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AGENDA
Annual Meeting and Business Meeting
of the Niagara Falls Water Board
March 22, 2021 at 5:00 p.m.

*****Meeting to be held via conference call pursuant to Executive Order 202.1 as extended by 202.96 – visit NFWB.org for call-in details.*****

1. **Attendance and Preliminary Matters**

    a. **Asklar ___ Forster ___ Larkin ___ Leffler ___ Kimble ___**

    b. **Letters and Communications (None)**

    c. **Public Comment (Public comments may be submitted in writing to be read by the Secretary and must be received by 12:00 p.m. on March 22, 2021. Comments may be summarized when read. Email comments to scostello@NFWB.org or mail c/o Sean W. Costello, 5815 Buffalo Ave., Niagara Falls, NY 14304)**

    d. **Approval of Minutes**

        i. **January 11, 2021 Business Meeting**
        ii. **January 25, 2021 Special Meeting**

2. **Acting Executive Director**

    a. **WWTP Project Budget Tracker (CPL)**
    b. **WWTP Construction Schedule Tracker (CPL)**
    c. **Financial Award Summary (CPL)**
    d. **WTP Chlorine Booster Project**
    e. **Outside Crew Vehicles**
    f. **LaSalle Consent Order – Amending Project Schedule**
    g. **SPDES Permit Renewal**

3. **Superintendent**

    a. **Acoustic Leak Detection RFP**
    b. **18th Street Slip Lining**
    c. **10th and Michigan Water Main Replacement**

4. **Engineering**

5. **Personnel Items**

    a. **March 22, 2021 Personnel Actions**

6. **Information Technology (IT)**

7. **Finance**

    a. **March 2021 Finance Department Overview**
    b. **Treasury Investment Account Reconciliation**
    c. **Trustee Accounts Reconciliation**
    d. **Operating Account Balances**
    e. **Budget Performance through Feb. 28, 2021 – Revenue Only**
    f. **Budget Performance through Feb. 28, 2021 – Sewer Fund Expenses**
    g. **Budget Performance through Feb. 28, 2021 – Water Fund Expenses**
    h. **Overtime by Department through Feb. 28, 2021**
    i. **Annual Audit Update**

8. **Questions Regarding February 2021 Operations and Maintenance Report**

9. **Safety**

10. **General Counsel and Secretary**

11. **From the Chairperson**

12. **Resolutions**

2021-03-001 – AUTHORIZING PURCHASE OF FIRE HYDRANTS AND COMPONENTS

2021-02-002 – AUTHORIZING ENGINEERING DESIGN REPORT FOR WWTP SLUDGE HANDLING IMPROVEMENTS

a. **GHD Proposal**

2021-02-003 – EXTENSION OF BID FOR PICKUP, HAULING, AND DISPOSAL OF ALUMINUM-BASED RESIDUALS FROM WATER TREATMENT PLANT

a. **March 15, 2021 Extension Offer from Modern Disposal Services, Inc.**

2021-03-004 –AUTHORIZING AWARD OF WWTP SLUDGE HAULING AND DISPOSAL SERVICES

a. **Bid Tabulation and Award Recommendation**

2021-03-005 – GRANTING THE STATE OF NEW YORK AUTHORITY TO PERFORM AN ADJUSTMENT OF NIAGARA FALLS WATER BOARD FACILITIES AND AGREEMENT TO MAINTAIN FACILITIES ADJUSTED VIA THE STATE-LET CONTRACT, PIN 5813.48

a. **Cover Letter**
b. **Utility Work Agreement PIN 5813.48**

2021-03-006 – ENGINEERING SERVICES AMENDMENT PROJECT 2 AND 2B, GORGE PUMPING STATION REHABILITATION AND OUTFALL 003 REDIRECTION

a. **GHD Proposal**

2021-03-007 – AUTHORIZING SETTLEMENT OF COOKE CLAIM

2021-03-008 – PILOT PROJECT FOR REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE

a. **Echologics LLC Proposal**

2021-03-009 – AWARD WWTP PROJECT 7 CONSTRUCTION BIDS

a. **EI Team Recommendation Letter and Bid Tabulation**

2021-03-010 – RENEWAL OF EMPLOYMENT CONTRACT FOR DIRECTOR OF FINANCIAL SERVICES

2021-03-011 – ELECTION OF OFFICERS

2021-03-012 – FINANCE AND AUDIT COMMITTEE MEMBERSHIP AND MEETINGS

2021-03-013 – GOVERNANCE COMMITTEE MEMBERSHIP AND MEETINGS

13. Unfinished/Old Business

14. New Business & Additional Items for Discussion

15. Executive Session (if needed)

16. Adjournment of Meeting

MINUTES
Meeting of the Niagara Falls Water Board
January 11, 2021 at 5:00 p.m.

Note: This meeting was held via conference call pursuant to Executive Order 202.1 as extended by 202.87.

1. **Attendance and Preliminary Matters**

Chairman Brown called the meeting to order at 5:01 p.m.

a. **Brown __*P*__ Forster __*P*__ Larkin __*P*_ Leffler __*P*__ Kimble __*P*__**

b. **Letters and Communications**

i. **December 30, 2020 Correspondence from Administrator Regarding Operation Agreement.**

Mr. Costello noted correspondence from the City Administrator regarding the operation agreement with the NFWB and will work to schedule a meeting with the City.

c. **Public Comment (Public comments were to be submitted in writing to be read by the Secretary and to be received by 12:00 p.m. on January 11, 2021. Comments may be summarized when read.)**

Mr. Costello noted that the Board had received a copy of a submission by the attorney for Paul Cooke related to a frozen water line issue at Mr. Cooke's Beech Ave. residence.

d. **Approval of Minutes**

i. **December 14, 2020 Business Meeting**

Motion by Mr. Forster and seconded by Mr. Brown to approve the December 14, 2020 meeting minutes.

Brown __Y__ Forster __Y__ Larkin __Y_ Leffler __Y__ Kimble __Y__

Motion carried, 5-0

ii. **December 21, 2020 Public Hearing and Budget Meeting**

Motion by Ms. Larkin and seconded by Mr. Brown to approve the December 14, 2020 meeting minutes.

Brown __Y__ Forster __Y__ Larkin __Y_ Leffler __Y__ Kimble __Y__

Motion carried, 5-0

iii. **December 28, 2020 Budget Meeting**

Motion by Mr. Forster and seconded by Mr. Brown to approve the December 28, 2020 meeting minutes.

Ms. Leffler and Ms. Kimble noted they were voting no because they felt the resolutions were not received sufficiently in advance of the meeting.

Brown __Y__ Forster __Y__ Larkin __Y_ Leffler __N__ Kimble __N__

Motion carried, 3-2

2. **Acting Executive Director**

   a. **WWTP Project Budget Tracker (CPL)**
   b. **WWTP Construction Schedule Tracker (CPL)**

Ted Donner presented an updated capital project status review to the board members; notes there was nothing major to report currently; all projects are proceeding with no issues.

Mr. Forster requested an update on Item 2C of the Capital Improvement Plan, meter replacement and upgrades – to ensure meter accuracy and automated readings.

   c. **Financial Award Summary (CPL)**

Dave Jaros presented a financial award summary to the board members.

   d. **RFP Updates**
      i. **Design Report for Improvements in the WWTP Processing, Handling, and Disposal of WWTP Residuals**
      ii. **Real Time Monitoring and Analysis of Water Distribution System – Leak Detection and Pressure**
      iii. **Rate Consultant and Consulting Engineer**

Mr. Costello briefly explained the RFPs above, which have been issued or will be issued soon, and the anticipated timeline for presenting resolutions for the Board's approval. Seven

proposals were received for the WWTP sludge RFP, and a recommendation to award is expected for February.

3. **Superintendent**

4. **Engineering**

Mr. Forster question the status of the slip-line from 18th St. to Michigan Ave.

Mr. Williamson and Mr. Wright confirmed that according to City Engineering, this project will go out to bid this month.

5. **Personnel Items**

    a. **January 11, 2021 Personnel Action Sheet**

Mr. Costello explains that the personnel actions listed on the sheet do not require Board approval and are for information only.

6. **Information Technology (IT)**

Mr. Costello noted that the New World upgrade project is moving forward, but because of technical issues, it will require an additional project be completed first. A VPN will be installed at City Hall so the City will be able to log into New World directly rather than through the Water Board's system, eliminating the need for the wired connection between City Hall and the WTP that has proven problematic. The New World "go live" date will be in February.

7. **Finance**

    a. **Bank Balance Report**
    b. **Budget Performance Report as of January 5, 2021**
    c. **Final 2020 Payroll-Based Overtime Log**
    d. **Capital Improvement Plan Tracking (Spreadsheet not part of packet)**

Ms. Walker noted that DRIP program letters will be sent soon.

Chairman Brown notes that he has not received a response to two items of correspondence sent to Ms. Walker with questions regarding the 2021 budget. He had asked for information regarding specific accounts and why funds were not budgeted to those accounts for 2021.

Ms. Walker states that she did not respond to Chairman Brown's questions because she misunderstood them and cannot answer at this time.

Mr. Walker further stated that she did not answer Chairman Brown's questions at the time, due to her concerns with the proposed 2.99% rate increase. Ms. Walker contacted the NFWB's bond consultant and provided him with the budget amendments.

Chairman Brown notes going back to August-September 2020 he has been requesting budget forecasts, in the form of projections or estimates, for 2020 revenues. He also never received fund balance breakdowns for 12/31/2019 and 12/31/2020 despite multiple requests. Ms. Walker will need to look to check on the status of this.

8. **Questions Regarding December 2020 Operations and Maintenance Report**

No questions were asked.

9. **Safety**

Mr. Costello notes Resolution 2021-01-004 – regarding a contractor to assist with the Water Board's safety program (AFI safety proposal).

Patrick Ackerman (project manager for the safety consultant) from AFI was on the call to answer any questions from the board members regarding the safety proposal.

Mr. Costello states, if resolution 2021-01-004 is approved, he will ask that the contractor reviews the NFWB's end-of-year reports to ensure everything is properly completed.

Ms. Larkin requested to return to the finance portion, seeking clarification regarding the conversation that was had between Mr. Costello and the NFWB's bond consultant.

Mr. Costello states he contacted bond counsel Tom Meyers after receiving a copy of Ms. Walker's email earlier that afternoon and asked if Mr. Meyers has any specific concerns from EFC with respect to the NFWB's rate increase. Mr. Meyers did not identify any specific concern; however, he did state we will need to obtain an updated report from Dresher & Malecki, possibly with a brief narrative to outline how the budget amendments put forth will reduce the operating budget making the rate increase sufficient.

Mr. Costello states that regarding use of debt service reserves, there are restrictions on how these funds are appropriated. However, Mr. Meyers explained there are mechanisms to make use of excess funded debt service reserves. After speaking with Mr. Meyers, Mr. Costello believes it possible to use some of the debt service reserve funds to lower the overall amount of the operating budget. Perhaps not through a direct transfer from the debt service reserve fund into the operating budget, but more so to offset some of the principal and interest payments for a bond maturing this year.

Chairman Brown notes a report from the State Comptroller's office from a few years back noted excess amounts in the debt service funds and that those funds should be used towards rate reductions. Chairman Brown states that now, that is exactly what the NFWB is doing. Ms. Walker asked if the Comptroller's Office indicated the excess should be used for capital projects or rate reduction, Chairman Brown replied that the report specifically said rate reduction.

Ms. Walker asked to clarify that Tom Meyers said he had been contacted several times by EFC regarding the 2.99% rate increase and said that an updated report from the rate consultant was needed.

10. General Counsel and Secretary

11. From the Chairman

Chairman Brown stated that on Saturday, January 2, 2021 he had received notification from City Council Chairman Kenny Tompkins, of a very dangerous situation regarding a missing manhole cover. Mr. Costello was notified and immediately contacted Mr. Eagler to rectify the situation. Chairman Brown appreciated the staff's quick response to this matter, addressing the situation within half an hour.

Chairman Brown noted his top priorities for the first and second quarter of 2021:

- *Identifying the causes and reducing the amount of unbilled and unaccounted for water;*
- *Reducing the annual expense of workers compensation; and*
- *Hiring an Executive Director – he noted he emailed the Board to ask their thoughts on the search. Ms. Leffler did not receive the email and Chairman Brown will re-send it. Ms. Kimble noted she will send a response.*

12. Resolutions

2021-01-001 – ANNUAL BARRACUDA CLOUD BACKUP AND STORAGE SERVICES

a. Renewal Invoice

Motion by Ms. Larkin and seconded by Mr. Forster to approve.

Brown __Y__ Forster __Y__ Larkin __Y__ Leffler __Y__ Kimble __Y__

Motion carried, 5-0

2021-01-002 – LUCITY SOFTWARE SUPPORT AND MAINTENANCE RENEWAL

a. Renewal Invoice

Motion by Mr. Forster and seconded by Mr. Brown to approve.

Brown __Y__ Forster __Y__ Larkin __Y__ Leffler __Y__ Kimble __Y__

Motion carried, 5-0

2021-01-003 – AUTHORIZING THIRD PARTY LABORATORY ANALYSIS SERVICES FOR WASTEWATER TREATMENT PLANT LABORATORY

a. Test America Quote

Motion by Mr. Forster and seconded by Ms. Larkin to approve.

Brown __Y__ Forster __Y__ Larkin __Y__ Leffler __Y__ Kimble __Y__

Motion carried, 5-0

2021-01-004 – CONTRACTOR FOR SAFETY PROGRAM

a. AFI Safety Proposal

Motion by Mr. Forster and seconded by Mr. Brown to approve.

Brown __Y__ Forster __Y__ Larkin __Y__ Leffler __Y__ Kimble __Y__

Motion carried, 5-0

2021-01-005 – VORTEX PUMPS SPARE PARTS ORDER

a. Vortex Spare Parts Order Information

Motion by Mr. Forster and seconded by Ms. Larkin to approve.

Brown __Y__ Forster __Y__ Larkin __Y__ Leffler __Y__ Kimble __Y__

Motion carried, 5-0

2021-01-006 – NOTICE OF NON-RENEWAL OF EMPLOYMENT CONTRACT

Motion by Mr. Forster and seconded by Mr. Brown to approve.

Mr. Forster stated that there are six employees under contract. In 2020 there was a resolution to eliminate contracts. All the other contracts end at the end of 2021.

Ms. Kimble stated that at-will employment has been considered discriminatory, because African Americans are at the greatest risk as the last hired and first to be fired or to see their hours cut. Getting rid of contracts and going to an at-will system therefore is something that Ms. Kimble does not necessarily support because there are ways to remove employees who are under contract.

In this particular situation, she looks at what has happened with other employees' whose contracts were renewed in 2020, the employment contracts of four white employees were approved without an evaluation and the Board now is going to terminate the Director of Financial Services, who is black, without an evaluation. She feels the employees are being treated differently and it is employment discrimination based on race, and that Ms. Walker would prevail if she were to bring a discrimination suit against the Water Board. Ms. Kimble says she was told it was the intention of a Board member when they came onto the Board to get rid of Ms. Walker, and this Board member has what she believes are racially inflammatory Facebook posts of which the City Council has been made aware. Ms. Kimble feels the Water Board does not have a lot of diversity among its 105 employees, and will vote no.

Ms. Leffler agrees with Ms. Kimble and when Ms. Walker was first hired everyone knew she was not supportive of Mr. Forster's selection of Ms. Walker for the financial position, but she has come to respect Ms. Walker's work. Mr. Forster stated Ms. Walker was not his selection. Ms. Leffler says this is more than not renewing it a contract it is a termination, and she is against it.

Brown __Y__ Forster __Y__ Larkin __Y__ Leffler __N__ Kimble __N__

Motion carried, 3-2

13. Unfinished/Old Business

None.

14. New Business & Additional Items for Discussion

None.

15. Executive Session (if needed)

No executive session was held.

16. Adjournment of Meeting

Motion by Mr. Forster and seconded by Ms. Larkin to adjourn the meeting at 6:14 p.m.

Brown__Y__Forster__Y__Larkin__Y__Leffler__Y__Kimble__Y__

Motion carried, 5-0.

MINUTES

Special Meeting
of the Niagara Falls Water Board
January 25, 2021 12:00 PM

Note: This special meeting was conducted via teleconference without public in-person attendance pursuant to Governor Cuomo's Executive Order 202.1 as extended through January 29, 2021 by Executive Order 202.87.

1. **Attendance**

    a. **Brown __*P*__Forster __*P*__Kimble__*P*__Larkin__*P*__Leffler__*P*__**

Chairman Brown called the meeting to order at 12:03 p.m.

2. **Resolution 2021-01-007 – RETENTION OF SELECTIVE STAFFING SOLUTIONS FOR EXECUTIVE DIRECTOR SEARCH**
    a. **Selective Staffing Solutions Agreement and Brochure**

Chairman Brown feels the Water Board needs to hire a firm as the resolution states. Mr. Costello noted that Thom Jennings and Michelle Alberts from Selective Staffing were present on the call.

Mr. Jennings stated that the firm has proposed a retained search, a proactive approach to fill an executive level position. Rather than typical recruitment outsourcing, a traditional search will be conducted and a full candidate profile will be developed including technical skills and soft skills. The firm reaches out not just to applicants but to persons who are gainfully employed to see if they are interested. The candidates then go through a full interview with Mr. Jennings, not just focusing on skills but on psychological factors as well, to develop a full profile on the candidate, which then is presented to the Board. They do not just email a resume, they send a profile with additional information such as the candidate's motivations and salary requirements, and asking if the Board wants to do an interview, which the firm coordinates.

The firm handles offer negotiation. After a candidate is accepted, Mr. Jennings states he will continue to check in with the candidate to ensure the proper fit and to get feedback on any issues to help the candidate and client work through those issues.

A placement guarantee is offered. Meaning, for a period of 6 months, Selective Staffing Solutions LLC, will re-perform the search for the Executive Director's position without additional fees if the candidate does not work out.

Mr. Forster states that per the proposal, $7,500 is due upon the signing of this agreement, followed by $7,500 due within 30 days from the signed agreement. Mr. Forster questions the "additional fees" that are also noted in the proposal.

Mr. Jennings explains that the fee itself consists of 20% of the candidate's salary, collected in installments. Any remaining fees consists of the net of the 20%.

- *For example, if the potential candidates salary was $100,000.00, the fee would be $20,000.*
- *$7,500 would be billed initially with an additional $7,500 billed within 30 days, totaling $15,000. The remaining $5,000 would be billed at the conclusion of the search.*
- *Any additional fee in terms of expenses will be on a preapproved basis. For example, a potential out-of-area candidate in need of a hotel room. In that case, the firm will discuss any additional costs with the Board prior to proceeding.*

Mr. Forster questions the NFWB procurement policy, which states anything over $10,000 would be conducted as an RFP. Mr. Forster states he understands that personal services does not have to, but would like a further explanation.

Mr. Costello states the procurement policy says that generally professional services over $10,000 should be by RFP, but if an RFP is not done the resolution should state the reasons an RFP was not done, list the firms from which proposals were solicited, and state why the procurement should not be postponed to permit the RFP. Here, the resolution states that the Board would be moving forward for time reasons.

Mr. Brown wished to add that all Board members know the situation the Board is in and that it is important to maintain the stability of the organization to get an executive director professional recruited. Mr. Brown asked each Board member for any comments about how they would like to go about this, and has heard from Ms. Larkin and Ms. Leffler. He personally does not have expertise or time to do the recruiting, and is not sure any other Board member does. He feels the Board is in a position where doing an RFP would be beneficial because he thinks fees are similar between firms and there are not that many firms that do the work. This firm is a Woman-Owned Business Enterprise. He does not see an RFP as accomplishing anything other than wasting time that in his opinion the Board does not have.

Ms. Larkin notes that from what she knows of the recruiting market, there are not that many local firms that do executive recruiting in Western New York, and that the 20% fee is standard for most recruiters. She feels it is important to get the process moving sooner rather than later because right now one person is in charge of quite a bit of responsibility, and having someone objective to do the legwork is necessary. When she was doing research she called Mr. Jennings and was impressed by the level of detail that Selective goes to. The goal is to find the best Executive Director possible, which is what the Board, ratepayers, and employees deserve.

Ms. Leffler questions if the parameters of the Executive Director's salary have been given to Selective Staffing Solutions LLC.

Mr. Jennings states that a lot of the firm's up-front work is working with the Board to develop the job description and they have tools to help develop an appropriate salary range, but some of the best data is from the candidate interviews. While they will want to start with a salary range to avoid wasting candidate's time, they will develop an ideal range after doing some ground work. They will work within the Board's parameters but will advise what they feel is the appropriate salary range for the position.

Ms. Kimble questions how Selective Staffing Solutions LLC was chosen for consideration and thinks that the NFWB is in violation of the procurement policy because it should have done an RFP or RFQ. She does not think that time is of the essence is a real reason for why the policy is not being followed. The Board currently has someone in place as an acting Executive Director. She wants to know who recommended the firm.

Mr. Costello states that Ms. Larkin was familiar with Selective Staffing Solutions LLC after some investigation she had done and had suggested that he contact the firm. Ms. Kimble feels that with the issues this Board has had the thumb is on the scale already and she does not feel comfortable voting in support of this.

Ms. Leffler requested again clarification why there was no RFP or RFQ. Mr. Costello said the policy says there should be an RFP for professional services over $10,000 but the policy allows exceptions, in this case the reason for not going to RFP are stated in the resolution, here it is an issue of timing to move forward to get a permanent Executive Director.

Mr. Brown stated that in his opinion the Board does not have the staff to do proper recruitment for top management positions and disagrees with comments that time is not of the essence, he feels it is important and urgent to maintain the stability of the organization and employing an executive search firm like this will get the Board a good slate of candidates, in the best interests of the Board and ratepayers. He feels that the history of the Board shows that its recruitment efforts were not successful in the past and he wants to get this one right.

Motion by Ms. Leffler and seconded by Mr. Brown to approve.

Brown __Y__Forster __Y__Kimble__N__Larkin__Y__Leffler__Y__

Motion carried 4-1

3. **Adjournment of Meeting**

Motion by Ms. Leffler and seconded by Mr. Forster to adjourn at 12:24 p.m.

Brown __Y__Forster __Y__Kimble__Y__Larkin__Y__Leffler__Y__

Motion carried 5-0

Key	
Proposal currently under review, but not approved	
Preliminary Construction Cost per Engineers Estimate	

Niagara Falls Water Board (NFWB) Overall Capital Project Budget Summary (Phase 1 Overall Budget = $27M)

Last Updated: 3/15/2021

Project	Scope of Work	Original Budget	Scope/Vendor	Estimated Task	% of Total Project Budget	Recent Work Update
1	Sedimentation Basin Upgrades	$10,390,000	Design and Bidding **(AECOM - Approved)**	$409,000	4%	Currently in construction. Hohl onsite performing demolition of existing equipment. SDVOB field engineer onsite.
			CA/CI **(CPL - Approved)**	$470,000	5%	
			GEN Construction **(Hohl - Per Bid - Approved**)	$7,422,010	71%	
			ELEC Construction (**CIR - Per Bid - Approved)**	$894,100	9%	
			Project Total	**$9,195,110**	88%	
			Remaining Budget	**$1,194,890**	**12%**	
2	GPS	$3,800,000	Design, Bidding, and CA/CI **(GHD - Approved)**	$414,930	11%	Construction continues at GPS. Outfall Work complete. GHD continues CA work with MWBE subcontractor CI support.
			GEN Construction **(STC - Per Bid - Approved**	$3,215,000	85%	
			ELEC Construction **(CIR - Per Bid - Approved**)	$418,300	11%	
			HVAC Construction **(Danforth - Per Bid - Approved**)	$864,400	23%	
			Project 2B Outfall Relocation Cost Share	**$1,666,265**	-	
			Project Total (Minus Outfall Relocation Cost Share)	**$3,246,365**	85%	
			Remaining Budget	**$553,635**	**15%**	
3	Screens and Grit Transportation Equipment Improvements	$1,920,000	Design, Bidding, and CA/CI **(Arcadis - Approved)**	$314,315	16%	Currently in construction. Arcadis coordinating submittals with Hohl.
			GEN Construction **(Hohl - Per Bid - Approved)**	$1,527,000	80%	
			ELEC Construction **(CIR - Per Bid - Approved)**	$140,800	7%	
			Project Total	**$1,982,115**	103%	
			Remaining Budget	**($62,115)**	**-3%**	
4	Granular Activated Carbon and Filter Support Gravel Replacement	$2,000,000	Design, Bidding, and CA/CI **(AECOM - Approved)**	$201,160	10%	**Construction Complete.**
			GEN Construction **(Carbon Activated - Per Bid - Approved)**	$1,798,840	90%	
			Project Total	**$2,000,000**	100%	
			Remaining Budget	**$0**	**0%**	
5	Electrical System Improvements	$2,610,000	Design/E.I. Team - **Approved**	$226,000	9%	EI Team continues with Design of the final phase of electrical improvements.
			Phase 2 Design - **Approved**	$133,566	5%	
			CA/CI/TBD - **Approved**	$65,374	3%	
			Const. - **Per original project Budget (EI Team Estimates $6M)**	$1,845,112	71%	
			Task 1 Construction - Ferguson - **Approved**	$339,947	13%	
			Project Total	**$2,610,000**	100%	
			Remaining Budget	**$0**	**0%**	
6	Effluent Disinfection	$3,650,000	Design and Bid/AECOM - **Approved**	$116,000	3%	Construction completion anticipated in the next month.
			GEN Construction **(M&B - Per Bid - Approved)**	$1,366,000	37%	
			ELEC Construction **(Ferguson - Per Bid - Approved)**	$108,000	3%	
			ELEC Construction **(Ferguson - Approved Proposal - Network Improvements)**	$400,000	11%	
			CA/In-House - **CPL (Included in current CPL term contract)**	**~ 5% or $185,000 if by capital project engineer**		
			CI (**AECOM - Approved)**	$74,000	2%	
			Project Total	**$2,064,000**	57%	

			Remaining Budget	**$1,586,000**	**43%**	
7	Replacement of Critical Heating and Ventilation Equipment	$1,160,000	Design, Bidding, and CA/CI **(E.I. Team - Approved)**	$140,320	12%	EI Team finalizing scope with low bidders and proceeding into construction currently.
			Construction - **(Per Engineers 75% Estimate with 10% contingency)**	$1,019,680	88%	
			Running Total	**$1,160,000**	100%	
			Remaining Budget	**$0**	**0%**	
8	Replacement of Blower Equipment	$300,000	Design/In-House **AECOM/ CPL (Included in current CPL term contract)**	N/A	N/A	**Construction Complete.**
			Const./Various Contractors - **Per IDIQ Contract**	$90,118	30%	
			CA/CI/In-House - **CPL (Included in current CPL term contract)**	N/A	N/A	
			Running Total	**$90,118**	30%	
			Remaining Budget	**$209,882**	**70%**	
9	Replacement of Process Piping	$640,000	Piping Assessment Report **(Ramboll - Approved)**	$58,656	9%	JM Davidson proceeding to project bid phase.
			Design, Bidding, and CA/CI **(JMD - Approved)**	$114,560	18%	
			Construction - (**Per Engineers Preliminary Estimate with 15% contingency)**	$466,784	73%	
			Running Total	**$640,000**	100%	
			Remaining Budget	**$0**	**0%**	
10	SCADA Improvements	$455,000	Phase 1 Design/ Construction/Kaman - **Approved**	$352,450	77%	Kaman continues SCADA upgrade work and coordination with Capital Project Engineers.
			Phase 2 Design/ Construction - **Approved (For Project #6)**	$146,200	32%	
			Running Total	**$498,650**	110%	
			Remaining Budget	**($43,650)**	**-10%**	
Phase 1 Budget Total =		**$26,925,000**	**Anticipated Total Cost (Percentage of Total Budget)**	**$23,486,358**	**87%**	
			Overall Phase 1 Remaining Budget to Date	**$3,438,642**	**13%**	

Key	
Proposal currently under review, but not approved	
Preliminary Construction Cost per Engineers Estimate	

Niagara Falls Water Board (NFWB) Overall Capital Project Budget Summary (Phase 2 Overall Budget = $7M)

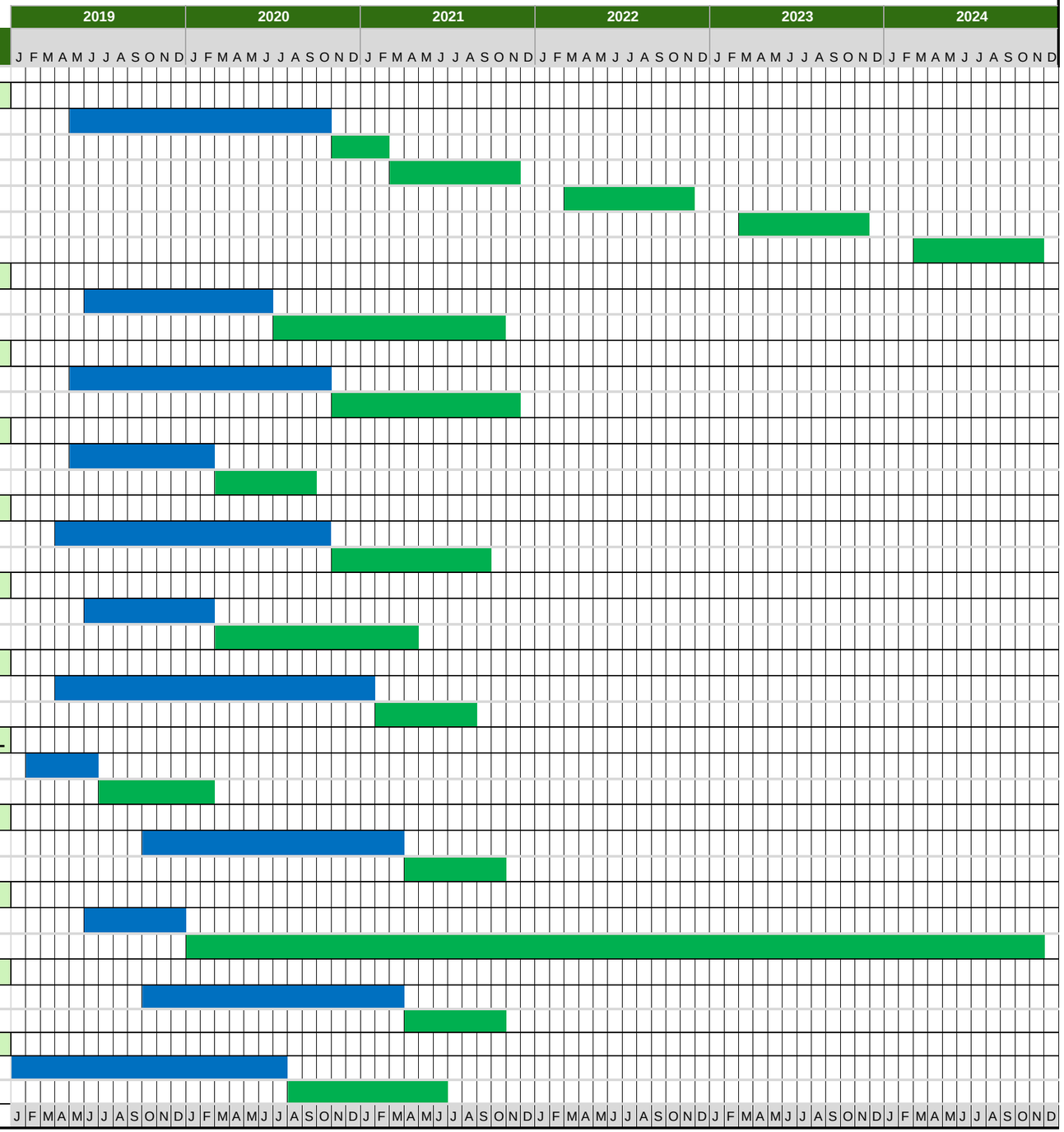
Project	Scope of Work	Budget	Scope/Vendor	Estimated Task Cost	Percentage of Total Project	Recent Work Update
2B	Outfall	$1,700,000	Design, Bidding, and CA/CI **(GHD - Approved)**	$37,400	2%	(See Project #2 Update)
			Construction Share with Project #2 GPS (Budget - Design Fee) - **Approved**	$1,662,600	98%	
			ELEC Construction **(CIR - Per Bid - Approved)**	Included above	Included above	
			HVAC Construction **(Danforth - Per Bid - Approved)**	Included above	Included above	
			Running Total	**$1,700,000**	100%	
			Remaining Budget	**$0**	0%	
11	WWTP Misc. Piping	$1,200,000	Design, Bidding, and CA/CI **(JMD - Approved)**	$68,855	6%	(See Project #9 Summary Above)
			Const./ **Estimated Cost - Not Approved**	$1,131,145	94%	
			Running Total	**$1,200,000**	100%	
			Remaining Budget	**$0**	**0%**	
99	FEMA (Final Design, Bidding, and construction)	$5,509,900	(FEMA Phase 1) Preliminary Design - GHD - **Previously Approved**	$208,000	4%	On hold, waiting for guidance from NFWB on how to proceed.
			(FEMA Phase 2) Final Design, Bidding, and CA/CI - GHD - **Approved**	$325,700	6%	
			(FEMA Phase 2) Construction Cost - **Per GHD Estimate w/10% Contingency**	$5,184,200	91%	
			Running Total (Not including preliminary design)	**$5,509,900**	96%	
			Total FEMA Funding ($156,053 for Design and $2,853,778 for Construction)	$2,853,778	52%	
			NYS Funding Portion (50% of Remaining)	$1,328,061	23%	
			NFWB Funding Portion (50% of Remaining)	$1,328,061	23%	
			Total	**$5,717,900**	**100%**	
Phase 2 Budget Total =		**$7,000,000**	**Anticipated Total Cost (Percentage of Total Budget)**	**$5,556,122**	**79%**	
			Overall Phase 2 Remaining Budget to Date	**$1,443,878**	**21%**	

ESTIMATED CONSTRUCTION SCHEDULE

NFWB CAPITAL IMPROVEMENT PROJECTS

Updated: (3-15-21)

TASK DESCRIPTION	PLAN START	PLAN END
Project #1: Sedimentation Basin Upgrades (CPL) - CA/CI Services Approved (10-26-20)		
Design and Bidding	5/22/2019	10/1/2020
Mobilization	11/1/2020	2/1/2021
Construction (Phase 1)	3/1/2021	11/30/2021
Construction (Phase 2)	3/1/2022	11/30/2022
Construction (Phase 3)	3/1/2023	11/30/2023
Construction (Phase 4)	3/1/2024	11/30/2024
Project #2 Gorge Pumping Station Rehab (GHD) - CA/CI Services Approved (12-16-19)		
Design and Bidding	6/3/2019	6/27/2020
Construction	7/1/2020	10/1/2021
Project #3 Screens and Grit Transport (Arcadis) - CA/CI Services Approved (10-26-20)		
Design and Bidding	5/30/2019	10/1/2020
Construction	11/1/2020	11/1/2021
Project #4 Activated Carbon Replacement (AECOM) - CA/CI Services Approved (11-25-19)		
Design and Bidding	5/22/2019	2/22/2020
Construction	3/1/2020	9/1/2020
Project #5 Electrical System Improvements (EI Team) - CA/CI Services Approved (9-28-20)		
Design and Bidding	4/25/2019	10/1/2020
Construction	11/1/2020	9/1/2021
Project #6 Effluent Disinfection (AECOM) - CA Services (Approved Previously)		
Design and Bidding	6/25/2019	2/1/2020
Construction	3/1/2020	4/1/2021
Project #7 HVAC Improvements (EI Team) - CA/CI Services Approved (9-28-20)		
Design and Bidding	4/25/2019	1/1/2021
Construction	2/1/2021	8/1/2021
Project #8 Replacement of Blower Equipment (In House) - CA Services by AECOM and CPL		
Design and Bidding	2/1/2019	6/1/2019
Construction	7/1/2019	2/1/2020
Project #9 Replacement of Process Piping (JMD) - CA/CI Services Approved (9-28-20)		
Design and Bidding	10/26/2019	3/26/2021
Construction	4/1/2021	10/1/2021
Project #10 SCADA Improvements (Kaman) - CA Services Not Required		
Design and Bidding	6/1/2019	12/1/2019
Construction	1/1/2020	11/1/2024
Project #11 WWTP Additional Piping (JMD) CA/CI Services Approved (9-28-20)		
Design and Bidding	10/1/2019	3/26/2021
Construction	4/1/2021	10/1/2021
Project #99 WWTP Protective Measures - Project on Hold		
Design and Bidding	1/1/2019	7/1/2020
Construction	8/1/2020	6/1/2021



NFWB Financial Award Summary
Last Updated: 3/15/21
Note: Changes from last summary are in red text

Description	Amount	Source	Status
AWARDED			
Bollier Avenue Watermain Improvements 2017	$400,000 total $240,000 grant	NYS EFC DWSRF 18435	Funding Agreement Signed. Construction completed October 2020. NFWB with assistance from City to submit for reimbursement with EFC.
Various Watermain Improvements 2018	$5,495,000 total $3,000,000 grant $2,495,000 loan	NYS EFC DWSRF 18588	EFC conf call 9/18/20. Agreement not signed. NFWB provided EFC with remaining documents. EFC will then process internally. Anticipated reimbursements can occur spring 2021. City Engineer started design on two streets. NFWB/CPL provided EFC with updated schedule 10/29/20.
Sewer Plant Phase 1 Improvements	$13,500,000 grant	NYS DASNY ID #15688	Awarded. Reimbursement requests underway with DASNY and money received.
Sewer Plant Phase 1 Improvements	$13,500,000 loan long term $27,000,000 loan short term	NYS EFC #C9-6603-12-00	EFC finance closing process underway. NFWB bond consul supplying forms to EFC per their request. Anticipated reimbursements can occur spring 2021.
Sewer Plant Consent Order Items 11 & 14	$500,000 grant	NYS DEC & EFC R9-20170906-129	Paperwork submitted and EFC/DEC reviewed. NFWB coordination with EFC for required paperwork to start fund release process.
LaSalle Sewer Area Phase 1 system report update & flow monitoring	$100,000 grant	NYSDEC Engineering Planning Grant EPG #93794	EFC & DEC conf call 9/21/20. EFC accepted Arcadis agreement 10/16/20. Agreement has been signed between NFWB & EFC. Anticipated reimbursements can occur spring 2021.

FUTURE			
2020 Various Watermain & System Improvements	$5,300,000 total $3,000,000 grant $2,300,000 loan	NYS EFC	Submission paperwork prepared. Waiting on State to announce grant sessions. Financial assistance submission to IUP made in Sept 2020. NFWB reviewing possibility of performing Military Road work in house.
LaSalle Sewer Area Phase 2 system report update & flow monitoring	$180,000 total $100,000 grant $80,000 NFWB Match	NYSDEC Engineering Planning Grant	CPL submitted application 2/10/21. Anticipate announcement from State June or July 2021.
LaSalle Sewer Area Phase 2 Construction	$1,000,000 total $750,000 grant $250,000 NFWB match	NYSDEC WQIP	Waiting on State to announce grant sessions. Financial assistance submission to IUP made in Sept 2020. EFC sent letter dated 3/4/21 stating construction work is eligible for hardship financing (0% loan). Eligibility in effect through 9/30/22.
Local Government Records Management Improvement	Grant, varies. Up to $150,000 if submit with City	NYS Archives	Recommend NFWB partner with City to maximize grant award. If City not interested, NFWB should make application by themselves. Application period anticipated to be early 2021. NFWB met with City Feb 2021 to discuss. City hiring Grant firm. CPL awaiting direction.
Local Government Efficiency Program		NYS DOS	For projects that will achieve improvements between NFWB and other entities such as County, City, Public Safety, etc. NFWB met with City Feb 2021 to discuss. CPL awaiting direction.

Niagara Falls Water Board

Personnel Actions and Report

Monday, March 22, 2021

Personnel Actions Sheet & Requested of the Board.
All appointments are subject to the appointee meeting the minimum qualifications and all applicable civil service conditions.

A. PERSONNEL ACTIONS RECOMMEND TO HIRE

Line Item Number	Position	Department/Location	Pay Rate or Grade	ADDITIONAL INFORMATION
1.0	Electrician	WWTP	$62,000/year	Minimal 2021 budgetary impact based on salary available from unfilled positions and desireable based on volume of work.

B. RECOMMENDED PROMOTION / MOVE / APPOINTMENT

Line Item Number	Name and Position	Type of labor move	Change in pay rate or grade	ADDITIONAL INFORMATION
1	Nick Castile - CDT Trainee	Promotion to CDT-Technician	9B to 12B $.74/hr	Supervisor recommendation
2	Tracy Maracle-Pitrello CDT Trainee	Promotion to CDT-Technician	9B to 12B $.74/hr	Supervisor recommendation
3	Michael Alfieri	WTP Operator to Sr Operator	4B to 20B $2.39/hr	Licensing Obtained & Chief Operator recommendation
4	Michael Janese	WTP Operator to Sr Operator	4B to 20B $.90/hr	Licensing Obtained & Chief Operator recommendation
5	Joseph Kempa, Jr.	WTP Operator to Sr Operator	4B to 20B $2.39/hr	Licensing Obtained & Chief Operator recommendation

C. PREVIOUSLY TABLED PERSONNEL ACTIONS (From 2021)

Line Item Number	Position	Department/Location	Pay Rate or Grade	ADDITIONAL INFORMATION
None.				

D. OTHER PERSONNEL ACTIVITY FOR BOARD NOTIFICATION

Name	Position	Department/Location	Pay Rate	ADDITIONAL INFORMATION
Martineau, Donald J	CDT Trainee	Outside Water & Sewer	$19.13/hr	Retired 01/28/2021. CDT Trainee position eliminated in 2021 budget, this retirement therefore does not create a vacancy and will not be filled.

E. PERSONNEL ON LONG TERM LEAVE OF ABSENCE

Name	Last Day Worked	Dept.	Return Status	Comments
James Joyce	1/5/2021	WWTP Maint	TBD	Workers Comp

NIAGARA FALLS WATER BOARD
Financial Services Department
March 2021 Overview

ANNUAL TRANSER TO CITY TAX ROLLS

	FY 2020	# of Properties	FY 2019	# of Properties	FY 2018	# of Properties
WATER	840,538.55	3,999	545,701.94	3,841	619,985.48	4,003
SEWER	1,083,790.98	4,016	696,284.29	3,852	834,145.59	4,012
TOTAL	1,924,329.53	8,015	1,241,986.23	7,693	1,454,131.10	8,015

- The City of Niagara Falls has given its one year notice as per the Operating Agreement to sever its Billing & Collections agreement with the Water Board, effective for FY 2022. The Finance and IT staff are currently sourcing vendors and pertinent technological resources that will expand payment options for customer.

SAM Grant
DASNY Phase 1- Rehab Project Fund Reimbursements- Project ID 15688

REQUEST#	DATE	AMOUNT	DASNY SHARE
1	Aug 2020	266,928.11	13,500,000
2	Nov 2020	1,006,307.39	
3	Feb 2021	569,243.43	
4	Mar 2021	98,754.30	
TOTAL		**1,941,233.23**	**11,558,766.77**

- Reimbursements are now arriving regularly for this project, thus improving the rate at which the capital construction account is replenished.

2021 BUDGET

	YTD THRU 2-28-2021		BUDGET - YTD	
FUND	**REVENUES**	**EXPENSES**	**REVENUES**	**EXPENSES**
FA	2,171,500.56	1,578,866.49	9,371,768.44	9,797,285.71
GA	3,187,692.76	1,585,221.88	16,896,759.24	16,418,833.17
TOTAL	**5,359,193.32**	**3,164,088.37**	**26,268,527.68**	**26,216,118.88**

- As anticipated, the cost of Sludge Disposal has increased significantly, by over 75%, from about $62 per ton to approximately $110 per ton. The original Sewage Treatment Departmental budget request of $4MM was ultimately reduced to a 2021 budgeted amount of $1,750,000. This is not nearly enough. Tentatively, another $800K will be needed to cover these costs.

