STATE OF NEW YORK PUBLIC SERVICE COMMISSION

Petition of Bristol Water Works Corporation For Authority to Incur Indebtedness for a Term in Excess of Twelve Months Pursuant to Section 89-f of The Public Service Law	Case 18-W-___

PETITION OF BRISTOL WATER WORKS CORPORATION FOR AUTHORITY TO INCUR INDEBTEDNESS FOR A TERM IN EXCESS OF TWELVE MONTHS

BRISTOL WATER WORKS CORPORATION

By: Todd Cook, CEO
7939 Rae Boulevard
Victor, New York 14564

Dated: February 7, 2025

STATE OF NEW YORK PUBLIC SERVICE COMMISSION

Petition of Bristol Water Works Corporation
For Authority to Incur Indebtedness for a Term in Excess of Twelve Months Pursuant to Section 89-f of The Public Service Law

Case 18-W-___

PETITION OF BRISTOL WATER WORKS CORPORATION FOR AUTHORITY TO INCUR INDEBTEDNESS FOR A TERM IN EXCESS OF TWELVE MONTHS

Pursuant to Section 89-f of the Public Service Law ("PSL") and Part 37 of Title 16 of the New York Code of Rules and Regulations ("NYCRR"), Bristol Water Works Corporation ("BWWC") hereby Petitions for authorization from the New York State Public Service Commission (the "Commission") to incur indebtedness for a term in excess of twelve months. As further described herein, BWWC is requesting authorization to enter into a 10 year, fixed rate loan agreement with Five Star Bank ("Five Star" or the "Lender") for an amount up to $615,000, secured by a first lien on and security interest in all real and personal property of BWWC (the "Credit Facility") for the following purposes: Up to $515,000 of the proceeds of the Credit Facility will be used to fund a number of capital improvement projects described below (the "System Improvement Plan") that are needed to ensure adequate water sources and to improve system efficiency. The balance of the proceeds of the Credit Facility will be used to repay approximately $100,000 in existing indebtedness in the form of a line-of-credit agreement owed to Five Star Bank ("Five Star"), BWWC's current bank lender, that remains unpaid as a result of insufficient cash flow. In addition, BWWC seeks authority to adopt a customer surcharge to recover over the life of the Credit Facility the cost of amortizing that portion of the proceeds of such Credit Facility expended for the System Improvement Plan, as well as a recover the cost of the remaining credit facility that will be used to repay the Company's current line-of-credit, as required by Five Star.

BACKGROUND

BWWC provides unmetered water service to approximately 182 condominiums and metered water service to approximately 197 single-family homes and cottages within the Bristol Harbour Village development in the Town of South Bristol, Ontario County. In addition, Bristol serves five smaller commercial connections, including a golf cart wash pad, the Bristol Sewerage Disposal Corporation (Sewer Corp.), a beach shower, a community center, and restrooms at a golf course. The Company obtains its water supply from an intake structure in Canandaigua Lake, from which the raw water is pumped to the water treatment plant via three 240-gallon per minute (gpm) vertical turbine pumps that discharge into a raw water transmission main. The raw water then undergoes treatment for particulate removal via two vacuum diatomaceous earth filters and disinfection via gaseous chlorine. Treated water is then discharged to a 60,000-gallon clearwell beneath the treatment plant; the clearwell is hydraulically connected to a 240,000-gallon partially buried concrete storage tank located outside the treatment plant. Water then flows by gravity from the 240,000-gallon tank to the lower elevation levels of the distribution system or it is pumped via two 260-gpm vertical turbine pumps to a 120,000-gallon steel storage tank that serves the middle elevation levels of the distribution system; the highest levels of the distribution system are served by two booster pumps (a 25-gpm pump and a 50-gpm pump) and a 245-gallon hydropneumatic tank set at 85 pounds per square inch, all located in the water treatment plant. The original distribution system, constructed between 1972 and 1976, consists mostly of 8- inch ductile iron pipe, with some 10-inch pipe. Newer sections consist of polyvinyl chloride pipe.

PURPOSES FOR BORROWING

First and foremost, BWWC plans to use $515,000 of the proceeds of the Credit Facility to fund the System Improvement Plan, which includes the following projects:

- New Pumping System. Estimated cost: **$284,000.**

Includes removal of standpipe and the addition of two new (higher elevation zone) pumps and two new primary pumps to replace all four pumps that are at the end of their useful life. The new primary and booster pumps would be able to supply the required minimum pressure to both the Mid Elevation Pressure Zone (MEPZ) and High Elevation Pressure Zone (HEPZ). Additionally, by eliminating the standpipe tank, the total volume of finished water in the system is reduced, helping the system maintain a chlorine residual and reducing water flushing which wastes energy, chlorine, and water resources.

- Emergency Generator. Estimated cost: **$106,000**

An emergency generator will provide power to the pump stations and can also run the water plant in the event of an extended power outage. There are currently a few dozen homes located in the HEPZ area of the district that are susceptible to losing their water service during power outages. The generator would be required in order for these customers to have water during outage events.

- Existing Tank Removal. Estimated cost: **$51,500**

- Watermain Replacement Project. Estimated Cost: **$73,500**

Replacing approximately 600 LF of pipe with new 6" ductile pipe and 1 new hydrant. There are 5 existing water services that will be tied into the new watermain. All labor and material to complete the job is included in the price. Work consists of traffic control, locating existing utilities, excavating and backfilling, topsoil and restoration of disturbed lawn areas, materials and labor for installing the pipe.

In addition, BWWC plans to use approximately $100,000 of the proceeds of the Credit Facility to repay its existing line-of-credit agreement with Five Star Bank. The line-of-credit borrowings were incurred in prior years as a result of insufficient cash flow and the Company's rate it was allowed to charge customers in prior years not being sufficient to cover operating expenses in those years. BWWC's current indebtedness on its line-of-credit agreement is $100,000, which is the maximum amount allowed to be borrowed under the terms of the agreement. In connection with loaning us additional proceeds under the proposed credit facility, Five Star Bank is requiring that a portion of the proceeds be used to pay off our existing line of credit agreement. BWCC's current financial condition does not permit it to repay its outstanding line-of-credit with current assets, or current operating revenues, nor has it been able to make any payments against the line-of-credit balance since 2020. Accordingly, the proposed Credit Facility will include sufficient funds to enable BWWC to pay off its' existing line-of-credit agreement.

THE TRANSACTION

The commercial terms and conditions of the proposed Credit Facility set forth in the term sheet included in Attachment 2 which represents the terms to which BWWC and Five Star Bank have agreed for the new credit facility. Based on our long-standing relationship with Five Star Bank, both business wise and personally, we believe the proposed terms are favorable to those we would receive at other banks, especially given the dire financial situation of BWWC.

Pursuant to the Five Star Bank term sheet, the Credit Facility will be a secured loan with a term of 10 years, amortizing over a term of 15 years, resulting in a balloon payment of the unamortized principal in ten years. The loan will consist of a draw period in which funds are

drawn as needed to fund the improvements, and the loan will be amortized once the project is completed, and all draws are taken. The interest rates to be charged are described in the enclosed attachment of the bank term sheet.

Although BWWC has not yet executed a definitive loan agreement with Five Star Bank, it anticipates closing on the proposed Credit Facility as soon as reasonably practicable following Commission approval of this Petition. BWWC expects that the material terms and conditions of the definitive loan agreement will be the same as, or consistent with, those set forth in Attachment 2.

On information and belief, the terms and conditions of the proposed Credit Facility are competitive, commercially reasonable and well suited to the financing need, described above.

REPAYMENT

BWWC's operating revenues will be insufficient to cover both interest and amortization on the portion of the Credit Facility proceeds that are used for the System Improvement Plan described above, as well as the portion of the credit facility used to pay off the existing line-of-credit. Accordingly, BWWC is seeking approval to adopt a customer surcharge to recover the expense of interest and amortization of that portion of the proceeds of the Credit Facility utilized for the System Improvement Plan and cover the remaining debt service. The surcharge would be the same for each customer, regardless of rate class or volume of water consumed.
BWWC believes this allocation is fair because the projects in the System Improvement Plan are required regardless of the volume of water individual customers may consume. The surcharge, collected in monthly customer bills, would be segregated and applied to debt service.

For illustrative purposes, assuming that BWWC borrowed the full amount available under the Credit Facility at an interest rate of 7.5%, amortized over the term of the loan, the monthly debt service would be $7,300. Assuming BWWC applied $100,000 of the loan proceeds to repay its existing line-of-credit agreement and $515,000 to pay for the System Improvement Plan, monthly debt service would be attributable in the same proportion, namely, $1,187 to repayment of our existing line-of-credit and $6,113 to the funding for the System Improvement Plan, with both being paid from the proceeds of the requested surcharge.

INFORMATION IN SUPPORT OF PETITION

Pursuant to Part 37 of Title 16 of the NYCRR, BWWC provides the following information in support of this Petition:

A. Financial Condition of BWWC [16 NYCRR §§ 37.l(a) and 18.1]

BWWC's financial statements for the fiscal years ending December 31, 2021 through December 31, 2024 are included in Attachment 3. As noted in the attached financial statements, BWWC has significant negative equity and negative working capital. The Company has minimal current assets and a sizeable amount of current liabilities. There is not sufficient cash flow to pay for the proposed credit facility used to fund the improvements that we intend to make in order to improve service to our customers and pay down our existing line of credit as required by the bank.

B. Book Value of BWWC's Utility property [16 NYCRR §§ 37.l(b) and 31.l(f)]

The book value of the BWWC's property and equipment as of December 31, 2023, was $519,001. This value represents the "original cost" of such property and equipment, as such term is defined in 16 NYCRR § 31.l(f). The book value above net of accumulated depreciation thereon would equal $121,355.

C. Amount for a Franchise [16 NYCRR § 37.l(c)]

The book value reported for BWWC's property and equipment does not include any amount for a franchise, consent or right to operate as a public utility.

D. Stock issuance [16 NYCRR § 37.l(d)]

BWWC has issued and there remain outstanding 200 shares of common stock. This Petition does not propose for BWWC to issue any stock or equity interests.

E. Amount of Proposed Indebtedness [16 NYCRR §§ 37.l(e)]

Not greater than $615,000

F. Purpose of Proposed Indebtedness [16 NYCRR § 37.l(f)]

To carry out a System Improvement Plan and to repay outstanding line-of-credit indebtedness.

G. Other Available Funds [16 NYCRR § 37.l(g)]

No funds are available from sources other than the proposed Credit Facility to meet its stated purposes.

H. Finalized Loan Agreement [16 NYCRR § 37.l(h)]

No finalized loan agreement has been prepared to date.

I. Estimated Costs and Expenses of Proposed Indebtedness [16 NYCRR § 37.l(i)]

BWWC does not know what the exact costs and expenses associated with the proposed Credit Facility will be because no definitive loan agreement with the lender has been executed or prepared. The Term Sheet included in Attachment 2 states, however, that BWWC shall pay an origination fee of $1,000. BWWC anticipates that costs and expenses associated with the Credit Facility, approximated at $5,000, will be comparable to those associated with substantially similar credit facilities offered by other lenders and, therefore, will be commercially reasonable.

J. Securitization of Proposed Indebtedness [16 NYCRR § 37.l(j)]

The proposed Credit Facility will be secured by a first lien on and security interest in all real and personal property of BWWC.

K. Planned Merger or Consolidation [16 NYCRR § 37.l(k)]

BWWC has no plans to merge or consolidate with another organization either in connection with the proposed Credit Facility or otherwise.

L. Stockholder Consent [16 NYCRR § 37.l(l)]

No stockholder consent is required in connection with the proposed Credit Facility.

Other Required Approvals [16 NYCRR § 37.l(m)]

No authorization from other public authorities is required in connection with entering into the Credit Facility.

M. Capitalization of Any Franchise [16 NYCRR § 37.l(n)]

BWWC is not proposing to capitalize any franchise in connection with the proposed Credit Facility.

SUPPORTING ATTACHMENTS

In support of this Petition, BWWC submits the following attachments:

1. A copy of Engineering report prepared by Elliott Engineering Solutions ("Attachment 1").
2. A copy of the term sheet from Five Star Bank for the proposed Credit Facility ("Attachment 2");
3. Copies of BWWC's Financial Statements ("Attachment 3");

CONCLUSION

For the foregoing reasons, BWWC submits that entering into the Credit Facility with Five Star Bank is in the public interest and the terms and conditions relating thereto are commercially reasonable. BWWC further submits that the adoption and approval of a surcharge to recover the expense of debt service on a portion of the borrowing not to exceed $515,000 to be used for the System Improvement Plan described herein is also in the public interest, as well as recover the portion of the borrowing not to exceed $100,000 to be used to pay off our existing line-of-credit as required by the bank in order to loan us additional funds for the system improvements.

BWWC respectfully requests that the Commission issue an order authorizing BWWC to enter into the proposed Credit Facility described in this Petition, further authorizing BWWC to adopt a surcharge to recover both the expense of debt service on that portion of the proceeds of such Credit Facility referable to the System Improvement Plan, as well as recover the expense of debt service on that portion of the proceeds of the credit facility used to pay down our existing line-of-credit, and further authorizing BWWC to defer and amortize its external costs associated therewith over the life of the debt issuance.

Dated: February 7, 2025

Respectfully submitted,

BRISTOL WATER WORKS CORPORATION

By: Todd Cook, CEO

ATTACHMENT #1

Bristol Water Works Corporation

Prepared for

New York Public Service Commission

Prepared by

Elliott Engineering Solutions
540 Packetts Landing
Fairport, NY 14450

August 28, 2024

Introduction

Bristol Harbour Resort is located on Seneca Point Road in the Town of South Bristol, and operated as a public resort with a restaurant, hotel, banquet facility, and golf course since beginning operations in 1969. The current owners purchased the property in 2016, and operated the business as usual until deciding to shut down the commercial activities in 2020. Prior to shutting down, the resort was the largest consumer of potable water in the service district. Potable water infrastructure at the property is starting to exceed its useful life, which has necessitated a number of capital outlays for rehabilitation.

The purpose of this report is in support of the water district's request for financing and an improvement surcharge, necessitated by the costs associated with various upgrades needed at the plant. These include the water plant pump room upgrades, the waterline replacement project on Spy Glass Hill, and the transition from using chlorine gas to sodium hypochlorite for disinfecting water. All improvements were approved by the NYSDOH, with some of the work being mandated by them. These improvements are green initiatives that emphasize reductions in both power and water usage, as well as minimizing chemical using during water treatment

Background

Recent capital expenditures to replace or upgrade existing equipment were necessitated by a few different factors. Firstly, the equipment in the pump room, built in 1969, has exceeded it's useful life and needs to be replaced since it has not been possible to find replacement parts to make repairs. Additionally, the closing of the resort in 2020 altered the water demand at the property which negatively impacted the original design hydraulics and water quality of the system.

The owners of the property hired Elliott Engineering Solutions (EES) to evaluate different options that would solve the adverse conditions caused by the reduction in flows, and to assess the condition of the aging water tank and pumping equipment. The engineering analysis of this project included calculating the flow and pressure requirements for the high elevation pressure zone (HEPZ), and referencing previous reports that discussed the issues affecting the standpipe along with various options for rehabilitation. A tank inspection report that discusses the state of the tank at the time it was written in the year 2000. EES submitted an engineering report with an in depth analysis of the project as well as a recommendation on system upgrades, to the New York State Department of Health which was approved early in 2024.

Another project that required a capital expenditure was the conversion of the disinfection method used for treating the supplied water from Chlorine Gas to Sodium Hypochlorite. This project was required in order to increase the safety of operators and residents and to provide redundancy due to failed chlorine gas injection equipment. Chlorine gas is highly toxic and poses a severe risk to life and the environment.

Furthermore, the approximately 600 LF of watermain along Spy Glass Hill has had a number of recent breaks, causing inconveniences for the residences on that part of the system. This part of the system is suspected to have a water table which may have accelerated the

corrosion of the ductile iron pipe watermain, leading to the increased frequency of breaks. The watermain will be replaced with PVC material, and will be shifted to the northern side of the road. Plans for this project are currently being reviewed by the NYSDOH. Making this improvement is necessary in order to increase reliability for the customers, as well as to reduce the energy costs associated with mobilizing and performing the repair work and water loss that wastes money and chemicals.

Existing Water System

The existing water treatment plant was constructed in 1969 and upgraded in 2005. Raw water is pumped from Canandaigua Lake to one of the two diatomaceous earth (DE) filters that provide a capacity of 300 gpm each. The filtered water was then disinfected using gaseous chlorine prior to flowing into a 60,000 gallon baffled contact tank. Finished water then flows into a below grade, 240,000 gallon clear well. From there, the Treated water can either flow by gravity to the low elevation pressure zone (LEPZ) located near Canandaigua Lake, be pumped to the storage standpipe in the middle elevation pressure zone (MEPZ) by two 20 HP vertical turbine variable frequency drive (VFD) centrifugal pumps, or to the high elevation pressure zone (HEPZ) at the top of the development via a booster pump system.

The Gould's duplex pump system has a combined flow rate of approximately 520 gallons per minute, and pumps treated water to the existing 120,000 gallon welded steel standpipe. Only one VFD pump runs at a time while the second pump is on standby for redundancy. The water storage tank is 24 feet high with a base elevation of 1080 and is operated over a 5 foot range from a full position to maintain adequate pressures. An altitude valve is located in a vault at the base of the tank, which should control the maximum water level in the tank, however, the valve has been inoperable for some time. The water tank operating levels are controlled by two Mitsubishi Programmable Logic Controllers (PLCs) with pressure transducers located on the effluent side of the main lift pumps (vertical turbine pumps) for the storage tank, and the booster pump line. This controller system is located at the water treatment plant, which varies the flow rate of the vertical turbine pumps to maintain the tank level between elevation 1104 and 1099. As the existing tank level elevation does not provide enough hydraulic energy to supply adequate pressure to the HEPZ, a duplex booster pump system was installed at the water treatment plant to increase the pressure to a minimum of 35 PSI.

The system was designed with three pressure zones within the community, and are referred to as the Low Elevation Pressure Zone (LEPZ), which includes Cliffside Condominiums (El. 690-930), the Mid Elevation Pressure Zone (MEPZ), which includes residential areas west of Seneca Point Road (El. 930- 1130), and the High Elevation Pressure Zone (HEPZ), which includes both Andrews Way and Medalist Lane.

Presently, there is no fire protection provided at Bristol Harbor since it was not required

when the resort system was designed. Previously, a user questionnaire was sent out to the residents of the neighborhood, who indicated that they were not interested in upgrading the system to include fire flow. There is a Siamese connection at the treatment plant that allows the fire trucks to fill from the 240,000 gallon clear well, as well as pressurize the distribution system. The current owners do not foresee any additional developments being constructed within the water district boundaries.

In 2020, the owners of the resort made a financially based decision to shut down the commercial operations and maintain the golf course for private member use only. During the period in which the commercial uses operated, the maximum average annual daily demand on the water storage tank/standpipe system was approximately 29,500 GPD, and the peak day total water consumption was 44,250 based on a 150% peak factor. Since eliminating the commercial flows, the average annual daily and peak flows have been reduced by up to 43% to 16,800 GPD and 25,200 GPD respectively. The golf course installed two storage ponds to collect rain water and does not consume any water from Bristol Water Works for golf course irrigation, helping reduce the amount of water that needs to be treated thereby saving energy and carbon emissions.

The water distribution system was designed for the larger flows that included the commercial property, and since the removal of the commercial activities within the district, the water usage has drastically decreased which has increased the length of time the water sits in the overall storage system. This increased water age has required the operators to flush their water system more often in order to maintain the required chlorine residual in the system. When the operators fill the clear well prior to shutting off the water plant, they can have a total storage capacity of 360,000 gallons including the storage tank and clear well. With an average water use of 18,346 gpd in 2022, the potential water age in the system could be 19.6 days but is probably less due to leakage or water being flushed. Per the guidelines set in the 10 State Waterworks Standards, pipes and storage structures should be designed so that water age does not exceed 5 days. These improvements meet those guidelines

A report written by Larsen Engineering in 2015 included three different options for upgrading the water system. This original report assumed that additional development in the neighborhood was going to increase water usage, and included the following: Option 1 involved refurbishing the existing 120,000 gallon tank. Option 2; replacing the existing storage tank with a larger tank, and option 3, moving the storage tank system to a higher elevation near the northern property line which would provide adequate pressure for both the mid and high system pressure zones without booster pumping.

Annual average water sales for residential use and total combined with commercial use are provided in the following table. The reduction in water sales is consistent with the reduction in system flows.

	Residential (GPD)	Total Water Sales (GPD
2017	21,896	28,566
2018	22,537	29,468
2019	16,075	21,948
2020	19,422	25,272
2021	16,883	20,751
2022	14,971	18,346
2023	13,435	16,598

A breakdown of the water sales by pressure zone is presented in the table below. The key takeaway from this information is that even the 120,000 gallon storage tank provides significant water age.

	Houses / Condominiums	Average 2022 Flow (GPD)
Low Elevation Zone	182	5,640
Mid and High Elevation Zones	197	12,706

System Upgrade Cost Estimates

Elliott Engineering Solutions has received quotes for each of the proposed project upgrades. EES recommended demolishing the standpipe, and to use new 5 HP primary pumps for the MEPZ and new 7.5 HP pumps for the HEPZ, to satisfy the current system demands. The new primary and booster pumps would be able to supply the required minimum pressure to both the Mid Elevation Pressure Zone (MEPZ) and High Elevation Pressure Zone (HEPZ). Additionally, by eliminating the standpipe tank, the total volume of finished water in the system is reduced, helping the system maintain a chlorine residual and reducing water flushing which wastes energy, chlorine, and water resources.

A quote was provided for refurbishing the existing storage tank, option 1, and was estimated to be around $234,000. Option 2; replacing the tank in the same location was quoted to cost $711,000. Lastly, the cost estimate for relocating the tank and providing additional piping to the site was $1,300,000. All three of these options are based on 2015 costs and would be significantly higher today.

EES put together a cost estimate for the removal of the standpipe, as well as the addition of two

new (Higher elevation zone) pumps and two new primary pumps seeing as all four pumps are at the end of their useful life. This work is estimated to cost less than rehabilitating the existing tank after adjusting for inflation. These costs are broken out in the following table:

New Pump Systems	$155,000
New Generator	$92,100
Existing Tank Removal	$37,300
Total	$284,400

In July 2024, this project was advertised for bids with four companies responding to the advertisement. The following is a table of the bids received:

1	Blue Heron Construction	$246,820
2	Spensieri Diversified, LLC	$252,000
3	Empire State Mechanical Contractors, Inc.	$339,900

In 2023 quotes were collected for the watermain replacement project on Spy Glass Hill. The following table is of the quotes received:

1	Victor Excavating	$73,500
3	Redman Construction	$104,310
2	C.P. Ward	$265,000

The following is the cost from the equipment supplier for the required parts for the disinfection conversion project including installation

1	Koester	$12,705.44

The table below compiles the quoted costs for each of the projects and includes a 15% amount for contingency.

	Project	Cost	15% Contingency	Sum
1	New Pumping System	$246,820	$37,023	$283,843
2	Emergency Generator	$92,100	$13,815	$105,915
3	Existing Tank removal	$339,900	$5,079	$38,942
			Total Cost	$428,700

Cost Justification

The costs associated with the proposed projects can be justified by the advantages that the new equipment and system bring. The following bullets detail a few of the advantages:

- The HEPZ (formally booster pumps) will operate independently with new 7.5 HP pumps. Replacement parts for the existing booster pumps are no longer available and pump models were discontinued, so upgrading the pumps will make maintaining these new pumps easier in the future.
- Reducing the worn out 20 HP pumps, which are at the end of their useful lives, with smaller 5 HP pumps will save the treatment plant significant capital, energy costs, and reduce carbon emissions.
- Reducing the water storage from 360,000 gallons to 240,000 gallons would eliminate the need to periodically flush the system to keep a chlorine residual therefore saving chemical and energy costs, thereby reducing environmental impacts.
- The exiting PLC system that runs the main pumps and booster station is 20 years old and needs replacing in the near future. The replacement pumps for mid and high elevation pressure zones will operate on a standard VFD control system independently thus saving capital costs, operational energy costs and a reduction of the plants carbon footprint.
- The water plant will have an emergency generator that will provide power to the pump stations and can also run the water plant in the event of an extended power outage. There are currently a few dozen homes located in the HEPZ area of the district that are susceptible to losing their water service during power outages. The generator would be required in order for these customers to have water during outage events.

