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AGENDA Meeting of the Niagara Falls Water Board January 31, 2022 at 5:00 p.m. 5815 Buffalo Avenue Niagara Falls, NY 14304 ***Meeting to be held via conference call pursuant to Chapter 417 of the Laws of 2021 as amended by Chapter 1 of the Laws of 2022. Visit NFWB.org for call-in details.***

1. Preliminary Matters

a. Attendance:

Asklar (Board Member/Chairman of Finance/Member Exec. Staff Review Cmte.)

Forster (Chairman)

Kimble (Board Member) _____

Larkin (Board Member/Vice Chairwoman/Governance Chairwoman/ Chairwoman Exec. Staff Review Cmte.)

Leffler (Board Member/Member Exec. Staff Review Cmte.) _____

- b. Comments from Chairman Forster
- c. Presentations
- d. Letters and Communications
 - i. 2022-01-18 Correspondence from Mayor Restaino Reappointing Chairman Forster for Term Ending December 31, 2024
 - ii. 2022-01-07 Representative Higgins to Governor Hochul, Supporting NFWB Infrastructure Investment
 - iii. 2022-12-28 Correspondence from Niagara County Legislature Chairman Becky Wydysh to Governor Hochul, Supporting NFWB Infrastructure Initiative

- iv. Niagara County Legislature Resolution IL-033-21, In Support of the Niagara Falls Water Board 2021 Infrastructure Initiative
- e. Public Comments (All speakers must register with the meeting clerk prior to roll call and are limited to three minutes per person total time for all speakers may not exceed one hour).
- f. Approval of Minutes
 - i. Draft December 13, 2021 Meeting Minutes
- 2. Executive Director Dr. Abderrahman Zehraoui
 - a. WWTP Project Budget Tracker (CPL)
 - b. WWTP Construction Schedule Tracker (CPL)
 - c. Financial Award Summary (CPL)
 - d. CPL Update on WWTP Project 1 (Sedimentation Basin 5 Status)
- 3. Outside Infrastructure Updates Michael Eagler
- 4. Engineering Douglas Williamson
 - a. Status of 2022 CIP Plan and Grants i. January 14, 2022 Draft CIP
- 5. Personnel Items John Accardo
 - a. January 31, 2022 Personnel Actions Sheet
 - b. January 19, 2022 Organizational Chart
- 6. Information Technology (IT) Dr. Abderrahman Zehraoui
- 7. Finance Brian Majchrowicz
 - a. Revenue Budget Performance Report through December 31
 - b. Sewer Fund Expense Budget Performance Report through December 31
 - c. Water Fund Expense Budget Performance Report through December 31
 - d. Board Fund Expense Budget Performance Report through December 31
 - e. Capital Payments November and December 2021
 - f. Key Bank and Bank on Buffalo Balance Report
 - g. Wilmington Trust Balance Report
 - h. Treasury Account Balance Report

- 8. Questions Regarding December 2021 Operations and Maintenance Report
- 9. Safety John Accardo
- 10. General Counsel and Secretary Sean Costello
- 11. From the Chairman

12. Resolutions

2022-01-001 – LUCITY SOFTWARE SUPPORT AND MAINTENANCE RENEWAL a. Lucity Renewal Invoice from Tritech Software Systems

2022-01-002 – AWARD WATER TREATMENT PLANT ELECTRICAL RELOCATION BID

- a. CPL Award Recommendation Letter WTP Electrical Relocation
- b. Bid Tabulation WTP Electrical Relocation

2022-01-003 – AWARD WATER TREATMENT PLANT HVAC AND PLUMBING RELOCATION, AND WASTEWATER TREATMENT PLANT DUCTWORK REPLACEMENT, BID

- a. CPL Award Recommendation WTP HVAC Relocation and WWTP Ductwork Replacement
- b. Bid Tabulation WTP HVAC Relocation and WWTP Ductwork Replacement

2022-01-004 – ACCEPTING PROPOSAL FOR INTERMEDIATE PUMP ASSESSMENT

- a. RFP 2021-04 Award Recommendation Memorandum
- b. <u>GHD Proposal dated January 19, 2022</u>

2022-01-005 – PAYROLL AND TIME MANAGEMENT SYSTEM TECHNOLOGY UPGRADE

- a. Evaluation Matrix
- b. Paychex Payroll and Time and Attendance Service Proposal
- c. Paychex Hardware (Time Clock) Proposal

<u>2022-01-006 – WWTP ADMINISTRATION BUILDING CARPET REPLACEMENT</u> a. January 10, 2021 Payne's Carpet Outlet Proposal

2022-01-007 – REALLOCATION OF BUDGETED FUNDS FOR AECOM CONSENT ORDER SERVICES

a. January 24, 2022 AECOM Proposal for Reallocation of Project Funds

2022-01-008 - OUTSIDE INFRASTRUCTURE REPLACEMENT MATERIALS

13. Additional Comments from Chairman Forster

- 14. Unfinished/Old Business
- 15. New Business & Additional Items for Discussion
- **16. Executive Session (if needed)**
- **17.** Adjournment of Meeting



MINUTES

Meeting of the Niagara Falls Water Board December 13, 2021 at 5:00 p.m. 5815 Buffalo Avenue Niagara Falls, NY 14304 ***Meeting was held via conference call pursuant to Chapter 417 of the Laws of 2021.***

1. Preliminary Matters

Chairman Forster called the meeting to order at 5:00 p.m.

a. Attendance:

Asklar (Board Member/Chairman of Finance/Member Exec. Staff Review Cmte.) <u>Pres</u>

Forster (Chairman) Present

Kimble (Board Member) Present

Larkin (Board Member/Vice Chairwoman/Governance Chairwoman/ Chairwoman Exec. Staff Review Cmte.) <u>Present</u>

Leffler (Board Member/Member Exec. Staff Review Cmte.) Present

b. Comments from Chairman Forster

Chairman Forster states that this will be Bill Wright's last Board meeting. Bill began his career at the NFWB as a seasonal laborer in June 1989. Bill Wright assisted in many departments throughout his career. He worked as a foreman from 2017-2018 prior to being promoted to Superintendent in February 2018-present. The Chairman thanks Bill for his efforts and dedication between the City of Niagara Falls and the NFWB. Chairman Forster shares that the staff has a gift for Bill Wright, thanking him for his 30+ years of employment. Bill Wright will begin his part-time employment with the NFWB beginning in February 2022. c. Letters and Communications

None.

d. Public Comments (Public speakers must advise the Secretary of their intention to speak on the conference call line prior to roll call or they may be muted. Alternatively, written comments may be submitted in writing to be read by the Secretary and must be received by 4:00 p.m. on December 13, 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)

None.

e. Approval of November 22, 2021 Meeting Minutes

Motion by Board Member Leffler and seconded by Board Member Larkin to approve the November 22, 2021 Meeting Minutes.

Asklar __Y_Forster __Y_Kimble__Y_Larkin__Y_Leffler__Y__

Motion carries, 5-0

- 2. Executive Director Dr. Abderrahman Zehraoui
 - a. WWTP Project Budget Tracker (CPL)
 - b. WWTP Construction Schedule Tracker (CPL)
 - c. Financial Award Summary (CPL)
- 3. Superintendent William Wright
 - a. Drip Program

Mr. Wright advised the Board that 54 addresses that no longer are deemed likely to have freezing issues have been removed from the Drip Program, letters regarding participation will be mailed to 179 addresses before the end of the year.

- 4. Engineering Douglas Williamson
 - a. Draft CIP Plan With Projects Updated
- 5. Personnel Items John Accardo
 - a. December 13, 2021 Personnel Actions Sheet

Mr. Accardo noted that notice had just been received that an Operating Engineer is resigning. Mr. Costello noted that the Board may wish to consider hiring of a replacement (though this new vacancy is not on the PA sheet).

Motion by Board Member Larkin and seconded by Board Member Asklar to authorize the hiring of an Operating Engineer to replace the Operating Engineer who is resigning.

Asklar <u>Y</u>Forster <u>Y</u>Kimble <u>Y</u>Larkin <u>Y</u>Leffler <u>Y</u>

Motion carries, 5-0

Motion by Board Member Larkin and seconded by Board Member Asklar to approve all items in Sections A and B of the December 13, 2021 Personnel Actions Sheet.

Asklar __Y__Forster __Y__Kimble__N__Larkin__Y__Leffler__Y__

Motion carries, 4-1

- 6. Information Technology (IT) Dr. Abderrahman Zehraoui
- 7. Finance Brian Majchrowicz
 - a. Transfer to Taxes
 - b. Revenue Budget Performance Report through November 30
 - c. Sewer Fund Expense Budget Performance Report through November 30
 - d. Water Fund Expense Budget Performance Report through November 30
 - e. Board Fund Expense Budget Performance Report through November 30
 - f. Capital Payments November 2021
 - g. November 2021 Budget Amendment Report
- 8. Questions Regarding November 2021 Operations and Maintenance Report
- 9. Safety John Accardo
- **10.** General Counsel and Secretary Sean Costello

11. Resolutions

2021-12-001 – 2022 WATER BOARD MEETING SCHEDULE a. 2022 Meeting Schedule

Motion by Board Member Leffler and seconded by Board Member Larkin to approve.

Asklar Y_Forster Y_Kimble Y_Larkin Y_Leffler Y_

Motion carries, 5-0

2021-12-002 – 2021 ANNUAL REVIEW OF MISSION STATEMENT, ADOPTION OF AND REPORT ON PERFORMANCE MEASUREMENTS, AND REPORT ON OPERATIONS AND ACCOMPLISHMENTS

a. 2021 Annual Review of Mission Statement, Performance Measurement Report, and Report on Operations and Accomplishments

Motion by Board Member Larkin and seconded by Board Member Leffler to approve.

Asklar __Y_Forster __Y_Kimble __Y_Larkin __Y_Leffler __Y__

Motion carries, 5-0

2021-12-003 – ANNUAL REVIEW OF PROCUREMENT AND INVESTMENT POLICIES AND ADOPTION OF REVISIONS

- a. Procurement Policy, Revision Date December 13, 2021
- b. Investment Guidelines, Revision Date December 13, 2021

Motion by Board Member Kimble and seconded by Board Member Larkin to approve.

Asklar __Y_Forster __Y_Kimble __Y_Larkin __Y_Leffler __Y__

Motion carries, 5-0

2021-12-004 – 2022 CLARK PATTERSON LEE PROFESSIONAL SERVICES EXTENSION

a. CPL November 23, 2021 Proposal

Motion by Board Member Asklar and seconded by Board Member Larkin to approve.

Asklar <u>Y</u>Forster <u>Y</u>Kimble <u>Y</u>Larkin <u>Y</u>Leffler <u>Y</u>

Motion carries, 5-0

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NFWB Jan. 31, 2022 Meeting Agenda Packet - Page 8

WALK-ON RESOLUTIONS

Motion by Board Member Kimble and seconded by Board Member Asklar to waive the agenda deadline policy in order to consider Resolutions 2021-12-005 and 2021-12-006.

Motion by Board Member Kimble and seconded by Board Member Asklar to approve.

Asklar Y_Forster Y_Kimble Y_Larkin Y_Leffler Y_

Motion carries, 5-0

2021-12-005 – AUTHORIZING AMENDMENT TO CONTRACT WITH NIAGARA COUNTY BUILDING & CONSTRUCTION TRADE UNIONS, AFL-CIO

Motion by Board Member Kimble and seconded by Board Member Asklar to approve.

Asklar __Y_Forster __Y_Kimble__Y_Larkin__Y_Leffler__Y__

Motion carries, 5-0

2021-12-006 – BUDGET AMENDMENT FOR CARBON CHANGES

Motion by Board Member Asklar and seconded by Board Member Leffler to approve.

Asklar <u>Y</u>Forster <u>Y</u>Kimble <u>Y</u>Larkin <u>Y</u>Leffler <u>Y</u>

Motion carries, 5-0

12. Additional Comments from Chairman Forster

13. Unfinished/Old Business

- a. 18th Street Slip Line
 - Walk-through completed from Whitney Ave. to Ontario Ave. with City Engineering discussed at board meeting held on 5/24/21.
 - City Engineering is hand-drawing certain utilities, design not complete as of July 19.
 - 9/20/21 T. Donner from CPL will prepare a proposal for CPL to do the engineering for the grant-funded work.
 - 10/25/21 CPL Proposal accepted by Resolution 2021-10-005.

- b. Roof Study
 - Study is complete. Dave Jaros from CPL will now be the point person discussed at work session held on 7/12/21.
 - 10/18/21 Per D. Jaros, Tremco is stretch testing the WTP roof membrane to further evaluate its condition.
- c. Beech Ave. Water Tower
 - Jay Meyers explains some modeling work is needed along with finalizing ideas for an ideal location (possibly Buffalo Ave.)
 - Beech Ave. is not an ideal location due to the need for a pump station.
 - Cost to complete the study approximately \$9,800 discussed at board meeting held on 5/24/21.
 - Per Jay Meyers, as of July 19, project is 95% complete, final details to be discussed with NFWB.
 - 9/20/21 Report delivered to NFWB (Copy is in 9/27 Meeting Packet, Minus Appendices).
- d. Caulking Project WTP
 - Exterior caulking complete.
 - Bid for interior caulking awarded at July 2021 meeting; next step is to schedule the work.
 - 9/20/21 Contractor now has supplied bonds, J. Meyers will get work scheduled.
 - 11/17/21 Having trouble getting contractor to begin performance.
- e. 56th Street Water Tower
 - CPL was tasked to explore ways to improve the functionality and eliminate the need for WTP operators to have to drain the water lower levels on a daily basis in order to recirculate the water; due to the lack of a recirculating pump and valve at the bottom of the tank discussed at board meeting held on 5/24/21.
 - 9/20/21 Report delivered to NFWB (Copy is in 9/27 Meeting Packet, Minus Appendices).
- f. Lift Station Roofs
 - As of September 14, 2021:
 - New pitched roof at 81st and Frontier has been installed using in-house labor and Carpenters from Union Hall.
 - Waiting on metal roofing material for 81st and Stephenson, should arrive by the end of September 2021.
 - J. Argona and M. Eagler are evaluating the possibility of performing the work required on the Cayuga Island lift station in house.
 - 9/21/21 Per M. Eagler, two lift stations will be painted before weather changes.