BANK ON BUFFALO- 2643

Treasury Reconciliation FY 2021

MONTH	STARTING VALUE	DEPOSITS/WITHDRAWALS	TRANSFERS	NET CHANGE IN VALUE	MONTH ENDING VALUE
JAN	17,503,800.30	0	0	-5,802.15	17,497,998.15
FEB	17,497,996.15	-2,853.35	0	2,740.10	17,497,884.90
MAR					
APR					
MAY					
JUN					
JUL					
AUG					
SEP					
OCT					
NOV					
DEC					
FY TOTAL					

WILMINGTON TRUST				
Jan-21				
ACCOUNT NAME	STARTING VALUE	DEPOSITS/WITHDRAWALS	NET CHANGE	CLOSING VALUE
Debt Service Fund X3250	6,636,484.39	-784,579.52	6,563.07	5,858,467.94
Debt Service Reserve X3252	8,741,079.26	0	29,754.06	8,770,833.32
Capital Construction X2722	2,554,526.14	0	21.70	2,554,526.14

WILMINGTON TRUST				
Feb-21				
ACCOUNT NAME	STARTING VALUE	DEPOSITS/WITHDRAWALS	NET CHANGE	CLOSING VALUE
Debt Service Fund X3250	5,858,467.94	666,894.03	3,318.37	6,528,680.34
Debt Service Reserve X3252	8,77,833.32	0	27,048.63	8,797,881.95
Capital Construction X2722	2,554,526.14	964,157.54	9.82	1,593,378.42

WILMINGTON TRUST				
Mar-21				
ACCOUNT NAME	STARTING VALUE	DEPOSITS/WITHDRAWALS	NET CHANGE	CLOSING VALUE
Debt Service Fund X3250				
Debt Service Reserve X3252				
Capital Construction X2722				

WILMINGTON TRUST				
Apr-21				
ACCOUNT NAME	STARTING VALUE	DEPOSITS/WITHDRAWALS	NET CHANGE	CLOSING VALUE
Debt Service Fund X3250				
Debt Service Reserve X3252				
Capital Construction X2722				

BANK ON BUFFALO OPERATING ACCOUNTS

FY 2021

MONTH	ACCT	BEGINNING BALAMCE	WITHDRAWL	DEPOSIT	ENDING BALANCE
JAN	X4873	91,624.82	0	0	91,624.82
	X4881	5,028,792.08	2,637	0	5,026,155.08
	X4899	2,961,557.56	2,861,826.91	2,861,826.91	2,973,320.83
	X4906	185,507.24	585,453.10	509,270.17	109,324.31
	X4914	10,257.50	5,800	8,423	12,880.50
	X0643	1,079,739.42	2,432,981.82	2,225,401.67	872,159.27
	X4445	56,308.39	0	0	56,308.39
				TOTAL	**9,141,773.20**

MONTH	ACCT	BEGINNING BALAMCE	TRANSACTIONS		ENDING BALANCE
FEB	X4873	91,624.82	0	0	91,624.82
	X4881	5,026,155.08	2,637	0	5,023,518.08
	X4899	2,973,320.83	3,891,077.45	2,849,529.61	1,931,772.99
	X4906	109,324.31	512,528.10	510,602.35	107,398.56
	X4914	12,880.50	9,332.25	9,583.25	13,131.50
	X0643	872,159.27	3,225,122.66	3,358,965.19	1,006,001.80
	X4445	56,308.39	625,550.82	569,243.43	1.00
				TOTAL	**8,173,447.75**

MONTH	ACCT	BEGINNING BALAMCE	TRANSACTIONS		ENDING BALANCE
MAR	X4873				
	X4881				
	X4899				
	X4906				
	X4914				
	X0643				
	X4445				

Revenue Budget Performance Report
Fiscal Year to Date 02/28/21
Exclude Rollup Account

Account	Account Description	Adopted Budget	Budget Amendments	Amended Budget	Current Month Transactions	YTD Encumbrances	YTD Transactions	Budget - YTD Transactions	% Used/ Rec'd	Prior Year YTD
Fund **FA - Water Board - Water**										
	REVENUE									
Departmental Income										
2122.001	Visual Inspections	42,350.00	.00	42,350.00	3,780.00	.00	7,500.00	34,850.00	18	6,242.50
2140.001	District 1	1,671,340.00	.00	1,671,340.00	1,750.06	.00	389,361.62	1,281,978.38	23	(146,747.40)
2140.002	District 2	1,967,868.00	.00	1,967,868.00	473,935.22	.00	475,044.65	1,492,823.35	24	2,455.81
2140.003	District 3	1,485,143.00	.00	1,485,143.00	1,031.04	.00	3,023.34	1,482,119.66	0	(251,548.44)
2140.004	Non-Resident	23,920.00	.00	23,920.00	4,158.22	.00	(40,263.51)	64,183.51	-168	4,240.15
2140.005	Industrial	2,574,781.00	.00	2,574,781.00	.00	.00	629,165.10	1,945,615.90	24	(244,728.09)
2140.006	Industrial SIU	2,074,065.00	.00	2,074,065.00	.00	.00	505,705.87	1,568,359.13	24	.00
2140.008	Hydrant Usage	5,412.00	.00	5,412.00	1,863.93	.00	1,908.33	3,503.67	35	3,672.76
2140.599	Miscellaneous Departmental Incom	15,000.00	.00	15,000.00	.00	.00	250.00	14,750.00	2	300.00
2141.000	Allowance for Unpaid Trfd	(150,000.00)	.00	(150,000.00)	22,280.46	.00	22,280.46	(172,280.46)	-15	36,694.18
2144.003	Fire Service	94,000.00	.00	94,000.00	.00	.00	.00	94,000.00	0	(45.60)
2144.005	Service Charge	480,822.00	.00	480,822.00	32,290.20	.00	87,614.20	393,207.80	18	88,673.70
2144.006	Lab Analysis	39,220.00	.00	39,220.00	1,790.50	.00	2,471.00	36,749.00	6	2,615.00
2144.008	Missing Meter Charge	40,350.00	.00	40,350.00	3,033.50	.00	5,243.50	35,106.50	13	5,424.00
2144.009	Mtr Install/Reinstall/Reactivate	15,220.00	.00	15,220.00	300.00	.00	500.00	14,720.00	3	1,275.00
2144.010	Final Meter Read/Inspect	10,500.00	.00	10,500.00	1,525.00	.00	2,900.00	7,600.00	28	2,575.00
2144.011	Hydrant Testing	300.00	.00	300.00	.00	.00	.00	300.00	0	.00
2144.012	Backflow Certification	6,830.00	.00	6,830.00	1,300.00	.00	1,635.00	5,195.00	24	675.00
2144.599	City of NF-Safety Specialist	.00	.00	.00	.00	.00	.00	.00	+++	15,614.84
2148.001	District 1	70,000.00	.00	70,000.00	.00	.00	9,219.49	60,780.51	13	11,422.53
2148.002	District 2	45,092.00	.00	45,092.00	7,860.75	.00	7,857.86	37,234.14	17	7,513.64
2148.003	District 3	48,880.00	.00	48,880.00	.00	.00	8,740.57	40,139.43	18	10,333.69
2148.004	Non-Resident	5,000.00	.00	5,000.00	197.09	.00	197.09	4,802.91	4	209.16
2148.005	Industrial	16,200.00	.00	16,200.00	.00	.00	2,182.90	14,017.10	13	6,776.06
2148.006	Industrial SIU	6,000.00	.00	6,000.00	.00	.00	8,369.30	(2,369.30)	139	.00
2148.599	Penalty - Miscellaneous	3,504.00	.00	3,504.00	1.00	.00	1.00	3,503.00	0	56.34
	Departmental Income Totals	$10,591,797.00	$0.00	$10,591,797.00	$557,096.97	$0.00	$2,130,907.77	$8,460,889.23	20%	($436,300.17)
Intergovernmental Charges										
2230.A	City of Niag Falls-Generl	225,817.00	.00	225,817.00	.00	.00	.00	225,817.00	0	.00
	Intergovernmental Charges Totals	$225,817.00	$0.00	$225,817.00	$0.00	$0.00	$0.00	$225,817.00	0%	$0.00
Use Of Money & Property										

2401.000	Interest Earnings	90,000.00	.00	90,000.00	.00	.00	(905.50)	90,905.50	-1	6,957.91
	Use Of Money & Property Totals	$90,000.00	$0.00	$90,000.00	$0.00	$0.00	($905.50)	$90,905.50	-1%	$6,957.91
Licenses And Permits										
2550.006	Cellular Towers	230,000.00	.00	230,000.00	9,471.91	.00	33,566.80	196,433.20	15	20,679.22
2590.004	Hydrant Permits & Rentals	16,800.00	.00	16,800.00	6,705.49	.00	6,741.49	10,058.51	40	3,289.43
	Licenses And Permits Totals	$246,800.00	$0.00	$246,800.00	$16,177.40	$0.00	$40,308.29	$206,491.71	16%	$23,968.65
Sale Of Prop/Cmp For Loss										
2650.000	Sale Of Scrap	8,000.00	.00	8,000.00	.00	.00	.00	8,000.00	0	.00
2665.000	Sale-Equipment	2,855.00	.00	2,855.00	.00	.00	.00	2,855.00	0	.00
	Sale Of Prop/Cmp For Loss Totals	$10,855.00	$0.00	$10,855.00	$0.00	$0.00	$0.00	$10,855.00	0%	$0.00
Misc Local Sources										
2770.001	NSF Check Charge	5,000.00	.00	5,000.00	560.00	.00	1,190.00	3,810.00	24	1,015.00
2770.599	Undesignated	10,500.00	.00	10,500.00	.00	.00	.00	10,500.00	0	79.18
	Misc Local Sources Totals	$15,500.00	$0.00	$15,500.00	$560.00	$0.00	$1,190.00	$14,310.00	8%	$1,094.18
Interfund Revenues										
2801.A	Interfd Rev From G/Fd	237,500.00	.00	237,500.00	.00	.00	.00	237,500.00	0	.00
	Interfund Revenues Totals	$237,500.00	$0.00	$237,500.00	$0.00	$0.00	$0.00	$237,500.00	0%	$0.00
Operating Transfers In										
5031.VFG	Transfer Fr Debt Service	125,000.00	.00	125,000.00	.00	.00	.00	125,000.00	0	.00
	Operating Transfers In Totals	$125,000.00	$0.00	$125,000.00	$0.00	$0.00	$0.00	$125,000.00	0%	$0.00
	REVENUE TOTALS	$11,543,269.00	$0.00	$11,543,269.00	$573,834.37	$0.00	$2,171,500.56	$9,371,768.44	19%	($404,279.43)
	Fund **FA - Water Board - Water** Totals	$11,543,269.00	$0.00	$11,543,269.00	$573,834.37	$0.00	$2,171,500.56	$9,371,768.44		($404,279.43)
Fund **GA - Water Board - Sewer**										
	REVENUE									
Departmental Income										
2120.001	District 1	2,146,410.00	.00	2,146,410.00	2,314.94	.00	515,904.55	1,630,505.45	24	(180,210.17)
2120.002	District 2	2,514,064.00	.00	2,514,064.00	629,582.36	.00	631,051.35	1,883,012.65	25	2,085.65
2120.003	District 3	1,862,688.00	.00	1,862,688.00	1,364.18	.00	4,054.81	1,858,633.19	0	(319,641.86)
2120.005	Industrial CSIRU	4,035,200.00	.00	4,035,200.00	.00	.00	858,887.68	3,176,312.32	21	(361,562.42)
2120.006	Industrial SIU	8,365,632.00	.00	8,365,632.00	913,964.35	.00	893,966.23	7,471,665.77	11	(885,980.39)
2120.007	Waste Hauler Fees	3,000.00	.00	3,000.00	3,225.00	.00	3,225.00	(225.00)	108	.00
2120.008	Hydrant Usage	6,656.00	.00	6,656.00	2,466.50	.00	2,525.29	4,130.71	38	5,690.83
2120.102	Town Of Niagara	675,000.00	.00	675,000.00	.00	.00	203,615.65	471,384.35	30	182,035.24
2122.001	Visual Inspections	.00	.00	.00	.00	.00	.00	.00	+++	(60.00)
2122.002	Dye Tests	41,102.00	.00	41,102.00	3,780.00	.00	7,500.00	33,602.00	18	6,302.50
2128.001	District 1	84,090.00	.00	84,090.00	.00	.00	11,989.32	72,100.68	14	15,230.36

2128.002	District 2	60,870.00	.00	60,870.00	10,420.05	.00	10,416.52	50,453.48	17	10,247.42
2128.003	District 3	68,300.00	.00	68,300.00	.00	.00	11,217.61	57,082.39	16	13,581.92
2128.005	Industrial	15,000.00	.00	15,000.00	.00	.00	2,559.32	12,440.68	17	7,886.28
2128.006	Industrial SIU	19,100.00	.00	19,100.00	.00	.00	554.06	18,545.94	3	567.00
2141.000	Allowance for Unpaid Trfd	20,715.00	.00	20,715.00	29,248.05	.00	29,248.05	(8,533.05)	141	46,711.86
	Departmental Income Totals	$19,917,827.00	$0.00	$19,917,827.00	$1,596,365.43	$0.00	$3,186,715.44	$16,731,111.56	16%	($1,457,115.78)
Use Of Money & Property										
2401.000	Interest Earnings	80,500.00	.00	80,500.00	.00	.00	(670.08)	81,170.08	-1	5,148.94
	Use Of Money & Property Totals	$80,500.00	$0.00	$80,500.00	$0.00	$0.00	($670.08)	$81,170.08	-1%	$5,148.94
Licenses And Permits										
2590.006	SIU 5-Yr Permits	6,250.00	.00	6,250.00	250.00	.00	250.00	6,000.00	4	500.00
	Licenses And Permits Totals	$6,250.00	$0.00	$6,250.00	$250.00	$0.00	$250.00	$6,000.00	4%	$500.00
Fines And Forfeits										
2620.000	Forfeitures Of Deposits	800.00	.00	800.00	.00	.00	.00	800.00	0	400.00
	Fines And Forfeits Totals	$800.00	$0.00	$800.00	$0.00	$0.00	$0.00	$800.00	0%	$400.00
Sale Of Prop/Cmp For Loss										
2650.000	Sale Of Scrap	2,350.00	.00	2,350.00	.00	.00	.00	2,350.00	0	.00
2680.000	Insurance Recoveries	.00	.00	.00	.00	.00	.00	.00	+++	(26,979.30)
2690.001	Damages to WB Property	84,525.00	.00	84,525.00	.00	.00	.00	84,525.00	0	.00
	Sale Of Prop/Cmp For Loss Totals	$86,875.00	$0.00	$86,875.00	$0.00	$0.00	$0.00	$86,875.00	0%	($26,979.30)
Misc Local Sources										
2701.000	Refund Appro Exp Prior Yr	(7,800.00)	.00	(7,800.00)	.00	.00	.00	(7,800.00)	0	1,021.28
2770.599	Undesignated	.00	.00	.00	.00	.00	1,397.40	(1,397.40)	+++	.00
	Misc Local Sources Totals	($7,800.00)	$0.00	($7,800.00)	$0.00	$0.00	$1,397.40	($9,197.40)	-18%	$1,021.28
	REVENUE TOTALS	$20,084,452.00	$0.00	$20,084,452.00	$1,596,615.43	$0.00	$3,187,692.76	$16,896,759.24	16%	($1,477,024.86)
	Fund **GA - Water Board - Sewer** Totals	$20,084,452.00	$0.00	$20,084,452.00	$1,596,615.43	$0.00	$3,187,692.76	$16,896,759.24		($1,477,024.86)
	Grand Totals	$31,627,721.00	$0.00	$31,627,721.00	$2,170,449.80	$0.00	$5,359,193.32	$26,268,527.68		($1,881,304.29)

Expense Budget Performance Report

Fiscal Year to Date 02/28/21

Exclude Rollup Account

Account	Account Description	Adopted Budget	Budget Amendments	Amended Budget	Current Month Transactions	YTD Encumbrances	YTD Transactions	Budget - YTD Transactions	% Used/ Rec'd	Prior Year YTD
Fund **GA - Water Board - Sewer**										
	EXPENSE									
Personnel - Position Control										
0110.000	Biweekly Payroll	2,801,679.00	.00	2,801,679.00	192,897.72	.00	376,239.52	2,425,439.48	13	404,597.81
	Personnel - Position Control Totals	$2,801,679.00	$0.00	$2,801,679.00	$192,897.72	$0.00	$376,239.52	$2,425,439.48	13%	$404,597.81
Personnel Services										
0111.000	Biwkly Comp Differential	.00	.00	.00	1,268.60	.00	1,268.60	(1,268.60)	+++	651.70
0125.000	Insurance OPT Out	122,148.00	.00	122,148.00	8,895.24	.00	18,049.29	104,098.71	15	13,601.67
0130.000	Temporary Payroll	111,964.00	.00	111,964.00	11,120.00	.00	22,160.00	89,804.00	20	15,060.00
0140.000	Overtime	223,300.00	.00	223,300.00	12,632.13	.00	24,077.94	199,222.06	11	32,508.72
0150.000	Acting Next-In-Rank Pay	12,480.00	.00	12,480.00	1,404.00	.00	3,043.86	9,436.14	24	2,740.50
0151.A	Sunday Contractual Pay	.00	.00	.00	3,484.54	.00	7,145.75	(7,145.75)	+++	7,367.99
0152.000	Shift Premium Pay	8,500.00	.00	8,500.00	48.21	.00	63.90	8,436.10	1	58.64
0155.A	Holiday Contractual Pay	.00	.00	.00	.00	.00	6,678.43	(6,678.43)	+++	7,801.66
0155.000	Holiday Pay	9,298.00	.00	9,298.00	2,305.84	.00	18,630.37	(9,332.37)	200	21,792.97
0165.000	Military Leave	.00	.00	.00	323.72	.00	996.06	(996.06)	+++	.00
0170.000	Overtime Meals	6,225.00	.00	6,225.00	419.00	.00	715.00	5,510.00	11	851.25
0181.000	Vacation Pay	.00	.00	.00	7,578.20	.00	28,972.29	(28,972.29)	+++	23,710.75
0182.000	Personal Time	.00	.00	.00	289.32	.00	1,458.42	(1,458.42)	+++	1,114.03
0183.000	Compensatory Time Off	.00	.00	.00	709.90	.00	1,065.98	(1,065.98)	+++	1,371.62
0184.000	Funeral Leave	.00	.00	.00	.00	.00	.00	.00	+++	1,262.79
0185.000	Jury Duty	.00	.00	.00	1,294.88	.00	1,294.88	(1,294.88)	+++	.00
0186.000	Call-In Time	7,750.00	.00	7,750.00	1,906.70	.00	3,555.29	4,194.71	46	3,498.31
0189.000	Sick Leave	.00	.00	.00	5,962.88	.00	9,897.82	(9,897.82)	+++	8,510.51
	Personnel Services Totals	$501,665.00	$0.00	$501,665.00	$59,643.16	$0.00	$149,073.88	$352,591.12	30%	$141,903.11
Capital Outlays										
0250.500	Safety Equipment	25,000.00	.00	25,000.00	101.34	.00	101.34	24,898.66	0	5,668.92
	Capital Outlays Totals	$25,000.00	$0.00	$25,000.00	$101.34	$0.00	$101.34	$24,898.66	0%	$5,668.92
Contractual Expenses										
0411.000	Office Supplies	2,750.00	.00	2,750.00	193.48	59.94	193.48	2,496.58	9	644.97
0412.000	Uniforms	2,170.00	.00	2,170.00	.00	.00	.00	2,170.00	0	.00
0413.000	Safety Shoes	10,400.00	.00	10,400.00	777.92	.00	777.92	9,622.08	7	818.97
0414.000	Automotive-Gas,Oil,Grease	40,000.00	.00	40,000.00	.00	.00	.00	40,000.00	0	455.38
0416.000	Consumable Printed Forms	700.00	.00	700.00	.00	.00	.00	700.00	0	280.70

0417.000	Tool Allowance	300.00	.00	300.00	.00	.00	.00	300.00	0	.00
0419.001	Automotive Parts	25,000.00	.00	25,000.00	2,401.00	1,799.81	2,401.00	20,799.19	17	5,571.43
0419.003	Cleaning/Sanitary	5,000.00	.00	5,000.00	254.40	.00	254.40	4,745.60	5	655.05
0419.004	Agricultural/Botanical	40,000.00	.00	40,000.00	.00	.00	.00	40,000.00	0	.00
0419.005	Tools & Machine Parts	207,100.00	.00	207,100.00	13,261.61	93,822.44	13,261.61	100,015.95	52	15,180.63
0419.006	Construction/Repair	142,500.00	.00	142,500.00	9,055.45	5,878.09	9,055.45	127,566.46	10	383.52
0419.008	Signals/Communication	5,000.00	.00	5,000.00	.00	.00	.00	5,000.00	0	.00
0419.009	Misc Chemicals	19,500.00	.00	19,500.00	.00	4,574.59	.00	14,925.41	23	411.91
0419.010	Laboratory	26,000.00	.00	26,000.00	836.09	2,116.65	836.09	23,047.26	11	2,090.90
0419.012	Carbon	110,000.00	.00	110,000.00	.00	.00	.00	110,000.00	0	.00
0419.014	Ferric Chloride	410,000.00	.00	410,000.00	53,349.58	151,650.42	53,349.58	205,000.00	50	53,041.64
0419.016	Primary Polymer	120,000.00	.00	120,000.00	.00	50,000.00	.00	70,000.00	42	.00
0419.018	Pebble Lime	230,000.00	.00	230,000.00	20,963.24	89,036.76	20,963.24	120,000.00	48	23,950.70
0419.024	Hypochlorite Solution	2,500,000.00	.00	2,500,000.00	296,406.45	703,593.55	296,406.45	1,500,000.00	40	277,916.29
0419.028	Hydrogen Peroxide	200,000.00	.00	200,000.00	.00	.00	.00	200,000.00	0	.00
0419.599	Undesignated Supplies	49,000.00	.00	49,000.00	4,206.24	12,871.72	4,206.24	31,922.04	35	7,618.28
0421.001	Phone Extension Chgs	43,925.00	.00	43,925.00	4,414.75	.00	5,527.68	38,397.32	13	5,283.82
0421.002	Wireless Services	16,000.00	.00	16,000.00	514.46	.00	514.46	15,485.54	3	838.30
0422.000	Light & Power	633,000.00	.00	633,000.00	39,015.22	.00	60,502.55	572,497.45	10	64,338.46
0423.000	Water/Sewer	486,000.00	.00	486,000.00	.00	.00	.00	486,000.00	0	.00
0424.000	Gas	25,000.00	.00	25,000.00	4,920.41	.00	4,920.41	20,079.59	20	.00
0432.000	Property Insurance	142,500.00	.00	142,500.00	.00	.00	.00	142,500.00	0	.00
0433.000	Liability Insurance	88,512.00	.00	88,512.00	109,067.60	.00	109,067.60	(20,555.60)	123	102,312.60
0440.003	Motor Vehicle Equipment	80,000.00	.00	80,000.00	12,605.60	.00	12,605.60	67,394.40	16	13,002.10
0440.599	Undesignated Leases	1,050.00	.00	1,050.00	153.39	.00	153.39	896.61	15	119.54
0441.000	Rental Of Real Property	75.00	.00	75.00	.00	.00	.00	75.00	0	.00
0442.000	Rental Of Equipment	14,000.00	.00	14,000.00	727.52	110.00	727.52	13,162.48	6	327.65
0442.003	Motor Vehicle Equip Rentl	.00	.00	.00	446.50	.00	446.50	(446.50)	+++	435.12
0442.599	Undesignated Rentals	2,700.00	.00	2,700.00	168.77	1,731.23	168.77	800.00	70	421.03
0443.000	Repair Of Real Property	35,000.00	.00	35,000.00	2,320.20	382.00	2,320.20	32,297.80	8	2,953.73
0444.000	Repair Of Equipment	163,745.00	.00	163,745.00	4,210.63	7,342.96	4,210.63	152,191.41	7	1,557.69
0446.000	Computer Services	2,500.00	.00	2,500.00	349.97	.00	699.95	1,800.05	28	699.94
0449.000	Billing & Collection	42,500.00	.00	42,500.00	6,859.44	.00	6,859.44	35,640.56	16	8,205.86
0449.002	Sludge Disposal	1,750,000.00	.00	1,750,000.00	217,043.23	782,956.77	217,043.23	750,000.00	57	236,366.13
0449.004	Special Security	.00	.00	.00	.00	.00	.00	.00	+++	215.00
0449.500	Safety-Contractual	3,200.00	.00	3,200.00	.00	.00	.00	3,200.00	0	156.00

0449.599	Undesignated Services	157,000.00	.00	157,000.00	663.24	44,516.60	(3,474.89)	115,958.29	26	7,260.73
0451.000	Consultants	73,762.00	.00	73,762.00	7,980.00	16,703.00	7,980.00	49,079.00	33	7,200.00
0454.000	Attorney Services	80,000.00	.00	80,000.00	191.25	.00	191.25	79,808.75	0	6,638.61
0461.000	Postage	15,000.00	.00	15,000.00	6,138.19	.00	6,388.19	8,611.81	43	252.50
0463.000	Travel & Training Expense	8,320.00	.00	8,320.00	.00	.00	.00	8,320.00	0	555.00
0463.500	Safety Training	1,000.00	.00	1,000.00	.00	.00	.00	1,000.00	0	.00
0465.000	Laundry & Cleaning	8,745.00	.00	8,745.00	174.58	1,250.42	174.58	7,320.00	16	1,505.49
0466.000	Books,Mags. & Memberships	500.00	.00	500.00	2,010.00	.00	2,010.00	(1,510.00)	402	1,800.00
0467.000	Advertising	500.00	.00	500.00	89.48	.00	89.48	410.52	18	.00
0471.000	Recruitment Expenditures	400.00	.00	400.00	.00	.00	.00	400.00	0	47.43
	Contractual Expenses Totals	$8,020,354.00	$0.00	$8,020,354.00	$821,769.89	$1,970,396.95	$840,832.00	$5,209,125.05	35%	$851,513.10
Employee Benefits										
0801.000	NYS E.R.S. Retirement	391,435.00	.00	391,435.00	.00	.00	106,755.83	284,679.17	27	94,959.33
0820.000	Worker's Compensation	262,000.00	.00	262,000.00	1,249.10	.00	1,249.10	260,750.90	0	71.69
0830.000	Life Insurance	11,660.00	.00	11,660.00	.00	.00	.00	11,660.00	0	1,660.82
0840.000	Unemployment Ins. NYS	17,253.00	.00	17,253.00	.00	.00	.00	17,253.00	0	6,332.59
0860.000	Medical Insurance	2,675,896.00	.00	2,675,896.00	750.00	.00	71,706.41	2,604,189.59	3	453,009.72
0861.000	Dental Insurance	28,400.00	.00	28,400.00	.00	.00	.00	28,400.00	0	.00
0863.000	Vision Care Insurance	5,982.00	.00	5,982.00	.00	.00	.00	5,982.00	0	982.85
0865.000	Chiropractic Insurance	965.00	.00	965.00	40.00	.00	40.00	925.00	4	320.00
	Employee Benefits Totals	$3,393,591.00	$0.00	$3,393,591.00	$2,039.10	$0.00	$179,751.34	$3,213,839.66	5%	$557,337.00
Employee Benefit - FICA										
0810.000	Social Security	276,572.00	.00	276,572.00	18,842.38	.00	39,223.80	237,348.20	14	41,033.63
	Employee Benefit - FICA Totals	$276,572.00	$0.00	$276,572.00	$18,842.38	$0.00	$39,223.80	$237,348.20	14%	$41,033.63
Interfund Transfers										
0900.FGA	Transfer To Authority Bd	25,000.00	.00	25,000.00	.00	.00	.00	25,000.00	0	.00
0900.FGB	Transfer To Water Board	103,380.00	.00	103,380.00	.00	.00	.00	103,380.00	0	70,000.00
0900.O&M	Transfer to Capital - Coverage	614,288.00	.00	614,288.00	.00	.00	.00	614,288.00	0	1,420,981.80
0900.VFG	Transfer To Debt Service	4,212,923.00	.00	4,212,923.00	.00	.00	.00	4,212,923.00	0	4,418,229.00
	Interfund Transfers Totals	$4,955,591.00	$0.00	$4,955,591.00	$0.00	$0.00	$0.00	$4,955,591.00	0%	$5,909,210.80
	EXPENSE TOTALS	$19,974,452.00	$0.00	$19,974,452.00	$1,095,293.59	$1,970,396.95	$1,585,221.88	$16,418,833.17	18%	$7,911,264.37
	Fund **GA - Water Board - Sewer** Totals	$19,974,452.00	$0.00	$19,974,452.00	$1,095,293.59	$1,970,396.95	$1,585,221.88	$16,418,833.17		$7,911,264.37
	Grand Totals	$31,512,796.00	$0.00	$31,512,796.00	$2,325,519.12	$2,132,588.75	$3,164,088.37	$26,216,118.88		$13,624,510.81

Expense Budget Performance Report

Fiscal Year to Date 02/28/21

Exclude Rollup Account

Account	Account Description	Adopted Budget	Budget Amendments	Amended Budget	Current Month Transactions	YTD Encumbrances	YTD Transactions	Budget - YTD Transactions	% Used/ Rec'd	Prior Year YTD
Fund	**FA - Water Board - Water**									
	EXPENSE									
Personnel - Position Control										
0110.000	Biweekly Payroll	2,429,005.00	.00	2,429,005.00	167,600.32	.00	319,368.85	2,109,636.15	13	320,241.35
	Personnel - Position Control Totals	$2,429,005.00	$0.00	$2,429,005.00	$167,600.32	$0.00	$319,368.85	$2,109,636.15	13%	$320,241.35
Personnel Services										
0125.000	Insurance OPT Out	66,872.00	.00	66,872.00	4,696.86	.00	9,539.63	57,332.37	14	7,360.55
0130.000	Temporary Payroll	22,650.00	.00	22,650.00	.00	.00	285.14	22,364.86	1	4,207.86
0140.000	Overtime	75,319.00	.00	75,319.00	5,862.37	.00	9,628.51	65,690.49	13	12,605.06
0151.A	Sunday Contractual Pay	14,385.00	.00	14,385.00	1,156.05	.00	2,319.08	12,065.92	16	2,326.24
0152.000	Shift Premium Pay	.00	.00	.00	32.41	.00	45.17	(45.17)	+++	65.00
0155.A	Holiday Contractual Pay	6,950.00	.00	6,950.00	.00	.00	1,757.89	5,192.11	25	1,700.44
0155.000	Holiday Pay	.00	.00	.00	3,023.13	.00	20,024.29	(20,024.29)	+++	22,983.62
0165.000	Military Leave	.00	.00	.00	.00	.00	.00	.00	+++	181.98
0170.000	Overtime Meals	2,505.00	.00	2,505.00	172.00	.00	275.50	2,229.50	11	380.75
0181.000	Vacation Pay	.00	.00	.00	20,276.40	.00	33,021.25	(33,021.25)	+++	20,546.82
0182.000	Personal Time	.00	.00	.00	882.53	.00	1,957.55	(1,957.55)	+++	218.10
0183.000	Compensatory Time Off	.00	.00	.00	309.41	.00	576.88	(576.88)	+++	351.21
0184.000	Funeral Leave	.00	.00	.00	148.49	.00	461.59	(461.59)	+++	147.80
0186.000	Call-In Time	6,475.00	.00	6,475.00	880.24	.00	1,786.12	4,688.88	28	1,556.71
0189.000	Sick Leave	.00	.00	.00	17,343.42	.00	20,612.32	(20,612.32)	+++	8,651.31
0190.000	Vacation Cash Conversion	5,329.00	.00	5,329.00	.00	.00	.00	5,329.00	0	.00
	Personnel Services Totals	$200,485.00	$0.00	$200,485.00	$54,783.31	$0.00	$102,290.92	$98,194.08	51%	$83,283.45
Capital Outlays										
0210.000	Furniture & Furnishings	500.00	.00	500.00	.00	.00	.00	500.00	0	.00
0220.000	Office Equipment	500.00	.00	500.00	.00	.00	.00	500.00	0	.00
0230.000	Motor Vehicle Equipment	86,000.00	.00	86,000.00	.00	.00	.00	86,000.00	0	.00
0250.000	Other Equipment	28,000.00	.00	28,000.00	.00	.00	.00	28,000.00	0	.00
0250.007	Computer Equipment	25,500.00	.00	25,500.00	59.95	689.88	59.95	24,750.17	3	103.25
0250.500	Safety Equipment	7,957.00	.00	7,957.00	1,084.04	.00	1,084.04	6,872.96	14	793.94
	Capital Outlays Totals	$148,457.00	$0.00	$148,457.00	$1,143.99	$689.88	$1,143.99	$146,623.13	1%	$897.19
Contractual Expenses										
0411.000	Office Supplies	15,200.00	.00	15,200.00	1,560.62	607.71	1,560.62	13,031.67	14	1,573.00

0412.000	Uniforms	2,050.00	.00	2,050.00	.00	.00	.00	2,050.00	0	221.41
0413.000	Safety Shoes	8,200.00	.00	8,200.00	808.27	.00	1,008.27	7,191.73	12	613.35
0414.000	Automotive-Gas,Oil,Grease	45,000.00	.00	45,000.00	.00	253.25	.00	44,746.75	1	70.15
0415.000	Fuel Oil	30,000.00	.00	30,000.00	.00	8,083.56	.00	21,916.44	27	.00
0416.000	Consumable Printed Forms	700.00	.00	700.00	.00	.00	.00	700.00	0	280.70
0417.000	Tool Allowance	150.00	.00	150.00	.00	.00	.00	150.00	0	.00
0419.001	Automotive Parts	20,000.00	.00	20,000.00	2,077.73	.00	2,077.73	17,922.27	10	4,676.83
0419.003	Cleaning/Sanitary	5,000.00	.00	5,000.00	.00	.00	.00	5,000.00	0	817.99
0419.005	Tools & Machine Parts	77,500.00	.00	77,500.00	10,826.97	6,489.73	10,826.97	60,183.30	22	2,547.46
0419.006	Construction/Repair	174,000.00	.00	174,000.00	18,812.45	10,611.28	18,812.45	144,576.27	17	22,296.13
0419.009	Misc Chemicals	361,000.00	.00	361,000.00	47,744.23	60,726.46	47,744.23	252,529.31	30	34,284.52
0419.010	Laboratory	31,000.00	.00	31,000.00	443.29	2,130.66	443.29	28,426.05	8	994.94
0419.599	Undesignated Supplies	9,450.00	.00	9,450.00	22.96	2,155.75	22.96	7,271.29	23	.00
0421.001	Phone Extension Chgs	25,000.00	.00	25,000.00	1,858.76	.00	1,858.76	23,141.24	7	1,672.56
0421.002	Wireless Services	16,000.00	.00	16,000.00	1,236.12	.00	1,236.12	14,763.88	8	1,437.02
0422.000	Light & Power	500,000.00	.00	500,000.00	39,795.29	.00	57,911.88	442,088.12	12	52,624.07
0423.000	Water/Sewer	698,000.00	.00	698,000.00	.00	.00	.00	698,000.00	0	.00
0424.000	Gas	20,000.00	.00	20,000.00	2,620.54	.00	2,620.54	17,379.46	13	.00
0432.000	Property Insurance	85,000.00	.00	85,000.00	.00	.00	.00	85,000.00	0	.00
0433.000	Liability Insurance	65,500.00	.00	65,500.00	88,676.40	.00	88,676.40	(23,176.40)	135	82,978.40
0440.003	Motor Vehicle Equipment	84,000.00	.00	84,000.00	12,928.87	.00	12,928.87	71,071.13	15	13,195.12
0440.599	Undesignated Leases	1,050.00	.00	1,050.00	172.74	.00	172.74	877.26	16	208.83
0442.000	Rental Of Equipment	4,000.00	.00	4,000.00	337.53	.00	337.53	3,662.47	8	327.65
0442.003	Motor Vehicle Equip Rentl	5,000.00	.00	5,000.00	446.50	.00	446.50	4,553.50	9	435.12
0442.599	Undesignated Rentals	5,000.00	.00	5,000.00	230.38	1,399.38	400.62	3,200.00	36	120.00
0444.000	Repair Of Equipment	23,700.00	.00	23,700.00	2,938.82	598.12	2,938.82	20,163.06	15	350.00
0446.000	Computer Services	4,000.00	.00	4,000.00	349.98	.00	699.95	3,300.05	17	699.96
0446.008	Software Maint/Licenses	335,000.00	.00	335,000.00	32,959.26	62,927.39	46,037.13	226,035.48	33	30,078.80
0449.000	Billing & Collection	42,500.00	.00	42,500.00	6,859.42	.00	6,859.42	35,640.58	16	8,205.86
0449.001	Sludge Removal	80,000.00	.00	80,000.00	.00	.00	.00	80,000.00	0	.00
0449.500	Safety-Contractual	1,300.00	.00	1,300.00	.00	.00	.00	1,300.00	0	156.00
0449.599	Undesignated Services	830,000.00	.00	830,000.00	706,539.32	3,325.04	706,757.35	119,917.61	86	705,317.22
0451.000	Consultants	63,000.00	.00	63,000.00	1,418.00	1,415.00	2,193.00	59,392.00	6	.00
0454.000	Attorney Services	50,000.00	.00	50,000.00	191.25	.00	191.25	49,808.75	0	6,453.05
0461.000	Postage	20,000.00	.00	20,000.00	6,138.20	.00	6,388.20	13,611.80	32	252.50

0463.000	Travel & Training Expense	13,800.00	.00	13,800.00	.00	.00	.00	13,800.00	0	1,835.00
0465.000	Laundry & Cleaning	3,000.00	.00	3,000.00	221.41	778.59	221.41	2,000.00	33	.00
0467.000	Advertising	500.00	.00	500.00	46.56	.00	46.56	453.44	9	.00
0471.000	Recruitment Expenditures	800.00	.00	800.00	.00	.00	.00	800.00	0	47.43
	Contractual Expenses Totals	$3,755,400.00	$0.00	$3,755,400.00	$988,261.87	$161,501.92	$1,021,419.57	$2,572,478.51	31%	$974,771.07
Employee Benefits										
0801.000	NYS E.R.S. Retirement	195,817.00	.00	195,817.00	.00	.00	53,377.92	142,439.08	27	47,479.67
0820.000	Worker's Compensation	262,000.00	.00	262,000.00	832.74	.00	832.74	261,167.26	0	71.69
0830.000	Life Insurance	8,931.00	.00	8,931.00	.00	.00	.00	8,931.00	0	1,275.06
0840.000	Unemployment Ins. NYS	26,019.00	.00	26,019.00	.00	.00	.00	26,019.00	0	6,332.59
0860.000	Medical Insurance	1,572,882.00	.00	1,572,882.00	750.00	.00	48,700.53	1,524,181.47	3	284,924.25
0861.000	Dental Insurance	55,305.00	.00	55,305.00	.00	.00	.00	55,305.00	0	.00
0863.000	Vision Care Insurance	4,240.00	.00	4,240.00	.00	.00	.00	4,240.00	0	618.80
0865.000	Chiropractic Insurance	2,200.00	.00	2,200.00	200.00	.00	200.00	2,000.00	9	200.00
	Employee Benefits Totals	$2,127,394.00	$0.00	$2,127,394.00	$1,782.74	$0.00	$103,111.19	$2,024,282.81	5%	$340,902.06
Employee Benefit - FICA										
0810.000	Social Security	215,454.00	.00	215,454.00	16,653.30	.00	31,531.97	183,922.03	15	30,344.12
	Employee Benefit - FICA Totals	$215,454.00	$0.00	$215,454.00	$16,653.30	$0.00	$31,531.97	$183,922.03	15%	$30,344.12
Interfund Transfers										
0900.FGA	Transfer To Authority Bd	25,000.00	.00	25,000.00	.00	.00	.00	25,000.00	0	.00
0900.FGB	Transfer To Water Board	68,920.00	.00	68,920.00	.00	.00	.00	68,920.00	0	70,000.00
0900.O&M	Transfer to Capital - Coverage	510,578.00	.00	510,578.00	.00	.00	.00	510,578.00	0	947,321.20
0900.VFG	Transfer To Debt Service	2,057,651.00	.00	2,057,651.00	.00	.00	.00	2,057,651.00	0	2,945,486.00
	Interfund Transfers Totals	$2,662,149.00	$0.00	$2,662,149.00	$0.00	$0.00	$0.00	$2,662,149.00	0%	$3,962,807.20
	EXPENSE TOTALS	$11,538,344.00	$0.00	$11,538,344.00	$1,230,225.53	$162,191.80	$1,578,866.49	$9,797,285.71	15%	$5,713,246.44
	Fund **FA - Water Board - Water** Totals	$11,538,344.00	$0.00	$11,538,344.00	$1,230,225.53	$162,191.80	$1,578,866.49	$9,797,285.71		$5,713,246.44

NFWB Overtime

Through Date: 2/28/2021

Prior Fiscal Year Activity Included

Organization	Adopted Budget	Budget Amendments	Amended Budget	Current Month Transactions	YTD Encumbrances	YTD Transactions	Budget - YTD Transactions	% Used/ Rec'd	Prior Year YTD
Expenditures									
Account: 0140.000 - Overtime									
FA.8145.5210 - Water Board - Water,Laboratory,Water Quality Lab	$2,000.00	$0.00	$2,000.00	$0.00	$0.00	$0.00	$2,000.00	0%	$73.35
FA.8150.0000 - Water Board - Water,Information Technology,.	$2,449.00	$0.00	$2,449.00	$517.60	$0.00	$713.93	$1,735.07	29%	$188.96
FA.8310.0001 - Water Board - Water,Water,Administration	$1,170.00	$0.00	$1,170.00	$0.00	$0.00	$0.00	$1,170.00	0%	$0.00
FA.8310.6350 - Water Board - Water,Water,Engineering	$500.00	$0.00	$500.00	$0.00	$0.00	$0.00	$500.00	0%	$0.00
FA.8330.0100 - Water Board - Water,Purification,Operations	$21,000.00	$0.00	$21,000.00	$596.55	$0.00	$1,945.60	$19,054.40	9%	$2,675.97
FA.8330.0200 - Water Board - Water,Purification,Maintenance	$5,000.00	$0.00	$5,000.00	$839.26	$0.00	$1,539.71	$3,460.29	31%	$1,266.36
FA.8340.0200 - Water Board - Water,Transmissn/Distribution,Maintenance	$40,000.00	$0.00	$40,000.00	$3,735.34	$0.00	$5,172.32	$34,827.68	13%	$7,989.92
FA.8340.0300 - Water Board - Water,Transmissn/Distribution,Meter Reading & Maint.	$3,200.00	$0.00	$3,200.00	$173.62	$0.00	$256.95	$2,943.05	8%	$410.50
GA.8110.0001 - Water Board - Sewer,W.W.T.P.,Administration	$500.00	$0.00	$500.00	$0.00	$0.00	$0.00	$500.00	0%	$0.00
GA.8110.4810 - Water Board - Sewer,W.W.T.P.,Ind. Monitoring/Enforcmt	$15,000.00	$0.00	$15,000.00	$706.24	$0.00	$1,461.02	$13,538.98	10%	$1,783.46
GA.8120.4900 - Water Board - Sewer,Sewers,Collection System	$50,200.00	$0.00	$50,200.00	$4,808.36	$0.00	$8,088.29	$42,111.71	16%	$10,215.43
GA.8130.0100 - Water Board - Sewer,Sewage Trtmt/Disposal,Operations	$92,500.00	$0.00	$92,500.00	$5,065.48	$0.00	$11,756.13	$80,743.87	13%	$15,392.93
GA.8130.0200 - Water Board - Sewer,Sewage Trtmt/Disposal,Maintenance	$65,000.00	$0.00	$65,000.00	$1,811.10	$0.00	$2,531.55	$62,468.45	4%	$5,116.90
GA.8140.0000 - Water Board - Sewer,Storm Sewers,.	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	+++	$0.00
GA.8145.5220 - Water Board - Sewer,Laboratory,Environmental Lab	$100.00	$0.00	$100.00	$240.95	$0.00	$240.95	($140.95)	241%	$0.00
0140.000 - Overtime	$298,619.00	$0.00	$298,619.00	$18,494.50	$0.00	$33,706.45	$264,912.55	11%	$45,113.78
Expenditure Grand Totals:	$298,619.00	$0.00	$298,619.00	$18,494.50	$0.00	$33,706.45	$264,912.55	11%	$45,113.78

Monthly O&M Report
For the Month of February 2021

1. Treatment & Plant Maintenance

1.1. Water – Robert Rowe, updated 03/11/2021

OPERATIONS AND MAINTENANCE

Total water production for the month of February was 681 million gallons, which seems low simply due to only having 28 days in the month. The average daily water production was 24.3 million gallons. The plant data summary table is included below for your reference.

2021 TOTALS AND AVERAGES

	R/W PUMPAGE	PRE CL2 LBS	PACL LBS	H2SiF6 LBS	PO4 LBS	POST CL2 LBS	F/W 1000 GAL/ DAY
JAN	719125	6987	157000	18691	1968	3939	23198
FEB	681002	6389	150200	18097	1847	3998	24322
MAR	0	0	0	0	0	0	0
APR	0	0	0	0	0	0	0
MAY	0	0	0	0	0	0	0
JUN	0	0	0	0	0	0	0
JUL	0	0	0	0	0	0	0
AUG	0	0	0	0	0	0	0
SEP	0	0	0	0	0	0	0
OCT	0	0	0	0	0	0	0
NOV	0	0	0	0	0	0	0
DEC	0	0	0	0	0	0	0
TOTAL	1400127	13376	307200	36788	3815	7937	47519

2021 ANALYTICAL RESULTS

	RAW TURB NTU	RAW pH	PRE Cl2 RES.mg/l	POST Cl2 RES.mg/l	EFF TURB NTU	EFF pH	F. RES mg/l
JAN	8.8	8.1	0.63	1.23	0.023	7.6	0.72
FEB	7.3	8.1	0.57	1.23	0.020	7.5	0.72
MAR							
APR							
MAY							
JUN							
JUL							
AUG							
SEP							
OCT							
NOV							
DEC							
AVG	8.0	8.1	0.60	1.23	0.022	7.6	0.72

Operations and Maintenance Highlights

The need for a booster pump system to aid and back-up our Chlorine dosing into the raw water has been discussed and has become more evident. We have started the process of sourcing equipment and drawing up plans.

We are scheduling repair to the liner in Freeze Thaw Bed #2 so it can be placed into service as soon as available. **Repair has been made and the bed is now in service**

Cold raw water and Springtime sunshine has been creating operational difficulties including washing 6 to 9 filters per day instead of the usual 3 filters per day. This combined with higher than normal flow rates has kept us very busy.

1.2. Wastewater – Bob Dunn, Chief Operator- updated 3/12/2021

Non-Compliance Violations: NONE

Sampling notes: None

OPERATIONAL and MAINTENANCE- Highlights

Project #2 – Gorge Pumping Station Rehab has begun to pick up speed. Danforth has been working on some Duct work and preparing for the HVAC units which should be coming toward the end of February or beginning of March. CIR has been working on various lighting upgrades with the focus being on the Wet Well area and also running new conduit in several locations in the pump station. STC is preparing to begin work on the replacement of 2 Sluice gates and both influent grinders which are set to arrive late February to early March.

Project(s) #9 & 11 – Indoor/Outdoor Piping project has completed 90% design drawings and are set to put out for bid in middle of March. There has been great communication between JMD and Water Board personnel, and I am very pleased with the progress of that project.

Project #6 – Disinfection project has just a couple of minor details to work through and that project can be made complete. We have noticed a decent decrease in the usage of our Sodium Hypochlorite with the new feed design and are hopeful we can continue that trend.

Project #1 – Sedimentation Basin and Scum Removal project is set to start some of the Demo work on March 1st, starting with the demo of the DAF unit in the scum building. Demo work on the Basins in set to start March 30th with the hope that majority of the submittals will be turned in by then.

Operations has done a good job of observing plant functionality and notifying maintenance of any items of concern, while still performing their duties. Maintenance Dept. has continued to do a good job of addressing any issues that arise in an efficient priority-based manner, keeping majority of our equipment in good working order. Operations and Maintenance have also continued the good housekeeping efforts along with the buildings and grounds staff, and the hard work has made for a more comfortably clean environment for all employees to work in. Overall plant condition is good.

WASTEWATER TREATMENT PLANT OPERATING DATA													
	FLOWS		Chlorine	Rainfall	SLUDGE		Polymer		FeCl3	LIME	H2O2	NaOCl	Grit
INF/EFF	CBE	GPS	Residual		NET	LANDFILL	BFP	PRIM					
MGD	MGD	MGD	PPM	inches	(Tons)		(Lbs)		(gals.)	(Tons)	(gals.)	(gals.)	(Tons)
32.12	41.31	13.50	2.2	0.3	2421.0	643.0	3664.0	4398.0	27380	121.8	0	367350	18.8
24.28	43.17	12.09	1.8	0.6	1909.0	554.0	2599.0	3255.0	22060	49.9	0	423970	12.1
											0		
											0		
											0		
											0		
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											0		
											0		
											0		
56.40	**84.48**	**25.59**	**2.0**	**0.9**	**4330.0**	**1197.0**	**6263.0**	**7653.0**	**49440**	**171.7**	**0**	**791320**	**30.9**

Explanation of data abbreviations:

INF: Influent
EFF: Effluent
CBE Carbon Bed Effluent
GPS: Gorge Pump Station
MGD: Millions of Gallons per Day
PPM: Parts Per Million

BFP: Belt Filter Press
PRIM: Primary
FeC13: Ferric Chloride
H2O2: Peroxide
NaOCl: Sodium Hypochlorite

2. Pipes:

2.1. Sewer Collection & Water Distribution Michael Eagler, updated 3/15/2021

Sewer Collections System

2021	Service Calls	Flushing (Feet)	UFPO Responses	Receivers Cleaned	Bypass Pumping (Hours)	Catch Basins	Man Holes	Main	Connections	Lateral
January	83	30402	576	177	12.10	4	2	0	5	0
February	101	21075	368	79	0.00	3	4	0	1	2
March										
April										
May										
June										
July										
August										
September										
October										
November										
December										
Totals	184	51477	944	256	12.1	7	6	0	6	2

Water Distribution

2021	Main Breaks	Service Leaks	Curb Box Reset	Valve Repaired	Valve Replaced	Hydrant Replaced	Hydrant Repaired	Hydrant Flow	Hydrant Flush-Winterized	Hydrant Leaks	Hydrants out of Service	Misc. Service Calls	Concrete
January	8	9	9	3	3	7	6	0	329	0	0	83	3
February	10	8	7	0	0	2	1	0	368	0	0	101	11
March													
April													
May													
June													
July													
August													
September													
October													
November													
December													
Totals	18	17	16	3	3	9	7	0	697	0	0	184	14

3. Analytical Services

3.1 Water Laboratory –Patrick Fama, updated 03/01/2021

1. **New York State Sanitary Code Part V Monitoring/Reporting**
   -February samples have been collected & analyzed in-house for TOC, DOC & UV_{254} on both finished and source water, all samples were found in compliance.
   -Monthly collection and reporting for the Distribution System were conducted (60 Samples for Free Chlorine, Turbidity, Phosphate, Fluoride, Standard Plate Count & Mf Coliform). All samples were within reporting limits.
   Quarterly: 1,4-Dioxane, Perflorooctanesulfonicacid (PFOS) and Perflorooctanoic acid (PFOA). Samples were collected all samples were below action limits.
   -February quarterly sampling for Trihalomethanes and Haloacetic Acids was conducted, and all samples were within range. These samples were analyzed inhouse.
   -The yearly Nitrate sample was taken and reported within limits.

2. **In-house/DEC Monitoring**
   -All in-house monitoring for bacteriology and water chemistry have been within normal limits.
   -The monthly SPDES sample collected from the freeze thaw bed was within normal limits.
   -Samples analyzed for 2021: 3,802.
   -No water main breaks were sampled in February and no community complaints required sampling.

3. **Laboratory Concerns**
   -The laboratory Analyzed 44 Trihalomethanes and Haloacetic Acids samples for 17 Municipalities of Niagara County - The Laboratory also analyzed 9 samples for Total Organic Carbon and 9 required Wet chemistry analysis.
   -The microbiology lab analyzed 17 samples from the Aquarium of Niagara's indoor and outdoor pools as well as three samples from the Village of Lewiston. All results were reported to the representative contacts.
   - Revenue created to date is $6,733.

3.2 Wastewater Laboratory - Brian Eldridge 2/1/2021

1. The data for January's State Pollutant Discharge Elimination System (SPDES) report is currently being compiled with no anticipated violations.

2. Data for the year of 2020 is being compiled for end of year reports. The year was finished with no permit violations.

4. Customers & Compliance

4.1. Meter Shop – Bob Reid Updated 3/12/21

MONTH:	WORK ORDERS	STOPPED METERS	Registers Replaced	SCRAPPED METERS	INDUSTRIAL METERS READ	RESIDENTIAL METERS READ
JANUARY	115	0	12	0	0	7191
FEBRUARY	91	2	9	0	0	5264
MARCH						
APRIL						
MAY						
JUNE						
JULY						
AUGUST						
SEPTEMBER						
OCTOBER						
NOVEMBER						
DECEMBER						
TOTAL	206	2	21	0	0	12455

METER READINGS:

DISTRICT 3	B.REID	M.MACRI	V.Virtuoso	J.PAUL	F.DERUBEIS	TOTAL
2/1/21	673	851				1524
2/2/21	692	762				1454
2/3/21	849	527				1376
2/4/21	529	343				872
2/5/21					38	38
TOTAL	2743	2483			38	5264

Shop read 5264 residential meters for the month.

4.2. Industrial Monitoring / Enforcement – Joel Paradise updated 3/8/2021

a.) Hauled Waste Program – The Hauled waste moratorium imposed on August 16th, 2017 is still in effect.

b.) Investigations/Enforcement – All inspections have been conducted and Notices of Violation have been issued as required.

b.) SIU Updates:

1. All SIU (Significant Industrial User) whose discharge permits nearing expiration in the next several months have been sent their renewal applications for our review and eventual reissuance of their NFWB wastewater discharge permit. This is an ongoing and continuing process.
   The Cross Connection Inspectors work of conducting his inspections as a function of building sales, monitoring the annual tests results of all back flow prevention devices, along with updating our database and filing/archiving the hard copies has also been impacted by the Covid-19 situation but they are being conducted and nearly back on schedule.

2. SIU discharge permits are being continually updated using the most recent data generated by Steve Stewart to verify / adjust discharge limits. The format is being updated simultaneously.

3. As an offshoot of the Administrative Order on Consent June 26th, 2020 issued to SIU #50- Cascades Containerboard Packaging and due to steadily increasing production rates their discharge permit limits for TSS and SOC were increased as February 2, 2021. These limits are interim limits that will be evaluated monthly to see if the allocation as granted, was completely or partially warranted.

4. The RFP for the Local Limits re-evaluation will be released in early 2021. Barring the costs may exceed available funds, a local limits evaluation will be completed in 2021.

5. Renewed discharge permits were issued to Cecos International Inc on 12/2/2020, DS Rose Inc. on 12/3/2020, Sherwood Forest Properties, LTD on 12/9/2020, SIU #47, Saint Gobain Advanced Ceramics 3/7/2021, and ICU #80 Plastic2Oil on 2/18/2021. The renewal application for SIU #61 will be sent out shortly.

6. The Industrial Pretreatment Program's submission of the Annual IPP Report to the EPA with a copy to the DEC was mailed out on January 26th, 2021.

7. SIU 1st Quarter 2021 Self-monitoring reports due February 28th, 2021 were received with the exception of SIU #79. A 2-week extension was granted due to an unexpected medical event.

8. The quarterly BHC sampling was successfully conducted on Monday 3/8/21 and Tuesday 3/9/2021.

9. A proposal was received on 3/8/2021 to add a low volume non-hazardous waste stream to SIU permit #76, Chemours Company FC LLC, Necco Park. We will begin evaluating that possibility within the next 2 weeks.

5. Support Services

5.1. Safety – AFI Environmental (Pat Ackerman) 3/8/2021

- Reviewed completed OSHA 300/300A Forms.
  - Confirmed proper posting in facilities.
- Completed and submitted Tier II annual report for the WTP.
  - Reviewed available chemical data.
  - Inspected the WTP and WWTP for updated chemicals/storage/quantities.
- Reviewed historic training records to start training in March.
- Performed safety walkthrough/inspection for various areas.

6. Technical Services – Doug Williamson, updated 3/10/21

1. **Hazard Mitigation Grant Program HMGP Project No.4204-0003**:
   In February, we have been waiting to hear from the DHSES regarding continuation of the project. GHD provided a design memo with cost estimate for a WWTP flood control project of a smaller magnitude that may have a better benefit to cost ratio than the current scope of work and may still be fundable through the FEMA grant. The memo was provided to DHSES for consideration. The first quarterly HMGP Project No.4204-0003, Phase II WWTP Protective Measures contract 68 report for 2021 that was completed on January 15th.
2. **LaSalle SSO Abatement Program and Consent Order (R9-20080528-32)**:
   The final **Sanitary Sewer System Management Plan Year 12 Progress Evaluation** engineering report was submitted to the NYSDEC on September 11th and continues to be reviewed. In February, we continued discussions regarding potential revisions to the LaSalle consent order. In February, the final WQIP Engineering Report for the LaSalle Sewer System Improvements continued to be developed by Arcadis. The 2021 WQIP grant application was submitted on February 11th.
3. **NYSDEC Consent Order (R9-20170906-129) WWTP Phase I and II Projects:**
   In February, we continued to support CPL and the design consultants on the WWTP Phase I and II projects. Monthly design and construction progress meetings were held for ongoing projects. **Project 1** Sedimentation Basins and Scum Collection System Modification, **Project 2** GPS Rehabilitation and **Project 3** Screenings and Grit Transport Equipment Improvements - construction is ongoing. **Project 5** Electrical System Improvements 75% bid documents were received on February 23rd, **Project 7** HVAC re-bid opening was on February 19th. **Project 9** Process Piping Improvements 90% design progress meeting was held on February 23rd.
4. **NYSDEC WWTP SPDES Permit NY0026336 and Consent Order (R9-20170906-129) Items**:
   In February, we continued to address the WWTP SPDES Permit NY0026336 and Consent Order (R9-20170906-129) items. The WWTP chlorine dioxide study was approved by the NYSDEC on August 27th and AECOM's pilot operations and testing is planned to start in the summer of 2021. The MMP Annual Report (for 2020) and PMP Annual Report (for 2020) were completed and submitted to the DEC in March. We are planning to have a meeting with the NYSDEC regarding permit revisions on March 19th.
5. **WWTP and Chemical Bulk Storage Tanks:**
   We received a second Notice of Violation from the NYSDEC for the WWTP Chemical Bulk Storage (CBS) Program on November 5th. The corrective actions were provided to the Region 9 office on December 7th and continue to be addressed. An update on the progress was sent to the NYSDEC on January 21st.