Appendix A

Approved NYSDOH Engineering Report and Approval Letter

NEW YORK STATE OF OPPORTUNITY. Department of Health

KATHY HOCHUL
Governor

JAMES V. McDONALD, M.D., M.P.H.
Commissioner

JOHANNE E. MORNE, M.S.
Acting Executive Deputy Commissioner

November 1, 2023

South Bristol Resorts
5410 Seneca Point Road
Canandaigua, NY 14424
Attn: Todd Cook, Owner

RE: **PUBLIC WATER SUPPLY**
Bristol Harbour Water Corp
(APPROVAL – Switch to Liquid Chlorine)
S. Bristol (T) – Ontario County

We have, this date, approved the plans and specifications submitted by Robert Elliott, P.E., of Elliott Engineering Solutions, for the above-referenced project, which includes replacement of the existing gas chlorine system with liquid chlorine injection. Enclosed is an APPROVAL OF PLANS FOR PUBLIC WATER SUPPLY IMPROVEMENT (form DOH 1017) for the project. Application for this project was duly made by you and originally received in this office on August 9, 2023.

PLEASE BE ADVISED that the proposed works approved herein may be placed into service until such time that an APPROVAL OF COMPLETED WORKS (form DOH 1032) has been issued by this Department. Before that form can be issued, a New York State licensed professional engineer must submit certification (form DOH-5025) that they or their designated representative has witnessed the construction, testing and disinfection procedures as per conditions a. through c. of the enclosed DOH-1017 form, and that they have collected an appropriate number of water samples from the completed works for bacteriological analysis by a NYS-approved laboratory. An Engineer's Certification form is attached for your use. Copies of the results of the analyses must also be submitted with the above-mentioned certification.

We call your attention to standard conditions a. through e. of the enclosed DOH-1017 form.

One copy of the approved application documents and plans is being retained for our files. Distribution of remaining documents is indicated below.

Sincerely,

Kendall Larsen

Kendall Larsen, P.E.
Professional Engineer 1

enc. DOH-1017, DOH-5025
pc: Elliott Engineering – Attn: R. Elliott, PE (w/DOH-1017 & plan)
Bristol Harbour Water Corp. – Attn: D. Gage, Supt. (w/DOH-1017 & plan)

NEW YORK STATE DEPARTMENT OF HEALTH
Bureau of Public Water Supply Protection
2 University Place
Albany, NY 12203-3313

Approval of Plans for Public Water Supply Improvement

This approval is issued under the provisions of 10 NYCRR, Part 5-

1. Applicant	2. Location of Works (C, V, T)	3. County	4. Water District
Bristol Harbour Water Corp	**S. Bristol (T)**	**Ontario**	**Bristol Harbour Water Corp**

5. Type of Project

☐ Source ☐ Pumping Units ☐ Fluoridation ☐ Distribution ☐ Storage

☐ Trans ☒ Chlorination ☐ Filtration ☐ Other:

Remarks:

Replacement of existing gas chlorination system with liquid sodium hypochlorite injection.

By initiating improvement of the approved supply, the applicant accepts and agrees to abide by and conform with the following:

a. THAT the proposed works be constructed in complete conformity with the plans and specifications approved this day or approved amendments thereto.

b. THAT the proposed works shall not be placed into operation until such time as a Completed Works Approval is issued in accordance with Part 5 of the New York State Sanitary Code.

c. THAT pressure and leakage testing of the proposed works will follow pertinent American Water Works Association Specifications.

d. THAT disinfection of the proposed works will follow pertinent American Water Works Association Specifications.

e. THAT a NYS licensed professional engineer submit certification that he or his designated representative has witnessed the construction, testing and disinfection procedures as per conditions a., c. & d., above.

ISSUED FOR THE STATE COMMISSIONER OF HEALTH

November 1, 2023
Date

Kendall Larsen
Designated Representative

Kendall Larsen, PE - Professional Engineer 1
Name and Title (Print)

General

6. Type of Ownership
☐ Municipal ☐ Commercial ☐ Industrial ☒ Water Works Corp. ☐ 68 Private – Other ☐ Source Private - Institutional ☐ 26 Board of Education ☐ 1 Authority ☐ 19 Federal ☐ 20 State ☐ 30 Interstate ☐ 40 International ☐ 18 Indian Reservation

7. Estimated Total Cost	8. Population Served	9. Drainage Basin
$ 5,000		

10. Federal Aid	11. WSA Project
☐ Yes ☒ No	☐ Yes ☒ No

Source ☒ **N.A.**

12. Type	13. Est. Source Development Cost
☐ Surface Name: Class:	
☐ Ground Name: Class:	

14. Safe Yield	15. Description

Treatment ☐ **N.A.**

16. Type
☐ Aeration ☐ Sedimentation ☐ Iron Removal ☐ Softening
☐ Microstrainers ☐ Clarifiers ☒ Chlorination ☐ Corrosion Control
☐ Mixing ☐ Filtration ☐ Fluoridation ☐ Other:

17. Name of Treatment Works	18. Max. Treatment Capacity	19. Grade of Plant Operator Reqd.	20. Estimated Cost
Bristol Harbour Water Corp		**IIA**	**$5,000**

21. Description
See item 5 above.

Distribution ☒ **N.A.**

22. Type	23. Type of Storage ☒ N.A.	24. Est. Distribution Cost
☐ Cross Connection ☐ Transmission	☐ Aboveground - gal.	
☐ Interconnection ☐ Fire Pump $C1_2$	☐ Belowground - gal.	

25. Anticipated Distribution System Demand: Avg. - GPD Max. - GPD	26. Designed for Fire Flow ☐ Yes ☐ No

27. Description

NEW YORK STATE OF OPPORTUNITY. Department of Health

KATHY HOCHUL
Governor

JAMES V. McDONALD, M.D., M.P.H.
Commissioner

JOHANNE E. MORNE, M.S.
Acting Executive Deputy Commissioner

January 26, 2024

South Bristol Resorts
5410 Seneca Point Road
Canandaigua, NY 14424
Attn: Todd Cook, Owner

RE: **PUBLIC WATER SUPPLY**
Bristol Harbour Water Corp
(APPROVAL – Tank Replacement)
S. Bristol (T) – Ontario County

We have, this date, approved the plans and specifications submitted by Robert Elliott, P.E., of Elliott Engineering Solutions, for the above-referenced project, which includes replacement of the existing tank with a pump station. Enclosed is an APPROVAL OF PLANS FOR PUBLIC WATER SUPPLY IMPROVEMENT (form DOH 1017) for the project. Application for this project was duly made by you and originally received in this office on January 11, 2024.

PLEASE BE ADVISED that the proposed works approved herein may be placed into service until such time that an APPROVAL OF COMPLETED WORKS (form DOH 1032) has been issued by this Department. Before that form can be issued, a New York State licensed professional engineer must submit certification (form DOH-5025) that they or their designated representative has witnessed the construction, testing and disinfection procedures as per conditions a. through c. of the enclosed DOH-1017 form, and that they have collected an appropriate number of water samples from the completed works for bacteriological analysis by a NYS-approved laboratory. An Engineer's Certification form is attached for your use. Copies of the results of the analyses must also be submitted with the above-mentioned certification.

We call your attention to standard conditions a. through e. of the enclosed DOH-1017 form.

One copy of the approved application documents and plans is being retained for our files. Distribution of remaining documents is indicated below.

Sincerely,

Kendall Larsen

Kendall Larsen, P.E.
Professional Engineer 1

enc. DOH-1017, DOH-5025
pc: Elliott Engineering – Attn: R. Elliott, PE (w/DOH-1017 & plan)
Bristol Harbour Water Corp. – Attn: D. Gage, Supt. (w/DOH-1017 & plan)

Bristol Harbor Water Corporation

Prepared for

Water Storage Distribution System Upgrade Report

Town of South Bristol
County of Ontario

Prepared by

Elliott Engineering Solutions
540 Packetts Landing
Fairport, NY 14450

May 21
Updated December 2023

APPROVED
NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH PROTECTION

Project Description Replacement of water distribution storage with new pump station.

South Bristol ☐ City ☒ Town ☐ Village Ontario County

Date 01/26/2024 By Kendall Jaeger P.E.
Professional Engineer

Contents

Background 2
Existing Water System 2
System Analysis 4
System Upgrade Options 5
Recommendation 6
Appendix A: 7
Tables of Water Usage 7
Appendix B: 8
Existing Pumps Information Discussion 8
Appendix C: 9
Pump Room and Distribution Figures 9
Appendix D: 10
Proposed Pump System Cutsheets with Curves 10
Appendix E: 11
Tank Watermain Abandonment Plan 11

Background

Bristol Harbour Resort is located on Seneca Point Road in the Town of Canandaigua, and operated as a public resort with an eighteen hole golf course since beginning operations in 1969. The current owners purchased the property in 2016, and operated the business as usual until deciding to shut down the commercial activities in 2020. Potable water treatment is currently privately run by the owners, and customer charges are subject to approval by the public service commission

There has been a significant reduction of flow in the system, due to the closure of the commercial operations at the site, which has negatively altered the hydraulics of the system. Furthermore, the existing 120,000 gallon water tank has far exceeded the end of its useful life, and will require rehabilitation in order keep it in use. The owners of the property are evaluating different options that would solve the adverse conditions caused by the reduction in flows, as well as address the aging storage tank. A report, written by Larsen Engineers in 2015, discussed a few of the options available to address the issues based on proposed expansion of residential units and will be referenced in this report. Furthermore, a tank inspection report produced by Conrady Consultant Services in November of 2000, discusses the state of tank at the time it was written and will also be included.

Existing Water System

The existing water treatment plant was constructed in 1969 and upgraded in 2005. Raw water is pumped from Canandaigua Lake to one of the two diatomaceous earth (DE) filters that provide a capacity of 300 gpm each. The filtered water is then disinfected using gaseous chlorine prior to flowing into a 60,000 gallon baffled contact tank. Finished water then flows into a below grade, 240,000 gallon clear well. From there, the Treated water can either flow by gravity to the low elevation pressure zone (LEPZ) located near Canandaigua Lake, be pumped to the storage standpipe in the middle elevation pressure zone (MEPZ) by two 20 HP vertical turbine variable frequency drive (VFD) centrifugal pumps, or to the high elevation pressure zone (HEPZ) at the top of the development via a booster pump system.

The Gould’s duplex pump system has a combined flow rate of approximately 520 gallons per minute, and pumps treated water to the existing 120,000 gallon welded steel standpipe. Only one VFD pump runs at a time while the second pump is on standby for redundancy. The water storage tank is 24 feet high with a base elevation of 1080 and is operated over a 5 foot range from a full position to maintain adequate pressures. An altitude valve is located in a vault at the base of the tank, which should control the maximum water level in the tank, however, the valve has been inoperable for some time. The water tank operating levels are controlled by two Mitsubishi Programmable Logic Controllers (PLCs) with pressure transducers located on the effluent side of the main lift pumps (vertical turbine pumps) for the storage tank, and the booster pump line. This controller system is located at the

water treatment plant, which varies the flow rate of the vertical turbine pumps to maintain the tank level between elevation 1104 and 1099. As the existing tank level elevation does not provide enough hydraulic energy to supply adequate pressure to the HEPZ, a duplex booster pump system was installed at the water treatment plant to increase the pressure to a minimum of 35 PSI.

The system was designed with three pressure zones within the community, and are referred to as the Low Elevation Pressure Zone (LEPZ), which includes Cliffside Condominiums (El. 690-930), the Mid Elevation Pressure Zone (MEPZ), which includes residential areas west of Seneca Point Road (El. 930- 1130), and the High Elevation Pressure Zone (HEPZ), which includes both Andrews Way and Medalist Lane.

Presently, there is no fire protection provided at Bristol Harbor since it was not required when the resort system was designed. Previously, a user questionnaire was sent out to the residents of the neighborhood, who indicated that they were not interested in upgrading the system to include fire flow. There is a Siamese connection at the treatment plant that allows the fire trucks to fill from the 240,000 gallon clear well, as well as pressurize the distribution system. The current owners do not foresee any additional developments being constructed on the property.

In 2020, the owners of the resort made a financially based decision to shut down the commercial operations and maintain the golf course for private use only. During the period in which the commercial uses operated, the maximum average annual daily demand on the water storage tank/standpipe system was approximately 29,500 GPD, and the peak day total water consumption was 44,250 based on a 150% peak factor. Since eliminating the commercial flows, the average annual daily and peak flows have been reduced by up to 43% to 16,800 GPD and 25,200 GPD respectively. Additionally, the wastewater treatment plant (WWTP) has the ability to divert treated water to a storage pond for irrigating the golf course further reducing demand.

The water distribution system was designed for the larger flows that included the commercial property, and since the removal of the commercial activities within the district, the water usage has drastically decreased, increasing the length of time the water sits in the overall storage system. This increased water age has required the operators to flush their water system more often in order to maintain the required chlorine residual in the system. When the operators fill the clear well prior to shutting off the water plant, they can have a total storage capacity of 360,000 gallons including the storage tank and clear well. With an average water use of 18,346 gpd in 2022, the potential water age in the system could be 19.6 days but is probably less due to leakage or water being flushed.

Annual average water sales for residential use and total combined with commercial use are provided in the following table. The reduction in water sales is consistent with the reduction in system flows.

	Residential (GPD)	Total Water Sales (GPD
2017	21,896	28,566
2018	22,537	29,468
2019	16,075	21,948
2020	19,422	25,272
2021	16,883	20,751
2022	14,971	18,346
2023	13,435	16,598

A breakdown of the water sales by pressure zone is presented in the table below. The key takeaway from this information is that even the 120,000 gallon storage tank provides significant water age.

	Houses / Condominiums	Average 2022 Flow (GPD)
Low Elevation Zone	182	5,640
Mid and High Elevation Zones	197	12,706

System Analysis

Currently, the MEPZ is served by the 120,000 tank which is fed by two (2) 20 HP Variable Frequency drive (VFD) pumps and can each provide 260 gpm at 95 psi. There are two (2) additional 5 HP booster pumps to boost water to the HEPZ and provide minimum pressures of 35 psi. Records of the two year period from 2021 to 2022 show, that the peak residential quarterly water flow was 2,050,929 gallons, or 22,293 gallons per day (15.48 gpm), Using a peaking factor of 10 equates to a peak flow of 155 gpm The peak quarterly demand including commercial flows was 2,322,990 gallons, or 25,250 gallons per day (17.53 gpm).

Historically only one pump runs at a time to provide water to the storage tank but the second pump could come on if needed but currently acts as a standby pump. The distribution system does not have hydrants for firefighting. There are 35 flushing stations provided to flush the system when necessary. The water treatment plant does have a Siamese connection to the clear well which could help with firefighting. The 240,000 gallon clear well provides enough storage to provide 750 gpm for two hours which would use 90,000 gallons of its capacity. Information on the existing VFD pumps can be found in Appendix B.

The main pumps increase the system pressure to the existing tank water elevation of 1104

ft before shutting off; therefore, the booster pumps only need to provide an additional 27ft of head to pump to the highest elevation of the HEPZ; 1131 ft. The existing 5 HP booster pumps, being capable of 250 ft TDH, are sufficiently sized to boost the water to the highest point in the HEPZ and provide the minimum required pressure of 35 psi.

The tank condition report by Conrady Consultant Services in 2000 performed on the standpipe revealed deterioration of the interior tank coating and significant metal pitting. The report indicated that the necessary rehabilitation would require the tank to be offline for approximately 30 to 60 days. The pumping systems installed as part of the 2005 upgrade allow the system to maintain proper pressures while the tank is out of service. The rehabilitation of the water storage tank has not been performed to date and has continued to degrade.

System Upgrade Options

Larsen's 2015 Engineering report included three different options for upgrading the water system. This original report assumed that additional development in the neighborhood was going to increase water usage, and included the following: Option 1 involved refurbishing the existing 120,000 gallon tank. Option 2; replacing the existing storage tank with a larger tank, and option 3, moving the storage tank system to a higher elevation near the northern property line which would provide adequate pressure for both the mid and high system pressure zones without booster pumping.

A quote was provided for refurbishing the existing storage tank, option 1, and was estimated to be around $234,000. Option 2; replacing the tank in the same location was quoted to cost $711,000. Lastly, the cost estimate for relocating the tank and providing additional piping to the site was $1,300,000. All three of these options are based on 2015 costs and would be significantly higher today.

It has been determined that the growth projections for the neighborhood have decreased considerably, which has prompted an additional alternative of upgrading the system to be investigated. This option would be to install two new Goulds Vertical Industrial Submersible (Appendix D) pumps to provide a constant pressure to both the mid and high level pressure zones while using the clear well as the storage system. The new pumps would be smaller in size at 5 HP and would replace the existing pumps, which are near the end of their recommended useful life. The existing pumps would also not be operating at a rate appropriate for the reduced water usage if they we're to be used for supplying water without the storage tank. The new pumps would be controlled by the existing pressure transducers that connect to the PLC Controllers. It is intended for the new pumps to completely replace the existing storage tank. The tank would then be demolished after successfully operating the system in the new format with continuous pump use. The pipe that connects to the storage tank would be capped off and abandoned at the preceding Tee valve as shown in Appendix D. The 5 HP pumps each have a

capacity of 55 GPM, providing around 190 FT of TDH, which would be adequate to supply the required 88 GPM (including 10x peaking factor) to both the HEPZ and MEPZ. At this pumping rate, the new pumps would be operating at an efficiency of around 67%, as opposed to 50% efficiency if we were to run the existing pumps at the lower pumping rate.

Removing the storage tank wouldn't allow the system to provide pressure via gravity during a power outage; therefore, a 50kW backup generator would be required for this system upgrade option. The generator was sized to be able to handle all four pumps, the filter pumps, and the building lighting and electrical systems in the event of an outage.

This cost estimate for this option would include removing the existing tank, two new 5 HP pumps, and a new backup generator. These costs are broken out in the following table:

New Pumps	$155,000
New Generator	$92,100
Existing Tank Removal	$37,300
Total	$284,400

Recommendation

After evaluating the options, it is Elliott Engineering Solution's recommendation to demolish the standpipe, and to use new 5 HP pumps and the existing booster pumps only, which would satisfy the current system demands. The new primary pumps and existing booster pumps would be able to supply the required minimum pressure to both the MEPZ and HEPZ; the 240,000 gallon clear well has enough storage volume to satisfy the 2 hour fire flow requirements, and by eliminating the standpipe tank, the total volume of finished water in the system is reduced, helping the system maintain a chlorine residual. Additionally, the cost of this option is projected to be considerably lower than the alternative options after adjusting for inflation.

Appendix A:

Tables of Water Usage

Bristol Harbour Resort Water Usage (Gallons Per Day)

Water sales	1/1/17 -3/31/17	4/1/17-6/30/17	7/1/17-9/30/17	10/1/17-12/31/17	Average Annual
Commercial Use					
Hotel	23,430	106,591	276,034	143,718	
Lodge	27,773	147,685	262,586	139,818	
STP	282,500	269,900	286,200	285,900	
Golf Irrigation	138,182	521,773	1,104,791	580,494	
Commercial Use Total	337,095	599,207	928,850	569,454	
Residential	1,314,123	2,406,156	2,750,756	1,520,876	21,896
Total Water Supplied	1,651,218	3,005,363	3,679,606	2,090,330	28,566
Average GPD	18,347	33,393	40,885	23,226	
Peak GPD (150%)	27,520	50,089	61,327	34,839	
Peak Hourly (1000%)	183,469	333,929	408,845	232,259	
Peak Hourly Q (gpm)	127	232	284	161	

Water sales	1/1/18 -3/31/18	4/1/18-6/30/18	7/1/18-9/30/18	10/1/18-12/31/18	
Commercial Use					
Hotel	85,500	259,700	209,600	109,106	
Lodge	79,268	207,148	208,484	80,823	
STP	276,900	320,600	257,800	287,900	
Golf Irrigation	240,434	1,932,567	3,413,922	160,060	
Commercial Use Total	441,691	830,885	757,523	499,687	
Residential	1,186,731	2,108,706	3,106,464	1,824,101	22,537
Total Water Supplied	1,628,422	2,939,591	3,863,987	2,323,788	29,468
Average GPD	18,094	32,662	42,933	25,820	
Peak Flow (150%)	27,140	48,993	64,400	38,730	
Peak Hourly (1000%)	180,936	326,621	429,332	258,199	
Peak Hourly Q (gpm)	126	227	298	179	

Water sales	1/1/19 -3/31/19	4/1/19-6/30/19	7/1/19-9/30/19	10/1/19-12/31/19	
Commercial Use					
Hotel	143,718	170,714	265,015	31,818	
Lodge	166,185	105,229	155,576	25,320	
STP	92,000	293,600	278,100	416,500	
Golf Irrigation (RAW)	-	135,726	208,733	2,059,578	
Commercial Use Total	401,903	569,543	698,691	473,638	
Residential	1,173,492	1,163,095	1,287,099	2,243,711	16,075
Total Water Supplied	1,575,395	1,732,638	1,985,790	2,717,349	21,948
Average GPD	17,504	19,252	22,064	30,193	
Peak GPD (150%)	26,257	28,877	33,097	45,289	
Peak Hourly (1000%)	175,044	192,515	220,643	301,928	
Peak Hourly Q (gpm)	122	134	153	210	

Water sales	1/1/20 -3/31/20	4/1/20-6/30/20	7/1/20-9/30/20	10/1/20-12/31/20	
Commercial Use					
Hotel	328,456	102,836	6,452	16,396	
Lodge	81,126	28,108	45,876	135,619	
STP	553,536	286,143	272,773	277,754	
Golf Irrigation	157,133	-	270,371	114,829	
Commercial Use Total	963,118	417,087	325,101	429,769	
Residential	1,179,292	1,051,121	1,995,556	2,863,122	19,422
Total Water Supplied	2,142,410	1,468,208	2,320,657	3,292,891	25,272
Average GPD	23,805	16,313	25,785	36,588	
Peak Flow (150%)	35,707	24,470	38,678	54,882	
Peak Hourly (1000%)	238,046	163,134	257,851	365,877	
Peak Hourly Q (gpm)	165	113	179	254	

Water sales	1/1/21-3/27/21	4/1/21-6/30/21	7/1/21-9/30/21	10/1/21-12/31/21	Average Use
Commercial Use					
Hotel- Temporary	217,376	7586	-		
Lodge	-	-	-		
STP	293,836	297664	297664	297664	
Golf Irrigation	-	17,891	-		
Commercial Use Total	511,212	305,250	297,664	297,664	
Residential	1,372,808	1,596,539	1,596,539	1,596,539	16,883
Total Water Supplied	1,884,020	1,901,789	1,894,203	1,894,203	20,751
Average GPD	20,934	21,131	21,047	21,047	
Peak Flow (150%)	31,400	31,696	31,570	31,570	
Peak Hourly (1000%)	209,336	211,310	210,467	210,467	
Peak Hourly Q (gpm)	145	147	146	146	

Water sales	1/1/22-3/31/22	4/1/22-6/30/22	7/1/22-9/30/22	10/1/22-12/31/22	Average Use
STP	310,742	300,985	293,590	258,584	
Commercial Use Total	317,345	307,510	333,480	272,061	
Residential	1,161,412	904,001	1,349,388	2,050,929	14,975
Total Water Supplied	1,478,757	1,211,511	1,682,868	2,322,990	18,346
Average GPD	16,431	13,313	18,292	25,250	
Peak Flow (150%)	24,646	19,970	27,438	37,875	
Peak Hourly (1000%)	164,306	133,133	182,920	252,499	
Peak Hourly Q (gpm)	114	92	127	175	

Appendix B:

Existing Pumps Information Discussion

PUMPTRONICS INCORPORATED
18-1290 SPEERS ROAD,
OAKVILLE, ON L6L 2X4
Phone (905) 469-6444 Fax (905) 825-8139 Toll Free 1-888-222-6676
Email: paulp@pumptronics.ca

QUOTATION

Date: July 21, 2003

Quotation For: Bristol Harbour Water Works Improvements

VARIABLE SPEED PUMPTRONICS

Pump Station

The **1770** rpm **Turbine** pump station, Model # **2VST- 520/95-20/20/5/5 - 1770 - 230/3/60** will produce **520** *usgpm* @ **95** *psi, based on dual pump operation.* The pump station requires **230** volts, **3** phase, **60** hertz, **and 200-amp** service. Total power consumption **100** amps. Over all pump length of 17 feet 0 inches, to be install over the existing poured wet well, 17ft 9" deep.
Included are the following materials

2 Gould's 7CHC - 9 stage 4.96" impeller, 80.2% efficiency, 125 pound cast iron discharge head. The pump to provide 260usgpm at 95 psi each. Two 20 Hp US motors, 1760-rpm premium efficiency (92%), 230/3/60.