- 10/14/21 One building painted, the other is underway.
- 10/18/21 J. Argona and M. Eagler will see what additional work can be done to improve the Cayuga lift station.
- g. Chlorine System
 - Adding a booster pump to the raw water chlorine feed would prevent loss of chlorine feed during a low-pressure scenario (i.e. Goodyear break).
 - Will also provide backup to chlorine dosage during backflow testing/repairs
 - CPL has done design, waiting for DOH approval of submittals, as discussed July 19.
 - 9/14/2021 Still waiting for DOH approval.
 - 9/20/2021 Same status, Dr. Zehraoui to contact DOH regarding delay.
 - 10/18/21 DOH requested additional information; CPL produced and submitted requested engineering report.
 - 11/17/21 DOH has issued comments, response to be provided by 11/26/2021.
- h. Emergency Backup Generators

•

- In need of repair multiple issues with transfer gear and controls.
 - 1 unit has been determined to need radiator parts/replacements. • Radiator repair approx. \$40,000.
- Work continues with Zenith determined TS-2 and TS-3 need cleaning and lubrication, which involves removing power and running a separate generator to make the necessary repair.
- Quotes have been received for auto switching main plant power feeds to lessen the risks involved with a generator failure (unknown).
- Joe Argona provided a proposal from Milton-Cat (dated 4/19/21) for the installation of the auto-transfer scheme and relay upgrade for the (2) main incoming feeders for the WTP – discussed at board meeting held on 6/28/21.
- Working to plan a plant shutdown to clean electrical contacts and other preventative maintenance work on electrical system.
- 9/20/2021 J. Argona will get updated quote for Board approval of radiator replacement.
- 10/14/21 J. Argona followed up with Milton CAT on 10/13, they still are working on updated quote. Plant shutdown scheduled for 10/20.
- 11/22/21 Plant shutdown/switch maintenance completed without incident. Resolution for radiator repair is in agenda packet.
- i. WTP Roofing
 - Area over front main entrance vestibule is leaking creating issues with drywall mold and cracking.

- Area over filter gallery with floating foam pieces no leaks detected. Nearby roof drains have been cleaned to help with the issue discussed at board meeting held on 5/24/21.
- A purchase order for \$8,750.00 has been submitted to Brad Farris from Tremco work will be scheduled shortly discussed at work session held on 7/19/21.
- 9/20/21 Report from Tremco is included in work session packet.
- 9/20/21 Report reviewed with Board by D. Jaros.
- j. Interior Lighting
 - As of 9/14/2021, plan is to do low-lift lighting in-house.
 - Replacement fixtures installed in accessible areas of low lift were not as bright as desired, a new light was ordered to test out in the building – discussed July 19.
 - 9/14/2021 A replacement fixture has been installed and is being evaluated.
 - 9/20/2021 Per J. Argona, replacement fixture was satisfactory, more will be ordered, total cost estimated at \$5,000 to \$6,000 to do entire area.
 - 10/14/21 Additional replacement fixtures have been delivered. Installation will begin when lift is transferred from WWTP.
 - 11/18/21 Lift is in use replacing lights at WWTP.
- k. HVAC Rooftop & Make Up Air
 - Outdated units need replacements 4 out of the 5 units are inoperable.
 - Still in need of additional units the pandemic has brought this to the forefront, as makeup air is potentially regulated in certain environments as well as air filtration ratings.
 - June 30, 2021 Quote for MUAUs totals \$263,222
 - July 19 D. Williamson and J. Meyers tasked with preparing bid specifications for this project.
 - 9/20/2021 Per J. Meyers, specifications are about 90% complete.
 - 10/18/21 Project is out to bid.
 - 11/22/21 Resolution for award is in Board packet (<u>Approved</u>).
- I. PACL System Upgrades
 - Need SCADA professionals to finish updating our program to match the 4 PACL pumps so that all 4 pumps can be utilized with SCADA control.
 - 9/20/2021 Three of four pumps are connected to SCADA, Dr. Zehraoui will meet with C. Hotchkiss regarding connecting fourth pump.
 - 10/18/21 Per Dr. Zehraoui, project is at 90% and should be complete October 20.

• <u>12/1/21 – Waiting on staff availability to complete work.</u>

m. Bulk Chemical Storage Liners

- PACL liners complete contractor has concerns about Fluoride toxicity. Maintenance department to follow up.
- Joe Argona states he is waiting on the Canadian boarders to re-open in order to receive servicing on the fluoride tank. Also, waiting on a response from the DOH regarding regulations for not dosing during the time of servicing – discussed at board meeting held on 6/28/21.
- 9/14/2021 Still waiting for border to reopen so work can proceed.
- 10/14/21 Still waiting for border reopening.
- 11/18/22 Still waiting on border reopening.

q. Board Member Asklar will have oversight on remodeling of the WWTP employee break room, shower area and bathrooms - discussed at board meeting held on 5/24/21.

- Board Member Asklar states he would like to meet with Dr. Zehraoui prior to their weekly finance meetings to further discuss – discussed at board meeting held on 6/28/21.
- Administration building bathrooms have been repainted; new vanities and mirrors will be installed; budget line for ordering these is needed as discussed at July 19 work session.
- 10/14/21 Vanities for administration bathrooms delivered today.
- 11/22/21 Vanities installed in admin. bathrooms, waiting for mirrors/finish work.
- n. WTP Freeze-Thaw Bed Cleanouts
 - Freeze Thaw beds were designed with a maximum plant flow of 20 MGD, which we are now exceeding. The resulting amounts of solids have become more expensive and more difficult to have removed, and we frequently have to switch beds sooner than planned in order to maintain our SPDES permitted water quality.
 - 9/20/21 Contents of two beds have been moved to bed three, so two beds are available to WTP operations. Contents will be landfilled when dry.
 - 10/14/21 Arrangements are being made for trucking/disposal.
 - 10/18/21 Dr. Zehroaui advises we will start hauling to landfill next week.
 - 11/22/21 Cleanout work is underway.
 - <u>12/1/21 Cleanout work complete.</u>
- o. Carbon Silo needs repair and painting before it becomes unstable and needs demolishing.
 - Polymer and Carbon capabilities could be reinstated to improve plant capability.
 - Joe Argona to get budgetary quote for painting silo.

- 9/14/2021 NYS Industrial Coatings Quote \$20,000; our painter can do it in house for \$5,000 to \$10,000 if we get a lift.
- 10/14/21 Plan is to schedule work in house for spring.
- p. Painting of Sedimentation plates and various areas throughout the interior and exterior of the plant. Filter walls are peeling.
 - 10/18/21 Waiting on quote for coating.
 - 11/18/21 Quote obtained. Waiting to schedule based on painter availability.
- q. WTP Chemical Offload Area Coating Replacement.
 - Quotes obtained, NYS Industrial Coating price is \$29,750, Niagara Coatings \$29,250.
 - 9/14/2021 Exploring doing in house, would need to have contractor do the necessary soda blasting to remove existing coating, then will work to schedule job in house Spring 2022 for approx. half cost of contractor.
 - 9/20/2021 J. Argona estimates cost to complete work will be \$7,000, painter and WTP maintenance have removed much of the old coating.
 - 10/14/21 Work will be scheduled using in-house forces in Spring 2022.
 - 11/22/21 To improve durability of work, quote obtained for sandblasting prior to work being completed in spring (\$3,000).
- r. Repairs to WTP Rear Perimeter Fence.
 - Quotes obtained, Fox Fence with barbed wire option is \$21,611.29, Davidson \$23,480.
 - 9/14/2021 Can omit barbed wire to get under \$20,000, but will need to identify funds for this.
 - 9/20/2021 D. Williamson directed to look into possible Homeland Security grant to help fund project.
 - 10/18/21 Will be included in WIIA grant application.
 - 12/1/21 Included in 11/22 grant application
- s. Follow up on Auditors' Recommendations
 - 9/20/2021 A plan to address these will be developed during weekly meetings between staff and Chair of Finance Asklar.
 - 10/18/21 Underway.
- t. WWTP Camera Installation
 - 9/20/21 3 cameras are installed, planned final total will be approx. 11.
 - 10/14/21 Project is ongoing.
 - 10/18/21 Chairman Forster questioned whether Dr. Zehraoui will be able to review cameras from his office.

- 11/18/21 10 cameras have been installed to date.
- u. Neptune Meter Project Report
 - 9/20/2021 Reports on status were in work session packet.
 - 10/18/21 Payback period study will be complete in a month; meeting scheduled for 10/19 to discuss plan for large meters; substantive update planned for November 2021.
 - 11/22/2021 Economic Analysis Report is in agenda packet.
 - <u>12/6/2021 Presentation at December 2021 work session.</u>
- v. Board Meeting Room Expansion Project
 - 10/18/2021 J. Argona reports in-house work is underway, project will require work by Ferguson and Mollenberg-Betz. Estimated completion is in 5-6 months.
 - 11/22/21 Quote for \$26,000 from Mollenberg to move piping;
 D. Williamson to develop bid specifications to attempt to secure more competitive pricing.
 - <u>12/1/21 D. Williamson to prepare bid for needed for HVAC,</u> plumbing, and electrical work.
- 14. New Business & Additional Items for Discussion
 - a. <u>Discussion, if any, regarding TiSales/Neptune Advanced Metering</u> <u>Infrastructure ("AMI") Presentation</u>
- **15. Executive Session (if needed)**

None.

16. Adjournment of Meeting

Chairman Forster thanked his fellow Board Members and the Board's staff for all their efforts throughout 2021 and wished them all a happy and prosperous 2022. The Chairman thanked the Executive Staff for their efforts regarding the WWTP plant conversion. The conversion will have an international impact on discharge and significant impact to the rate payers.

The Chairman and his fellow Board Members showed appreciation to all employees of the NFWB for their continued efforts along with welcoming Michael Eagler to his new position as Chief of Outside Infrastructure and Cortez Bradberry to his new position as Foreman.

Motion by Board Member Larkin and seconded by Board Member Leffler to adjourn at 6:06 p.m.

Asklar __Y_Forster __Y_Kimble__Y_Larkin__Y_Leffler__Y__

Motion carries, 5-0



(WORK IN PROGRESS)