6. **RFP 2020-04 Design Report for Improvements in WWTP Processing, Handling and Disposal of Sludge**
   Proposals were received from (7) engineering consulting firms on December 21st and have been evaluated by the NFWB team for a final recommendation to award at the March Board meeting.
7. **Town of Niagara Sewer Flow Monitoring**
   The Spring of 2021 Town of Niagara sewer flow monitoring (4-week period) has been scheduled for March 15th to April 12th, 2021.
8. **Engineering Support**
   In February, the engineering department continued to provide engineering and GIS support to NFWB departments, engineering consultants and developers as needed.
9. **Capital Improvement Projects:**
   In February, the **5 Year Capital Improvement Plan** and projects continued to be evaluated, updated and reviewed as needed with NFWB staff.

2021 OXIDIZER BUDGET

BUDGET =	$2,050,000.00	for year		
COST =	$347,026.76	to date		
% USED =	16.93%	to date		
BUDGET =	$5,616.44	per day avg.	$170,833.33	per month avg.
COST =	$5,881.81	per day avg.	$173,513.38	per month avg.
	23.3	Flow (MGD)	59	total days

WWTP DATA		OXIDIZER USEAGE				SLUDGE REMOVAL			
MONTH	FLOW (MG)	H2O2 (GAL)	NaOCl (GAL)	GAL PER MG FLOW	TOTAL ESTIMATED COST	LANDFILL SLUDGE (TONS)	SOLIDS THROUGH PUT (%)	FERRIC CHLORIDE (TONS)	LIME (TONS)
Jan-2021	714.9	0	461,790	663	$182,591.77	494.8	88.2	40.7	66.8
Feb-2021	660.8	0	415,870	664	$164,435.00	507.8	62.0	37.0	42.7
Mar-2021									
Apr-2021									
May-2021									
Jun-2021									
Jul-2021									
Aug-2021									
Sep-2021									
Oct-2021									
Nov-2021									
Dec-2021									
TOTALS	1,375.7	0	877,660	663	$347,026.76	1,002.6	97.7	77.7	109.5

Low value for year
High value for year

7. SECURITY REPORT—Bill Wright 3/4/2021

No security incidents were reported in February; the guards continue to screen contractors and visitors regarding COVID-19 and to restrict plant access.

8. INFORMATION TECHNOLOGY (I.T.) 3/1/2021

VMWARE – ~~Joe/Sean - Migration from old Environment to New has been **completed**.~~

New World – ~~Joe – NWS Cloud hosting migration is **completed**.~~

Network WTP – ~~Sean~~/Joe – ~~WTP network upgrade **completed**.~~
Network WWTP – ~~Sean~~/Dino - WWTP switches are being configured.
we plan to begin deployment (replacement of old) in April/May

Network – **Wi-Fi** – ~~Sean~~/Dino/Joe - When wwtp network is complete, we will be adding Wi-Fi to both plants in the form of a secured production and secured Guest Wi-Fi network. Utilizing plant blueprints, we will install the AP's in the most optimal locations to maximize Wi-Fi coverage. We plan to begin deployment in May.

Security Camera's – Bill-Carl-Clayton – have been working on logistics and looking over multiple deployment options to discuss the next steps. Please refer to Bill/Clayton/Carl for additional information.

Lucity – Software Upgrade – Carl – Will schedule and work with Lucity support to upgrade from version 2018 to build 2021.

NIAGARA FALLS WATER BOARD RESOLUTION # 2021-03-001

AUTHORIZING PURCHASE OF FIRE HYDRANTS AND COMPONENTS

WHEREAS, the Niagara Falls Water Board ("Water Board") maintains approximately 2,226 fire hydrants; and

WHEREAS, with diligent effort and the investment of considerable resources, the Water Board has repaired all known non-functioning hydrants and repairs hydrants promptly on learning that they are not functioning; and

WHEREAS, the Water Board also has established a dedicated hydrant crew, which inspects, flow tests, and maintains hydrants; and

WHEREAS, the Water Board coordinates with the Niagara Falls Fire Department regarding fire hydrant flow data, and also has worked to color code its hydrants to indicate the available flow; and

WHEREAS, the Water Board replaces non-functional hydrants that cannot be repaired and further has determined it beneficial to its system to replace certain older, problematic, and/or unreliable hydrants; and

WHEREAS, to maintain the ability of Water Board crews to replace hydrants, and after reviewing the current hydrant inventory, the number and type of hydrants used in 2020, and other relevant factors, the Water Board's Superintendent has recommended the purchase of a stock of hydrants and components used when replacing hydrants as detailed below; and

WHEREAS, Lock City Supply, Inc., and EJ Prescott, Inc., previously were awarded the two-year bid to supply the replacement fire hydrants and components that are the subject of this resolution pursuant to Resolution 2020-05-015 (Bid No. W2020-02);

* CONTINUED ON NEXT PAGE *

NOW THEREFORE BE IT

RESOLVED, that the Niagara Falls Water Board authorizes the procurement of the following fire hydrants and components:

60 – 5ft Hydrants at $2,245 = $134,700 from Lock City Supply, Inc.
60 – 6" Hymax Coupling at $204.94 = $12,296.40 from Lock City Supply, Inc.
60 – 6" Mech. Joint Accessory Packs at $17.50 = $1,050 from EJ Prescott, Inc.
Total: $148,046.40

Water Board Personnel Responsible for Implementation of this Resolution:
Superintendent

Water Board Budget Line or Capital Plan Item with Funds for this Resolution:
CIP Item No. W-1, Hydrant Replacement
Capital Line Supplied by: B. Wright
Available Funds Confirmed by: K. Walker

On March 22, 2021, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Yes	**No**	**Abstain**	**Absent**
Board Member Asklar	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Forster	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Kimble	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Leffler	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Acting Chairperson Larkin	**[ ]**	**[ ]**	**[ ]**	**[ ]**

Signed By: Vote Witnessed By:

_____ _____

Colleen Larkin, Acting Chairperson Sean W. Costello, Secretary to Board

NIAGARA FALLS WATER BOARD RESOLUTION # 2021-03-002

AUTHORIZING ENGINEERING DESIGN REPORT FOR WWTP SLUDGE HANDLING IMPROVEMENTS

WHEREAS, the Niagara Falls Water Board ("Water Board") wastewater treatment plant has dramatically improved its performance since 2017 and currently is on track to produce more than 20,000 wet tons of stabilized sludge annually, which is landfilled; and

WHEREAS, the total cost to dispose of each ton of landfilled sludge has risen dramatically, from approximately $40 per ton in 2016 to approximately $110 per ton under the newest bid for that service; and

WHEREAS, in an effort to identify ways to decrease the cost of disposing of WWTP sludge, Water Board staff prepared and issued RFP No. 2020-04, Design Report for Improvements in the Wastewater Treatment Plant's Processing, Handling, and Disposal of Wastewater Treatment Plant Residuals (Sludge); and

WHEREAS, this RFP is intended to help the Water Board develop solutions to combat the escalating costs associated with its current sludge disposal process, including improvements to sludge loading to reduce hauling labor and investigating equipment upgrades, dryers, and other improvements, as well as evaluating the cost/benefit of such improvements over a 10-year period; and

WHEREAS, the RFP called for separate proposed fees for two tasks, the first task being design of sludge conveyance system improvements and the second task being a sludge handling report; and

WHEREAS, in response to the RFP, the Water Board received a total of seven proposals from engineering firms; and

WHEREAS, Water Board staff and the Water Board's engineers, CPL, evaluated the proposals received on the bases of experience, past performance, ability to meet the project schedule, and fee; and

WHEREAS, the staff and CPL recommendation to the Board is to select the proposal by GHD to perform both tasks under RFP 2020-004, for a total fee not to exceed $75,700;

* CONTINUED ON NEXT PAGE *

NOW THEREFORE BE IT

RESOLVED, that the Niagara Falls Water Board authorizes the Executive Director to enter into an agreement with GHD to perform the work called for in RFP 2020-04, Design Report for Improvements in the Wastewater Treatment Plant's Processing, Handling, and Disposal of Wastewater Treatment Plant Residuals (Sludge), consistent with GHD's December 21, 2020 proposal and for a total fee not to exceed $75,700.

Water Board Personnel Responsible for Implementation of this Resolution:
Acting Executive Director
Director of Technical and Regulatory Services

Water Board Budget Line or Capital Plan Item with Funds for this Resolution:
WWTP-17, WWTP Infrastructure Projects - Miscellaneous
Capital Line Supplied by: D. Williamson
Available Funds Confirmed by: K. Walker

On March 22, 2021, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Yes	**No**	**Abstain**	**Absent**
Board Member Asklar	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Forster	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Kimble	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Leffler	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Acting Chairperson Larkin	**[ ]**	**[ ]**	**[ ]**	**[ ]**

Signed By: Vote Witnessed By:

_____ _____

Colleen Larkin, Acting Chairperson Sean W. Costello, Secretary to Board

Proposal

Niagara Falls Water Board

Design Report for Handling and Disposal of WWTP Residuals

No. 2020-04

December 21, 2020

December 21, 2020 Proposal No. 11221314

Douglas S. Williamson, PE
Director of Technical & Regulatory Services
Niagara Falls Water Board
5815 Buffalo Avenue
Niagara Falls, New York 14304

Re: Design Report for Improvements in the Wastewater Treatment Plant's Processing, Handling and Disposal of Wastewater Treatment Plant Residuals

Dear Mr. Williamson:

GHD appreciates the opportunity to submit our proposal in response to the Niagara Falls Water Board (NFWB) Request for Proposals for a Design Report for Improvements in the Wastewater Treatment Plant's Processing, Handling and Disposal of Wastewater Treatment Plant Residuals. Serving the water and wastewater community since 1935, GHD is well known as a leader in the industry, having been involved in more than 1000 wastewater plant projects throughout North America with a variety of treatment processes. GHD's diversified team of engineers offers a wealth of experience in developing both traditional and innovative solutions to engineering projects.

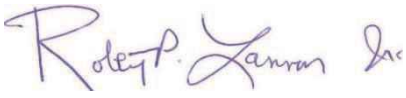
Since 1987, GHD Buffalo staff have assisted the NFWB/City of Niagara Falls with its water and wastewater facilities and infrastructure, and we are excited for the opportunity to continue our relationship.

Our team strongly believes that GHD presents the best strategic partner for the NFWB to proceed with this important project. We confidently support this statement and will bring the following benefits and value to your project:

- ✓ A Project Manager with a strong record of success and familiar with complexities of wastewater treatment projects. Our proposed Project Manager, Casey Cowan, PE has completed more than 10 projects at the WWTP is very familiar with the NFWB's various facilities, as well as its decision-making and approval processes.
- ✓ GHD is an established, world-wide leader in the wastewater industry. Our local resources are backed up by a global organization of 10,000+ professionals with access to a myriad of resources covering each area of the wastewater industry. GHD has a tradition of nearly a century in this business, as attested by our numerous project records and industry publications.
- ✓ GHD brings recent, relevant experience to this project. Our team is currently working on a very similar study to reduce disposal costs for the Niagara County Sewer District No. 1. We have completed numerous sludge handling projects ranging from evaluations and design to bidding, construction administration, and field services during construction. Through these projects and our involvement with professional organizations, our staff is well versed in cutting edge technologies and ever evolving regulatory requirements.

We appreciate the opportunity to provide our proposal and we look forward to strengthening our ongoing partnership. On behalf of our team, thank you for your time and consideration.

Sincerely,
GHD Consulting Services Inc.



Robert J. Lannon, Jr., PE
Principal
robert.lannon@ghd.com

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1. Statement of Understanding

Project Understanding

The Nagara Falls Water Board (NFWB) is undertaking this important project to evaluate alternatives that would reduce disposal costs for the wastewater treatment plant (WWTP) residuals (sludge). Based on recent bids received by other local WWTPs, costs for disposal could potentially double in the spring of 2021 when the current disposal contract is rebid. With an annual production of approximately 24,000 wet tons and the current cost of $59 per ton for disposal, the NFWB is facing what could be a $1.4 million annual cost increase for sludge disposal.

This project will look at optimizing the existing sludge handling equipment to reduce the volume and weight of material that needs to be disposed at a landfill. The greatest opportunity for cost reduction is by lowering the moisture content and therefore the weight of the final material. Repairs to the existing equipment and operational enhancements will be evaluated. We will review the existing belt filter press (BFP) dewatering operation and make recommendations to optimize their performance. The NFWB is also seeking to design improvements to the sludge loadout conveyor that would enable filling three (3) larger containers and reduce the current labor intensive effort of jockeying numerous smaller lugger boxes on a daily basis by the sludge hauler. GHD will review the economics of modifying the conveyor and discuss the improvements with haulers and landfill operators to garner interest in the upcoming contract.

New processes will also be evaluated for their cost and benefit of driving down disposal costs. GHD is currently designing a new sludge drying facility for a WWTP in Pennsylvania, and we have already started an initial review of drying technologies that are applicable to the NFWB. Based on this review we have identified thermal drying and pyrolysis alternatives that will be reviewed further under this project. Drying technologies have advanced since they were previously investigated for Niagara Falls in the late 1980s. With the use of pyrolysis after thermal drying, there is a strong potential that the NFWB's sludge disposal costs can be eliminated. The pyrolysis process converts sludge to a carbon rich biochar (charcoal), which has a market resale value. Another benefit is that there would be no need for lime stabilization before the drying process. The current lime system could be eliminated, and dewatered sludge can be fed directly into the dryer. Fuel costs to operate dryers can be reduced when the feed sludge is as dry as possible. Therefore we will also look at upgrading the sludge dewatering equipment to reduce moisture and maximize the overall return on investment. GHD will review this technology and how it could be incorporated into the WWTP.

Figure 1-1 Sludge Lugger Box Loading Conveyor

GHD is keenly aware that several other local utilities are facing the same issue as the NFWB with rising sludge disposal costs. We are currently evaluating solutions to lower costs for the Niagara County Sewer District (NCSD) No. 1 Water Pollution Control Center (WPCC), and we have discussed this issue with the Town of Tonawanda, Lewiston, Grand Island, Erie County, the Buffalo Sewer Authority, and others. GHD provides engineering services for all of these WWTPs and we have a vested interest in helping our clients with this issue. We are currently active and plan to remain active in the development of plans to help identify solutions for everyone.

Background Information

Sludge management at the Niagara Falls treatment facility has evolved through the years since its April 1977 start-up. The original sludge processing system was composed of gravity thickening, thickened sludge pumping with progressive cavity pumps, dewatering on vacuum filters using slaked lime and polymer as aids, and landfill disposal. Sludge digestion was not selected for use due to the high proportion of non-pretreated industrial waste in the plant influent and their inhibiting influence on biological processes. In addition, benefits from digestion were believed to be marginal due to the comparatively small domestic solids component.

The plant began operations with a 10-year contract for sludge and residuals disposal at a nearby landfill. After 10 years, the City sought competitive bids annually for sludge disposal, but due to escalating costs and limited competition, the price significantly increased. What was originally less than $20/wet ton grew to more than $60/wet ton. The City studied the potential of constructing a sludge monofill but it was not pursued due to issues of siting and permitting.

The City retained Black & Veatch (B&V) to perform a sludge management study, examining many alternatives composed of process options and disposal options. The study ultimately recommended replacing the original four vacuum filters with three new belt filter presses. Space was reserved in the dewatering room for a future fourth press. Preconditioning of the thickened sludge with lime would no longer be needed, but a new post liming system would be necessary to achieve sludge stabilization as required by 6 NYCRR Part 360.

Heat drying of the dewatered sludge was also recommended under the B&V study. Although the dried, pellet-like product would not have a significant fertilizer value due to the large industrial component, the 90% dry material would result in a greatly reduced annual tonnage for landfill disposal. The decision was made to proceed with the belt filter press and post lime improvements while candidate heat drying systems were inspected, evaluated and pilot tested on-site.

As direct and indirect sludge dryers were being evaluated, the Town of Amherst decided to implement sludge drying at their wastewater treatment plant. Their selected equipment was similar to the unit under consideration for Niagara Falls. Because of this, pursuit of heat drying in the Falls was paused to allow Amherst to purchase, install, and gain operating experience first, allowing the Falls to benefit from their lessons learned.

During this time, competitive bidding drove disposal unit costs for Niagara Falls sludge down to half of the peak cost. Coupled with reduced wet sludge cake production due to the industrial pretreatment program and a drier belt press sludge cake, the potential savings of the heat dryer project no longer favored its implementation. Mixed results from the Amherst system, which identified drawbacks that accompanied the benefits of sludge drying, led to a decision to discontinue pursuit of a heat dryer system, and instead continuing use of lime stabilization, which was originally intended to serve as a backup to the dryer.

Since start-up, the belt press system delivered generally acceptable performance. Modifications included an in-place factory rebuild of all three units in the late 2000's, a booster pump to improve wash water pressure, and the replacement of the progressive cavity thickened sludge pumps with centrifugal pumps. Despite these improvements and regular maintenance, the presses are now over 28 years old, the expected service life of this type of equipment. The achievable cake dryness appears to be diminished from the performance when new in 1992 (2,800 dry pounds per hour 30% solids with a thickener feed of over 100 gpm); combined with a renewed emphasis on minimizing plant sludge inventory, two and often all three belt presses are now used to maintain proper sludge thickener levels.

The other mechanical equipment in the sludge processing system (conveyors, lime storage silos, lime screw feeders, pug mill mixers, and associated controls) are also circa 1992 and may be in need of replacement or comprehensive

rehabilitation in order to provide reliable performance. If the lime transfer blower and its associated lime bins have not been operated since the 1990's, they are likely unsalvageable.

At this time of equipment aging, performance degradation, and contemplation of replacement, Niagara Falls is again anticipating significant increases in hauling and disposal costs. Recent local sludge disposal bids indicate a jump in prices, owing partly to reduced competition and closing of the Republic Landfill. The current Niagara Falls unit cost may exceed $100 when the service is rebid in 2021. The NCSD No. 1 plant has already increased by a factor of 2.3 this year, and several other WNY facilities are anticipating a similar jump in costs.

There was a brief period when a landfill in central New York was hauling and disposing of Niagara Falls sludge. The arrangement became feasible when the hauler loaded dump trailers from the facility drop chutes that were intended for lugger boxes. This required on-site staffing by the landfill for frequent trailer repositioning, likely discouraging this hauler from bidding on subsequent sludge removal contracts. The currently contemplated reconfiguration of conveyors to better accommodate dump trailers may again generate interest from other landfills & haulers in western and central New York, re-establishing a competitive environment for bidding.

The current situation in 2020, mirrors the circumstances in 1988 when Niagara Falls searched for solutions to aging equipment and systems that were exhibiting degraded performance as increasing disposal costs consumed a larger fraction of the facility-operating budget. The success achieved from a careful evaluation of options and alternatives, followed by an effective implementation of improvements, it is once again necessary to provide utility customers with exemplary services at reasonable costs.

Figure 1-2 Lime Stabilization System

Sludge Handling Evaluation

The NFWB is seeking assistance to develop recommendations that will reduce sludge biosolids handling and disposal costs for the WWTP. Based on input from the NFWB it appears the biosolids contain a significant fraction of ligno-cellulous materials (paper products). This explains why digestion at NFWB was previously questionable, along with biological inhibition, as mentioned above, is another concern for consideration of digestion.

NFWB's annual disposal costs could increase by over $1 million next year given the recent increased NCSD disposal bid. To meet the primary project objective of "reducing cost of solids disposal", few options exist. They include:

- *Anaerobic Digestion* Questionable process at NFWB due to character of biosolids and expensive. For these reasons, we do not recommend evaluating digestion.

- *Biodrying* Biodryers are an innovative method of drying dewatered cake. The biodryer uses the exothermic bioenergy to evaporate the water. No auxiliary fuel is required. A biodryer is a batch process taking 48 to 56 hours per batch at 20% TS feed solids. Each biodryer drum is approximately 20 feet wide by 40 feet long. Based on solids production at NFWB eighteen biodryers would be required. The footprint, and building cost including building heating, ventilation, and odor control to comply with Class 1 Division 2 hazard classification make consideration of biodryers questionable. GHD will develop a high level, budgetary cost estimate for biodryers as part of the work.

- *Thermal Drying* Reduces end-produce volume by about 70 - 80%. Produces Class A Biosolids. This process is expensive in terms of both capital and operating cost, primarily the cost associated with the purchase of fossil fuel. Eliminates need for lime stabilization

- *Thermal Drying followed by Pyrolysis* Strong potential to reduce disposal cost to zero. The pyrolysis process is a carbon sequestration process, destroys all biological matter and polyfluoroalkyl substances (PFAS) compounds. Reduces auxiliary fuel demand of sludge thermal dryer by about 30%. This process is also expensive in terms of capital and operating costs. However, could be a viable option if it eliminates a $2M per year sludge disposal cost.

The ligno-cellulous fraction of the biosolids can be converted to carbon rich biochar in a pyrolysis step following sludge drying. This process is discussed in more detail in Appendix C. Drying / Pyrolysis would provide the following benefits:

  - *Volume Reduction* biochar For every 2,000 lbs of dewatered cake about 200 lbs of biochar is produced. Currently is selling for about $100 to $200 per ton. Disposal costs should reduce to zero and a potential of a small revenue steam exists.

  - *Class A Biochar* Biochar is charcoal not biosolids. The pyrolysis process destroys all Viruses, pathogens and other biological matter. The process has been documented to destroy (break the carbon / fluoride bond) of PFAS and related compounds. See **Appendix D.**

  - *Tried and proven technology* GHD is aware of six operating pyrolysis systems on biosolids only feedstock worldwide, some operating for 5 to 10 years, there may be others. There is one operating pyrolysis system in the USA (Redwood City, CA). GHD is currently designing the second pyrlysis system in Ephrata, PA.

  - *Excess bioenergy* The pyrolysis process in self-sustaining in terms of auxiliary fuel energy demand after warm-up. The process produces excess heat energy that can be used of offset fuel demand of the sludge drying step. About 30% of dryer heat energy demand can be scalped from the pyrolysis step.

GHD is currently evaluating these options for the NCSD plant to reduce their disposal costs. NCSD is also considering the addition of biodryers, although a biodryer is most likely not economical for the NFWB WWTP based on the size of the facilty. Some elements of the NCSD evaluation will apply directly to the proposed NFWB evaluation, including thermal drying and thermal drying followed by pyrolysis.

Our evaluation of these new dryer processes will also consider new dewatering equipment to reduce the overall operating costs. We will review optimizing the existing BFP versus replacing or installation of other technologies such as centrifuges. The benefit of centrifuges is that they can typically produce up to 5% higher cake solids than a BFP. The cost of centrifuges may be offset by the benefit of lower moisture in the cake and therefore lower fuel costs to operate dryers.

GHD will also consider operating a new dewatering and drying process for day shifts only, double shifts, weekends and as a continuous process. The duration of operating times will have an effect on the equipment sizing, which then has a direct impact on the capital and operating costs. Something to consider is that dryers require a warm up period each time they are started. Therefore, it helps to run dryers for longer periods of time while minimizing shutdown and restarts. The drying equipment that will be considered can be fully automated and remotely monitored from the NFWB SCADA system.

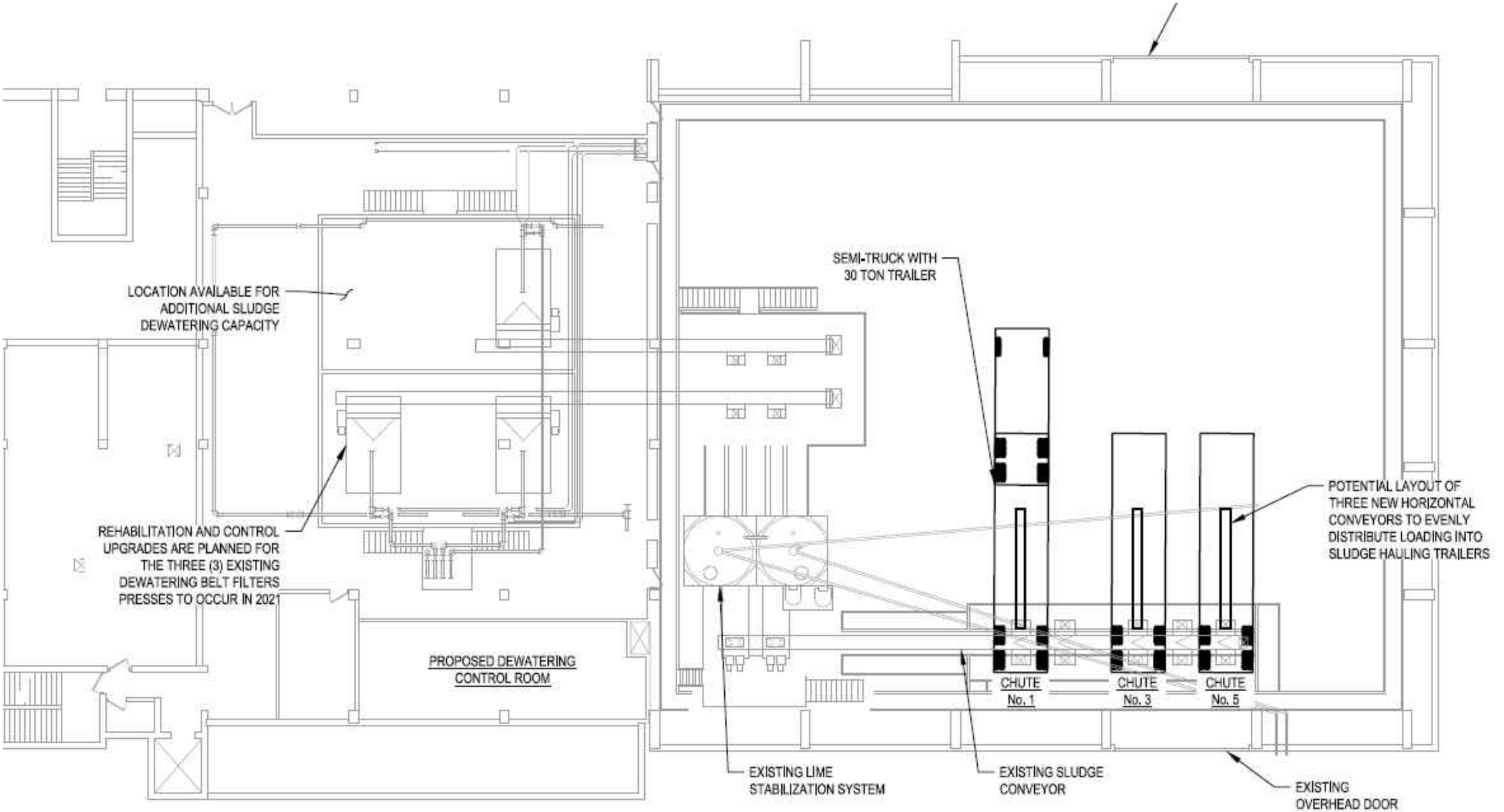
Drying equipment can also be setup to run while dewatering only and designed with the same throughput capacity of the dewatering equipment. However, storage of dewatered sludge is likely recommended between the processes so a dryer can be operated for longer periods of time and the throughput size can therefore be smaller than dewatering. Providing onsite storage may allow dewatering during normal day shifts, thereby reducing labor costs but then drying equipment might be operated for double shifts or even continuously. Each process may also require its own operator, so labor is another consideration that will be evaluated.

The NFWB would like to modify the existing sludge loading conveyors to allow filling three larger containers or trucks, instead of the smaller lugger boxes currently used. The arrangement is limited to filling five (5) luggers that hold about 8 tons of material, before the boxes need repositioning. With all three presses currently operating a lugger box is filled in less than 45 minutes, which can be a labor-intensive effort for the hauler. One of the sludge chutes can accommodate a full size dump trailer, but this requires a driver on-site to distribute the load.

A new sludge loading layout similar to that shown on **Figure 1-4** would allow evenly filling 30-ton trailers with the use of new conveyors equipped with multiple outlet chutes. One key to this layout is to provide structural supports for the new conveyers that will not obstruct free movement of trucks in and out of the room. We think this can be done successfully from the existing grating platform, ceiling and/or columns at the ends of the loading area. We will review this arrangement with the NFWB and haulers during the evaluation phase of the project.

Figure 1-3 Sludge Loading Room

Figure 1-4 Conveyor Layout Concept



GHD

NIAGARA FALLS WATER BOARD
SLUDGE HANDLING EVALUATION

SLUDGE BUILDING FLOOR PLAN

Project No. 11221314
Report No.
Date 12/2020

FIGURE 1-4

2. Similar Work Experience

Niagara Falls Water Board Experience

Since 1987, GHD staff have assisted the NFWB/City of Niagara Falls with its water and wastewater facilities and infrastructure, and we are excited for the opportunity to continue our relationship. Wastewater system projects completed for the NFWB by GHD and its predecessor firms (Stearns & Wheler and CRA Infrastructure & Engineering Inc., which merged with GHD in 2009 and 2014) include:

- Wastewater Treatment Plant (WWTP) Task Order Services (Schoellkopf Tunnel Investigation, Operations Oversight, Consent Order Compliance, SCADA Assistance)
- WWTP Protective Measures Project
- WWTP and Sanitary Lift Station Standby Electrical Generators
- WWTP Flood Recovery/Main Pump Replacement
- WWTP Phase 1, 2, 2A, and 3 Rehabilitation
- Gorge Pump Station (GPS) Rehabilitation
- WWTP Arc Flash Study
- Miscellaneous Electrical Repair Contractor Oversite
- WWTP Hydrogen Sulfide Assessment
- WWTP 115 kV Substation Rehabilitation
- WWTP Subsidence Repairs
- WWTP Primary Sedimentation Sludge and Grit Pump SCADA Automation
- Oxidizer Study
- Sodium Hypochlorite Improvements
- Disinfection System Improvements
- Combined Sewer Overflow Long Term Control Plan
- Capacity, Management, Operations, and Maintenance (CMOM) Program
- Physical/Chemical Optimization Study

References

We have included below four references for municipal clients in Western New York that can attest to GHD's responsiveness, quality of work, expedience with design and approvals, our ability to control costs and maintain project schedules.

Niagara County Sewer District No. 1
Thomas W. Blodgett, PE
Administrative Director
T: 716.693.0001
E: Thomas.Blodgett@niagaracounty.com

Erie County Department of Environment and Planning, Division of Sewerage Management
Joseph L. Fiegl, PE
Deputy Commissioner
T: 716.858.7537
E: Joseph.Fiegl@erie.gov

Buffalo Sewer Authority
Oluwole A. McFoy, PE
General Manager
T: 716.851.4664
E: omcfoy@buffalosewer.org

Town of Lewiston WPCC
Jeff Ritter, Chief Operator
T: 716-754-8291
E: jritter@townoflewiston.us

Familiarity with NYSEFC and CWSRF

GHD has assisted local communities in receiving hundreds of millions of dollars in zero or low interest loans under various state and federal programs, including the New York State Environmental Facilities Corporation's Clean Water State Revolving Fund (CWSRF) and the NYS Water Infrastructure Improvement Act (WIIA) grant program.

Below is an abbreviated list highlighting funding and grants received by several GHD municipal clients in the last 10 years alone:

- Buffalo Sewer Authority Hamburg Drain Floatables Control Facility - $17.6 million (0% interest loan and $8.8 million grant, as well as an additional grant through the ARRA Green Project Reserve Fund)
- Buffalo Sewer Authority Smith Street Drain CSO No. 26 Inline Storage and Localized SPP Optimization – $8 million (includes $3 Million WIIA grant)
- Town of Hanover WWTP Upgrades – $1.4 million in grant funds and $7.0 million in 0% interest hardship loan.
- Town of Tonawanda Parker-Fries Interceptor Project - $65 million (includes $4 million in principal forgiveness, and a $3.2 million WIIA grant.)
- Town of Tonawanda Parker Pump Station – ($298,530 Green Innovation Grant Program grant)
- Village of Bath WWTP Upgrades – ($23.5 million in financing, including a 0% interest hardship loan, and to date a $3.125 million WIIA grant)

In addition to the funding listed above, we have been very successful in obtaining Wastewater Infrastructure Engineering Planning Grant funding under the Regional Economic Development Council's Consolidated Funding Application process.

Our familiarity with funding requirements and working with the various agencies is invaluable to our clients, and has ultimately expedited the reimbursement of expenditures. GHD's funding experience/services includes:

- Investigation of funding sources for capital improvement projects
- Discussions with agency representatives to review project qualifications and funding requirements
- Assistance preparing funding/finance application
- Preparation of required correspondence with regulatory agencies
- Obtaining agency design approvals
- Preparation of monthly documentation/reports, on behalf of the client, for various funding programs including cost summaries for payment requisitions.
- Preparation of quarterly reports to funding agencies on behalf of our clients indicating the contractor's compliance with MWBE/DBE firms.

GHD also monitors the ever-changing regulations issued by the United States Environmental Protection Agency (EPA) and the NYSDEC, and their implementation by local enforcement agencies. Through our experience with professional associations (Water Environmental Federation and New York Water Environment Association), GHD has a solid understanding of new regulations so that we may help our clients obtain compliance in a timely and cost effective manner. GHD's extensive experience and expertise in municipal wastewater projects has gained our firm credibility with regulatory authorities. Our firm and personnel have been successful in achieving regulatory approvals from agencies across all levels of government. GHD has developed a strong knowledge of the compliance policies and procedures through close working relationships. Our firm has built a solid reputation based on hard work, discipline, and high quality project delivery with local municipalities, public authorities, and regulatory agencies.

In recent years, GHD has provided SPDES Permit negotiations and modification assistance, Consent Order compliance, and Long Term Control Plan assistance for many municipal clients. We have supported negotiating the terms of Consent Orders and LTCP with the EPA and/or NYSDEC. The complexity of the SPDES Permits and Consent Orders require a thorough understanding of the regulations and areas with negotiation flexibility.

Similar Project Experience

In Appendix A, GHD has provided project write-ups of our similar experience with *Niagara County Sewer District No. 1 Solids Handling System Evaluation, Rockland County Sewer District No.1 Sludge Dewatering Evaluation, Erie County Southtowns WWTP Filter Press and Dewatered Sludge Pump Improvements, and Town of Grand Island WWTP Dewatering Improvements.*

3. Firm Qualifications

About Us

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, advisory, digital, and construction services to private and public sector clients.

Established in 1928 and privately owned by our people, GHD operates across five continents — Asia, Australia, Europe, North and South America — and the Pacific region. We employ more than 10,000 people in 200+ offices to deliver projects with high standards of safety, quality and ethics across the entire asset value chain. Driven by a culture of client service excellence, we connect the knowledge, skill and experience of our people with innovative practices, technical capabilities, and robust systems to create lasting community benefits.

With a workplace rich in diversity of thought, background and experience, we have what it takes to deliver transformational outcomes for our clients.

Committed to sustainable development, GHD improves the physical, natural, and social environments of the many communities in which we operate. We are guided by our workplace, health, safety, quality, and environmental management systems, which are certified to the relevant international standards (ISO 9001:2015), which are 3rd party certified.

In alignment with the global demands of water, energy, and urbanization, our aim is to exceed the expectations of our clients and contribute to their success.

Business Structure

Parent Company: GHD Holdings (USA) Pty Ltd. (GHD CSI doesn't have any subsidiaries)

Primary office: (Syracuse)
5788 Widewaters Pkwy, Suite 2A
Dewitt, NY 13214

Storage Location:
220 Wavel Street
Syracuse, NY 13206

Logistical / Organizational Capabilities - Familiarity with the Area

All work proposed herein will be managed from GHD's downtown Buffalo office located at:

285 Delaware Avenue, Suite 500
Buffalo, New York 14202
T: 716 856 2142
F: 716 856 2160

GHD's Buffalo office staff includes more than 100 team members including: civil, structural, mechanical, electrical, process engineers, SCADA programmers, as well as environmental specialists and CADD designers. Our construction services group provides construction administration, resident inspection, start up, and commissioning services. As stated above, we also have an office location in Niagara Falls, which houses our local air quality group, accounting services, laboratory, data management and solid waste staff. GHD has provided services across Niagara Falls and Western New York, and we are thoroughly familiar with the proposed project area.

Organizational and Financial Responsibility

GHD's robust and dynamic business model has enabled GHD to grow into one of the world's leading engineering, architecture, environmental consulting and construction services companies. We are one of the top five 100 percent employee-owned companies in our industry and are proud to be unique in this way.

With one in every four of our people being a shareholder, GHD does not have any external ownership — the sustained growth, direction and success of our company is determined by the people who work at GHD. This allows us to plan for the long term, setting strategies that enable growth and development of some of the best technical capabilities in the world.

GHD is financially strong with excellent capacity to meet the current and future needs of the NFWB. Our FY 2020 revenues for North America are approximately US $650 million. GHD's worldwide revenues for FY 2020 are US $2.3 billion.

Legal / Litigation

GHD trusts that Niagara Falls Water Board will appreciate that due to the commercial sensitivity and confidentiality of any litigation in which GHD may have been involved, GHD is not at liberty to disclose the information sought. However, we point out that as a component of its prudent risk management practices, GHD obtains high quality professional liability insurance in the world market, and domestically in the U.S., to provide cover in the industries in which it operates. As a consequence of engaging in business, there are sometimes claims asserted which may or may not give rise to litigation. The details and progress of any such claims are by necessity commercially sensitive and remain in confidence. We are able to inform you that there have been claims notified in the normal course of business, none of which we believe are material to the services which are the subject of your RFP. There are however presently no significant ongoing contract failures, no criminal matters, and there have been no judgments against GHD Consulting Services within the last 5 years.

Firm Capabilities

GHD has been providing engineering services in New York State since 1950. Our Buffalo office has been providing municipal engineering services since 1985 and has acquired experience in a wide variety of design and construction projects. Much of this experience has been as retained engineer or engineer of record to city, town, and village boards, as well as several water and wastewater authorities.

GHD's diversified team of engineers offers a wealth of experience in developing both traditional and innovative solutions to engineering projects. Our local staff has managed a full range of engineering projects from very simple single disciplinary

projects to complex multi disciplinary, multi million dollar projects. Our design services personnel have the necessary core expertise from both the technical/theoretical and practical/ implementation sides to fully meet the specific requirements of a project. We offer responsive and cost effective engineering services ranging from conceptual design to the development of plans and specifications. The following section shows our municipal utility experience, as well as a description of our engineering discipline experience.

Wastewater Services

GHD's municipal wastewater services range from planning, condition assessments, and design to bidding, contract management, and field services during construction. Our design group provides preliminary and detailed project design including preparation of plans and specifications for treatment facilities, interceptors, collection systems, and pump stations. GHD's long time emphasis on innovative solutions extends to all of the company's projects. GHD's municipal wastewater services are generally grouped in the following areas:

Wastewater Treatment

GHD has extensive experience in both solid and liquid process systems. We are industry experts in the rehabilitation and upgrade of wastewater process, civil, and mechanical facilities, as well as the wholesale replacement of wastewater processes with innovative and/or alternative technologies. In addition to providing preliminary and detailed engineering design, our firm is recognized as a leader in providing wastewater facilities operation and management review in an effort to assist public facility owners in improving efficiency for their systems. Our experience includes all treatment processes from headworks through primary/secondary/tertiary treatment, disinfection, and sludge processing. Our services have included:

- Treatment plant design including rehabilitation, capacity enhancement and new systems
- Process analysis, troubleshooting, optimization and design recommendations
- Instrumentation and control design
- Operations and permitting assistance
- Odor control evaluations and recommendations
- Pretreatment assistance
- Wet weather operating plans

Sludge Management

One of the biggest challenges in wastewater treatment is the collecting, processing, and disposal of biosolids. GHD has a wealth of experience in all aspects of dewatering and disposal. Whether your agency composts or incinerates, our technical staff has the expertise to assist you.

Services provided include:

- Dewatering evaluation and solids content analysis
- Sludge removal and disposal consultation
- Waste activated sludge thickening
- Sludge stabilization including aerobic digestion, anaerobic digestion, alkaline stabilization, phased temperature digestion, composting, and incineration
- Biosolids dewatering and drying
- Biosolids beneficial reuse planning and marketing

Biosolids Management

For decades, GHD has worked closely with clients to plan, design, and oversee the construction and start-up of facilities that produce high quality biosolids products, produce energy and capture nutrients such as phosphorus and nitrogen for beneficial uses. We work closely with technical associations, universities, research organizations, and regulatory agencies to stay well-informed and actively engaged in the latest developments in biosolids management. Our team provides unmatched innovation and has first-hand experience with state-of-the-art biosolids technologies such as thermal hydrolysis and advanced anaerobic digestion for extremely high levels of biosolids decomposition and biogas production, recuperative thickening for maximizing the capacity of existing infrastructure and options to produce liquid fertilizer or sterile and nutrient-rich biochar. We'll help you define a strategy to convert biosolids from a disposal problem to a valuable resource.

Quality Assurance/Quality Control

GHD firmly believes that quality assurance/quality control is essential to delivering the consistent quality service expected by our clientele. Measures taken to promote excellent quality in project execution include direct project responsibility by Principals, and the use of in house and external training programs. GHD is registered under the ISO 9001:2015 international standard in Consulting, Engineering, Project Management, Design Services, and Materials Testing. There are currently 81 GHD office locations where our Quality Management System is registered.

GHD's success at delivering on our client service promise is evidenced by the high percentage of repeat business that GHD enjoys with many long term clients and by the results of client satisfaction survey results. To date, under our Quality System (ISO 9001:2015) client survey program, 94 percent of respondents have indicated GHD's performance is very good or excellent. GHD is extremely proud of its demonstrated success at meeting or exceeding clients' expectations.

Familiarity with the Project Area

GHD staff have worked on numerous projects at the NFWB WWTP, the sewerage collection and conveyance system, the WTP and distribution system, and various projects throughout the City of Niagara Falls since 1987. As a result, GHD staff have become very familiar with the NFWB facilities and infrastructure, operations, staff, challenges, and opportunities.

NFWB's current sludge disposal contract (with Modern Disposal) expires in the Spring of 2021. Upon expiration, the NFWB is facing, what is anticipated to be, a significant increase in sludge disposal cost (a two-year extension of the current contract was requested by the NFWB, but not granted by Modern). The nearby Niagara County Sewer District No. 1 (NCSD) received one bid for sludge disposal in August of 2020 and realized a 127 percent increase in disposal costs – from approximately $44 per ton to $100 per ton for the next three years. Considering that increase, several WNY municipalities are evaluating their sludge disposal/solids handling options.

Municipal solid waste landfills in NYS are governed by 6 NYCRR 360 and 362. Waste transporters hauling sewage sludge must obtain a Part 364 permit in accordance with 6 NYCRR 364.

Sludge disposal consists of two components: gate, or "tipping" fees, plus transportation costs. Due to the relative proximity of Modern Landfill to the NFWB WWTP on Buffalo Avenue (approximately 15 miles), the transportation cost component of the disposal cost is the smaller of the two. As the NFWB contemplates improvements to the current system to utilize two additional dump trailers, it is important to consider that such improvements would likely generate some savings on the transportation cost only – the tipping fee will not be impacted. Tipping fees are impacted, in part, by the additional handling/process of the sewage sludge required once it arrives at the landfill. The cost effectiveness of such improvements must be evaluated to determine if the anticipated cost savings will offset the project cost of the improvements.

As mentioned above, the NCSD only received one bid for its current sludge disposal contract. This is thought to be largely attributable to the lack of competition in the area. While Modern disposal is nearby, potential disposal options might include:

- Chaffee Landfill operated by Waste Management, 54 miles away from the NFWB WWTP
- Mill Seat Landfill operated by Waste Management, 64 miles away
- High Acres Landfill operated by Waste Management, 100 miles away

Due to the distances, elevated transportation costs to these locations would be expected.

Conflict of Interest

GHD has no conflict of interest for the requirements of this RFP.

4. Key Personnel

Project Team Organization

The ultimate success of any project is dependent upon the selection of a committed project team that provides proven leadership, client responsiveness, and professional performance. Our Buffalo office includes civil, structural, mechanical/ HVAC, electrical, controls, and process engineers, as well as surveyors, licensed operators, construction inspectors, environmental specialists, CAD designers, and administrative support staff.

Our proposed project team has been organized to offer the NFWB the most qualified group of individuals to respond to your needs in a timely and cost-efficient manner. Our team outlined below has provided many years of experience at other large wastewater treatment plants in Niagara and Erie Counties, and across New York State.

Resumes of key personnel below are provided in Appendix B and reflect their relevant project experience.

- Robert Lannon, Jr., PE (Buffalo) - Project Director
- Christopher Martin, PE (Buffalo) - QA / QC
- Casey Cowan, PE (Buffalo) - Project Manager
- Dave Woolley (Buffalo) - Project Engineer
- Stan Chilson, PE (North Wales, PA) - Technical Lead

5. Scope of Services

GHD proposes to perform the following tasks associated with the engineering services requested by the NFWB for this project.

- *Task 1 – Design of Sludge Conveyance System*
- *Task 2 – Sludge Handling Report*

The following sections provide a description of the proposed scope of work for these tasks.

Task 1 – Design of Sludge Conveyance System

A virtual kick off meeting will be held to establish lines of communication, review the scope of work, and to gather additional pertinent background information and submit the initial Request for Information (RFI). The schedule for completion of project deliverables will also be established. The project manager and appropriate design element lead engineers of the GHD project team will be in attendance at this meeting. Meeting minutes will be prepared by GHD and distributed to the NFWB. A site inspection will be conducted at the beginning of the project. During this site inspection GHD will discuss operations with staff, and inspect equipment including electrical and instrumentation systems.

GHD will prepare contract documents, suitable for public bidding, for construction of the improvements. We have assumed the work will be completed under a single set of multiple prime contracts (General and Electrical) in accordance with the Wick's Law. The conveyor layout will be similar to the concept depicted on **Figure 1-1** in Section 1. The new conveyors would be supported in such a way that keeps the floor clear from obstructions to the extent possible. The improvements will be discussed further with the NFWB to acquire the necessary basis of design information, and to confirm the project goals and requirements associated with the facility improvements. A Sequence of Construction specification will be prepared to define staging and coordination of work with NFWB operations.

Contract documents will be submitted to the NFWB at 60 percent and 90 percent for review and comment. An engineer's construction cost estimate will be prepared based on the submitted 60 percent, 90 percent, and final design. Sufficient budget has been included for five (5) workshop meetings during the design phase (including kick off, preliminary review, 60%, and 90%) to review progress, receive NFWB input, and address comments as they arise. GHD will distribute typed meeting minutes to all project team members.

The project drawings and specifications will be submitted to the NYSDEC, if requested by the NFWB. GHD will also meet with the NYSDEC and go over the project scope if necessary. On previous rehabilitation projects similar in scope to this one, the NYSDEC did not formally review and approve the project drawings. We will address comments from the NYSDEC prior to bidding. **Table 5-1** presents our preliminary list of drawings.

Table 5-1 Preliminary Drawing List

Drawing No.	Drawing Title
G001	Cover Sheet
G002	WWTP Site Plan
M001	Sludge Building Floor Plan
M002	Sludge Conveyor Sections and Details
S001	Structural Notes and Legend
S002	Conveyor Supports
E001	Electrical Plan and Details
7	**Total Drawings**

Task 2 - Sludge Handling Report

GHD will evaluate the NFWB's overall sludge handling process including decanting, thickening, belt filter presses, conveyor transport system, lime system, and disposal. We will compile and review data on the system performance based on information provided by the NFWB. Additional outside lab testing should not be needed and is therefore excluded. The results of our analysis will be complied into an Engineering Report. We have assumed the Engineering Report will be suitable for review and approval by the NYSEFC, however we have offered a cost deduct in Section 7 if a NYSEFC report in not needed. Our report will include conceptual layout plans showing each alternative. A draft copy of the report will be submitted to the NFWB and a virtual meeting will be scheduled to discuss findings and solicit comments. Our report will include the following alternatives.

1. Optimization of the Existing Equipment

There may be opportunity to enhance performance of the existing system to provide drier solids and lower costs. The NFWB is currently moving into construction on a rehabilitation project that includes the existing BFPs to provide control upgrades and inspection by the manufacturer (Alfa Laval) in 2021. The polymer conditioning system is also being replaced under that project. Therefore, we assume the BFPs will be rebuilt and restored to maximize dewatering performance under that project.

GHD will work with Alfa Laval to evaluate ways to optimize the BFP performance, including polymer activation, polymer mixing velocity, trials involving dual polymer effectiveness, gravity zone effectiveness, belt tensioning adjustment and automation, and BFP loading rate.

Blending and pre-thickening equipment and procedure will also be reviewed. Pre-treatment evaluation will include the Orege pre-treatment systems, which is offered by Alfa Laval. Based upon our experience with Orege, results from this pre-conditioning have been mixed. The only way this, or other pretreatment systems, can be considered is by on site pilot testing. GHD includes development of a pilot test protocol and determination of cost associated with the pilot. Costs to do pilot testing are not included.

As part of this alternative we will develop a final layout of new sludge loading conveyors to allow filling three larger disposal trucks or containers. We will also review the economic benefit of installing new load-out conveyors. GHD will discuss the proposed loading facilities with haulers and landfill operators to help estimate how the conveyors could result in lowering the hauling and disposal costs.

Deliverables:

- Conveyor layout and any other recommended improvement
- Budgetary cost of capital improvements
- Cost of Consumables; Auxiliary fuel required, if any, electrical power, polymer, etc.
- Estimated cost of off-site disposal
- Pilot test recommendations
- Life cycle cost analysis over a 20-year period

2. Sludge Drying of Undigested Biosolids (Class A biosolids)

GHD will evaluate thermal drying of solids produced from existing and new dewatering equipment. Direct dryers, drum dryers and belt type will be considered. Indirect dryers will not be considered.

Deliverables:

- Heat and Material Balance showing solids reduction
- Cost of Auxiliary Fuel
- Budgetary Cost of capital improvements
- Identification of air pollution control devices
- Review of sludge storage and runtime effects on equipment sizing

- Cost of Consumables; electrical power, natural gas, scrubber water chemical(s), etc.
- Estimated cost of off-site utilization.
- Life cycle cost analysis over a 20-year period

3. Sludge Drying followed by Pyrolysis (Class A, biochar)

This system would produce biochar not biosolids. Markets for biochar are emerging and off-site hauling and utilization could provide a small revenue stream in lieu of a cost.

The evaluation will include sizing of equipment for current plant solids production and plant build-out solids production. A technical and budgetary equipment cost proposal will be obtained from Bioforcetech (BFT), once sizing is complete.

Cost will include air pollution control devices that have demonstrated compliance with stringent California air emission limits. A review of New York air emission limitations will be included.

Deliverables:

- Heat and Material Balance showing solids reduction
- Budgetary Cost of capital improvements
- Review of sludge storage and runtime effects on equipment sizing
- Identification of air pollution control devices
- Cost of Consumables; electrical power, warm-up fuel, scrubber water chemical(s), etc.
- Estimated revenue from sales of biochar.
- Life cycle cost analysis over a 20-year period

Dryer / Pyrolysis Pilot Testing

Should thermal drying or thermal drying coupled with pyrolysis be considered economically / environmentally attractive to the NFWB, additional bench scale and pilot scale testing is recommended. GHD includes development of a pilot test protocol and determination of cost associated with the pilot. Costs to perform pilots test are not included in the scope.

A full-scale pyrolysis testing facility can also be made available. Biosolids cake would need to be transported to this facility for testing. This testing is not included in the project scope at this time.

4. Regional Sludge Management

Numerous WNY wastewater utilities are facing the same issue as the NFWB with rising sludge disposal costs. GHD is currently working with some of the impacted facilities on solutions to reduce costs and we are aware that a regional task force is currently under development to review ideas for a potential shared solution.