2 Goulds 5 hp, 3SV, 4 stage, stainless steel booster pumps each to supply between 0 and 75 usgpm @ 50 psi (115.5')

1 ABB 230 volt, 3-phase, 25-hp drive, with automatic pump alternation between the two turbine pumps.

1 ABB 230 volt, 3-phase, 5-hp drive, with automatic pump alternation between the two booster pumps.

1 Flow meter to be installed on existing piping

1 33" x 90" x 6" checker plate steel skid. Sandblasted and epoxy painted

1 2.5" Clay-Val Pressure release valve Model 50-10 angle valve, with isolation valve for maintenance

1 Cla-Val Model 34AR-116 with 1" inlet. Air release valve with isolation valve for maintenance

1 4" Clayton Pressure reducing valve with rising stem and micro switch to identify flow and solenoid valve to close pressure reducing valve when tank is full.

1 4" x 6" discharge manifold header, sandblasted and epoxy painted inside and out with environmentally safe paint for drinking water.

2 4" silent wafer check valves

3 4" level handle butterfly valves for individual pump isolation

1 20-hp Duplex Pumptronics variable speed control panel with PLC interface

1 5-hp Duplex Pumptronics variable speed control panel with PLC interface

1 Auto dialer with voice synthesizer

2 Flow meters with read out on PLC interface

1 Electric Serivce (200 Amps) from existing motor control panel to disconect switch on wall

1 Connecting electrical power to the new pump control panel from the disconnect switch

1 Bonding as required.

Set up the temporary pumping system in clear well and filtered water discharge for water transfer if required.

All required piping, fittings and valves are included to build, supply and install the packaged pump station, including pipe connections to existing 8" line at wall inside and to new 8" line at wall inside. Supply and install 2 new PLC control panels and connect motors to control panel. Supply of 200-amp service power from Motor Control Box to disconnect switch beside control panel included.

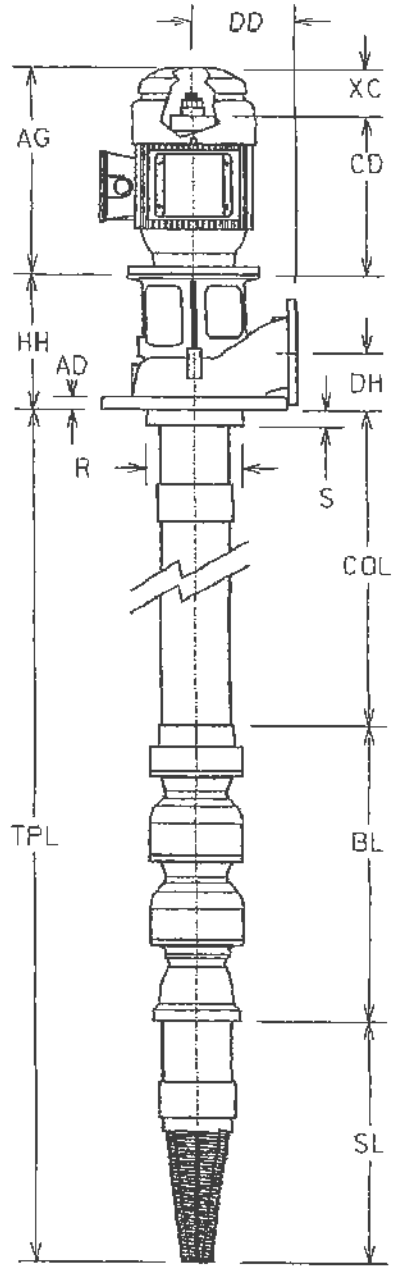
Subtotal Price	**$68,880.00**
Delivery, Installation & Setup	**$2,500.00**
Tax (7.2%)	**$5,139.36**
Total Price	**$76,519.36**

Terms: **25% down**
Balance on Installation

Bristol Harbour

Item 6C

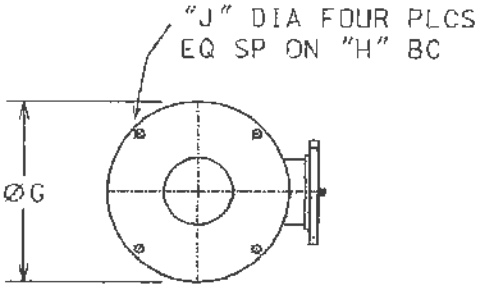
DWT-CATM
9 Stage 6x7CHC



AD:	1.00
AG:	
BD:	16.5
BL:	65.63
CAN:	N/A
CD:	
CL:	N/A
COL:	125.38
DD:	12.00
DH:	6.75
G:	23.50
H:	21.25
HH:	15.50
J:	0.75
R:	10.25
S:	1.81
SL:	13.00
TPL:	204.00
UG:	N/A
V:	0.75
W:	
X:	
XC:	
Y:	
Z:	

Pump Data

Size:	7CHC
Stages:	9
Impellers:	Bronze
Bowl:	Cast Iron
BowlShaft:	416SS 1.19"
Lineshaft Bearing:	Rubber
LineShaft Matl:	416SS 1"
LineShaft Type:	Open
Column:	Steel
Column:	6"
Bearing Spacing:	
Section Length:	
Head:	A:Cast
Flange (Disch.):	6" 125#
Inlet:	
Lineshaft Coupling:	416SS
Seal:	Packing
Strainer:	Cone
SubBase:	None



DISC HEAD

Hydraulic Data

Flow (gpm):	270
Pump Head (ft):	218.8
TDH (ft):	221.0
Speed (rpm):	1770
Fluid:	Water
Temperature (F):	60
Viscosity:	1.105

Miscellaneous

Thrust At Design:	843
Thrust At Shutoff:	1106
Min Water Level(in):	24

Weight

Pump:	
Motor:	

Motor Data

Model:	
Make:	USEM
HP:	20
RPM:	1800
Type:	
Efficiency:	

Bristol Harbour

DWT-CATM
9 Stage 6x7CHC

Overall Pump Parameters

Type and Model:	7CHC	Pump Operating Speed, RPM:	1770
Capacity, GPM:	270	Total Dynamic Head, Ft.:	221.0
Total Pump Length, In.:	204.0	Impeller Trim, In.:	5.3
Pump Type:	Well	Head Type:	A:Cast
Pump K-Factor:	3.5	Number of Stages:	9
		Pumping Level, In.:	24.0

LineShaft-Related Data

Shaft Diameter, In.:	1	Shaft Limit, HP:	71
Shaft Material:	416SS	Matl Correction Fact:	1.18
LineShaft Length, In.:	125.38	Shaft Elongation, w/o Adder:	0.00
		LineShaft Type:	Open

Bowl Data

Total Bowl Length, In.:	65.63	Bowl Diameter, In.:	7.125
Bowl Shaft Dia, In.:	1.19	Bowl Shaft Limit, HP:	125
		Bowl Shaft Material:	416SS

Column Data

Column Diameter, In.:	6	Column Load, Lb.:	1064.8
Wall Thickness, In:		Column Elongation, In.:	0.00

HorsePower Data

Shaft Friction Loss, Hp.:	0.06	Thrust Load Loss, Hp.:	0.11
Bowl HP At Design, Hp.:	19	Motor HorsePower, Hp.:	20

Head Data

Column Loss, Ft.:	0.11	Head Loss, Ft.:	0.11
		Total Loss, Ft.:	0.22

Other Data

Hydraulic Thrust, Lb.:	773.5	Thrust at Design, Lb.:	843.0
Thrust at Shutoff, Lb.:	1105.7	Design NPSH, Ft.:	5.3
Max Lateral, In.:	0.5	Min. Lateral Required, In.:	0.13
		Actual Head above Grade, Ft.:	218.78

Efficiency Data (Efficiencies estimated not guaranteed)

Bowl Efficiency:	79.10	Pump Efficiency:	78.33
Motor Efficiency:	0.00	Overall Efficiency:	0.00
		KWH/1000 gallons:	

Component Weights

Bowl Weight, Lbs.:		Column Weight,Lbs.:	
Head Weight, Lbs.:		Can Weight,Lbs.:	
Motor Weight, Lbs.:		Total Pump Weight,Lbs.:	

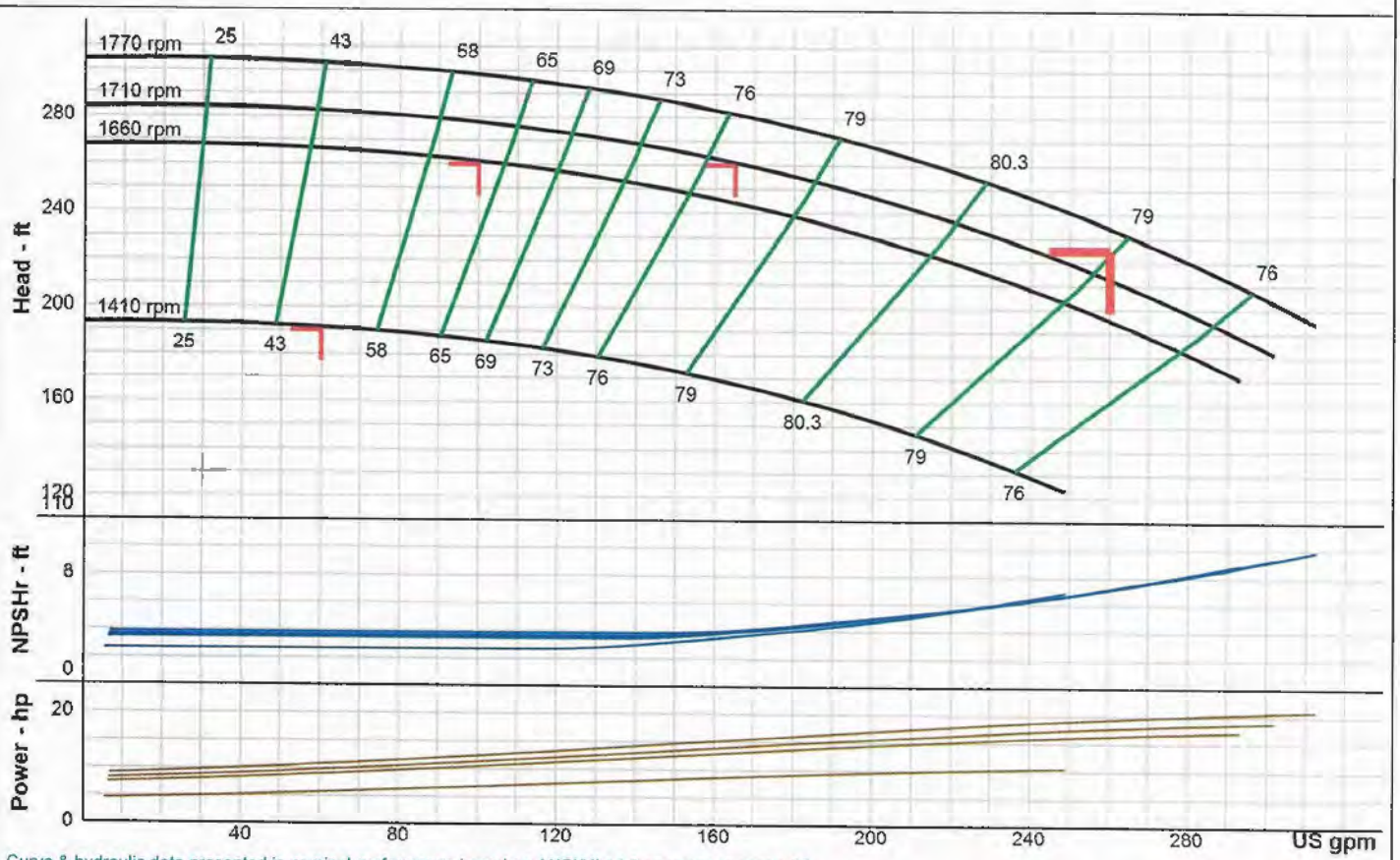
Version: 2.42

Date: 01-05-2004

GOULDS WATER TECHNOLOGY
a xylem brand

PERFORMANCE CURVE

Quote ID: 3301-230816-006:0:1 QTY: 1
VIT-DITM 7CHC, 9 Stages



Curve & hydraulic data presented is nominal performance based on ANSI/HI 14.6 acceptance grade 2B.
Design values are guaranteed within the following tolerances: Flow ± 8%, Head ± 5%, and optionally either Power + 8% or Efficiency - 5% at manufacturer's discretion.

One or more operating points are not within the selection window.

Specified Flow	260.00 USgpm	**Shut Off TDH (Disch Flange)**	298.3 ft	**Driver Size Criteria**	NOL Power Across Design Curve
Specified TDH	225.00 ft	**Shut Off Pressure (Bowl)**	131.6 psi	**Allow Service Factor**	No
Rated Speed	1770 RPM	**Shut Off Pressure (Disch Flange)**	129.1 psi	**kWh per 1000 gal**	0.00000
Atmospheric Pressure	14.70 psi	**Run Out Flow**	313.0 USgpm	**NPSHr at Design**	7.1 ft
Pumping Level	5.00 ft	**Run Out TDH (Bowl)**	194.0 ft	**NPSH Margin at Design**	32.5 ft
NPSHa at Grade	34.0 ft	**Run Out TDH (Disch Flange)**	186.9 ft	**Min Submergence at Design**	14.76 in
NPSHa at 1st Impeller	39.6 ft	**Run Out Pressure (Bowl)**	84.0 psi	**Actual Submergence**	80.25 in
Fluid	Water	**Run Out Pressure (Disch Flange)**	80.9 psi	**Thrust K-Factor**	3.5 lbpft
Fluid Temperature	68.0 °F	**Bowl Efficiency at Design**	79.30 %	**Thrust at Design**	919.1 lb
Specific Gravity	1.0000	**Guaranteed Bowl Efficiency**	75.34 %	**Thrust at Shut Off**	1174.0 lb
Viscosity	1.0017 cP	**Best Efficiency**	80.30 %	**Thrust at Run Out**	772.5 lb
Vapor Pressure	0.3393 psi	**BEP Flow**	229.0 USgpm	**Bowl Material**	Cast Iron with Glass Enamel
Density	62 lbs/ft³	**Design Flow % BEP**	113.54 %		
Design Flow	260.0 USgpm	**Pump Efficiency**	78.37 %	**Bowl Material Derate Factor**	1.00
Min Flow (MCSF)	57.2 USgpm	**Friction Loss at Design**	0.93 ft	**Impeller Material**	316SS
Design TDH (Bowl)	234.0 ft	**Power at Design**	19.4 Hp	**Impeller Matl Derate Factor**	1.00
Design TDH (Disch Flange)	227.3 ft	**Guaranteed Power**	21.0 Hp	**Total Flow Derate Factor**	1.00
Design Pressure (Bowl)	101.3 psi	**NOL Power**	20.8 Hp	**Total Head Derate Factor**	1.00
Design Pressure (Disch Flange)	98.4 psi	**Max Power (NOL) Flow**	313.0 USgpm	**Total Efficiency Derate Factor**	1.00
Shut Off TDH (Bowl)	304.0 ft	**Recommended Power**	25.00 Hp		

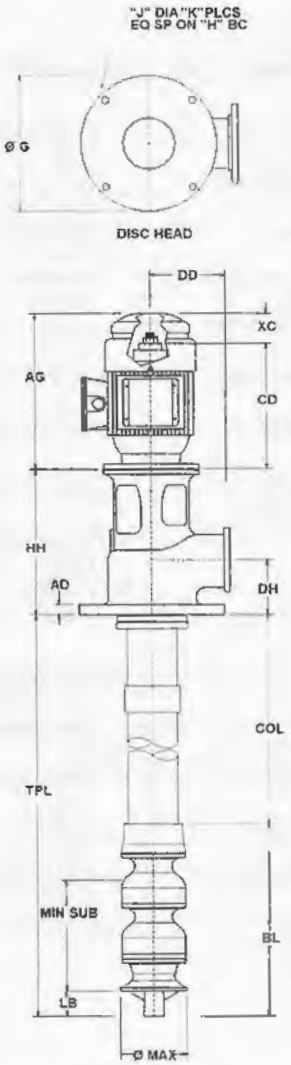
DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED

Certified By	
Project	Bristol Harbor - Bob Elliott
Tag	
PO Number	
Serial Number	

GOULDS WATER TECHNOLOGY
a xylem brand

OUTLINE DRAWING

Quote ID: 3301-230816-006:0:1 QTY: 1
VIT-DITM 7CHC, 9 Stages



DIMENSIONS

Dim G [Mounting Flange Dia]:	16.00 in
J [Mounting Flange Hole Dia]	0.75 in
K [Mounting Hole Places]	4
H [Mounting Flange Bolt Circle]	14.25 in
Discharge Head Size	4.00 in
BD Head [Discharge Head Base Dia]	12.00 in
HH [Head Height]	17.00 in
AD [Mounting Flange Thickness]	0.61 in
DD [Disch Flange Stickout]	8.25 in
DH [Disch Flange Height]	9.00 in
R [Hanger Flange OD]	5.00 in
COL [Column Length]	77.32 in
Column Diameter	4.00 in
TPL [Total Pump Length]	144.00 in
MIN SUB [Minimum Submergence]	14.76 in
LB [Length to Bottom]	3.75 in
MAX [Max Assembly OD]	7.50 in
BL [Bowl Assembly Length]	66.68 in
SU [Shaft Stickup]	8.00 in
Discharge Flange	4"-150#

PUMP DATA

Column Diameter	4 in [102 mm]
Lineshaft Diameter	1 in [25.4 mm]
Specified Flow	260.00 USgpm
Specified TDH	225.00 ft
Pumping Level	5.00 ft
Motor Manufacturer	
Driver Type	Vertical Hollow Shaft Motor
Motor Speed	1770 RPM
Phase / Frequency	

WEIGHTS

Total Bowl Weight	274 lbs
Total Column Weight	112 lbs
Head Weight	120 lbs
Motor Weight	**Refer to Factory**
Total Weight	**Refer to Factory**

NOTES

1	Total Pump Length ± 1.0 inch.
2	Tolerance on all dimensions is .12 or ± .12 inch per 5 ft, whichever is greater.
3	All dimensions shown are in inches unless otherwise specified.
4	Drawing not to scale.
5	½" NPT – Gauge Conn (plugged)
6	Driver may be rotated at 90° intervals about vertical centerline for details refer to driver dimension drawing.
7	Refer to product IOM for impeller setting requirements.
8	This assembly has been designed so that its natural frequency responses avoid the specific operating speeds by an adequate safety margin. The design has assumed the foundation to be rigid.

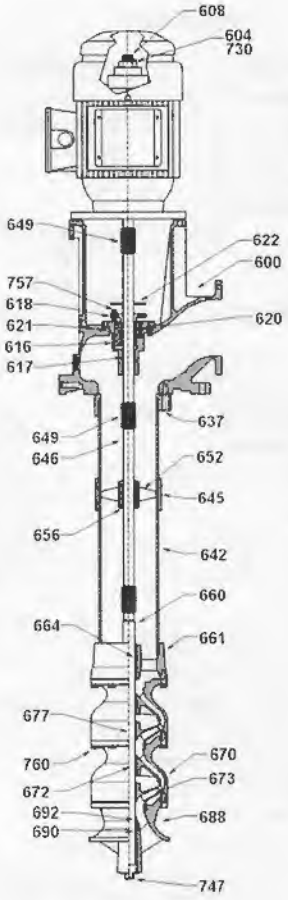
DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED

Certified By:	
Project	Bristol Harbor - Bob Elliott
Tag	
PO Number	
Serial Number	

GOULDS WATER TECHNOLOGY
a xylem brand

CROSS SECTION DRAWING

Quote ID: 3301-230816-006:0:1 QTY: 1
VIT-DITM 7CHC, 9 Stages



BILL OF MATERIALS

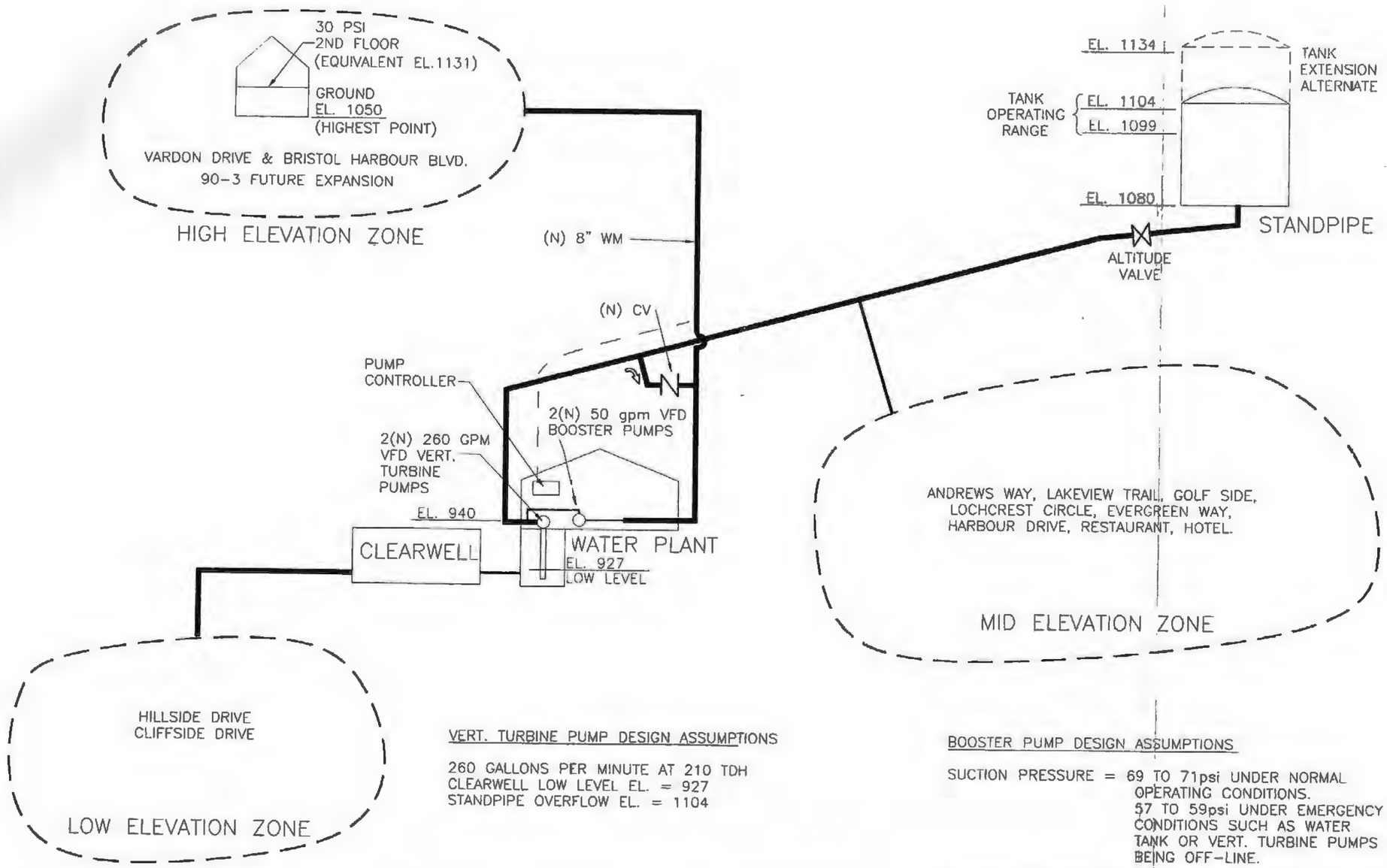
ITEM	PART NAME	CODE	MATERIAL	ASTM#
Head Assembly				
608	Headshaft	2227	SST 416	A582 S41600
600	Head - Discharge	1018	Ductile Iron 65-45-12	A536
604	Nut - Adjusting	2242	Carbon Steel 1018	A108
616	Box - Stuffing	1003	Cast Iron CL 30	A48 CLASS 30B
617	Bearing - Seal Housing	1618	Bismuth Bronze	B584 Modified
618	Gland - Split	1203	SST 316	A744M
620	Packing	5026	Graphite Packing	ML402-99
621	O-Ring	5302	Nitrile Buna N	D4322
622	Slinger	5121	Rubber EPDM	D3568
649	Coupling - Headshaft	2265	SST 416	A582M
730	Key - Motor Gib	2242	Carbon Steel 1018	A108
757	Screw - Gland Adj	2229	SST 316	A276
760	Capscrew - Hex	2298	Steel Bolting GR 8	J429
Column Assembly				
642	Pipe - Column	6501	Black Pipe Sch 40	A53
645	Column - Coupling	6501	Black Pipe Sch 40	A53
646	Lineshaft	2227	SST 416	A582 S41600
649	Coupling - Lineshaft	2265	SST 416	A582M
652	Retainer - Bearing	1205	SST 304	A744M
656	Bearing - Lineshaft	5121	Rubber EPDM	D3568
Bowl Assembly				
660	Bowlshaft	2227	SST 416	A582 S41600
661	Bowl - Discharge	1003	Cast Iron CL 30	A48 CLASS 30B
664	Bearing - Discharge Bowl	1618	Bismuth Bronze	B584 Modified
670	Bowl - Intermediate	6911	Cast Iron CL 30 Enamel	A48
672	Bearing - Intermediate Bowl	1618	Bismuth Bronze	B584 Modified
673	Impeller	1203	SST 316	A744M
677	Taperlock - Impeller	2242	Carbon Steel 1018	A108
688	Suction	1003	Cast Iron CL 30	A48 CLASS 30B
690	Bearing - Suction	1618	Bismuth Bronze	B584 Modified
692	Sandcollar	1205	SST 304	A744M
747	Plug - Pipe	1046	Malleable Iron	A197
760	Capscrew - Hex	2298	Steel Bolting GR 8	J429

DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED

Certified By		
Project	Bristol Harbor - Bob Elliott	
Tag		
PO Number		
Serial Number		

Appendix C:

Pump Room and Distribution Figures



VERT. TURBINE PUMP DESIGN ASSUMPTIONS

260 GALLONS PER MINUTE AT 210 TDH
CLEARWELL LOW LEVEL EL. = 927
STANDPIPE OVERFLOW EL. = 1104

BOOSTER PUMP DESIGN ASSUMPTIONS

SUCTION PRESSURE = 69 TO 71psi UNDER NORMAL OPERATING CONDITIONS.
57 TO 59psi UNDER EMERGENCY CONDITIONS SUCH AS WATER TANK OR VERT. TURBINE PUMPS BEING OFF-LINE.