						0007				FORECASTED E	XPENDITURE	S	
ITEM	NO.	CAT.	PROJECT NAME	PROJECT DESCRIPTION	RATING	ESTIMATE	FUNDING	2022	2023	2024	2025	2026	Deferred
COM	BINED	PROJE	CTS (WATER AND WASTEWATER) - C			ļ							
С	1		IT Plan Implementation	Develop & implement IT solution	MEDIUM	\$30,000	Annual Coverage Transfer	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
С	2		Meter Replacement & Upgrades	Replace inaccurate & old meters	MEDIUM	\$70,000	Annual Coverage Transfer	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000
С	3		Fleet Replacement	Replenish fleet	MEDIUM	\$80,000	Annual Coverage Transfer	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
С	4		Water/sewer GIS/GPS Mapping	Document system assets	MEDIUM	\$5,000	Annual Coverage Transfer	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
С	5		Combined Projects - Miscellaneous	Projects not forecasted or based on an emergency	HIGH	\$100,000	Annual Coverage Transfer	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
					FOR	RECASTED EXPI	ENDITURES - SUBTOTALS PER YEAR	\$285,000	\$285,000	\$285,000	\$285,000	\$285,000	\$285,000
WAS	TEWAT	ER TR	EATMENT PLANT INFRASTRUCTURE PROJECTS - WWTP										
		G	Project No.1 - SEDIMENTATION BASINS AND SCUM COLLECTION SYSTEM	Conversion of (4) sedimentation basins to chain and			SAM Grant #15688 Phase I	\$1,326,975	\$1,326,975	\$1,326,975			
WWIP	1	E	MODIFICATION (WWTP Rehab Phase 4A)	flight and rehabilitation work, scum building upgrades	HIGH	\$9,195,110	Project 1 Bid Est. Current	\$2,653,949	\$2,653,949	\$2,653,949			\$0
WWTP	12	ENG	Project No. 1 - Phase 2	Influent channel leak repair of expansion joints	LOW	\$700.000	#15000 Matching Funds	\$1,320,975	\$1,320,975	\$1,320,975			\$700.000
WWTP	1.3	M	Project No.1 - Phase 3	Sed. Basin #5 treatment of backwash water	MEDIUM	\$1,000,000	TBD						\$1.000.000
		G	Project No.2 - GORGE PUMP STATION REHABILITATION (WWTP Rehab Phase 4B)			.,,,	SAM Grant #15688 Phase I	\$984,897					
WWTP	2	E		Three (3) new 600 hp pumps with new motors and drives,	HIGH	\$3 276 065	Project 2A Bid Est Current	\$1 969 794					\$0
	_	Н		heating and ventilation improvements		••,=••,•••		• . , • • • •					••
		ENG					#15688 Matching Funds	\$984,897					
WWTP	2	G	PROJECT NO.3 - SCREENINGS AND GRITTRANSPORT EQUIPMENT IMPROVEMENTS,	New screenings beit conveyor, grit screw conveyor,	нісн	\$1 982 115	SAM Grant #15686 Phase I Project 2 Pid Est	\$790,274					\$0
		ENG	UPGRADES (WWTP Rehab Phase 4C)	variable frequency drive, and dry polymer mixing systems	mon	ψ1,502,110	#15688 Matching Funds	\$790 274					ΨŪ
WWTP	3.2	M	Project No.3 - Phase 2	Grit pump flow meters	MEDIUM	\$300,000	TBD	¢100,211					\$300,000
WWTP	3.3	G	Project No.3 - Phase 3	Rapid Mix Tank Cleaning	MEDIUM	\$400,000	TBD						\$400,000
WWTP	3.3	G	Project No.3 - Phase 4	Additional belt filter press and conveyor	MEDIUM	\$2,000,000	TBD						\$2,000,000
		Е	Project No.5 - ELECTRICAL SYSTEMS IMPROVEMENTS (WWTP Rehab Phase 4E)	Electrical assessment of high voltage system, power			SAM Grant #15688 Phase I	\$240.649	\$721.948				
WWTP	5	ENC		centers and transformers and replacement of defective	HIGH	\$2,610,000	Dreiget 5 Cost Est. Current	¢ 494 200	¢4 442 900				\$0
		ENG		electrical systems			#15688 Matching Funds	\$240 649	\$721 948				
			Project No.5 - Electrical Systems Improvements (Phase 2)				#10000 matching runus	ΨΖ=0,0=3	\$721,3 4 0				
		_	······································	Replacement of stone and grounding grid at electrical		\$004 TO0							**
WWVIP	5.2	E		substation, Retrofit of the spare 480 volt breakers draw-	HIGH	\$201,762	Construction Estimate						\$U
				out circuit breakers with a new electronic trip unit									
WWTP	5.3	E	Project No.5 - Electrical Systems Improvements (Phase 3)	Power center #2 and #5 transformer replacement	MEDIUM	\$2,000,000	TBD						\$2,000,000
	5.4	E	Project No.5 - Electrical Systems Improvements (Phase 4)	Power center #4 and #1B transformer replacement	MEDIUM	\$2,000,000	IBD						\$2,000,000
WWTP	5.0 5.6	F	Project No.5 - Electrical Systems Improvements (Phase 5)	New PA and fire alarm system Carbon area lighting, switchyard improvements	MEDIUM	\$500,000	TBD						\$500,000
WWTP	6.2	G	Project No.6 - Effluent Disinfection (Phase 2)	Carbon bed effluent cleaning & inspection	MEDIUM	\$500,000	TBD						\$500,000
WWTP	6.3	G	Project No.6 - Effluent Disinfection (Phase 3)	Carbon filter mud valve replacements	MEDIUM	\$700,000	TBD						\$700,000
		H	Project No.7 - HVAC IMPROVEMENTS (WWTP Rehab Phase 4G)	Sludge building, belt filter press area, carbon storage			SAM Grant #15688 Phase I	\$503,802					
WWTP	7	E		area, main pump building and wet well, headworks area	HIGH	\$1,099,883	Project 7 Bid Est. Current	\$1,007,603					\$0
		ENG		heating and ventilation improvements			#15688 Matching Funds	\$503,802					
WWTP	7.2	н	Project No.7 - HVAC Improvements (Phase 2)	New BFP, control room and odor control building HVAC	MEDIUM	\$1,000,000	TBD						\$1,000,000
WWTP	8.2	М	Project No.8 - Backwash Pump, Motor, VFD & Controls (Phase 2)	New backwash pump, motor, VFD & controls	MEDIUM	\$1,500,000	TBD		-			-	\$1,500,000
		М	Project No.9 - INTERIOR PIPING IMPROVEMENTS (WWTP Rehab Phase 4I)	Replacement of existing plant water line, including the			SAM Grant #15688 Phase I	\$263,776					
WWTP	9	ENG		installation, temporary waterline bypass system, and	HIGH	\$601,516	Project 9M Bid Est. Current	\$527,551					\$0
				waterline connections			SAM Grant Matching Funds	\$263,776	A 40 40 -	A 40 40 -			
WWTP	10	_		Improvements to the existing SCADA system for the new	нісн	\$498.650	SAM Grant #15686 Phase I	\$48,465	\$48,465	\$48,465			\$0
	10	E		WWTP equipment	mon	ψ+30,030	#15688 Matching Funds	\$48,465	\$48,465	\$48,465			ΨΟ
WWTP	11		WWTP PHASE II GRANT PROJECTS					ψ+0,+00	φ+0,+00	ψ+0,+00			\$0
		G		Installation of a new drain pipe and manholes for			Sam Grant Project ID #19246	\$173.914					••
WWTP	11.3	ENG	Project No.11 (WWTP Phase II Grant) - Exterior Piping Improvements (Upgrades to	sedimentation basin no. 5, new casing pipe and poly	MEDIUM	\$695,655	Project 11G Bid Est. Current	\$347,828					\$0
			the Sewer Line Holl Sedimentation Basin No.5)	tubing for hypo. transport to the scum building			#19246 Matching Funds	\$173,914					
		G	Project No.11 (WWTP Phase II Grant) - Exterior Piping Improvements (Replacement of	Removal of a portion of existing sludge lines and the		INCLUDED	Sam Grant Project ID #20545	\$173,914					
WWIP	11.4	ENG	Sludge and Hypochlorite Pipelines)	Installation of new sludge lines from the Sludge Building	MEDIUM	ABOVE	Project 11G Bid Est. Current	\$347,828					\$0
				to the Mickelled Sludge Fullip Building (19FB)			#20545 Matching Funds	\$173,914					
		G		Assessment and replacement of (4) intermediate pumps		AD 075 000	SAM Grant Project ID #24605	\$37,500	\$750,000	\$750,000			**
WWIP	11.5	ENG	Project No.12 (WWTP Phase II Grant) - WWTP Intermediate Pump Upgrades	and check valves	HIGH	¢3,075,000	Project 12 Cost Est. Current	\$75,000	\$1,500,000	\$1,500,000			\$0
							#24605 Matching Funds	\$37,500	\$750,000	\$750,000			
WWTP	11.6	G	Project No. (WWTP Phase II Grant) - Plant Water System Upgrades	Removal and replacement of plant water piping	MEDIUM	\$1,000,000	TBD						\$1,000,000
WWTP	11.7	G	Project No. (WWTP Phase II Grant) - Interior and Exterior City Water System Upgrades	Removal and replacement of interor and exterior city	MEDIUM	\$2,000,000	TBD						\$2,000,000
							2021 grant application (TRD)		\$600.000	\$600.000			
WWTP	12		WWTP ROOF REPAIRS	Replace & repair large sections of the WWTP roofs	LOW	\$2,000.000	Project Cost Estimate		\$1,000.000	\$1,000.000			\$0
							Future Matching Funds		\$400,000	\$400,000			
WWTP	12.1	G	WWTP Roof Repairs (Phase 1) - Carbon Area Roof	Replacement of carbon area roof	LOW	\$2,200,000	TBD						\$2,200,000



(WORK IN PROGRESS)

				COST				FORECASTED	EXPENDITURE	ES			
ITEM	NO.	CAT.	PROJECT NAME	PROJECT DESCRIPTION	RATING	ESTIMATE	FUNDING	2022	2023	2024	2025	2026	Deferred
				Paula and a fact line has a black for land and 010 and			2021 grant application (TBD)		\$90,000				
WWTP	13		WWTP CHEMICAL BULK STORAGE	(2) forris chlorido tanks	HIGH	\$150,000	Project Cost Estimate		\$150,000				\$0
							Future Matching Funds		\$60,000				
WWTP	13.1	M	WWTP Chemical Bulk Storage (Phase 1)	Replacement of (2) ferric chloride tanks	MEDIUM	\$750,000	TBD						\$750,000
WWTP	13.2	M	WWTP Chemical Bulk Storage (Phase 2)	Tank #216 secondary containment lining	HIGH	\$40,000	TBD						\$40,000
WWIP	13.3	M	WWTP Chemical Bulk Storage (Phase 3)	Tank #216 replacement	MEDIUM	\$300,000			*F (0, 000				\$300,000
						* ****	2021 grant application (TBD)		\$510,000				* 0
WWIP	14		WWIP STRUCTURAL /MASONRY REPAIRS	Repair aging and failing structural components	MEDIUM	\$850,000	Project Cost Estimate		\$850,000				\$0
						4050.000	Future Matching Funds		\$340,000				* 252.000
WWIP	14.1	G	WWTP Masonry Repairs (Phase 1) - Misc. repairs, replace brick soldier course	Necessary masonry repairs to buildings	MEDIUM	\$850,000	IBD						\$850,000
WWIP	14.2	NFWB	WWTP Structural Demolition - Old Lime Feed System	Removal of old lime feed system in Sludge Bldg.	LOW	\$100,000	TBD						\$100,000
WWTP	14.3	G	WWTP Structural Demolition - Chemical Building	Removal old equipment in chemical bldg.	LOW	\$100,000	TBD						\$100,000
WWTP	14.4	G	WWTP Structural Demolition - Sulfuric Acid Tank and Piping	Removal of abandoned sulfuric acid tank and piping	LOW	\$300,000	TBD						\$300,000
WWTP	14.5	G	WWTP Structural Demolition - Carbon Furnace Area	Removal of unused carbon furnace equipment	LOW	\$4,000,000	TBD						\$4,000,000
WWTP	15		Wastewater Treatment Plant Protective Measures, Contract 68 (Canceled)	CANCELED	CANCELED	CANCELED	FEMA Grant #4204-0003 Phase II Cost Est \$3 92M (75%)= \$2 940 000						\$0
WWTP	15		WWTP BIOLOGICAL CONVERSION PROJECTS	Conversion of physical-chemical WWTP to biological treatment	нідн	\$200,000,000	Total Project Cost Estimate						\$0
				Necessary to improve offluent water quality and most			Future grant application (TBD)						
WWTP	15.1	ENG	WWTP Biological Conversion - Engineering (Phase 1)	regulatory standards	HIGH	\$40,000,000	Project Cost Estimate						\$40,000,000
							Future Matching Funds						
	45.0		WM/TD Biological Conversion Construction (Phase 3)	Necessary to improve effluent water quality and meet	шен	¢ 40,000,000	Future grant application (TBD)						\$40,000,000
	15.2	G	WWIP Biological Conversion - Construction (Phase 2)	regulatory standards	пібп	\$40,000,000	Future Matching Funds						\$40,000,000
							Future grant application (TBD)						
WWTP	15.3	G	WWTP Biological Conversion - Construction (Phase 3)	Necessary to improve effluent water quality and meet	HIGH	\$40,000,000	Project Cost Estimate						\$40,000,000
				regulatory standards			Future Matching Funds						
				Necessary to improve effluent water quality and meet			Future grant application (TBD)						
WWTP	15.4	G	WWTP Biological Conversion - Construction (Phase 4)	regulatory standards	HIGH	\$40,000,000	Project Cost Estimate						\$40,000,000
							Future Matching Funds						
WWTP	15.5	G	WWTP Biological Conversion - Construction (Phase 5)	Necessary to improve effluent water quality and meet	нісн	\$40,000,000	Project Cost Estimate						\$40,000,000
	10.0	Ŭ		regulatory standards	Thom s	φ+0,000,000	Future Matching Funds						φ+0,000,000
							Future grant application (TBD)		\$300,000				
WWTP	16		WWTP BUILDING AND SITE PROJECTS	Necessary repairs and improvements to building and sit		\$1,500,000	Project Cost Estimate		\$500,000				\$0
					WEDIOW		Future Matching Funds		\$200,000				
<mark>WWTP</mark>	16.1	Е	Standby Generator	Standby generator system capable of temp. power to complete WWTP	LOW	\$1,500,000	TBD						\$1,500,000
WWTP	16.2	G	Plant Road Repaying	Necessary repaving of WWTP roads	MEDIUM	\$600,000	TBD	* ~~~~~~	A AAAA AAAA	* ~~~~~~~	* ~~~~~~	* ~~~~~~~	\$600,000
WWIP	1/ CT CB		WWTP INFRASTRUCTURE PROJECTS - MISCELLANEOUS	As needed	HIGH	\$200,000	Annual Coverage Transfer	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
WWTP	PHASE	ELGRA	NT PROJECTS - SAM Grant #15688 (total grant amount = \$13,500,000)	CATEGORIES NEWB - Niagara Falls Water Board			#15688 Matching Funds	\$4,158,838	\$2,097,387	\$1,375,440	\$0 \$0	\$U \$0	
WWTP	PHASE		NT PROJECTS - SAM Grant #By Project (total grant amount = \$6,500,000)	ENG - Engineering and Bidding			SAM Grant #19246	\$173.914	\$0	\$0	\$0	\$0	
2021 N	YS EFC	WIIA C	Frant Projects - Wastewater Treatment Plant	G - General Construction			#19246 Matching Funds	\$173,914	\$0	\$0	\$0	\$0	
	Gra	ant App	lication submitted (waiting on approval)	M - Mechanical Construction			Sam Grant #20545	\$173,914	\$0	\$0	\$0	\$0	
FEMA (GRANT	PROJ	ECT #4204-0003 Phase II (total grant amount = \$2,853,778) - CANCELED	E - Electrical Construction			#20545 Matching Funds	\$173,914	\$0	\$0	\$0	\$0	
	H - HVAC Construction						SAM Grant #24605	\$37,500	\$750,000	\$750,000	\$0	\$0	
Project has been eliminated							#24605 Matching Funds	\$37,500	\$750,000	\$750,000	\$0	\$0	
Project or work has been completed							Euture Matching Eurode	۵ ۵	\$1,000,000	\$400,000	۵ ۵	φU 0.2	
TBD - To Be Determined							Annual Coverage Transfer	\$200.000	\$200.000	\$200.000	\$200.000	\$200.000	
IBD - 10 Be Determined					FO	RECASTED EXPE	ENDITURES - SUBTOTALS PER YEAR	\$9.288.330	\$8,394,775	\$5,450,879	\$200,000	\$200.000	\$226,840,000



(WORK IN PROGRESS)