At this time, there may be one near-term viable option for disposal that is close to Niagara Falls, other than at Modern Landfill, at the Buffalo Sewer Authority incinerators. If other viable shared solutions are identified during this project, GHD will develop a high-level summary of the potential costs specific to the NFWB, schedule, shared agreements and regulatory approvals that would be needed. Any regional shared solutions may take several years to develop and be difficult to establish agreements among the utilities, therefore our focus for this project will be to identify solutions directly at the NFWB WWTP.

Economic Evaluation

A comparison of cost associated with the alternatives will be prepared. The cost assessment will compare capitol and estimated operating expenses of the alternatives on a 20-year life cycle cost basis. That cost will be compared to landfill disposal cost at $100 and $150 per wet ton. Commodity cost of fuel will be developed jointly by NFWB, local utility, and GHD.

6. Schedule

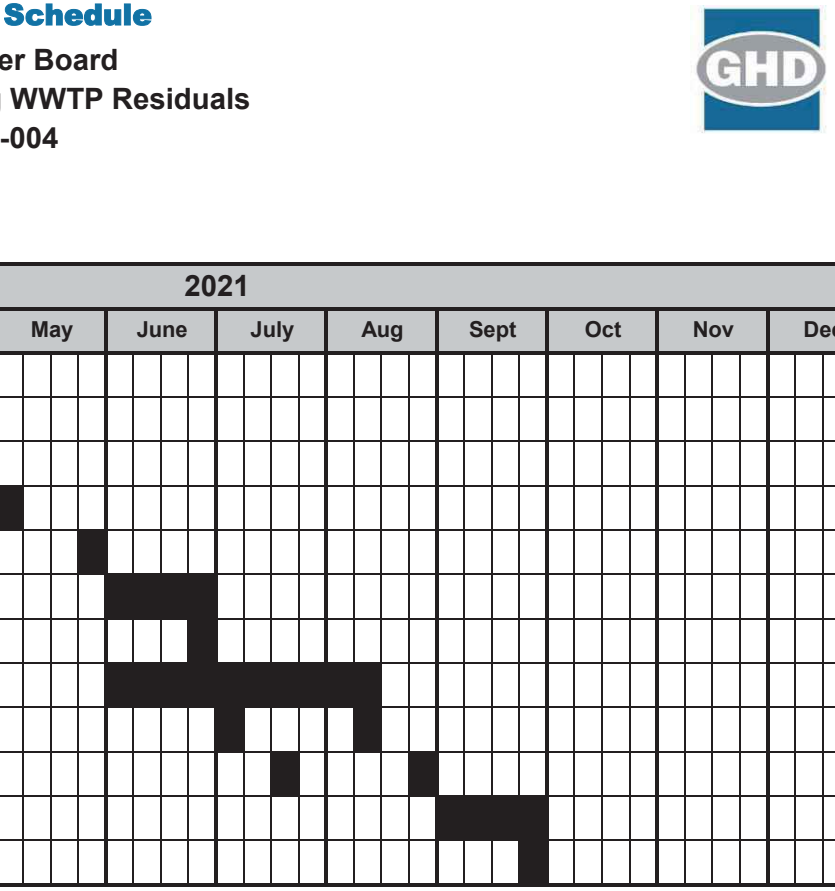
GHD has reviewed the schedule provided in RFP Item 11 “Term and Schedule”, which requires this project to be completed by December 31, 2021. Our project team is well versed in the sludge handling evaluations required at the WWTP based on our previous experience and are prepared to meet the schedule described in the RFP.

Our proposal also assumes the sludge evaluation study and the conveyor design will be completed over an 8-month time frame. We recommend the conveyor detailed design is started after the initial evaluations are completed, just in case the evaluations have an effect on the recommended solution. The proposed project schedule is illustrated in **Figure 6-1** on the following page.

Figure 6-1: Proposed Project Schedule

Proposed Project Schedule

Niagara Falls Water Board
Design Report for Handling WWTP Residuals
RFP No. 2020-004



7. Cost Proposal

GHD has prepared a project labor breakdown and fee based upon the Scope of Services outlined in the RFP and as presented in our Scope of Services Section 5 of this proposal. We have assumed that an NYSEFC format Engineering Report will be required under Task 2 of this proposal. If the NFWB does not require a NYSEFC format Engineering Report, GHD will summarize our evaluations in a standard format report, and our fee for Task 2 can be deducted by $5000.

GHD proposes to furnish the Scope of Services for an hourly not to exceed total fee of $75,7000. Invoices will be issued monthly for the number of hours invoiced by employee and at GHD standard billing rates. The following **Table 7-1** provides a summary of our proposed fee. A detailed breakdown of the hours and rates are provided in **Table 7-2** on the following page.

Figure 7-1 Fee Summary

Task	Description	Fee
1	Design of Sludge Conveyance System	$37,800
2	Sludge Handling Evaluation	$37,900
	Total	**$75,700**

Figure 7-2 Detailed Fee Breakdown

Niagara Falls Water Board
Design Report for Handling WWTP Residuals
RFP No. 2020-004

Table 7-2 Fee Proposal

Detailed Breakdown of Fee

TASK NO	WORK TASK DESCRIPTION	ESTIMATED HOURS												FEES		
		Project Director	Project Manager	Technical Lead	QA/QC Engineer	Project Engineer	Design Engineer	Electrical Engineer	Sr CAD	CAD	Construct. Manager	Resident Inspector	Clerical	Total Labor	Direct Expenses	Total
1	Design of Sludge Conveyance System	4	12	4	4		100	24	16	96			30	$37,780	$55	$37,835
2	Sludge Handling Report	4	30	50	12	40	40			16			30	$37,760	$110	$37,870
	Subtotal Hours	8	42	54	16	40	140	24	16	112	0	0	60	SUBTOTAL COSTS		
	Average Hourly Billing Rate (2020)	$240	$190	$240	$200	$175	$150	$180	$110	$100	$165	$110	$70	**$75,540**	**$165**	**$75,705**

TOTAL FEE **$75,705**

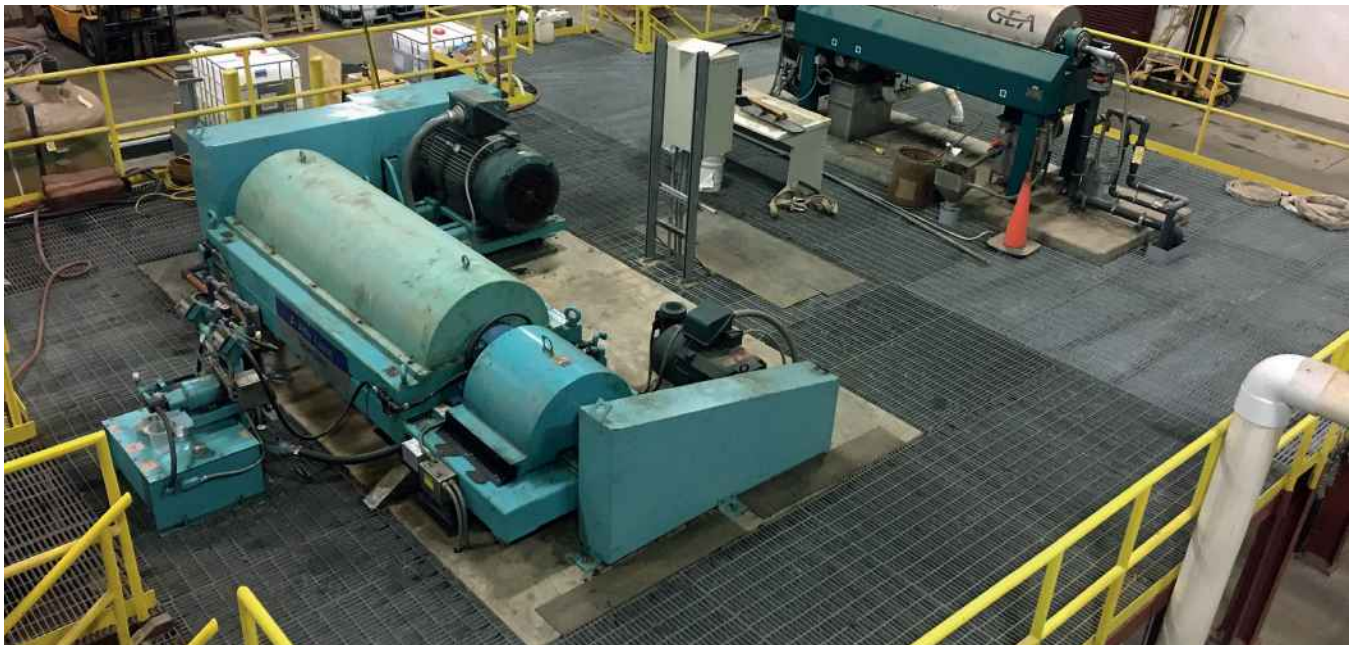
ROUND TO **$75,700**

Detailed Breakdown of Direct Expense Costs

TASK NO	WORK TASK	ESTIMATED DIRECT EXPENSES												COSTS		
		Telephone/ Telefax/ Cellular		Company Truck	Repro./ Printing	CADD	Postage/ Shipping	Misc.	Equipment Purchase	Lodging		Meals & Incidentals	Mileage	Subtotal	Fee Multiplier	Total
1	Design of Sludge Conveyance System												$50	$50	1.10	$55
2	Sludge Handling Report												$100	$100	1.10	$110
														$0	1.10	$0
	Subtotal Direct Expense Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$150	SUBTOTAL COSTS **$150**		**$165**

TOTAL DIRECT EXPENSES **$165**

Appendix A
GHD Projects



Niagara County Sewer District No. 1 Solids Handling System Evaluation, Wheatfield, New York

Project

GHD is conducting a high-level evaluation of alternatives to reduce off-site solids disposal costs for the Niagara County Sewer District No. 1 (NCSD/District).

Clients

Niagara County Sewer District No. 1
Thomas W. Blodgett, PE
Administrative Director
T: 716.693.0001
E: Thomas.Blodgett@niagaracounty.com

Duration

Ongoing Since 2020

Project Value

$29,700

Challenge

The NCSD was recently notified by Modern Disposal Services that their off-site solids disposal costs will be increasing from approximately $44 per ton to $100 per ton for the next 3 years. Because of this significant increase, the District requested that GHD, as its retained engineer, evaluate alternatives to reduce the volume of solids for off-site disposal, including evaluating both Class A and Class B biosolids processes.

Description

GHD is conducting a high-level overview of four alternatives and will provide a high level probable construction cost estimate for each based upon our experience with similar sized and functional equipment. The four alternatives being evaluated include:

High Performance Mesophilic Anaerobic Digestion (Class B biosolids)

"High Performance" is defined as digester volumetric loading of 0.2 pounds Volatile Solids per 1,000 cubic feet of usable digester volume (0.2lbs/1,000 ft3). GHD will consider a tall, smaller diameter Anaerobic Digesters (AD) to enhance mixing regime.

Two-stage, Thermophilic followed by Mesophilic Anaerobic Digestion (Class A biosolids)

The production of Class A biosolids allows for consideration of biosolids utilization in lieu of disposal. Land application markets for this material will be assessed and discussed with the NCSD. This alternative will include two thermophilic batch reactors, each at 2.5 days Solids Retention Time (SRT), operating at thermophilic temperature, followed by heat exchanger, followed by single, 15 day SRT mesophilic digester.

Sludge Drying of Undigested Biosolids (Class A biosolids)

Thermal drying of solids produced from the existing dewatering equipment system. Direct drying technologies including drum dryers and belt dryers will be considered.

BioDryers followed by Pyrolysis Stage (Class A, biochar)

This system will produce biochar not biosolids. The evaluation includes sizing of equipment for current plant solids production and plant build-out solids production. Once sizing is complete, GHD will obtain a technical and budgetary equipment cost proposal from Biodryer / Pyrolysis manufacturer.

For each of the above alternatives, GHD is preparing the following deliverables:

- Heat and material balance showing solids reduction
- Budgetary cost of capital improvements
- Cost of consumables (e.g., auxiliary fuel required, if any, electrical power, polymer, etc.)
- Biogas production and utilization alternatives
- Estimated cost of off-site disposal/utilization

GHD will consider the heat and material balance showing solids reduction and the cost of capital improvements, as well as:

- Identification of air pollution control devices. The cost will include air pollution control devices that have demonstrated compliance with stringent California air emission limits. A review of New York air emission limitations is included.
- Cost of Consumables (e.g., electrical power, warm-up fuel, scrubber water chemical(s), etc.)
- Estimated revenue from sales of biochar. Markets for biochar are emerging and off-site hauling and utilization could provide a small revenue stream in lieu of a cost.

Outcome

Upon completion of the evaluation, GHD will prepare an Engineering Report that presents our findings and recommendations to the NCSD.

Sludge Dewatering Evaluation
Orangeburg, New York

Project

The Rockland County Sewer District No. 1 (RCSD No. 1) owns and operates a 28.9 million gallons per day (mgd) wastewater treatment plant (WWTP) located on New York State Route 340 in Orangeburg, Rockland County, NY. GHD assisted the RCSD No. 1 with responding to an Order on Consent with the New York State Department of environmental Conservation (NYSDEC) for completion of an Inventory of Assets, Asset Management Plan and Capital Improvement Plan for their wastewater infrastructure. One of the projects identified in the Capital Improvement Plan includes addressing aging infrastructure within the solids dewatering process.

Client

The Rockland County Sewer District No. 1
T: 845.385.6111
E: SaberM@co.rockland.ny.us

Duration

July 2018 - June 2019

Project Value

$30,000 - Study
$15 million - Construction (est)

Challenge

The dewatering equipment at the RCSD No. 1 WWTP is reaching the end of its useful life. Four (4) 1.5-meter belt filter presses (BFPs) has been abandoned in place and are no longer functional. The plant relies on operating three (3) centrifuges that are undersized requiring double shifts, weekend hours with no available redundancy or future capacity. The centrifuges are over 25 years old and the model is no longer manufactured, making it difficult to maintain and obtain spare parts. The equipment layout in the Dewatering Building is also inefficient and congested with multiple conveyors.

Description

GHD evaluated the current condition of the sludge dewatering equipment and alternatives to replace the aging equipment and other upgrades needed to address redundancy, future capacity, and overall functionality in the Dewatering Building. The alternatives analysis considered technically feasible options for dewatering at the WWTP, include:

1. Replacing the existing centrifuges with new centrifuges
2. Replacing the existing centrifuges with BFPs
3. Replacing the existing centrifuges with screw presses

The alternative were reviewed with respect to the advantages and disadvantages of the technology, expected/predicted performance, equipment layout at the facility, estimated total project cost and operation and maintenance (O&M) costs, as well as other non-monetary factors. GHD's evaluation also reviewed the overall sludge management capacity at the facility, including use of the existing gravity thickeners, anaerobic digesters, sludge storage tanks, dewatering feed pumps, polymer storage and feed systems, sludge hoppers and truck loading hoppers.

Sizing for the new dewatering equipment was evaluated for both current and future conditions. Basis of design values were developed using historical data, as well as projected additional sludge production due to future, more stringent permit limits for a resulting total maximum sludge throughput per week of 217,000 dry lb/week and a minimum of 22% solids sludge cake. Additional dewatering capacity is recommended based on dewatering 5 days a week and 7 hours per day; assuming two units are operating, This results in a total run time of 70 hours per week compared to the existing 141 hours of run time per week. The sludge processing capacity required for these operating conditions is 3,100 dry lbs/hr per unit, or a total of 6,200 dry lbs/hr with two units operating. A third same size dewatering unit is also recommended for redundancy if one of operational units is out of service.

Outcome

Three new larger centrifuges are recommended for sludge handling at the RCSD No. 1 WWTP with space reserved for more capacity with a future centrifuge. The dewatering feed pumps and polymer feed system also need to be upsized for handling the sludge. Layout of the dewatering room would be simplified by removing all of the existing dewatering equipment and numerous sludge conveyors, and construction of new platforms that allow direct discharge from the new centrifuges into larger sludge hoppers. The hoppers would be removed and reconfigured to allow more efficient filling into the sludge disposal trucks. GHD also recommended the addition of a chemical treatment system to address an issue with struvite formatting that has led to clogging of the dewatering centrate piping. GHD's study also recommended that the Dewatering Building be rehabilitated with new doors, painting, hoists, HVAC, lighting, electrical and control systems.

The recommended improvements will allow RCSD No. 1 to have additional dewatering throughput with more flexibility and efficiency for sludge handling at the WWTP.

Filter Press and Dewatered Sludge Pump Improvements, Hamburg, New York

Project

The Erie County Southtowns Advanced Wastewater Treatment Plant (AWTF) is an inter-municipal facility, with a service area that includes portions of the Towns of Hamburg, Orchard Park, Boston, and Eden; and the Villages of Hamburg and Orchard Park. Flows during wet weather can be greater than 90 mgd.

Client

Erie County Department of Environment and Planning, Division of Sewerage Management
Joseph L. Fiegl, PE
Deputy Commissioner
T: 716.858.7537
E: Joseph.Fiegl@erie.gov

Date

2012

Challenge

The plant utilizes a pure oxygen activated sludge system for biological treatment. Sludge collected in the clarifiers is pumped to gravity thickeners. Thickened sludge is dewatered in two plate and frame filter presses. Dewatered sludge cake is pumped to on-site incinerators, and incinerator ash is hauled off-site for ultimate disposal.

Description

The plate and frame filter presses and dewatered sludge pumps had reached the end of their useful service life, and the County retained the services of GHD to design upgrades to the two systems. The existing presses and pumps were not capable of delivering dewatered cake in excess of approximately 20% solids to the incinerators, which resulted in excessive fuel oil use.

The modifications included:

- New 15 HP hydraulic power packs for each plate and frame press
- PLC based controls for each plate and frame press and power packs
- New stainless steel “bomb bay” door style drip trays under each press
- Two new hydraulically driven piston style dewatered sludge pumps, with design flow rate of 20 gpm per pump and capability to convey dewatered cake up to 40 percent solids to the incinerators
- 40 HP hydraulic power packs for each pump
- Twin screw feeders for each pump
- Stainless steel hoppers below each plate and frame press, directly connected to screw feeders of dewatered sludge pumps
- Lubrication system for pipeline between new pumps and existing incinerators
- Dewatered sludge flow and dewatered sludge density measurement systems
- PLC based controls for dewatered sludge pump systems

Our services included:

- Design
- Bidding and Project Administration
- Construction Phase Services
- SCADA Programming

Outcome

- Replacement of aged equipment
- Increased dewatering efficiency, resulting in higher concentration of dry solids in dewatered sludge cake
- Cost savings through decreased fuel oil use at the incinerators

Wastewater Treatment Plant Dewatering Improvements
Grand Island, New York

Project

GHD is providing engineering design, bidding, and construction phase services for new dewatering equipment improvements at the Town of Grand Island (Town) Wastewater Treatment Plant (WWTP) to eliminate the Town's reliance on outside facilities for sludge disposal.

Client

Town of Grand Island, New York
Robert H. Westfall, PE
Town Engineer
T: 716.773.9600 x 639
E: rwestfall@grandisland.ny.us

Duration

Ongoing Since 2020

Project Value

$204,700 – Engineering

Challenge

The Town owns and operates a WWTP designed to treat an average daily flow of 3.5 million gallons per day (mgd). As part of the treatment process, sludge is collected in two secondary clarifiers and thickened in a gravity thickener. Thickened sludge undergoes an anaerobic digestion process for stabilization. When the WWTP was originally constructed, a belt filter press (BFP) was utilized to dewater sludge to a concentration of approximately 20 percent solids by weight, prior to hauling to a landfill for ultimate disposal. The BFP eventually reached the end of its useful service life, and in recent years the Town has been hauling liquid sludge from the digesters to other nearby plants for disposal. Under this approach, the Town is reliant on the functionality of outside plants and has no means of sludge disposal if there is a process upset at the receiving facility. To reduce the reliance on outside facilities, the Town renewed its interest in installing new dewatering equipment at the WWTP.

The Town received presentations from vendors offering BFP, screw press, or centrifuge technology. The centrifuge option did not appear economical for a plant of this size. Additionally, the Town discussed alternatives for sludge drying technologies to produce a Class A biosolids product, which also did not appear practical for this facility.

Earlier in 2020, GHD prepared an Engineer's Report that evaluated BFP versus screw press technology. Based on operational considerations and a net present worth analysis, new BFPs were chosen as the preferred alternative. This report was utilized by the Town to obtain project financing for new dewatering equipment.

Outcome

GHD was subsequently retained to provide engineering design, bidding, and construction phase services for new

dewatering equipment at the WWTP. New equipment will be installed in the same location as the existing (decommissioned) BFP. Improvements will include:

- New BFP dewatering equipment designed to operate for several shifts per week (not 24/7 operation).
- A polymer storage and feed system to enhance dewatering
- Wash water/spray water, as required
- Dewatered sludge cake dumpster load-out area. The BFPs will be installed at an elevation adequate to discharge into a dumpster on the operating floor. A new sludge distribution conveyor above the dumpster will evenly distribute sludge cake.
- Structural support for the new equipment
- HVAC improvements necessary for the new equipment, and to make the existing building compliant with existing code requirements
- Electrical improvements to support the new equipment including power to the new equipment from the existing motor control center.
- Instrumentation and a PLC based control panel for the new equipment, which is compatible with the WWTP's existing SCADA system.

Van de Water Water Treatment Plant Residuals Handling Upgrades, Tonawanda, New York

Project

The Erie County Water Authority (ECWA) owns and operates the Van de Water Water Treatment Plant (VDWWTP), a conventional treatment plant located in the Town of Tonawanda, NY. The plant utilizes raw water from the Niagara River. The plant went online in 1980 and has a rated capacity of 49.5 mgd. Treatment consists of rapid mixing, flocculation, sedimentation, filtration, chlorine disinfection and corrosion control. Residual solids produced by the sedimentation and filter backwash processes are thickened and dewatered on-site before final off-site disposal.

To replace equipment that had reached the end of its useful service life, GHD was retained to design a new residuals handling system.

Client

Erie County Department of Environment and Planning, Division of Sewerage Management
Leonard F. Kowalski, PE
Executive Engineer
T: 716.684.1510
E: lkowalski@ecwa.org

Duration

Design Completed 2020
Construction anticipated 2021 – 2022

Project Value

$540,000 – Engineering (Design, bid, construction, administration and resident inspection fee)
$5.3 million – Construction (Est.)

Challenge

The existing residuals handling process was mechanically intensive, utilizing aged equipment that has been in service for nearly 40 years. There was limited redundancy in the residuals handing equipment, which was at the end of its useful life.

A major priority for the residuals handling improvements was the replacement of the existing plate and frame filter press. Although the press was capable of producing highly concentrated sludge cake, it lacked redundancy, and required the addition of lime, which was maintenance intensive.

As plate and frame presses are not as common in the municipal residuals handling market as they were at the time of installation, the ECWA was interested in installing an alternate dewatering technology to provide more operational flexibility, redundancy, and maintenance friendly equipment.

Description

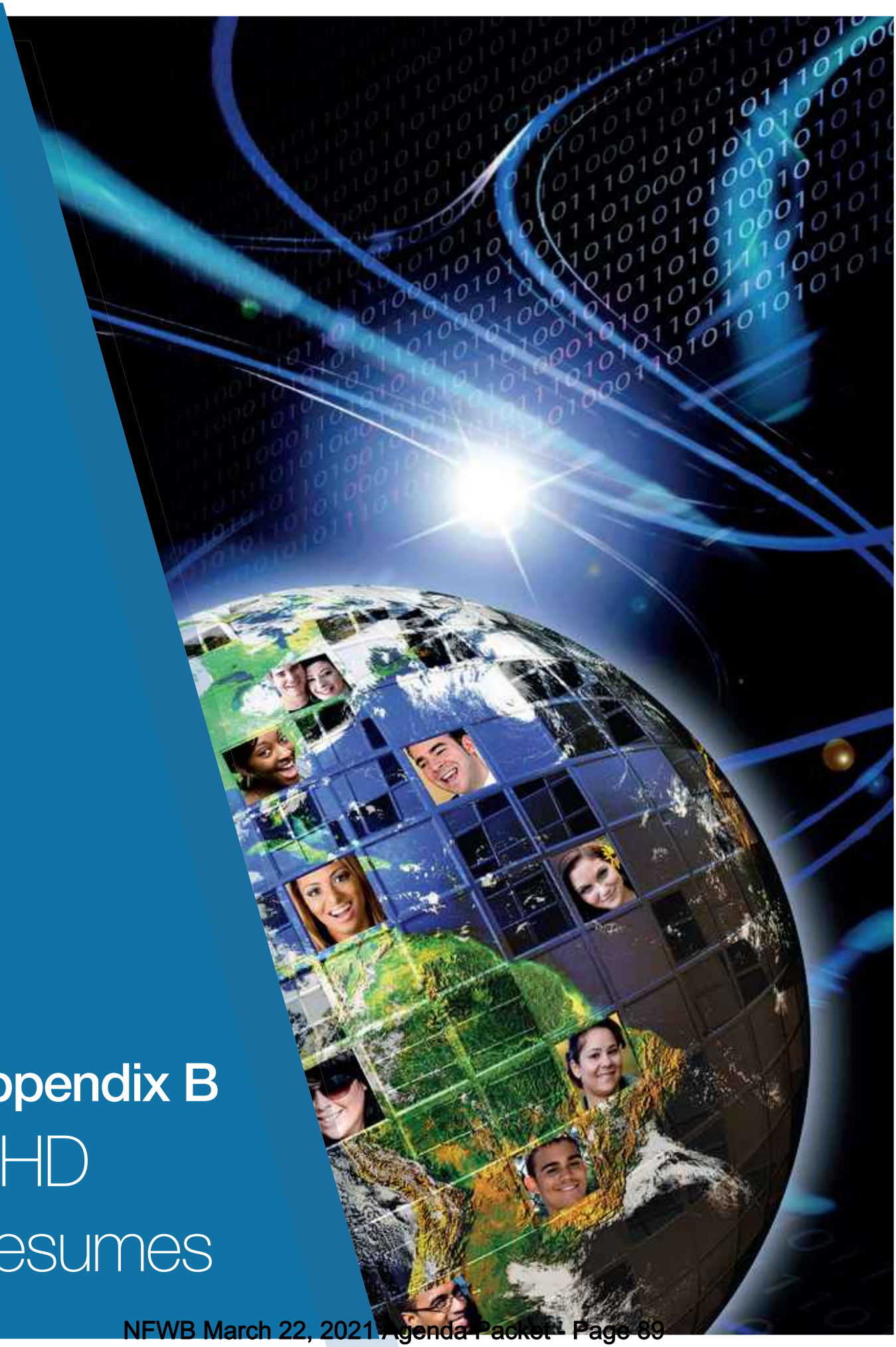
GHD prepared a Basis of Design Report evaluating several different types of dewatering equipment. The evaluation included belt filter press (BFP) (both 1.0 and 1.5 meter presses) and centrifuge. The option of using a screw press for dewatering was also evaluated but quickly eliminated as a result of the requirement for additional thickening equipment, high estimated equipment and operating costs and significantly lower expected cake solids concentrations. The evaluation concluded that two new 1.5 meter BFPs represented the best option for ECWA based on the net present worth the system, ease of operations and maintenance, availability of replacement parts, and achievable dewatered solids concentration.

Following the evaluation, GHD prepared detailed plans and technical specifications for bidding, of residual treatment system improvements, including updated thickening and dewatering processes and associated pumping and polymer equipment. The improvements generally included replacing the coagulation basin dewatering and blowdown pumps, residuals distribution box, thickener-clarifier tanks, tube settlers, and polymer feed systems. The project also included replacing the existing plate and frame pressure filter and lime conditioning system with two new BFPs.

Outcome

The upgraded residuals handling system features more operational flexibility and redundancy than the previous system provided. Enhancements to the existing system included:

- Operating two thickener-clarifiers in parallel, instead of in series with a decant tank, for enhanced settling.
- Peristaltic hose pumps to replace maintenance intensive progressive cavity pumps.
- Two new BFPs to replace one plate and frame pressure filter. Each BFP is designed to accommodate 100 percent of the WTP's peak residual loading; thereby, allowing one BFP to be out of service for maintenance/repairs.
- Elimination of the maintenance intensive pressure filter precoat system, and lime storage/feed systems.



Appendix B
GHD Resumes

Robert Lannon, Jr., PE

Project Director

Bob has more than 30 years of experience in the civil engineering field. He has acted as Project Officer/Manager for various municipal projects across Western and Central New York, including the design of water and wastewater facilities, roadways, sanitary and storm sewer systems, and pumping stations for numerous municipalities throughout Western and Central New York.

Education BS Civil Engineering

Licenses/Registration Professional Engineer: NY

Experience

Project Officer | WWTP Sludge Thickener No. 2 Repairs | Niagara Falls Water Board | Niagara Falls, New York

Project Officer overseeing detailed design, construction administration, and resident inspection phase services to facilitate a full cleaning, inspection, and repair of the tank concrete floor surface, as well as the installation of a new collector mechanism and associated appurtenances.

Project Officer | WWTP Sludge Thickener No. 1 Repairs | Niagara Falls Water Board | Niagara Falls, New York

Project Officer overseeing detailed design, construction administration, and resident inspection phase services to facilitate a full cleaning, inspection, and repair of the tank concrete floor surface, as well as the installation of a new collector mechanism and associated appurtenances.

Project Officer | WWTP Emergency Repairs | Niagara Falls Water Board | Niagara Falls, New York

Bob is directing the engineering and construction services staff assisting the NFWB with the emergency repair and replacement of equipment submerged by floodwater in July 2013. Bob attended emergency response meetings and oversaw the team responsible for designing the replacement of four main influent 250 HP pumps, 17 sludge/grit pumps, valve motor actuators, flow meters, and design of new MCC and PLC / SCADA control system.

Project Officer | WWTP Phase 3 Rehabilitation | Niagara Falls Water Board | Niagara Falls, New York

Bob directed project staff involved in the design and replacement of various systems at the WWTP, including new sludge and scum collection equipment, plant water pumps and controls, polymer pumps and controls, replacement of carbon filter media and support gravel, and other instrumentation and SCADA upgrades.

Project Officer | Capital Plan, Phase 1A (Solids Processing Improvements) | Niagara County Sewer District No. 1 | Wheatfield, New York

Project Officer for the design and integration of a new solids dewatering centrifuge at the WPCC, which included: a shaftless screw conveyor system, solids equipment ventilation system, new centrifuge support and maintenance platform, and modification of and interconnection with all existing plant process piping to provide a complete and operational system. The project also included a permanent polymer dosing system and the replacement of the existing waste activated sludge (WAS) pumps with two new WAS chopper pumps. The complete design required detailed coordination for incorporating the new equipment with the existing plant SCADA system.

Project Officer | Water Pollution Control Center Upgrades | Town of Lewiston | Lewiston, New York

Bob Project Officer responsible for a multi-disciplined staff conducting detailed investigations for the preliminary analysis of several processes at the plant including: grit removal, sludge processing, and tertiary treatment technologies. Detailed design included: wet well grit removal modifications; sludge drying beds and associated polymer dosing system; general plant improvements including weir and baffle modifications for the primary and final clarifiers; plant access improvements with vertical pivot gate and associated security system and controls; tertiary treatment upgrades with the installation of a new cloth media filtration system; digester compressor upgrades; and aeration blower upgrades.

Town Engineer | Retained Engineering Services | Town of Lewiston | Lewiston, New York | 2001-2003, 2004-2010, 2014-Present

As Town Engineer, Bob is the main client contact and responds to client inquiries. He attends monthly Board Meetings and oversees engineering support services as required by the Town for municipal infrastructure projects, including:

- Performed evaluation of the feasibility and potential energy savings related to the replacement of existing surface aerators within the WPCC aeration basins with a fine bubble diffused aeration system. Evaluated the feasibility of using the WPCC existing microturbine hot exhaust to assist the sludge handling process by improving solids concentration; thereby, lessening disposal costs.

- Prepared the engineering report for submission to NYSDEC and contract documents for a new fine bubble diffuser system at the WPCC.

Project Officer | Emergency Generator Improvements at the Wastewater Treatment Plant and Sanitary Lift Stations | Niagara Falls Water Board | Niagara Falls, New York
Bob directed the evaluation, funding, and detailed design of new standby generators for various critical wastewater facilities at the wastewater treatment plant and standby power equipment capabilities at the various outlying lift station sites.

Project Officer/Engineer of Record | Retained Engineer | Niagara County Sewer District No. 1 | Niagara County, New York | 2004 Present
As retained engineer, Bob attends monthly Board Meetings, responds to client inquiries, and oversees projects completed in connection with the Niagara County Sewer District's (NCSD) 14 million gallon per day (mgd) Water Pollution Control Center (WPCC), seven pump stations, and interceptors within the six member Towns. Bob assisted the NCSD in negotiations with the NYSDEC during their recent SPDES Permit renewal. He is currently directing staff through the various compliance schedule items, including annual MOM Plan and Mercury Minimization Plan reporting to the NYSDEC and development of a Plant Flow Study and Wet Weather Operating Plan.

Project Officer | District wide Condition Assessment and Development of New 10 Year Capital Plan | Niagara County Sewer District No. 1 | Niagara County, New York
Project Officer during a District wide Condition Assessment used to develop a new comprehensive 10 year Capital Improvement Plan (CIP) for the District. The new CIP for the District's wastewater facilities, systems, and major assets consisted of four key components as follows:

- Site visits, staff interviews and data collection utilizing iPad technology and customized data collection templates
- Capital needs identification
- Project identification, prioritization and cost estimating; capital projects were prioritized based on criticality and condition
- Capital plan reporting

Project Officer | Capital Plan, Phase 2 | Niagara County Sewer District No. 1 | Niagara County, New York
Project Officer for the preliminary and detailed design, including a Map, Plan and Report, and preparation of Contract Documents for the following projects:

- Tonawanda Creek Forcemain Replacement/Upgrade
- Tonawanda Creek Road Pump Station Rehabilitation
- Influent Pump Station Bar Screens at the Water Pollution Control Center (WPCC)
- Aeration Basin Grit Removal System at the WPCC
- Secondary Clarifier Valve Actuators

Project Officer | GIS Infrastructure Survey and Mapping | Niagara County Sewer District No. 1 | Niagara County, New York
Oversaw the GPS survey and corresponding mapping of manholes and interceptors within the NCSD system. Data collected was imported into a master database for use by District staff.

Project Officer | Environmental Compliance Audit | Niagara County Sewer District No. 1 | Niagara County, New York
Project Officer overseeing the audit of the NCSD's WPCC and six remote pump stations. The audit was conducted as a critical self-evaluation to identify situations that represented non-compliance with applicable environmental laws or regulations.

Project Officer | Plant and Pump Station Flow Meter Upgrades/Replacements | Niagara County Sewer District No. 1 | Niagara County, New York
Project Officer directing the integration of various flow meters (12 transit time and five open channel velocity meters) at the WPCC, Townline Road Pump Station, and East Canal Road Pump Station. These flow meters will be used for treatment system analysis to improve overall system performance.

Project Officer | Interceptor Sewer Flow Monitoring and Sewer System Infiltration and Inflow Evaluation, Phase 2 | Niagara County Sewer District No. 1 | Niagara County, New York
Project Officer overseeing the implementation of recommendations presented in the first phase of the system-wide I/I evaluation, which included the installation of 20 flow meters and two rain gauges throughout the NCSD boundaries. A report was prepared highlighting recommendations for additional evaluations for the targeted areas identified as having excessive I/I.

Christopher Martin, PE

QA / QC

Chris has 32 years of progressively responsible experience in planning, design, and construction of municipal water and wastewater, and industrial wastewater systems. He has managed projects involving treatability studies, disinfection systems and treatment plant upgrades, as well as numerous pumping stations. In recent years, Chris has managed or provided quality assurance/quality control for numerous Process Safety Management (PSM) and Risk Management Program (RMP) projects across North America for a variety of industrial and municipal clients. He also directed several term services projects for municipalities.

Education BS Civil Engineering

Licenses/Registration Professional Engineer: NY

Experience

Project Manager | WPCC Solids Processing Improvements (Capital Plan, Phase 1A) | Niagara County Sewer District No. 1 | Wheatfield, New York
Chris managed the design, specification, layout, implementation and integration of a new solids dewatering centrifuge at the NCSD WPCC. This multidiscipline design project included a shaftless screw conveyor system, solids equipment ventilation system, new centrifuge support and maintenance platform, and modification of and interconnection with all existing plant process piping to provide a complete and operational system. A permanent polymer dosing system was designed and specified including polymer blending unit, aging tank, new peristaltic dosing pumps, and associated containment and safety improvements. The design also included the replacement of the existing waste activated sludge (WAS) pumps with two new WAS chopper pumps. The complete design required detailed coordination for incorporating the new equipment with the existing plant SCADA system.

Project Manager | Residuals Management Strategy | Niagara Falls Water Board | Niagara Falls, New York
Project Manager for developing the most cost effective strategy for managing sludge at the Niagara Falls WTP. The WTP handled sludge by dewatering with a belt filter press. The objective of this evaluation was to perform a pilot scale demonstration to obtain a beneficial use determination from the NYSDEC for land applying the sludge. Responsible for overseeing preparation of all project deliverables and construction of the pilot facilities.

Project Engineer | Water Supply Alternatives Evaluation | City of Niagara Falls | Niagara Falls, New York
Project Engineer responsible for assisting in the evaluation of distribution system improvements that would support implementation of an alternative water supply. The key alternatives involved replacing the City's Water Treatment Plant with water supplied by the Niagara County Water District and Erie County Water Authority. Provided direction to the City staff in the operation of KY-Pipe hydraulic model. Direction consisted of selecting pipeline alignments for analysis and preparing conceptual cost estimates

Project Engineer | SDWA Implementation Assistance | City of Niagara Falls | Niagara Falls, New York
Project Engineer for SDWA compliance planning assistance including development of a lead and copper monitoring plan, microbiological monitoring plan and development of a disinfection byproduct surrogate testing program.

Project Manager | Metropolitan Syracuse WWTP Optimization Implementation Improvements | Onondaga County Department of Water Environment Protection | Syracuse, New York
Project Manager for design and construction phase services associated with modifications at the Metropolitan Syracuse WWTP (Metro WWTP) to optimize phosphorus removal. Improvements include new HRFS weir gates, tank baffles, and chemical feed systems to optimize the process, HRFS sludge and RAS piping replacement, BAF/HRFS channel isolation wall and waterproofing liner, microsand slurry tank, BAF/HRSF complex effluent water system, HRFS bypass sluice gate replacement, blower room ventilation improvements, UV wall rehabilitation and louver replacement, and SCADA modifications.

Project Engineer | Southtowns Sewage Treatment Agency (SSTA) Waste Paper Pulp and Polymer Feed Facilities | Erie County Department of Environment and Planning | Hamburg, New York
Project Engineer for the preliminary and detailed design, and construction of waste paper pulp and polymer feed facilities for the Southtowns WWTP in Hamburg, New York. The purpose of these improvements is to improve the efficiency of the sludge incineration process, including reduced energy use. Responsibilities included supervising preparation of plans and specifications and coordination of structural, architectural, electrical, HVAC, and plumbing designs. Subsequently managed a change order to rehabilitate 4,500 SF of brick facade at the Southtowns WWTP.

Project Engineer | Water Treatment Plant Residual Handling Facilities Evaluation | City of Olean | Olean, New York
Project Engineer for an evaluation of residuals handling facilities at the City's 4.5 mgd water treatment plant filters. The objective of the project was to develop a facilities plan for managing residuals produced by the treatment plant and eliminating their discharge to Olean Creek. Responsible for identifying residuals handling requirements, screening, evaluating sludge dewatering and disposal alternatives, and working closely with City staff to develop a facilities plan for the recommended alternative.

Quality Control Manager | Water Distribution System Analysis | Village of Silver Creek | Silver Creek, New York
Quality Control Manager responsible for verifying the technical quality of an evaluation for distribution system and storage improvements in the Village of Silver Creek. Responsibilities included verifying the accuracy of a computer distribution system model, recommended improvements, capital cost estimates and a phased improvements plan.

Senior Engineer | Water Distribution System Improvements | Village of Silver Creek | Silver Creek, New York
Senior Engineer for the design of key elements of 20,000 linear feet of water mains and a new 400,000 gallon above ground welded steel storage tank that included a tank coating system. Responsible for managing the design of a 400-foot wide creek crossing that required a pipe grade change of 70 feet and the new elevated storage tank.

Senior Project Manager | Consent Order Compliance at the Wastewater Treatment Facility | City of Auburn | Auburn, New York
Senior Project Manager responsible for designing plant improvements to address violations listed in a NYSDEC Consent Order. Recommended improvements included modification of the existing Overflow Retention Facility, replacement of disinfection mixers, replacement of sodium hypochlorite and sodium bisulfite feed systems, relocating the disinfection feed location, ORF structural modifications, design of an operable SCADA system, and other operations and maintenance items.

Project Manager | Oak Orchard WWTP Infrastructure Rehabilitation | Onondaga County Department of Water Environment Protection | Clay, New York
Chris managed the design of improvements to rehabilitate critical process components for a 10 mgd WWTP. In addition, the project involves an overhaul of the Administration Building.

Project Manager | Metro WWTP Phosphorus Treatment Optimization Pre Implementation Studies | Onondaga County Department of Water Environment Protection | Syracuse, New York
Project Manager for pre implementation studies to optimize of phosphorus removal within a 130 mgd tertiary Actiflo process. The project involved a series of bench- and full scale treatability tests to verify: 1) effectiveness of smaller microsand; 2) sensitivity of polyaluminum chloride performance to temperature; 3) CFD modeling to refine hydraulics with a new isolation wall; 4) effectiveness of mixer modifications; and 5) impact to bioavailability of phosphorus from using PAC as a coagulant instead of ferric chloride. The tests conclusively showed that Metro phosphorus variability would be decreased thus resulting in improved phosphorus treatment.

Project Director | Three-Year Term Agreements | Erie County Division of Sewerage Management | Erie County, New York
Project Director and Project Manager for four 3-Year Term Services Agreements with the Erie County Department of Environment/Division of Sewerage Management. Projects Chris has managed under these term agreements have included:

- Lackawanna WWTP NFA Analysis (Technical and Financial Evaluations)
- Southtowns AWTF Incinerator Emission Testing Services
- Electrical Distribution Systems Upgrades – ECSD No. 6 Well Street and Wilmuth Pumping Stations
- Rogers Road Pump Station Evaluation and Southwest Interceptor Elimination
- Vanderbilt Pump Station – Force Main and Flow Evaluation
- Rehabilitation of structural steel shells and cathodic protection systems at multiple ECDSM pumping stations (design and construction)
- Evaluating the Southtowns AWTF outfall capacity
- Design of new laboratory and miscellaneous improvements at the Big Sister WWTP
- ECSD No. 1 Mineral Springs Flow Meter Design/ Construction
- Southtowns AWTF chlorine contact time analysis

Casey Cowan, PE

Project Manager

Casey is a Civil Engineer and project manager for various multi disciplined engineering design and construction projects. He strives to exceed client expectations by managing tasks and budgets effectively while developing client solutions and communicating to the project team. Casey has completed numerous engineering studies, designs and construction projects for municipal water and wastewater upgrades, including distribution systems, collection systems, pumping stations, and treatment process/mechanical systems. He has also completed studies and designs for storm water management, and solid waste landfill construction and capping projects.

Education BS Environmental, Resource & Forest Engineering

Licenses/Registration Professional Engineer: NY

Experience

Project Manager | Sludge Dewatering Evaluation | Rockland County Sewer District No. 1 WWTP | Orangeburg, New York

Assisted Rockland County with an evaluation of the WWTP sludge handling processes. Recommended new centrifuges for additional dewatering throughout with more flexibility and efficiency for sludge handling. Also recommended new sludge pumps, polymer system, conveyors, truck loading facilities and general rehabilitation of the dewatering building.

Project Engineer | Sludge Dewatering Improvements | Town of Lewiston WPCC | Lewiston, New York

Casey served as lead design engineer for a new sludge dewatering rotary press to replace the plants aging belt fi lter press.

Project Manager | Gorge Pump Station Rehabilitation | Niagara Falls Water Board | Niagara Falls, New York

Casey is managing the design for replacement of three 500-HP vertical dry pit wastewater pumps, new pump VFDs, sluice gates, infl uent grinders, and heating and ventilation systems. The project also includes modifi cations to a CSO outfall regulator inside the Falls Street Tunnel to divert CSO fl ows away from the Niagara Falls tourist area. The $5 million project is partially funded by the NYSDEC.

Project Manager | WWTP Phase 3 Rehabilitation | Niagara Falls Water Board | Niagara Falls, New York

Casey managed a $6 million project to replace various systems at the WWTP, including new sludge and scum collection equipment, plant water pumps and controls, polymer pumps and controls, replacement of carbon filter media and support gravel, and other instrumentation and SCADA upgrades. He managed the development of plans and specifications for public bid and is currently providing construction administration assistance.

Project Manager | WWTP and Lift Station Standby Power Generators | Niagara Falls Water Board | Niagara Falls, New York

Casey managed electrical upgrades to install emergency backup power for the main WWTP (400 kW) and four lift stations (~80 kW each). The project was partially funded by a grant in response to flooding that occurred in July 2013. Casey helped prepare grant applications for the project and secure funding.

Design Manager | 2016, 2018, 2019 and 2020 Operations and Maintenance Projects | Niagara County Sewer District No. 1 | Niagara County, New York

Casey has managed several design projects to address miscellaneous O&M items at the plant. Improvements include replacing two clarifier mechanicals, skimming pumps; tertiary filter process valves, repair of return sludge screw pumps; ferric chloride double wall tank, sodium hypochlorite tank, sluice gates, and a new grit collection and dewatering concrete pad.

Project Manager | WWTP Subsidence Repairs | Niagara Falls Water Board | Niagara Falls, New York

Casey managed design and construction of a mitigation project to shore up an abandoned tunnel shaft that was sinking and causing damage to several utilities. Project included new concrete cap, 13.8kV electrical feeders, fiber optic, water line, and storm/sewer piping.

Project Manager | 115kV Substation Rehabilitation | Niagara Falls Water Board | Niagara Falls, New York

Casey managed design and construction of repairs to the WWTP's main 115kV electrical service substation. Project included new circuit breakers, digital relays, ground grid, battery backup, 115kV circuit switcher upgrades, transformer repairs, and switchgear building repairs.

Project Manager | WWTP Emergency Flood Repairs | Niagara Falls Water Board | Niagara Falls, New York

Casey managed the emergency repair and replacement of equipment submerged by floodwater in July 2013. He attended emergency response meetings and coordinated designs for the replacement of four main influent 250 HP 21 mgd sewage pumps, new VFDs, 17 sludge/grit pumps, valve motor actuators, flow meters, and a new MCC with SCADA control system. He successfully obtained a 2014 APWA Project of the Year Award for the NFWB, which

recognized their outstanding performance in emergency response/ recovery.

Project Manager | WWTP Rehabilitation, Phase 2A | Niagara Falls Water Board | Niagara Falls, New York
Project Manager for replacement of two 200 HP, 14,000 gpm vertical turbine backwash pumps, VFDs, and PLC/SCADA upgrades. Demonstrated successful implementation through commissioning and startup of the new system, while keeping the project under budget.

Project Manager | WWTP Rehabilitation Phases 1 and 2 | Niagara Falls Water Board | Niagara Falls, New York
Led client meetings and coordinated the project design team automation of the filter controls at a 85 mgd physical chemical WWTP, including replacing 28 filter effluent flow meters/rate control valves, replacement of filter process valves, filter loss of head and level instrumentation, HV equipment, mechanical bar screens, rapid mixers, grit pumps, grit classifiers, and PLC/SCADA controls.

Senior Project Engineer | Gorge Pump Station Rehabilitation | Niagara Falls Water Board | Niagara Falls, New York
Project engineer for rehabilitation of three 13 mgd, 500 HP pumps, and replacement of piping, valves, sluice gates, solids grinders, VFDs, and PLC upgrades. Assisted the Owner with restoring pumping capacity in a very challenging station location.

Project Engineer | Creek Road Force Main and Infiltration and Inflow Removal Project | Town of Lewiston | Lewiston, New York
Project engineer for designing upgrades to remove 350,000 gpd of I/I, which included converting a 28 inch sewer into a storm water outfall to relieve drainage concerns on Creek Road. Designed a force main, gravity sewer, two 5 HP pumps, and a storm water outfall at the Niagara River. Provided positive recognition to the client by co-presenting the success of the project at the 2007 Greater Buffalo Environmental Conference.

Project Engineer | North Gorge Interceptor Bypass Pump Station | Niagara Falls Water Board | Niagara Falls, New York
Project Engineer for the design of two 100 HP pumps inside an 80-foot deep, rock tunnel for preventing sewer overflows. The design includes 36 inch and 10 inch diameter rock boreholes; piping and valves inside the tunnel; HDPE force main; and VFD. Responsible for design, shop drawing review and construction administration.

Project Engineer | North Gorge Interceptor Conveyance Restoration | Niagara Falls Water Board | Niagara Falls, New York
Casey provided design and construction administration for the removal of 4,500 CY of debris within a 75 year old rock tunnel sewer interceptor. The obstruction in the 140 foot deep tunnel was spread out over one mile and accessed by three vertical drop shafts separated by more than 2,500 feet. Components of the contract addressed temporary bypass pumping of 6 mgd, traffic control along the Robert Moses Parkway, rock boring, and debris handling / disposal.

Project Engineer | Miscellaneous Engineer Services | Towns of Lewiston, Niagara, and Pendleton, New York
Responsible for reviewing site plans and preparing engineering responses for proposed development projects in each of the above Towns. Interpreted Town Code and provided recommendations for development plan approvals to the Towns. Provided general engineering guidance, SEQR reviews, and recommendations for water, sewer, and drainage improvements.

Senior Project Engineer | Water Pollution Control Center Bar Screens | Town of Lewiston | Lewiston, New York
Served as lead engineer designing a new 6 mgd bar screen, screenings compactor, and dumpster enclosure for influent screening. The bar screen was purchased and installed by the Owner.

Lead Engineer Design and Construction | Oak Orchard WWTP Infrastructure Improvements | Onondaga County Department of Water Environment Protection | Clay, New York
Lead engineer for miscellaneous WWTP process and mechanical improvements. Led client meetings during design and construction for new bar screens, grit blowers, primary sludge collection, sludge transfer system, site lighting, and HVAC unit replacements.

Lead Engineer Design and Construction | Metro WWTP Secondary Bypass Disinfection System Improvements | Onondaga County Department of Water Environment Protection | Syracuse, New York
Lead engineer for $16 million in upgrades to meet new SPDES permit requirements for fecal coliform discharge limits. He led client design and construction meetings to construct a 2 million gallon bypass disinfection contact tank, dewatering pump station, chemical storage and feed building, and modification of existing bypass contact tank.

David Woolley

Project Engineer

Dave has worked in consulting for approximately 5 years' time and has been involved in the planning, design, and construction of multi-disciplined projects, with a focus on municipal water and wastewater.

Education BS Civil Engineering

Licenses/Registration Engineer-in-Training

Experience

Project Engineer | Gorge Pump Station Rehabilitation | Niagara Falls Water Board | Niagara Falls, New York
The NFWB Gorge Pump Station Rehabilitation involves the replacement of three (3) pumps with 500 horsepower motors, VFD's, sluice gates, heating and ventilation equipment, rebuilding of channel grinders, related electrical work, and concrete bulkhead modifications inside the Falls Street Tunnel approximately 70-feet underground. Dave was responsible for development of the Basis of Design Report, project coordination between disciplines, detailed design of civil and mechanical related work, development of Contract Documents, and detailed construction cost estimates.

