RESOLUTION 2023-114

AUTHORIZING THE AWARD OF A CONTRACT WITH AN ESTIMATED COST BETWEEN $6,600.00 AND $44,000.00 WITHOUT PUBLIC ADVERTISING FOR BIDS

WHEREAS, the "Local Public Contracts Law" provides that except for contracts which require the performance of professional services, all contracts or agreements that are less than the bid threshold but are fifteen percent (15%) or more of that amount, two competitive quotations, whenever practicable, shall be solicited by the contracting agent, and the contract shall be awarded to the vendor whose response is the most advantageous, price and other factors considered; and

WHEREAS, the Bordentown Sewerage Authority has solicited the following professional service quotation:

BIDDER	PRICE
Remington & Vernick Engineers	**$7,900.00**

for the goods or services set forth below:

Design and Advertisement/Bidding services: Sylvan Glen pump station dry well structural enhancement of the buried steel structure.

which the Authority has determined are directly related to the performance, completion or undertaking of the project for the following reasons:

> **The pump station walls are thinning. The addition of four to eight structural steel columns will be designed to relieve the dead load currently existing on the pump station walls.**

WHEREAS, a certificate of availability of funds has been provided by the designated certifying finance officer and is attached hereto.

NOW, THEREFORE, BE IT RESOLVED, this 20th day of November, 2023 that the aforesaid contract for the professional services described above be and the same is hereby awarded to: **Remington & Vernick Engineers not to exceed the amount of $7,900.00.**

THE BORDENTOWN SEWERAGE AUTHORITY

By: M. Ellen Gulbinsky
M. Ellen Gulbinsky, Chairwoman

Attest:

Heather Cheesman, Assistant Secretary

I have reviewed this resolution and the certificate of availability of funds and am satisfied that an appropriate certificate of availability has been provided.

Anthony T. Drollas, Esq.
General Counsel

CERTIFICATE OF AVAILABILITY OF FUNDS

I, Elizabeth J. Kwelty, Administrative Manager and Certifying Finance Officer of The Bordentown Sewerage Authority, do hereby certify, pursuant to the rules of the Department of Community Affairs, Division of Local Government Services (N.J.A.C. 5:34-5.1 et seq.), that there are available adequate funds for the following proposed contract:

CONTRACT:	Design, prepare contract, and advertise bid for Sylvan Glen Pump Station Structural Enhancement of Buried Steel Structure
CONTRACTOR:	Remington & Vernick Engineers
CONTRACT AMOUNT:	$7,900.00
BUDGETARY LINE ITEM:	02-004-7642

I certify that the same funds have not been certified as available for more than one pending contract.

11/20/2023
Date

Elizabeth J. Kwelty
Certifying Finance Officer

Special situations (check all that apply):

___A.) The Authority is operating under a temporary budget and:

___ 1. the full cost of the contract is certified against the temporary budget; or

___ 2. only the pro rata amount of the contract is charged against the temporary budget and the contract contains a clause making its continuation past the date subject to a further appropriation of sufficient funds.

___B.) This contract is an open-ended contract for goods at a unit price up to a maximum amount and:

___ 1. the full maximum amount permitted by the contract is being certified; or

___ 2. the amount of the purchase shall be certified at the time that such goods are ordered by attaching the certificate of availability to the file copy of the purchase order.

___C.) This 12-month contract does not coincide with the fiscal year and:

___ 1. the full cost of the contract is hereby certified against the budget of the year in which the contract is awarded; or

___ 2. the amounts for which liability is to be incurred is hereby certified against the two respective budgets at this time.

_X_D.) This is a multi-year contract and:

_X_ 1. this contract is for construction and related services and the full amount of the contract is hereby certified to the current budget; or

___ 2. this is not a construction contract, and the availability of funds will be certified to the respective budgets at the time that the goods or services are ordered.

11/20/2023
Date

Elizabeth J. Kwelty
Certifying Finance Officer

REMINGTON & VERNICK ENGINEERS

RVE HQ:
2059 Springdale Road
Cherry Hill, NJ 08003
O: (856) 795-9595
F: (856) 795-1882

November 15, 2023

Thomas M. Redwood, Executive Director & L.O.
Bordentown Sewerage Authority
954 Farnsworth Avenue
P.O. Box 396
Bordentown, NJ 08505

Subject: Bordentown Sewerage Authority (BSA)
Proposal to Design Support Columns Within the Sylvan Glen Pump Station Dry Well for Structural Enhancement of the Buried Steel Structure

Dear Mr. Redwood:

REMINGTON & VERNICK ENGINEERS (RVE) is pleased to present this proposal to facilitate structural upgrades to the Sylvan Glen Pump Station buried dry well by the addition of four to eight structural steel columns to relieve the dead load currently existing on the pump station walls.

When the pump station was recently upgraded by a developer to accommodate the proposed additional flow generated from the Route 206 Reserve at Crosswicks Apartments the developer also included within his scope of work welding steel plates to portions of both the steel dry well interior floor and lower wall areas since there was visible corrosion of the existing steel surfaces. Once the plates were installed the interior of the pump station was painted so all the steel interior surfaces possess a uniform appearance.

Attached are pages from inspection reports performed by two separate firms in the past three years, namely Mumford – Bjokman Associates, Inc based on an April 8, 2021, site visit and Corrpro based on a March 16, 2022 site visit, Note that 1/16 inch thick steel plating equals 0.0625 inches and 1/8 inch thick steel plating is 0.125 inches. The tabular information displays the wall sections possess less steel plate thickness than the ceiling, some in the 0.062 inch and 0.063 inch range. Based on the readings being in this thinner range is the reason RVE is addressing this proposal.