DISCHARGE PRESSURE = 90psi VARIABLE FREQUENCY DRIVE

NEW YORK STATE
DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH PROTECTION
By Direction of the State Commissioner of Health These Plans are Hereby Approved. See First Sheet for Date and Signature

SITE LOCATION MAP
N.T.S

DATE	REVISIONS	BY

DRAWING ALTERATION

WARNING: It is a violation of the New York State Education Law, Article 145, Section 7209, Special Provision 2, for any person unless he is acting under the direction of a Licensed Professional Engineer or Land Surveyor to alter an item in any way. If an item bearing the seal of an engineer or land surveyor is altered, the altering engineer or land surveyor shall affix to the item his seal and notation "altered by" followed by his signature and date of such alteration, and a specific description of the alteration.

LICENSED PROFESSIONAL ENGINEER
ROBERT JAMES ELLIOTT
No. 61038
STATE OF NEW YORK

ROBERT J. ELLIOT P.E.
1/11/2024
DATE

elliott engineering solutions

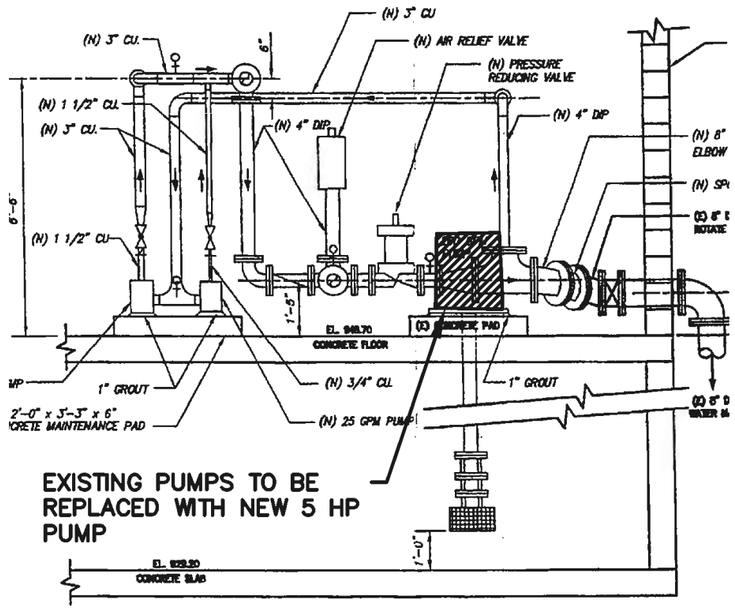
ELLIOTT ENGINEERING SOLUTIONS
540 Packetts Landing
Fairport, NY 14450
(585) 377-0600
(585) 377-0601 (Fax)
www.elliottengineers.com

PROJECT:
WATER STORAGE DISTRIBUTION SYSTEM

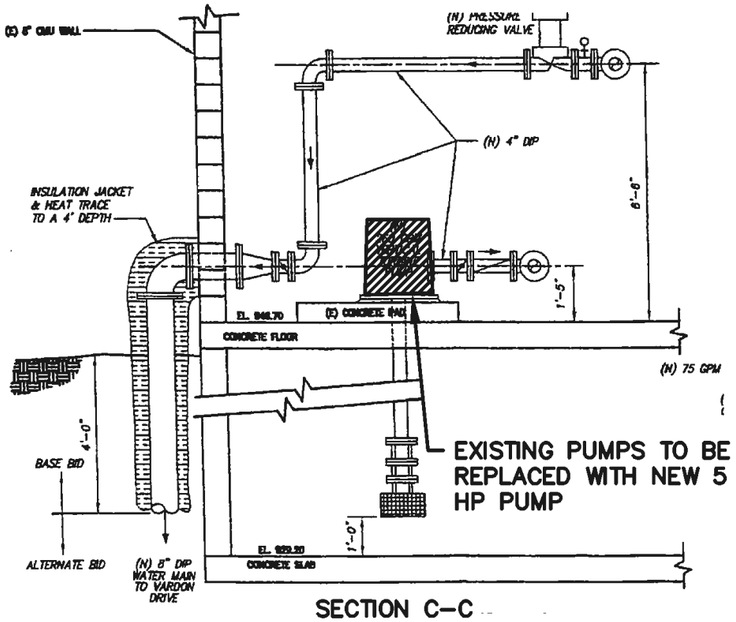
CLIENT:
BRISTOL HARBOR WATER CORPORATION
7939 RAE BLVD
VICTOR, NY 14564

DRAWING TITLE:
EXISTING PUMPING SYSTEM

DESIGNED BY: RJE	SCALE: 1" = 30'
DRAWN BY: TPD	DATE: JAN 2024
CHECKED BY: RJE	PROJECT No. 10801
SHEET 1 OF 2	DRAWING No. 1



PUMP ROOM SECTION C–C

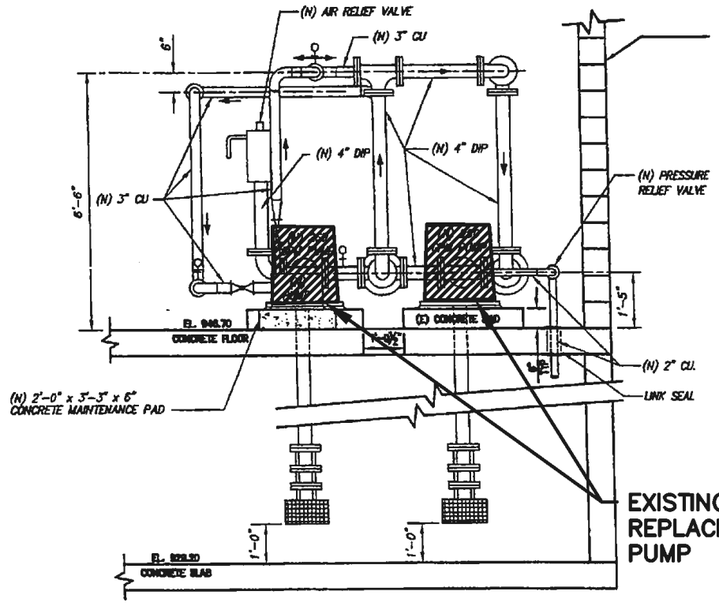


SECTION C–C

NEW YORK STATE DEPARTMENT OF HEALTH

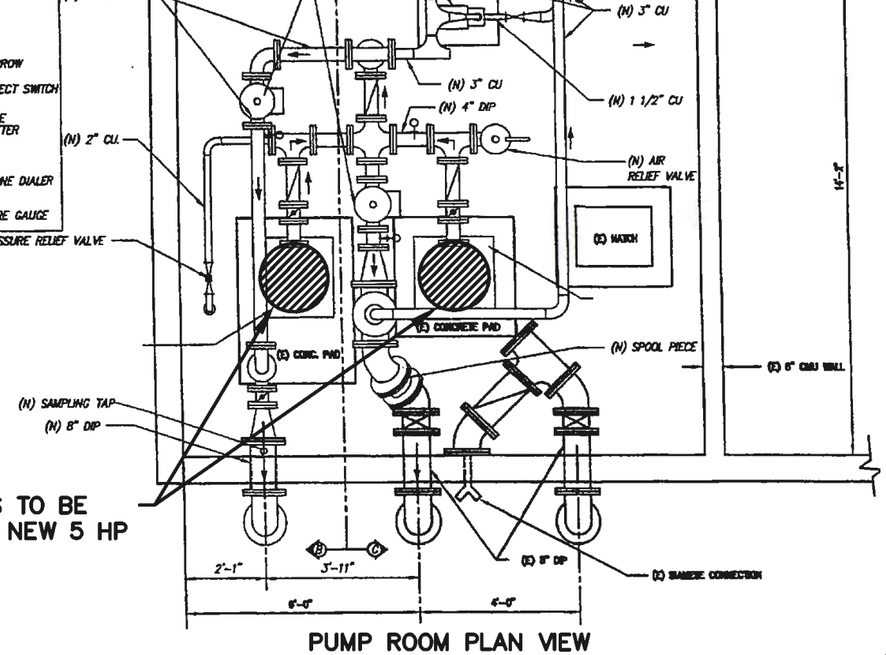
DIVISION OF ENVIRONMENTAL HEALTH PROTECTION

By Direction of the State Commissioner of Health These Plans are Hereby Approved. See First Sheet for Date and Signature



PUMP ROOM SECTION A–A

PRESSURE RELIEF VALVE
BALL VALVE
BUTTERFLY VALVE
CHECK VALVE
REDUCER
FLANGE
(E) EXISTING
(N) NEW
FLOW ARROW
DISCONNECT SWITCH
PT PRESSURE TRANSMITTER
MOTOR
TD TELEPHONE DIALER
PRESSURE GAUGE



PUMP ROOM PLAN VIEW

SITE LOCATION MAP
N.T.S

DATE	REVISIONS	BY

DRAWING ALTERATION

WARNING: It is a violation of the New York State Education Law, Article 145, Section 7209, Special Provision 2, for any person unless he is acting under the direction of a Licensed Professional Engineer or Land Surveyor to alter an item in any way. If an item bearing the seal of an engineer or land surveyor is altered, the altering engineer or land surveyor shall affix to the item his seal and notation "altered by" followed by his signature and date of such alteration, and a specific description of the alteration.

LICENSED PROFESSIONAL ENGINEER
ROBERT JAMES ELLIOTT
No. 61038
STATE OF NEW YORK

BY: ROBERT J. ELLIOT P.E.
DATE: 1/11/2024

elliott engineering solutions

ELLIOTT ENGINEERING SOLUTIONS
540 Packetts Landing
Fairport, NY 14450
(585) 377-0600
(585) 377-0601 (Fax)
www.elliottengineers.com

PROJECT:

WATER STORAGE DISTRIBUTION SYSTEM

CLIENT:

BRISTOL HARBOR WATER CORPORATION
7939 RAE BLVD
VICTOR, NY 14654

DRAWING TITLE:

PUMPING SYSTEM UPGRADES

DESIGNED BY: RJE	SCALE: NTS
DRAWN BY: TPD	DATE: JAN 2024
CHECKED BY: RJE	PROJECT No. 10801
SHEET 2 OF 2	DRAWING No. 2

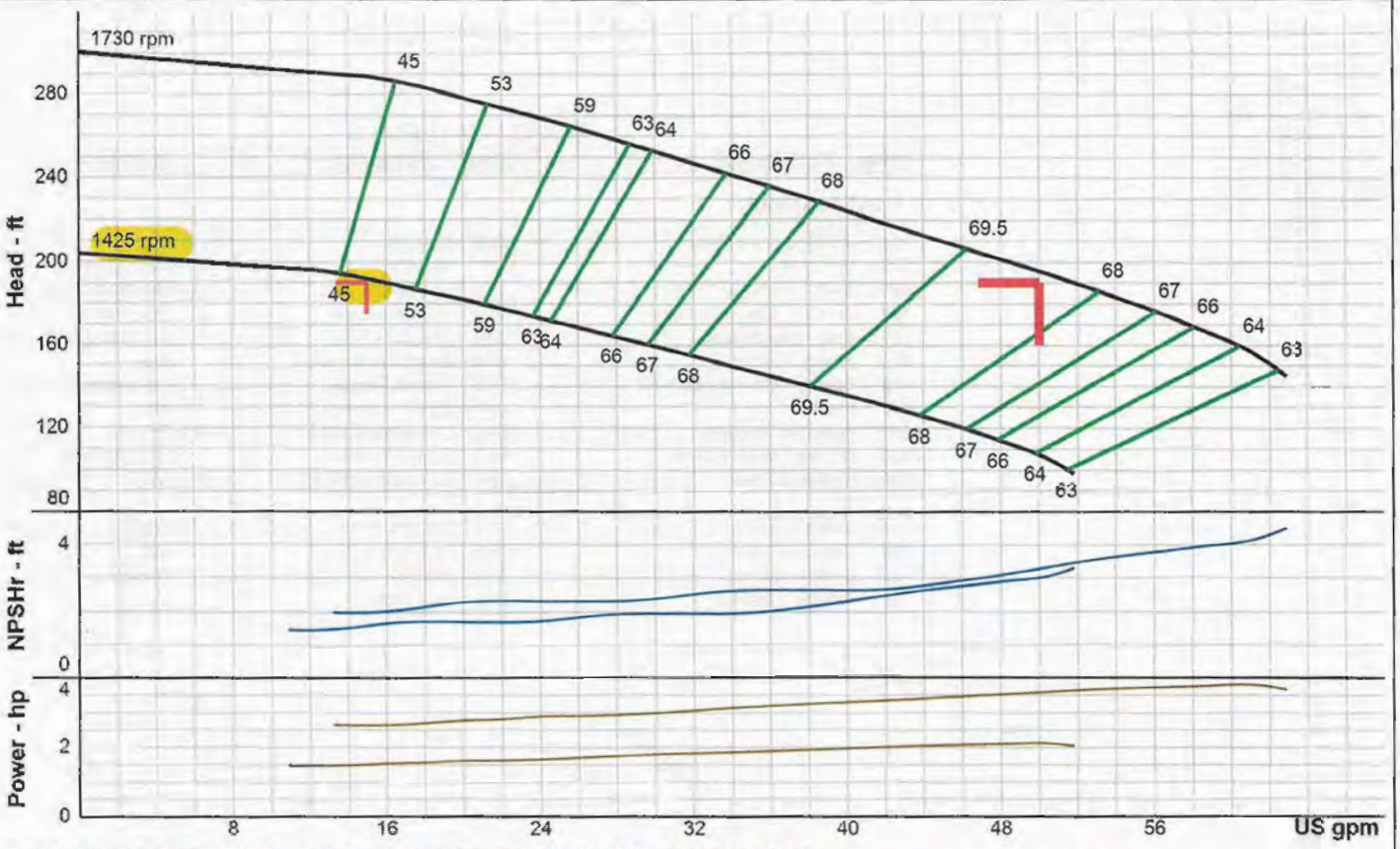
Appendix D:

Proposed Pump System Cutsheets with Curves

GOULDS WATER TECHNOLOGY
a xylem brand

PERFORMANCE CURVE

Quote ID: 3301-230823-006:0:1 QTY: 1
VIS-BATM 7RALC, 12 Stages



Curve & hydraulic data presented is nominal performance based on ANSI/HI 14.6 acceptance grade 2B.
Design values are guaranteed within the following tolerances: Flow ± 8%, Head ± 5%, and optionally either Power + 8% or Efficiency - 5% at manufacturer's discretion.

Specified Flow	50.00 USgpm	**Shut Off TDH (Bowl)**	301.0 ft	**Max Power (NOL) Flow**	61.5 USgpm
Specified TDH	190.00 ft	**Shut Off TDH (Disch Flange)**	296.0 ft	**Recommended Power**	5.00 Hp
Rated Speed	1730 RPM	**Shut Off Pressure (Bowl)**	130.3 psi	**Driver Size Criteria**	NOL Power Across Design Curve
Atmospheric Pressure	14.70 psi	**Shut Off Pressure (Disch Flange)**	128.1 psi		
Pumping Level	5.00 ft	**Run Out Flow**	62.9 USgpm	**Allow Service Factor**	No
NPSHa at Grade	34.0 ft	**Run Out TDH (Bowl)**	145.0 ft	**kWh per 1000 gal**	0.00000
NPSHa at 1st Impeller	45.7 ft	**Run Out TDH (Disch Flange)**	140.0 ft	**NPSHr at Design**	3.3 ft
Fluid	Water	**Run Out Pressure (Bowl)**	62.8 psi	**NPSH Margin at Design**	42.3 ft
Fluid Temperature	68.0 °F	**Run Out Pressure (Disch Flange)**	60.6 psi	**Thrust K-Factor**	1.6 lbpft
Specific Gravity	1.0000	**Bowl Efficiency at Design**	68.80 %	**Thrust at Design**	432.9 lb
Viscosity	1.0017 cP	**Guaranteed Bowl Efficiency**	65.36 %	**Thrust at Shut Off**	640.6 lb
Vapor Pressure	0.3393 psi	**Best Efficiency**	69.50 %	**Thrust at Run Out**	337.5 lb
Density	62 lbs/ft³	**BEP Flow**	46.2 USgpm	**Bowl Material**	Cast Iron
Design Flow	50.0 USgpm	**Design Flow % BEP**	108.23 %	**Bowl Material Derate Factor**	1.00
Min Flow (MCSF)	11.6 USgpm	**Pump Efficiency**	67.90 %	**Impeller Material**	Bronze
Design TDH (Bowl)	196.0 ft	**Friction Loss at Design**	0.02 ft	**Impeller Matl Derate Factor**	1.00
Design TDH (Disch Flange)	191.0 ft	**Power at Design**	3.6 Hp	**Total Flow Derate Factor**	1.00
Design Pressure (Bowl)	84.8 psi	**Guaranteed Power**	3.9 Hp	**Total Head Derate Factor**	1.00
Design Pressure (Disch Flange)	82.7 psi	**NOL Power**	3.8 Hp	**Total Efficiency Derate Factor**	1.00

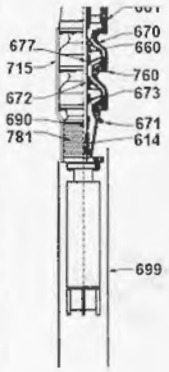
DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED

Certified By		
Project		
Tag		
PO Number		
Serial Number		

GOULDS WATER TECHNOLOGY
a xylem brand

CROSS SECTION DRAWING

Quote ID: 3301-230823-006:0:1 QTY: 1
VIS-BATM 7RALC, 12 Stages



BILL OF MATERIALS

ITEM	PART NAME	CODE	MATERIAL	ASTM#
Bowl Assembly				
614	Coupling - Sub Motor	2218	SST 416	A582M
660	Bowlshaft	2227	SST 416	A582 S41600
661	Bowl - Discharge	1003	Cast Iron CL 30	A48 CLASS 30B
664	Bearing - Discharge Bowl	1618	Bismuth Bronze	B584 Modified
670	Bowl - Intermediate	1003	Cast Iron CL 30	A48 CLASS 30B
671	Adapter - Motor	1018	Ductile Iron 65-45-12	A536
672	Bearing - Intermediate Bowl	1618	Bismuth Bronze	B584 Modified
673	Impeller	1398	Silicon Bronze C87610	B584
677	Taperlock - Impeller	2242	Carbon Steel 1018	A108
690	Bearing - Motor Adapter	1618	Bismuth Bronze	B584 Modified
760	Capscrew - Hex	2298	Steel Bolting GR 8	J429
715	Guard - Cable	3215	SST 304	A240M
758	Capscrew - Motor	2298	Steel Bolting Gr 8	J429
781	Screen - Suction	3215	SST 304	A240M
789	Washer - Upthrust	6266	Tivar 1000	None

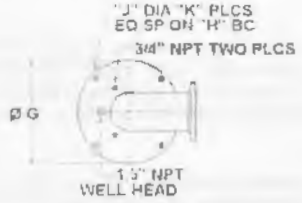
DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED

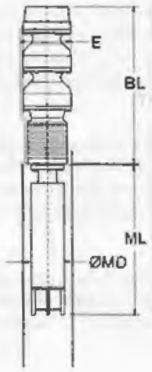
Certified By	
Project	
Tag	
PO Number	
Serial Number	

GOULDS WATER TECHNOLOGY
a xylem brand

OUTLINE DRAWING

Quote ID: 3301-230823-006:0:1 QTY: 1
VIS-BATM 7RALC, 12 Stages





DIMENSIONS

E	7.90 in
BL [Bowl Assembly Length]	66.07 in
ML [Motor Length]	29.92 in
MD [Motor Diameter]	6.00 in

PUMP DATA

Column Diameter	4 in [102 mm]
Specified Flow	50.00 USgpm
Specified TDH	190.00 ft
Pumping Level	5.00 ft
Motor Manufacturer	CentriPro
Driver Type	Submersible
Selected Motor Power	7.50 Hp
Motor Speed	1730 RPM
Phase / Frequency	1 PH / 60 Hz
Voltage	230 V

WEIGHTS

Total Bowl Weight	413 lbs
Motor Weight	128 lbs
Total Weight	541 lbs

NOTES

1	Total Pump Length ± 1.0 inch.
2	Tolerance on all dimensions is .12 or ± .12 inch per 5 ft, whichever is greater.
3	All dimensions shown are in inches unless otherwise specified.
4	Drawing not to scale.
5	½" NPT – Gauge Conn (plugged)
6	Driver may be rotated at 90° intervals about vertical centerline for details refer to driver dimension drawing.
7	Refer to product IOM for impeller setting requirements.
8	This assembly has been designed so that its natural frequency responses avoid the specific operating speeds by an adequate safety margin. The design has assumed the foundation to be rigid.

DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED

Certified By	
Project	
Tag	
PO Number	
Serial Number	

standard terms and conditions of sale – Xylem Americas attached hereafter.