Project Engineer and Coordinator | 2019 O&M Project | Niagara County Sewer District No. 1 | Niagara County, New York
Dave was the lead design engineer and project coordinator for the NCSD No. 1's annual Operations and Maintenance Project. The project consisted of 20- and 24 inch motor operated butterfly valve replacements, 20 inch flow control valve replacement, sodium hypochlorite tank replacement and improvements, sluice gate replacement, generator improvements, and filter media addition. Dave completed all civil and mechanical design for the project, and led coordination efforts with electrical and controls disciplines. Dave's responsibilities included development of design drawings, technical specifications, and construction cost estimates.

Project Engineer | NFWB WWTP Protective Measures | Niagara Falls Water Board | Niagara Falls, New York
Dave is the lead design engineer for a project to create a complete hydraulic bypass of the Niagara Falls WWTP, which is rated for 116 MGD. The project generally consists of significant modifications to an existing concrete influent junction chamber, implementation of a weir overflow, a new overflow conduit to convey flows during bypass events, a tangential flow vortex concrete structure, and two vertical drop shafts, two-feet and four-feet respectively, to intercept an existing brick lined tunnel approximately 180-feet below grade. Dave was responsible for hydraulic sizing of the overflow weir, overflow conduit, and vertical drop shafts. Dave assisted in coordination between geotechnical, excavation support, structural, electrical, and controls disciplines. Dave was also the lead civil and mechanical designer for the project. Dave's responsibilities included development of design drawings, technical specifications, and construction cost estimates.

Project Engineer | Lewiston WPCC Sludge Dewatering Improvements | Town of Lewiston | Lewiston, New York
Dave was the lead design engineer and project coordinator for a project to upgrade the sludge dewatering facility at the Lewiston WPCC. The project consisted of replacement of a belt filter press with a rotary press, associated polymer system, wash pumps and piping, sludge piping, HVAC upgrades, and associated electrical improvements. Dave was responsible for all mechanical and HVAC design aspects of the project, and coordinated with electrical and controls disciplines. Dave was responsible for developing detailed design drawings, front end documents, technical specifications, and construction cost estimates.

Engineer | WPCC No Feasible Alternative Analysis | Town of Lewiston | Lewiston, New York
Dave assisted in conducting a No Feasible Alternative Analysis for the Town's WPCC. This involved performing a detailed review of WPCC operations and procedures, evaluating current operational needs, analyzing alternative approaches, and developing a report to satisfy NYSDEC SPDES Permit requirements.

Engineer | Muck Pump Station | Town of Lewiston | Lewiston, New York
Dave assembled contract documents, specifications, and plans for the replacement of stormwater pumps. Coordinated with vendors to procure budgetary pricing and to make sure the client would get the most suitable product for the specific application at the most efficient cost.

Engineer | 2017 Water System CIP Project | Town of Lewiston | Lewiston, New York
Dave assisted in the detailed design for the replacement of approximately 45,000 feet of various size water mains. Assisted with pipeline alignment, materials of construction, and assembly of all contract documents. Responsible for coordinating all permitting efforts with various entities

Engineer | Joseph Davis State Park Drainage System | Town of Lewiston | Lewiston, New York
Assisted in revising a comprehensive drainage plan that

included multiple inter-connected retention ponds. Dave designed a new storm sewer system to convey runoff from the retention ponds to an existing storm sewer system. Performed detailed calculations to make sure the new system would meet all design criteria and agency requirements.

Engineer | Mercury Minimization Plan Update | Niagara County Sewer District No. 1 | Niagara County, New York

Dave assisted in the annual update of the Mercury Minimization Plan for the NCSD Water Pollution Control Center. This involved analyzing WPCC monitoring results, identifying mercury sources, establishing future actions to be taken, completing an overall review of progress towards the MMP goal, and ultimately developing a report to satisfy New York State Department of Environmental Conservation (NYSDEC) SPDES Permit requirements.

Engineer | Retained Engineering Services | City of Lockport | Lockport, New York

Dave assisted on multiple projects under our contract as Retained Engineer including: emergency repairs to a combined sewer outfall; compiling purchase specifications and contract documents for a correlator for water leak detection; compiling purchase specifications and contract documents for primary sludge pumps purchase; and coordinating and reviewing CCTV sewer inspection.

Resident Project Representative | Alden WWTP Phase 1 Upgrades | Village of Alden | Alden, New York

Dave was the assistant Resident Project Representative for an upgrade project at the Alden WWTP. Upgrades included replacement of six rotating biological contactors, blowers, influent pump discharge piping, mechanical bar screen, cleaning and rehabilitation of primary and secondary digesters, and construction of a new sludge drying building. Dave provided daily construction oversight, attended periodic project meetings, reviewed payment applications and change order proposals, assisted in reviewing submittals, and assisted in developing answers to RFI's generated throughout the project.

Project Engineer | West Side Sewer Extension | South & Center Chautauqua Lake Sewer Districts | Chautauqua, New York

The West Side Sewer Extension consists of extending an existing sewer district along the west side of Chautauqua Lake. New infrastructure consists of approximately 25,000 linear feet of 1-1/4 inch HDPE, 21,000 linear feet of 2 inch HDPE, 7,500 linear feet of 3 inch HDPE, 1,000 linear feet of 8 inch HDPE, 22,000 linear feet of 10 inch HDPE, 230 grinder pumps, two new pumping stations, rehabilitation of two existing pump stations, and all associated appurtenances. Dave was responsible for hydraulic calculations during preliminary design to size pipeline size and pump requirements, development of design report, and development of detailed plans and specifications. Dave assisted with overall project coordination between civil, survey, geotechnical, mechanical, electrical, and instrumentation design.

Engineer | Grand Island Lift Station 8 Discharge Forcemain Replacement | Town of Grand Island | Grand Island, New York

Dave was the lead design engineer for replacement of approximately 10,500 feet of 16-inch sanitary sewer forcemain. Dave evaluated the hydraulics of the system and recommended upsizing options, coordination of surveying, geotechnical investigation, and all permitting/coordination with utilities and involved parties. Dave also developed detailed design drawings, front documents and technical specifications.

Resident Project Representative | Alden WWTP Phase 1 Upgrades | Village of Alden | Alden, New York

Dave was the assistant Resident Project Representative for an upgrade project at the Alden WWTP. Upgrades included replacement of six rotating biological contactors, blowers, influent pump discharge piping, mechanical bar screen, cleaning and rehabilitation of primary and secondary digesters, and construction of a new sludge drying building. Dave provided daily construction oversight, attended periodic project meetings, reviewed payment applications and change order proposals, assisted in reviewing submittals, and assisted in developing answers to RFI's generated throughout the project.

Resident Inspector | Sewer Rehabilitation | Town of Grand Island | Grand Island, New York

Responsible for resident inspection of sanitary sewer lining, open-cut sanitary sewer replacement, open-cut spot and service lateral repairs, manhole replacement and rehabilitation, and all necessary paving restoration. Attended periodic progress meetings and completed daily inspection reports. Dave was also responsible for reviewing payment applications and providing recommendations to the Town on various items.

Resident Inspector | Darwin-Argus Sewer Project | Village of Depew | Depew, New York

Responsible for resident inspection of sanitary sewer lining, open-cut spot and service lateral repairs, manhole rehabilitation, open-cut storm sewer replacement, and all necessary asphalt, concrete, and grass restoration. Dave attended periodic progress meetings, completed daily inspection reports, tracked overall project quantities and budget.

Stanley Chilson, PE

Technical Lead

Stan contributes 40 years of engineering experience in the design and management of environmental projects. Stan has designed numerous anaerobic digestion, incineration, and CHP/ORC cogeneration systems. His thermal experience is valuable to maximizing energy efficiency and bioenergy recovery.

Stan was selected by WEF/EPA to serve as a contributing author in the new "Solids Design and Management Manual." (MOP 8) Stan served as chairman of the Water Environment Federation (WEF) Bioenergy Sub Committee, "Pyrolysis, Gasification and Other Thermal Processes" for 6 years and remains an active member.

Education BS Water Resources

Licenses/Registration Professional Engineer: PA, NJ, VA

Experience

Technical Lead | WWTP 1 | Ephrata, Pennsylvania
Currently designing novel BioDryer and Pyrolysis Reactor to produce Biochar from WWTP residues. WWTP 1 is permitted at 3.8 MGD. Primary and waste activated solids wasted from the plant will be dewatered to 20 – 22% TS, and fed to the BioDryers, a batch reactor. After 48 to 56 hours in the BioDryer the biosolids are dried using exothermic reactions and waste heat from the pyrolysis reactor to 85 to 90 % TS. Dried biosolids are than feed to the pyrolysis stage to produce biochar. The entire process is energy neutral; no auxiliary fuel is required to dry the cake after warm up. One ton (2,000 lbs) of dewatered cake produces about 200 lbs of biochar. Construction and startup currently scheduled for 4th quarter 2021

Project Director/Technical Lead/Engineer of Record | Camden County Municipal Authority | Anaergia Inc. Wastewater Treatment Plant | Camden, New Jersey
GHD served as consultant to design-build team led by Anaergia Inc. The project included conversion of four existing biosolids holding tanks into high performance/ high solids digesters at the 80 mgd wastewater treatment plant (WWTP) and design of a 13.2 Kv, 4 Mw Combined Heat and Power (CHP) cogeneration system. GHD assisted in preparation of a design-build proposal, preliminary/ final design, electrical utility interconnect agreement, site verifications, and construction phase services. Construction is ongoing. CHP start-up on Natural Gas is complete and successful at full CCMUA load. Seeding of Digesters commenced Dec. 2020 full operation on biogas is scheduled for 1th quarter 2021.

Project Team Member | Anaergia Inc. Rialto Bioenergy Facility | Rialto, California
Assisting in the design/build, fast-track project implementation of a codigestion and drying facility to treat 1,000 ton/day WWTP residuals and organic sourced truck hauled waste receiving (20 to 30% TS). Project elements include; high solids anaerobic digestion, centrifuge dewatering, 4.5 Mw CHP cogeneration system, direct-heat belt drying to 90-95% TS fueled by waste heat from CHP. A Pyrolysis step to produce Biochar is currently being considered. A final product of dried Class A biosolids or biochar will be utilized for off-site beneficial use.

Project Director | Derry Township Municipal Authority Wastewater Treatment Plant | Dauphin County, Pennsylvania
The WWTP currently co-digests WWTP residuals, food waste, FOG, candy-manufacturing waste, and other truck hauled waste. Designed a biogas cleaning and bioenergy recovery system for use in multi-pathway; biosolids dryer, co- generation facility, digester boilers, and flare using combined heat and power technology to recover bioenergy.

Project Director | M & M Mars Company Project | Hackettstown, New Jersey
Designed process modifications to reduce CO emission to less than 50 ppmvd at 14 percent O2 from an anaerobic digester biogas thermal oxidizer. The use of natural gas demand at the oxidizer was eliminated resulting in energy savings and CO emission standards compliance.

Technical Lead | Borough of Tyrone | Tyrone, Pennsylvania
Assisted the Owner in the evaluation of anaerobic digestion for 13.5 mgd WWTP and co-digestion of; food waste, FOG, and other truck hauled waste. Evaluations included; end-produce deposition and identification of high quality truck hauled waste/haulers availability. Evaluated truck waste receiving facilities; screening and pre- thickening systems; blend and storage tanks; anaerobic digesters including novel plug-flow anaerobic digester with biogas and nutrient recovery; pyrolysis stage to produce biochar,and dewatering systems. Design pending.

Project Director | Landis Sewerage Authority Bio-Gas Recovery and Co-Generation Facility | Vineland, New Jersey Designed first-of-a-kind modifications to biosolids gravity belt thickening facilities to significantly reduce total nitrogen content of thickened anaerobically digested sludge prior to agricultural site application and utilization. Capital cost payback was less than two years based on savings

realized. Designed biogas recovery and co-generation facility using combined heat and power technology to recover energy from digester gas and reduce energy demand and cost.

Member Various Value Engineering Secession, Solids Handling Solutions

GE Both, Region of Peel, Canada	±$300M
Cleveland Southerly, Ohio	±$300M
US Army Corps of Engineers	
Garbage Incinerators in Afghanistan	±$68M
Upper Blackstone, Worchester Mass	±100M
Front Royal WWTP Overall Process VE	±$50M

Project Director/Technical Lead | CDR Pigments and Dispersions | Ridgeway, Pennsylvania

Conducted testing, evaluated operational parameters, and designed improvements to a turbo-dryer used to dry ink pigments (> 98% TS). Recommended improvements saved 30 percent of fuel consumption and improved pigment quality. Designed AZO process ventilation and air pollution abatement system.

Incineration Experience

Served as principal designer, project director, performance test protocol developer and observer for the numerous Multiple Hearth Incinerators and Fluidized Bed Incinerators Also served as principal designer for optimization of numerous Fluidized Bed Incineration systems, including Mercury emission reduction. Authored numerous technical papers and presentations on the subject.

Technical Lead | Greenway Wastewater Treatment Plant | London, Canada

Evaluated economic viability of an Organic Rankine Cycle combined heat and electrical power cogeneration bioenergy recovery system on an existing Fluidized Bed Combustor based sludge incineration system. Evaluation indicated favorable economic return on investment acceptable to City of London. Currently (Dec 2020) in start-up. Going well.

Sample Publications and Presentations

- “Thermal Processing Technology Evolution: Thermal oxidization; Incinerators, Gasifiers, Pyrolysis Reactors
- Thermal Drying; Direct / Indirect Solar and Biological Dryers Missouri WEA / AWWA Joint Conference
- Osage Beach, Missouri, April 2019
- Organic Rankin Cycle Bioenergy Recovery at the Greenway WWTP, WEF Residuals and Biosolids Conference, May 2019
- “Two Stage thermal Oxidization; A Cost-Effective, Environmentally Sound Alternative for Bioenergy recovery from Multiple Hearth Furnaces. WEFTEC 2017, Chicago, Il.
- “Procurement Options and Responsibilities”. Presented at the Pennsylvania Water Environment Association 74th Annual Conference. June 2002.
- “Green Alternatives to Class A Biosolids Production”. Presented to the Eastern PA Water Pollution Control Operators Association. November 2003.
- “15 Years of Successful Biosolids Management in New Jersey”. Water Environment Federation, Residuals and Biosolids Management Conference Salt Lake City Utah, February 2004. Co-author D. Palmer.

Appendix C
Pyrolysis System

Appendix C – Pyrolysis Fundamentals and Installations

Pyrolysis is the thermochemical decoupling of volatile solids from a solid biomass at elevated temperature in an atmosphere devoid of oxygen. Fancy definition, but what does that mean.

Research has shown the reason well performing Anaerobic Digesters (AD) only reduce Volatile Solids (VS) by about 60 – 65%. Is because the majority of the other 35 – 40% is lingo-cellulose (wood by-products) fraction common to wastewater biosolids. These materials do not biodegrade.

Pyrolysis of wood is a well-proven technology. The conversion of wood to charcoal has been practiced since ancient Egyptians use the pyrolytic gas from wood pyrolysis as a preservative for mummies. In wood pyrolysis, the increase fixed carbon in the charcoal makes the fuel last longer.

In dried biosolids pyrolysis, lingo-cellulous matter and other Volatile Solids (VS) are converted to pyrolysis gas or syngas, however the modest reactor temperature and lack of oxygen prevent carbon oxidization (burning), resulting in carbon rich "Biochar". The syngas produced by the pyrolysis reactor is oxidized in a separate syngas oxidization chamber by simply adding oxygen / air,

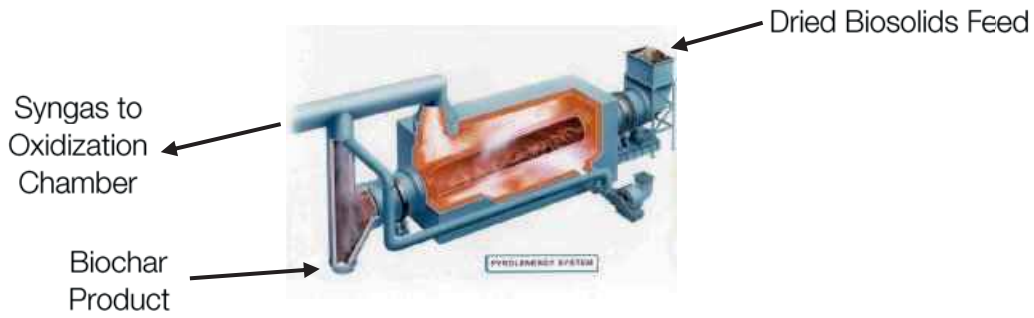
The pyrolysis reactor / oxidization system cestroys all viruses, pathogens, and other biological contaminants. Studies have shown pyrolysis also destroys PFAS and related compounds. See Appendix B for test results.

The product biochar is charcoal not biosolids.

The indirect heat, rotary kiln type, slow pyrolysis reactor reduces entrained particulate matter in the syngas. This has been the Achilles heel of gasification processes. Pyrolysis is not gasification. Gasification uses a gasifying agent (air, oxygen, steam). The gasifying agent burns some carbon to maintain reactor temperature; however, this direct heat burning tends to entrained particulate matter in the syngas. Gasification retention time is fast and prone to tars and oils in the syngas. Pyrolysis can be designed "slow" to minimize particulate, tars and oils entrainment in the syngas. Gasifiers are direct heat devices pyrolysis reactors are indirect heated devices.

Slagging Potential

Slag formation is a classic problem with many thermal oxidization systems. GHD does not envision this to be a problem with the slow pyrolysis process being considered for NFSD and employed worldwide. The reactor is an indirect heated, rotary kiln type. A typical reactor of this type is pictured below.



In this type of pyrolysis reactor, the feedstock (i.e. dried biosolids) flows through a troughed, partially open top, screw conveyor. In this arrangement the hot flue gases do not come into direct contact with the solid feedstock material. This indirect heating design minimizes particulate carryover in the syngas to the combustion chamber, thus minimizing the potential for slag formation.

It should be noted that this is different from "gasification" where the gasifying agent (i.e. air, steam, oxygen) comes in direct contact with the feedstock material. Particulate emissions from air blown, up-flow gasifiers will be much greater than the pyrolysis process where no gasifying agent is employed, allowing for particulate carryover and entrainment, and greater potential for slag formation.

GHD is currently designing a biodryer / pyrolysis system as manufactured / supplied by Bioforcetech (BFT) BFT has six operational biosolids only pyrolysis systems in operation worldwide, some for 5 – 10 years. BFT also has numerous "biomass" treatment systems in operation.

BFT reports "*no known issues with slag build-up in the oxidation chamber or ducts to the point where it compromises operation of the system, including systems running on both biosolids and biomass. Build-up of slag in the oxidization chamber observed during annual inspections of systems operating on biosolids indicates little accumulation. Bioforcetech further indicated that slag has never accumulated enough to force an unplanned shutdown."* Annual cleaning is recommended in the O&M manual for optimal performance.

PEFAS Contamination

Recently identified contaminates, such as PFAS and nanoplastics, pose threats to the continued viability of land applying biosolids. Ongoing research on emerging contaminants will help clarify the magnitude of these potential concerns. Heightened public awareness about land application of biosolids and political momentum behind emerging compounds and nutrient loss from farmland are major factors to consider when evaluating long-term solutions for processing and disposition of biosolids.

The operating temperatures of the pyrolysis reactor has been demonstrated to be adequate to break the carbon / fluoride bond common to non-polymer and polyfluoroalkyl substances. Tests conducted by Bioforcetech, copied in Appendix B show, of the 39 PFAS compounds tested, all biochar samples showed non-detect for PFAS compounds.

Installations

Bioforcetech, Inc., See *bioforcetech.com* has numerous biodryer and pyrolysis systems operation worldwide. References available upon request.

Chartech Inc., See *chartech solutions.com* has a full scale test facility and has conducted numerous tests on biosolids pyrolysis.

The pyrolysis process technology is tried and proven on many different biomass feedstocks' including biosolids.

Appendix D
Bioforcetech PFAS Test

Compound Name	Dry Biosolids (ng/g)	Biochar (ng/g)
PFBA	7.03	Not Detected
3:3 FTCA	ND	Not Detected
PFPeA	5.94	Not Detected
PFBS	2.3	Not Detected
4:2 FTS	ND	Not Detected
PFHxA	33.7	Not Detected
PFPeS	ND	Not Detected
HFPO-DA	ND	Not Detected
5:3 FTCA	64.5	Not Detected
PFHpA	7.45	Not Detected
ADONA	ND	Not Detected
PFHxS	ND	Not Detected
6:2 FTS	ND	Not Detected
PFOA	89.1	Not Detected
PFHpS	ND	Not Detected
7:3 FTCA	40	Not Detected
PFNA	5.3	Not Detected
PFOSA	ND	Not Detected
PFOS	26.3	Not Detected
9Cl-PF3ONS	ND	Not Detected
PFDA	11.3	Not Detected
8:2 FTS	5.68	Not Detected
PFNS	ND	Not Detected
MeFOSAA	23.5	Not Detected
EtFOSAA	19.6	Not Detected
PFUnA	3.39	Not Detected
PFDS	ND	Not Detected
11Cl-PF3OUdS	ND	Not Detected
10:2 FTS	ND	Not Detected
PFDoA	5.85	Not Detected
MeFOSA	ND	Not Detected
PFTrDA	ND	Not Detected
PFTeDA	2.44	Not Detected
EtFOSA	ND	Not Detected
PFHxDA	ND	Not Detected
PFODA	ND	Not Detected
MeFOSE	17.1	Not Detected
EtFOSE	ND	Not Detected

Appendix E
Required Forms

APPENDIX A, FORM No. 1

ACKNOWLEDGEMENT OF ADDENDA

RFP TITLE: No. 2020-04 – DESIGN REPORT FOR IMPROVEMENTS IN THE WASTEWATER TREATMENT PLANT'S PROCESSING, HANDLING AND DISPOSAL OF WASTEWATER TREATMENT PLANT RESIDUALS (SLUDGE)

DIRECTIONS: Complete Part I or Part II, whichever is applicable.

PART I: LISTED BELOW ARE THE DATES OF ISSUE FOR EACH ADDENDUM RECEIVED IN CONNECTION WITH THIS RFP:

ADDENDUM # 1: DATED November 25, 2020

ADDENDUM # 2: DATED December 14, 2020

ADDENDUM # 3: DATED December 15, 2020

ADDENDUM # 4: DATED _____, 20__

ADDENDUM # 5: DATED _____, 20__

ADDENDUM # 6: DATED _____, 20__

PART II: _____ INITIAL HERE IF NO ADDENDUM WAS RECEIVED IN CONNECTION WITH THIS RFP

DATE: 12 / 17 / 2020

PROPOSER (SIGNATURE): Robert P. Lannon Jr.

PROPOSER (NAME): Robert P. Lannon Jr., PE, Vice President

PROPOSER (FIRM): GHD Consulting Services Inc.

APPENDIX A, FORM No. 2
CERTIFICATE OF NON-COLLUSION

RFP NO. 2020-04 – DESIGN REPORT FOR IMPROVEMENTS IN THE WASTEWATER TREATMENT PLANT'S PROCESSING, HANDLING AND DISPOSAL OF WASTEWATER TREATMENT PLANT RESIDUALS (SLUDGE)

Pursuant to New York State Public Authorities Law, Article 9, Title 4, Section 2878, the undersigned proposer hereby subscribes and affirms as true, under the penalties of perjury, the following statement of non-collusion:

By submission of this proposal, each proposer and each person signing on behalf of any proposer certifies, and in the case of a joint proposal each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his/her knowledge and belief:

(1) The prices in this proposal have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other proposer or with any competitor;
(2) Unless otherwise required by law, the prices which have been quoted in this proposal have not been knowingly disclosed by the proposer and will not knowingly be disclosed by the proposer prior to opening, directly or indirectly, to any other proposer or to any competitor; and,
(3) No attempt has been made or will be made by the proposer to induce any other person, partnership, or corporation to submit or not to submit a proposal for the purpose of restricting competition.

DATE: 12 / 17 / 2020

PROPOSER (SIGNATURE): Robert P. Lannon Jr

PROPOSER (NAME): Robert P. Lannon Jr., PE, Vice President

PROPOSER (FIRM): GHD Consulting Services Inc.

STATE OF New York)
) ss.:
COUNTY OF Erie)

On the 17TH day of DECEMBER, 2020, before me, the undersigned, a Notary Public in and for said state, personally appeared Robert P. Lannon Jr. as a representative of GHD Consulting Services Inc., personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the entity on behalf of which the individual acted executed the instrument.

Shannon N. Brannigan
Notary Public

SHANNON N. BRANNIGAN
Notary Public, State of New York
No. 01BR6202609
Qualified in Erie County
Commission Expires March 10, 2021

APPENDIX A, FORM No. 3

NEW YORK STATE FINANCE LAW SECTIONS 139-j AND 139-k ("LOBBYING LAW") – DISCLOSURE STATEMENT

RFP NO. 2020-04 – DESIGN REPORT FOR IMPROVEMENTS IN THE WASTEWATER TREATMENT PLANT'S PROCESSING, HANDLING AND DISPOSAL OF WASTEWATER TREATMENT PLANT RESIDUALS (SLUDGE)

General Information

All procurements by the Niagara Falls Water Board ("NFWB") in excess of $15,000 annually, are subject to New York State's State Finance Law Sections 139-j and 139-k, effective January 1, 2006 ("Lobbying Law").

Pursuant to the Lobbying Law, all "contacts" (defined as oral, written or electronic communications with the NFWB intended to influence a procurement) during a procurement - from the earliest notice of intent to solicit bids/proposals through final award and approval - must be made with one or more designated Point(s) of Contact only. Exceptions to this rule include written questions during the bid/proposal process, communications with regard to protests, contract negotiations, and RFP conference participation. Nothing in the Lobbying Law inhibits any rights to make an appeal, protest, or complaint under existing administrative or judicial procedures.

Violations of the policy regarding permissible contacts must be reported to the appropriate NFWB officer and investigated accordingly. The first violation may result in a determination of non-responsibility and ineligibility for award to the violator and its subsidiaries, affiliates, and related entities. The penalty for a second violation within four (4) years is ineligibility for bidding/proposing on a procurement and/or ineligibility from being awarded any contract for a period of four (4) years. The NFWB will notify the New York State Office of General Services ("OGS") of any determinations of non-responsibility or debarments due to violations of the Lobbying Law. Violations found to be "knowing and willful" must be reported to the NFWB Executive Director and OGS.

Moreover, the statutes require the NFWB to obtain certain affirmations and certifications from bidders and proposers. This Disclosure Statement contains the forms with which offerors are required to comply, together with additional information and instructions.

Instructions

New York State Finance Law §139-k(2) obligates the NFWB to obtain specific information regarding prior non-responsibility determinations. In accordance with New York State Finance Law §139-k, an offerer must be asked to disclose whether there has been a finding of non-responsibility made within the previous four (4) years by any governmental entity due to: (a) a violation of New York State Finance Law §139-j or (b) the intentional provision of false or incomplete information to a governmental entity.

As part of its responsibility determination, New York State Finance Law §139-k(3) mandates consideration of whether an offerer fails to timely disclose accurate or complete information regarding the above non-responsibility determination. In accordance with law, no procurement contract shall be awarded to any offerer that fails to timely disclose accurate or complete

information under this section, unless the factual elements of the limited waiver provision can be satisfied on the written record.

Disclosure of Prior Non-Responsibility Determinations

Name of Bidder/Proposer: GHD Consulting Services Inc.

Address: 285 Delaware Avenue, Suite 500, Buffalo, New York 14202
Name and Title of Person Submitting this Form: Robert P. Lannon Jr., PE, Vice President

Has any governmental entity[1] made a finding of non-responsibility regarding the Bidder/Proposer in the previous four years?

____ Yes _X_ No

If yes: Was the basis for the finding of the Bidder's/Proposer's non-responsibility due to a violation of State Finance Law §139-j?

____ Yes ____ No

Was the basis for the finding of Bidder's/Proposer's non-responsibility due to the intentional provision of false or incomplete information to a governmental entity?

____ Yes ____ No

If yes to any of the above questions, provide details regarding the finding of non-responsibility below:

Governmental Entity: _____

Year of Finding of Non-responsibility:_____

Basis of Finding of Non-Responsibility (attach additional pages if necessary):_____

_____

_____

_____

_____

_____

_____

_____

Has any governmental entity terminated or withheld a procurement contract with the Bidder/ Proposer due to the intentional provision of false or incomplete information?

____ Yes _X_ No

If yes, provide details regarding the termination/withholding below:

Governmental Entity: _____

Year of Termination/Withholding:_____

Basis for Termination/Withholding (attach additional pages if necessary):

NOTICE OF NFWB'S RIGHT TO TERMINATE

The NFWB reserves the right to terminate a Contract (including any lease, license, entry permit, or sale documents) in the event it is found that the certification filed by the Proposer, in accordance with New York State Finance Law §139-k, was intentionally false or intentionally incomplete. Upon such finding, the NFWB may exercise its termination right by providing written notification to the Bidder/Proposer in accordance with the written notification terms of the Contract.

Proposer's Affirmation and Certification

By signing below, the Proposer:

a) Affirms that the Proposer understands and agrees to comply with the policy regarding permissible contacts in accordance with New York State Finance Law Sections 139-j and 139-k.

b) Certifies that all information provided to the NFWB with respect to New York State Finance Law §139-j and §139-k is complete, true, and accurate.

DATE: 12 / 17 / 2020

PROPOSER (SIGNATURE): Robert P. Lannon Jr.

PROPOSER (NAME): Robert P. Lannon Jr., PE, Vice President

PROPOSER (FIRM): GHD Consulting Services Inc.

STATE OF New York)
) ss.:
COUNTY OF Erie)

On the 17TH day of DECEMBER, 2020, before me, the undersigned, a Notary Public in and for said state, personally appeared Robert P. Lannon Jr. as a representative of GHD Consulting Services Inc., personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the entity on behalf of which the individual acted executed the instrument.

Shannon N. Brannigan

Notary Public

SHANNON N. BRANNIGAN
Notary Public, State of New York
No. 01BR6202609
Qualified in Erie County
Commission Expires March 23, 2021

APPENDIX A, FORM No. 4

EQUAL EMPLOYMENT OPPORTUNITY ("EEO")
POLICY STATEMENT AND AGREEMENT

RFP NO. 2020-04 – DESIGN REPORT FOR IMPROVEMENTS IN THE WASTEWATER TREATMENT PLANT'S PROCESSING, HANDLING AND DISPOSAL OF WASTEWATER TREATMENT PLANT RESIDUALS (SLUDGE)

Proposer hereby agrees to the following EEO policy with respect to its work on any contract awarded in connection with this RFP:

a) This organization will not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability or marital status, will undertake or continue existing programs of affirmative action to ensure that minority group members are afforded equal employment opportunities without discrimination, and shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on Niagara Falls Water Board ("Water Board") contracts.
b) This organization shall state in all solicitations or advertisements for employees that in the performance of the Water Board contract all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, disability or marital status.
c) At the request of the Water Board, this organization shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union, or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of this organization's obligations herein.
d) This organization shall comply with the provisions of the Human Rights Law, all other State and Federal statutory and constitutional non-discrimination provisions. Proposer and subcontractors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, pregnancy or pregnancy-related conditions, gender identity, familial status, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.
e) This organization will include the provisions of section (a) through (d) of this agreement in every subcontract in such a manner that the requirements of the subdivisions will be binding upon each subcontractor as to work in connection with the Water Board contract.

ACCEPTED AND AGREED:

DATE: 12 / 17 / 2020

PROPOSER (SIGNATURE): Robert P. Lannon Jr

PROPOSER (NAME): Robert P. Lannon Jr., PE, Vice President

PROPOSER (FIRM): GHD Consulting Services Inc.

APPENDIX A, FORM No. 5

STATEMENT ON SEXUAL HARASSMENT
PURSUANT TO STATE FINANCE LAW § 139-l

RFP NO. 2020-04 – DESIGN REPORT FOR IMPROVEMENTS IN THE WASTEWATER TREATMENT PLANT'S PROCESSING, HANDLING AND DISPOSAL OF WASTEWATER TREATMENT PLANT RESIDUALS (SLUDGE)

By submission of this proposal, proposer(s) and each person signing on behalf of any proposer certifies, and in the case of a joint proposal each party thereto certifies as to its own organization, under penalty of perjury, that the proposer has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of section two hundred one-g of the labor law.

DATE: 12 / 17 / 2020

PROPOSER (SIGNATURE): Robert P Lannon Jr

PROPOSER (NAME): Robert P. Lannon Jr., PE, Vice President

PROPOSER (FIRM): GHD Consulting Services Inc.

STATE OF New York)
) ss.:
COUNTY OF Erie)

On the 17TH day of DECEMBER, 2020, before me, the undersigned, a Notary Public in and for said state, personally appeared Robert P. Lannon as a representative of GHD Consulting Services Inc., personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the entity on behalf of which the individual acted executed the instrument.

Shannon N. Brannigan
Notary Public

SHANNON N. BRANNIGAN
Notary Public, State of New York
No. 01BR6202609
Qualified in Erie County
Commission Expires March 23, 2021

APPENDIX A, FORM No. 6

REQUEST FOR PROPOSALS
ACKNOWLEDGEMENT AND CERTIFICATION

As a duly-authorized representative of the proposer indicated below, I hereby acknowledge that by submitting a proposal in connection with RFP NO. 2020-04 – DESIGN REPORT FOR IMPROVEMENTS IN THE WASTEWATER TREATMENT PLANT'S PROCESSING, HANDLING AND DISPOSAL OF WASTEWATER TREATMENT PLANT RESIDUALS (SLUDGE), proposer has made a firm offer and agrees to be bound by its terms. Proposer has carefully read the RFP and all addenda, and in submitting this proposal acknowledges proposer understands and agrees to be bound by the requirements set forth in the RFP, except as explicitly stated on a separate sheet attached to this proposal and entitled "Exceptions."

I recognize that all information submitted is for the express purpose of inducing the Water Board to enter a contract with the submitting business entity. I affirm, under the penalties of perjury, that to the best of my knowledge the information contained in the proposal is full, complete, and truthful.

DATE: 12 / 17 / 2020

PROPOSER (SIGNATURE): Robert P. Lannon Jr.

PROPOSER (NAME): Robert P. Lannon Jr., PE, Vice President

PROPOSER (FIRM): GHD Consulting Services Inc.

STATE OF New York)
) ss.:
COUNTY OF Erie)

On the 17TH day of DECEMBER, 2020, before me, the undersigned, a Notary Public in and for said state, personally appeared Robert P. Lannon Jr. as a representative of GHD Consulting Services Inc., personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the entity on behalf of which the individual acted executed the instrument.

Shannon N. Brannigan
Notary Public

SHANNON N. BRANNIGAN
Notary Public, State of New York
No. 01BR6202609
Qualified in Erie County
Commission Expires March 23, 2021

about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

Robert Lannon, Jr., PE
robert.lannon@ghd.com
716.362.8806

Casey Cowan, PE
casey.cowan@ghd.com
716.491.1269

www.ghd.com

NIAGARA FALLS WATER BOARD RESOLUTION # 2021-03-003

EXTENSION OF BID FOR PICKUP, HAULING, AND DISPOSAL OF ALUMINUM-BASED RESIDUALS FROM WATER TREATMENT PLANT

WHEREAS, the Niagara Falls Water Board ("Water Board") water treatment plant ("WTP") has outdoor sludge beds where it mixes non-toxic chemical coagulants into its raw water in order to settle out trace contaminants in the water prior to that water being further treated inside the WTP; and

WHEREAS, from time to time the resulting residuals, commonly known as alum or aluminum sludge, accumulate to the point where they must be removed from the outdoor sludge beds and disposed of; and

WHEREAS, an invitation to bid for project no. 2018004, Pickup, Hauling, and Disposal of Aluminum-Based Residuals for the period from December 12, 2018 to December 14, 2019 was issued on behalf of the Water Board by Clark Patterson Lee engineers; and

WHEREAS, one bid was received from Modern Disposal Services on November 20, 2018, with a total base bid of $165,824, equaling a disposal cost of approximately $60.76 per ton; and

WHEREAS, the actual cost of the service in any given period will depend on the total quantity of materials actually removed; and

WHEREAS, the bid provides for optional one-year renewals, was renewed for a period from December 15, 2019 to December 15, 2020, and Modern has advised that it is willing to enter a contract extension that would allow the Water Board to continue with the current bid price of through December 15, 2021;

* CONTINUED ON NEXT PAGE *

NOW THEREFORE BE IT

RESOLVED, that the Niagara Falls Water Board hereby authorizes an extension of the contract with Modern Disposal Services, Inc., for Pickup, Hauling, and Disposal of Aluminum-Based Residuals from the water treatment plant through December 15, 2021.

Water Board Personnel Responsible for Implementation of this Resolution:
Acting Executive Director

Water Board Budget Line or Capital Plan Item with Funds for this Resolution:
8330.0100.449.001, Sludge Removal ($80,000)
Budget Line Supplied by: R. Rowe
Available Funds Confirmed by: K. Walker

On March 22, 2021, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Yes	**No**	**Abstain**	**Absent**
Board Member Asklar	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Forster	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Kimble	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Leffler	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Acting Chairperson Larkin	**[ ]**	**[ ]**	**[ ]**	**[ ]**

Signed By: Vote Witnessed By:

_____ _____

Colleen Larkin, Acting Chairperson Sean W. Costello, Secretary to Board

March 15, 2021

Mr. Jay Meyers, PE
C/O Niagara Falls Water Board
Michael O' Laughlin Water Treatment Plant
5818 Buffalo Ave.
Buffalo, New York 14304

Re: Renewal of Project No. 20180004 Aluminum-Based Residuals

Dear Mr. Meyers;

Modern respectfully requests the extension of our current agreement with the Niagara Falls Water Board for one (1) addition year commencing as provided on Page 500-6, Item 11.0 of the contract.

Modern understands that with an extension, the existing prices will prevail for the extension term ending December 15, 2021.

If this request is approved, please send any documents requiring the signature of an authorized representative, to my direct attention.

Thank you and please contact me at 716-622-0210 or joeh@modern-corp.com if there are any questions.

Sincerely,

Joseph M. Hickman

Joseph M. Hickman
Strategic/ Municipal Sales Manager

Modern Disposal Services, Inc.

MODERN
■ 4746 Model City Road, P.O. Box 209, Model City, NY 14107-0209
■ 716-754-8226 ■ 1-800-330-7107 ■ Fax: 716-754-8964

NIAGARA FALLS WATER BOARD RESOLUTION # 2021-03-004

AUTHORIZING AWARD OF WWTP
SLUDGE HAULING AND DISPOSAL SERVICES

WHEREAS, the Niagara Falls Water Board ("Water Board") wastewater treatment plant ("WWTP") treatment process removes solids from wastewater, which are dewatered using belt filter presses, lime stabilized, and disposed of in a landfill pursuant to DEC regulations; and

WHEREAS, the Water Board contracts for hauling and disposal of the sludge; and

WHEREAS, with the assistance of its engineers, CPL, the Water Board issued an invitation to bid for project no. 20210001 Hauling and Disposal of Wastewater Plant Residuals for the NFWB for the period of April 1, 2021 through March 31, 2023; and

WHEREAS, having received two bids on March 15, 2021 for the work, Modern Disposal Services, Inc., provided the lowest responsible bid; and

WHEREAS, bid amounts were for comparison purposes only, with the actual contract amount to be based on sludge production, and Modern's bid item prices on an annual basis under current sludge production conditions are estimated by CPL to have a budgetary price of $2,661,750 on an annualized basis; and

WHEREAS, CPL has reviewed the bids received and recommends awarding the contract for Hauling and Disposal of Wastewater Plant Residuals to Modern Disposal Services, Inc. as the low bidder and qualified to perform the work;

* CONTINUED ON NEXT PAGE *

NOW THEREFORE BE IT

RESOLVED, that on behalf of the Niagara Falls Water Board, its Executive Director hereby is authorized to contract with Modern Disposal Services, Inc., for Hauling and Disposal of Wastewater Plant Residuals for the NFWB for the period of April 1, 2021 through March 31, 2023.

Water Board Personnel Responsible for Implementation of this Resolution:
Acting Executive Director

Water Board Budget Line or Capital Plan Item with Funds for this Resolution:
0449.002, Sludge Disposal (2021 Budget $1,750,000; 2021 costs exceeding budgeted amount will require transfer from funds to be identified)
Budget Line Supplied by: R. Dunn
Funds as Noted Above Confirmed by: K. Walker

On March 22, 2021, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Yes	**No**	**Abstain**	**Absent**
Board Member Asklar	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Forster	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Kimble	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Leffler	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Acting Chairperson Larkin	**[ ]**	**[ ]**	**[ ]**	**[ ]**

Signed By:

_____
Colleen Larkin, Acting Chairperson

Vote Witnessed By:

_____
Sean W. Costello, Secretary to Board

ARCHITECTURE
ENGINEERING
PLANNING
CPLteam.com

26 Mississippi Street | Buffalo, NY 14203 | 716.852.2100 | CPLteam.com

March 15, 2021

Sean Costello, Executive Director
Michel C. O'Laughlin Water Treatment Plant
5825 Buffalo Ave
Niagara Falls NY 4304

RE: Niagara Falls Water Board – Project 20210001
Award Recommendation
Hauling and Disposal of Wastewater Plant Residuals for NFWB from April 1, 2021 through March 31, 2023
CPL PROJECT NO. 14143.01

Dear Mr. Costello,

The bids for the Niagara Falls Water Board Hauling and Disposal of Wastewater Plant Residuals for NFWB from April 1, 2021 through March 31, 2023 were opened on Monday March 15, 2021. A copy of our bid tabulation is enclosed for your information and review.

Bid amounts were for comparison purposes only, with the actual contract amount to be based on sludge production and estimated on an annual basis under current sludge production conditions to have a **budgetary price of $2,661,750** on an annualized basis.

Two Bid proposals were received.

Modern Disposal Services, Inc.
$1,517,250.00

Environmental Service Group, Inc.
$1,591,780.00

CPL recommends awarding to Modern Disposal Services Inc. as the lowest responsible bidder for the total base bid of $1,517,250.00.

Very truly yours,

CPL

Jay Meyers, P.E.

Enclosure

File

Hauling and Disposal of Wastewater Plant Residuals for Niagara Falls Water Board from April 1. 2021 through March 31, 2023

Project#-20210001

Bid Opening Date: March 15, 2021

Environmental Service Group of NY, Inc.

ITEM	QUANTITY	VIM	DESCRIPTION	UNIT PRICE	TOTAL PRICE
1	13,000	TONS	DISPOSAL WWP RESIDUALS/TON	$34.00	$442,000.00
2	1249	TRIPS	ONSITE RELOCATION & TRANSPORTATION	$820.00	$1,024,180.00
3	200	HOURS	HOURLY RATE M-F 6PM-5:59AM	$154.00	$30,800.00
4	400	HOURS	HOURLY RATE SAT-SUN 1:00 PM-11:59PM	$154.00	$61,600.00
5	200	HOURS	HOURLY RATE SUN-MON 12:00AM-5:59 AM	$166.00	$33,200.00
				TOTAL	**$1,591,780.00**

MODERN DISPOSAL SERVICE, INC.

ITEM	QUANTITY	VIM	DESCRIPTION	UNIT PRICE	TOTAL PRICE
1	13,000	TONS	DISPOSAL WWP RESIDUALS/TON	$85.00	$1,105,000.00
2	1249	TRIPS	ONSITE RELOCATION & TRANSPORTATION	$250.00	$312,250.00
3	200	HOURS	HOURLY RATE M-F 6PM-5:59AM	$100.00	$20,000.00
4	400	HOURS	HOURLY RATE SAT-SUN 1:00 PM-11:59PM	$125.00	$50,000.00
5	200	HOURS	HOURLY RATE SUN-MON 12:00AM-5:59 AM	$150.00	$30,000.00
				TOTAL	**$1,517,250.00**

NIAGARA FALLS WATER BOARD RESOLUTION # 2021-03-005

GRANTING THE STATE OF NEW YORK AUTHORITY TO PERFORM AN ADJUSTMENT OF NIAGARA FALLS WATER BOARD FACILITIES AND AGREEMENT TO MAINTAIN FACILITIES ADJUSTED VIA THE STATE-LET CONTRACT, PIN 5813.48

WHEREAS, the New York State Department of Transportation proposes a construction, reconstruction, or maintenance project named "NY Route 384 Niagara Street from Rainbow Boulevard to John B. Daly Boulevard and John B. Daly Boulevard from Niagara Street to Buffalo Avenue City of Niagara Falls, Niagara County," project identification number ("PIN") PIN 5813.48; and

WHEREAS, the State will include as part of the construction, reconstruction, or improvement of the above-mentioned project adjustments to the Water Board's facilities that are presently located in the New York State Right-of-Way, specifically adjustment of water valve box elevations, relocation of lines affected by proposed drainage, and cap off of water line and remove hot boxes, pursuant to Section 10, Subdivision 24, of the State Highway Law, as shown on the contract plans relating to the project and meeting the requirements of the Water Board; and

WHEREAS, the service life of the relocated and/or replaced utilities has not been extended; and

WHEREAS, the State will provide for the reconstruction of the above-mentioned work, as shown on the contract plans relating to the above-mentioned project;

NOW THEREFORE BE IT

RESOLVED, that the Niagara Falls Water Board approves the work to be done and the above-mentioned work to be performed on the project and shown on the contract plans relating to the project and that the Niagara Falls Water Board will maintain or cause to be maintained those of its facilities which are adjusted as above-stated and as shown on the contract plans; and

BE IT FURTHER RESOLVED, that the Water Board's Director of Technical and Regulatory Services has the authority to sign, with the concurrence of the Board of Directors, any and all documentation that may become necessary as a result of this project as it relates to the Niagara Falls Water Board; and

* CONTINUED ON NEXT PAGE *

BE IT FURTHER RESOLVED, that the secretary to the Niagara Falls Water Board is hereby directed to transmit five certified copies of the foregoing resolution to the New York State Department of Transportation.

Water Board Personnel Responsible for Implementation of this Resolution:
Director of Technical and Regulatory Services

Water Board Budget Line or Capital Plan Item with Funds for this Resolution:
Not applicable.

On March 22, 2021, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Yes	**No**	**Abstain**	**Absent**
Board Member Asklar	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Forster	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Kimble	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Leffler	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Acting Chairperson Larkin	**[ ]**	**[ ]**	**[ ]**	**[ ]**

Signed By: Vote Witnessed By:

_____ _____

Colleen Larkin, Acting Chairperson Sean W. Costello, Secretary to Board

CERTIFICATION

I, Sean W. Costello, duly appointed and qualified as General Counsel and Secretary to the Niagara Falls Water Board, do hereby CERTIFY that the foregoing resolution was adopted at a meeting duly called and held in the office of the Niagara Falls Water Board, a quorum present on the 22nd day of March 2021, and that said copy is a true, correct and compared copy of the original resolution so adopted and that the same has not been revoked or rescinded.

WITNESSETH, my hand and seal this ____ day of March 2021.

_____

Sean W. Costello, General Counsel and
Secretary to the Board

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

ANDREW M. CUOMO
Governor

MARIE THERESE DOMINGUEZ
Commissioner

FRANK P. CIRILLO, SR/WA
Regional Director

February 10, 2021

Douglas S. Williamson, P.E.
Director of Tech. and Reg. Services
Niagara Falls Water Board
5815 Buffalo Avenue
Niagara Falls, New York 14304

RE: NY ROUTE 384 NIAGARA STREET FROM RAINBOW BOULEVARD TO JOHN B DALY BOULEVARD AND JOHN B DALY BOULEVARD FROM NIAGARA STREET TO BUFFALO AVENUE CITY OF NIAGARA FALLS, NIAGARA COUNTY PIN 5813.48

Dear Mr. Williamson:

Until further notice, the New York State Department of Transportation (NYSDOT), Region 5, Utility Unit will be sending two (2) versions of this document package: a hard copy and an electronic copy. Please return the hard copy version, by USPS. The electronic package may be returned by USPS or electronically to Utility.Unit.R05@dot.ny.gov. The electronic version must be signed **physically**, not electronically. All scanning must be done at 300 DPI. Please find the additional instructions in the cover letter below. If you have any questions or concerns, please contact us via one of the methods listed at the end of this letter.

Enclosed is an electronic copy of the proposed contract plans for the above-referenced project. The Niagara Falls Water Board has existing facilities within the project limits. The Niagara Falls Water Board's involvement in this project consists of relocation of water lines, cap off water line and remove hot boxes, and adjustment of water valve elevations. The details of the adjustment are shown on the project plans included with this letter.

Also enclosed are four (4) sets of documents, including the Utility Work Agreement (HC-140) and the Coordination Note. Each of the four (4) HC-140 forms must be duly approved by an authorized representative of the Niagara Falls Water Board. **Work included in the State's contract and performed by the State contractor will be done at no expense to the Niagara Falls Water Board.**

This agreement also requires four (4) copies of a Certified Resolution by your governing body as stated in Section VI – References of the Utility Work Agreement (HC-140). Each copy must be signed and have a seal affixed to it.

Enclosed is a sample of a Certified Resolution granting the State of New York authority to perform the facility adjustments per contract documents, agreeing to maintain facilities, and authorizing a municipal official to enter agreements with the State of New York.

Both physical and electronic packages need to be returned. Please return four (4) physical original sets of the signed agreement with the Coordination Note and Certified Resolution to Ronald Rolling, Regional Utilities Engineer at 100 Seneca Street, Buffalo, NY 14203. **The physical documents should be returned as soon as possible, but no later than two (2) weeks from the date of the lifting of the executive order "New York State on PAUSE".** The documents sent electronically are to be returned by **March 17, 2021.** One (1) copy of the fully-executed agreement will be returned for your records.

Any questions regarding work to be done may be directed to Robert Schaller, Design Job Manager (DJM), at (716) 847- 3043 or via e-mail at Robert.Schaller@dot.ny.gov. Questions regarding these forms can be directed to Mr. Ronald Rolling, Regional Utilities Engineer, at (716) 847-3954 or via e-mail at Ronald.Rolling@dot.ny.gov.

Sincerely,

Renjit P. James, P.E.
Acting Assistant Regional Design Engineer
Design Technical Support Group

By: _____
Ronald W. Rolling, P.E.
Regional Utilities Engineer

DJH/RWR/EJC/jlg
Enclosures: Project Plans, Utility Work Agreement (HC-140), Coordination Note, and Certified Resolution sample

3A

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
UTILITY WORK AGREEMENT

Since the construction, reconstruction, or maintenance of the transportation project described below, identified as:

Project Identification No.: 5813.48	F.A. Project No.:
ROW Declaration No.:	Map Nos.
Parcel Nos.:	County of: Niagara
Contract No.: D26xxxx	

Project Description: NY Route 384 Niagara Street from Rainbow Boulevard to John B Daly Boulevard and John B Daly Boulevard from Niagara Street to Buffalo Avenue
City of Niagara Falls, Niagara County

State – Municipality, Reimbursable by Items and Labor Exchange (ILE)

necessitates the adjustment of utility facilities as hereinafter described, the owner, **Niagara Falls Water Board**, of said facilities herewith agrees with the State of New York acting through the Commissioner of Transportation that this agreement shall apply to the accommodation of these utility facilities. Any adjustment of said facilities will be accomplished under the terms of this agreement, in accordance with the Rules and Regulations Governing the Accommodation of Utilities within the State Highway Right-of-Way, in compliance with the attached Special Note, "Coordination with the Utility Schedule", and in accordance with the contract plans, specifications, proposal, amendment(s) or change order(s).

