  
Boonsboro, Maryland 21713

Re: Proposal - Design Engineering Services for Replacement of the Drinking Water Reservoir

Dear Mr. Mantello:

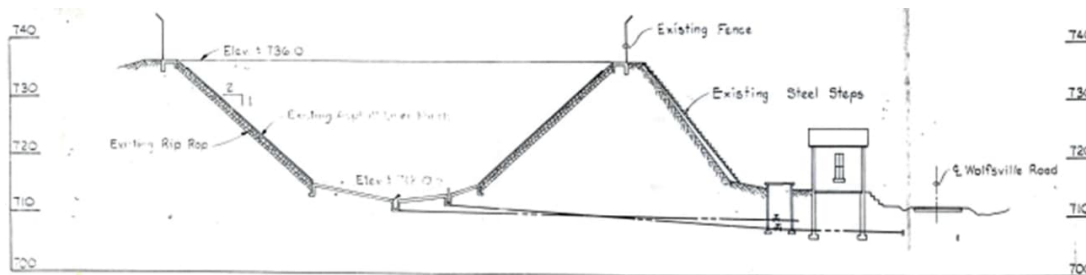
Whitman, Requardt and Associates, LLP (WRA) is pleased to present our proposal for Design Engineering Services for replacement of the Town's aging drinking water reservoir as recommended in our January 20, 2022 Preliminary Engineering Report. The design will also include replacement of approximately 1,800 feet of 12-inch water transmission main from the reservoir to the distribution system.

### A. Scope of Services

Upon Notice to Proceed, we will proceed with design, as described below.

### Background

The Town's existing storage consists of a 1.5 MG finished water reservoir located along the northeast side of the Town on Boonsboro Mountain Road. The reservoir is a trapezoidal shaped stone and concrete lined earthen reservoir with a floating Hypalon cover. The reservoir was constructed in 1954 with a recent major renovation being completed on the facility in 1989 which included upgrades to piping, the construction of a new overflow structure, and the addition of a new fabric liner and floating cover. Recent testing completed by the Town indicated that the reservoir may be a source of water loss, so the Town is considering replacement of the facility.



As recommended in our January 20, 2022 Preliminary Engineering Report and for our basis of design, the prestressed concrete elliptical, 1.0 MG multi basin tank requires less site space for construction and requires much less excavation and fill. It requires minimal lifetime maintenance and is the most economical and long-lasting option to replace the Town's existing reservoir.

The following describes the proposed scope of work for the new reservoir water storage tank design:

### 1. Topographic Surveys and Geotechnical Engineering

- a. Perform Topographic Surveys of the potential tank site as well as the new piping alignment along Boonsboro Mountain Road. This task will be performed by our subconsultant, DMW.
- b. Perform Geotechnical Engineering including:
  - Determine boring locations.
  - Obtain the services of a drilling company and perform borings.
  - Provide a Geotechnical Report with summary of findings and recommendations for excavation and tank foundation.

## 2. Water Storage Tank, Site Utilities and Water Transmission Main Design

- a. Review site with respect to surveyed topography for new prestressed concrete elliptical, 1.0 MG multi basin tank.
- b. Determine height of tank (overflow elevation), volume (diameter) as well as tank location and capacity with input from the Town.
- c. Provide guidelines for tank foundation designed by Others based on geotechnical report and typical design loads for this region.
- d. Provide design for grading of site to accommodate tank foundation. Also design associated site piping to and from the new tank, as well as the new transmission main connecting to the point of entry into the distribution system. Provide design for demolition of existing reservoir.
- e. Construction plans will be submitted to the City as 60% and 90% complete, with comments addressed after each submission. 60% design will include site visits and existing facility surveys. Bid Ready (100%) documents will then be generated.
- f. Specifications will be Washington County standard form, including EJCDC general and supplementary conditions. Limited technical specification sections will be included for items not specified on the drawings or covered by County Standard Specifications. Specifications will be submitted with 90% and Bid Ready (100%) submissions.