			COST					FORECASTED	EXPENDITURE	S			
ITEM	NO.	CAT.	PROJECT NAME	PROJECT DESCRIPTION	RATING	ESTIMATE	FUNDING	2022	2023	2024	2025	2026	Deferred
SEW	ER INF	RASTR	UCTURE PROJECTS - S										
S	1.1	G	GPS Elevator Infiltration	Repair infiltration into GPS elevator shaft	HIGH	\$700,000	TBD						\$700,000
S	2.1	NFWB	Sanitary Lift Station Upgrades	Repair and upgrades to Sanitary Lift Station	MEDIUM	\$200,000	TBD						\$200,000
							EPG Grant #111586	\$100,000					
				SSO reduction in the LaSalle sewer system area to satisfy		\$180,000	Project Cost Estimate (TBD)	\$180,000					\$0
S	3	NFWB	LaSalle Area Sewer Improvements (SSO)	the requirements of NYSDEC Consent Order R9-20080528-			EPG Matching Grant Funds (TBD)	\$80,000	\$250.000	\$250.000 ·			
				32	HIGH	\$1 000 000	Project Cost Estimate (TPD)		¢222 222	¢232 222	¢232 222		\$0
						φ1,000,000	WQIP Matching Grant Funds (TBD)		\$83.333 \$83.333	\$83.333 \$83.333	досо,ооб 83.333		Ψ
· ·		NEWD	Combined Course Overflow Long Term Control Plan (CCC LTCD) Involution (11)			TDD							¢0
5	4	NEWB	Combined Sewer Overflow Long Term Control Plan (CSO LTCP) Implementation	Implement sewer improvements to mitigate CSO's	LOW	IBD	ON HOLD						\$0
S	5	NFWB	CSO Outfall Structural Repairs	Repairs to CSO outfalls on lower river	LOW	\$1.000.000	ON HOLD						\$1,000.000
-	<u> </u>	⊢ – I				+ - , - • • • • •							+ - , 3,
S	6	NFWB	Large Sewer Main and Tunnel Inspection	Inspect large diameter conveyance systems	LOW	\$350,000	ON HOLD						\$350,000
S	7.1	NFWB	Large Sewer Main and Tunnel Repairs	Repairs to large sewer mains and tunnels	MEDIUM	\$500.000	TBD						\$500,000
6				Sewer/GPS projects not forecasted or arise based on	шен	\$100.000	Annual Coverage Transfer	¢100.000	\$100.000	\$100.000	\$100.000	\$100.000	\$100.000
3	ð	INF WB	Sewer/GFS Infrastructure Projects - Miscellaneous	an emergency situation	піся	φ100,000	Annual Coverage Transfer	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
PROJE	ECT GR	ANT FU	NDING LEGEND	Project has been eliminated			Grants	\$100,000	\$250,000	\$250,000	\$250,000	\$0	
2021 E	ngineel	ring Pla	nning Grant Project No.111586 (total grant amount = \$100,000)	Project or work has been completed			Matching Grant Funds (TBD)	\$80,000	\$83,333	\$83,333	\$83,333	\$0	
2021 W	VQIP Gr	ant Pro	ect No.111586 (total grant amount = \$800,000)	Project or work is ongoing			Annual Coverage Transfer	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	
				TBD - To Be Determined	FO	RECASTED EXPL	ENDITURES - SUBTOTALS PER YEAR	\$280,000	\$433,333	\$433,333	\$433,333	\$100,000	\$2,850,000
WAT	ER TRI	EATMEI	IT PLANT INFRASTRUCTURE PROJECTS - WTP										
WTP	1	NFWB	WTP Small Pump Replacements	Replacement of small WTP pumps necessary to process	HIGH	\$30,000	Annual Coverage Transfer	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
	+	<u>├</u>		Replacement of large WTP pumps necessary to process									
WTP	1.1	м	WTP Large Pump Replacements	drinking water	MEDIUM	\$2,000,000	TBD						\$2,000,000
WTP	12	м	WTP Bar Screen Penlacement	Replacement of existing bar screens necessary to	LOW	\$1,000,000	TRO						\$1,000,000
**1	1.2			process drinking water	LOW	φ1,000,000							φ1,000,000
	24	E	MTD SCADA Control Sustan Unworker	Automate WTP operations and perform necessary VA	шен	¢500.000			\$150,000	\$150,000			¢0.
WIP	2.1	ENG	WIP SCADA Control System upgrades	identified upgrades	HIGH	\$200,000	Project Cost Estimate		\$250,000 \$100,000	\$250,000 \$100,000			20
		G					2021 EFC Grant Application (TBD)		\$15,000	\$15,000			
WTP	2.2	ENG	WTP Security Upgrades	Automate WTP operations and perform necessary VA	MEDIUM TO	\$50,000	Project Cost Estimate		\$25,000	\$25,000			\$0
				Identified upgrades	HIGH		Future EFC Matching Funds		\$10,000	\$10,000			
WTP	3	G	WTP Vent Line Replacement	Replace corroding process vent piping	MEDIUM	\$100,000	ON HOLD						\$100,000
WTP	4	NFWB	WTP Laboratory Instrumentation	New instruments for sample analysis	MEDIUM	\$100,000	As needed						\$100,000
WTP	5	G	WTP Roofing Work	Repair aging and failing structural components	MEDIUM	\$50.000	Annual Coverage Transfer	\$50,000	\$50.000	\$50,000	\$50,000	\$50,000	\$50,000
WTD		ار ا			MEDUIN	¢50.000		¢50.000	¢50,000	¢50,000	¢E0.000	¢50,000	¢E0.000
WIP	6	G	WIP Building Improvements and Caulking	wire renovations necessary for operation	MEDIUM	ຈວບ,ບບບ	2021 EEC Grant Application (TRD)	\$50,000	\$150,000	\$150,000	\$50,000	\$50,000	\$50,000
WTP	6.1	ENG	WTP Chlorine System Upgrades	WTP renovations necessary for operation	HIGH	\$500.000	Project Cost Estimate		\$250.000	\$250.000			\$0
					-	,	Future EFC Matching Funds		\$100,000	\$100,000			
		E					2021 EFC Grant Application (TBD)		\$150,000	\$150,000			
WTP	6.2	ENG	WTP Emergency Backup Generator Upgrades	WTP renovations necessary for operation	HIGH	\$500,000	Project Cost Estimate		\$250,000	\$250,000			\$0
							Future EFC Matching Funds		\$100,000	\$100,000			
WTP	6.3	ENG	WTP HVAC Roofton & Make Un Air	WTP renovations necessary for operation	HIGH	\$600.000	Total Project Cost Estimate		\$300.000	\$300.000			\$0
	0.0					,,	Future EFC Matching Funds		\$120.000	\$120.000			ΨŪ
		м	WTP Fresh Air Inlet Louvers and Dampers	WTP renovations necessary for operation	HIGH	\$200,000	2021 EFC Grant Application (TBD)						\$0
		М					2021 EFC Grant Application (TBD)		\$137,400	\$137,400			
WTP	6.4	ENG	WTP Fluoride System Upgrades	WTP renovations necessary for operation	HIGH	\$458,000	Project Cost Estimate		\$229,000	\$229,000			\$0
WTD	6.5	6	WTP Franza Thow Pod Panairs and Grading	Negassany for operation	MEDIUM	\$300.000	Future EFC Matching Funds		\$91,600	\$91,600			\$300.000
	0.0		WIF FIEEZE INAW BED REPAIRS AND GRADING	WTP projects not forecasted or arise based on an		φ300,000							\$300,000
WTP	7	NFWB	Water Treatment Plant Infrastructure Projects - Miscellaneous	emergency situation	HIGH	\$200,000	Annual Coverage Transfer	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
PROJE	CT GR	ANT FU	NDING LEGEND	CATEGORIES	1		2021 EFC Grant Application (TBD)	\$0	\$782,400	\$782,400	\$0	\$0	
2021 N	021 NYS EFC WIIA Grant Projects - Water Treatment Plant N		rant Projects - Water Treatment Plant	NFWB - Niagara Falls Water Board			Future EFC Matching Funds	\$0	\$521,600	\$521,600	\$0	\$0	
	Grant Application submitted (waiting on approval)		ication submitted (waiting on approval)	ENG - Engineering and Bidding			Annual Coverage Transfer	\$330,000	\$330,000	\$330,000	\$330,000	\$330,000	\$3,830,000
<u>2021 N</u>	021 NYSDOH Grant Funding for Drinking Water Fluoridation G -		Funding for Drinking Water Fluoridation	G - General Construction	ruction FORECASTED EXP			\$330,000	\$1,634,000	\$1,634,000	\$330,000	\$330,000	
Grant Application submitted (waiting on approval) M			ication submitted (waiting on approval)	M - Mechanical Construction									
				E - Electrical Construction									
				H - HVAC Construction									



(WORK IN PROGRESS)

						0007				FORECASTED	EXPENDITURE	S	
ITEM	NO.	CAT.	PROJECT NAME	PROJECT DESCRIPTION	RATING	ESTIMATE	FUNDING	2022	2023	2024	2025	2026	Deferred
WAT	er inf	RASTR	JCTURE PROJECTS - W										
							2021 EFC Grant Application (TBD)	\$102,000	\$102,000	\$102,000	\$102,000	\$102,000	
w	1	NFWB	Hydrant Replacement	Hydrant Replacement - old and inoperable hydrants	HIGH	\$850,000	Project Cost Estimate	\$170,000	\$170,000	\$170,000	\$170,000	\$170,000	\$80,000
		- FN - O					Future EFC Matching Funds	\$68,000	\$68,000	\$68,000	\$68,000	\$68,000	
w/	2	ENG	20 inch main from Booch Ave Storage Tank to Ontario Street	Water Main Replacement - CIPP lining of water mains	нсн	\$2,000,000	2021 EFC Grant Application (TBD)			\$600,000	\$600,000		¢ŋ
	2	0	zo inch main nom beech ave storage rank to ontano street	near Beech Avenue Water Tank	mon	φ2,000,000	Future EFC Matching Funds		1	\$400,000	\$400,000		φυ
W/	2.4	•	Dearly America Water Oters and Tarak Dealers and	Replacement of water tank necessary for water system	мерши	¢6 500 000				, , , , , , , , , , , , , , , , , , , 	• 100,000		¢6 500 000
vv	Z. 1	6	Beech Avenue Water Storage Tank Replacement	pressure	MEDIUM	\$6,500,000							\$6,500,000
w	з	NEWB	Large Valve Replacement	Valve Replacement - water valves >12"	нісн	\$1,000,000	2021 EFC Grant Application (TBD) Project Cost Estimate	\$120,000	\$120,000	\$200,000	\$200,000	\$120,000	\$50,000
	Ŭ					\$1,000,000	Future EFC Matching Funds	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	400,000
w	5	ENG	Leak Detection / Distribution Modeling	Water Distribution Study - Identify and control system	MEDIUM	\$50.000	Annual Coverage Transfer		\$50.000				\$150.000
	-			losses	-								• • • • • • •
w	6	G	Abandon 20" Victory Pipe WM	Water Main Abandon - unnecessary and failing watermain	MEDIUM	TBD	Annual Coverage Transfer						\$0
W	8	NFWB	Loop Niagara Avenue Main to Parkview Drive	Install new automatic blow-off	HIGH	\$7,000	Annual Coverage Transfer	\$7,000		 			\$0
w	9		10th Street and Michigan Avenue Mains - Lockport Street to Ontario Avenue (8") and	Water Main Replacement - replace main and install new	нісн	\$830.000	2018 NYS EFC WIIA Grant Project Cost Estimate		\$498,000	i I			\$0
	3		10th Street to 11th Street (8")	services, Continue design and construction	mon	<i>\$050,000</i>	2018 EFC Grant Matching Funds		\$332,000	1			ψŪ
	40	ENG		Water Main Replacement - replace main and install new		¢4,400,000	2018 NYS EFC WIIA Grant	\$330,000	\$330,000				¢0
vv	10	G	18th Street Main - Ontario Avenue to Whitney Avenue (14" PE Suplining)	services, High priority project - complete design	HIGH NO.1	\$1,100,000	2018 EFC Grant Matching Funds	\$350,000	\$550,000	1			\$0
		ENG		Water Main Replacement - replace main and install new		• · · · • • • • •	2018 NYS EFC WIIA Grant	\$330,000	\$330,000				••
w	11	G	77th Street Main - Frontier Avenue to Niagara Falls Boulevard (8")	services, Halt work and focus on higher priority projects	LOW	\$1,100,000	2018 EFC Grant Matching Funds	\$350,000 \$220.000	\$550,000	1			\$0
		ENG		Water Main Replacement - replace main and install new			Future EFC grant application				\$180,000		
w	12	G	80th Street - Niagara Falls Blvd. to Rick Manning Drive	services	HIGH	\$300,000	Project Cost Estimate			1	\$300,000		\$0
		ENG		Water Main Replacement - replace main and install new			Future EFC Matching Funds			J	\$120,000		
w	13	G	81st Street Main - Frontier Avenue to Niagara Falls Boulevard	services	LOW	\$850,000	ON HOLD			 			\$850,000
.w/	45	ENG	College Terress Medican to College Avenue	Water Main Replacement - replace main and install new		\$155 000	Future EFC grant application			1	\$93,000		¢0
vv	15	9	College Terrace - Madison to College Avenue	services	HIGH NO.4	\$155,000	Future EFC Matching Funds			1	\$155,000		φU
w	16	ENG	LaSalle Avenue Main - Hyde Park Blyd to 11th Street	Water Main Replacement - replace main and install new	HIGH NO 4	\$1 600 000							\$1 600 000
		G		services		\$1,000,000	2024 EEC Grant Application (TPD)			<i>¢EEC 911</i>			\$1,000,000
w	17	G	Laughlin Drive Main - 82nd Street to Bollier Ave	Water Main Replacement - replace main and install new	HIGH NO.2	\$928,074	Project Cost Estimate	-	l I	\$928,074			\$0
				Services			Future EFC Matching Funds		,	\$371,230			
w	18	ENG	McKoon Avenue Main - DeVeaux Avenue to James Avenue	Water Main Replacement - replace main and install new		\$880.000	Future EFC grant application			1	\$528,000		\$0
	10	0	MCROON Avenue Main - Deveaux Avenue to James Avenue	services		<i>\$000,000</i>	Future EFC Matching Funds			1	\$352,000		ΨŬ
147	40	ENG	Millions David Malin - Jacob Diaco (a Dallion Associa	Water Main Replacement - replace main and install new	MEDIUM	¢200.000	2018 NYS EFC WIIA Grant	\$120,000 \$200,000					¢0
vv	19	0	Military Road Main - Jacob Place to Bollier Avenue	services	WEDIUW	\$200,000	2018 EFC Grant Matching Funds	\$200,000		1			\$U
w	20	ENG	Military Road Main - Jacob Place to Cayuga Drive	Water Main Replacement - replace main and install new	LOW	\$210.000	ON HOLD						\$210.000
		G		services			2021 EEC Grant Application (TRD)				\$403 510		+
w	21	G	Ontario Avenue Main - 13th Street to Main Street	Water Main Replacement - replace main and install new	MEDIUM	\$822,517	Project Cost Estimate			1	\$822,517		\$0
				services			Future EFC Matching Funds		l	ا	\$329,007		
w	22	ENG	Pierce Avenue Main - 11th Street to 18th Street	Water Main Replacement - replace main and install new	LOW	\$570,000	ON HOLD			1			\$570,000
147		ENG	Diseas Assess Main (40th Oreast to Unde Dade Divel	Water Main Replacement - replace main and install new	1.014	¢750.000							¢750.000
vv	23	G	Pierce Avenue Main - 18th Street to Hyde Park Blvd.	services	LOW	\$750,000	ON HOLD		ļ	 			\$750,000
w	24	ENG	Rivershore Drive Main - S.86th Street to 91st Street	Water Main Replacement - replace main and install new	LOW	\$280,000	ON HOLD						\$280,000
		ENG					2021 EFC Grant Application (TBD)			\$84,069			
w	25	G	Van Rensselaer Ave - 900 Block	services	HIGH NO.3	\$140,115	Project Cost Estimate		I T	\$140,115			\$0
		ENG		Water Main Penlacement - replace main and install new			Future EFC Matching Funds		P	\$56,046			
w	26	G	Welch Avenue Main - 19th Street to 24th Street (16")	Services	LOW	\$600,000	ON HOLD						\$600,000
14/	27	ENG	Whitney Avenue Mein 14th Street to Unde Dede Dive	Water Main Replacement - replace main and install new		¢4.050.000	2018 NYS EFC WIIA Grant	\$555,000	\$555,000				¢0
vv	21	9	whithey Avenue Main - 11th Street to Hyde Park Bivd.	services, Halt work and focus on higher priority projects	LOW	ຈາ,850,000	2018 FEC Grant Matching Funds	₹370.000	⊕920,000 \$370,000	1			20



(WORK IN PROGRESS)