For units requiring a factory performance test, all performance tests will be conducted per ANSI/HI 14.6 standards unless otherwise noted. As a standard, test results for the primary design point meeting grade 2B tolerances for pumps with a rated shaft power of 134 hp or less and grade 1B for greater than 134 hp will be considered passing. If secondary or tertiary design points are required to be tested, these will be subject to grade 3B tolerances. For testing of more than 3 points, consult the factory. Other acceptance grades are available and must be clearly noted and mutually agreed upon between the Customer and Xylem before release to manufacture.

Holding shipment for testing approval allows 2 weeks of production lead time for the approval process, after which Xylem reserves the right to ship passing pumps without explicit approval. For approval processes exceeding 2 weeks, please consider that additional lead time and coordinate expectations with the factory. For faster shipment, select "No" to the hold shipment for testing approval option.

For units not requiring a factory performance test, product performance can be expected to meet 3B tolerances primarily due to the variability of field conditions. Field-measured performance may vary from factory-measured performance or published data as a result of unknown or unpredictable system conditions and measurement variability. If field performance testing is required after installation, factory performance testing before shipment is strongly recommended. Field performance test results do not constitute a warranty claim unless verified by Xylem.

The information provided in this submittal is published data nominally representative of the selected pump model's performance characteristics. If factory performance testing is included, actual as-tested performance curves for each tested pump will be provided after testing is complete. Impeller trim diameter is subject to change to meet intended design conditions.

Customer is responsible for verifying that the recommendations made and the materials selected are satisfactory for the Customer's intended environment and Customer's use of the selected pump. Customer is responsible for determining the suitability of Xylem recommendations for all operating conditions within Customer's and/or End User's control. Xylem disclaims all warranties, express or implied warranties, including, but not limited to, warranties of merchantability and fitness for a particular purpose, and all express warranties other than the limited express warranty set forth in the attached standard terms and conditions of sale – Xylem Americas attached hereafter.

Xylem does not guarantee any pump intake configuration. The hydraulic and structural adequacies of these structures are the sole responsibility of the Customer or his representatives. Further, Xylem accepts no liability arising out of unsatisfactory pump intake field operating conditions. The Customer or his representatives are referred to the Hydraulic Institute Standards for recommendations on pump intake design. To optimize the hydraulic design of a field pump intake configuration, the Customer should strongly consider performing a detailed scale model pump intake study. However, the adequacies of these recommendations are the sole responsibility of the Customer.

Xylem's standard enamel paint offering is a coating applied at no extra charge and is intended to provide a limited cosmetic improvement over the bare metal product. The coating will not prevent rust, corrosion, or fading. Fading, flaking, chipping, or bleeding rust can be expected within 3 months of exposure to weather or other elements. For applications where visual aesthetics or corrosion resistance is important, please consider one of our protective coating options.

DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED	
Certified By	
Project	
Tag	
PO Number	
Serial Number	

GOULDS WATER TECHNOLOGY
a xylem brand

SUBMITTAL

Quote ID: 3301-230823-006:0:1 QTY: 1
VIS-BATM 7RALC, 12 Stages

PERFORMANCE ON DESIGN CURVE AT 1730 RPM

	Shut Off	Design [2]	Run Out [5]
Flow (USGPM)	0.0	50.0	62.9
TDH-Bowl (ft)	301.0	196.0	145.0
TDH-Disch Flange (ft)	296.0	191.0	140.0
Bowl Efficiency (%)	-	68.80	62.90
Guaranteed Bowl Efficiency (%)	-	65.36	-
Power (Hp)	2.4	3.6	3.7
Guaranteed Power (Hp)	-	3.9	-
NPSHr (ft) [1]	-	3.3	4.5
NPSH Margin (ft) [1]	-	42.3	41.2
Hydraulic Thrust(lb)	484.0	312.0	234.0
Thrust (lb)	640.6	432.9	337.5
Pressure-Bowl (psi)	130.3	84.8	62.8
Pressure-Disch Flange (psi)	128.1	82.7	60.6
Min Submergence (Inch) [3]	-	0.00	0.00
Friction Loss (ft) [4]	-	0.02	0.03
Lineshaft Elongation (Inch)	0.00000	0.00000	-
Column Elongation (Inch)	0.00000	0.00000	-
Lateral (Inch)	0.06000	0.06000	-

Best Efficiency	69.50 % at 46.2 USgpm
Design Flow % BEP	108.23 %
Pump Efficiency	67.90 %
Overall Efficiency	0.00 %
NOL Power	3.8 Hp at 61.5 USgpm
Specified NPSH Ratio	1.1
Thrust Load Power Loss	0.04752 Hp
Total Flow Derate Factor	1.00
Total Head Derate Factor	1.00
Total Efficiency Derate Factor	1.00
Actual Submergence	0.00 in
Shaft Friction Power Loss	0.00 Hp
Min Flow (MCSF)	11.6 USgpm
kWh per 1000 gal	0.00000
Impeller Running Clearance	0.06 in

[1] at 1st impeller eye [2] rated values [3] from pump suction inlet [4] from bowl to disch flange [5] per published data

OPERATING CONDITIONS

Specified Flow	50.00 USgpm
Specified TDH	190.00 ft
Rated Speed	1730 RPM
Atmospheric Pressure	14.70 psi
TPL	8.50 ft
Pumping Level	5.00 ft
NPSHa at 1st Impeller	45.7 ft
NPSHa at Grade	34.0 ft
Well Diameter	Over 20 in [508 mm] Casing
Operational Design	Constant Speed

FLUID CHARACTERISTICS

Fluid	Water
Fluid Temperature	68.0 °F
Specific Gravity	1.0000
Viscosity	1.0017 cP
Vapor Pressure	0.3393 psi
Density	62 lbs/ft³

MATERIALS & DIMENSIONS

Bowl Data

Bowl Material	Cast Iron
Impeller Material	Bronze
Bowlshaft Material	416SS
Impeller Attachment	Taper Lock
Taperlock Material	Carbon Steel
Discharge Bowl Material	Cast Iron
Suction Type	Subadapter
Bowl Bolting Material	Carbon Steel
Motor Adapter	6 in [152.4 mm]
Motor Adapter Bearing	Bronze
Motor Adapter Material	Ductile Iron
Coupling Material	416SS

Bowl Data

Discharge Bowl Bearing	Bronze
Intermediate Bowl Bearing	Bronze
Impeller Trim	4.69 in
Bowl Pressure Limit	410 psi
Model Max Sphere Size	0.22 in
Available Lateral	0.25 in
Bowl Shaft Diameter	1 in [25.4 mm]
Impeller Balance	Manufacturer's Standard
Bowl Shaft Power Limit	68.75 Hp
Bowl Assembly Provided By	Xylem

Bowl Specials

Column Data

DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED

Certified By	
Project	
Tag	
PO Number	
Serial Number	

GOULDS WATER TECHNOLOGY
a xylem brand

SUBMITTAL

Quote ID: 3301-230823-006:0:1 QTY: 1
VIS-BATM 7RALC, 12 Stages

Column Data

Column Type	Threaded
Column Diameter	4 in [102 mm]
Column Assembly Provided By	Customer

Motor Data

Driver Type	Submersible
Manufacturer	CentriPro
HP Rating	7.5 Hp
Speed [Poles]	1800 rpm [4 pole]
Voltage	230 V
Phase / Frequency	1 PH / 60 Hz
Efficiency / Config	Standard
Motor Adapter	6 in [152.4 mm]
Motor Flange	6 in

Motor Data

Motor Size	6 in
Motor Construction	STD
Motor Shroud	Included
Motor Part Number	6M071
Motor Provided By	Xylem
Motor Mounted By	Customer

Motor Specials

Coating Data

Bowl OD	Goulds Water Technology Blue

Coating Data

	Enamel

Testing Data

Accessories

Engineering Services

Engineering Services Notes

Miscellaneous Specials

Assembly and Crating

Assembly	Fully Assembled

Assembly and Crating Notes

In general, pumps are crated and shipped fully assembled* via standard freight methods (LTL/LCL) if overall crated length is 25 ft or less and weight is 2500 lbs or less. Up to 45 ft and 4000 lbs can still be fully assembled but will ship via dedicated freight methods (FTL/FCL/flatbed/air/special). Otherwise, each sub-assembly (bowl, column, and head) is crated separately ("column loose"). *Motors, suction cans, mechanical seals, spare parts, and other special items are crated separately. Coordinate specific expectations with the factory at time of order.

Weight Data

Total Bowl Weight	413 lbs
Motor Weight	128 lbs

Weight Data

Total Weight	541 lbs

Comments

INFO, WARNING & ERROR MESSAGES

Crating	Incomplete	Crating is a required field

Our offer does not include specific review and incorporation of any Statutory or Regulatory Requirements, and the offer is limited to the requirements of the design specifications. Should any Statutory or Regulatory requirements need to be reviewed and incorporated, then the Customer is responsible to identify those and provide copies for review and revision of our offer.

Our quotation is offered in accordance with our comments and exceptions identified in our proposal and governed by our

DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED

Certified By	
Project	
Tag	
PO Number	
Serial Number	

elliott engineering solutions

Job Name: Bristol Harbour H2O Distribution
Description: System Hydraulics
Sheet No: 1 of: ____ Date: 11/5/23
Calculated By: RJE Checked By: ____

MID RANGE TANK OVERFLOW ELEVATION 1104
CLEARWELL WATER LEVEL ELEVATION (MIN) 927

MAX STATIC HEAD 177 ft.

SYSTEM DISCHARGE PIPING TO TANK
- 8" ≈ @500 ELP. IN FEET

EXISTING PUMPS REACH 300 gpm (when first turned on)
WHICH EQUATES TO 200 FT OF HEAD ON THE PUMP CURVE

8" ϕ PIPE @ 300 gpm STD. WEIGHT STEEL H_{L_F} = 0.325'/100'
@ 100 gpm " " " = 0.036/100'

-6500 LF @ 0.036 ft/100' Head Loss for friction = 2.34 ft
& 2.34 + 177 ≈ 180 ft.

540 Packetts Landing, Fairport, NY 14450
P: (585) 377-0600 • www.elliottengineers.com • F: (585) 377-0601

xylem
Let's Solve Water

TECHNICAL BROCHURE
BCPAQIPC R7

AQUAVAR IPC

Variable Speed Controller

CentriPro
a xylem brand

Aquavar IPC

The Aquavar IPC variable speed controller brings the latest in pump drive technology and programming. The drive and interface are designed to give you advanced capabilities that help you effectively and efficiently operate your system.

Optimized for Pumps

- Wide range of standard and permanent magnet motors with power up to 90 kw / 450 hp
- Developed by pump experts and optimized for controlling pumps
- Submersible and above ground applications

Quick set up and ease of use

- Easier start-up and programming with Start-Up Genie
- Two wire multi-pump connection for faster installation
- Hand on, Off, and Auto-On buttons available for easy pump operation at the keypad. No toggling between local and remote operation

Helping to Improve Your Performance

- Multi-pump configuration for up to four (4) pumps - no need for PLC
- System redundancy with multi-master control in case of drive failure

Standard for every drive

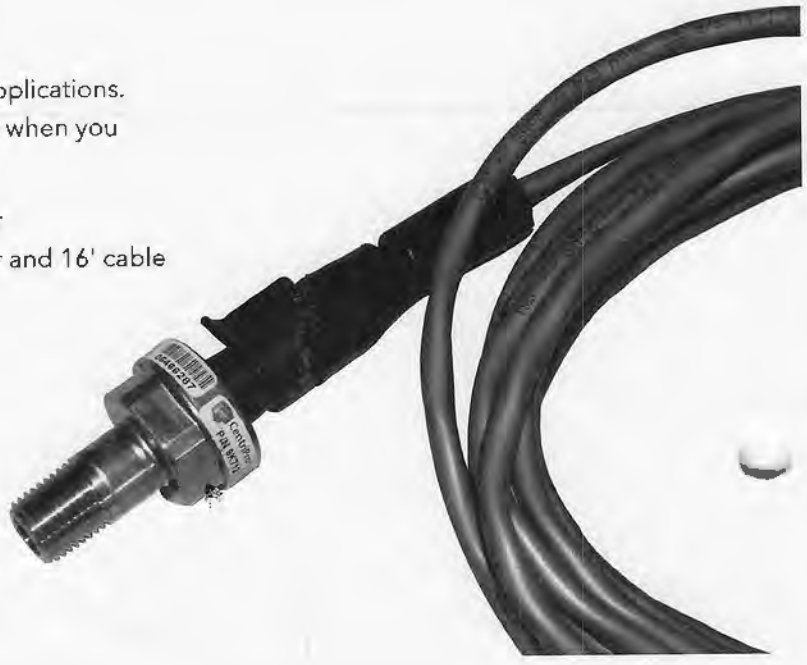
- Wide range of voltage and enclosure options
- True 208V coverage
- Dedicated single phase input
- Remote commissioning and monitoring with USB Connectivity and software
- In-panel or handheld keypad with backlit display
- Alarm Log for last 5 alarms and maintenance events
- EMC/RFI filters and Dual DC-link reactors to reduce drive noise emissions and interference I/O expansion cards, factory installed or field configured

TRANSDUCER

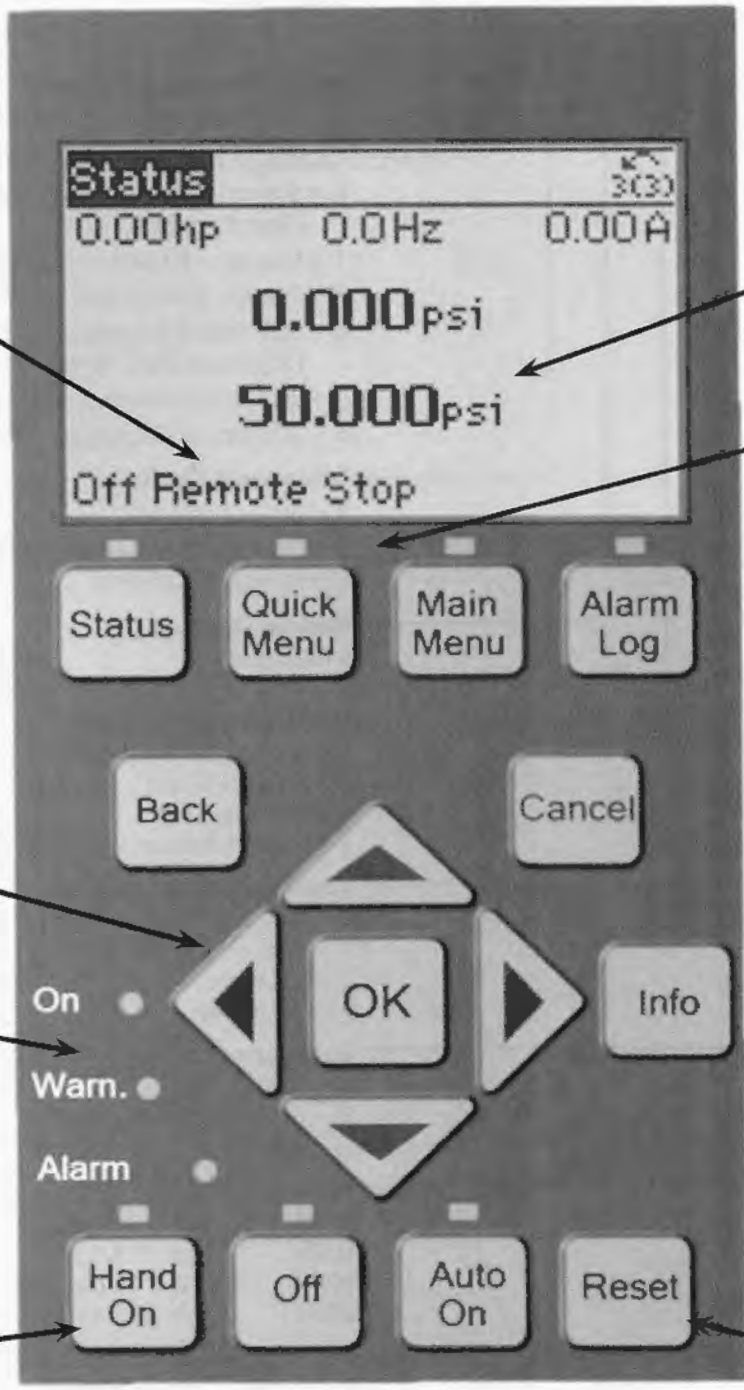
Includes: 4-20mA, 300psi transducer and 16' cable

Used for: Pressure transducer for constant pressure applications. Transducer will be delivered with your drive when you use the "1" Transducer character.

NOTE: 9K712 - Repair part number for the transducer
9K755 - Repair part number for the transducer and 16' cable



KEYPAD LAYOUT



Real Time Drive Status

Actual System Pressure and Setpoint Pressure Display

Quick access to Start-Up Genie, Personal Menu and drive parameters

4-way directional buttons for scrolling parameters

Info button provides on-board descriptions of parameters

LEDs for On, Warning and Alarm

Easily accessible Hand/Off/Auto Buttons

Alarm Reset

NOMENCLATURE

Example Product Code

AV A 2 0015 D 0 F 0 D 0 X 1

Transducer
1 = Transducer 2 = No Transducer

Motor Mounting Options*
X = No Accessories M = Motor Mount Hardware

Coating / EMC Filter Options**
0 = Standard Protection w/ H2 EMC Filter (Standard EMC Filter)
1 = Standard Protection w/ H3 EMC Filter
2 = Standard Protection w/ H1 EMC Filter
3 = 3C3 Board Coating w/ H2 EMC Filter (Standard EMC Filter)
4 = 3C3 Board Coating w/ H3 EMC Filter
5 = 3C3 Board Coating w/ H1 EMC Filter

Disconnect Options
X = No Accessories
S = Standard Disconnect (Single Phase Only)
D = Fused Disconnect

Backup Options
0 = No Backup 4 = 24VDC Backup (Requires External Power)

Input/Output Options
X = No Additional I/O C = PTC Thermistor Card
A = Analog I/O and Real-time Clock D = PT100 Sensor Input
B = General Purpose I/O E = Relay Card
F = Co-Processor

Communications Options
0 = Standard Communication 4 = LonWorks
1 = Modbus TCP 5 = Profinet
2 = Profibus 6 = Ethernet IP
3 = DeviceNet 7 = Co-Processor

Enclosure
A = TYPE 1 (IP21) D = TYPE 4X (IP66)
B = TYPE 12 (IP55) E = IP20 (Chassis)
C = TYPE 3R

Nominal HP

0015	0075	02S0	0600
0020	0100	0300	0750
0030	0150	0400	1000
0050	0200	0500	1250

Phase/Voltage
1 = 1/230 3 = 1/460*** S = 3/575
2 = 3/230 4 = 3/380-460

Type - A= Advanced B=Basic Drive

Model - AV

* Motor mounted units are not available in the initial launch. Product news will be issued when this configuration is available.
** 575V and single phase 10, 20, and 30HP are not avaialble with EMC filter. These are sold without filter as standard.
*** Single phase 460V are not available.

NOMENCLATURE

Example Product Code

AV A 2 2500 A 0 F 0 D 3 X 1

Transducer
1=Transducer 2=No Transducer

Motor Mounting Options
X = No Accessories

Coating Options
3 = 3C3 Board Coating with H2 EMC Filter (Standard RFI Filter)
4 = 3C3 Board Coating with H3 EMC Filter
5 = 3C3 Board Coating with H1 EMC Filter

Disconnect Options
X = No Disconnect (Open Chassis and NEMA 3R Only)
D = Fused Disconnect (NEMA 1 and NEMA 12 Only)

Backup Options
0 = No Backup
4 = 24VDC Backup (Requires External Power)

Input/Output Options
X = No Additional I/O
A = Analog I/O and Real-time Clock
B = General Purpose I/O
C = PTC Thermistor Card
D = PT100 Sensor Input
E = Relay Card
F = Co-Processor

Communications Options
0 = Standard Communication
1 = Modbus TCP
2 = Profibus
3 = DeviceNet
4 = LonWorks
5 = Profinet
6 = Ethernet IP
7 = Co-Processor

Enclosure
A = NEMA 1 (IP21)
B = NEMA 12 (IP55)
C = NEMA 3R (IP54 drive - Separate 3R Cover Required)
E = IP20 / IP00 (Chassis)

Nominal HP

1500	2500	3500	4500	5500**
2000	3000	4000*	5000	6000

Phase/Voltage
4 = 3/460 5 = 3/575

Type - A= Advanced B=Basic Drive

Model - AV

* Available on 575V only.
** Available on 460V only.

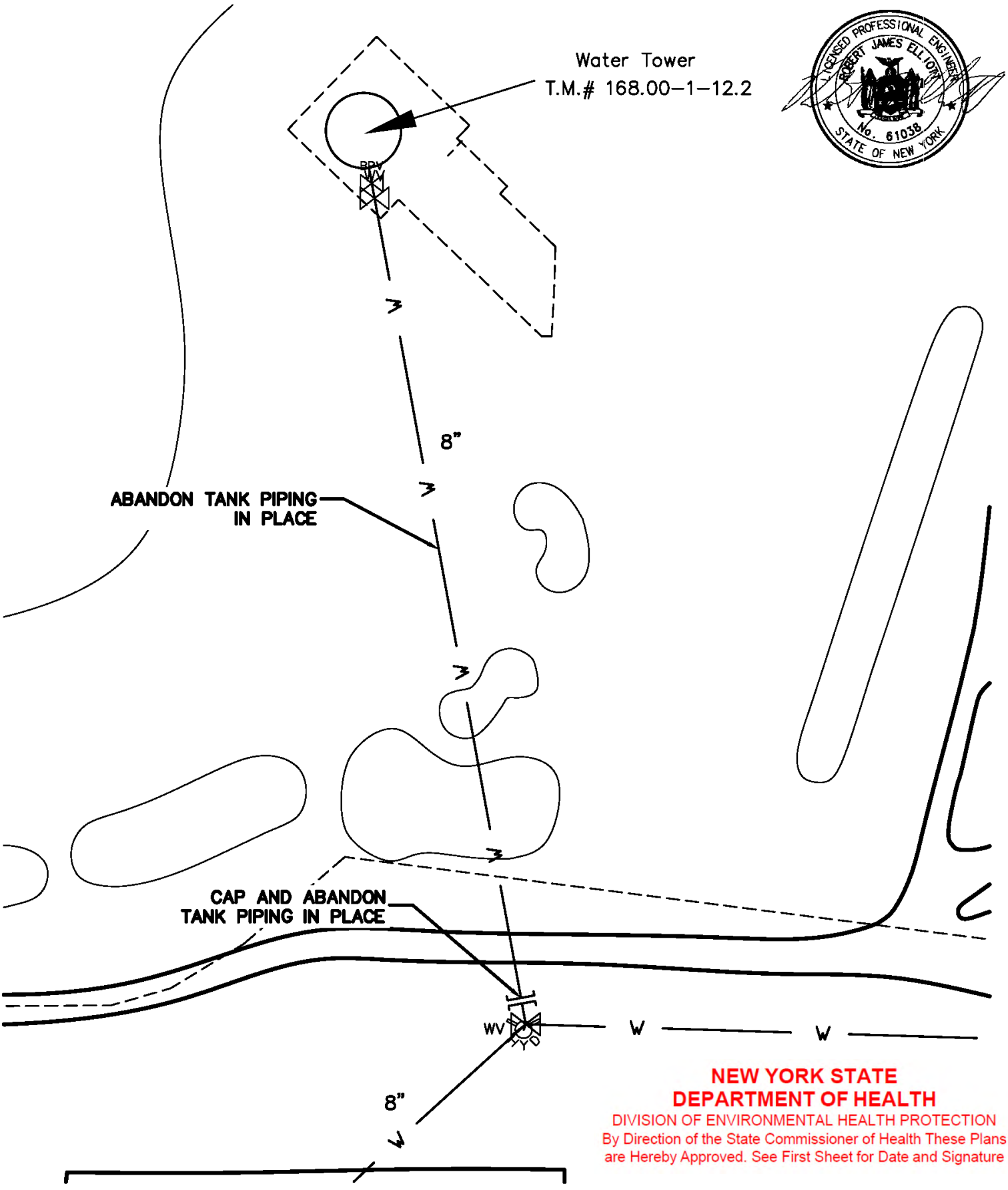
PRODUCT CHART - IP20 CHASSIS

Input Voltage	Input Phase	IP20 Chassis Base Model	Continuous Output Amps @ 45°C Ambient	Continuous Output Amps @ 50°C Ambient	Nominal Surface Motor HP*	Nominal Sub. Motor HP* 4" / 6" & Up	Frame Size
208-230	3	AVA20015E0F0X0X2	6.6	5.9	1.5	1.5	A2
		AVA20020E0F0X0X2	7.5	6.8	2	2	
		AVA20030E0F0X0X2	10.6	9.5	3	3	
		AVA20050E0F0X0X2	16.7	15.0	5		A3
		AVA20075E0F0X0X2	24.2	21.8	7.5	5	B3
		AVA20100E0F0X0X2	30.8	27.7	10	7.5	
		AVA20150E0F0X0X2	46.2	41.6	15	10 / 15	
		AVA20200E0F0X0X2	59.4	53.5	20	15	B4
		AVA20250E0F0X0X2	74.8	67.3	25	20	
		AVA20300E0F0X0X2	88	79.2	30	25	C3
		AVA20400E0F0X0X2	115	103.5	40	30	
		AVA20500E0F0X0X2	143	128.7	50		C4
		AVA20600E0F0X0X2	170	153.0	60		
380-460	3	AVA40015E0F0X0X2	2.7	2.4	1.5	1	A2
		AVA40020E0F0X0X2	3.4	3.1	2	1.5	
		AVA40030E0F0X0X2	4.8	4.3	3	2	
		AVA40050E0F0X0X2	8.2	7.4	5	3	
		AVA40075E0F0X0X2	11	9.9	7.5	5	A3
		AVA40100E0F0X0X2	14.5	13.1	10	7.5	
		AVA40150E0F0X0X2	21	18.9	15	10	B3
		AVA40200E0F0X0X2	27	24.3	20	15	
		AVA40250E0F0X0X2	34	30.6	25	20	
		AVA40300E0F0X0X2	40	36.0	30	25	B4
		AVA40400E0F0X0X2	52	46.8	40	30	
		AVA40500E0F0X0X2	65	58.5	50	40	
		AVA40600E0F0X0X2	80	72.0	60	50	C3
		AVA40750E0F0X0X2	105	94.5	75	60	
		AVA41000E0F0X0X2	130	117.0	100	75	C4
		AVA41250E0F0X0X2	160	144.0	125	100	
575	3	AVA50015E0F0X0X2	2.4	2.2	1.5	1.5	A3
		AVA50020E0F0X0X2	2.7	2.4	2		
		AVA50030E0F0X0X2	3.9	3.5	3	2	
		AVA50050E0F0X0X2	6.1	5.5	5	3	
		AVA50075E0F0X0X2	9	8.1	7.5	5	
		AVA50100E0F0X0X2	11	9.9	10	7.5	
		AVA50150E0F0X0X2	18	16.2	15		B3
		AVA50200E0F0X0X2	22	19.8	20		
		AVA50250E0F0X0X2	27	24.3	25		
		AVA50300E0F0X0X2	34	30.6	30		B4
		AVA50400E0F0X0X2	41	36.9	40		
		AVA50500E0F0X0X2	52	46.8	50		
		AVA50600E0F0X0X2	62	55.8	60		C3
		AVA50750E0F0X0X2	83	74.7	75		
		AVA51000E0F0X0X2	100	90.0	100		C4
		AVA51250E0F0X0X2	131	117.9	125		

* Nominal HP values are for reference only. Size Aquavar by maximum output amps of the motor.