I. **Existing Facilities** (describe type, size, capacity, location, etc.)

Niagara Falls Water Board has existing water lines within the highway boundary of NY 384. (Niagara Street, John B Daly Blvd).

presently located on **NY State Right-of-Way** as shown on the plans for the proposed transportation project are to be adjusted as follows: (describe type, size, capacity, location, etc.)

1 Adjustment of water valve box elevations.

2 Relocation of lines affected by proposed drainage.

3. Cap off water line and remove hot boxes.

per contract documents

for an estimated $ N/A

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
UTILITY WORK AGREEMENT

II. Financial Responsibility (check appropriate boxes):

☐ The facilities to be adjusted under the terms of this agreement are subject to Section 52 of the State Highway Law, and the cost of this adjustment is the sole responsibility of the owner.

☒ Subdivision 24 of Section 10 of the State Highway Law enables the Commissioner of Transportation to provide, at the expense of the State, for adjustment to a municipally owned utility when such work is necessary as a result of State highway work. (Municipal Agreement if required.)

☐ Subdivision 24-b of Section 10 of the State Highway Law enables the Commissioner of Transportation to participate in the necessary expenses incurred for adjustment of privately, publicly, or cooperatively owned facilities, municipal utility facilities, or facilities of a corporation organized pursuant to the State Transportation Corporations Law. (Privately Owned Property Agreement or Reimbursement Agreement required.)

☐ Subdivision 27 of Section 10 of the State Highway Law enables the Commissioner of Transportation, upon the request of a municipality, to perform for and at the expense of such municipality specified work to be included within a State-let contract. (Betterment Resolution required.)

☐ Subdivision 33 of Section 10 of the State Highway Law enables the Commissioner of Transportation, upon the request of a public utility corporation, to perform for and at the expense of such public utility corporation specified work to be included within a State-let contract.

☐ Subdivision 13 of Section 30 of the State Highway Law enables the Commissioner of Transportation to enter into an agreement to reimburse with public funds the owner for necessary expenses incurred as a result of this adjustment, or to replace the facilities in kind.

☐ The owner will develop and keep a record of costs in accordance with the New York State Department of Transportation (NYSDOT) Reimbursement Procedures, and when federal funds participate in the cost, the Federal Highway Administration (FHWA) Federal-Aid Policy Guide Part 645, or as indicated below:

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
UTILITY WORK AGREEMENT

III. Physical Adjustment Method (check appropriate boxes):

The actual adjustment or design engineering will be performed by the following method (s):

☒ Contract let by the Commissioner.

☐ Contract let by the Owner. (check applicable statement, i.e., a or b)

☐ a. Best Interests of State.

☐ b. Utility not sufficiently staffed or equipped

☐ By the Owner's forces.

IV. Betterment, Salvage, and Depreciation Credits Due the Project (check appropriate boxes):

☒ There will be no extension of service life, improved capacity, nor any other betterment of the facility (as defined by the NYSDOT Utility Reimbursement Procedures and by FHWA Federal-Aid Policy Guide Part 645) as a result of the adjustments made pursuant to this agreement.

☐ There is betterment described as follows:

_____

_____

☐ The owner will not claim reimbursement for that betterment portion of the work, but will duly account for it as required by applicable NYSDOT and FHWA procedures.

☐ The owner hereby agrees to deposit with the Comptroller of the State of New York the amount of $_____ to cover the cost of the betterment as described above.

☐ The owner agrees to comply with the requirements of the NYSDOT Utility Reimbursement Procedure and FHWA Federal-Aid Policy Guide Part 645 with the respect to salvage and depreciation credits when applicable.

V. General Covenants

The owner hereby agrees to accept full title and responsibility for the adjusted facility in writing upon satisfactory completion of the work. Such acceptance will acknowledge the owner's responsibility to maintain the facility in accordance with all applicable codes, standards and regulations, including his obligation, where applicable, to remove any or all of the facility from the highway at the order of the Commissioner of Transportation, all in accordance with the Rules and Regulations Governing the Accommodation of Utilities within the State Highway Right-of-Way. All compensable claims covered by this agreement will be included in one of the following:

A Privately Owned Property Agreement executed prior to the performance of the work.
B Municipal Agreement executed prior to performance of the work.
C Reimbursement Agreement executed prior to performance of the work.
D. Such other agreement as approved by NYSDOT Office of Legal Affairs.

3A

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
UTILITY WORK AGREEMENT

VI. References

The following documents are herewith incorporated in this agreement be reference (check appropriate boxes)

☒ Federal Highway Administration's Federal-Aid Policy Guide Part 645.

☒ Contract documents: Contract Number _____

PIN 5813.48

Plan Sheets No. Electronic copy of the proposed contract plans

☐ Owner's Plan Sheets _____

☐ Owner's Estimate Sheets Form No. FIN 223c

☒ Resolution dated _____, by _____

☒ Granting the State of New York authority to perform the adjustment for the owner.

☒ Agreeing to maintain facilities adjusted via State-let contract.

☐ Authorizing deposit of funds by the owner.

☒ Certification by the owner or his agent that he has the legal authority to enter into this agreement.

(Print/Type Name) Owner or Agent	(Signature)	Title	Date

Statewide Utilities Engineer

Arvind K. Salgam, P.E.	Title	Date

For the NYSDOT Commissioner of Transportation

SPECIAL NOTE

COORDINATION WITH THE UTILITY SCHEDULE

The contractor must coordinate their schedule of operations with the various utility owners involved with the project and shall verify utility information found in the contract documents. Utility revisions required by the various utility owners in connection with this project include:

Niagara Falls Water Board - Water

Utility Owner's Field Contact:
Douglas S. Williamson, P.E.
Director of Tech. and Reg. Services
Niagara Falls Water Board
5815 Buffalo Avenue
Niagara Falls, New York 14304
O: (716) 283-9770 Ext. 229
dwilliamson@nfwb.org

Niagara Falls Water Board has existing water lines within the highway boundary of NY 384 (Niagara Street, John B Daly Blvd)

Reimbursable work to be done by the State's contractor:

The project requires the following work to be done at this location, per details in the contract documents:

1. Adjustment of water valve box elevations.

2 Relocation of lines affected by proposed drainage.

3. Cap off water line and remove hot boxes.

The work is to be done by the State's contractor and paid by contract items.

The State's Engineer-In-Charge, in coordination with the State's contractor, shall notify the Niagara Falls Water Board in writing **2 weeks** before commencing work on their facilities at each location and for each occurrence of work.

The State's Engineer-In-Charge will provide record plans to the Niagara Falls Water Board.

Additional Notes

1. The Contractor is governed by and must adhere to the provisions of 16 NYCRR Part 753 (Protection of Underground Facilities)

2 In addition to the above-itemized facility adjustments, other adjustments may become necessary during the construction phase as a result of more precise location data or other changes that might develop.

3. The Standard Specifications shall apply to all utility facility adjustments.

4. Any additional adjustments shall be performed by the utility owners and/or the State's contractor upon direction by the State's Engineer-In-Charge.

5 Suitable time frames for additional adjustments shall be coordinated between the State's Engineer-In-Charge, the State's contractor, and the affected utility owners. Such timeframes shall not be included within previously established time frames

END OF COORDINATION WITH THE UTILITY SCHEDULE

Revised 2020 April 27

NIAGARA FALLS WATER BOARD RESOLUTION # 2021-03-006

**ENGINEERING SERVICES AMENDMENT PROJECT 2 AND 2B,
GORGE PUMPING STATION REHABILITATION
AND OUTFALL 003 REDIRECTION**

WHEREAS, the Niagara Falls Water Board ("Water Board") contracted with GHD Consulting Engineers, Inc., to prepare designs, plans, and specifications for certain work to improve the Gorge Pump Station ("GPS") required pursuant to Order on Consent R9-20170906-129 with the New York State Department of Environmental Conservation ("the Project"); and

WHEREAS, the Project also includes the work required to redirect Falls Street Tunnel Outfall 003 combined sewer overflows to the GPS Outfall 006; and

WHEREAS, GHD's contract for engineering services contemplated a particular scope of work that was exceeded as a result of actual GPS conditions and requests for changes made by Water Board staff, including adding to the engineering design and bid documents the replacement of dry well heating and ventilation equipment and replacement of pump variable frequency drives, plus the necessary construction administration and inspection for this work; and

WHEREAS, GHD in good faith performed this additional work but no formal contract amendment permitting the Water Board to pay GHD for its services has been authorized; and

WHEREAS, GHD requested Water Board approval of an amendment to its contract in a May 13, 2020 proposal that has not previously been presented for Board approval; and

WHEREAS, the Project 2 and 2B work designed and administered by GHD is under budget, GHD's work includes the required MWBE participation, and the work called for in the proposed contract amendment is anticipated to be partially reimbursable under the Water Board's State and Municipal Facilities Program ("SAM") Grant, Project ID No. 15688;

* CONTINUED ON NEXT PAGE *

NOW THEREFORE BE IT

RESOLVED, that on behalf of the Niagara Falls Water Board, its Executive Director hereby is authorized enter into an agreement with GHD to perform the additional engineering design and construction administration services for Project 2 and 2B, Gorge Pumping Station Rehabilitation and Outfall 003 Redirection, as described in GHD's May 13, 2020 proposal and for an additional fee not to exceed $29,700.

Water Board Personnel Responsible for Implementation of this Resolution:
Acting Executive Director

Water Board Budget Line or Capital Plan Item with Funds for this Resolution:
Capital Plan Items: WWTP 2
Capital Line Supplied by: D. Williamson
Available Funds Confirmed by: K. Walker

On March 22, 2021, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Yes	**No**	**Abstain**	**Absent**
Board Member Asklar	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Forster	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Kimble	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Leffler	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Acting Chairperson Larkin	**[ ]**	**[ ]**	**[ ]**	**[ ]**

Signed By: Vote Witnessed By:

_____ _____

Colleen Larkin, Acting Chairperson Sean W. Costello, Secretary to Board

May 13, 2020 Reference No. 11194110

Patrick Fama, Executive Director
Niagara Falls Water Board
5815 Buffalo Avenue
Niagara Falls, New York 14304

Original Sent Via Email

Dear Mr. Fama:

Re: Project 2/2B – Gorge Pumping Station Rehabilitation and Outfall 003 Redirection
Additional Engineering Services – Amendment Proposal

Pursuant to our recent discussion, GHD is submitting this proposal for additional engineering services on the above referenced project. This project includes rehabilitation work at the Gorge Pumping Station (GPS) (Project 2) and the CSO Outfall 003 redirection work on the Falls Street Tunnel (FST) (Project 2B). These two projects have been combined into one capital project since they are interrelated and to take advantage of the engineering economies of doing this work concurrently.

GHD is currently under contract with the Niagara Falls Water Board (NFWB) to provide engineering services on this project in accordance with our Agreement dated March 25, 2019. This Agreement includes GHD's original proposal dated September 17, 2018 for design and bidding services, GHD's proposal dated September 6, 2019 for Outfall 003 redirection design services, and GHD's proposal dated October 4, 2019 for construction phase services. The NFWB received construction bids for this project on May 6, 2020. The bid results are well below the budgeted costs for this project. We have provided a summary showing the current budget status in Section 3.

Changes and additions to the project scope have occurred based on meetings and discussions with NFWB personnel, and further analysis of the GPS needs. This letter summarizes our understanding of the additional work as well as the associated engineering fees.

1. Scope of Services

GHD proposes to complete the following items under this project:

Item 1 – Replacement of the Dry Well Heating and Ventilation

The air handler unit (AHU-1) inside the pump station dry well is currently not functional. This unit provides fresh air and heat to the main pump room and walkway tunnels to improve conditions for the equipment and staff. The NFWB has requested that replacement of this unit and the associated electric heating coils be added to the project as part of the heating and ventilation (HV) upgrades that were already planned within the wet well. In addition, sections of severely corroded ventilation ductwork inside the station will be replaced, as well as some motorized louvers. GHD hereby proposes to provide additional design services

for replacement of AHU-1 and the associated heating coils, louvers, and ductwork. This item includes structural, mechanical and electrical details and specifications for the replacements. A portion of this design effort was performed by our SDVOB subconsultant, Patriot Design & Consulting, and our MBE subconsultant, Popli Design Group.

Construction costs and the design effort for replacement of this equipment was not included in the original project budget. The construction cost to replace the dry well HV equipment is $280,000 based on the actual bid results. GHD's proposed Task 2 design phase fee for this HV replacement is $10,000.

This new equipment will also require additional effort during the construction administration phase to review the contractor's submittals and their work. We request an additional $3,700 of Task 4 construction administration fee associated with this replacement. It is our assumption that the dry well HV replacements will occur concurrently with other work at the GPS that was already planned; therefore, no additional resident inspection budget for this item is requested at this time.

Item 2 – Replacement of Pump Variable Frequency Drives

The existing 500 horsepower (HP) variable frequency drives (VFDs) for the GPS pumps were installed in 2006. Although they are still functional, the VFDs are nearing the end of their useful life for this type of control equipment. Given their age, it is anticipated that sudden unpredictable failures of the VFDs could happen at any time. The manufacturer has also indicated that the model installed at the GPS is going out of production this year and parts will become difficult to obtain. After a careful evaluation of the option to keep the existing VFDs or just replace components, it was recommended to replace each of the VFDs under this project. Installation of brand new VFDs to go along with the new pumps will increase the reliability and longevity of the station. The NFWB staff was in agreement and requested GHD proceed with designing this replacement.

Construction costs and the design effort for replacement of the VFDs was not included in the original project budget. The construction cost for replacement of the VFDs is estimated at $350,000 based on the actual bid results. GHD hereby proposes to provide additional design services for specifying the VFD replacement. This includes the VFD specifications, wiring of the VFDs, and changing the VFDs to an Ethernet based control network with the PLC pump control panel. GHD's proposed Task 2 design phase fee for the VFD replacement is $13,000.

Replacement of VFDs will also require additional effort during the construction administration phase to review the contractor's submittals and their work. We request an additional $3,000 of Task 4 construction administration fee associated with this replacement. It is our assumption that the VFD replacement will occur concurrently with replacing the GPS pumps; therefore, no additional resident inspection budget for this item is requested at this time.

2. MWBE/SDVOB Participation

GHD will retain the services of Popli Design Group, a Minority-Owned Business Enterprise (MBE), for structural and electrical design and construction administration services, and Patriot Design & Consulting, a Service Disabled Veteran Owned Business (SDVOB), for HVAC design and construction administration services, consistent with our current design services utilization plan as approved by the NFWB.

3. Project Budget Summary

The following table provides a summary of the overall project budget for construction and engineering services associated with Project 2 and Project 2B.

Summary of Original Budgeted Costs vs. Actual Costs to Date

Description	Project Costs
Original Budgeted Project Costs (Construction and Engineering)	
GPS Rehabilitation (Project 2)	$4,110,000
Outfall 003 Redirection (Project 2B)	$1,625,410
Total Budgeted Project 2/2B Costs	**$5,735,410**
Engineering Fees Approved for GHD	
Original September 17, 2018 proposal for design and bidding services	$198,230
September 6, 2019 proposal for Outfall 003 redirection design services	$37,400
October 4, 2019 proposal for construction phase services	$216,700
Remaining Budget for Construction	**$5,283,080**
GHD's Estimated Construction Bid Total	$4,405,000
Actual May 6, 2020 Construction Bid Total	$4,497,700
Project 2/2B Remaining Budget	**$785,380**

4. Proposed Fee

GHD proposes to complete the scope of services outlined above for a total not-to-exceed fee of $29,700 as detailed below:

Task	Description	Fee
Item 1 Task 2	Replacement of dry well HV equipment Design Phase Services	$10,000
Item 2 Task 2	Replacement of Pump VFDs Design Phase Services	$13,000
Item 1 Task 4	Replacement of dry well HV equipment Construction Administration	$3,700
Item 2 Task 4	Replacement of Pump VFDs Construction Administration	$3,000
	Total	**$29,700**

GHD will invoice for Tasks 2 and 4 on an hourly basis not to exceed the above total, and direct expenses will be invoiced at cost plus 5 percent. We will hold our hourly rates to be consistent with our current Agreement. Invoices shall be due within 30 days from receipt.

Thank you for the opportunity to submit this proposal. If you have any questions or require additional information, please do not hesitate to call.

Sincerely,

GHD

Casey W. Cowan, PE
Project Manager

CWC/las/6

cc: Douglas Williamson, PE – NFWB
Theodore E. Donner, PE – CPL
Robert P. Lannon Jr, PE – GHD

NIAGARA FALLS WATER BOARD RESOLUTION # 2021-03-007

AUTHORIZING SETTLEMENT OF COOKE CLAIM

WHEREAS, Paul Cooke, though his attorney Stephen C. Halpern, Esq., has asserted on his own behalf and on behalf of his spouse various claims against the Niagara Falls Water Board relative to the provision of services to his property and 2020 bills rendered therefore; and

WHEREAS, the Water Board and Cookes previously engaged in litigation over substantially similar issues; and

WHEREAS, in order to settle the claims by Mr. and Mrs. Cooke prior to litigation and to buy its peace, and without an admission of fault by any party, General Counsel and the Director of Financial Services recommend that the Board agree to provide an adjustment of $310.96 for the Cooke property's account and to waive the penalties that have accrued on their unpaid 2020 bills, provided the Cookes execute a general release and pay the remainder of the outstanding principal ($407.28) within 30 days of notification that the settlement was approved;

* CONTINUED ON NEXT PAGE *

NOW THEREFORE BE IT

RESOLVED, that the Niagara Falls Water Board hereby authorizes the Director of Financial Services to make an adjustment of $310.96 on the Cooke property's account and to waive the penalties that have accrued on their 2020 bills, provided the Cookes execute a general release and pay the remainder of the outstanding principal ($407.28) within 30 days of notification that the settlement was approved.

Water Board Personnel Responsible for Implementation of this Resolution:
Director of Financial Services
General Counsel

Water Board Budget Line or Capital Plan Item with Funds for this Resolution:
Not applicable.

On March 22, 2021, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Yes	**No**	**Abstain**	**Absent**
Board Member Asklar	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Forster	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Kimble	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Leffler	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Acting Chairperson Larkin	**[ ]**	**[ ]**	**[ ]**	**[ ]**

Signed By:

Vote Witnessed By:

_____
Colleen Larkin, Acting Chairperson

_____
Sean W. Costello, Secretary to Board

NIAGARA FALLS WATER BOARD RESOLUTION # 2021-03-008

PILOT PROJECT FOR REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE

WHEREAS, the Niagara Falls Water Board ("Water Board") produces water for domestic, commercial, industrial, and fire service consumption at its Water Treatment Plant ("WTP"); and

WHEREAS, the Water Board only bills and recovers costs for water that passes through meters; and

WHEREAS, non-revenue water includes water used for fire suppression and hydrant flushing, but is believed mostly to be attributable to system leaks, inaccurate metering, and/or theft; and

WHEREAS, non-revenue water has increased to over 72% of the water produced by the WTP in 2020; and

WHEREAS, as one effort to address this problem, Water Board staff prepared RFP No. 2021-01, Real-Time Monitoring and Analysis of Water Distribution System – Leak Detection and Pressure; and

WHEREAS, through this RFP the Water Board seeks actively to monitor both pressure in the water system as well as for water leaks as they occur, thereby identifying causes for and reducing non-revenue water; and

WHEREAS, the RFP seeks a vendor who can provide the Water Board with the hardware, software, and knowledge necessary to allow the Water Board to take a more proactive approach to non-revenue water and other issues that accompany aging infrastructure; and

WHEREAS, the Water Board has nine hydrant zones, and tentatively plans to implement the solution as a pilot project in Zones 2 and 3 to demonstrate its usefulness and cost-effectiveness, with the intention of selecting a scalable, cost-effective solution that it ultimately may implement for most or all of its water distribution system; and

WHEREAS, the Water Board received five proposals in response to RFP 2021-01; and

WHEREAS, the Water Board staff who evaluated the proposals recommend selection of the February 5, 2021 proposal by Echologics, LLC, an affiliate of Mueller Water Products, as presenting the best value for the Water Board when evaluated based upon situational understanding, demonstrated experience, capabilities, and qualifications, completeness of the proposal, and total proposed cost;

* CONTINUED ON NEXT PAGE *

NOW THEREFORE BE IT

RESOLVED, that the Niagara Falls Water Board authorizes the Executive Director to enter into an agreement with Echologics LLC on the terms set forth in that company's February 5, 2021 proposal to provide a 12-month pilot program for Real-Time Monitoring and Analysis of Water Distribution System – Leak Detection and Pressure in Hydrant Zones 2 and 3 for a total cost not to exceed $211,915.97.

Water Board Personnel Responsible for Implementation of this Resolution:
Acting Executive Director
Superintendent

Water Board Budget Line or Capital Plan Item with Funds for this Resolution:
W-5, Leak Detection / Distribution Modeling
Capital Line Supplied by: D. Williamson
Available Funds Confirmed by: K. Walker

On March 22, 2021, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Yes	**No**	**Abstain**	**Absent**
Board Member Asklar	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Forster	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Kimble	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Leffler	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Acting Chairperson Larkin	**[ ]**	**[ ]**	**[ ]**	**[ ]**

Signed By: Vote Witnessed By:

_____ _____

Colleen Larkin, Acting Chairperson Sean W. Costello, Secretary to Board

Echologics, LLC
1200 Abernathy Rd, Suite 1200
Atlanta, GA, 30328, USA

Toll Free 1-800-423-1323
Fax: +1.905-612-0201
www.echologics.com

PROPOSAL FOR NIAGARA FALLS WATER BOARD

REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK

Prepared for: Bill Wright

Prepared by: Corey Keefer

Echologics LLC

Proposal Number: 42221021

Date: 2/5/2021

Table of Contents

ECHOLOGICS®
a MUELLER brand

STATEMENT OF QUALIFICATIONS AND KEY PERSONNEL

1. Business structure;

Response:

Echologics LLC is a business affiliate of Mueller Water Products (NYSE: MWA), a leading manufacturer and marketer of products used for the management of water networks.

2. Years in business;

Response:

Echologics was founded in 2003 in Ontario, Canada. Mueller Water Products was established in 1857 in the United States.

3. Any other names under which proposer has done business in the past 10 years;

Response:

NA

4. List all subsidiary and parent companies;

Response:

Echologics LLC has one subsidiary - PCA-Echologics PTY LTD.

5. List proposer's physical locations and the type of each location (i.e. regional headquarters, primary office, warehouse, etc.);

Response:

Echologics is headquartered in Toronto, Canada, with regional offices across the globe. In the United States, Echologics is based out of Atlanta GA.

Our addresses are listed below:

Headquarters
21 Randolph Ave, Suite 301
Toronto, ON, M6P 4G4
Canada

Dallas
1401 Valley View Lane, Suite 150
Irving, Texas 75061
USA

Dubai
Dubai Airport Free Zone
West Wing, Building 6, 6th Floor, Dubai 6WA 624
United Arab Emirates

London
Osprey House, Primett Road
Stevenage, SG1 3EE
United Kingdom

Netherlands
Leidseveer 2-10
3511 SB Utrecht

Singapore
PUB Singapore Water Exchange
84 Toh Guan Road East, #05-01
Singapore 608501

Mueller Water Products Headquarters
1200 Abernathy Road, NE
Atlanta, Georgia 30328
USA

6. State whether proposer ever has been: • Debarred or suspended by any government entity from entering contracts with it; • Found not responsible by any government entity; • Declared in default or terminated for cause from any contract, or had any contract cancelled for cause; or • Required to pay liquidated damages on a contract.

Response:

No.

7. State whether proposer has filed for bankruptcy or been the subject of an involuntary bankruptcy proceeding;

Response:

No.

8. State whether proposer has been a party to any legal action or government investigation related to proposer's business practices, or alleging that any of proposer's agents or employees committed any act of fraud, collusion, bid rigging, price fixing, or bribery. If proposer, any of proposer's principals, or any of proposer's agents has pleaded guilty or entered into a consent order with respect allegations of any of these, provide details;

Response:

No.

9. Licensing, if relevant to the work required by the contract;

Response:

Echologics and its employees will obtain all the necessary licenses or their equivalents before the commencement of work.

10. Describe proposer's experience with providing similar services to those required by the contract along with project descriptions (including contact information for references);

Response:

Echologics has provided similar services to many other municipal and government entities. A few selected contacts for EchoShore-DX Leak Detection (LD) & SmartHydrant Pressure Monitoring (PM) are provided here.

Client Name	LD	PM	Details	Reference Contact
New Jersey American Water	X	X	9503 nodes	Ronald Oppenheimer Ron.oppenheimer@amwater.com VP Engineering 732-489-1597
East Brunswick, NJ	X	X	250 nodes	George Smith Water Production Superintendent (732) 236-6743 George.Smith@eastbrunswick.org
East Bay Municipal Utility District	X		2000 nodes	Casey Leblanc Senior Civil Engineer (510) 593-8200 casey.leblanc@ebmud.com
San Jose Water Company	X		8225 nodes	Jake Walsh Engineering Manager jake.walsh@sjwater.com (408) 279-7850
Pennsylvania-American Water Company	X		1051 nodes	Nicholas Wartella Sr. Field Operations Supervisor nicholas.wartella@amwater.com 570-237-1727
Kentucky American Water	X	X	131 nodes	Sam Schmidt stephan.schmidt@amwater.com Administrator 502-667-2571
Suffolk County, New York		X	4 SmartHydrant Pressure Units	Chris Givens chris.given.scwa.com Superintendent 631-774-0203

Myrtle Beach, South Carolina		X	10 SmartHydrant Pressure Units	Chris Miller camiller@cityofmyrtlebeach.com Infrastructure Projects Manager 843-457-8006
Peachtree Corners, Georgia		X	2 SmartHydrant Pressure Units	Brandon Branham Bbranham@peachtreecornersga.gov Utility Manager 678-656-9567

11. Resumes covering the qualifications of key personnel for this contract, including the number of accounts/clients served and their principal business location, noting any key personnel who are not W-2 employees of, or partners in, the bidding entity; and

Response:

A short description of the Echologics team that will work on the current engagement is provided below. Detailed resumes are available as Appendix B: Resumes

JASON PANCOAST. PROJECT ENGINEER, FIELD SERVICE

Jason is a Project Engineer based out of New Jesey USA and is responsible for any form of data collection and maintenance in the field,finding Leaks utilizing any tool available. Jason has over 10 years of experience and is a licensed professional engineer experienced in managing project budgets of up to $8,500,000 and project teams of 15+ project engineers, resident engineers, and construction professionals. He is experienced in cost estimating, value engineering, contract administration, cost controls/reporting, schedule management, QC implementation, trade integration, and successful execution of construction. Jason is a strong team leader who employs an initiative-taking management style, that ensures timely completion of project deliverables within budget from pre-construction to project completion. He has to his credit a strong track record of success overseeing all phases of multimillion-dollar projects involving land development, heavy civil infrastructure, environmental remediation, linear construction, and subsurface ground improvements for both public and private sector clients.

RICHARD WELSH, C.E.T., SR. FIELD SPECIALIST

Richard is a Senior Field Specialist and Project Manager and is responsible for managing various projects for the field operations team, including ePulse condition assessments and Echoshore permanent monitoring installations. Richard graduated in 2006 from Durham College with a diploma in Mechanical Engineering Technology. Shortly after graduating, he started a position in Whitecourt, AB as Field Supervisor in Training for Schlumberger Canada. While in this position, Richard participated in numerous oil and gas well cleaning projects, which included operating high-pressure nitrogen, water and acid pumps. In 2007, Richard began work as an Air Quality Specialist for Wood Environment and Infrastructure (formerly Amec Foster Wheeler). In the 12 years spent there, he participated in numerous environmental sampling and inventory projects, which included detailed analysis of the emission rates of

the targeted pollutants, as well as drafting the compliance reports to be submitted to the local environmental regulatory agencies. In July 2019, Richard began working for Echologics as a Senior Field Specialist. In this role, Richard applies his extensive experience with mitigating and troubleshooting fieldwork to ensure efficient field operations. As a Project Manager, Richard has responsibility for client communications, product delivery, quality assurance, commissioning and reporting, and ongoing site health and mitigation tasks. Richard has also spent a few months as a Permanent Monitoring Lead with the Product Engineering team. In this role, Richard has helped to coordinate the technical aspects of projects, such as scope selection and node placements, in order to ensure the highest quality of data is being collected for analysis. This role also included analysis of daily Echoshore monitoring data and ePulse condition assessment data.

JASON SNOOK, FIELD SPECIALIST

Jason Snook is a professional Field Operations Water Treatment Specialist. He has a proven record of safe project delivery, permit compliance, and client satisfaction on large and small water and wastewater infrastructure projects, both domestic and international. Mr. Snook has over 20 years of experience as a Treatment and Distribution Operator in the Water and Wastewater Industry. He received licensing from the New Jersey Department of Environmental Protection in both Potable and Wastewater systems.

Mr. Snook currently is operating in a role as a field service and delivery technician for multiple Leak Detection Technologies and has provided onsite utility construction inspection in all facets of distribution system installation and maintenance for the purpose of water quality safety and improvement.

Mr. Snook has also provided technical assistance and training to private and public water system operators to correct state compliance violations via Federal Grant Funding.

12. Any other pertinent information that will help to demonstrate proposer's qualifications to perform.

Response:

Echologics develops technologies and offers products and services that can non-invasively (without disrupting service or introducing a foreign object into the water system) detect underground leaks. Echologics leverages its proprietary acoustic hydrant cap technology to offer fixed leak detection systems that allow customers to continuously monitor and detect leaks on water distribution mains .

Echologics is backed by its parent company - Mueller Water Products, a leading manufacturer and marketer of products and services used in the transmission, distribution and measurement of water in North America. Mueller's product and service portfolio include leak detection and pipe condition assessment, fire hydrants, engineered valves, pipe connection and repair products, metering products and systems. With a history spanning over 150 years, Mueller helps municipalities increase operational efficiencies, improve customer service and prioritize capital spending, demonstrating why Mueller Water Products is Where Intelligence Meets Infrastructure.

Mueller Water Products is one of the only companies that can fulfill the needs of water utilities from end to end – at the source, at the plant, below the ground, on the street and in the cloud. Built on a solid legacy of innovation, Mueller has the expertise and vision to provide advanced infrastructure and technology solutions for transmitting, distributing, measuring and monitoring water more safely and effectively than ever before.

EXCEPTIONS TO RFP

The legal department of Echologics has reviewed the RFP document thoroughly. The exceptions and modifications suggested by us are attached as Appendix D: Exceptions to the RFP

MANDATORY FORMS

Attached on the next pages

APPENDIX A, FORM No. 1

ACKNOWLEDGEMENT OF ADDENDA

RFP TITLE: RFP NO. 2021-01, REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE

DIRECTIONS: Complete Part I or Part II, whichever is applicable.

PART I: LISTED BELOW ARE THE DATES OF ISSUE FOR EACH ADDENDUM RECEIVED IN CONNECTION WITH THIS RFP:

ADDENDUM # 1: DATED _____ , 20__

ADDENDUM # 2: DATED _____ , 20__

ADDENDUM # 3: DATED _____ , 20__

ADDENDUM # 4: DATED _____ , 20__

ADDENDUM # 5: DATED _____ , 20__

ADDENDUM # 6: DATED _____ , 20__

PART II: E.S. INITIAL HERE IF NO ADDENDUM WAS RECEIVED IN CONNECTION WITH THIS RFP

DATE: Feb /03 / 2021

PROPOSER (SIGNATURE): Eric Stacey

PROPOSER (NAME): Eric Stacey

PROPOSER (FIRM): Echologics LLC

APPENDIX A, FORM No. 2
CERTIFICATE OF NON-COLLUSION

RFP NO. 2021-01, REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE

Pursuant to New York State Public Authorities Law, Article 9, Title 4, Section 2878, the undersigned proposer hereby subscribes and affirms as true, under the penalties of perjury, the following statement of non-collusion:

By submission of this proposal, each proposer and each person signing on behalf of any proposer certifies, and in the case of a joint proposal each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his/her knowledge and belief:

(1) The prices in this proposal have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other proposer or with any competitor;
(2) Unless otherwise required by law, the prices which have been quoted in this proposal have not been knowingly disclosed by the proposer and will not knowingly be disclosed by the proposer prior to opening, directly or indirectly, to any other proposer or to any competitor; and,
(3) No attempt has been made or will be made by the proposer to induce any other person, partnership, or corporation to submit or not to submit a proposal for the purpose of restricting competition.

DATE: 02 / 03 / 2021

PROPOSER (SIGNATURE): Eric Stacey

PROPOSER (NAME): Eric Stacey

PROPOSER (FIRM): Echologics, LLC

STATE OF ~~Province~~ Ontario)
) ss.:
COUNTY OF ~~City~~ Toronto)

remotely in accordance with O. Reg. 431/20 (administering oath or declaration remotely)

On the 3rd day of February, 2021, before me, the undersigned, a Notary Public in and for said state, personally appeared Eric Stacey (in Toronto) as a representative of Echologics, LLC, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the entity on behalf of which the individual acted executed the instrument.

Notary Public
Saba Ahmad LSO #56231N

NOTICE OF NFWB'S RIGHT TO TERMINATE

The NFWB reserves the right to terminate a Contract (including any lease, license, entry permit, or sale documents) in the event it is found that the certification filed by the Proposer, in accordance with New York State Finance Law §139-k, was intentionally false or intentionally incomplete. Upon such finding, the NFWB may exercise its termination right by providing written notification to the Bidder/Proposer in accordance with the written notification terms of the Contract.

Proposer's Affirmation and Certification

By signing below, the Proposer:

a) Affirms that the Proposer understands and agrees to comply with the policy regarding permissible contacts in accordance with New York State Finance Law Sections 139-j and 139-k.

b) Certifies that all information provided to the NFWB with respect to New York State Finance Law §139-j and §139-k is complete, true, and accurate.

DATE: 02 / 03 / 2021

PROPOSER (SIGNATURE): Eric Stacey

PROPOSER (NAME): Eric Stacey

PROPOSER (FIRM): Echologics, LLC

Province of Ontario
STATE OF _____)
) ss.:
COUNTY OF Toronto)

(remotely in accordance with O. Reg. 431/20 (Administering Oath or declaration remotely)

On the 3rd day of February, 20__, before me, the undersigned, a Notary Public in and for said state, personally appeared Eric Stacey (in Toronto) as a representative of Echologics, LLC, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the entity on behalf of which the individual acted executed the instrument.

Notary Public Suba Ahmad
LSO #56231N

APPENDIX A, FORM No. 3

NEW YORK STATE FINANCE LAW SECTIONS 139-j AND 139-k ("LOBBYING LAW") – DISCLOSURE STATEMENT

RFP NO. 2021-01, REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE

General Information

All procurements by the Niagara Falls Water Board ("NFWB") in excess of $15,000 annually, are subject to New York State's State Finance Law Sections 139-j and 139-k, effective January 1, 2006 ("Lobbying Law").

Pursuant to the Lobbying Law, all "contacts" (defined as oral, written or electronic communications with the NFWB intended to influence a procurement) during a procurement - from the earliest notice of intent to solicit bids/proposals through final award and approval - must be made with one or more designated Point(s) of Contact only. Exceptions to this rule include written questions during the bid/proposal process, communications with regard to protests, contract negotiations, and RFP conference participation. Nothing in the Lobbying Law inhibits any rights to make an appeal, protest, or complaint under existing administrative or judicial procedures.

Violations of the policy regarding permissible contacts must be reported to the appropriate NFWB officer and investigated accordingly. The first violation may result in a determination of non-responsibility and ineligibility for award to the violator and its subsidiaries, affiliates, and related entities. The penalty for a second violation within four (4) years is ineligibility for bidding/proposing on a procurement and/or ineligibility from being awarded any contract for a period of four (4) years. The NFWB will notify the New York State Office of General Services ("OGS") of any determinations of non-responsibility or debarments due to violations of the Lobbying Law. Violations found to be "knowing and willful" must be reported to the NFWB Executive Director and OGS.

Moreover, the statutes require the NFWB to obtain certain affirmations and certifications from bidders and proposers. This Disclosure Statement contains the forms with which offerors are required to comply, together with additional information and instructions.

Instructions

New York State Finance Law §139-k(2) obligates the NFWB to obtain specific information regarding prior non-responsibility determinations. In accordance with New York State Finance Law §139-k, an offerer must be asked to disclose whether there has been a finding of non-responsibility made within the previous four (4) years by any governmental entity due to: (a) a violation of New York State Finance Law §139-j or (b) the intentional provision of false or incomplete information to a governmental entity.

As part of its responsibility determination, New York State Finance Law §139-k(3) mandates consideration of whether an offerer fails to timely disclose accurate or complete information regarding the above non-responsibility determination. In accordance with law, no procurement contract shall be awarded to any offerer that fails to timely disclose accurate or complete information under this section, unless the factual elements of the limited waiver provision can be satisfied on the written record.

Disclosure of Prior Non-Responsibility Determinations

Name of Bidder/Proposer: Echologics, LLC

Address: 1200 Abernathy Road NE, Suite 1200 GA 30328

Name and Title of Person Submitting this Form: Eric Stacey - VP & General Manager

Has any governmental entity[1] made a finding of non-responsibility regarding the Bidder/Proposer in the previous four years?

____ Yes __✓__ No

If yes: Was the basis for the finding of the Bidder's/Proposer's non-responsibility due to a violation of State Finance Law §139-j?

____ Yes ____ No

Was the basis for the finding of Bidder's/Proposer's non-responsibility due to the intentional provision of false or incomplete information to a governmental entity?

____ Yes ____ No

If yes to any of the above questions, provide details regarding the finding of non-responsibility below:

Governmental Entity: _____

Year of Finding of Non-responsibility:_____

Basis of Finding of Non-Responsibility (attach additional pages if necessary):_____

_____

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Has any governmental entity terminated or withheld a procurement contract with the Bidder/ Proposer due to the intentional provision of false or incomplete information?

____ Yes __✓__ No

If yes, provide details regarding the termination/withholding below:

Governmental Entity: _____

Year of Termination/Withholding:_____

Basis for Termination/Withholding (attach additional pages if necessary):

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APPENDIX A, FORM No. 4

EQUAL EMPLOYMENT OPPORTUNITY ("EEO")
POLICY STATEMENT AND AGREEMENT

RFP NO. 2021-01, REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE

Proposer hereby agrees to the following EEO policy with respect to its work on any contract awarded in connection with this RFP:

a) This organization will not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability or marital status, will undertake or continue existing programs of affirmative action to ensure that minority group members are afforded equal employment opportunities without discrimination, and shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on Niagara Falls Water Board ("Water Board") contracts.
b) This organization shall state in all solicitations or advertisements for employees that in the performance of the Water Board contract all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, disability or marital status.
c) At the request of the Water Board, this organization shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union, or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of this organization's obligations herein.
d) This organization shall comply with the provisions of the Human Rights Law, all other State and Federal statutory and constitutional non-discrimination provisions. Proposer and subcontractors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, pregnancy or pregnancy-related conditions, gender identity, familial status, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.
e) This organization will include the provisions of section (a) through (d) of this agreement in every subcontract in such a manner that the requirements of the subdivisions will be binding upon each subcontractor as to work in connection with the Water Board contract.

ACCEPTED AND AGREED:

DATE: Feb/03/2021

PROPOSER (SIGNATURE): Eric Stacey

PROPOSER (NAME): Eric Stacey

PROPOSER (FIRM): Echologics LLC

APPENDIX A, FORM No. 5

STATEMENT ON SEXUAL HARASSMENT
PURSUANT TO STATE FINANCE LAW § 139-l

RFP NO. 2021-01, REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE

By submission of this proposal, proposer(s) and each person signing on behalf of any proposer certifies, and in the case of a joint proposal each party thereto certifies as to its own organization, under penalty of perjury, that the proposer has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of section two hundred one-g of the labor law.

DATE: 02 / 03 / 2021

PROPOSER (SIGNATURE): Eric Stacey

PROPOSER (NAME): Eric Stacey

PROPOSER (FIRM): Echologics, LLC

Province
~~STATE~~ OF Ontario)
City
~~COUNTY~~ OF Toronto) ss.:

On the 3rd day of February, 2021, before me, the undersigned, a Notary Public in and for said state, personally appeared Eric Stacey (in Toronto) as a representative of Echologics, LLC, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the entity on behalf of which the individual acted executed the instrument.

(remotely in accordance with O. Reg 431/20 (administering oath remotely))

Notary Public Saba Ahmad LSO# 56231N

APPENDIX A, FORM No. 6

REQUEST FOR PROPOSALS
ACKNOWLEDGEMENT AND CERTIFICATION

As a duly-authorized representative of the proposer indicated below, I hereby acknowledge that by submitting a proposal in connection with RFP NO. 2021-01, REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE, proposer has made a firm offer and agrees to be bound by its terms. Proposer has carefully read the RFP and all addenda, and in submitting this proposal acknowledges proposer understands and agrees to be bound by the requirements set forth in the RFP, except as explicitly stated on a separate sheet attached to this proposal and entitled "Exceptions."

I recognize that all information submitted is for the express purpose of inducing the Water Board to enter a contract with the submitting business entity. I affirm, under the penalties of perjury, that to the best of my knowledge the information contained in the proposal is full, complete, and truthful.

DATE: 02 / 03 / 2021

PROPOSER (SIGNATURE): Eric Stacey

PROPOSER (NAME): Eric Stacey

PROPOSER (FIRM): Echologics, LLC

Province
STATE OF Ontario)
) ss.:
City
COUNTY OF Toronto)

remotely in accordance with O. Reg. 431/20 (Administering Oath or Declaration Remotely)

On the 3rd day of February, 2021, before me, the undersigned, a Notary Public in and for said state, personally appeared Eric Stacey (in Toronto) as a representative of Echologics, LLC, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the entity on behalf of which the individual acted executed the instrument.

Notary Public
Saba Ahmad
LSO #56231N

INTRODUCTION

The Niagara Falls Water Board ("NFWB") is seeking proposals for implementing real-time monitoring and analysis of its water distribution system, including active monitoring of pressure in the water system as well as for water leaks. Through this effort, the NFWB seeks to achieve a significant reduction in its non-revenue water, that has increased to about 71% in 2019. NFWB covers nine hydrant zones, and futuristically plans to implement the solution as a pilot project in Zones 2 and 3. At present, the water system serves approximately 50,000 people through around 18,000 service connections, consisting of over 300 miles of piping which ranges from 4-inch to 42-inch pipe.

We believe that Echologics offers precisely what NFWB is looking for – the technology, experience, and resources for actively monitoring NFWB's water distribution system, thereby enabling the board to make intelligent decisions in the best interests of the board and its ratepayers using innovative methods and technology.

When municipal corporations invest in water infrastructure, 'smart' really matters, from the products themselves to the people behind them. Using rock solid materials and ground-breaking technology, our products and services are designed and engineered for the long run. That means lasting value for the communities and contractors who choose solutions offered by the Mueller Water Products group of companies – value that ultimately can translate into cost savings. Plus, our people know the industry inside out, and will be there whenever you need us.

Our solution to the problems faced by NFWB comprises of our industry-leading EchoShore-DX Fixed Leak Detection System and Mueller Pressure monitoring sensors incorporated into your existing hydrant infrastructure. Information obtained from these technologies is presented through Sentryx, a scalable, web based, Water Intelligence Platform.

Echologics works with many of our strategically important clients to create articles and other publications that speak about the initiatives that they have taken towards their goal of water sustainability. Our company is always excited to partner to bring papers to life to present at conferences to showcase how your utility is working hard to combat NRW and become a leader in the water loss and asset management space.

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SOLUTION OVERVIEW

ECHOSHORE-DX

The EchoShore-DX system is Echologics' latest innovation that pairs best in class leak detection technology with integrated communications and Mueller's reliable hydrant manufacturing expertise. EchoShore-DX distribution pipe leak monitoring system identifies leaks daily with no changes needed to existing infrastructure or operating procedures. Cost effectively identifying leaks as they form, can improve the efficiency of repair crew deployment, reduce damage to other infrastructure caused by pipe breaks, and improve customer service.

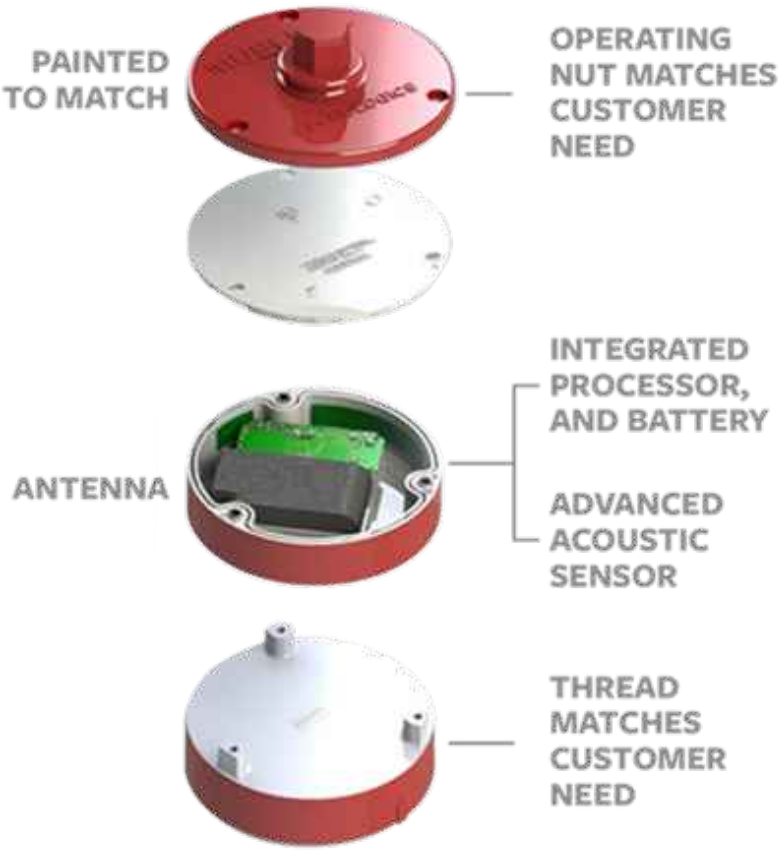

Figure 1: EchoShore-DX Sensor Integrated Into a Custom-Made Fire Hydrant Pumper Nozzle Cap

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SENTRYX SOFTWARE ENABLED SUPER CENTURION KIT (DRY BARREL DESIGN)

The Sentryx software enabled dry-barrel Super Centurion hydrant acts as a communications hub, housing the state-of-the-art pressure monitoring system and EchoShore-DX leak monitoring system, which communicate data via a cellular signal to the Sentryx Water Intelligence Platform to provide a total view of the health of a water system.

The Sentryx software enabled Super Centurion hydrant incorporates the pressure sensors and EchoShore-DX Leak Detection – all included in the dry-barrel hydrant design This sensor data is displayed through, and leverages the Sentryx web based intelligent software, which monitors the health of a utilities' distribution system. The Sentryx central data platform and the intuitive user interface provides fast important data to help utilities make informed operational decisions. This technology can be provided in new Super Centurion hydrants from the factory or as a retrofittable kit for currently installed hydrants. Now, new technology can be placed in existing fire hydrants already in the user's system, avoiding the need to dig. Whether you are just beginning your journey or a veteran of water technologies, the Sentryx technology platform is scalable with other sensors, providing intelligent water solutions today, tomorrow, and in the future.

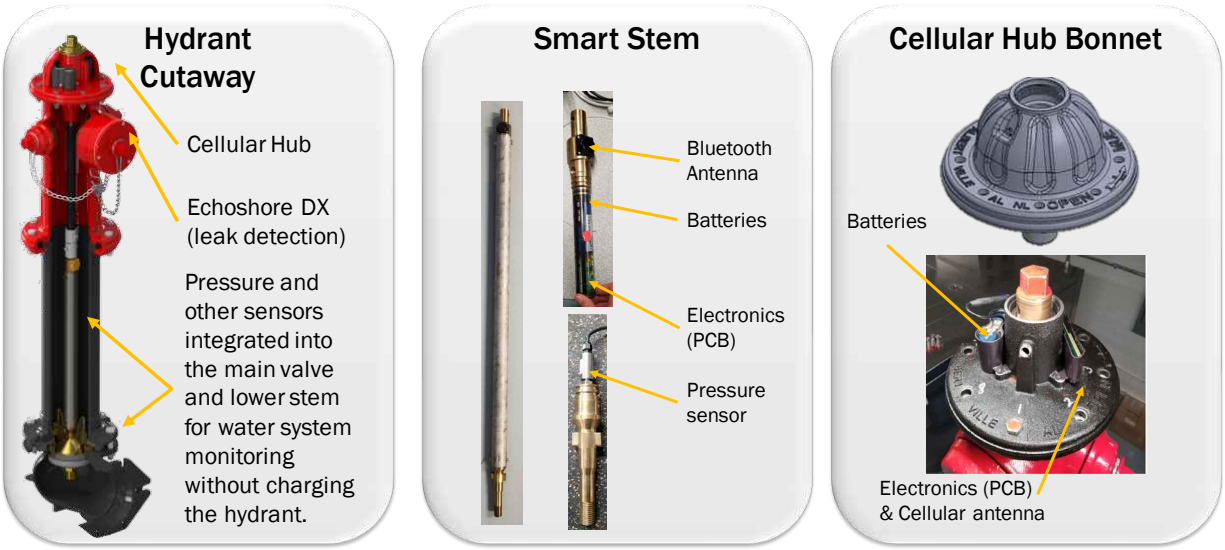

Figure 2: Sentryx Software Enabled Super Centurion Hydrant

Data gathered from the Sentryx software enabled Super Centurion hydrant will be displayed on the scalable, web based, Sentryx Water Intelligence Platform. The Sentryx software will record and display important data communicated from the Mueller Pressure Monitoring and EchoShore-DX fixed leak monitoring systems, providing insights to help make intelligent decisions on your water infrastructure.

- Notification is provided to key personnel via SMS of pressure events.
- Notification occurs within 2 minutes of the event occurrence
- Leak and pressure monitoring options are available on new fire hydrants or as a retrofittable kit for America's most popular fire hydrant

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- Innovative wireless design and engineered components make hydrant installation, operation, repair and maintenance easy
- Provides pressure data while the main valve is closed without charging the hydrant; leak monitoring is irrespective of valve position
- AWWA C502 compliant
- Hydrant: 350psi working pressure and 700psi test pressure
- Pressure Sensor: Range of 0-250 psi
- 3rd party lab tested to comply with AWWA C502 flow loss requirements
- Certified to ANSI/NSF 61 & 372

SENTRYX WATER INTELLIGENCE PLATFORM

Sentryx is the future of intelligent water management. It is your single solution for end-to-end water management. Sentryx measures, monitors, and empowers your staff to act on insights from across your water distribution system. It ensures efficient, safe, and reliable delivery of high-quality water to your customers.

Utilities today tell us that it is no longer enough to focus only on the water. Today's water distribution challenges require a deep understanding of the data from across the distribution system to make informed decisions. By aligning previously separate tools, the Sentryx Water Analytics Platform lets you take a holistic approach to challenges today's utilities face, including increasing distribution operations efficiency, actively managing aging water infrastructure, and building the utility workforce of tomorrow. Sentryx was designed to power smart decisions on water loss analysis, distribution leak monitoring, understanding and reducing non-revenue water (NRW), pressure and transient pressure management, water quality analysis, remote disconnect meters, and hydraulic model support.