						COST				FORECASTED	EXPENDITURE	S	
ITEM	NO.	CAT.	PROJECT NAME	PROJECT DESCRIPTION	RATING	ESTIMATE	FUNDING	2022	2023	2024	2025	2026	
						LOTIMATE		2022 2023		2024	2023	2020	Deferred
w	28	ENG G	Willow Avenue Main - 11th Street to 17th Street (8")	Water Main Replacement - replace main and install new services	LOW	\$460,000	ON HOLD						\$460,000
		ENG		Water Main Replacement - replace main and install new			2021 EFC Grant Application (TBD)			\$500,780			
w	29	G	Witkop Avenue and 85th Street Loop (all 8")	services	HIGH NO.2	\$834,633	Project Cost Estimate			\$834,633			\$0
							Future EFC Matching Funds			\$333,853			
w	30	NFWB	Water Infrastructure Projects - Miscellaneous	Water Projects - not forecasted or arise based on an emergency situation	HIGH	\$120,000	Annual Coverage Transfer	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000
PROJECT GRANT FUNDING LEGEND			NDING LEGEND	CATEGORIES			2018 NYS EFC WIIA Grant	\$1,335,000	\$1,713,000	\$0	\$0	\$0	
2017 N	IYS EFC	WIIA G	rant - Project No.18435 (total grant amount = \$240,000)	NFWB - Niagara Falls Water Board			2018 EFC Grant Matching Funds	\$890,000	\$1,142,000	\$0	\$0	\$0	
	lter	n No.W	14, Bollier Avenue Main - 82nd Street to Military Road - completed	ENG - Engineering and Bidding			2021 NYS EFC WIIA Grant	\$222,000	\$222,000	\$1,963,693	\$1,315,510	\$222,000	
2018 N	IYS EFC	WIIA G	irant Projects - Water System	G - General Construction			2021 EFC Grant Matching Funds	\$148,000	\$148,000	\$1,309,129		\$148,000	
	Pro	ject No	.18588 (total grant amount = \$3,000,000)	M - Mechanical Construction			Future EFC grant application	\$0	\$0	\$0	\$801,000	\$0	
2021 NYS EFC WIIA Grant Projects - Water System E - EI			irant Projects - Water System	E - Electrical Construction			Future EFC Matching Funds	\$0	\$0	\$0	\$534,000	\$0	
	Grant Application submitted (waiting on approval)			H - HVAC Construction			Annual Coverage Transfer	\$127,000	\$170,000	\$120,000	\$120,000	\$120,000	
				-	FOF	RECASTED EXP	ENDITURES - SUBTOTALS PER YEAR	\$2,722,000	\$3,395,000	\$3,392,822	\$3,647,517	\$490,000	\$12,220,000
Project has been eliminated FORECASTED						RECASTED EX	PENDITURES -TOTALS PER YEAR	\$12,905,330	\$14,142,108	\$11,196,035	\$4,895,850	\$1,405,000	\$246,025,000

Project or work has been completed Project or work is ongoing

TBD - To Be Determined

TOTAL FORECASTED EXPENDITURES

	Fund Sources Total	2022	2023	2024	2025	2026	Sum 2022 - 2026
	Annual Coverage Transfer	\$1,042,000	\$1,085,000	\$1,035,000	\$1,035,000	\$1,035,000	\$5,232,000
	Current Grants	\$5,879,165	\$4,560,387	\$2,125,440	\$0	\$0	\$12,564,992
	Current Grant Matching Funds	\$5,434,165	\$3,989,387	\$2,125,440	\$0	\$0	\$11,548,992
	Future Grants	\$322,000	\$2,754,400	\$3,596,093	\$2,366,510	\$222,000	\$9,261,003
	Future Grant Matching Funds	\$228,000		\$2,314,062		\$148,000	\$5,937,336
X	PENDITURES -TOTALS PER YEAR	\$12,905,330	\$14,142,108	\$11,196,035	\$4,895,850	\$1,405,000	\$44,544,323

FORECASTED EX

FORECASTED EXPENDITURES -TOTAL DEFERRED

\$246,025,000

Niagara Falls Water Board

Personnel Actions and Report

Monday, January 31, 2022

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 AC	A. PERSONNEL ACTIONS RECOMMEND TO HIRE										
Line Item Number	Position	Department/Location	Pay Rate or Grade	ADDITIONAL INFORMATION							
1	Security Guard	WWTP	\$15.00/hour - not to exceed 30 hours per week	To fill vacancy							
2	Lab Techs (2)	WTP	\$40,677.73/annually	To fill vacancies							

B. RECOMMENDED	3. RECOMMENDED PROMOTION / MOVE / APPOINTMENT									
Line Item Number	Name and Position	Type of labor move	Change in pay rate or grade	ADDITIONAL INFORMATION						
1	Robert Dunn	Position Change	from \$37.19 to \$29.07/hour	From Chief Operator to Shift Oper Sup'v						
2	Dennis Kirkland	Provisional Appointment	from \$28.63 to \$34.06/hour	From Shift Oper Sup'v to Acting Chief Operator						
3	Brian LaBelle	Promotion	from \$41,372 to \$42,969 annually	From CDT Trainee to CDT Lift Station Splst						
4	Alex Hailey	Promotion	from \$41,304 to \$43,175 annually	From CDT Tech to CDT Team Leader						
5	Fifi Sandonato	Promotion	from \$51,062 to \$58,236 annually	From Admin Assistant to Sr Admin Assistant						

C. PREVIOUSLY TA	2. PREVIOUSLY TABLED PERSONNEL ACTIONS (From 2022)									
Line Item Number	Action and Position	Department/Location	Pay Rate or Grade	ADDITIONAL INFORMATION						

D. OTHER PERSON	OTHER PERSONNEL ACTIVITY FOR BOARD NOTIFICATION									
Name	Position	Department/Location	Pay Rate	ADDITIONAL INFORMATION						
Morrison, Ralynn	Sr Lab Tech	WTP	\$55,012/year	Resignation effective 2/1/2022						

E. PERSONNEL ON	. PERSONNEL ON LONG TERM LEAVE OF ABSENCE											
Name	Last Day Worked	Dept.	Return Status	Comments								
Burns, Randall	11/16/2021	Enforcement	Unknown	Workers Comp								
Syverson, Jean	1/13/2022	WWTP Admin	Unknown									



NFWB Jan. 31, 2022 Meeting Agenda Packet - Page 23

NIAGARA FALLS WATER BOARD RESOLUTION # 2022-01-001

LUCITY SOFTWARE SUPPORT AND MAINTENANCE RENEWAL

WHEREAS, the Niagara Falls Water Board utilizes Lucity enterprise asset management software to help manage and maintain its assets; and

WHEREAS, the Water Board's annual support agreement with Tritech Software Systems (the sole source and developer for the software) for the Lucity software expires on January 31, 2021; and

WHEREAS, the Water Board's IT staff recommend renewing the annual support agreement for Lucity in order to maintain its functionality; and

WHEREAS, the cost to renew the annual support agreement for the period of February 1, 2022 through January 31, 2023 is \$19,500.49;

NOW THEREFORE BE IT

RESOLVED, that the Niagara Falls Water Board hereby authorizes payment to Tritech Software Systems the sum of \$19,500.49 to renew the annual support agreement for the Lucity software system for the period of February 1, 2022 through January 21, 2023.

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

Water Board Budget Line or Capital Plan Item with Funds for this Resolution: Software Maint./Licenses FA.8150.0000.0446.008 Budget Line Supplied by: J. Morock Available Funds Confirmed by: B. Majchrowicz

On January 31, 2022, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Y	es	Ν	0	Abs	tain	Abs	sent
Board Member Asklar	[]	[]	[]	[]
Board Member Kimble	[]	[]	[]	[]
Board Member Larkin	[]	[]	[]	[]
Board Member Leffler	[]	[]	[]	[]
Chairman Forster	[]	[]	[]	[]

Signed By:

Vote Witnessed By:

Nicholas J. Forster, Chairman

Sean W. Costello, Secretary to Board



Date 12/3/2021 *Page* 1 of 2

Tritech Software Systems, a CentralSquare Company 1000 Business Center Drive Lake Mary, FL 32746

Billing Inquiries: Accounts.Receivable@centralsquare.com

	Bill To Niagara Falls Water Board, NY Erika Schroeder 5815 Buffalo Ave Niagara Falls NY 14304 United States		Ship To Niagara Falls Wa Erika Schroeder 5815 Buffalo Ave Niagara Falls NY United States	ater Board, NY e ⁄ 14304	
Customer No	Customer Name	Customer PO #	Currency	Terms	Due Date
17082	USD	Net 30	1/31/2022		

Invoice No (1 of 1)

339165

	Description	Units	Rate	Extended
Contract No.	Q-69850			
1	Asset Management - Assets Annual Maintenance Fee - Annual Maintenance Fee AssetManagement Maintenance: Start:2/1/2022, End: 1/31/2023	1	\$7,318.34	\$7,318.34
2	Asset Management - GIS Desktop Annual Maintenance Fee - Annual Maintenance Fee GISDesktop Maintenance: Start:2/1/2022, End: 1/31/2023	1	\$463.88	\$463.88
3	Asset Management - GIS Web Annual Maintenance Fee - Annual Maintenance Fee GISWeb Maintenance: Start:2/1/2022, End: 1/31/2023	1	\$2,319.38	\$2,319.38
4	Asset Management - Mobile Annual Maintenance Fee - Annual Maintenance Fee MobileManagement Maintenance: Start:2/1/2022, End: 1/31/2023	1	\$1,131.42	\$1,131.42
5	Asset Management - Work Annual Maintenance Fee - Annual Maintenance Fee WorkManagement Maintenance: Start:2/1/2022, End: 1/31/2023	1	\$8,267.47	\$8,267.47



12/3/2021

Page

2 of 2

Tritech Software Systems, a CentralSquare Company 1000 Business Center Drive Lake Mary, FL 32746

Billing Inquiries: Accounts.Receivable@centralsquare.com

	Bill To	Ship To						
	Niagara Falls Water Board, NY	Niagara Falls Water Board, NY						
	Erika Schroeder		Erika Schroeder					
	5815 Buffalo Ave		5815 Buffalo Ave	e				
Niagara Falls NY 14304 Niagara Falls NY 14304								
	United States		United States					
Customer No	Customer Name	Customer PO #	Currency	Terms	Due Date			
17082	Niagara Falls Water Board, NY	USD	Net 30	1/31/2022				

339165

Please include invoice number(s) on your remittance advice, made payable to Tritech Software Systems	Subtotal	\$19,500.49
ACH:	Тах	\$0.00
Routing Number 121000358 Account Number 1416612641 E-mail payment details to: Accounts Receivable@CentralSquare.com	Invoice Total	\$19,500.49
Check:	Payments Applied	\$0.00
12709 Collection Center Drive Chicago, IL 60693	Balance Due	\$19,500.49

NIAGARA FALLS WATER BOARD RESOLUTION # 2022-01-002

AWARD WATER TREATMENT PLANT ELECTRICAL RELOCATION BID

WHEREAS, the Niagara Falls Water Board ("Water Board") is expanding the conference and meeting room at the Michael C. O'Laughlin Municipal Water Plant to facilitate larger and more productive meetings, training, and similar uses for that room; and

WHEREAS, the existing water treatment plant conference room has limited capacity and utility because the water plant was designed prior to the Water Board being an entity independent from the City, and therefore there is no space with adequate capacity for regular Board meetings open to the public or for presenting training to groups as large as the Water Board's workforce; and

WHEREAS, the Water Board seeks to address this longstanding deficiency in its facilities by expanding and modernizing the conference and meeting room using in-house labor supplemented with contracted labor when necessary; and

WHEREAS, in order to complete the conference room expansion into previously underutilized spaces, it is necessary to relocate certain high-voltage electrical equipment; and

WHEREAS, CPL assisted the Water Board with preparing bid specifications for the labor and materials required to relocate this electrical equipment; and

WHEREAS, two bids were received, and CPL and Water Board staff recommend the award of the contract to CIR Electrical as the lowest responsible bidder for the total base bid of \$30,800;

* CONTINUED ON NEXT PAGE *

NOW THEREFORE BE IT

RESOLVED, that the \$30,800 bid from CIR Electrical for Water Treatment Plant Electrical Relocation is accepted, and on behalf of the Niagara Falls Water Board, its Executive Director hereby is authorized to enter into an agreement with CIR Electrical to perform that work.

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

 Water Board Budget Line or Capital Plan Item with Funds for this Resolution: Draft 2022 – 2026 CIP Item: WTP-6, WTP Building Improvements and Caulking Capital Line Supplied by: Funds Confirmed by:
 D. Williamson
 B. Majchrowicz

On January 31, 2022, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Y	es	Ν	0	Abs	tain	Ab	sent
Board Member Asklar	[]	[]	[]	[]
Board Member Kimble	[]	[]	[]	[]
Board Member Larkin	[]	[]	[]	[]
Board Member Leffler	[]	[]	[]	[]
Chairman Forster]]	[]	[]	[]

Signed By:

Vote Witnessed By:

Nicholas J. Forster, Chairman

Sean W. Costello, Secretary to Board

January 17, 2022

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

RE: Niagara Falls Water Board – Project 20210004 Award Recommendation WATER TREATMENT PLANT HVAC ELECTRICAL RELOCATION CPL PROJECT NO. 14143.02

Dear Mr. Costello,

The bids for the Niagara Falls Water Board Water Treatment Plant Electrical Relocation were opened on Friday January 14, 2022. A copy of our bid tabulation is enclosed for your information and review.

Two bids were received.

Ferguson Electric, Inc.	\$44,700.00
CIR Electric	\$30,800.00

Clark Patterson Lee recommends awarding to CIR Electric as the lowest responsible bidder for the total base bid of \$30,800.00.

Very truly yours,

Clark Patterson Lee

Jay F. Meyers, P.E.