Appendix E:

Tank Watermain Abandonment Plan



LICENSED PROFESSIONAL ENGINEER
ROBERT JAMES ELLIOTT
No. 61038
STATE OF NEW YORK

NEW YORK STATE
DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH PROTECTION
By Direction of the State Commissioner of Health These Plans are Hereby Approved. See First Sheet for Date and Signature

elliott engineering solutions
540 PACKETTS LANDING
FAIRPORT, NY 14450
(585) 377-2151

BRISTOL HARBOR WATER CORPORATION

WATER STORAGE DISTRIBUTION SYSTEM UPGRADE

TANK PIPING CAPPING PLAN

Appendix B

Contractor Quotes

DESCRIPTION OF Lump Sum BID ITEMS

Following is a Description of Bid Items.

Any work not specifically included in the Description of the Bid Item, but necessary for completing the Work shall be included.

CONTRACT G-1

Description of Lump Sum Item

THE WORK CONSISTS OF FURNISHING, INSTALLING AND START-UP OF FOUR NEW PUMPS; TWO 7.5 HP PUMPS FOR THE HIGH ELEVATION PRESSURE ZONE, AND TWO 5 HP PUMPS FOR THE MID ELEVATION PRESSURE ZONE. THE WORK WILL INCLUDE ALL NECCESSARY PIPING, ELECTRICAL, AND ANCILLARY ITEMS (I.E. CONTROLLERS AND VALVES) TO INSTALL AND OPERATE THE PUMPS. ADDITIONALLY TWO NEW EQUALIZATION TANKS WILL ALSO BE FURNISHED AND INSTALLED. EQUIPMENT WILL BE SOURCED FROM GARTNER EQUIPMENT COMPANY, INC.

PROPOSAL

Submitted By: Blue Heron Construction Company LLC
(CONTRACTOR)

TO: Elliott Engineering Solutions
540 Packets Landing
Fairport, NY 14450

FOR: **BRISTOL WATER WORKS CORP WATER STORAGE DISTRIBUTION & SYSTEM UPGRADES**

Gentlemen:

The undersigned Bidder has carefully examined the form and content of the Contract, has examined the site of the work, and hereby proposes to furnish all necessary plant, labor, materials, equipment, and tools required to perform and complete the work in strict accordance with the Contract.

The undersigned Bidder agrees to submit to all conditions reported, intended, or implied, both particularly and generally by the Contract at the prices herein stated.

The undersigned Bidder also agrees as follows:

FIRST:

If this Proposal is accepted, to execute the Contract within ten (10) calendar days of date of "Notice of Award of Contract" and furnish to the OWNER satisfactory insurance certificates, performance and payment bonds, each in the sum of one-hundred percent (100%) of the amount of the Contract awarded as security for the faithful performance of the work, and for the payment of all persons performing labor and furnishing materials in connection with the work.

SECOND:

To begin work within five (5) calendar days of the date of the "Notice to Proceed" and to prosecute said work in such manner as to complete all work within two hundred forty (240) calendar days from the date of the "Notice to Proceed.".

THIRD:

RESERVED

FOURTH:

RESERVED

FIFTH:

RESERVED

SIXTH:

RESERVED

SEVENTH:

(a) The undersigned acknowledges the receipt of the following Addenda, but he agrees that he is bound by all Addenda whether or not listed herein:

ADDENDA - NUMBERS AND DATES

Number 1 – dated _____

Number 2 – dated _____

Number 3 – dated _____

Number 4 – dated _____

PROPOSAL SUBMITTED

(If an Individual, Partnership, or Non-Incorporated Organization)

Dated: 8/7/2024

Name of Bidder: Blue Heron Construction Company LLC

By: _____ Vice President
(Signature) (Title)

Address of Bidder: 9289 Bonta Bridge Rd
(Street)
Jordan, NY 13080
(City, State, Zip Code)

Name and Addresses of Members of the Firm
Charles Gregory - 1160 Lake Rd Webster, NY 14580

Bidder's Telephone Number: 315-689-6482

Bidder's Fax Number: _____

PROPOSAL SUBMITTED

(If a Corporation)

Dated: _____

Name of Bidder: _____

By: _____
(Signature) (Title)

Address of Bidder: _____
(Street)

_____
(City, State, Zip Code)

Incorporated Under the Laws of the State of _____

Name of President: _____
(Name) (Address)

Officer (Secretary): _____
(Name) (Address)

(Treasurer): _____
(Name) (Address)

Corporate Seal

Bidder's Telephone Number: _____

Bidder's Fax Number: _____

Performance Bond Information Form

Project Title: **Bristol Water Works Corp**
WATER STORAGE DISTRIBUTION & SYSTEM UPGRADES

Construction Contract:

Name of Contractor: Blue Heron Construction Company LLC

Address: 9289 Bonta Bridge Rd
Jordan, NY 13080

Bonding Company or Person Issuing Security Bond:

Hanover Insurance Company
440 Lincoln Street
Address: Worchester, MA 01653

Bonding Company Agent: Insurance Office of America Telephone No. 315-728-3926

Address: 126 N. Salina Street
Syracuse, NY 13202

Amount of Bond: $ 5%

Duration of Bond: From Date of Contract To Final Payment

The Bidder shall complete the information above regarding the performance bond proposed to be provided for the contract. This information will be used by the OWNER and/or CONSULTANT to verify the bonding prior to award of the contract.

FORM OF PROPOSAL

CONTRACT 1: GENERAL CONSTRUCTION

Proposals will be considered informal and will be returned to the Bidder if **all** blank spaces in the Form of Proposal are not filled in.

Pursuant to and in compliance with the "Notice to the Bidders", the "Instructions to Bidders" and "Proposal" relating thereto, the Bidder hereby agrees to furnish all plant, labor, materials, supplies, equipment and other facilities and things necessary or proper for or incidental to work required by and in strict accordance with the Contract Documents and any Addenda subsequently issued, for the Lump Sum of:

A. Contract G-1: PUMP INSTALLATION AND STORAGE TANK DISCONNECT.

Total Base Bid Two hundred forty six thousand eight hundred twenty Dollars (Price in Words)
($ 246,820.00).(Numbers)

PROPOSAL

Submitted By: **Empire State Mechanical Contractors, Inc.**
(CONTRACTOR)

TO: Elliott Engineering Solutions
540 Packets Landing
Fairport, NY 14450

FOR: **BRISTOL WATER WORKS CORP**
WATER STORAGE
DISTRIBUTION & SYSTEM
UPGRADES

Gentlemen:

The undersigned Bidder has carefully examined the form and content of the Contract, has examined the site of the work, and hereby proposes to furnish all necessary plant, labor, materials, equipment, and tools required to perform and complete the work in strict accordance with the Contract.

The undersigned Bidder agrees to submit to all conditions reported, intended, or implied, both particularly and generally by the Contract at the prices herein stated.

The undersigned Bidder also agrees as follows:

FIRST:

If this Proposal is accepted, to execute the Contract within ten (10) calendar days of date of "Notice of Award of Contract" and furnish to the OWNER satisfactory insurance certificates, performance and payment bonds, each in the sum of one-hundred percent (100%) of the amount of the Contract awarded as security for the faithful performance of the work, and for the payment of all persons performing labor and furnishing materials in connection with the work.

SECOND:

To begin work within five (5) calendar days of the date of the "Notice to Proceed" and to prosecute said work in such manner as to complete all work within two hundred forty (240) calendar days from the date of the "Notice to Proceed.".

THIRD:

RESERVED

FOURTH:

RESERVED

FIFTH:

RESERVED

SIXTH:

RESERVED

PROPOSAL SUBMITTED

(If a Corporation)

Dated: **8/8/24**

Name of Bidder: **Empire State Mechanical Contractors, Inc.**

By: _____ **President**
(Signature) (Title)

Address of Bidder: **3039 Sherwood Rd**
(Street)
Palmyra, NY 14522
(City, State, Zip Code)

Incorporated Under the Laws of the State of **New York**

Name of President: **Valerie Micalizzi Oswald, 3055 Sherwood Rd, Palmyra, NY 14522**
(Name) (Address)

Officer (Secretary): **Mark Oswald, 3055 Sherwood Rd, Palmyra, NY 14522**
(Name) (Address)

(Treasurer): **Valerie Micalizzi Oswald, 3055 Sherwood Rd, Palmyra, NY 14522**
(Name) (Address)

Corporate Seal

Bidder's Telephone Number: **315-597-1436**

Bidder's Fax Number: **315-597-1438**

Performance Bond Information Form

Project Title: **Bristol Water Works Corp**
WATER STORAGE DISTRIBUTION & SYSTEM UPGRADES

Construction Contract:

Name of Contractor: **Empire State Mechanical Contractors, Inc.**

Address: **3039 Sherwood Rd**
Palmyra, NY 14522

Bonding Company or Person Issuing Security Bond:

The Service Insurance Company
80 Main Street, Suite 330
Address: **West Orange, NJ 07052**

Bonding Company Agent: **Lora Wehrmann** Telephone No. **315-598-6000**

Address: **Eastern Shore Insurance**
101 Cayuga Street / PO Box 480, Fulton, NY 13069

Amount of Bond: $

Duration of Bond: From Date of Contract To Final Payment

The Bidder shall complete the information above regarding the performance bond proposed to be provided for the contract. This information will be used by the OWNER and/or CONSULTANT to verify the bonding prior to award of the contract.

FORM OF PROPOSAL

CONTRACT 1: GENERAL CONSTRUCTION

Proposals will be considered informal and will be returned to the Bidder if **all** blank spaces in the Form of Proposal are not filled in.

Pursuant to and in compliance with the "Notice to the Bidders", the "Instructions to Bidders" and "Proposal" relating thereto, the Bidder hereby agrees to furnish all plant, labor, materials, supplies, equipment and other facilities and things necessary or proper for or incidental to work required by and in strict accordance with the Contract Documents and any Addenda subsequently issued, for the Lump Sum of:

A. Contract G-1: PUMP INSTALLATION AND STORAGE TANK DISCONNECT.

Total Base Bid Three Hundred Thirty-Nine Thousand, Nine Hundred Dollars (Price in Words)
($ 339,900.00).(Numbers)

FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, Empire State Mechanical Contractors Inc. as Principal, and The Service Insurance Company as Surety, are hereby held and firmly bound unto **Bristol Water Works Corp** as OWNER in the penal sum of Five Percent of Amount Bid for the payment of which, well and truly to we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assignees. Signed this 6th day of August, 2024.

The condition of the above obligation is such that whereas the Principal has submitted $ 339,900.00 (amount of bid) a certain proposal, attached hereto and hereby made a part hereof to enter into a Contract in writing, for:

Water Storage Distribution & System Upgrades
Bristol Water Works Corp

NOW THEREFORE,

(a) If said bid shall be rejected, or in the alternate,

(b) If said bid shall be accepted, and the Principal shall execute and deliver a Contract in the form of Form of Agreement attached to the Contract Specifications and shall furnish a bond for this faithful performance of said Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and submit the required insurance certificates, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such bid; and said Surety does hereby waive notice of any such extension.

PROPOSAL

Submitted By: SPENSIERI DIVERSIFIED, LLC
(CONTRACTOR)

TO: Elliott Engineering Solutions
540 Packets Landing
Fairport, NY 14450

FOR: **BRISTOL WATER WORKS CORP**
WATER STORAGE
DISTRIBUTION & SYSTEM
UPGRADES

Gentlemen:

The undersigned Bidder has carefully examined the form and content of the Contract, has examined the site of the work, and hereby proposes to furnish all necessary plant, labor, materials, equipment, and tools required to perform and complete the work in strict accordance with the Contract.

The undersigned Bidder agrees to submit to all conditions reported, intended, or implied, both particularly and generally by the Contract at the prices herein stated.

The undersigned Bidder also agrees as follows:

FIRST:

If this Proposal is accepted, to execute the Contract within ten (10) calendar days of date of "Notice of Award of Contract" and furnish to the OWNER satisfactory insurance certificates, performance and payment bonds, each in the sum of one-hundred percent (100%) of the amount of the Contract awarded as security for the faithful performance of the work, and for the payment of all persons performing labor and furnishing materials in connection with the work.

SECOND:

To begin work within five (5) calendar days of the date of the "Notice to Proceed" and to prosecute said work in such manner as to complete all work within two hundred forty (240) calendar days from the date of the "Notice to Proceed.".

THIRD:

RESERVED

FOURTH:

RESERVED

FIFTH:

RESERVED

SIXTH:

RESERVED

PROPOSAL SUBMITTED

(If a Corporation)

Dated: August 6, 2024

Name of Bidder: Sensiezi Diversified LLC

By: Jason Bianchi, Managing Member
(Signature) (Title)

Address of Bidder: P.O. Box 502
(Street)
Syracuse, NY 13209
(City, State, Zip Code)

Incorporated Under the Laws of the State of Florida

Name of ~~President~~: Managing Member - Jason Bianchi
(Name) (Address)

Officer (Secretary): N/A
(Name) (Address)

(Treasurer): N/A
(Name) (Address)

Corporate Seal

Bidder's Telephone Number: 315-451-7760

Bidder's Fax Number: 315-451-7625

Performance Bond Information Form

Project Title: **Bristol Water Works Corp**
WATER STORAGE DISTRIBUTION & SYSTEM UPGRADES

Construction Contract:

Name of Contractor: Spensieri Diversified LLC

Address: P.O. Box 502
Syracuse, NY 13209

Bonding Company or Person Issuing Security Bond:

Old Republic Surety Company
P.O. Box 1635

Address: Milwaukee, WI 53201

Bonding Company Agent: Brown + Brown Telephone No. 315-691-8830

Address: 500 Plum Street / Dean Hitt
Syracuse, NY 13204 cell # 517-920-9320

Amount of Bond: $ 252,000

Duration of Bond: From Date of Contract To Final Payment

The Bidder shall complete the information above regarding the performance bond proposed to be provided for the contract. This information will be used by the OWNER and/or CONSULTANT to verify the bonding prior to award of the contract.

FORM OF PROPOSAL

CONTRACT 1: GENERAL CONSTRUCTION

Proposals will be considered informal and will be returned to the Bidder if **all** blank spaces in the Form of Proposal are not filled in.

Pursuant to and in compliance with the "Notice to the Bidders", the "Instructions to Bidders" and "Proposal" relating thereto, the Bidder hereby agrees to furnish all plant, labor, materials, supplies, equipment and other facilities and things necessary or proper for or incidental to work required by and in strict accordance with the Contract Documents and any Addenda subsequently issued, for the Lump Sum of:

A. Contract G-1: PUMP INSTALLATION AND STORAGE TANK DISCONNECT.

Total Base Bid Two Hundred Fifty Two Dollars (Price in Words)
($ 252,000).(Numbers)
Thousand Dollars and zero cents

Proposal

KINSLEY

Quote Number	Project Name	Project Location	Date
Q-J-23-8333-REV 1	BRISTOL HARBOUR - WTP		11/15/2023

From: Joe Murray
Cell: 585-260-3641
Email: jmurray@kinsleypower.com

Qty	Bill of Material Summary

1 **Kohler 50REOZK Generator**
- **Output** - 50kW, 62kVA, 120/240 Volt, Three Phase, 150amps, 60 Hz
- **Fuel Type** - Diesel
- **Tank** - 133 gallons / 24 hours
- **Enclosure** – Sound Attenuated
- **Warranty** - 5 Year Comprehensive
- **Estimated Leadtime** - 27 Weeks, ARO

1 **Kohler KSS-AFTA-0400S Transfer Switch**
- **Type** - Specific Breaker Rated, Open Transition, 240 Volts/60Hz, 400amps
- **Poles** - 3-Pole, 4-Wire, Solid Neutral
- **Enclosure** - NEMA 1 Enclosure
- **Warranty** - 5 Year Comprehensive
- **Estimated Leadtime** - 15 Weeks, ARO

1 **Distributor Start-Up**
Start-up Service with Connected Load Test & Batteries

Spec/Notes: Per the site meeting, the genset is sized to start (2) 5 HP pumps at the same time, and also to start a 3rd 5 HP pump on a separate step.

Terms	Retainage	F.O.B.	Mfg. Manuals
Net 30 or Prior to SU	No Retainage Allowed	Source	1

OFFER TOTAL SELL PRICE: $41,709.00

Quote is valid for 30 days.
Kinsley Power Systems reserves the right to amend this price quote when equipment is released for production without penalty or charge due to unprecedented price fluctuations in raw materials and components.

Price does not include state sales tax, or installation

177 Wales Ave Tonawanda, NY 14150 • Phone: 716.695.6720 Fax: 716.695.0161

THE ENVIRONMENTAL SERVICE GROUP (NY), INC.

in affiliation with

ARC American RECYCLERS COMPANY
www.arcgg.com
"Recycling today for a better tomorrow."

Quote ID: 31897 Salesman: Nick Halliday Quote Date 11/06/2023

Billing Name:	Bristol Harbour Sewerage Corp.	Generator:	Bristol Harbour Sewerage Corp.
Address:	31 Spyglass Hill Canandaigua, NY 14424	Address:	31 Spyglass Hill Canandaigua, NY 14424
Phone:		Phone:	
Fax:		Fax:	
BillingContact:	Paul Lamphier	Gen EPAID:	
Terms:		Gen Contact	Paul Lamphier
Project:			
Project Description:			

Qty	Type	Detail	Price	Unit	Taxable	Total
1	Const - Remediatio	Lump Sum *Lump Sum - Removal and Recycling of 120,000 gallon water tank*	$31,500.00	Lump Sum	☑	$31,500.00

PAYABLE IN US FUNDS ONLY Tax Rate: 7.5

SubTotal:	$31,500.00
Sales Tax:	$2,362.50
Total:	$33,862.50

ESG Customer Rep: _____

Customer acceptance subject to attached ESG terms and conditions. Customer accepts payment terms above. A 1.5 % per month fee will be incurred on overdue balances. Customer will also pay any and all collection costs.

Please Return Via Fax:

By: _____ **Please Note: All Off-Specs will be billed at cost plus 20%**

Date: _____

Quote Notes: Price inludes - Removal of tank, Lines, concrete pad. Topsoil will be placed and seeded in the Spring.

VICTOR EXCAVATING

To:	Bristol Water Works Corporation	**Contact:**	
Address:	7939 Rae Blvd	**Phone:**	
	Victor, NY 14654	**Fax:**	
Project Name:	Bristol Water Work Corp - Watermain Replacement	**Bid Number:**	
Project Location:		**Bid Date:**	

Line #	Item #	Item Description
Watermain Replacement		
	1	Survey & Layout
	2	Traffic Control
	3	Strip Topsoil
	4	Water Connection
	5	6" DIP Water Main
	6	Water Hydrant Assembly
	7	Water Sample Pts
	8	Water Testing
	9	Water Service Install
	10	Water Export Surplus Soil
	11	General Sitewide Grading
	12	Replace Topsoil
	13	Driveway Restoration

Total Price for above Watermain Replacement Items: **$73,500.00**

Total Bid Price: **$73,500.00**

Notes:

- General Exclusions & Notes
  - Bid Proposal is valid for thirty (30) days only
  - Price is based off non-prevailing wage rates
  - Price includes material tax unless otherwise noted or specified
  - All permits, fees and/or bonds have not been included unless noted above
  - Price is based on the Asphalt Index per the date of proposal submission and is subject to price escalation if appropriate
  - Rock excavation allowance is not included
  - Undercut allowance is not included
  - Dewatering for Victor scope only is included
  - Excavation and backfill for primary electric and gas service is not included unless noted above
  - All backfill to be performed using onsite materials unless noted specifically in the bid proposal
  - All caulking excluded
  - All lawn and plant watering excluded unless noted otherwise in bid proposal
  - All alternate pricing not accepted at time of proposal execution is subject to adjustment (if necessary)
  - All utilities carried in this proposal to be left 5' outside the foundation unless otherwise noted in proposal
  - Installation and Fine Grade of Underslab Subbase Stone to occur prior to subsurface mechanical installation; if touch up is necessary afterwards there will be additional costs.
  - Any alternate pricing not executed at acceptance of our bid proposal will be subject to price adjustment (if necessary).
  - Tack Coat and Surface is not included if top asphalt course is not installed at the same time with the binder course.
  - We are not resposbile for water ponding on grades less than 2%.
- Job Specific Exclusions & Notes
  - Rockhound and Hydrosee excluded

Payment Terms:

Terms are Net-30 unless otherwise agreed upon

C.P. WARD INC.
GENERAL CONTRACTOR

SERVING FOR OVER 100 YEARS

100 W. RIVER ROAD
PO BOX 900
SCOTTSVILLE, NEW YORK 14546
P: 585-889-8800
F: 585-889-6008

November 2, 2023

Bristol Harbour

Re: Waterline Replacement

C.P. Ward, Inc. is pleased to provide the following quote to install approximately 600' of new DI watermain and associated services.