With the Sentryx Water Analytics Platform, you no longer need separate Meter Data Management (MDMS) and AMI Head End systems. Mueller's AMI network also integrates with Sentryx. Merging everything into a single powerful platform bringing you the robust features you expect from standalone systems, unified into a single, easy to use, high performance, and a secure single solution. More than that, Sentryx also unifies other sensors and controls from across your distribution system, enabling you to manage Echologics fixed acoustic leak detection, pressure monitoring, metering, and water quality analysis all from the same shared user interface.

At Mueller, we realize there are many roles in your organization—customer service, general management, billing, water quality, conservation, distribution maintenance—and all need access to timely, relevant, and actionable data to do their jobs effectively. But not everyone needs access to the same functions and data or wants things displayed in the same way. Whether users are accessing Mueller Pressure Monitoring or other sensor data, setting and reviewing alerts, generating reports, managing system communications, or looking up individual leak details, users use the same software, but they use it differently.

Sentryx is a customizable user experience allowing utility administrators to manage the roles, access levels, and functions available to each user. Sentryx also enables each user to individually customize their views and layouts to match the dashboard tools, visualizations, alert preferences, table filters, and map settings to best align to their own preferences and support their unique roles and responsibilities. Users can easily customize which fields they want to view and the order that they are displayed on screen. These settings are then saved to their profile without affecting the view that other users see.

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Users can save views and filters and easily revert to the standard view if they do not like the changes they made. This allows users with different roles to customize the way they use the system to best serve their own individual needs.

Sentryx also supports future expansion into water quality parameters. The map below shows a series of pressure sensors and a Hydro-Guard flushing system with on board water quality sensors. Again, the user interface works the same as leak detection and pressure.

The true power of Sentryx Water Analytics shows when you combine multiple systems. For example, a utility could use DMA to identify areas of their distribution network with high levels of loss. Then use insights from the EchoShore-DX leak detection system to locate the leaks. They may look at the total loss from the DMA and determine that they can defer maintenance for several months. In that case, they might reduce their pressure but constantly monitor it using Mueller Pressure Monitoring sensors to ensure they do not have a break, which would likely cause an immediate drop in pressure. At the same time, they may monitor consumption in the area to make sure pressure hasn't dropped so far as to have a significant impact on usage and, through that, revenue.

The Sentryx single user interface not only makes it easier to add new types of sensors to your system, and easier to train your employees but also provides easy ways to unlock value at the intersection of these systems that historically have had separate user interfaces and separate users.

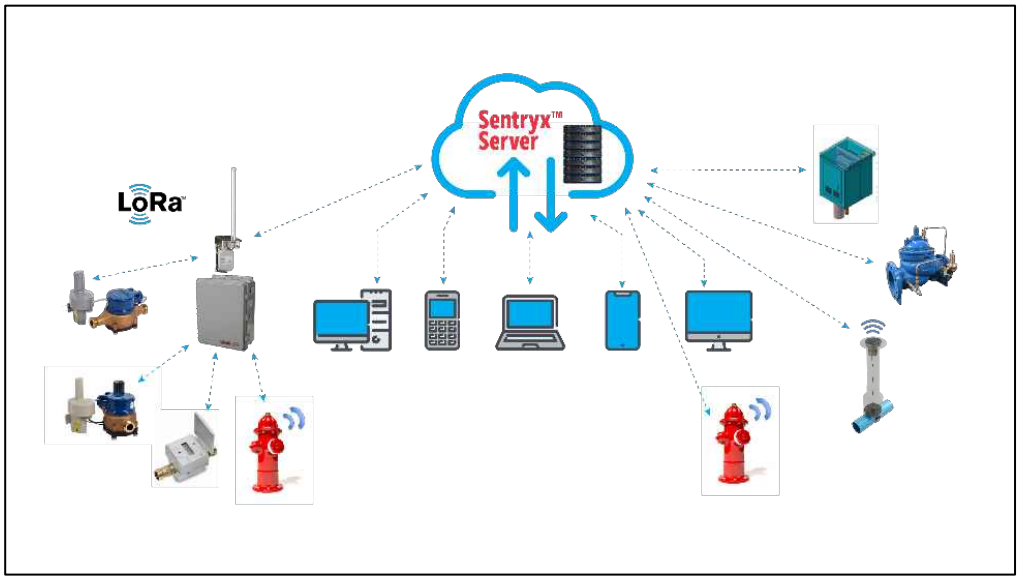
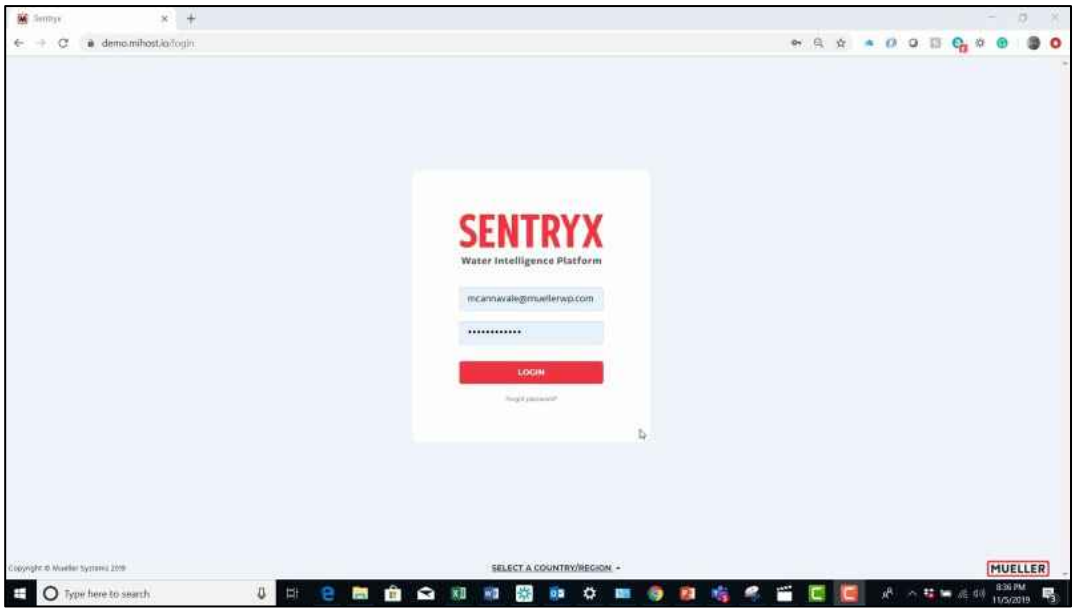


Figure 3: Devices compatible with Sentryx



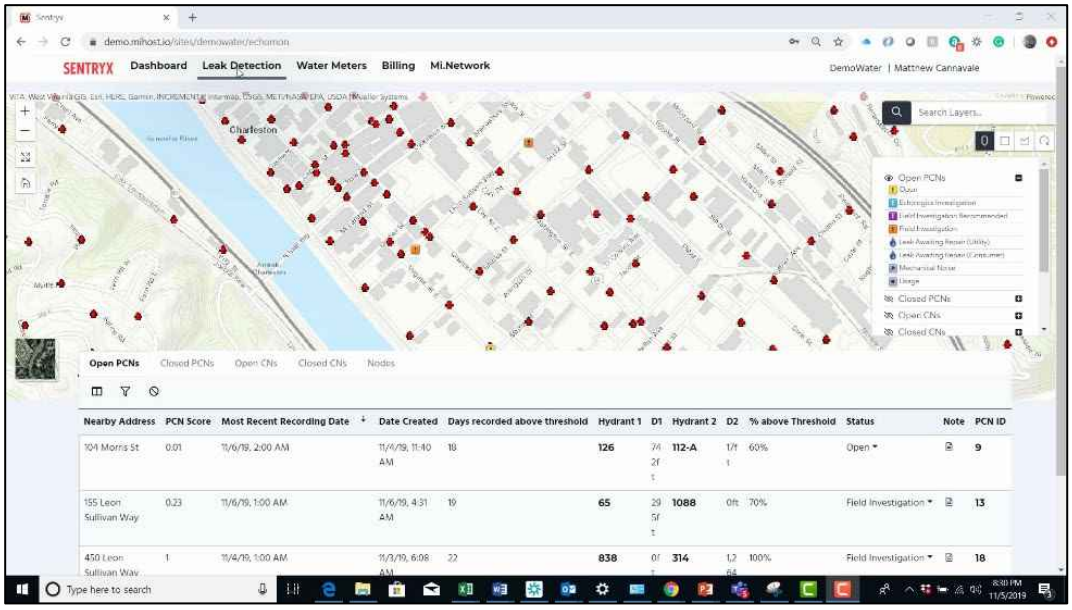


Figure 4: Sentryx Software Enabled Super Centurion Hydrant

CYBER SECURITY

Mueller is dedicated to and understands the risks of deploying a cloud-based IOT solution. Please refer to Appendix C: Cyber Security Statement

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PROJECT APPROACH

SYSTEM DESIGN AND INSTALLATION PROJECT WORKFLOW

EchoShore-DX is a distribution pipe leak monitoring system. Part of Echologics success with the EchoShore® platform is collaborating with the operators who manage each unique water distribution network. Informed partners who adopt the EchoShore® system and tailor it for their own operating context are Echologics true success stories. Where possible, the project workflow includes opportunities to share system information & best practices.

Echologics will take the following steps to design and deploy The Niagara Falls Water Board (NFWB) EchoShore-DX system:

1. Custom Hardware Design

Echologics undertakes a custom design step to ensure that the EchoShore DX smart caps operate interchangeably with the existing fire hydrant network. This ensures there is no impact to emergency fire services. Echologics will send a sample cap, confirming fit to NFWB to ensure the intended thread pattern is a perfect fit for your system. All hydrants, regardless of design or manufacturer, can be installed with the EchoShore-DX monitoring system.

2. Project Planning

The Niagara Falls Water Board (NFWB) provides the location, diameter, hydrant location and material of the pipe network. Echologics will design a leak monitoring sensor network that optimizes the network coverage with the minimum sensors. This step has been substantially completed for this project.

3. Site Inspection

An Echologics Field Specialist will visit The Niagara Falls Water Board (NFWB) to ensure that the site conforms with the initial system design. Acoustic testing may be completed on site to verify the design parameters. The final steps needed to tailor the system to the local environment will be taken. Further, the site visit may verify the number and type of each custom fire hydrant pumper cap to be produced.

4. Custom Hardware Creation

On receipt of the purchase order, Echologics will work with System Design and Installation Project Workflow to manufacture custom caps for each hydrant's type and color that is in the project area.

5. Hardware Installation and Commissioning

Echologics Field Specialists will return to install the EchoShore-DX nodes and complete system commissioning tests.

5.1 Cellular Strength testing

The commissioning of the project allows Echologics to perform a cellular strength test to ensure that all nodes are adequately connected to the cellular network. The ESDX node is flexible in that it can be equipped with different carriers to best suit the deployment city.

6. Solution Training

Echologics Field Specialists will provide detailed training to the NFWB staff on the use and interpretation of results on the web-based user interface.

ECHOLOGICS' RESPONSIBILITIES

1. Identify appropriate locations for all EchoShore-DX hardware using guidance from NFWB. Final locations will be approved by the NFWB.
2. Identify locations of all smart hydrant pressure sensors. Locations to be approved by NFWB.
3. Analyze sample hydrant pumper cap & design custom matching hardware.
4. Manufacture & Install leak custom designed monitoring nodes.
5. Set up network communication between the EchoShore-DX nodes and the head end system integrated with the web user interface.
6. Set up a customized website for the NFWB to monitor for leaks and anomalies on their water network.
7. Make available one Echologics project manager to conduct product hardware, software and service tool training for the NFWB.
8. Conduct 1 day of system training to familiarize the NFWB operations staff with the leak monitoring operations software interface and system management.
9. Conduct in parallel training on the installation of the smart hydrant retrofit kits for the first unit installed

NIAGARA FALLS WATER BOARD'S RESPONSIBILITIES

1. Approve locations selected by Echologics for EchoShore-DX nodes and repair hydrants to a working condition if needed.
2. Flow hydrants to support commissioning and testing of the EchoShore-DX system.
3. Identify one person as a primary user to provide a single channel of communication between NFWB and Echologics.
4. Take appropriate action when leaks are identified by Echologics' data analysis team to confirm location in field and schedule leak repair.
5. Notify Echologics of leak repair and/or results of field investigations.

LEAK MONITORING

The EchoShore-DX leak monitoring system delivers valuable alerts so utilities can take proactive action to manage their pipeline assets. Water leak monitoring is an emerging technology. Behind these alerts, there are algorithms and metrics to enhance the performance of the system to deliver actionable insights. With these metrics, a monitoring team supports each system through the Leak Operations Center(LOC). This support service can be used for troubleshooting, knowledge sharing, and best practices for the use of the EchoShore-DX system and general leak detection approaches that have proven successful in the field. Connecting front line operators with leak detection experts who have conducted hundreds of leak investigations in the field and now manage systems of thousands of leak monitoring sensors daily is a powerful combination that drives system success.

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The Echologics Offerings - EchoShore-DX and the Smart Hydrant are designed to improve service by detecting emerging leaks and preventing damage from catastrophic leaks on surrounding infrastructure. To support easy and reliable service, our system includes the following features:

1. The Sentryx Software enabled Super Centurion® hydrant, which will serve as a communications hub and physical platform for pressure monitoring systems and leak monitoring systems. The Smart Hydrant can be a retrofittable kit and could be placed in existing Mueller fire hydrants, avoiding the need to dig.
2. Leak sensors integrated into a fire hydrant cap that is custom manufactured to match the Niagara Falls Water Boards (NFWB) design, with zero impacts to customers, fire services, and water operations staff.
3. Each leak monitoring sensor is connected to the water distribution system above ground in a fire hydrant cap. Fire hydrants are a reliable acoustic connection to the water network avoiding the deposits and harsh conditions in valve boxes that degrade performance and accelerate wear out.
4. The patented sensor and signal processing system enable early detection of leaks and quick intervention. Rapid response results in savings from reduced water loss as leaks will be found earlier and further reducing the risk of damage to surrounding infrastructure.
5. Leaks are automatically identified every day. The acoustic sensitivity of the system, combined with advanced signal processing algorithms, minimizes false positive leak warnings.
6. The system data analysis and reporting software is entirely web-based for easy access and improved customer support.
7. Leak nodes feature field replaceable batteries, reducing the overall life cycle system cost.

LEAK PRIORITIZATION

Echologics tracks ongoing possible leaks via a persistency metric and a correlation strength metric. Upon system commissioning, existing leaks will be caught by the system and can create a large initial data set that requires prioritization. These leaks can be prioritized by leak correlation strength, which determines which leaks are loudest. This metric can be used to queue existing leaks so NFWB can address ongoing leaks in their system as their resources allow. Once node installation and initial setup is complete, a field representative will assist NFWB with the initial field investigation onsite to assist in prioritization and investigation.

INSTALLATION OF SENTRYX SOFTWARE ENABLED SUPER CENTURION KIT

Echologics will provide a detailed approach to installing the Smart Hydrant in the NFWB system upon award and delivery of the smart hydrants.

UNIQUE QUALIFICATIONS

EXPERIENCE

As of January 2021, Echologics has installed 23,335 EchoShore nodes. Of this total fleet, 23,121 nodes are installed on fire hydrants in North America and France, and 214 are installed on transmission mains. In total, the EchoShore platform has located over 1,200 leaks since its launch in 2015.

PARTNERSHIP

Echologics has partenered with Smart Metering Technologies (SMT). SMT is currently listed as a diversified minority owned and women-owned business in multiple states across US. Smart Metering Technologies, LLC is exclusive to the understanding, delineation, and deployment of metering Fixed Network AMI technologies (Leak detection strategies, technologies, and deployment and Project Management services that are best serving to an exact utility application).

EASE OF INSTALLATION

The EchoShore-DX system is designed to be easily installed and non-disruptive to the public's day to day. There is no need for road closures or any supporting activities. The cap is installed by simply removing the old one and screwing on the new unit. A handheld app on a smart phone is used to pair the device with the network before moving on to the next location.

LOCALLY ASSEMBLED

The EchoShore-DX final assembly and shipped from within the United States.

ABOVE GROUND NON-INVASIVE TECHNOLOGY

Echologics offers low-risk field deployment without impact on service. We never insert tools or sensors into water pipes. This removes the risk of contamination and damage to existing infrastructure. Our non-invasive acoustic methods (which are above the ground) can identify leaks. Additionally, there is no operational support required during installation such as cleaning out valve boxes. Snow cover or vehicles parked over top of valves are hazards that are eliminated based on the simple hydrant mounted design. It is business as usual during our testing!

SINGLE HOLISTIC SOLUTION PROVIDER

Echologics and its solutions are unique as one of the very few suppliers with full control of all elements associated with delivering this project. This ensures confidence that we will fully deliver on all aspects of the contract to the benefit of all stakeholders. During the course of this project, Echologics will be delivering a complete solution. This is inclusive of equipment design, manufacturing, project management, and any other task, through to leak analysis, follow ups and reporting. The NFWB can count on Echologics as a trusted vendor to deliver a full leak and pressure monitoring solution.

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SENTRYX

Sentryx is the future of intelligent water management. It is a single solution for end-to-end water management. Sentryx measures, monitors, and empowers NFWB staff to act on insights from across the water distribution system. It ensures efficient, safe, and reliable delivery of high-quality water to the customers.

Utilities today tell us that it is no longer enough to focus only on the water. Today's water distribution challenges require a deep understanding of the data from across the distribution system to make informed decisions. By aligning previously separate tools, the Sentryx Water Analytics Platform lets our clients take a holistic approach to challenges, which today's utilities face including increasing distribution operations efficiency, actively managing aging water infrastructure, and building the utility workforce of tomorrow. Sentryx was designed to power smart decisions on water loss analysis, distribution leak monitoring, understanding and reducing non-revenue water (NRW), pressure and transient pressure management, water quality analysis, remote disconnect metering, and hydraulic model support.

Sentryx unifies various sensors and controls from across the distribution system, enabling cities to manage Echologics fixed acoustic leak detection, pressure monitoring and possibly other separate units like flushing, water quality analysis and control valves, all from the same shared user interface.

ADDED SERVICES

MANAGED SERVICES FOR ECHOSHORE DX

Echologics offers ongoing Managed Services to NFWB to monitor potential leaks through our permanent monitoring solution.

The Managed Services include:

- System Health Management for the Echoshore DX system.
- Monitoring of existing and new potential leak sources and demonstration of leak likelihood.
- Provide email notification of identified potential leak by monitoring team for NFWB investigation.
- Collaborative tracking report for potential leaks.

The Data analysis team that is put in place to actively monitor the system looks at the following:

- Analyze new persistent correlated noises to determine if there is previous history in the area or if the point is a new occurrence
- Schedule additional correlations to demonstrate persistency across multiple time frames
- Analysis of spectral frequency noise to rule out possible pumps or electrical interference
- Compile likely leak locations for NFWB to perform in field investigation and confirmation.

Note: A Persistent Correlated Noise (PCN) is a correlated noise source that has been demonstrated to have a positive correlation at the same location between two nodes for at least three consecutive recordings. At this point, the data analysis team looks for leak likelihood to determine if the noise source looks like a real leak.

The picture below shows an example of the Managed Services:

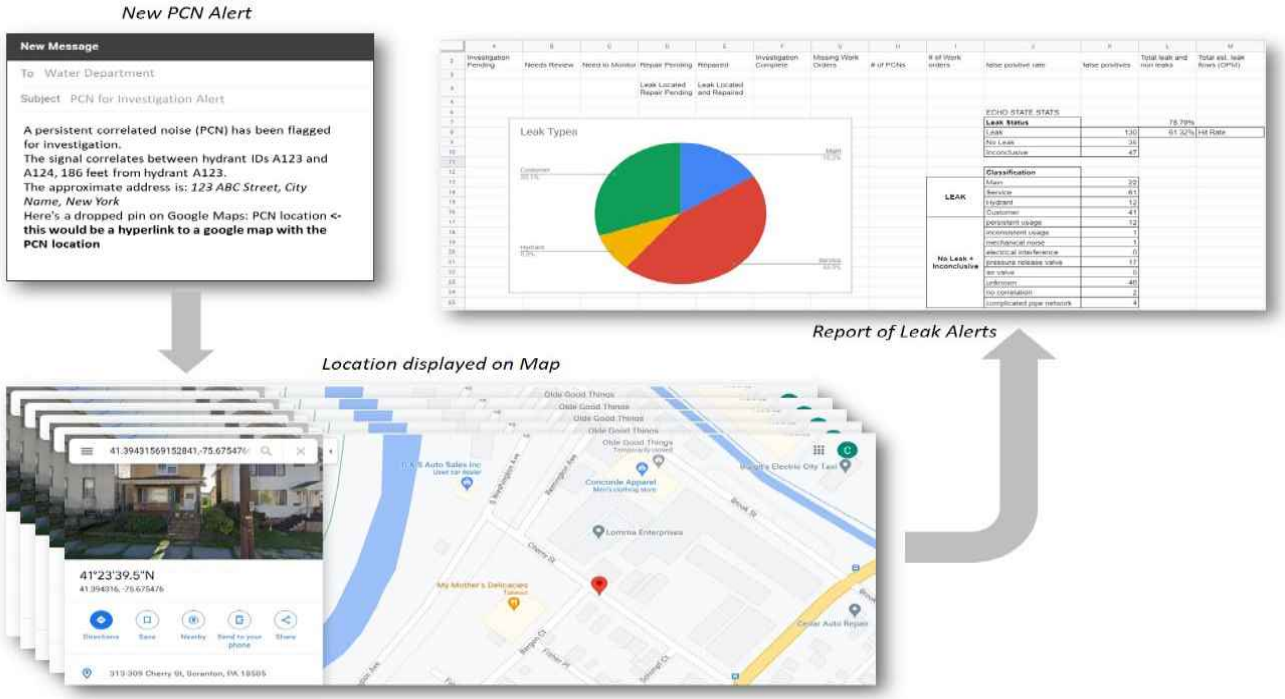

Figure 5: Managed Services

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LOCAL SUPPORT

Echologics has been working in the New York and New Jersey area with several other utilities. With dedicated personnel for these areas, Echologics has a local support for the NFWB, available at any time.

In addition, Echologics Regional Manager is located within hours of NFWB and is available for any local support.

LOCK CITY SUPPLY

Lock City Supply is a local stocking distuributor for Mueller Products in the Niagara Falls area. They provide NFWB with round the clock support for their needs. It is also an important source for several annual bids of NFWB, and is a reliable local support during the course of this project.

DEDICATED ACCOUNT MANAGER

Echologics considers NFWB as a strategic partner. We will ensure you are satisfied with Mueller's products and services and provide a high-level of day to day technical support and work to resolve any dissatisfactions with a dedicated Account Manager. The Account Manager will also be responsible for working with NFWB to proactively develop and support ongoing solutions, enhancement to your existing system.

MARKETING INITIATIVES

For the current engagement, Echologics is determined to support flagship municipalities and water utilities that are interested in becoming a leader in the move towards a smart NFWB solution. Echologics treats NFWB as a strategically important client, with our coverage going well beyond the scope. In the past, Echologics has successfully helped clients not only reduce their water issues, but also to make a mark with our experienced marketing team. Our global marketing team is dedicated to providing recognition to our clients and promoting case studies and white papers with our utility partners to tell the story of their success with our products.

COST PROPOSAL

In Section 5, Proposal Scope, NFWB requested the vendor develop a pilot program for the NFWB with recommended locations for hardware, and provide monthly costs associated with each service and device, including network services, data storage, software licensing, analysis, etc. NFWB also requested the vendor provide estimated costs to maintain each device during its lifetime, which is 10 years for all devices. Additionally, NFWB requested the vendor to provide recommended hardware locations for the entirety of the city in a phased approach over 3-5 years after the pilot program has proven successful. Below are two tables that summarize our approaches and your costs for these systems.

Table 1 lists hardware quantities for the pilot program, which includes a total of 191 EchoShore-DX leak detection nodes (187 as stand alone units and 4 inclusive with the smart hydrants) installed on your existing fire hydrants. Pressure monitoring and leak detection installed in 2 existing Mueller hydrants via retrofit kits and 2 new Sentryx software enabled Super Centurion smart hydrants. For every ~50 fire hydrants with leak detection monitoring added, we have assumed that 1 pressure sensor is installed. Costs for all hardware is listed as a one-time cost. Your monthly leak detection and pressure monitoring costs are shown along with replacement battery costs if needed. We do not anticipate you having to replace batteries in less than 10 years unless transient pressure monitoring and/or critical leak detection modes are used.

Likewise, Table 2 lists our recommended hardware, monitoring and battery costs for each Zone is listed. The number of hydrants containing leak detection nodes and pressure sensors was estimated based upon the GIS information provided by NFWB.

Table 1: Phase 1 Pilot Cost Proposal

Recommended Pilot Program					One-Time Costs		Monthly Costs
Phase	Zones	Total Available Hydrants	No. Hydrants w/ Leak Detection Only	No. Hydrants w/ Smart Hydrant Leak Detection and Pressure Monitoring	Hardware ($)	Software Set-Up ($)	Monitoring ($)
1	Zone 2, 3	331	187	4	198,291.45	800.00	1,068.71
Year 1 Total Pilot Cost (12 Months of Monitoring inclusive)						$ 211,915.97	

Prices on this proposal are guaranteed for one year as of start date of the project. Echologics reserves the right to annually increase the prices shown on this table 1 and the table on Appendix A, for an amount not to exceed CPI-IW + 2%

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Table 2: Maintenance costs

Maintenance Costs	
Leak Detection Batteries* (each) ($)	Pressure Monitoring Batteries** (each) ($)
186.00	390-875

* We do not anticipate requiring a battery swap for the EchoShore-DX system unless the system is operating in a critical or emergency collection mode.

** There is a variance in battery cost for the two battery powered components. The bonnet battery is $390 USD while the battery for the pressure sensor in the foot of the hydrant is $875 USD

Prices do not include any applicable taxes. Product prices are FOB Echologics. The prices listed include onsite system installation. Replacement battery prices quoted are FOB Echologics and do not include installation. Should any civil works or traffic control be required for installation, this would be the responsibility of NFWB.

ADDITIONAL REQUIREMENTS

Disclosure of any potential conflict of interest your firm may have or encounter if selected, and your firm's plan for resolving the conflict.

At this time, we do not perceive any conflict of interest that impact this project.

- If proposer intends to use subcontractors or sub-consultants to perform more than 10% of the work that is the subject of this RFP, proposer must include details regarding the sub-consultant or subcontractor's qualifications. At a minimum, the proposal must include information regarding the sub-consultant or subcontractor's business structure, experience, and resumes or other materials detailing the qualifications of key personnel.

- Opportunities for Minority and Women-Owned Business Enterprises

-Participation Opportunities for New York Certified Service-Disabled Veteran-Owned Businesses

Echologics will engage the services of Smart Metering Technologies (SMT). SMT is currently listed as a **diversified minority owned business** in multiple states across US. In New York, SMT has an open application pending for NY State certification, and this process is delayed 90 days as their office staff is working remotely (*SMT has requested expedited service for the NY State application*).

Firm Experience: Smart Metering Technologies is a diversified minority and women-owned business. Smart Metering Technologies, LLC is exclusive to the understanding, delineation, and deployment of metering Fixed Network AMI technologies (Leak detection strategies, technologies, and deployment and Project Management services that are best serving to an exact utility application). Their team has over two decades of experience providing professional services to public and private water utilities ranging in all sizes. Working in conjunction with each utility to best understand their application, SMT determines a long-range solution that results in significant improvements of non-accountable water and operational efficiencies. This includes the assessment, design, procurement and implementation of automated metering technologies and acoustic leak detection. Through an experience in delivering large scale projects through system integration and field deployment SMT have developed highly effective strategies to tackle water accountability issues. The SMT team, methodology, and analysis tools work to lower costs, reduce risk, and ensure project benefits are captured.

KEY TEAM MEMBER QUALIFICATIONS

PATRICIA FUNK, PRINCIPAL, PROJECT MANAGER

- System Implementation expertise with over 25 years' project management experience in commercial business banking, IT projects, and water utility system upgrades. Most recent experience includes 20 years exclusively focused upon water utility infrastructure upgrades for metering, leak detection, and Smart City applications. Fluent in English and Spanish.
- Project responsibilities include: Business Development, Drafting technical specifications, Evaluation of existing technologies, Data analysis and statistics, Project Management, Budget Management, Risk Management, Customer Outreach programs.

BERNARD DUNHAM, MANAGING PARTNER, AMI SUBJECT EXPERT

- Over 20 years' experience exclusive to water utility applications. Providing Smart Utility Solution to maximize utility operational efficiencies. Introducing smart grid solutions that integrate multiple applications within a single network. Pioneering the integration and deployment of water metering

technologies to heighten water accountability, supporting equitable utility revenue, and overall water conservation. Technical presenter at both the State and National level, topics include; leak detection technologies, static metering, and system upgrade due diligence.

- Project responsibilities include: System evaluation, Technology selection, Contract negotiations, Sub-contractor alignment, Project Management, System Commissioning.

SMART METERING TECHNOLOGIES- PROJECT REFERENCE

- San Jose Water Company, San Jose CA - 230K service connections, leak detection upgrade throughout service area – Supply of materials, project management.
- City of Hayward CA - 34K service connections, system wide water communication network upgrade, integrated applications to include field sensors, leak detection, and distribution consumption data. – Project prime.
- City of Huntington Beach CA - 42K service connections, system wide water communication network upgrade, integrated applications to include field sensors, leak detection, and distribution consumption data. – Supply of materials, project management.
- Elsinore Valley Water District, Lake Elsinore CA - 40K service connections, system wide water communication network upgrade, integrated applications to include field sensors, leak detection, and distribution consumption data. – Supply of materials, project management.
- City of Davis CA - 18K service connections, system wide water communication network upgrade, integrated applications to include field sensors, leak detection, and distribution consumption data. – Project prime.

APPENDIX A – PRICING FOR CITY WIDE DEPLOYMENT

System Expansion Beyond Phase 1

Phased Approach for Additional Areas				One-Time Costs		Monthly Costs	
Phase	Zones	Total Available Hydrants	No. Hydrants w/ Leak Detection Only	No. Hydrants w/ Leak Detection & Pressure Monitoring	Hardware	Software Set-Up	Monitoring
Additional Areas	**Zone 1**	295	158	3	$ 175,387.61	-	$ 1,119.60
	Zone 4	225	130	3	$ 145,455.61	-	$ 981.00
	Zone 5	298	177	4	$ 189,213.00	-	$ 1,326.15
	Zone 6	323	209	4	$ 223,421.00	-	$ 1,484.55
	Zone 7	291	162	3	$ 179,663.61	-	$ 1,139.40
	Zone 8	212	146	3	$ 164,721.48	-	$ 1,039.76
	Zone 9	301	191	4	$ 212,826.48	-	$ 1,368.71

APPENDIX B – RESUMES

Attached on the next page.

Jason Pancoast

Project Engineer, Field Service

Jason is a Project Engineer at Echologics, a division of Mueller Water Products. He is responsible for any form of data collection and maintenance in the field in any location. Finding Leaks utilizing any tool available. Jason has over 10 years of experience.

Qualifications

- M.B.A., Real Estate and Entrepreneurship, 2020 (Expected), Rutgers Business School, Newark, NJ
- M.S., Environmental Engineering, New Jersey Institute of Technology, Newark, NJ
- B.S., Civil Engineering, New Jersey Institute of Technology, Newark, NJ

Experience Summary

- Licensed professional engineer experienced in managing project budgets of up to $8,500,000 and project teams of 15+ project engineers, resident engineers, and construction professionals.
- Experienced in cost estimating, value engineering, contract administration, cost controls/reporting, schedule management, QC implementation, trade integration, and successful execution of construction.
- Strong team leader who employs an initiative-taking management style that ensures the timely completion of project deliverables within budget from pre-construction to project completion.
- Construction project manager with record of success overseeing all phases of multimillion-dollar projects involving land development, heavy civil infrastructure, environmental remediation, linear construction, and subsurface ground improvements for both public and private sector clients.

Hallmark Projects

- NJAW TX work in Middetown and Tri-County
- Various ePulse projects.

Jason Snook

Field Operations Specialist -Echologics, LLC

Mr. Jason Snook is a professional Field Operations Water Treatment Specialist. He has a proven record of safe project delivery, permit compliance, and client satisfaction on large and small water and wastewater infrastructure projects, both domestic and international.

Mr. Snook has ***over 20 years of experience*** as a Treatment and Distribution Operator in the Water and Wastewater Industry. He received licensing from the New Jersey Department of Environmental Protection in both Potable and Wastewater systems.

Mr. Snook currently is operating in a role as a field service and delivery technician for multiple Leak Detection Technologies.

Mr. Snook has provided onsite utility construction inspection in all facets of distribution system installation and maintenance for the purpose of water quality safety and improvement.

Mr. Snook has also provided technical assistance and training to private and public water system operators to correct state compliance violations via Federal Grant Funding.

Qualifications

- West Caldwell Center for Continuing Education
  - Advanced water and wastewater operator
  - Advanced wastewater collections operator
  - Backflow preventer inspection and certification
- Rutgers Center for Continuing Education
  - CEU training courses for continued state operator licensing

Skills

- Operation, monitoring, and control of water treatment technologies for the purpose of safe permit compliance
- Quality control analysis
- Laboratory analysis
- Equipment maintenance and repair
- Federal & State accredited training program development and delivery
- Safety program delivery
- Vendor relations and negotiation
- Permit compliance
- Construction Inspection
- Installation, Commissioning, Training, and Data Analysis of multiple Leak Detection Technologies monitoring Transmission and Distribution water mains.

Snapshot of Professional Experience

- 2018 - Current ..... .Echologics LLC
- 2017-2018.....CP Engineers and Professional Services
- 2015-2016.....RCAP Solutions
- 2008-2015.....CH2M Hill

Richard Welsh, C.E.T.

Sr. Field Specialist

Richard is a Senior Field Specialist and Project Manager at Echologics, a division of Mueller Water Products. He is responsible for managing various projects for the field operations team, including ePulse condition assessments and Echoshore permanent monitoring installations.

Richard graduated in 2006 from Durham Collage with a diploma in Mechanical Engineering Technology. Shortly after graduating, he started a position in Whitecourt, AB as Field Supervisor in Training for Schlumberger Canada. While in this position, Richard participated in numerous oil and gas well cleaning projects, which included operating high pressure nitrogen, water and acid pumps.

In 2007, Richard began work as an Air Quality Specialist for Wood Environment and Infrastructure (formerly Amec Foster Wheeler). In the 12 years spent there, he participated in numerous environmental sampling and inventory projects, which included detailed analysis of the emission rates of the targeted pollutants, as well as drafting the compliance reports to be submitted to the local environmental regulatory agencies.

In July 2019 Richard began working for Echologics as a Senior Field Specialist. In this role, Richard applies his extensive experience with mitigating and troubleshooting field work to ensure efficient field operations. As a Project Manager, Richard has responsibility for client communications, product delivery, quality assurance, commissioning and reporting, and ongoing site health and mitigation tasks. Richard has also spent a few months as a Permanent Monitoring Lead with the Product Engineering team. In this role, Richard has helped to coordinate the technical aspects of projects, such as scope selection and node placements, in order to ensure the highest quality of data is being collected for analysis. This role also included analysis of daily Echoshore monitoring data and ePulse condition assessment data.

Qualifications

- Diploma in Mechanical Engineering Technology from Durham College
- Certified Engineering Technologist with the Ontario Association of Certified Technicians and Technologists

Skills

- Client Relations
- Quality Control
- Data Analysis
- Report Writing
- Troubleshooting and Mitigation

Hallmark Projects

- St. John's, Newfoundland ePulse Condition Assessment: Field Lead of small diameter cast iron condition assessment and leak detection.
- City of Detroit, Michigan Echoshore DX: Field Lead of installing 60 EchoShore DX Nodes in the downtown area of Detroit.
- City of Auburn, Washington ePulse Condition Assessment: Project Manager of small diameter cast iron

condition assessment and leak detection.

- Plainfield Charter Township, Michigan ePulse Condition Assessment: Project Manager of large diameter Pre-Stressed Concrete Cylinder Pipe (PCCP) condition assessment and leak detection.
- Alameda Water County, California EchoShore DX: Project Manager for a pilot project of 50 Echoshore DX Nodes
- Shell Scotford, Alberta Echoshore DX: Permanent Monitoring Lead for the remote installation and commissioning of 86 nodes in an oil refinery.

Snapshot of Professional Experience

- 2019-Current: Echologics
- 2007-2019: Wood Environment and Infrastructure
- 2006-2007: Schlumberger

APPENDIX C – SECURITY

The Cyber Security Statement is attached on the next page.

SENTRYX™ SOFTWARE ENABLED SUPER CENTURION® FIRE HYDRANT & ECHOSHORE-DX® PERMANENT LEAK MONITORING TECHNOLOGY

Mueller's & Echologics' Cyber and Device Security Plan

As the number of connected devices increases, and expectations of technical features across these devices expand, the challenge of providing highly secure and reliable systems becomes more and more complex - yet absolutely essential. At Mueller, we understand security and have made it a part of everything we do. Our objective is more than just protecting data and devices or securing communication networks - it is adopting policies and processes, and hiring people that make security a priority. Mueller takes a holistic approach to cybersecurity across its entire portfolio including Echologics. Our security processes and policies, rooted in the NIST Cybersecurity Framework, and aligned to ANSI/AWWA G430: Security Practices for Operations and Management, exemplify best practices from across industries. Our software development is also guided by best practices including OWASP and SANS SWAT. This ensures the safe transfer of data as well as securing cloud based information using the latest industry standards and providing device security features to minimize vandalism and tampering.

The following describes physical security features, the data transmission security features, web hosted software security measures utilized by Mueller for their EchoShore-DX permanent leak monitoring technology and Remote Pressure Monitoring solutions.

EchoShore-DX Device & Software Enabled Super Centurion Physical Security Features

The EchoShore-DX "nodes" have been designed to be "*hidden in plain sight*". They are attached to a fire hydrant's existing pumper nozzle in an identical fashion to the original cap (tightened shut with a sealing gasket) and appear, from the outside, to be a standard pumper nozzle cap. The caps can be secured to a fire hydrant using standard security chains (should that be the current water utility specification for hydrant caps). The nodes' electronics are sealed within the cap with a cover using secured "tamper proof" screws preventing access to the interior electric circuit boards. The housing is made of cast iron, the same material as the hydrant, so is highly resistant to any form of physical vandalism.

Similarly, the Super Centurion is visually identical to a standard fire hydrant preventing tampering. Any attempted access to the communications electronics would require specialized tools to open the bonnet (top) of the fire hydrant. There are no cables accessible on the inside of the fire hydrant that could be adjusted or accessed during use as a fire hydrant or after opening just the side ports of the fire hydrant.

The following descrives security features for the data transmission and web hosted software on remote pressure and leak monitoring devices.

Data Transmission Security Features for Cellular Backhaul Communications

Each node initiates the call to a pre-programmed Mueller data hub server to transmit the data – this address is programmed into the node at the time of production. The node is in control of that communication with the Mueller data hub server and uses a proprietary protocol for "hand shake" authentication and message exchange. The nodes do not have any server permissions, logins, or customer data stored on the device. Each of these points significantly increases the difficulty of using a remote node to hack into the node or the communication with the Mueller data hub servers and the cloud based data storage.

The transmission of the data to our cloud-based host software occurs over a private Access Point Name (APN)(AT&T/Verizon network) within the cellular network, its traffic is logically separated from other cellular data communications. All data between the cellular network and Mueller's cloud infrastructure occurs over a site-to-site Virtual Private Network (VPN) utilizing AES-256 encryption standards.

The leak monitoring nodes are powered off and inaccessible at all times except when it is collecting and transmitting data (typically between 2 to 4am). The cellular modem is powered up only when the node is connecting and communicating with the cellular network (normally for less than 30 seconds per day) and is off at all other times.

Cloud Based Host Software Security Features

Mueller's cloud based host software is known as the Sentryx Water Intelligence Platform. Traffic between the Mueller data hub server and the Sentryx application server all utilize HTTPS to enforce security, and message delivery (at the TCP level). Messages that fail transmission are cached or stored at the appropriate level and delivered later when communication has been restored. If there is a persistent communication error between the Mueller data hub server and the application server, the data is stored and can be retrieved at a later time.

The user Interface (UI) utilizes parameterized queries to access data from the database which prevents SQL injection from untrusted user input. The user interface also utilizes input validation to protect from cross-site scripting attacks. The UI is also protected by an industry standard Web Application Firewall, Intrusion Prevention, and Intrusion Detection System that is monitored twenty-four hours a day, seven days a week.

All Sentryx application servers are fully backed up weekly, with incremental backups daily. Sentryx database servers are fully backed up weekly, with incremental backups every other day. The database logs are backed up every 30 minutes, allowing a database restore to occur for a time period granularity of 30 minutes.

Software and Network Security utilized in the EchoShore & Sentryx system include:

- Web Portal

  - 2048 bit RSA SSL Certificate
  - TLS 1.2
- Server Network Infrastructure
  - IDS / IPS / WAF
  - Tier 3
  - SOC 2 Type II

Our customer service line remains open for users to report suspected malicious activity within their system. Your customer service representative has a direct line to Mueller's Information Security Team to immediately perform Incident Response as needed.

For more information about Mueller or to view our full line of water products, please visit www.muellerwp.com.

For customer support or to report any product issues, please call 1.800.423.1323 or email techservices@muellerwp.com.

APPENDIX D – EXCEPTIONS TO THE RFP

Attached on the next page.

NIAGARA FALLS WATER BOARD

REQUEST FOR PROPOSALS ("RFP") NO. 2021-01

REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE

Deadline for Proposal Submissions:
February 5, 2021 by 2:00 p.m. EST

One (1) hard copy and one (1) electronic copy via CD or thumb drive of the proposal may be delivered to the authorized Water Board contact at the address designated below **OR** as an accommodation due to COVID-19, complete PDF copies of proposals with all required forms and documents may be emailed to the authorized Water Board contact by the deadline indicated above and these will be kept confidential until the deadline. The Water Board cannot guarantee successful transmission or receipt of PDF files and proposers must limit total email size to under 20 megabytes. You may submit your proposal in multiple parts. If you do, please include a cover email indicating the number of parts you will submit. The Water Board contact will send an acknowledgement email on receipt of a proposal.

A pre-proposal meeting via videoconference will be conducted on **January 27, 2021 at 11:00 a.m.** Email the Water Board contact for call-in information.

The deadline for receipt of written questions submitted to the authorized Water Board contact via email is **January 29, 2021** at 5:00 p.m. A written response to questions will be issued on or about February 1, 2021, by 5:00 p.m.

AUTHORIZED WATER BOARD CONTACT:

Proposing firms are advised that the Water Board's designated contact person for all matters concerning this Request for Proposals is:

Bill Wright, Superintendent, Niagara Falls Water Board
5815 Buffalo Avenue, Niagara Falls, New York 14304
(716) 283-9770 x 1060, bwright@NFWB.org

To receive updates regarding this RFP, email the authorized Water Board contact to ask to be placed on the distribution list for RFP No. 2021-01.

1. Introduction

The Niagara Falls Water Board ("NFWB") is issuing this request for proposals ("RFP") seeking proposals for implementing real-time monitoring and analysis of its water distribution system. The NFWB is seeking to actively monitor both pressure in the water system as well as for water leaks as they occur. It also seeks to achieve a significant reduction in its non-revenue water, which is produced but not metered. This RFP seeks a vendor who can provide us with the hardware, software, and knowledge necessary to allow the NFWB to take a more proactive approach to issues that accompany aging infrastructure. The Water Board has nine hydrant zones, and tentatively plans to implement the solution as a pilot project in Zones 2 and 3, but is looking for a scalable, cost-effective solution for most or all of its water distribution system. A map and other data related to the hydrant zones can be obtained by emailing the Water Board contact listed above (bwright@NFWB.org).

2. Timetable

The timetable for proposal submission, a pre-proposal meeting via videoconference, and for submission of written questions is set forth on the cover page for this RFP. A list of proposals received by the deadline will be posted to the Water Board's website at https://nfwb.org/reports/procurements/.

It is anticipated that evaluation of proposals will be completed in February 2021, and that submission of a recommendation to award to the Board of Directors will be at the Water Board's March 22 meeting. Proposing firms should be prepared to offer a presentation to the Board of Directors at their March 22 meeting, or at a special meeting to be called for the purpose of interviewing the proposing firms. The Water Board reserves the right to change any dates and deadlines at its sole discretion.

3. RFP Updates

The Water Board may, in its sole discretion, withdraw or modify this RFP in whole or in part, and may issue addenda in writing. The Water Board will use its best efforts to post updates to: https://nfwb.org/reports/procurements/. However, **to be certain to receive timely updates regarding this RFP, you must email the authorized Water Board contact to ask to be placed on the distribution list for RFP No. 2021-01.**

4. Background

The Water Board is a public benefit corporation created in 2002 by a special act of the New York State Legislature. Its mission is to provide safe and reliable water and wastewater management services to our community in an economical and efficient manner. In

2003, it acquired the drinking water, wastewater, and stormwater systems previously owned and operated by the City of Niagara Falls, a separate municipal entity.

The NFWB Drinking Water Treatment Plant was placed into service in March of 1997, it is designed for a net capacity of 35 MGD, and a gross design of 36.75 MGD, allowing 1.75 MGD for backwashing filters and plant water usage. The conduits, piping, and weirs are designed for potential future expansion of up to 54 MGD capacity.

Currently, the water system serves approximately 50,000 people through around 18,000 service connections. Total water produced in 2019 was over 7.8 Billion Gallons, averaging 21.5 MGD and with the highest day of pumping reaching 25.6 million gallons. The percentage of non-revenue/unbilled water produced steadily has been increasing, and in 2019 71% of water produced did not pass through a meter. This non-revenue water includes water used for fire suppression and hydrant flushing, but is believed mostly to be attributable to system leaks, inaccurate metering, and/or theft.

Niagara Falls water distribution infrastructure consists of over 300 miles of piping which range from 4-inch to 42-inch pipe. These pipes are largely cast iron with ductile iron, asbestos concrete, and PVC as well. There are nearly 5,000 valves and 2,250 hydrants ranging across the piping infrastructure. The hydrant manufacturers most prevalent in the system are Kennedy, Matthew, and Mueller. Because of the results of competitive bidding, NFWB has exclusively installed Mueller hydrants for the past two years and will continue this trend for at minimum another two years making Mueller the predominant hydrant type in the city after this time.

The area selected for the pilot project, Hydrant Zones 2 and 3 ,represent an area of approximately 1.34 square miles. There are 331 hydrants, 724 valves, and approximately 40 miles of water mains in those Zones. The water mains mostly are made of cast iron, but there are some concrete and PVC sections. Additional detail and maps are available by contacting the Water Board contact listed above (bwright@NFWB.org).

4. Proposal Objective

The NFWB's primary objective for this RFP is to select a vendor that can best supply us with the resources to actively monitor our water distribution system to enable us to make intelligent decisions that are in the best interests of the NFWB and its ratepayers using innovative methods.

5. Proposal Scope

This RFP is for a vendor to provide the NFWB with the resources necessary to actively monitor the water distribution system. The selected consultant will provide the following scope of services:

1. Provide the NFWB with "no-dig" hardware necessary to actively monitor pressure and detect leaks in the distribution system. This hardware should be network enabled to allow real-time data acquisition.
2. Provide the NFWB with software to store and analyze the collected data. This data and analysis should be available through an online dashboard accessible to an admin user with the ability to share the information across departments and users.
3. Software will have alert capabilities to be set by the admin user to warn the NFWB of rapidly developing issues or inconsistencies in the system. The software should be able to give the NFWB an approximate geographic location to begin field investigations.
4. Vendor will provide training on the installation and activation of monitoring hardware. In addition, the vendor will provide training in the capabilities and use of the analysis software. Documentation should be available electronically for the hardware and software regarding the use and maintenance of each.
5. Using NFWB water distribution asset data the vendor will develop a pilot program for the NFWB with recommended locations for hardware to determine the utility of such a system in Niagara Falls. The install of devices for the pilot will be done by the vendor with NFWB personnel on hand to learn the process.
6. If the NFWB determines that the pilot program is a success the vendor will provide the NFWB with recommended hardware locations for the entirety of the city. This will likely be a phased approach rolling out over the course of 3-5 years before full coverage. The NFWB will install the equipment city-wide once the pilot program has proven successful.
7. The vendor will provide estimates on the lifetime of devices as well as for on-going maintenance or necessary further investments during the lifetime of each device. This would include costs of replacement parts as well as time required to complete the maintenance task. For example, changing a battery on a sensor.
8. The vendor will need to clearly state the monthly costs associated with each service and device that is part of the vendor's proposed system. This should include network services, data storage, software licensing, analysis, etc. It should also be noted the length of time these prices are guaranteed.

6. Approach

Proposals should describe the vendor's approach to maximizing the impact of NFWB's investment into the active monitoring of the water distribution system. The proposal should consider the NFWB distribution system as it currently stands and make clear why the Water Board should select the vendor over one of its competitors. Proposers are to provide a statement of qualifications meeting the requirements set forth in Appendix A. Additionally,

provide relevant references, and highlight unique qualifications, experience, approach, background, added services, technologies, innovations, or other characteristics of your company/solution that make it the best choice.

7. Additional Requirements

Proposers also must include in the statement of qualifications:

1. Disclosure of any potential conflict of interest your firm may have or encounter if selected, and your firm's plan for resolving the conflict.
2. If proposer intends to use subcontractors or sub-consultants to perform more than 10% of the work that is the subject of this RFP, proposer must include details regarding the sub-consultant or subcontractor's qualifications. At a minimum, the proposal must include information regarding the sub-consultant or subcontractor's business structure, experience, and resumes or other materials detailing the qualifications of key personnel.

8. Opportunities for Minority and Women-Owned Business Enterprises

This project calls for procurement of unique and proprietary technology and Water Board staff have not identified subcontracting opportunities. Following a review of New York State Minority and Women Owned Business Enterprises ("MWBE") Directory, the Niagara Falls Water Board secured a pre-RFP waiver of the MWBE requirements that normally would apply to this procurement. Therefore, there is a **0% MWBE** utilization goal is assigned to this procurement.

Even though a 0% goal has been assigned, offering subcontracting opportunities to NYS certified MWBE firms is highly encouraged and MWBE participation may be given some consideration in evaluating proposals. If proposer will use any MWBE firms, please be sure to note this in the proposal, including the name of the firm and the anticipated dollar amount of the MWBE participation.

9. Participation Opportunities for New York Certified Service-Disabled Veteran-Owned Businesses

Article 17-B of the New York State Executive Law provides for more meaningful participation in public procurement by certified Service-Disabled Veteran-Owned Businesses ("SDVOBs"), thereby further integrating such businesses into New York State's economy. Niagara Falls Water Board recognizes the need to promote the employment of service-disabled veterans and to ensure that certified service-disabled veteran-owned businesses have opportunities for maximum feasible participation in the performance of Niagara Falls
Water Board contracts.

In recognition of the service and sacrifices made by service-disabled veterans and in recognition of their economic activity in doing business in New York State, Bidders/Contractors are strongly encouraged and expected to consider SDVOBs in the fulfillment of the requirements of the Contract. Such participation may be as subcontractors or suppliers, as protégés, or in other partnering or supporting roles.