Enclosure

c:

File

NIAGARA FALLS WATER BOARD WTP ELECTRICAL RELOCATION Bid Opening: FRIDAY JANUARY 14, 2022

	Description		FERGUSON ELECTRIC				CIR ELECTRIC				
Bid Item	Description	Quantity	Unit		Unit Price		Base Bid		Unit Price		Base Bid
ITEM 1-ELECT	RICAL										
1	ELECTRICAL	1	LS	\$	34,700.00	\$	34,700.00	\$	20,800.00	\$	20,800.00
ITEM CONTING	GENCY									\$	-
2		1	LS	\$	10,000.00	\$	10,000.00	\$	10,000.00	\$	10,000.00
Total Base Bid						\$	44,700.00			\$	30,800.00

NIAGARA FALLS WATER BOARD RESOLUTION # 2022-01-003

AWARD WATER TREATMENT PLANT HVAC AND PLUMBING RELOCATION, AND WASTEWATER TREATMENT PLANT DUCTWORK REPLACEMENT, BID

WHEREAS, the Niagara Falls Water Board ("Water Board") is expanding the conference and meeting room at the Michael C. O'Laughlin Municipal Water Plant to facilitate larger and more productive meetings, training, and similar uses for that room; and

WHEREAS, the existing water treatment plant conference room has limited capacity and utility because the water plant was designed prior to the Water Board being an entity independent from the City, and therefore there is no space with adequate capacity for regular Board meetings open to the public or for presenting training to groups as large as the Water Board's workforce; and

WHEREAS, the Water Board seeks to address this longstanding deficiency in its facilities by expanding and modernizing the conference and meeting room using in-house labor supplemented with contracted labor when necessary; and

WHEREAS, in order to complete the conference room expansion into previously underutilized spaces, it is necessary to relocate certain HVAC and plumbing facilities; and

WHEREAS, while bid specifications for the required work were being prepared an urgent need to replace a section of insulated ductwork running above high-voltage equipment in the WWTP electrical room to avoid water damage to critical equipment was identified, and the required scopes of work both call for work by a mechanical contractor, can be performed under the same mobilization, and were determined to be appropriate to include in a single bid specification in order to procure the best possible price for the required work; and

WHEREAS, CPL assisted the Water Board with preparing bid specifications for the labor and materials required to relocate the HVAC and plumbing facilities and to replace the WWTP electrical room ductwork; and

WHEREAS, two bids were received, and CPL and Water Board staff recommend the award of the contract to John W. Danforth company as the lowest responsible bidder for the total base bid of \$74,700;

* CONTINUED ON NEXT PAGE *

NOW THEREFORE BE IT

RESOLVED, that the \$74,700 bid from CIR Electrical for Water Treatment Plant HVAC and Plumbing Relocation, and Wastewater Treatment Plant Ductwork Replacement, is accepted, and on behalf of the Niagara Falls Water Board, its Executive Director hereby is authorized to enter into an agreement with John W. Danforth company to perform that work.

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

 Water Board Budget Line or Capital Plan Item with Funds for this Resolution: Draft 2022 – 2026 CIP Item: WTP-6, WTP Building Improvements and Caulking Capital Line Supplied by: Funds Confirmed by:
 D. Williamson
 B. Majchrowicz

On January 31, 2022, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Y	es	Ν	0	Abs	tain	Ab	sent
Board Member Asklar	[]	[]	[]	[]
Board Member Kimble	[]	[]	[]	[]
Board Member Larkin	[]	[]	[]	[]
Board Member Leffler	[]	[]	[]	[]
Chairman Forster]]	[]	[]	[]

Signed By:

Vote Witnessed By:

Nicholas J. Forster, Chairman

Sean W. Costello, Secretary to Board

January 17, 2022

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

RE: Niagara Falls Water Board – Project 20210005 Award Recommendation WATER TREATMENT PLANT HVAC PLUMBING RELOCATION (and WWTP Duct Work Replacement) CPL PROJECT NO. 14143.02

Dear Mr. Costello,

The bids for the Niagara Falls Water Board Water Treatment Plant HVAC & Plumbing Relocation (and WWTP Duct Work Replacement) were opened on Friday January 14, 2022. A copy of our bid tabulation is enclosed for your information and review.

Two bids were received:

DV Brown, Inc.	\$92,000.00
JW Danforth	\$74,700.00

Clark Patterson Lee recommends awarding to John W. Danforth as the lowest responsible bidder for the total base bid of \$74,700.00.

Very truly yours,

Clark Patterson Lee

Jay F. Meyers, P.E.

Enclosure

c:

File

NIAGARA FALLS WATER BOARD WTP HVAC & PLUMBING RELOCATION Bid Opening: FRIDAY JANUARY 14, 2022

	Description			DV BROWN					JW DANFORTH			
Bid Item	Description	Quantity	Unit		Unit Price		Base Bid	Unit Price		Base Bid		
ITEM 1-MECHANICAL												
1	HVAC	1	LS	\$	5,600.00	\$	5,600.00	\$	11,500.00	\$	11,500.00	
2	PLUMBING AND PIPELINES	1	LS	\$	33,000.00	\$	33,000.00	\$	14,000.00	\$	14,000.00	
3	WWTP DUCTWORK REPLACEMENT	1	LS	\$	33,400.00	\$	33,400.00	\$	29,200.00	\$	29,200.00	
ITEM CONTING	GENCY									\$	-	
4		1	LS	\$	20,000.00	\$	20,000.00	\$	20,000.00	\$	20,000.00	
Total Base Bid						\$	92,000.00			\$	74,700.00	

NIAGARA FALLS WATER BOARD RESOLUTION # 2022-01-004

ACCEPTING PROPOSAL FOR INTERMEDIATE PUMP ASSESSMENT

WHEREAS, the Niagara Falls Water Board ("NFWB") issued a request for proposals ("RFP") seeking a qualified engineering consultant to develop a report assessing the intermediate pumps and associated check valves at the wastewater treatment plant ("WWTP"), as these pumps are original to the WWTP and have begun to develop operation and maintenance issues; and

WHEREAS, two proposals were received, one from AECOM which proposes a total fee not to exceed \$73,900 and one from GHD which proposes a total fee not to exceed \$21,716; and

WHEREAS, the Water Board staff who have reviewed the proposals recommend selection of the GHD proposal; and

WHEREAS, the Water Board is in the process of securing approval to use funds from its SAM Grant No. 15689 to fund up to one-half of the costs associated with this project under Project ID No. 24605;

NOW THEREFORE BE IT

RESOLVED, that the Niagara Falls Water Board hereby accepts the proposal by GHD to complete the Wastewater Treatment Plant Intermediate Pumps Assessment for a total fee not to exceed \$21,716.

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

 Water Board Budget Line or Capital Plan Item with Funds for this Resolution: Draft 2022 CIP Item No. WWTP-11.5, Project No.12 (WWTP Phase II Grant) – WWTP Intermediate Pump Upgrades Capital Line Supplied by: D. Williamson Available Funds Confirmed by: B. Majchrowicz

On January 31, 2022, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

Board Member Asklar	Yes		No		Abstain		Absent	
	[]	[]	[]	[]
Board Member Kimble	[]	[]	[]	[]
Board Member Larkin	[]	[]	[]	[]
Board Member Leffler	[]	[]	[]	[]
Chairman Forster	[]	[]	[]	[]
Signed By:	Vote Witnessed By:							

Nicholas J. Forster, Chairman

Sean W. Costello, Secretary to Board

NFWB Jan. 31, 2022 Meeting Agenda Packet - Page 35


Proposal

Wastewater Treatment Plant Intermediate Pumps Assessment

Niagara Falls Water Board - RFP 2021-04

January 19, 2022



285 Delaware Avenue, Suite 500 Buffalo, New York 14202 United States www.ghd.com



Your ref: RFP No. 2021-04 Our ref: 12572194

January 19, 2022

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

Proposal – RFP No. 2021-04, Wastewater Treatment Plant Intermediate Pumps Assessment

Dear Mr. Williamson:

GHD appreciates the opportunity to submit our engineering services proposal for assessing the Niagara Falls Water Board's (NFWB's) Wastewater Treatment Plant (WWTP) intermediate pumps. We understand that the NFWB would like assistance with determining the proper course of action to maintain reliable performance of this 45-year-old pumping equipment. The GHD team offers the following benefits:

- Experience with Comparable Projects. Since 1987, GHD staff have provided engineering assessment and design services at the NFWB WWTP. In addition, our local staff has completed numerous similar large scale pumping upgrade projects at other treatment plants over the last 20 years.
- Project Team. We propose to use the same local team that successfully replaced the WWTP's main pumps, which were damaged following the devasting WWTP flood in July 2013. *Robert Lannon, PE, Casey Cowan, PE,* and *Daniel Kolkmann* have a deep knowledge of the WWTP, its systems and pumping arrangements, all three have also been involved in the last two rehabilitation projects at the Gorge Pump Station.
- Understanding the Technology. GHD has already investigated and upgraded controls of the intermediate pumps. We are currently rebuilding pumps and eddy current variable speed drives for the Buffalo Sewer Authority, and our engineers have a thorough understanding of pumping with variable frequency drives (VFDs). The NFWB will benefit from GHD's pre-existing history and knowledge of these systems.

We appreciate the opportunity to present our proposal and look forward to continuing our relationship with the NFWB on this important project. Should you have any questions or require additional information, please call.

Regards,

Casey W. Cowan, PE Senior Project Manager

+1 716 362-8832 casey.cowan@ghd.com

anna Sar

Robert P. Lannon Jr., PE Project Director

+1 716 362-8806 robert.lannon@ghd.com

→ The Power of Commitment

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Appendices

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1. Situation Understanding

The Niagara Falls Water Board (NFWB) has issued Request for Proposals No. 2021-04 (RFP) seeking an engineering consultant to develop a report assessing the intermediate pumps and associated check valves at the NFWB's wastewater treatment plant (WWTP). These pumps are critical to the process and the purpose of issuing the RFP is to assist in determining the proper course of action to maintain reliable performance. GHD has prepared this proposal based on information provided in the December 1, 2021 RFP, information reviewed at the pre-proposal meeting attended on December 14, 2021, and Addendum No. 1 received on December 16, 2021, as well as our team's extensive experience at the WWTP spanning 35 years

The WWTP has four vertical centrifugal intermediate pumps (IPs) each with eddy current magnetic variable speed drives and 250 horsepower (HP) synchronous motors that were installed at the WWTP in the early 1970s. The pumps are original and were manufactured by Morris Pumps (now owned by Grundfos), which is the same manufacturer as the four new main pumps. These pumps individually draw from a wet well through suction piping and each have a 42-inch check valve, which discharges into a common header that feeds primary effluent to the carbon system. Pump speeds are manually controlled by operators from SCADA stations to maintain a sufficiently low intermediate wet well level (Elev. 559 to

»GHD's proposed team provided engineering services for the NFWB's new main pumps and VFDs under the WWTP Flood Recovery project. «

560) and carbon central influent channel. The pumps typically run between 300 and 350 rotations per minute (rpm). At these low speeds, the drives may drop out and cause the check valves to slam closed. To satisfy backwash demands, it is necessary to run two IPs at all times; if one pump drops out, there becomes an immediate concern that the 100-foot weir may overflow. The eddy current drives were upgraded in 2016 to enable the remote SCADA speed adjustments under the WWTP Flood Recovery and Main Pump Replacement project designed by GHD. GHD also developed the PLC logic for the intermediate pump controls over SCADA and an auto sequencing program. However, the drives were not fully modernized at that time to allow for all SCADA monitoring and controls.

The RFP indicates that the NFWB has been experiencing issues with the four IPs and check valves. The pumps have required frequent maintenance and the check valves often slam when closed. Due to the age of the equipment, there is a lack of available parts for repairs. The NFWB is suggesting that the IPs and check valves may need to be replaced with more modern equipment. The NFWB also seeks an assessment of the potential to upgrade the pumps with variable frequency drives (VFDs). It may make sense to install VFDs for maintaining consistency with the approach taken on the main pumps back in 2016 when the eddy current drives were removed and replaced with VFDs. GHD has discussed the low operating speeds with VFD manufacturers, and we are confident that VFDs will work in this application and therefore, will be considered as part of the evaluation.

2. Understanding of Applicable Regulations and Standards

GHD has a thorough understanding of the regulations and standards that are applicable to this proposed evaluation. Our recommendations will be consistent with industry standards such as the Recommended Standards for Wastewater Facilities (Ten States Standards), the Hydraulic Institute (HI), and the Institute of Electrical and Electronics Engineers (IEEE). In addition, GHD has an excellent working relationship with the New York State Department of Environmental Conservation (NYSDEC). We assume the size and capacity of the IPs will not change under this project; thereby, maintaining the WWTP rated capacity. It is our experience that the NYSDEC appreciates being made aware of the NFWB's plans for any proposed WWTP upgrades. However, on replacement projects like this one, the NYSDEC may not require a formal review and approval process. We would be happy to review this project with the NYSDEC, if necessary.

Please note that the RFP does not require an engineering report that follows the New York State Environmental Facilities Corporation's (EFC's) format for this evaluation. GHD would be happy to provide the NFWB with a separate proposal to develop an EFC report, if one is determined necessary.

3. Project Approach, Scope, and Project Organization

3.1 Project Approach

The project team members proposed by GHD have completed numerous pumping evaluations and detailed designs and have provided construction administration/resident inspection and PLC/SCADA programming services for the same upgrades that the NFWB is contemplating under this project. We successfully helped the NFWB in 2016 with replacing the Main Pumps and upgrading them with new VFDs and PLC/SCADA based controls. As part of the 2016 project, we also evaluated and implemented changes to the intermediate pump eddy current drives, which enabled remote SCADA control of the pump speeds. A memorandum was produced by GHD in July 2016 that outlined the programming that we implemented. As you know, we are also currently working with the NFWB to replace the three 500 HP Gorge Pump Station pumps and VFDs.

Based on the history and knowledge gained by GHD on our previous pumping projects with the NFWB, we have developed a plan to evaluate the IPs and make recommendations for upgrades. We have identified the following three alternatives that should be reviewed for the NFWB to make an informed decision on how to proceed:

- Alternative 1 Replace the pumps with all new pumps, motors and VFDs. Remove the existing motor starters and install new VFDs. Upgrade the control signals within the PLC and SCADA system to automate the sequencing and speed control of the IPs as necessary.
- Alternative 2 Rebuild the pumps, remove the eddy current drives, and install new VFD rated motors direct coupled to the existing pumps. Remove the existing motor starters and install new VFDs. Upgrade the control signals within the PLC and SCADA system to automate the sequencing and speed control of the IPs as necessary.
- Alternative 3 Rebuild the existing pumps, eddy current drives and synchronous motors. Reuse the existing motor starters and upgrade the control signals within the PLC and SCADA system to automate the sequencing and speed control of the IPs as necessary.

Our evaluations will consider all piping, mechanical, electrical and control upgrades that would be necessary, and we will produce a 20-year life cycle cost comparison to implement each alternative. We will also provide a technical



Intermediate Pump Motors and Eddy Current Drives

review of the advantages and disadvantages of each alternative. For example, replacement of the pumps should consider if it makes sense for the new pumps to be specified around keeping the same pump manufacturer and model. This may minimize the piping modifications needed to accommodate a different manufacturer and may cost less than generating open specifications that allow a different pump manufacturer and model. GHD has discussed this

project with Grundfos, and we understand that the same pump model with the same piping connections is still available today. Another thing to consider is the that new VFDs may need to be oversized and properly rated due to the low-speed motors on the IPs, which increases the full load amperage beyond a typical 250 HP rated VFD. The existing motors are rated for at 400 rpm at full speed and a VFD suitable for this speed would cost approximately \$100,000 each. This is more expensive than a typical 250 HP VFD. The alternative to install all new pumping equipment and VFDs would allow the NFWB to modernize the IPs consistent with the approach implemented on the main pumps.