Price: $ 265,000.00 Lump Sum

- Install and maintain temporary traffic control
- Locate existing utilities and tie in points
- Excavate / backfill for new water line
- Furnish and install approximately 600' of 6" DI watermain
- Furnish and install 1 new hydrant
- Tie in 5 private water services
- Abandon existing watermain in place
- Topsoil and seed disturbed areas

Conditions:

- Price excludes the cost of any bonds, bonds can be provided for 1% of contract amount.
- Price **includes** sales tax on permanent materials
- All prices exclude weekend or offshift work.
- Price excludes fence modifications, if necessary.
- Price excludes relocation of utilities that may be in conflict.
- Price excludes rock excavation.
- Abandonment of existing line assumed to be cut and cap only.
- Prices is based on extending existing private water services to new main, and installing tap only.
- Price excludes full replacement of private water services.
- Price is subject to review at time of award.

Please call if you have questions or require additional information.

Thank you,
C.P. Ward, Inc.

John Klimek
Project Manager

Proposal

From: Redman Construction, Inc.
PO Box 154
6565 Redman Road
Brockport, NY 14420 USA
Phone: 585-637-9530
Fax: 585-637-2336
Email: jp@redmanconstruction.com

Project: BRISTOL HARBOUR SPYGLASS
Description: WATERMAIN REPLACEMENT
Bid Date: 10/04/2023
Revision Date:
Additional Info:

ITEM / DESCRIPTION	BID QTY	U/M	UNIT BID	AMOUNT
102.08 8" CL-52 DIP	600.000	LF	$95.00	$57,000.00
120.08 8" GATE VALVE COMPLETE	1.000	EA	$3,235.00	$3,235.00
125.01 1" POLY WATER SERVICE CONNECTED TO EXISTING WATER SERVICE	5.000	EA	$1,310.00	$6,550.00
130A DISINFECTION / SAMPLE TAP	2.000	EA	$1,200.00	$2,400.00
134.10X08 CONNECT TO EXISTING WATER MAIN	2.000	EA	$3,300.00	$6,600.00
199 TESTING / DISINFECTION	1.000	LS	$3,500.00	$3,500.00
140 FIRE HYDRANT ASSEMBLY COMPLETE	1.000	EA	$9,025.00	$9,025.00
484TS REPLACE TOPSOIL, ROCKHOUND & SEED DISTURBED AREAS	1.000	LS	$16,000.00	$16,000.00
			TOTAL BID:	**$104,310.00**

NEW YORK STATE | Department of Health

KATHY HOCHUL
Governor

JAMES V. McDONALD, MD, MPH
Commissioner

JOHANNE E. MORNE, MS
Executive Deputy Commissioner

January 22, 2025

South Bristol Resorts
5410 Seneca Point Road
Canandaigua, NY 14424

Attn: Todd Cook, Owner

RE: **PUBLIC WATER SUPPLY**
Bristol Harbour Water Corp
(APPROVAL – WM replacement)
S. Bristol (T) – Ontario County

We have, this date, approved the plans and specifications submitted by Robert Elliott, P.E., of Elliott Engineering Solutions, for the above-referenced project, which includes replacement of the existing watermain. Enclosed is an APPROVAL OF PLANS FOR PUBLIC WATER SUPPLY IMPROVEMENT (form DOH 1017) for the project. Application for this project was duly made by you and originally received in this office on August 9, 2023.

PLEASE BE ADVISED that the proposed works approved herein may be placed into service until such time that an APPROVAL OF COMPLETED WORKS (form DOH 1032) has been issued by this Department. Before that form can be issued, a New York State licensed professional engineer must submit certification (form DOH-5025) that they or their designated representative has witnessed the construction, testing and disinfection procedures as per conditions a. through c. of the enclosed DOH-1017 form, and that they have collected an appropriate number of water samples from the completed works for bacteriological analysis by a NYS-approved laboratory. An Engineer's Certification form is attached for your use. Copies of the results of the analyses must also be submitted with the above-mentioned certification.

We call your attention to standard conditions a. through e. of the enclosed DOH-1017 form.

One copy of the approved application documents and plans is being retained for our files. Distribution of remaining documents is indicated below.

Sincerely,

Kendall Larsen

Kendall Larsen, P.E.
Professional Engineer 1

enc. DOH-1017, DOH-5025
pc: Elliott Engineering – Attn: R. Elliott, PE (w/DOH-1017 & plan)
Bristol Harbour Water Corp. – Attn: D. Gage, Supt. (w/DOH-1017 & plan)

NEW YORK STATE DEPARTMENT OF HEALTH
Bureau of Public Water Supply Protection
2 University Place
Albany, NY 12203-3313

Approval of Plans for Public Water Supply Improvement

This approval is issued under the provisions of 10 NYCRR, Part 5-

1. Applicant	2. Location of Works (C, V, T)	3. County	4. Water District
Bristol Harbour Water Corp	**S. Bristol (T)**	**Ontario**	**Bristol Harbour Water Corp**

5. Type of Project

☐ Source ☐ Pumping Units ☐ Fluoridation ☒ Distribution ☐ Storage

☐ Trans ☐ Chlorination ☐ Filtration ☐ Other:

Remarks:

Installation of approximately 600 LF of 6" DIP watermain to replace existing aged infrastructure.

By initiating improvement of the approved supply, the applicant accepts and agrees to abide by and conform with the following:

a. **THAT the proposed works be constructed in complete conformity with the plans and specifications approved this day or approved amendments thereto.**
b. **THAT the proposed works shall not be placed into operation until such time as a Completed Works Approval is issued in accordance with Part 5 of the New York State Sanitary Code.**
c. **THAT pressure and leakage testing of the proposed works will follow pertinent American Water Works Association Specifications.**
d. **THAT disinfection of the proposed works will follow pertinent American Water Works Association Specifications.**
e. **THAT a NYS licensed professional engineer submit certification that he or his designated representative has witnessed the construction, testing and disinfection procedures as per conditions a., c. & d., above.**

ISSUED FOR THE STATE COMMISSIONER OF HEALTH

January 22, 2025
Date

Kendall Larsen
Designated Representative

Kendall Larsen, PE - Professional Engineer 1
Name and Title (Print)

General

6. Type of Ownership
☐ Municipal ☐ Commercial ☐ Industrial ☒ Water Works Corp. ☐ 68 Private – Other ☐ Source Private - Institutional ☐ 26 Board of Education ☐ 1 Authority ☐ 19 Federal ☐ 20 State ☐ 30 Interstate ☐ 40 International ☐ 18 Indian Reservation

7. Estimated Total Cost	8. Population Served	9. Drainage Basin
$ 120,000		

10. Federal Aid	11. WSA Project
☐ Yes ☒ No	☐ Yes ☒ No

Source ☒ **N.A.**

12. Type	13. Est. Source Development Cost
☐ Surface Name: Class:	
☐ Ground Name: Class:	

14. Safe Yield	15. Description

Treatment ☒ **N.A.**

16. Type
☐ Aeration ☐ Sedimentation ☐ Iron Removal ☐ Softening
☐ Microstrainers ☐ Clarifiers ☒ Chlorination ☐ Corrosion Control
☐ Mixing ☐ Filtration ☐ Fluoridation ☐ Other:

17. Name of Treatment Works	18. Max. Treatment Capacity	19. Grade of Plant Operator Reqd.	20. Estimated Cost

21. Description
See item 5 above.

Distribution ☐ **N.A.**

22. Type	23. Type of Storage ☒ N.A.	24. Est. Distribution Cost
☐ Cross Connection ☐ Transmission	☐ Aboveground - gal.	**$100,000**
☐ Interconnection ☐ Fire Pump $C1_2$	☐ Belowground - gal.	

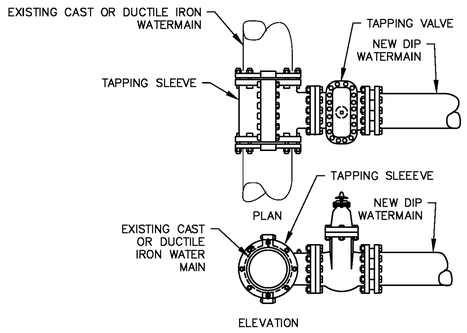
25. Anticipated Distribution	26. Designed for Fire Flow
System Demand: Avg. - GPD Max. - GPD	☐ Yes ☒ No

27. Description
See item 5 above.

NEW YORK STATE
DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH PROTECTION
By Direction of the State Commissioner of Health These Plans are Hereby Approved. See First Sheet for Date and Signature

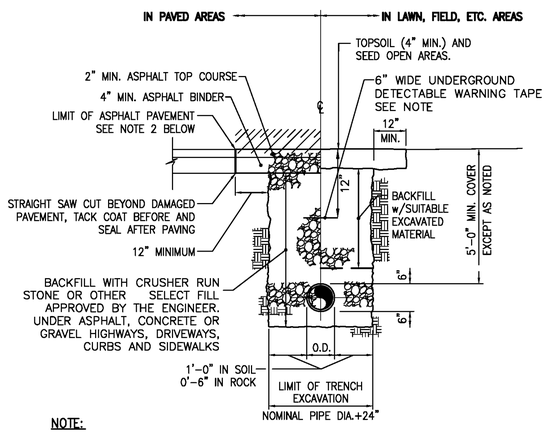
01/16/25

Z:\EES Project Files\10600 Bristol Harbour\10604\10604 BH Waterline Replacement.dwg



TAPPING SLEEVE AND VALVE ON EXISTING CAST/DUCTILE IRON WATER MAIN

NOT TO SCALE

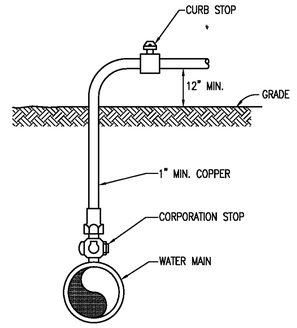


NOTE:

1. EXCAVATION IN DRIVING LANES AND PAVED SHOULDERS SHALL BE BACKFILLED, PATCHED OR PLATED OVERNIGHT. EXCAVATIONS OUTSIDE THE DRIVING LANES AND PAVED SHOULDERS SHALL BE BACKFILLED OR FENCED AND BARRICADED OVERNIGHT.
2. THE PIPE ZONE MATERIAL SHALL BE AS FOLLOWS:
   A. UNDER PAVEMENT, SIDEWALKS, CURBS, AND DRIVEWAYS – CRUSHER RUN STONE.
   B. UNDER LAWN AREAS – SELECT FILL.
3. 6" WIDE UNDERGROUND DETECTABLE WARNING TAPE SHALL BE USED DURING INSTALLATION OF ALL NON–METALLIC WATER, STORM, AND SANITARY PIPES. SHALLOW BURY TAPE 6–12" FROM FINISHED GRADE, ENSURING MAXIMUM DISTANCE BETWEEN WARNING TAPE AND BURIED PIPE.

TYPICAL TRENCH DETAIL

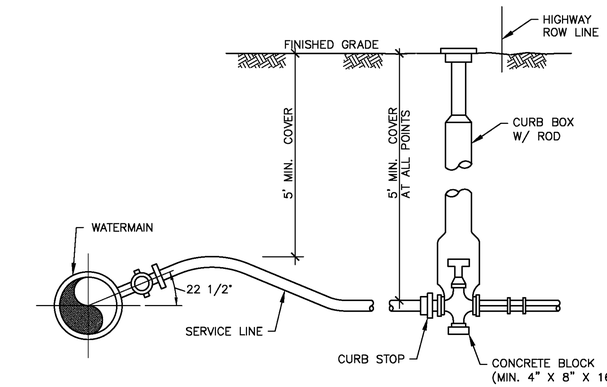
NOT TO SCALE



NOTE:
UPON NOTIFICATION FROM THE CONSULTANT, REMOVE THE CORPORATION STOP AND COPPER TUBING, INSERT A BRASS PLUG INTO THE WATER MAIN TAP.

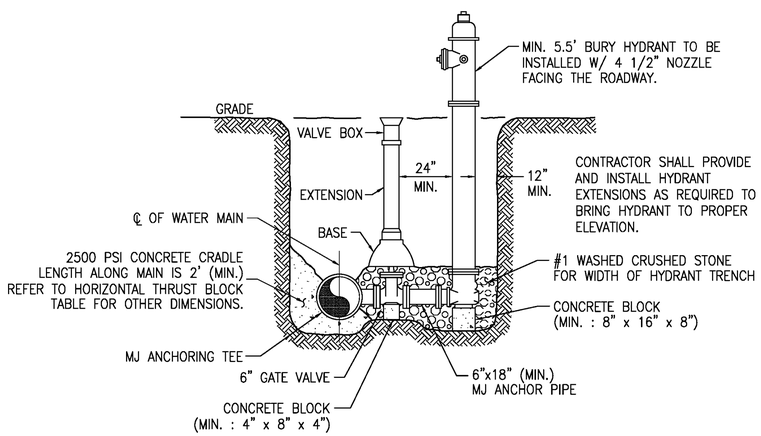
DISINFECTION/BLOW–OFF/SAMPLING TAP

NOT TO SCALE



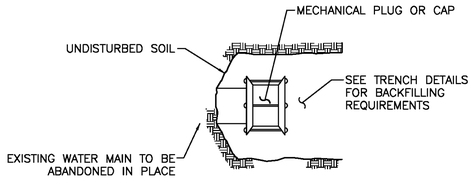
TYPICAL RESIDENTIAL SERVICE INSTALLATION

NOT TO SCALE



PERPENDICULAR HYDRANT ASSEMBLY

NOT TO SCALE

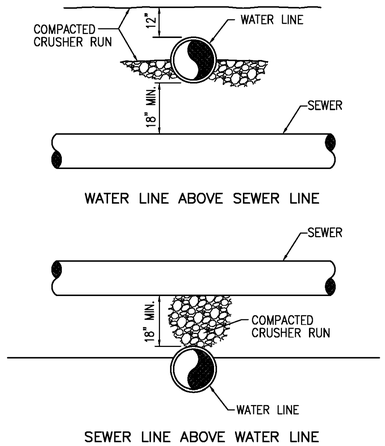


NOTE:

IF W.M. IS REMAINING IN USE, PLUG SHALL BE NO FURTHER THAN 5 FEET AWAY FROM THE LAST ACTIVE TEE.

PLUG AND ABANDONMENT DETAIL
PLAN VIEW

NOT TO SCALE



WATER LINE ABOVE SEWER LINE

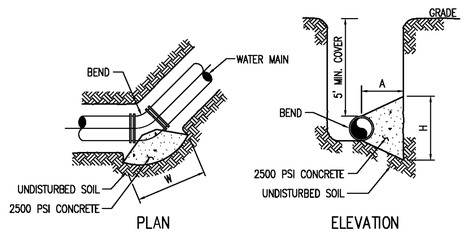
SEWER LINE ABOVE WATER LINE

NOTES:

1. WATER LINE PIPE LENGTHS TO BE CENTERED AT CROSSING TO PROVIDE MAXIMUM DISTANCE BETWEEN JOINTS.
2. EACH LENGTH OF PIPE TO BE 10 FOOT MINIMUM.
3. PROVIDE CRUSHER RUN STONE FOR WATER LINE AND SEWER LINE FOR 10 FEET EACH SIDE OF CROSSING.
4. CONCRETE ENCASEMENT SHALL BE USED FOR ALL SEWER CROSSINGS WHEN VERTICAL PIPE SEPARATION IS LESS THAN 18" (MINIMUM SEPARATION 12" WITH CONCRETE ENCASEMENT). WATER LINE SHALL BE ENCASED IN CONCRETE FOR A LENGTH OF 10'–0" ON EACH SIDE OF THE SEWER.
5. 2500 PSI CONCRETE ENCASEMENT SHALL BE 6" MIN. THICKNESS ALL AROUND WATER LINE.
6. THRUST BLOCKS AND RESTRAINT SHALL BE PROVIDED AT ALL BENDS.

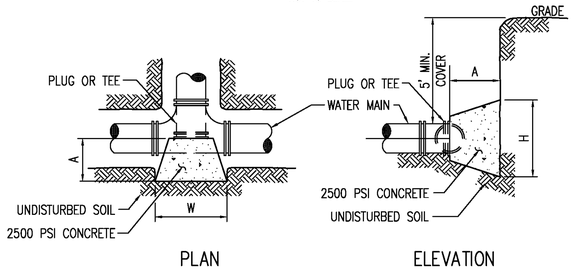
WATERMAIN/SEWER CROSSING DETAIL

NOT TO SCALE



HORIZONTAL THRUST BLOCK FOR BENDS

NOT TO SCALE



HORIZONTAL THRUST BLOCK FOR TEE AND PLUGS

NOT TO SCALE

MINIMUM HORIZONTAL THRUST BLOCK DIMENSIONS, IN FEET, TO BE POURED AGAINST UNDISTURBED SOIL

FITTING	H	W	A
6"x 90°	2.00	2.70	1.50 MIN.
6"x 45°	1.50	2.00	*
6"x 22 1/2°	0.90	1.70	*
6"x 11 1/4°	0.60	1.50	*
8"x 90°	2.40	4.50	*
8"x 45°	1.80	3.30	*
8"x 22 1/2°	1.30	2.30	*
8"x 11 1/4°	0.90	1.70	*
6"x 6" HYD. TEE	1.50	3.00	*
8" TEE	2.00	3.90	*
8" PLUG	2.00	3.90	*
12"x 90°	3.40	6.50	1.75 MIN.
12"x 45°	2.50	5.00	*
12"x 22 1/2°	2.00	2.70	*
12"x 11 1/4°	1.30	2.50	*
12"x 6" HYD. TEE	1.50	3.00	*
12"x12"x12" TEE	2.90	5.70	*
12"x12"x8" TEE	2.00	3.50	*
12"x12"x6" TEE	1.50	2.80	*

DATE	REVISIONS	BY

DRAWING ALTERATION

WARNING: It is a violation of the New York State Education Law, Article 145, Section 7209, Special Provision 2, for any person unless he is acting under the direction of a Licensed Professional Engineer or Land Surveyor to alter an item in any way. If an item bearing the seal of an engineer or land surveyor is altered, the altering engineer or land surveyor shall affix to the item his seal and notation "altered by" followed by his signature and date of such alteration, and a specific description of the alteration.

LICENSED PROFESSIONAL ENGINEER ROBERT JAMES ELLIOTT No. 61038 STATE OF NEW YORK

BY: ROBERT J ELLIOTT
DATE: 7/2/2024

elliott. engineering solutions

ELLIOTT ENGINEERING SOLUTIONS
ROBERT J. ELLIOTT, P.E.
540 PACKETTS LANDING
FAIRPORT, NY 14450
(585) 377–0600
FAX. (585) 377–0601

PROJECT:

BRISTOL HARBOUR WATERMAIN REPLACEMENT

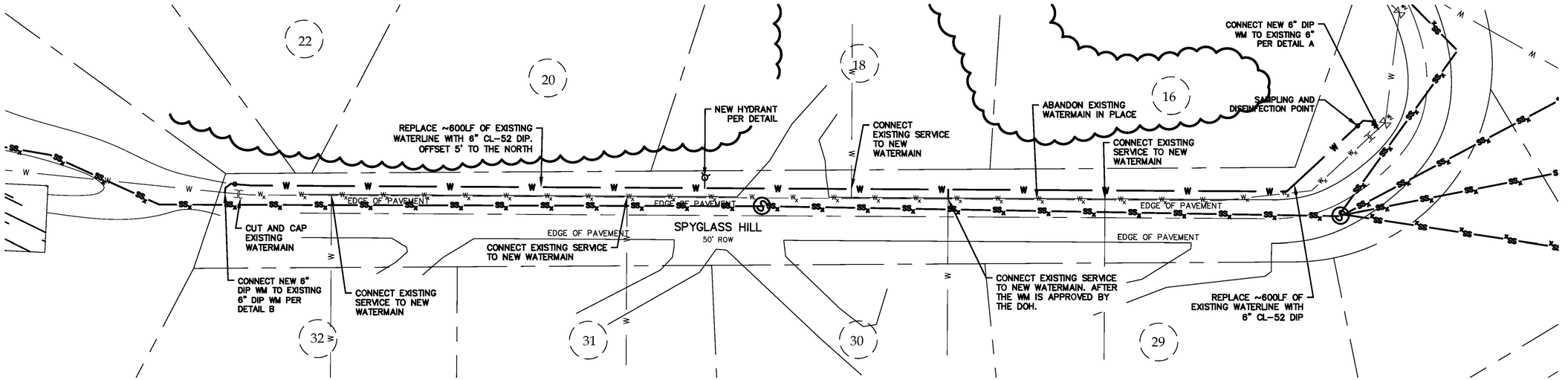
CLIENT:

BRISTOL HARBOUR WATER WORKS CORPORATION

DRAWING TITLE:

DETAILS

DESIGNED BY: TPD	SCALE: 1"=30'
DRAWN BY: TPD	DATE: 7/1/24
CHECKED BY: RJE	PROJECT No. 10604
SHEET 2 OF 2	DRAWING No. C2

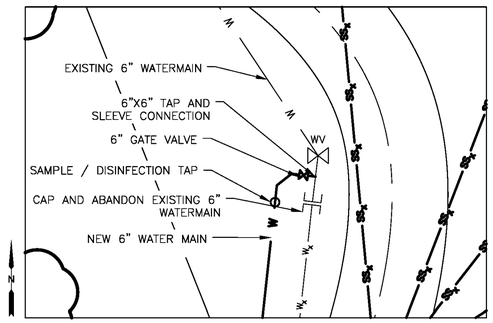


WATER MAIN NOTES

1. WATERMAIN SHALL BE CL-52 DUCTILE IRON PIPE (DIP).
2. ALL PIPING, FITTINGS, ETC. SHALL BE NSF OR UL APPROVED FOR POTABLE WATER USE.
3. WATERMAINS, SERVICES, AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REGULATIONS AND SPECIFICATIONS.
4. ALL HARDWARE ("T" BOLTS, HEX NUTS, CLAMPS, TIE RODS, TIE BOLTS, WASHERS, ETC.) USED ON NEW WATERMAINS, PIPE FITTINGS AND APPURTENANCES SHALL BE MADE OF HIGH STRENGTH LOW-ALLOY STEEL (COR-TEN), ASTM A242.
5. THE WATERMAIN SHALL BE PRESSURE/LEAKAGE TESTED IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS OF THE LATEST REVISION OF AWWA STANDARD C605 (DIP) OR IN ACCORDANCE WITH MORE STRINGENT REQUIREMENTS IMPOSED BY THE SUPPLIER OF WATER.
6. THE WATERMAIN SHALL BE DISINFECTED EQUAL TO AWWA STANDARD FOR DISINFECTING WATER MAINS, DESIGNATION C-651 (LATEST REVISION) BY THE CONTINUOUS FEED METHOD. FOLLOWING DISINFECTION, THE WATER MAIN SHALL BE FLUSHED UNTIL THE CHLORINE CONCENTRATION IN THE WATER LEAVING THE WATER MAIN IS NO HIGHER THAN THAT GENERALLY PREVAILING.
7. ALL WATERMAIN FITTINGS NOT RECEIVING 24-HOUR CHLORINE DISINFECTION CONTACT TIME MUST BE SWAB DISINFECTED 30 MINUTES PRIOR TO INSTALLATION.
8. THE SAMPLING POINT(S) MUST BE DECONTAMINATED BY FLAMING.
9. FIRE HYDRANTS ARE NOT ACCEPTABLE SAMPLING POINTS.
10. TWO CONSECUTIVE DAYS OF BACTERIOLOGICAL SAMPLES ARE REQUIRED.
11. THE WATERMAIN SHALL NOT BE PLACED INTO SERVICE UNTIL SO AUTHORIZED BY THE NEW YORK STATE DEPARTMENT OF HEALTH.
12. WATERMAINS AND ALL WATER SERVICE LINES TO HAVE A MINIMUM OF FIVE (5) FEET OF COVER FROM FINISHED GRADE.
13. MINIMUM VERTICAL SEPARATION BETWEEN WATER MAINS AND SEWER LINES SHALL BE 18" MEASURED FROM THE OUTSIDE OF THE PIPES AT THE POINT OF CROSSING. ONE FULL STANDARD LAYING LENGTH OF WATER MAIN SHALL BE CENTERED UNDER OR OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. IN ADDITION, WHEN A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT (COMPACTED SELECTED FILL) SHALL BE PROVIDED FOR THE SEWERS AND WATER MAINS TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING OF THE SEWER ON THE WATER MAIN. MINIMUM HORIZONTAL SEPARATION BETWEEN PARALLEL WATER MAINS AND SEWER PIPES (INCLUDING MANHOLES AND VAULTS) SHALL BE 10 FEET MEASURED FROM THE OUTSIDE OF THE PIPES, MANHOLES OR VAULTS.
14. WHEN INSTALLING FIRE HYDRANTS, SHOULD GROUND WATER OR EVIDENCE OF GROUND WATER BE ENCOUNTERED WITHIN SEVEN (7) FEET OF THE FINISHED GRADE, FIRE HYDRANT WEEP HOLES (DRAINS) SHALL BE PLUGGED. HYDRANT SHALL BE TAGGED OR LABELED IF WEEP HOLES ARE PLUGGED. PLUG SHALL BE A MECHANICAL PLUG.
15. ALL MECHANICAL JOINT FITTINGS (TEES, BENDS, PLUGS, ETC.) SHALL BE RESTRAINED JOINTS AND SHALL BE BACKED WITH 2500 PSI CONCRETE THRUST BLOCKS. THRUST BLOCKS SHALL BE IN PLACE A MINIMUM OF FIVE DAYS BEFORE LINE IS PRESSURE TESTED.
16. POLYETHYLENE WRAPPING SHALL BE INSTALLED AROUND ALL DUCTILE IRON PIPE.
17. CONTRACTOR TO COORDINATE ALL WORK ON EXISTING WATER MAINS WITH THE BRISTOL HARBOUR WATER DEPARTMENT.
18. CONTRACTOR SHALL NOT OPERATE EXISTING WATER VALVES.
19. RESIDENTIAL WATER SERVICE SHALL NOT BE INTERRUPTED WITHOUT 24 HOUR ADVANCE WRITTEN NOTICE TO THE CUSTOMER AND WATER DEPARTMENT APPROVAL.
20. USE SCH40 PVC TO CONNECT EXISTING WATER MAINS TO NEW 6" WATER MAIN. ALL JOINTS ARE TO BE MECHANICALLY RESTRAINED AND BACKED BY THRUST BLOCKS AS SPECIFIED.
21. CONTRACTOR TO VERIFY LOCATION AND NUMBER OF EXISTING SERVICES TO BE RELOCATED, FROM WATER MAINS TO BE ABANDONED, TO THE NEW 6" WATERMAIN.
22. DISCONNECT EXISTING SERVICES FROM EXISTING CURB STOPS AND CONNECT NEW SERVICES TO NEW CURB STOPS AFTER NEW WATER MAIN HAS BEEN TESTED AND ACCEPTED.
23. PLUG EXISTING WATER MAINS THAT ARE TO BE ABANDONED, WITH CONCRETE OR MECHANICAL PLUG, AFTER NEW WATER MAINS HAVE BEEN PUT INTO SERVICE AND WATER SERVICES HAVE BEEN TRANSFERRED TO NEW WATER MAIN.
24. WHEREVER CAST-IN-PLACE CONCRETE IS IN CONTACT WITH WATER MAIN, INSTALL SHEET OF PLASTIC BETWEEN PIPE/FITTINGS AND CONCRETE TO PREVENT BONDING OF CONCRETE TO PIPE/FITTINGS.
25. BACKFILL WITH EXISTING SOIL. STRIP AND REPLACE TOPSOIL.
26. LOCATION OF EXISTING SERVICES SHOWN ON PLANS ARE ESTIMATES. CONTRACTOR TO VERFIY LOCATION BEFORE DIGGING.

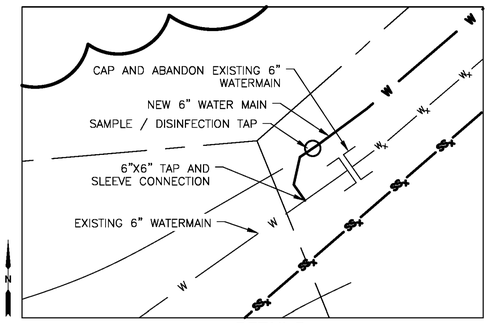
GENERAL NOTES

1. UNDERGROUND UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS. THE INSTALLER SHALL BEAR THE RESPONSIBILITY OF VERIFYING UTILITY LOCATION AND SIZES. THE CONTRACTOR SHALL CALL CENTRAL STAKEOUT (1-800-962-7962) 48 HRS. PRIOR TO COMMENCING WORK TO HAVE UTILITIES STAKED IN THE FIELD.
2. INSTALLER SHALL SUPPORT GAS MAINS AND OTHER UTILITIES AND SERVICES EXPOSED BY HIS EXCAVATION. SUPPORT SYSTEMS SHALL BE AS RECOMMENDED BY THE LOCAL UTILITY COMPANY. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CONTRACT.
3. INSTALLER SHALL REQUEST TEMPORARY POLE SUPPORT SERVICES PROVIDED BY LOCAL UTILITY COMPANY AT ANY POLE THAT MAY BE UNDER CUT BY THE CONTRACTOR'S EXCAVATION OR OTHER WORK. THE CONTRACTOR SHALL PROVIDE THE UTILITY CO. WITH A MINIMUM OF FOUR (4) WORKING DAYS NOTICE OF THE NEED FOR POLE SUPPORT. THE PENN YAN MUNICIPAL BOARD WILL SUPPORT THEIR POLES AT NO COST TO THE CONTRACTOR.
4. PAVEMENT MARKINGS, TRAFFIC SIGNALS AND/OR SIGNS THAT HAVE BEEN DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED IN A MANNER CONFORMING TO NYS DOT SPECIFICATIONS OR THE REQUIREMENTS OF THE LOCAL HIGHWAY DEPARTMENT WHICH HAS JURISDICTION OVER THE ROAD WHICH IS AFFECTED.
5. ALL WORK TO TAKE PLACE WITHIN THE RIGHT-OF-WAY TO COMPLY WITH THE VILLAGE OF PENN YAN'S CONSTRUCTION STANDARDS.
6. HIGHWAY AND SITE DRAINAGE SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE PERIOD OF CONSTRUCTION.
7. ALL CONSTRUCTION PRACTICES AND MATERIALS SHALL BE IN CONFORMANCE WITH THE MOST RECENT SPECIFICATIONS OF THE VILLAGE BOARD AND THE VILLAGE OF PENN YAN MUNICIPAL UTILITIES BOARD.
8. INSTALLER SHALL LOCATE, FLAG AND PRESERVE U.S.G.S. MONUMENTS, HIGHWAY MONUMENTS, SURVEY MARKERS AND RIGHT-OF-WAY MARKERS IN THE AREA OF CONSTRUCTION.
9. ANY IRON PINS OR OTHER ITEMS DEFINING PROPERTY LINES WHICH ARE DISTURBED DURING CONSTRUCTION SHALL BE PROPERLY TIED AND ACCURATELY RESET UPON COMPLETION OF WORK BY A LICENSED SURVEYOR.
10. THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR CONSTRUCTION WITHIN THE HIGHWAY RIGHT-OF-WAY. CONSTRUCTION WITHIN AND ALONG HIGHWAY RIGHT-OF-WAY SHALL CONFORM TO THE PERMITS AND CONSTRUCTION REQUIREMENTS OF THOSE HAVING JURISDICTION. COST OF HIGHWAY PERMITS SHALL BE PAID BY THE VILLAGE OF PENN YAN. LIBERTY STREET IS A NYS HIGHWAY.
11. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION STAKE-OUT AS SHOWN ON THE PLANS. CONTRACTOR SHALL STAKE-OUT SEWER AND WATERMAIN ALIGNMENTS, MANHOLE LOCATIONS AND CATCH BASIN LOCATIONS BEFORE CONSTRUCTION.
12. ALL EXCAVATED MATERIAL AND SPOIL DIRT SHALL BE KEPT CLEAR OF ANY CATCH BASINS WHICH ARE REMAINING IN SERVICE. THE CONTRACTOR SHALL MAINTAIN IN SERVICE ALL EXISTING SEWERS, CULVERTS, DITCHES, MANHOLES AND CATCH BASINS DURING CONSTRUCTION WHICH ARE NOT BEING REPLACED, ABANDONED OR OTHERWISE ALTERED BY THIS PROJECT. EXISTING SEWERS, CULVERTS, MANHOLES AND CATCH BASINS WHICH ARE TO BE ABANDONED SHALL BE MAINTAINED IN SERVICE UNTIL THE NEW WORK WHICH IS TO REPLACE THEM IS IN SERVICE, UNLESS OTHERWISE NOTED.
13. SAFE AND CONTINUOUS THROUGH TRAFFIC AND INGRESS AND EGRESS FOR ADJACENT DRIVEWAYS, PARKING LOTS, SIDEWALKS, SERVICE ROADS AND PUBLIC STREETS SHALL BE MAINTAINED THROUGHOUT THE PERIOD OF CONSTRUCTION. THE CONTRACTOR SHALL BROOM CLEAN ALL CONSTRUCTION DEBRIS EACH NIGHT FROM PAVEMENT AND SIDEWALKS. OPEN EXCAVATIONS SHALL BE KEPT TO A MINIMUM AND COMPLETELY BARRICADED EACH NIGHT.
14. ALL TREES SHALL BE PRESERVED AND PROTECTED DURING CONSTRUCTION.
15. ROADS, PARKING LOT AND DRIVEWAYS MAY NOT BE COMPLETELY BLOCKED AT ANY TIME. A MINIMUM OF A SINGLE OPEN LANE MUST BE MAINTAINED AT ALL TIMES. CONTRACTOR WILL KEEP STEEL TRENCH COVER PLATES ON SITE. ALL TRENCHES ACROSS ROADS AND DRIVEWAYS SHALL BE COVERED WITH STEEL PLATES DURING NON-WORKING HOURS.
16. INSTALLER SHALL VERIFY THE ELEVATION OF ALL UTILITY CROSSINGS PRIOR TO START OF WATERMAIN CONSTRUCTION. A MINIMUM OF ONE FOOT SHALL BE MAINTAINED BETWEEN WATERMAIN AND GAS UTILITY LINES. ANY UTILITY CONFLICTS SHALL BE REPORTED TO THE ASSOCIATED UTILITY FOR ANY STANDARDS WHICH THEY MAY HAVE.
17. WHEN EXISTING DRIVEWAY CULVERTS ARE ENCOUNTERED THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER PRIOR TO EXCAVATION. THE RESIDENT ENGINEER SHALL DETERMINE CONDITION OF EXISTING CULVERT AND ADVISE THE CONTRACTOR WHETHER TO REMOVE AND REINSTALL THE CULVERT OR TO REPLACE THE CULVERT WITH A NEW CULVERT. PAYMENT WILL ONLY BE MADE WHEN NEW CULVERT PIPE IS INSTALLED AS ORDERED BY ENGINEER.



DETAIL A
NOT TO SCALE

1. SWAB DISINFECT ALL VALVES AND FITTINGS.
2. INSTALL 6"x6" TAP AND SLEEVE CONNECTION ON EXISTING 6" WM.
3. INSTALL NEW 6" GATE VALVE AFTER NEW TAP FOR NEW 6"WM.
4. INSTALL SAMPLE AND DISINFECTION TAP ON NEW 6" WM AFTER NEW GATE VALVE. (SEE DETAIL ON SHEET C-2)
5. AFTER NEW WM IS ACCEPTED, ABANDON EXISTING 6" WM.



DETAIL B
NOT TO SCALE

1. SWAB DISINFECT ALL VALVES AND FITTINGS.
2. INSTALL 6"x6" TAP AND SLEEVE CONNECTION ON EXISTING 6" WM.
3. INSTALL SAMPLE AND DISINFECTION TAP ON NEW 6" WM AFTER NEW GATE VALVE. (SEE DETAIL ON SHEET C-2)
4. AFTER NEW WM IS ACCEPTED, ABANDON EXISTING 6" WM.

APPROVED
NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH PROTECTION

Project Description: Approximately 600 LF of 6" DIP watermain to replace existing aged infrastructure.

S Bristol — ☐ City ☒ Town ☐ Village — Ontario County

Date 01/22/2025 By Kendall Larson P.E.
Professional Engineer I

DATE	REVISIONS	BY

DRAWING ALTERATION

WARNING: It is a violation of the New York State Education Law, Article 145, Section 7209, Special Provision 2, for any person unless he is acting under the direction of a Licensed Professional Engineer or Land Surveyor to alter an item in any way. If an item bearing the seal of an engineer or land surveyor is altered, the altering engineer or land surveyor shall affix to the item his seal and notation "altered by" followed by his signature and date of such alteration, and a specific description of the alteration.

LICENSED PROFESSIONAL ENGINEER ROBERT JAMES ELLIOTT No. 61038 STATE OF NEW YORK

BY: ROBERT J ELLIOTT
DATE: 7/2/2024

elliott. engineering solutions

ELLIOTT ENGINEERING SOLUTIONS
ROBERT J. ELLIOTT, P.E.
540 PACKETTS LANDING
FAIRPORT, NY 14450
(585) 377-0600
FAX. (585) 377-0601

PROJECT:
BRISTOL HARBOUR WATERMAIN REPLACEMENT

CLIENT:
BRISTOL HARBOUR WATER WORKS CORPORATION

DRAWING TITLE:
UTILITY WORK PLAN

DESIGNED BY: TPD	SCALE: 1"=30'
DRAWN BY: TPD	DATE: 7/1/24
CHECKED BY: RJE	PROJECT No. 10604
SHEET 1 OF 2	DRAWING No. C1

01/16/25

Z:\EES Project Files\10600 Bristol Harbour\10604\10604 BH Waterline Replacement.dwg

ATTACHMENT #2

Five Star Bank
100 Chestnut Street
Rochester, NY 14604
Five-StarBank.com

November 12, 2024

Bristol Water-Works Corporation
Attn: Mr. Todd Cook
7939 Rae Boulevard
Victor, NY 14564

Dear Mr. Cook:

Five Star Bank (the "Bank") is pleased to propose the following credit accommodation for your review. This letter should not be construed as a loan commitment, as full credit underwriting must be conducted to the complete satisfaction of the Bank before a final commitment to lend can be offered. Based upon the preliminary information provided, the following represents an overview of the Bank's anticipated terms and conditions for financing. Please note, in addition to the required due diligence of the bank, any commitment or approval to fund shall be predicated upon the New York State Public Service Commission's endorsement of a base rate increase or system improvement charge billable to Bristol Water-Works Corporation's customers.

Commercial Multi-Advance Term Loan

Borrower: BRISTOL WATER-WORKS CORPORATION

Amount: Up to $615,000

Use of Proceeds: Infrastructure improvements and general business capital uses

Loan Term: 120 Months (10 Years)

Amortization: 180 Months (15 years)

Repayment: *Draw Period:* 18 months of interest only payment due monthly, in arrears from the date of closing (the "Draw Period")

Amortizing Period: Principal and Interest due monthly, in arrears from the date of conversion from the Draw Period to the amortizing loan. (the "Amortizing Period")

Interest Rate: *Draw Period:* Commencing on the date of closing and throughout the Draw Period, interest shall accrue on the outstanding principal balance and each subsequent advance at a rate of interest based on the Prime rate then in effect *plus* zero (0) basis points (0%). Prime shall be based upon the Wall Street Journal publication of rates, adjusted daily. *The current Prime rate is 7.75%*

Amortizing Period: On the conversion date from the Draw Period to the amortizing loan, interest shall accrue on the outstanding principal balance at a rate of interest based on the 10/15 Federal Home Loan Bank of New York amortizing advance rate in effect two business days prior to conversion *plus* 250 basis points (2.50%). *The current all-in indicative rate is 7.28%*

EQUAL HOUSING LENDER Member FDIC
NMLS #408838

Collateral: First security interest in all assets of Borrower, including, but not limited to, accounts receivable, inventory, accounts, cash, proceeds, general intangibles, furnishings, fixtures, equipment, and patents. Cross defaulted to all other credit facilities.

Guarantors: Unlimited Joint and Several Guarantees of all equity shareholders of the Corporation.

Origination Fee: $1,000

Financial Statements:

The Borrower must submit timely and accurate financial information to the Bank. The financial information submittals to be recited in, and required under, the Loan Documents shall include:

I. Annually, Federal Tax Return including all attached schedules, for Bristol Water-Works Corporation within 30 days of filing;
II. Annually, Federal Tax Returns to include all attached schedules, for any Guarantor within 30-days of filing but in no event later than November 1st of each year;
III. Annually, a signed Personal Financial Statement for any Guarantor within 30-days of filing but in no event later than November 1st of each year.

Prepayment Premium:

During the Draw Period, a prepayment premium of 2% of the outstanding Principal balance shall apply at all times.

During the Amortizing Period, a prepayment premium of 1% of the outstanding Principal balance. No prepayment fee shall be charged during the Amortizing Period so long as the source of such prepayment is from internally generated funds of the Borrower or Guarantor.

Loan Conditions:

- Requests for advances during the Draw Period must be accompanied by invoices and equipment specifications and/or serial numbers.
- Evidence of PSC rate increase approval must be received prior to closing/advance.

Insurance: The Borrower must maintain satisfactory business hazard and liability insurance (and flood insurance, if applicable), with an established insurance company. In addition, the insurance policy must name Five Star Bank, ISAOA as Lenders Loss Payee.

This proposal represents an overview of the general terms and conditions under which the Bank would consider offering financing. This term sheet is for discussion purposes only and is not to be construed as a binding commitment letter. Additional documentation may be required as the Bank underwrites the subject loan.

EQUAL HOUSING LENDER Member FDIC NMLS #408838

Five Star Bank
100 Chestnut Street
Rochester, NY 14604
Five-StarBank.com

Should you have any further questions, please call me at (585) 627-1385. We hope that this term sheet meets your needs and satisfaction. We would look forward to partnering with you on this project.

Sincerely,
FIVE STAR BANK

Thomas Nairn
Vice President, Commercial Banking

Cc: Correspondence File

Acknowledgement:

Accepted as of _____, 2024.

Borrower:
BRISTOL WATER-WORKS CORPORATION

By: _____

Name: _____

Title: _____

EQUAL HOUSING LENDER Member FDIC NMLS #408838

ATTACHMENT #3

Bristol Water Works Corporation

Balance Sheet

As of December 31, 2024

	TOTAL
ASSETS	
Current Assets	
Bank Accounts	
10200 CNB Operating #1000305301	0.00
10201 Five Star Operating	-5,783.79
10300 CNB Special Assess #1101930739	0.00
Total Bank Accounts	**$ -5,783.79**
Accounts Receivable	
11400 Due To/From Flaum Mgmt	0.00
11410 A/R Account	330.84
11450 A/R Clearing Account	0.00
11500 Unbilled Water Usage Revenue	0.00
12600 Due To/ From Brist Sewer Co	0.00
Total Accounts Receivable	**$330.84**
Other Current Assets	
12001 Undeposited Funds	0.00
12700 A/R Clearing Account-A*	0.00
12750 Due T/From So Bristol Resort-A*	0.00
12760 Due to/from Hotel-A*	0.00
18000 Deferred Tax Assets	7,066.00
18001 Valuation Allowance	-7,066.00
25001 Due T/F Bristol Sewerage	-58,570.88
25002 Due To/ From Brist Sewer Co-A*	-38,032.22
25003 Due To / From BHRM	-127,378.79
26000 Due To/Due From CTC	-76,695.00
A/R Account-A*	0.00
Total Other Current Assets	**$ -300,676.89**
Total Current Assets	**$ -306,129.84**
Fixed Assets	
15000 Capital Improvements	54,918.53
15001 Raw Water Pump Replacement	74,643.92
15002 Special Assessment	142,241.51
15007 Water Meter Replacements	18,037.47
Total 15000 Capital Improvements	**289,841.43**
15100 Equipment	182,288.53
15600 Building Improvements	118,479.95
16000 Goodwill - 2016 Acquisition	52,088.00
17600 Accumulated Depreciation	-475,644.87
Total Fixed Assets	**$167,053.04**
TOTAL ASSETS	**$ -139,076.80**

Bristol Water Works Corporation

Balance Sheet

As of December 31, 2024

	TOTAL
LIABILITIES AND EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	
20000 Accounts Payable	65,023.02
21000 Special Assessment Payable	0.00
Total Accounts Payable	**$65,023.02**
Credit Cards	
16600 AMEX Card x61006	1,631.16
Total Credit Cards	**$1,631.16**
Other Current Liabilities	
20001 Accrued Payroll	1,699.00
20100 Utility Truck	0.00
20150 FiveStar Loan x3720 Cap Imp.	27,182.60
22222 BHRM Preferred Dividend Payable	129,379.08
23210 Wages Payable	0.00
23250 P/R Taxes Payable	0.00
23400 Accrued NYSFT	0.00
24100 FiveStar x9084 LOC	100,000.00
25000 Deferred Revenue	0.00
PPL Loan	0.00
Sales Tax Agency Payable	0.00
Total Other Current Liabilities	**$258,260.68**
Total Current Liabilities	**$324,914.86**
Long-Term Liabilities	
22000 M&T Improvement Loan	0.00
Total Long-Term Liabilities	**$0.00**
Total Liabilities	**$324,914.86**
Equity	
11111 BHRM Dividend	-19,330.00
35000 Retained Earnings	-508,816.88
39003 Common Stock	97,068.00
39004 Paid-in Capital	52,088.00
39007 Dividends Paid	0.00
Opening Bal Equity	0.00
Net Income	-85,000.78
Total Equity	**$ -463,991.66**
TOTAL LIABILITIES AND EQUITY	**$ -139,076.80**

Bristol Water Works Corporation

Profit and Loss

January - December 2024

	TOTAL
Income	
42000 Water Usage Income	224,767.29
Total Income	**$224,767.29**
GROSS PROFIT	**$224,767.29**
Expenses	
49001 Postage & Delivery	1,856.83
61000 Auto/Mileage Expenses	1,781.72
62000 Bank Fees	1,500.00
62001 Credit Card Fees	95.00
64000 Depreciation Expense	17,999.00
64500 Dues and Subscriptions Exp	302.00
65500 Lab Supplies	
65500-1 Chemicals	2,149.30
Total 65500 Lab Supplies	**2,149.30**
65501 Outside Laboratory Testing	3,407.24
67000 Insurance	-54.87
67001 Workers Comp	7,495.29
67002 Auto	15,255.79
67004 DBL	377.86
Total 67000 Insurance	**23,074.07**
68500 Professional Fees	28,585.00
68501 Legal Fees	13,931.75
68502 Accounting Services	3,595.00
Total 68500 Professional Fees	**46,111.75**
69000 Licenses & Certifications	100.00
69550 Interest Expense	28,283.23
70500 Management Fee	23,649.96
74250 Small Tools/Equipment	75.25
74500 Repairs & Maintenance Expense	11,543.63
74520 Water Main Break Repairs	3,418.50
Total 74500 Repairs & Maintenance Expense	**14,962.13**
75000 Salaries Expense	78,487.41
75100 Employer Payroll Taxes	3,891.10
75200 Payroll Processing Fees	117.18
75300 Health Insurance	12,343.95
75600 Taxes-School & Property	1,934.67
76000 Telephone Expense	2,661.95
76500 Office Expense	610.96
76501 Software and Software Maintenance	5,865.92
76502 Printing	526.13
76504 Website Expense	596.67

Bristol Water Works Corporation

Profit and Loss

January - December 2024

	TOTAL
77000 Utilities Expense	26,648.60
78000 Association dues	6,093.00
91200 401K Match Expense	2,499.61
Utilities	
77001 Propane	2,143.44
Total Utilities	**2,143.44**
Total Expenses	**$309,768.07**
NET OPERATING INCOME	**$ -85,000.78**
NET INCOME	**$ -85,000.78**