For purposes of this procurement, Niagara Falls Water Board conducted a comprehensive search and determined that the Contract does not offer sufficient opportunities to set specific goals for participation by SDVOBs as subcontractors, service providers, and suppliers to Contractor. Nevertheless, Bidder/Contractor is encouraged to make good faith efforts to promote and assist in the participation of SDVOBs on the Contract for the provision of services and materials. The directory of New York State Certified SDVOBs can be viewed at: https://ogs.ny.gov/veterans/

Bidder/Contractor is encouraged to contact the Office of General Services' Division of Service-Disabled Veteran's Business Development at 518-474-2015 or VeteransDevelopment@ogs.ny.gov to discuss methods of maximizing participation by SDVOBs on the Contract.

10. Cost Proposal

All of the cost information required by the "Proposal Scope" section, above, should be available in a clearly-marked section of the proposal for easy reference and comparison during proposal evaluations.

11. Evaluation Criteria

Proposals shall be examined and evaluated to determine whether the proposals meet the requirements of this RFP. The contract will be awarded based on the following criteria:

1. Situational understanding;
2. Demonstrated experience, capabilities, and qualifications;
3. Completeness of the proposal; and
4. Total proposed cost.

Proposing firms may be invited to present to the Water Board or to Water Board staff and will be expected to provide prompt responses to questions and inquiries submitted through the designated Water Board contact.

RFP DATED: January 12, 2021

APPENDIX A

NFWB REQUEST FOR PROPOSALS ("RFP")
TERMS, CONDITIONS, AND REQUIREMENTS

Except as otherwise may be agreed to in writing, the following terms, conditions, and requirements shall form a part of any contract between the Niagara Falls Water Board and a proposer that responds to the Request for Proposals ("RFP"):

A. Statement of Qualifications and Key Personnel

Proposers must submit a statement of qualifications that includes the following:

1. Business structure;
2. Years in business;
3. Any other names under which proposer has done business in the past 10 years;
4. List all subsidiary and parent companies;
5. List proposer's physical locations and the type of each location (i.e. regional headquarters, primary office, warehouse, etc.);
6. State whether proposer ever has been:
   - Debarred or suspended by any government entity from entering contracts with it;
   - Found not responsible by any government entity;
   - Declared in default or terminated for cause from any contract, or had any contract cancelled for cause; or
   - Required to pay liquidated damages on a contract.
7. State whether proposer has filed for bankruptcy or been the subject of an involuntary bankruptcy proceeding;
8. State whether proposer has been a party to any legal action or government investigation related to proposer's business practices, or alleging that any of proposer's agents or employees committed any act of fraud, collusion, bid rigging, price fixing, or bribery. If proposer, any of proposer's principals, or any of proposer's agents has pleaded guilty or entered into a consent order with respect allegations of any of these, provide details;
9. Licensing, if relevant to the work required by the contract;
10. Describe proposer's experience with providing similar services to those required by the contract along with project descriptions (including contact information for references);
11. Resumes covering the qualifications of key personnel for this contract, including the number of accounts/clients served and their principal business location, **noting any key personnel who are not W-2 employees of, or partners in, the bidding entity**; and
12. Any other pertinent information that will help to demonstrate proposer's qualifications to perform.

The selected proposer will be required to commit the key personnel named in the statement of qualifications to the Water Board's project throughout the period of the agreement. No diversion of substitution of key personnel will be allowed without submission of a written request with the qualifications and experience of the proposed replacement, and the Executive Director's agreement in writing to the substitution.

If the Water Board determines that the legal authority, integrity, experience, ability, prior performance, organization, financial capacity and/or facilities of proposer are not satisfactory, the Water Board may reject the proposal or terminate the contract.

B. Insurance

Proposer shall be required to procure and maintain at its own expense and without expense to the Niagara Falls Water Board, insurance for liability for damages imposed by law, of the kinds and amounts hereinafter provided, from insurance companies authorized to do business in the State of New York covering all operations under any contract that results from this RFP, whether performed by the proposer or its subcontractors. Before proceeding with any work under the contract that may result from this proposal, the successful proposer shall furnish to the Niagara Falls Water Board Certificate of Insurance form(s) and relevant insurance policy declarations and endorsements satisfactory to the Water Board exhibiting compliance with this paragraph and providing that the policies shall not be changed or canceled until thirty (30) days written notice has been given to the Niagara Falls Water Board. The types and limits of insurance shall be as follows:

1. Workers Compensation as required by Law (submit Form C-105.2);

2. Disability Benefits as required by Law (submit Form DB-120.1);

3. Employer's Liability with a minimum limit of $100,000;

4. Commercial General Liability insurance: Bodily, Personal Injury, and Property Damage Liability limits each of at least $1,000,000 per occurrence/$2,000,000 aggregate, which shall include the following coverages:
    a. Owner's Protective Liability
    b. Premises – Operations
    c. Broad Form Contractual
    d. Independent Contractor and Sub-Contractor
    e. Products and Completed Operations

5. Automobile Liability: $1,000,000 single limit; and

6. Umbrella/Excess Liability: A minimum of $5,000,000 on a per occurrence and aggregate basis; this shall be in excess of primary general, automobile and employer's liability limits.

7. Professional Liability/Errors and Omissions: $2,000,000 (identified as a claim made or an occurrence policy) (required only if professional services are to be performed pursuant to the contract).

Certificates, declarations, and endorsements should be made to the Niagara Falls Water Board, 5815 Buffalo Avenue, Niagara Falls, NY 14304.

The Niagara Falls Water Board, the Niagara Falls Public Water Authority, and the City of Niagara Falls, New York shall be named as an Additional Insureds, for both Ongoing and Completed Operations on a primary and non-contributory basis, on the Liability (General Liability, Auto Liability and Excess Liability) Policies (except for professional liability) with the following provision: The insurance company or companies issuing the policies shall have no recourse against the Niagara Falls Water Board or the Niagara Falls Public Water Authority for payment of any premiums or for assessments under any form of policy.

In the event that the proposer requires any subcontractor to procure insurance with regard to any of the operations under the contract resulting from this RFP and requires

such subcontractor to name the proposer as an additional insured under such insurance, the proposer shall ensure that such policy names the Water Board, Niagara Falls Public Water Authority, and their officers and employees as additional insureds.

C. Indemnification and Waiver of Subrogation

The successful proposer, to the full extent permissible by New York law, must agree to indemnify and hold the Niagara Falls Water Board, its Directors, Officers, and Employees harmless against all loss, cost, or damage, on account of injury to person or damage to property as a result of any action or inaction of the proposer or its representatives or agents or subcontractors in performance of the contract resulting from this RFP and against all fines, penalties any other losses which the Niagara Falls Water Board shall be obliged to pay or incur in connection with the performance of the work under the contract.

The successful proposer also must agree to waive all rights against the Water Board, including its officials and employees, for any damages or losses that are covered under any insurance required by this appendix or in the resulting contract, or any other insurance applicable to the operations of the proposer and/or its subcontractors in the performance of the contract.

D. Independent Contractor and Identification of Subcontractors

The successful proposer and its employees will operate as an independent contractor and are not considered Water Board employees. Proposer must identify its subcontractors, if any, in its proposal, but award of a contract shall not create any relationship between the subcontractors and Water Board, and proposer shall be responsible for the entire contract. The Water Board shall have the right to reject any proposed subcontractors.

E. Successors and Assigns

Any contract resulting from this RFP shall inure to the benefit of and be binding upon the legal representatives and successors of the parties, respectively, but the successful proposer may not assign the contract without the Water Board's written permission.

F. Exemption from Sales Tax

The Water Board is exempt from state and local fees, taxes, franchise taxes, sales taxes, or other excise taxes. Proposals shall not include any such taxes or fees.

G. Freedom of Information Law – Claim of Confidential, Proprietary, or Trade Secret Information

The Water Board is subject to the provisions of the Freedom of Information Law ("FOIL"), N.Y. Public Officers Law, Sections 84 through 90, relating to public access to agency records. The proposer shall specifically identify any portions of the documents submitted with the proposal deemed to be confidential, proprietary information, or trade secrets and provide any justification why such material, upon request, should not be disclosed by the Water Board. The top of each page containing such information must be clearly marked in bold type **"PROPOSER BELIEVES THAT THIS INFORMATION IS PROTECTED FROM DISCLOSURE UNDER THE STATE FREEDOM OF INFORMATION LAW."** Such

information deemed by the proposer to be confidential/proprietary shall be easily separable from the non-confidential/non-proprietary sections of the proposal.

The Water Board accepts no responsibility for disclosure of information designated as exempt from disclosure, but the Board does intend to evaluate, on a case-by-case basis, whether exemption from disclosure applies when a FOIL request is made to the Water Board for examination of such a document. Proposers should be aware that any and all terms of their respective proposals may be the subject of discussion at Board of Directors meetings that are open to the public.

H. General Conditions of RFP

The issuance of this RFP does not commit the Water Board to award a contract to the proposer offering the lowest costs or to award any contract at all. Those submitting Proposals do so entirely at their expense. There is no expressed or implied obligation by the Water Board to reimburse any firm or individual for any costs incurred in preparing or submitting Proposals, preparing or submitting additional information requested by the Water Board, or participating in any selection interviews. In addition, the Water Board reserves the following rights:

1. To postpone or cancel this RFP;
2. Reject any or all proposals received in response to this RFP;
3. Award a contract without any discussion with proposers;
4. Retain a successful proposer for only a portion of the scope of services;
5. Accept a proposal other than the proposal offering the lowest price;
6. Waive or modify any irregularities in proposals received;
7. Consider proposals or modifications received at any time before the award is made, if such is in the best interest of the Board;
8. Request clarification and/or additional information from the proposers during the evaluation process; and
9. Utilize any and all ideas submitted in the proposals received, unless those ideas are covered by legal patent or proprietary rights and the patent or proprietary rights are clearly and specifically set forth in the proposal.

I. Proposal Firm and Irrevocable for 90 Days

A signed proposal shall be considered a firm offer on the part of the proposer, and the Water Board may insist on the strict performance of all elements of the proposal, unless the Water Board specifically waives a proposal element in writing during negotiations. By submitting a proposal, proposer agrees that its offer is firm for a period of 90 days from the deadline for proposal submissions, as may be amended or extended by way of an addendum to this RFP.

J. Oral Presentations or Interviews

Prior to award, one or more proposers may, in the sole discretion of the Niagara Falls Water Board, be invited to offer a presentation to Water Board staff and/or to the

Board of Directors. The authorized Water Board contact will schedule the time and location of these presentations.

K. Contract Negotiations; Non-Exclusive Right to Perform Services

Upon selection, the successful proposer may be invited to negotiate a contract with the Water Board, though the Water Board reserves the right to award a contract on the basis of the initial offers received, without discussions. Therefore, each initial offer should contain the proposer's best terms from a technical and cost standpoint.

The Water Board reserves the right to enter into discussions/negotiations with one or more proposers and to request the submission of best and final offers from those proposers, who after the conclusion of such discussions/negotiations, still are under consideration for award. No proposer shall have any rights against the Water Board arising from an invitation to enter into discussions/negotiations or to submit a best and final offer.

Unless otherwise agreed, the contents of the selected proposal and any modifications agreed upon in writing during negotiations, together with the RFP, will be incorporated into and made part of the final contract. The contract will be deemed to include such additional terms and conditions which may be required by law. Should negotiations fail to result in a signed contract within a reasonable period of time as defined by the Water Board, the Water Board reserves the right to terminate negotiations and select another proposer, issue a new RFP, or take any other action consistent with the best interests of the Water Board.

The contract awarded shall be on a non-exclusive basis unless otherwise agreed. The Water Board retains the right to utilize other vendors that provided the same or similar services for particular projects when, in its sole discretion, such use is in the best interests of the Water Board or required as a result of a potential conflict of interest between the interest of the awardee and the Water Board.

L. Exceptions to RFP

The contract to be entered into shall include the requirements of this RFP among its terms and conditions, with such changes to which the Water Board may agree. Submission of a proposal constitutes consent to these terms and conditions. Any exceptions must be explicitly stated in the proposal and separately listed in a separate attachment to the body of the proposal entitled "Exceptions." Failure to list exceptions separately in the "Exceptions" attachment shall be deemed to constitute consent to all such terms and conditions herein and shall constitute a binding waiver by the proposer of all exceptions not listed. A general exception or reservation to the legal or technical terms and conditions shall be deemed a nullity and may also result in the Water Board rejecting the proposal as non-responsive.

M. Rely Only Upon Formal Information

1. The Water Board shall not be bound by any oral or written information released prior to the issuance of the RFP.
2. The Water Board shall not be bound by any oral or written representations, statements, or explanations other than those made herein, in Water Board written responses to proposer inquiries, or in formal written addenda to this RFP.

N. Questions Regarding the RFP

1. All inquiries regarding this RFP shall be emailed to the authorized Water Board contact by the date and time indicated on the cover page of this RFP. The subject line for such inquiries should indicate the RFP name and number.
2. Compiled questions and responses usually will be posted on the Water Board's website at https://nfwb.org/reports/procurements/ on or after the date indicated on the cover page of the RFP, but to receive these responses as early as possible, you must email the authorized Water Board contact to ask to be placed on the distribution list for this RFP.

O. Addenda to the RFP

1. The Water Board shall issue responses to inquiries related to substantive issues and any other corrections or amendments to the RFP that it deems necessary prior to the proposal due date in the form of written addenda. Such addenda usually will be posted on the Board's website: https://nfwb.org/reports/procurements/, and the Water Board will use its best efforts to send copies to those who have asked to be placed on the distribution list for this RFP.
2. It is the proposer's responsibility to assure receipt of all addenda. The proposer should verify with the authorized Water Board contact prior to submitting a proposal that all addenda have been received. Proposers shall acknowledge the number of addenda received as part of their proposals using this Appendix's Form No. 1.

P. Proposal Package Submission Requirements

1. **See special instructions on the cover page of this RFP.**
2. Proposal packages are due on or before the proposal due date and time at the location set forth on the cover page of this RFP.
3. If a sealed proposal is submitted, only one original copy of each of the appendices requiring a signature is required, which may be submitted only as part of the paper original proposal and need not be included in the electronic copy of the proposal.
4. The sealed outer envelope enclosing any materials submitted in response to this RFP shall be addressed to the Water Board contact set forth on the cover page of this RFP. The outer envelope containing the proposal materials must clearly indicate the proposer's name and address, and must clearly be marked with the RFP number and title from the cover page of the RFP.
5. Proposals may be hand delivered. Proposers shall be responsible for informing any commercial delivery service, if used, of all delivery requirements and for ensuring that

the information required in item "4" above, appears on the outer envelope used by such service.

Q. Non-Discrimination and Prohibition Against Sexual Harassment

To the extent required by Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the proposer will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, sexual orientation, age, disability, or marital status. By submitting a proposal, proposer agrees that it shall submit an Equal Employment Opportunity ("EEO") Policy Statement to the Water Board containing at a minimum the terms therefore as set forth in this Appendix's Form No. 4.

By submission of this proposal, each proposer and each person signing on behalf of any proposer certifies, and in the case of a joint proposal each party thereto certifies as to its own organization, under penalty of perjury, that the proposer has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of section two hundred one-g of the labor law. The proposal must include the Statement on Sexual Harassment form at this Appendix's Form No. 5.

R. Iran Divestment Act

By submitting a proposal in connection with this RFP or by assuming the responsibility of a contract awarded hereunder, proposer certifies in accordance with State Finance Law §165-a that it is not on the "Entities Determined to be Non-Responsive Bidders/Offerors pursuant to the New York State Iran Divestment Act of 2012" ("Prohibited Entities List") posted at: http://www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf. Proposer further certifies that it will not utilize in connection this contract any subcontractor that is identified on the Prohibited Entities List.

S. International Boycott Prohibition

In accordance with Section 220-f of the Labor Law and Section 139-h of the State Finance Law, if this contract exceeds $5,000, that by submitting a proposal or by assuming the responsibility of a contract awarded hereunder, proposer agrees, as a material condition, that neither the proposer nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the federal Export Administration Act of 1979 (50 USC App. Sections 2401 et seq.) or regulations thereunder. If proposer, or any of the aforesaid affiliates of proposer, is convicted or is otherwise found to have violated said laws or regulations upon the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the proposer's execution, such contract, amendment or modification thereto shall

be rendered forfeit and void. The proposer shall so notify the State Comptroller within five (5) business days of such conviction, determination, or disposition of appeal (2 NYCRR 105.4).

T. MacBride Fair Employment Principles

In accordance with the MacBride Fair Employment Principles (Chapter 807 of the Laws of 1992), by submitting a proposal or by assuming the responsibility of a contract awarded hereunder the proposer hereby stipulates that the proposer either (a) has no business operations in Northern Ireland, or (b) shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Fair Employment Principles (as described in Section 165 of the New York State Finance Law), and shall permit independent monitoring of compliance with such principles.

U. Conflicts of Interest and Prohibition on Political and Religious Activity

By submitting a proposal or by assuming the responsibility of a contract awarded hereunder, proposer stipulates that, upon information and belief, no member of the governing body of the Water Board, or officer or employee of the Water Board, forbidden by Law, is interested in, will derive benefit from, or will be a party to, the contract between proposer and the Water Board. Proposer warrants that no payment, gift, or thing of value has been or will be made, given, or promised any Director, Officer, or Employee of the Water Board, or any member of the immediate family of any Director, Officer, or Employee of the Water Board (spouse, parent, sister, brother, or child) to obtain this or any other agreement between the parties. Proposer agrees that its provision of services under any contract that may result from this RFP shall not include any partisan political activity or any activity to further the election or defeat of any candidate for public, political, or party office, nor shall any of the funds provided under any contract that may result from this RFP be used for such purposes. The proposer further agrees that if awarded an agreement as a result of this RFP, there shall be no religious worship, instruction, or proselytizing as part of or in connection with the proposer's provision of services under that contract, nor shall any of the funds provided under this agreement be used for such purposes.

V. Non-Collusion

Proposer must submit a signed statement of non-collusion on the form that is this Appendix's Form No. 2.

W. Communication with Water Board and Lobbying Law

Proposers are advised that, from the date this RFP is issued until the award of the contract, no contact by proposers or their agents with the Water Board or Water Board personnel related to this RFP is permitted, except as shall be authorized by the authorized Water Board contact indicated on the cover page of this RFP.

Pursuant to State Finance Law Sections 139-j and 139-k, this RFP includes and imposes certain restrictions on communication between respondents and the Water Board during the procurement process. A respondent is restricted from making contacts from the date the RFP is issued through the final contract award by Water Board (the "Restricted Period"). During the Restricted Period, respondents may only contact the designated contact regarding this RFP. The designated contact is identified on the cover page of this RFP. Respondents are responsible for complying with State Finance Law Sections 139-j and 139-k. Directors, officers, and employees of the Water Board are required to record certain information when contacted during the Restricted Period. A review of whether such contacts were permissible contacts will be considered in connection with any determination of responsibility of the respondent. Failure of any respondent to timely certify or to disclose accurate and complete information or the submission of any intentionally false or intentionally incomplete certification may result in the rejection of the contract award or if such contract has been executed, then the immediate termination of the contract. Violations may result in debarment of the respondent from proposing on or obtaining governmental procurement contracts in the State of New York.

Proposers are required to complete and return with their proposal this Appendix's Form No. 3, New York State Finance Law Sections 139-j and 139-k ("Lobbying Law") — Disclosure Statement.

X. Records.

The proposer shall establish and maintain complete and accurate books, records, documents, accounts and other evidence directly pertinent to performance under the contract (hereinafter, collectively, "the Records"). The Records must be kept for the balance of the calendar year in which they were made and for six (6) additional years thereafter. The State Comptroller, the Attorney General and any other person or entity authorized to conduct an examination, as well as the Water Board and its representatives, shall have access to the Records during normal business hours at an office of the proposer within the State of New York or, if no such office is available, at a mutually agreeable and reasonable venue within the State, for the term specified above for the purposes of inspection, auditing and copying. The Water Board shall take reasonable steps to protect from public disclosure any of the Records which are exempt from disclosure under Section 87 of the Public Officers Law (the "Statute") provided that: (i) the proposer shall timely inform an appropriate Water Board official, in writing, that said Records should not be disclosed; and (ii) said Records shall be sufficiently identified; and (iii) designation of said Records as exempt under the Statute is reasonable. Nothing contained herein shall diminish, or in any way adversely affect, the Water Board's right to discovery in any pending or future litigation.

Y. Compliance with Breach Notification and Data Security Laws

Proposer shall comply with the provisions of the New York State Information Security Breach and Notification laws, General Business Law §§ 899-aa and 899-bb and State Technology Law § 208.

Z. Workforce Reporting

If the annual amount of the contract exceeds $25,000, pursuant to New York Executive Law and Executive Order Number 162 proposer and any of its subcontractors shall

submit a quarterly Workforce Employment Utilization Report in the format provided by the Water Board reflecting the entirety of proposer and its subcontractors' workforces performing work on this contract and located within New York State, as well as the salaries of any such employees.

AA. Termination

1. For Cause: For a material breach that remains uncured for more than thirty (30) days or other specified period after written notice to the proposer, the contract may be terminated by the Water Board at the proposer's expense where proposer becomes unable or incapable of performing, or meeting any requirements or qualifications set forth in the contract, or for nonperformance, or upon a determination that proposer is nonresponsible. Such termination shall be upon written notice to the proposer. In such event, the Water Board may complete the contractual requirements in any manner it may deem advisable and pursue available legal or equitable remedies for breach.

2. For Convenience: By written notice, this contract may be terminated at any time by the Water Board for convenience upon thirty (30) days written notice and without penalty or other early termination charges due. Such termination of the contract shall not affect proposer's right to recover for any work performed or materials acquired under the contract prior to the date of such termination, provided that proposer cancels, prior to the effective date of the termination, as many outstanding obligations as possible and agrees not to incur any new obligations after receipt of the notice of termination without approval by the Water Board. If the contract is terminated pursuant to this subdivision, the Water Board shall remain liable for all accrued but unpaid charges incurred through the date of the termination. Proposer shall use due diligence and provide any outstanding deliverables.

3. For Violation of the Sections 139-j and 139-k of the State Finance Law: The Water Board reserves the right to terminate the contract in the event it is found that the certification filed by the proposer in accordance with Section 139-k of the State Finance Law was intentionally false or intentionally incomplete. Upon such finding, the Water Board may exercise its termination right by providing written notification to the proposer.

BB. Governing Law and Venue

These terms and conditions and the contract shall be governed by the laws of the State of New York. Each of the parties to these terms and conditions and the contract submits to the exclusive jurisdiction and venue of the State and Federal courts located in Niagara County, New York, or if the required Federal courts are not located in Niagara County, to the Federal courts located in Erie County, New York.

CC. Service of Process and Notices

In addition to the methods of service allowed by the State Civil Practice Law & Rules ("CPLR"), proposer hereby consents to service of process upon it by registered or certified mail, return receipt requested. Service hereunder shall be complete upon proposer's actual receipt of process or upon the Water Board's receipt of the return thereof by the United States Postal Service as refused or undeliverable. Proposer must promptly notify the Water Board, in writing, of each and every change of address to which service of process can be made. Service by the Water Board to the last known address shall be sufficient. Proposer will have thirty (30) calendar days after service hereunder is complete in which to respond. A copy of all notices to

the Water Board shall be provided to: Legal Department, Niagara Fall Water Board, 5815 Buffalo Avenue, Niagara Falls, NY 14304.

DD. No Waiver of Rights

No failure or delay (in whole or in part) on the part of either party hereto to exercise any right or remedy hereunder shall impair its ability to later exercise any such right or remedy, operate as a waiver thereof, or affect any other rights or remedies that may be available under the law or in equity, except to the extent it causes actual prejudice to the other party. No waiver by either party of any covenant, condition, term or provision of the contract shall be deemed to have been made by that party unless such waiver is in writing and signed by an authorized representative of the party.

APPENDIX A, FORM No. 1

ACKNOWLEDGEMENT OF ADDENDA

RFP TITLE: RFP NO. 2021-01, REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE

DIRECTIONS: Complete Part I or Part II, whichever is applicable.

PART I: LISTED BELOW ARE THE DATES OF ISSUE FOR EACH ADDENDUM RECEIVED IN CONNECTION WITH THIS RFP:

ADDENDUM # 1: DATED _____ , 20__

ADDENDUM # 2: DATED _____ , 20__

ADDENDUM # 3: DATED _____ , 20__

ADDENDUM # 4: DATED _____ , 20__

ADDENDUM # 5: DATED _____ , 20__

ADDENDUM # 6: DATED _____ , 20__

PART II: _____ INITIAL HERE IF NO ADDENDUM WAS RECEIVED IN CONNECTION WITH THIS RFP

DATE: ____/____/_____

PROPOSER (SIGNATURE): _____

PROPOSER (NAME): _____

PROPOSER (FIRM): _____

APPENDIX A, FORM No. 2
CERTIFICATE OF NON-COLLUSION

RFP NO. 2021-01, REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE

Pursuant to New York State Public Authorities Law, Article 9, Title 4, Section 2878, the undersigned proposer hereby subscribes and affirms as true, under the penalties of perjury, the following statement of non-collusion:

By submission of this proposal, each proposer and each person signing on behalf of any proposer certifies, and in the case of a joint proposal each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his/her knowledge and belief:

(1) The prices in this proposal have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other proposer or with any competitor;
(2) Unless otherwise required by law, the prices which have been quoted in this proposal have not been knowingly disclosed by the proposer and will not knowingly be disclosed by the proposer prior to opening, directly or indirectly, to any other proposer or to any competitor; and,
(3) No attempt has been made or will be made by the proposer to induce any other person, partnership, or corporation to submit or not to submit a proposal for the purpose of restricting competition.

DATE: ____/____/_____

PROPOSER (SIGNATURE): _____

PROPOSER (NAME): _____

PROPOSER (FIRM): _____

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ____ day of _____, 20__, before me, the undersigned, a Notary Public in and for said state, personally appeared _____ as a representative of _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the entity on behalf of which the individual acted executed the instrument.

_____
Notary Public

APPENDIX A, FORM No. 3

NEW YORK STATE FINANCE LAW SECTIONS 139-j AND 139-k ("LOBBYING LAW") – DISCLOSURE STATEMENT

RFP NO. 2021-01, REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE

General Information

All procurements by the Niagara Falls Water Board ("NFWB") in excess of $15,000 annually, are subject to New York State's State Finance Law Sections 139-j and 139-k, effective January 1, 2006 ("Lobbying Law").

Pursuant to the Lobbying Law, all "contacts" (defined as oral, written or electronic communications with the NFWB intended to influence a procurement) during a procurement - from the earliest notice of intent to solicit bids/proposals through final award and approval - must be made with one or more designated Point(s) of Contact only. Exceptions to this rule include written questions during the bid/proposal process, communications with regard to protests, contract negotiations, and RFP conference participation. Nothing in the Lobbying Law inhibits any rights to make an appeal, protest, or complaint under existing administrative or judicial procedures.

Violations of the policy regarding permissible contacts must be reported to the appropriate NFWB officer and investigated accordingly. The first violation may result in a determination of non-responsibility and ineligibility for award to the violator and its subsidiaries, affiliates, and related entities. The penalty for a second violation within four (4) years is ineligibility for bidding/proposing on a procurement and/or ineligibility from being awarded any contract for a period of four (4) years. The NFWB will notify the New York State Office of General Services ("OGS") of any determinations of non-responsibility or debarments due to violations of the Lobbying Law. Violations found to be "knowing and willful" must be reported to the NFWB Executive Director and OGS.

Moreover, the statutes require the NFWB to obtain certain affirmations and certifications from bidders and proposers. This Disclosure Statement contains the forms with which offerors are required to comply, together with additional information and instructions.

Instructions

New York State Finance Law §139-k(2) obligates the NFWB to obtain specific information regarding prior non-responsibility determinations. In accordance with New York State Finance Law §139-k, an offerer must be asked to disclose whether there has been a finding of non-responsibility made within the previous four (4) years by any governmental entity due to: (a) a violation of New York State Finance Law §139-j or (b) the intentional provision of false or incomplete information to a governmental entity.

As part of its responsibility determination, New York State Finance Law §139-k(3) mandates consideration of whether an offerer fails to timely disclose accurate or complete information regarding the above non-responsibility determination. In accordance with law, no procurement contract shall be awarded to any offerer that fails to timely disclose accurate or complete information under this section, unless the factual elements of the limited waiver provision can be satisfied on the written record.

Disclosure of Prior Non-Responsibility Determinations

Name of Bidder/Proposer: _____

Address:_____
Name and Title of Person
Submitting this Form:_____

Has any governmental entity[1] made a finding of non-responsibility regarding the Bidder/Proposer in the previous four years?

____ Yes ____ No

If yes: Was the basis for the finding of the Bidder's/Proposer's non-responsibility due to a violation of State Finance Law §139-j?

____ Yes ____ No

Was the basis for the finding of Bidder's/Proposer's non-responsibility due to the intentional provision of false or incomplete information to a governmental entity?

____ Yes ____ No

If yes to any of the above questions, provide details regarding the finding of non-responsibility below:

Governmental Entity: _____

Year of Finding of Non-responsibility:_____

Basis of Finding of Non-Responsibility (attach additional pages if necessary):_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Has any governmental entity terminated or withheld a procurement contract with the Bidder/ Proposer due to the intentional provision of false or incomplete information?

____ Yes ____ No

If yes, provide details regarding the termination/withholding below:

Governmental Entity: _____

Year of Termination/Withholding:_____

Basis for Termination/Withholding (attach additional pages if necessary):

_____

_____

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NOTICE OF NFWB'S RIGHT TO TERMINATE

The NFWB reserves the right to terminate a Contract (including any lease, license, entry permit, or sale documents) in the event it is found that the certification filed by the Proposer, in accordance with New York State Finance Law §139-k, was intentionally false or intentionally incomplete. Upon such finding, the NFWB may exercise its termination right by providing written notification to the Bidder/Proposer in accordance with the written notification terms of the Contract.

Proposer's Affirmation and Certification

By signing below, the Proposer:

a) Affirms that the Proposer understands and agrees to comply with the policy regarding permissible contacts in accordance with New York State Finance Law Sections 139-j and 139-k.

b) Certifies that all information provided to the NFWB with respect to New York State Finance Law §139-j and §139-k is complete, true, and accurate.

DATE: ____/____/_____

PROPOSER (SIGNATURE): _____

PROPOSER (NAME): _____

PROPOSER (FIRM): _____

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ____ day of _____, 20__, before me, the undersigned, a Notary Public in and for said state, personally appeared _____ as a representative of _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the entity on behalf of which the individual acted executed the instrument.

_____

Notary Public

APPENDIX A, FORM No. 4

EQUAL EMPLOYMENT OPPORTUNITY ("EEO")
POLICY STATEMENT AND AGREEMENT

RFP NO. 2021-01, REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE

Proposer hereby agrees to the following EEO policy with respect to its work on any contract awarded in connection with this RFP:

a) This organization will not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability or marital status, will undertake or continue existing programs of affirmative action to ensure that minority group members are afforded equal employment opportunities without discrimination, and shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on Niagara Falls Water Board ("Water Board") contracts.
b) This organization shall state in all solicitations or advertisements for employees that in the performance of the Water Board contract all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, disability or marital status.
c) At the request of the Water Board, this organization shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union, or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of this organization's obligations herein.
d) This organization shall comply with the provisions of the Human Rights Law, all other State and Federal statutory and constitutional non-discrimination provisions. Proposer and subcontractors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, pregnancy or pregnancy-related conditions, gender identity, familial status, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.
e) This organization will include the provisions of section (a) through (d) of this agreement in every subcontract in such a manner that the requirements of the subdivisions will be binding upon each subcontractor as to work in connection with the Water Board contract.

ACCEPTED AND AGREED:

DATE: ____/____/_____

PROPOSER (SIGNATURE): _____

PROPOSER (NAME): _____

PROPOSER (FIRM): _____

APPENDIX A, FORM No. 5

STATEMENT ON SEXUAL HARASSMENT
PURSUANT TO STATE FINANCE LAW § 139-l

RFP NO. 2021-01, REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE

By submission of this proposal, proposer(s) and each person signing on behalf of any proposer certifies, and in the case of a joint proposal each party thereto certifies as to its own organization, under penalty of perjury, that the proposer has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of section two hundred one-g of the labor law.

DATE: ____/____/_____

PROPOSER (SIGNATURE): _____

PROPOSER (NAME): _____

PROPOSER (FIRM): _____

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ____ day of _____, 20__, before me, the undersigned, a Notary Public in and for said state, personally appeared _____ as a representative of _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the entity on behalf of which the individual acted executed the instrument.

_____
Notary Public

APPENDIX A, FORM No. 6

REQUEST FOR PROPOSALS
ACKNOWLEDGEMENT AND CERTIFICATION

As a duly-authorized representative of the proposer indicated below, I hereby acknowledge that by submitting a proposal in connection with RFP NO. 2021-01, REAL-TIME MONITORING AND ANALYSIS OF WATER DISTRIBUTION SYSTEM – LEAK DETECTION AND PRESSURE, proposer has made a firm offer and agrees to be bound by its terms. Proposer has carefully read the RFP and all addenda, and in submitting this proposal acknowledges proposer understands and agrees to be bound by the requirements set forth in the RFP, except as explicitly stated on a separate sheet attached to this proposal and entitled "Exceptions."

I recognize that all information submitted is for the express purpose of inducing the Water Board to enter a contract with the submitting business entity. I affirm, under the penalties of perjury, that to the best of my knowledge the information contained in the proposal is full, complete, and truthful.

DATE: ____/____/_____

PROPOSER (SIGNATURE): _____

PROPOSER (NAME): _____

PROPOSER (FIRM): _____

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ____ day of _____, 20__, before me, the undersigned, a Notary Public in and for said state, personally appeared _____ as a representative of _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the entity on behalf of which the individual acted executed the instrument.

_____
Notary Public

NIAGARA FALLS WATER BOARD RESOLUTION # 2021-03-009

AWARD WWTP PROJECT 7 CONSTRUCTION BIDS

WHEREAS, the Niagara Falls Water Board ("Water Board") is engaged in multiple projects to rehabilitate and improve its wastewater treatment plant, including a project to make critical heating and ventilation ("HVAC") improvements at the WWTP, referred to as "Project 7"; and

WHEREAS, the Water Board's engineers for Project 7 are EI Team, Inc., which prepared separate bid documents for the HVAC and electrical components of Project 7 as required by law; and

WHEREAS, the bids for Project 7 as originally designed exceeded the funds allocated for that project, and EI Team prepared revised bid documents for the project whereby the Water Board reserved the right to award specific tasks in the event the total cost of all bid items exceeded available funds; and

WHEREAS, the project having been rebid and completion of the full scope of work again exceeding the funds allocated for the project, EI Team has provided an award recommendation as follows:

Award the following scope of work to the HVAC low bidder, John W. Danforth Co.:

(1) Screening Room (HV & Exhaust)	$143,000
(2) Pump Room & Main Wet Well (HV & Exhaust)	$482,000
(3) Sludge storage roof (REF) (REF)	$68,000
(4) Carbon Storage (1-1V & Exhaust)	$89,000
Total	**$782,000**

Award the following scope of work to the Electrical low bidder, CIR Electrical Construction Corp.:

(1) Screening Room (HV & Exhaust)	$55,573
(2) Pump Room & Main Wet Well (Alternate)	$99,150
(3) Sludge storage roof (REF)	$11,490
(4) Carbon Storage (HV & Exhaust)	$11,150
Total	**$177,363**; and

WHEREAS, up to 50% of the cost of the work that is the subject of this resolution will be reimbursable under the Water Board's State and Municipal Facilities Program ("SAM") Grant, Project ID No. 15688;

* CONTINUED ON NEXT PAGE *

NOW THEREFORE BE IT

RESOLVED, that the Niagara Falls Water Board hereby authorizes the Executive Director to execute agreements as follows with the low bidders for the performance of work in connection with WWTP Project 7, critical heating and ventilation improvements:

Award the following scope of work to the HVAC low bidder, John W. Danforth Co.:

(1)	Screening Room (HV & Exhaust)	$143,000
(2)	Pump Room & Main Wet Well (HV & Exhaust)	$482,000
(3)	Sludge storage roof (REF) (REF)	$68,000
(4)	Carbon Storage (1-1V & Exhaust)	$89,000
	Total	**$782,000**

Award the following scope of work to the Electrical low bidder, CIR Electrical Construction Corp.:

(1)	Screening Room (HV & Exhaust)	$55,573
(2)	Pump Room & Main Wet Well (Alternate)	$99,150
(3)	Sludge storage roof (REF)	$11,490
(4)	Carbon Storage (HV & Exhaust)	$11,150
	Total	**$177,363**

Water Board Personnel Responsible for Implementation of this Resolution:
Executive Director

Water Board Budget Line or Capital Plan Item with Funds for this Resolution:
CIP Item No. WWTP 7 - WWTP Rehab Phase 4G - HVAC Improvements (SAM Grant Project ID #15688)
Capital Line Supplied by: D. Williamson
Available Funds Confirmed by: K. Walker

On March 22, 2021, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Yes	**No**	**Abstain**	**Absent**
Board Member Asklar	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Forster	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Kimble	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Leffler	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Acting Chairperson Larkin	**[ ]**	**[ ]**	**[ ]**	**[ ]**

Signed By: Vote Witnessed By:

_____ _____

Colleen Larkin, Acting Chairperson Sean W. Costello, Secretary to Board

EI Team

March 15, 2021

Mr. Jay Meyers, PE
Clark Patterson Lee
26 Mississippi Street, Suite 300
Buffalo, NY 14203

RE: Project 7 – Replacement of Critical Heating & Ventilation Equipment Recommendations

EI Team Project No.: 181205.02

Dear Mr. Meyers:

EI Team has reviewed the bids submitted from the Rebid process for Project 7 and based on those bids and on our recent project meeting with NFWB and CPL representatives and while taking into account the limited funding that is available for said project, EI Team respectfully submits the following recommendations for your review and approval:

HVAC – While keeping a 5% contingency available, we recommend that the following tasks be performed:

1.	Screening Room (HV & Exhaust)	$143,000
2.	Pump Room & Main Wet Well (HV & Exhaust)	$482,000
3.	Sludge storage roof (REF)	$68,000
4.	Carbon Storage (HV & Exhaust)	$89,000
	Total	**$782,000**

Electrical – While keeping a 5% contingency available, we recommend that the following tasks be performed:

1.	Screening Room (HV & Exhaust)	$55,573
2.	Pump Room & Main Wet Well (Alternate)	$99,150
3.	Sludge storage roof (REF)	$11,490
4.	Carbon Storage (HV & Exhaust)	$11,150
	Total	**$177,363**

EI Team, Inc.
Architecture, Engineering, Planning & Construction
2060 Sheridan Drive, Buffalo, New York 14223
PH: (716) 876-4669 FAX: (716) 876-8004

If additional funding becomes available or in the absence of utilizing the Contingency funding and/or the issuance of any Change Orders, we recommend proceeding with the following work listed in order of precedence:

A. Electrical Room (MCC Room) – We recommend a split unit for this area with outside air via a small fan to pressurize the room and to assure Caustic/Acidity in the general area is not an issue to install Spring Loaded Door Closure. Said items are estimated less costly; around $5,000 installed.
B. Lab Office – Similar system as item "A" above. Around $5,000 installed.
C. Sludge Storage Supply Air Duct Cleaning. Estimated cost of $8,000.
D. Belt Press Room Exhaust Duct & Cleaning. Estimated cost of $7,000
E. Pump Room Wet Well Duct Cleaning – Based on available funding and LF cleaning, etc.

Should you have any questions or if you would like to discuss our recommendations in further detail, please feel free to reach out to our office.

Sincerely

EI Team, Inc.
Architecture, Engineering, Planning and Construction Related Services

Ronald J. Szatkowski, PE
Vice President Engineering

cc: Dr. Hormoz Mansouri, PE (NE), PMP, EI Team, President
Mr. Theodore E. Donner, PE, CPL
Mr. Sean Costello, Niagara Falls Water Board, Acting Executive Director, General Counsel
cf

COST REDUCTION RECOMMENDATIONS-HVAC

Niagara Falls Water Board-Project #7-Replacement of Critical Heating & Ventilation Equipment.
Bid due date: 2/19/21 @ 2:00 PM

Funding Available	$865,415
5% contingency during construction	$43,271
Funding available less contingency	$822,144
Lowest HVAC Contractor bid	$992,200
Over/Under Budget (+/-)	$170,056

List of Values-Low Bid (HVAC):

1. Screening room (HV & Exh)	$143,000
2. Pump room & Main Wet Well (HV & Exh)	$482,000
3. Sludge storage roof (REF)	$68,000
4. Carbon Storage (HV & Exh)	$89,000
5. Electrical room & Lab Office (RTU)	$163,200
6. Sludge storage supply duct cleaning	$8,000
7. Pump room wet well duct cleaning	$32,000
8. Belt press room exhaust duct & cleaning	$7,000
Total:	$992,200

Note: Sub-projects 6, 7 and 8 are additions to the original scope of work.

List of Values-recommended (HVAC):

1. Screening room (HV & Exh)	$143,000
2. Pump room & Main Wet Well (HV & Exh)	$482,000
3. Sludge storage roof (REF)	$68,000
4. Carbon Storage (HV & Exh)	$89,000
Total:	$782,000

BID TABULATION

Niagara Falls Water Board - Project #7 - Replacement of Critical Heating and Ventilation Equipment-HVAC
Bid Due Date: 2/19/21 @ 2:00 PM

Company Name and Address	Mollenberg-Betz Inc. 300 Scott Street Buffalo, NY 14204	John W. Danforth 300 Colvin Woods Parkway Tonawanda, NY 14150	DV Brown & Associates, Inc. 567 Vickers Street Tonawanda, NY 14150
Base Bid Price	$1,339,570	$992,200	$1,329,000
Insurance requirement	Yes	Yes	Yes
Bid Bond	5% of bid	5% of bid	5% of bid
NYS prevailing Wage rates	Yes	Yes	Project manual missing
Apprenticeship training	Yes	Yes	Yes
Statement of sexual harassement	Yes	Yes	Yes
Prohibitive business partners	Yes	Yes	Project manual missing
NYS Finance law	Yes	Yes	Yes
List of project references	Yes	Yes	Yes
Evidence of Authority to do business	Yes	Yes	Yes
Non-collusive bidding certificate	Yes	Yes	Yes
M/W/SDVBE Utilization Plan	4%	30%	TBD
Bid/EI Team Estimate	41%	4.30%	40%

COST REDUCTION RECOMMENDATIONS-ELECTRICAL

Niagara Falls Water Board-Project #7-Replacement of Critical Heating & Ventilation Equipment.
Bid due date: 2/19/21 @ 2:00 PM

Funding Available	$147,965
5% contingency during construction	$7,398
Funding available less contingency	$140,567
Lowest Electrical Contractor bid	$245,750
Over/Under Budget (+/-)	$105,183

List of Values-Low Bid (Electrical):

1. Screening room (HV & Exh)	$55,573
2. Pump room & Main Wet Well (HV & Exh)	$158,687
3. Sludge storage roof (REF)	$11,490
4. Carbon Storage (HV & Exh)	$11,150
5. Electrical room & Lab Office (RTU)	$8,850
Total:	$245,750

List of Values-recommended (Electrical):

1. Screening room (HV & Exh)	$55,573
2. Pump room & Main Wet Well (Alternate)	$99,150
3. Sludge storage roof (REF)	$11,490
4. Carbon Storage (HV & Exh)	$11,150
Total:	$177,363

BID TABULATION

Niagara Falls Water Board - Project #7 - Replacement of Critical Heating and Ventilation Equipment-Electrical
Bid Due Date: 2/19/21 @ 2:00 PM

Company Name and Address	Frey Electric 100 Pearce Ave Buffalo, NY 14150	CIR Electrical 400 Ingham Avenue Buffalo, NY 14218	Ferguson Electric 333 Ellicott Street Buffalo, NY 14203
Base Bid Price	$398,000	$245,750	$291,000
Alternate 1	$43,500	$47,600	$48,000
Base Bid Price Using Alternate 1	$354,500	$186,213	$243,000
Insurance requirement	None	Yes	Yes
Bid Bond	5% of bid	5% of bid	5% of bid
NYS prevailing Wage rates	Project manual missing	Yes	Project manual missing
Apprenticeship training	Yes	Yes	Yes
Statement of sexual harassement	Yes	Yes	Yes
Prohibitive business partners	Project manual missing	Yes	Project manual missing
NYS Finance law	Yes	Yes	Yes
List of project references	Yes	Yes	Yes
Evidence of Authority to do business	Yes	Yes	Yes
Non-collusive bidding certificate	Yes	Yes	Yes
M/W/SDVBE Utilization Plan	36%	43%	36%
Base Bid/EI Team Estimate	74%	7.3%	27%

NIAGARA FALLS WATER BOARD RESOLUTION # 2021-03-010

RENEWAL OF EMPLOYMENT CONTRACT
FOR DIRECTOR OF FINANCIAL SERVICES

WHEREAS, the term of the employment agreement between the Niagara Falls Water Board ("Water Board") and Director of Financial Services Kendra Walker expires on March 31, 2021 and provides for automatic renewal for a term of one year unless either party notifies the other no later than 60 calendar days before the expiration date of its intent not to renew the agreement on its expiration; and

WHEREAS, by way of Resolution 2021-01-006 the Water Board voted to provide notice of its intent not to renew said employment contract; and

WHEREAS, since Resolution 2021-01-006 was approved, Water Board membership has changed;

NOW THEREFORE BE IT

RESOLVED, that the Water Board hereby rescinds Resolution 2021-01-006 and authorizes a one-year extension of the current employment contract for Director of Financial Services Kendra Walker through March 31, 2022.

Water Board Personnel Responsible for Implementation of this Resolution:
General Counsel

Water Board Budget Line with Funds for this Resolution:
Position Included in 2021 Operating Budget

On March 22, 2021, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Yes	**No**	**Abstain**	**Absent**
Board Member Asklar	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Forster	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Kimble	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Leffler	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Acting Chairperson Larkin	**[ ]**	**[ ]**	**[ ]**	**[ ]**

Signed By:

_____
Colleen Larkin, Acting Chairperson

Vote Witnessed By:

_____
Sean W. Costello, Secretary to Board

NIAGARA FALLS WATER BOARD RESOLUTION # 2021-03-011

ELECTION OF OFFICERS

WHEREAS, Article VI, Section 1 of the Niagara Falls Water Board By-Laws states: "The Officers of the Board shall consist of a Chair, Vice-Chair, and a Treasurer, who shall be Members of the Board and a Secretary, who need not be a Member of the Board."; and

WHEREAS, the By-Laws further provide for the Board's annual meeting to be held in March; and

WHEREAS, the following individuals have been nominated to the following offices:

Chairperson: _____
Vice-Chairperson: _____
Treasurer: _____
Secretary: _____

WHEREAS, nominations having been duly made and closed;

NOW THEREFORE BE IT

RESOLVED, that the following individuals are hereby elected and appointed as officers:

Chairperson: _____
Vice-Chairperson: _____
Treasurer: _____
Secretary: _____

On March 22, 2021, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Yes	**No**	**Abstain**	**Absent**
Board Member Asklar	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Forster	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Kimble	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Leffler	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Acting Chairperson Larkin	**[ ]**	**[ ]**	**[ ]**	**[ ]**

Signed By: Vote Witnessed By:

_____ _____

Colleen Larkin, Acting Chairperson Sean W. Costello, Secretary to Board

NIAGARA FALLS WATER BOARD RESOLUTION # 2021-03-012

FINANCE AND AUDIT COMMITTEE MEMBERSHIP AND MEETINGS

WHEREAS, the Niagara Falls Water Board has a Finance and Audit Committee; and

WHEREAS, the Chairperson opened the floor for nominations, and _____ was nominated as Chairperson of the Finance and Audit Committee; and

WHEREAS, the Chairperson of the Water Board recommends that the Finance and Audit Committee be a committee of the whole, comprised of each member of the Niagara Falls Water Board, with the Executive Director and Director of Financial Services serving as ex-officio members of the Committee;

NOW THEREFORE BE IT

RESOLVED, that

(1) _____ hereby is appointed Chairperson of the Finance and Audit Committee;

(2) Until the Water Board's next annual meeting, the Finance and Audit Committee shall be a committee of the whole, whose membership will be each member of the Niagara Falls Water Board, with the Executive Director and Director of Financial Services serving as ex-officio members of the Committee;

(3) Meetings of the Finance and Audit Committee will be called by that Committee's Chairperson, with said meetings:

a. Held in compliance with the Open Meetings Law, including proper public notice;

b. Conducted pursuant to agendas, and recorded with minutes, both of which shall be posted to the Water Board's website; and

c. When possible, conducted before or after work sessions or other meetings of the Water Board, to avoid a multiplicity of meetings for Board members.

* CONTINUED ON NEXT PAGE *

(4) The Chairperson of the Finance and Audit Committee also shall be tasked with scheduling regular meetings with Water Board staff for the coordination of information and execution of Finance and Audit Committee objectives, to be referred to as Finance Team Meetings. The Chairperson will be responsible to report to the Finance and Audit Committee appropriate information from Finance Team Meetings.

On March 22, 2021, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Yes	**No**	**Abstain**	**Absent**
Board Member Asklar	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Forster	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Kimble	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Leffler	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Acting Chairperson Larkin	**[ ]**	**[ ]**	**[ ]**	**[ ]**

Signed By: Vote Witnessed By:

_____ _____

Colleen Larkin, Acting Chairperson Sean W. Costello, Secretary to Board

NIAGARA FALLS WATER BOARD RESOLUTION # 2021-03-013

GOVERNANCE COMMITTEE MEMBERSHIP AND MEETINGS

WHEREAS, the Niagara Falls Water Board has a Governance Committee; and

WHEREAS, the Chairperson opened the floor for nominations, and _____ was nominated as Chairperson of the Governance Committee; and

WHEREAS, the Chairperson of the Water Board recommends that the Governance Committee be a committee of the whole, comprised of each member of the Niagara Falls Water Board, with the Executive Director and General Counsel and Secretary serving as ex-officio members of the Committee;

NOW THEREFORE BE IT

RESOLVED, that

(1) _____ hereby is appointed Chairperson of the Governance Committee;

(2) Until the Water Board's next annual meeting, the Governance Committee shall be a committee of the whole, whose membership will be each member of the Niagara Falls Water Board, with the Executive Director and General Counsel and Secretary serving as ex-officio members of the Committee;

(3) Meetings of the Governance Committee will be called by that Committee's Chairperson, with said meetings:

a. Held in compliance with the Open Meetings Law, including proper public notice;

b. Conducted pursuant to agendas, and recorded with minutes, both of which shall be posted to the Water Board's website; and

c. When possible, conducted before or after work sessions or other meetings of the Water Board, to avoid a multiplicity of meetings for Board members.

* CONTINUED ON NEXT PAGE *

(4) The Chairperson of the Governance Committee also shall be tasked with scheduling regular meetings with Water Board staff for the coordination of information and execution of Governance Committee objectives, to be referred to as Governance Team Meetings. The Chairperson will be responsible to report to the Governance Committee meeting appropriate information from Governance Team Meetings.

On March 22, 2021, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Yes	**No**	**Abstain**	**Absent**
Board Member Asklar	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Forster	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Kimble	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Board Member Leffler	**[ ]**	**[ ]**	**[ ]**	**[ ]**
Acting Chairperson Larkin	**[ ]**	**[ ]**	**[ ]**	**[ ]**

Signed By: Vote Witnessed By:

_____ _____

Colleen Larkin, Acting Chairperson Sean W. Costello, Secretary to Board