We assume that new IP VFDs would be linked via extending the Ethernet network to the existing Allen Bradley PLC in the Power Center 1 room, similar to how the main pumps are currently setup. This will enable full monitoring and control of the VFDs over the WWTP network. GHD will review and produce a preliminary narrative for how the IPs could be automated to maintain setpoint water levels in the wet well and carbon filter influent channel. This will include automatic pump starting and stopping, along with sequencing of additional pumps, similar to how the main pumps are currently automated.

Retrofitting new VFD rated motors on the existing pumps is another option that should be evaluated. The eddy current drive and synchronous motor would be removed, and a new induction motor would be direct coupled to the existing pump shaft. This alternative would save the costs of supplying new pumps but may have a drawback of extending the construction schedule, which could increase overall project costs. For example, maintaining WWTP operations would likely limit sending out one IP at a time for rebuild. Each rebuild could take several months depending of the scope of pump repairs that are needed. Plus, the first pump rebuild should start after the motors and VFDs are available for installation. If lead times for new motors and VFDs are around 8 to 12 months and each pump rebuild takes another 4 months between disassembly and start up, then it could take 30 to 36 months to complete the project. For rebuilding the pumps, Grundfos recommends sending them to their Aurora, Illinois service center, which includes all the machines to make replacement components and testing facilities are also available to test the hydraulics of the rebuilt pumps. Modifications to the motor pedestal and a new coupling would also be required to mount the new motor. GHD will review if the cost savings of a pump rebuild is recommended over the alternative of providing all new equipment.

GHD is currently working on a rehabilitation project for the Buffalo Sewer Authority (BSA) that includes rebuilding one of their 600 HP, 4000-volt main influent pumps, eddy current drives and synchronous motors. The BSA's drives were provided by the same manufacturer (Electro-Machinery), which are currently in place on the NFWB's IPs. Based on discussions with Electro-Machinery, there would be substantial costs to rebuild the 250 HP, 480-volt drives and motors on the IPs to a like new condition, approximately \$400,000 for each pump. However, it is noteworthy that the eddy current drives have performed at the WWTP for more than 45 years, which is a testament to the robust nature of this equipment. The eddy current technology is still available and utilized but is typically more cost effective for use on larger horsepower and medium voltage applications. Therefore, it would be uncommon to specify a new eddy current drive and synchronous motor for the IPs today because of the lower cost and other advantages that the VFDs have to offer. Rebuilding the eddy current drives should be compared to the life cycle costs of new VFDs; however, we expect that VFDs will be recommended for the IPs.

The IPs currently have swing-style check valves that open when the pump produces enough flow and discharge pressure to open the disc. This type of check valve has a disadvantage of increasing headloss and reduces the efficiency of the pump system. However, they are very common because of their simplicity for operations. The valves are reported to slam closed



BSA Raw Wastewater Pump No. 3 Eddy Current Drive

during pump change overs. GHD will investigate the cause of this issue and determine if changing to VFDs could eliminate the slamming. The issue may be caused when the eddy current drives decelerate and disengage from the pump shaft at low speeds during pump shutdown. Use of a direct coupled pump and motor along with a VFD to decelerate and shutdown the pump may resolve this concern.

GHD will investigate if the check valves should be replaced. We assume that an electric or hydraulic driven check valve would not be desirable because of the costs and operational complexities associated with those style valves. Many of our current designs are based on using Surgebuster style check valves for this type of application, which is similar to a swing check but they produce less headloss and do not slam closed. We will also look at adding a cushioning system to the swing check valves, which could mitigate the slamming.

During a recent conversation about this project with the main pump VFD and PLC manufacturer's representative (Rexel/Allen Bradley), they expressed a concern about corrosion of their equipment in the Power Center 1 room. They asked if the atmosphere could be tested for corrosivity and incorporate means for mitigation (if determined necessary) in the plans and specifications if this IP project moves forward. GHD will discuss their concern with the NFWB and perform a cursory review of potential mitigation measures if this is an issue. At a minimum, the NFWB should confirm that all direct connections between the IP wet well and electrical room are isolated and verify that the ventilation systems are functioning properly. Specifications for new VFD enclosures should account for the atmospheric conditions of this room.



NFWB 42-inch Check Valves

3.2 Scope of Services

Based upon our assessment of the project and success achieved on similar projects, we have identified a logical approach and developed the following scope of services, which is aimed at achieving the results in a cost-effective manner.

GHD will prepare an agenda and attend a kick-off meeting for the project to establish lines of communication, review the scope of work, and to gather additional pertinent background information. The agenda will address key concepts so that subsequent analysis and evaluations can be conducted efficiently and accurately. The schedule for completion

of project deliverables will also be established. Appropriate members of the GHD project team will attend this meeting. Meeting minutes will be prepared by GHD and distributed to all in attendance. *Dependent on local Covid requirements at the time, GHD is prepared to host a virtual meeting via MS Teams (or another platform suitable for the NFWB).*

In preparation for the kick-off meeting, GHD will request that readily accessible information to facilitate the project be provided. Please note that we have already obtained the IP pump curves and drawings during our recent discussions with Grundfos. GHD will perform one site visit with the project team to conduct our condition assessment and collect data for use in completing the evaluation of the three proposed alternatives.

GHD will evaluate the three pumping alternatives and check valve options outlined in Section 3.1 of this proposal. We will discuss the options with the IP manufacturer and obtain major equipment quotes for the work. Each alternative will be reviewed based on its benefit for maintaining reliable operation at the WWTP. Budgetary level capital costs and 20-year life cycle costs will be generated and compared for each alternative.

Upon completion of our assessment and evaluation, GHD will develop a draft report that outlines the alternatives



evaluated, 20-year life cycle costs, and our recommendation for improvements. Our report will include a brief control narrative for automating the IP speeds and cycling. GHD will submit an electronic copy of our draft report to the NFWB for review and comments and will meet with the NFWB to review the results and discuss any comments.

Following the review meeting, GHD will finalize the report and submit a final electronic copy to the NFWB.



A history of successful partnership between GHD and the NFWB.

GHD has established a personal and in-depth knowledge of the NFWB's policies and procedures through a close working relationship with your project managers and operations staff. Our office is currently working on the Gorge Pump Station Rehabilitation project, which is being led by our proposed Project Manager, Casey Cowan.

We are familiar with your engineering requirements and standards. Therefore, there is no learning curve, and the assigned project team can begin its assessment immediately without delay.

New Main Pumps at NFWB WWTP

4. Demonstrated Experience on Similar Projects

GHD has been providing municipal wastewater services in New York State for more than 70 years. Our wastewater services range from planning, condition assessments and design to bidding, contract management and field services during construction. GHD's design services include 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, as they relate to this project, include but are not limited to the following areas:

4.1 Wastewater Pumping Systems

GHD's engineers work closely with subject matter experts and teams within our global network and frequently collaborate to extend the range of skills and expertise that can be made available to our clients. Utilizing this approach, we continue to push technical boundaries and have achieved key milestones and optimum outcomes in a variety of pumping station projects.

For decades, GHD's local team has been conducting assessments and developing solutions for large and small pumping station projects. Our proposed *Project Manager, Casey Cowan, PE* is GHD's large pumping station expert, with much of his experience gained working on projects at NFWB facilities. Our local presence allows GHD to maintain control of a project from conceptual design through the end of construction, which leads to efficient, higher quality projects at lower overall costs compared to using firms that specialize in different facets of the design/construction process or manage their projects remotely.

Project Name/Location	Year completed	Pump Evaluation	Pump Rehabilitation/Design	HVAC	Electrical	SCADA/Controls	Construction Administration
Project 2 – Gorge Pump Station Rehabilitation, Niagara Falls, NY	2022 (anticipated)	Х	Х	Х	Х	Х	Х
Babcock Pump Station Rehabilitation, Buffalo, NY	2022	Х	Х	Х	Х	Х	Х
Guenther Pump Station Rehabilitation, Hamburg, NY	2023 (anticipated)	Х	Х	Х	Х	Х	Х
Raw Wastewater Pump #3 Rehabilitation, Buffalo, NY	2023 (anticipated)		Х		Х	Х	
Wilmuth Avenue and Well Street Pumping Station Electrical Upgrades, Lackawanna, NY	2020	Х		Х	Х	Х	Х
John Street Pump Station Improvements, Henrietta, NY	2020	Х		Х			Х
Pump Station #3 Retrofit Project, Johnston, RI	2019	Х	Х	Х	Х	Х	Х
Southtowns AWTF Influent Submersible Pump Station, Hamburg, NY	2016	Х	Х		Х	Х	Х
Colonel Ward High Service Pumping Improvements, Buffalo, NY	2015	Х	Х	Х	Х	Х	Х
Mapleton Road Pump Station Improvements,	2014	Х	Х		Х		Х
Tonawanda Creek Road Pump Station, Pendleton, NY	2014	Х					Х
South Buffalo Pump Station VFD Upgrades, Buffalo, NY	2012	Х	Х	Х	Х	Х	Х
Crescent Avenue Pumping Station, Hamburg, NY	2011	Х	Х	Х	Х	Х	Х
Vanderbilt Pump Station and Depew Pump Station Upgrades, Depew, NY	2011	Х	Х	Х	Х	Х	Х
South Buffalo Pump Station Rehabilitation, Buffalo, NY	2008		Х	Х	Х		Х
Gorge Pump Station Rehabilitation, Niagara Falls, NY	2008	Х	Х	Х	Х	Х	х

Table 4.1 Local Pump Station Experience

4.2 Electrical, Instrumentation and Control Engineering

GHD's electrical engineering design personnel are experienced in the evaluation, design, permitting, and procurement of electrical systems, as well as construction management and plant commissioning. GHD provides electrical and power services for new projects or additions/upgrades to existing processes. Our electrical engineers routinely work with electrical utilities on municipal projects where new and upgraded electrical services are required as part of the project's scope. Electrical services include:

- Electrical system design criteria
- Power generating systems
- Energy audits and studies

of work

- Motors and motor controls (including VFDs)
- Wiring (cable tray, conduit, and cable) systems
- Surge and lightning protection
- Utility coordination
- Specialty inspections and code compliance evaluations
- Capacity evaluation and troubleshooting of existing installations

All of GHD's Buffalo-based Senior Automation staff are 4-year degreed engineers, who throughout their careers have taken an affinity to and excelled in automation/control system design. We are not simply programmers. We have a deep understanding of rotating devices, process equipment, process control, and field instrumentation. We are able to bring that out in our project execution such that when there is a process problem, we can help troubleshoot. Services that we provide include:

- Evaluation and design for control systems to improve process control and efficiency
 Instrument ation engineering and ISA format instrument specification development
 Installation guidelines, specifications, and scopes
 PLC and HMI/SCADA programming
 - Remote telemetry and automation
 - Development of automation system architectures

4.3 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 (partial list):

- Gorge Pump Station (GPS) Rehabilitation (1993, 2007 and Current Project)
- WWTP Flood Recovery/Main Pump Replacement and VFDs
- 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 Phases 1, 2, 2A, and 3 Rehabilitations
- 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
- Disinfection System and Sodium Hypochlorite Improvements
- Combined Sewer Overflow Long Term Control Plan
- Capacity, Management, Operations, and Maintenance (CMOM) Program

Detailed project descriptions highlighting GHD's relevant experience and client references are provided in **Appendix A**.

5. Statement of Qualifications

5.1 About GHD

GHD is a global professional services company that leads through engineering, construction, and architectural expertise. Our forward-looking, innovative approaches connect and sustain communities around the world. Delivering extraordinary social and economic outcomes, we are focused on building lasting relationships with our partners and clients.

Established in 1928, we remain wholly owned by our people. We are 10,000+ diverse and skilled individuals connected by over 200 offices, across five continents—Asia, Australia, Europe, North and South America, and the Pacific region. GHD has been providing services in New York State since 1932, and currently has four New York office locations (Buffalo, Niagara Falls, Syracuse, and White Plains) with nearly 300 staff.



GHD Buffalo Office, 285 Delaware Avenue, Suite 500

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, and quality systems, which are certified to the relevant international standards (ISO).

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.

90+ years in operation 35+ countries served 00+ offices worldwide SD revenue 2021 (B) | global markets ok people 0+service lines Providing engineering, environmental, advisory, architecture, digital and construction services

As requested in the RFP, the following provides an overview of GHD Consulting Services Inc.'s business structure and licensing and addresses the questions outlined in the RFP. GHD is not aware of any potential conflicts of interest, which would preclude us from completing this project.

1.	Any other names under which proposer has done Business in the past 10 years	In the past 10 years, GHD Consulting Services Inc., (a GHD Inc. Company), previously provided services in New York State under the names CRA Infrastructure & Engineering, Inc. and GHD Consulting Engineers LLC (previously known as Stearns & Wheler, Inc.).
2.	List all subsidiary and Parent Companies	 Parent: GHD Group Party Ltd. GHD Holdings U.S. LLC GHD Inc. (Proposer: GHD Consulting Services Inc. is a GHD Inc. company licensed to provide professional engineering services in New York State.) The information above applies specifically to the NYS licensed firm. GHD also provides services in the United States under GHD Services Inc. and operates under other subsidiaries depending on the professional licensing requirements of each state.
3.	State whether proposer ever has been: (See applicable Required Forms in Appendix B)	Applicable Required Forms are provided in Appendix B .
—	Debarred or suspended by any government entity from entering contracts with it.	– No
	Found not responsible by any government entity.	– No
-	Declared in default or terminated for cause from any contract, or had any contract cancelled for cause.	– No
4.	State whether proposer has filed for bankruptcy or been the subject of an involuntary bankruptcy proceeding:	GHD has not filed for bankruptcy or been the subject of an involuntary bankruptcy proceeding.
5.	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 the proposer's agents or employees committed any act or 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 in connection with respect to any of these, provide details.	No, GHD has not been party to any legal action or investigation related to our business practices or acts of fraud, collusion, etc.

6. Experience & Qualifications of Subconsultants/Contractors

Recognizing that for a firm like GHD there are very few tasks that cannot be completed in-house, we do appreciate the importance of professional and technical subconsultants that enhance the services we offer to our clients. Where applicable, we bring subconsultants into a project through the utilization of Minority and Women-owned Businesss Enterprises (MWBE) and Service-Disabled Veteran-Owned Businesses (SDVOB) or specialty firms.