## 3. Permitting Services

- a. Environmental:

WRA assumes no wetlands, wetland buffers, streams, or 100-year floodplains will be impacted; and therefore, a Joint Federal/State permit will not be required. WRA assumes the limit of disturbance will be less than 20,000 SF, therefore the project would be exempt from the Washington County Forest Conservation Ordinance. WRA will prepare and submit the Forest Conservation Ordinance Request for Exemption form (selecting exemption (A)) to obtain the exemption. No forest impacts are anticipated but individual tree impacts will be minimized and addressed through best management practices.
- b. Washington County Erosion & Sediment Control, Storm Water Management and Grading permits will be obtained by our subconsultant, DMW. We have assumed that a full development review process is not required.
- c. MDE Water Construction permit will be obtained.

## 4. Bidding Services

Two (2) hard copy and one (1) electronic bid document sets will be provided to the Town upon approval of the documents. Additional services include issuing one addendum, and attending the Pre-bid meeting.



## B. List of Drawings

Sheet No.	Sheet Name
G-1	Title Sheet, Map Key, Legend and General Notes
C-1	Civil Notes
C-2	Site / Grading Plan
C-3	Water Main Plan and Profile – Onsite Mains
C-4	Water Main Plan and Profile – Boonsboro Mountain Road
C-5	Water Main Plan and Profile – Boonsboro Mountain Road
C-6	Civil Details, Appurtenances, Boring Logs
C-7	Existing Reservoir Demolition Plan
C-8	E&SC Plan
C-9	E&SC Notes and Details
S-1	General Structural Notes and Typical Details
S-2	Miscellaneous Structural Details
M-1	General Mechanical Notes, Legends, and Abbreviations
M-2	Water Tank Plan and Section and Miscellaneous Details
M-3	Altitude Valve Vault Plan, Section and Details
E-1	Abbreviations, symbols and general notes
E-2	Site plan - Grounding and power plan
E-3	Receptacles, Interior and exterior lighting plans
E-4	One Line diagram and panel schedule
I-1	Instrumentation Notes, Legends and Abbr.
I-2	Water Tank P&ID
I-3	Control Diagrams
I-4	Instrumentation Plan
I-5	Instrumentation Details

## C. Assumptions

1. Tank foundation design by Tank manufacturer.
2. Tank design to include lightning protection and passive tank mixing system.
3. Performance specifications for the lightning protection system.
4. Provide electrical power and grounding plans
5. Provide electrical power, interior lighting, exterior tank lighting and grounding plans
6. We assume that the existing electrical service and panels will remain.
7. Exclude design of telecom, fire alarm and security systems.
8. Exclude short circuit, coordination, and arc flash studies.
9. No wetlands, waterways, Joint Permit application are required.
10. Full development review permitting process is not required.

## D. Compensation

We will perform the Scope of Services on a time and material basis. The estimated cost for the Scope of Services is included below. This fee will not be exceeded without your authorization.

Invoices will be rendered every four weeks for the actual services performed during the previous four-week period and are due within 30 days of receipt.



Scope Item	Cost
1.0 Surveys and Geotechnical Engineering	\$36,809
2.0 60% Design	\$42,117
2.1 95% Design	\$23,562
2.2 Bid-Ready Design	\$19,093
3.0 Permitting Services	\$26,632
4.0 Bidding Services	\$6,086
Total	\$154,299

A detailed Manhour Estimate and Cost Breakdown by task is included as Attachment A.

#### E. Schedule

The proposal assumes that all work will be completed by January 2023 with Notice to Proceed on March 1, 2022; however, WRA will not be liable for delays beyond its reasonable control.

Milestone	Duration
1 60% Documents	16 weeks after Notice to Proceed
2 90% Documents	8 weeks after receiving comments
3 100% Documents	6 weeks after receiving comments

#### F. Terms and Conditions

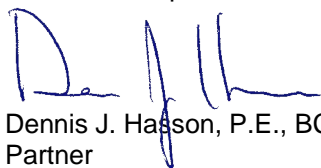
This work will be completed in accordance with our October 2018 Water System Contract as amended on September 27, 2021.

If this proposal is acceptable to you, please sign in the appropriate location below and return a copy for our files.

Thank you for the opportunity to present our Proposal. We look forward to working with you on this project.

Very truly yours,

Whitman, Requardt and Associates, LLP



Dennis J. Hasson, P.E., BCEE  
Partner

Enclosures

cc: File  
P. Andrew Cooper, P.E., BCEE  
David Chung, P.E.



APPROVAL:

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Signature

Date