RVE proposes to design approximately 4 inch diameter steel pipe steel columns which will provide supplemental support to the thinner wall sections. The design will use backgrounds from previous Sylvan Glen pump station designs for the presentation of the work on the design drawings. Field measurements by RVE staff will be required to locate the positioning of the raw sewage pump skids.

The proposed work will be shown on a drawing(s) with specification information on the proposed pipe painting system along with bid proposal documents.

This proposed work to be performed by RVE which includes design, advertisement services, bid review services and contractor contract preparation will be performed for a proposed fee of $ 7,900.00. A proposal for construction administration services will be provided at a later date.

This cost is based on the project only being bid once. At our request, if during the design phase Corrpro provides a proposal for designing a passive buried anode system and completes the design in a timely manner RVE will make adjustments to the specifications such as adding an excavation specification, modifying the bid proposal sheet, and revising the scope of work under the BSA general engineering account. In this instance the column and anode addition work will be under one contract.

If you have any questions or concerns regarding this project, please contact Richard B. Czekanski, in our Cherry Hill office at (609) 680-5834.

We look forward to working with you on this project.

Sincerely,

REMINGTON & VERNICK ENGINEERS, INC

Stephanie Cuthbert, P.E., C.M.E.
Principal | Water & Wastewater Division Manager

2. Structural - We noted metal delamination occurring on the floor and bottom 4" of the shell. The following table shows ultrasonic thickness (UT) readings by area:

Area	Ultrasonic Thickness (UT) Range
Access Tube	0.146"-0.292"
Ceiling	0.405"-0.414"
Wall 1 (High Wall)	0.105"-0.281"
Wall 2 (Panel Wall)	0.063"-0.304"
Wall 3 (Pump Wall)	0.083"-0.283"
Wall 4 (Open Wall)	0.062-0.063"
Floor	0.072"-0.140"
Pumps and Mount Plates	0.091"-0.183"

3. Components -

a. Ladder - The access ladder possesses a 14" clear rung width and 5" standoff, and is equipped with diamond plate rungs. The ladder does not possess a flexible cable safety climb. Minor corrosion was present on the rungs and siderails. See photographs #7 and #10.

b. Discharge Line - The discharge line appeared to be intact and in good condition. Feed lines from both pumps exit at the tops of the pumps. Minor corrosion was present on the fasteners and valves. No evidence of leakage was noted. See photographs #14, #16, #36, and #38-#42.

c. Inlet Penetrations - There are three (3) inlet penetrations. Two (2) are tied in with pumps and one (1) is capped with a blind flange. The inlet lines are located below the discharge line, and penetrate the sides of the pumps. Minor corrosion was present at the penetrations, fasteners, and valves. No evidence of leakage was noted. See photographs #14, #16, #36, #37, #41, and #43.

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monitored as the DC current between the anode and drywell was gradually increased until a structure-to-reference potential was reached indicative of cathodic protection. NACE-SP-0169 states that cathodic protection is achieved when either a pipe-to-soil potential of -850 mV with respect to a CSE or polarization of at least 100 mV is achieved. A pipe-to-soil potential of -850 mV CSE was obtained at a current output of 7 amperes. The surface area receiving current includes the four walls, top and bottom of the dry well in addition to the inlet pipes from the wet well, the entrance manhole, the vent pipe, a portion of the force main exiting the structure as well as any metal conduit or grounding system in the soil.

Current requirements were also calculated by taking the surface area of the dry well, entry manhole and vent and using a standard value for current density in the soil encountered at the side. A protective current of 1.33 amperes was calculated using a current density of 0.002 mA/ft^2. The difference between the calculated current and measured value is due to additional metal involved in the system such as the three inlet pipes and outlet force main and any miscellaneous metal (e.g., conduits, rebar) in the ground that is connected to the dry well. The polarization tests done in the field are also relatively rapid and polarization takes time to develop, so the actual total current needed could be somewhat lower than measured.

Ultrasonic Thickness Measurements

We were asked to take random ultrasonic thickness measurements from inside the drywell on the original steel walls above the replaced plates. This was done using a DeFelsko Positector UTG ultrasonic thickness gage with a 5 mHZ transducer and a gel couplant. Locations were chosen based on significant visible corrosion. Table 1 provides the results.

Table 1. Ultrasonic thickness measurements

Location	Wall	Height above floor, ft	Thickness, inch
1	South	6	0.131
1	South	2	0.117
2	West	5	0.135
2	West	4	0.121
2	West	6	0.142
2	West	3	0.139
3	North	6	0.106
4	East	6	0.159
4	East	4	0.108
4	Floor, at ladder	--	0.247
4	Floor, at wall opposite ladder	--	0.243
5	Manway, at ceiling	--	0.454
6	Manway, approx. midway between ceiling and top	--	0.242

Proposed Cathodic Protection System

We propose an impressed current cathodic protection (CP) system. A galvanic anode system would not be feasible because of the relatively high current requirement and high resistivity of the soil. One such system consists of anodes located around the dry well installed so that the current is distributed as evenly as possible around the sides, top and bottom of the tank. The anodes would be supplied with DC current from a cathodic protection rectifier. The suggested rectifier would be voltage controlled, air cooled, mounted on a pole within the Sylvan Glen facility and located at a convenient location within the pump station facility. The