As noted in the RFP, the NFWB has secured a waiver of the MWBE requirements that normally would apply to this procurement due to the specialty nature of this evaluation. We agree that there are very limited opportunities to hire MWBE and SDVOB subconsultants on this project. GHD does not intend to hire any subconsultants as part of this proposal.

7. Specific Experience of Key Project Professionals

7.1 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. We have assembled a small, but highly experienced core team of professionals with expertise in the assessment, design and construction of large pumping stations. More importantly, the proposed team has a long history of completing projects for the NFWB. As shown on Figure 7.1, our team has been organized to offer the most qualified staff to respond to the NFWB's needs in a timely and cost-effective manner.



Figure 7.1 Project Organizational Chart

7.2 Key Project Professionals

As proposed, communication with the NFWB will be through Casey Cowan, our Project Manager with the required discipline support necessary to complete the condition assessment and evaluation alternatives. Brief bios of our key project professionals are provided below. Abbreviated resumes are included in **Appendix C. O**ur proposed project team will be supported by technical and administrative staff from our Buffalo office.



Robert P. Lannon Jr., PE Project Director

Bob is a Principal in GHD's Buffalo office and a licensed professional engineer in New York State. He oversees our local municipal projects and municipal and construction group staff. A graduate of Syracuse University, Bob has more than 35 years of experience in planning, design and construction of municipal water and wastewater systems. Bob has provided services to the NFWB since 1987 and has extensive knowledge of and experience at the WWTP and Gorge Pumping Station, as well as the overall collection system. Bob directed the GHD team that provided emergency response services to the NFWB in connection with the July 2013 flooding of the main pump room and subsequent replacement of the pumps and associated equipment.



Casey W. Cowan, PE Project Manager

Casey is a Civil Engineer and Senior Project Manager for various multi-disciplined engineering design and construction projects. He is also a large pumping system expert with 24 years of industry experience. Casey has completed projects across New York State at a variety of water and wastewater treatment facilities and pump stations. He managed the emergency replacement of the NFWB's WWTP four main pumps and is currently managing the improvements at the NFWB's Gorge Pump Station. He strives to exceed client expectations by managing tasks and budgets effectively while developing solutions and communicating to the project team.



Daniel J. Kolkmann Pumping Operations

Dan has 40 years of experience in the construction management, contract administration and inspection of municipal water/wastewater facility and infrastructure projects. He was actively involved with overseeing the contractors retained by the NFWB for all aspects of the WWTP flood recovery project including replacement of the four main pumps and VFD equipment. He also provided construction oversight of the NFWB's 2008 Gorge Pumping Station rehabilitation project. Dan has overseen the construction of numerous large municipal pumping stations and has a keen ability to manage and troubleshoot the start-up process of new pumps and pumping operations.



Jeffrey R. Gee, PE Electrical/SCADA/Controls

Jeff is a Licensed Electrical Engineer and North American Automation, Instrumentation and Control System Design Lead. He has more than 31 years' experience in system evaluation, design, construction, troubleshooting, and project coordination with small and large scale electrical and automation projects. His electrical work has encompassed many 480-Volt system designs inclusive of transformer selection, motor controls, VFD specifications, grounding, and coordination. His automation work history spans many hardware and software platforms across several PLC, HMI, SCADA development environments.

8. Schedule, Effort and Budget Breakdown

GHD is prepared to begin engineering services immediately upon authorization to proceed. Our proposed schedule on Figure 8.1 assumes contract execution by February 14, 2022.

WWTP Intermediate Pump Assessment - RFP No. 2021-004

Activity							20	22						
	F	ebi	uar	у	Ма	ırch			Ap	oril		Μ	ay	
Contract Execution (2/14/22)														
Kick Off Meeting														
Evaluation and Report Submittal														
NFWB Review and Meeting											_			
Final Report Submittal														

Figure 8.1 Proposed Project Schedule

GHD proposes to complete the scope of services outlined in Section 3.2 for a not-to-exceed fee of \$21,716 as shown in Figure 8.1.

 Table 8.1
 Effort and Budget Breakdown

		Project Director	Project Manager	Project Engineer	Electrocal / Control Engineer	Pump Operations	Admin			
	Description	Bob Lannon	Casey Cowan	Dave Woolley	Jeff Gee Steve Josa	Dan Kolkmann		Total Hours	Labor Total	Estimated Project Total
Task1	ask1 Intermediate Pump Assessment		26	70	24	3	14	140	\$21,716	\$21,716
								140	\$21,716	\$21,716

Appendix A Detailed Project Descriptions



WWTP Emergency Repairs & Main Pumps

Mission

Engineering and oversight of emergency repairs to the Wastewater Treatment Plant (WWTP) caused by the July 2013 flooding of the main pump room.

Client/Reference

Niagara Falls Water Board Douglas Williamson, PE; 716-283-9770

Date

July 2013-July 2018

Value

Construction Value: \$8 Million

The challenge

On July 19, 2013, the City of Niagara Falls received approximately 4 inches of rain in a 5-hour period. High volumes of stormwater made its way into the combined sewer collection system, overloading the WWTP's influent lines. Flooding occurred so rapidly that plant personnel did not have time to operate the influent gates and isolate the plant. The water level rose within the wet well and main pump room inundating the four main influent pumps, 17 primary sludge and grit pumps, 11 motorized valve actuators, several flow meters, and all the electrical/instrumentation components in the lower plant area.

During this time, the WWTP was completely offline as wastewater influent continued to back-up and bypass directly to the Niagara River.

Our response

The NFWB immediately contacted GHD to assist in contractor selection and to provide engineering and oversight services for the emergency repair activities at the WWTP. GHD served as prime coordinator of the three Prime contractors hired by the NFWB on an emergency basis to bring the plant back online.

This initial effort included installation of temporary main influent pumping, electromagnetic drive and motor drying, and numerous other equipment restorations. Within 5 days of the flood event, five temporary submersible pumps were placed into operation to restore the plants main pumping capacity. Concurrently, pumping out 30 feet of water from the facility's dry well was completed to access the main pumps and initiate repairs and/or replacements of damaged equipment. Primary and secondary treatment capacity was restored on July 29, 2013.

GHD designed permanent replacements of the four main influent pumps and motor controls, which included four new 22 mgd pumps, 250 HP motors, variable frequency drives (VFDs), pump foundations and instrumentation. Three prime contracts were developed and implemented to furnish and install the new replacement main pumps. GHD provided PLC and HMI programming services for controlling the pumps.

Additionally, GHD developed and implemented automated controls for closure of the 72-inch main influent gates to help prevent catastrophic flood damage due to future unexpected inrush flow events.

The impact

Nearly \$8 million in purchase orders were issued for the repair of damages resulting from the July 19, 2013 storm. This figure includes the initial emergency costs of sludge removal and cleaning of all flooded areas, restoring HVAC systems, existing pumps and completing critical electrical and instrumentation repairs. The main pumps, eddy current drives and motors were also replaced with all new equipment, including conversion to VFD and PLC based controls, which automated the pump station and eliminated the previous manual controls.

The original main pumps had been plagued with significant vibration issues since their original installation resulting in limited reliability and frequent and expensive repairs. One of the key design elements of the pump replacement was to address the vibration. GHD performed a finite element analysis as part of the design of a robust pump base that yielded a significant reduction in vibration of the pumping system. Coupled with new VFDs, the new pumping system operates more reliably and efficiently.





Gorge Pump Station Rehabilitation

Mission

Major rehabilitation of the remote 20 million gallon per day (mgd) Gorge Pump Station (GPS), as well as flow diversion structure modifications within the Falls Street Tunnel (FST).

Client/Reference

Niagara Falls Water Board Douglas Williamson, PE; 716-283-9770

Date

July 2020-July 2022 (Est.)

Value

Approximate Construction Value: \$4.6 Million

The challenge

A principal component of the NFWB's collection system is the GPS, which pumps combined wastewater collected in the City of Niagara Falls to the Wastewater Treatment Plant (WWTP). The GPS has three pumps with 500 horsepower motors and a total rated capacity of 20 mgd. The station has a long history of being a difficult pumping application with frequent operation and maintenance (O&M) issues due to the high static lift (160 feet) of wastewater out of the Niagara Gorge, combined with a small wet well with minimal net positive suction head (NPSH) available, and ongoing vibration and cavitation issues. These challenges have led to frequent pump rebuilds and replacements since the station came online in 1980.

As part of a NYSDEC Order of Consent, the NFWB was required to reduce discharges from the FST combined sewer overflow (CSO Outfall 003), located in a highly visible tourist area at the Niagara Falls State Park. The NYSDEC required flows to be redirected to a more remote area of the Niagara Gorge at the GPS CSO Outfall. Reworking of the FST outfall involved construction within the Rainbow Bridge Plaza, which serves as an international border crossing between the USA and Canada.

Our response

GHD was retained to help the NFWB restore the pumping equipment at the GPS after years of harsh pumping conditions and numerous permit violations caused by pump failures and performance loss. As part of our design, options were evaluated for prolonging the life of the station including reconfiguration with new pumps in the vertical or horizontal arrangement while focused on resolving the history of vibration and performance issues. GHD obtained specialty vibration field dynamic measurements and developed a 3D Finite Element Analysis (FEA) model of the pump and building structure to assist with specification development for the new pumps.

It was determined that the building and pump foundations were not infinitely rigid as normally assumed by pump manufactures, which has been causing years of vibration issues. We also discovered that vibration was amplified within the pumps under certain speeds and pumping combinations, due to the natural frequencies being excited by the vane pass frequency. The new pump impellers were changed from a 3-vane arrangement to 4-vane, which helped to mitigate that issue and reduced the required NPSH. Specifications for the new pumps required a FEA model by the manufacturer that accounted for the building structure lack of stiffness and outlined very detailed acceptance criteria for the predicted vibration levels.

A detailed hydraulic evaluation was also performed on the NFWB collection system and FST CSO using XPSWMM to predict activations associated with modifications to the regulator structure. Our evaluations estimated that CSO discharges would reduce from 60 down to 10 overflow events per typical year by raising the overflow weir and enlarging the tunnel openings that regulate flows to the GPS. A separate evaluation confirmed that the GPS bypass channels had adequate capacity to handle 200 mgd of additional CSO flow rates from the FST.

The project

The project includes three (3) new 500 HP, 1200 rpm, 13.5 mgd vertical centrifugal wastewater pumps with new motor support stands and pump

foundations that are designed specifically for the GPS building structure to eliminate vibration issues. New VFDs are also being installed for the pumps with vibration monitoring instrumentation. New influent flow grinders are being installed within the station wet well influent channels along with several new sluice gates to replace equipment that was no longer operational. The station is also receiving all new HVAC equipment sized to meet current NFPA ventilation requirements for 6/12 air changes per hour.

At the FST Outfall 003, the project required entering the rock tunnel via an 80-foot-deep access shaft to increase the height of an overflow weir and to enlarge two orifice openings at an existing concrete bulkhead. GHD worked closely with the NFWB and Rainbow Bridge Homeland Security Customs and Border Patrol to implement a construction plan that minimized disturbances to the inspection plaza operations. The GPS overflow bypass channels were also cleaned out and received new flow measuring weirs for accurately reporting CSO discharges to the NYSDEC.

The impact

Detailed design included specialized vibration and performance testing, as well as development of a 3D FEA of the pumps. These investigations enabled GHD to determine the appropriate piping and foundation effects to specify for the pump manufacturer to account for and mitigate longstanding vibration issues. Upon completion, the improvements are expected to reduce O&M issues with the pumps and help the NFWB to comply with a NYSDEC Order on Consent. Redirecting discharges from Outfall 003 to the GPS has reduced the visible CSO discharges from the Niagara Falls tourist areas during wet weather events.





Raw Wastewater Pump No. 3 Rehabilitation

Mission

Rebuild the 120 mgd RWWP#3, eddy current variable speed drive, 600 HP motor, and associated discharge check valve to restore operating conditions.

Client/Reference

Buffalo Sewer Authority Roberta Gaiek, PE; 716-851-4664

Date

December 2021-Present

Value

Approximate Construction Value: \$1.5 Million

The challenge

Raw Wastewater Pump No. 3 (RWWP#3) is one of six main influent pumps that lifts wastewater from the City of Buffalo's combined sewer collection system up into the BSA's Bird Island Wastewater Treatment Plant (WWTP). It was installed in the 1930s and has a rated capacity of 120 million gallons per day (mgd) at 25 feet of total dynamic head (TDH). In the early 1980s, the pump was retrofitted with a magnetic eddy current drive and synchronous motor to vary the speed and discharge flow capacity. It has a 600 horsepower (HP), 4000-volt motor that is manually started, and the speed is manually adjusted at a console next to the pump. The pump is currently operational; however, BSA has identified RWWP#3 for a full rebuild to restore this asset to like new operating conditions. As part of taking the pump out of service for rebuild, BSA will also rebuild the associated 60-inch diameter discharge check valve, which has been in service for 90 years and parts are no longer available. BSA will also be providing a new modern programmable logic controller (PLC) based control system for the pump, which can be monitored and controlled from a local human-machine interface (HMI) touchscreen with connections to the WWTP Ovation SCADA system.

Our response

GHD has been retained to prepare drawings and specifications to complete these upgrades on RWWP#3. GHD's team of large pumping experts and electrical engineers are working with the original equipment manufacturer of the pump (Worthington/Flowserve) and eddy current drive/motor (Electro Machinery) to prepare specifications for upgrading RWWP#3. The equipment will be shipped back to the factory for a full rebuild. We are also working with a machine shop that specializes in reverse engineering and rebuilding large diameter legacy valves where parts are no longer available. GHD is in the process of investigating and developing drawings for the mechanical, electrical and control upgrades.

The impact

This project will restore an essential 90-year-old pump within the BSA's main influent pumping station to like new conditions and modernize the controls with new PLC and HMI based controls. Automatic starting and stopping of the pumps will be developed and installed. BSA is planning to use this project as the basis of design for continuing to rebuild and modernize the controls of the other five pumps located within the station.





Guenther Pump Station Rehabilitation

Mission

Engineering and construction services to rehabilitate the Guenther Pump Station including pumping modifications to allow for daily use of the pumps and storage tank.

Client

Erie County Water Authority Leonard Kowalski, PE; 716-685-8220

Date

2018-Present

Value

Approximate Construction Value: \$9.5 Million (Est.)

The challenge

The Guenther Pump Station was constructed in the early 1970s and is located on Pleasant Avenue in the Town of Hamburg, New York. The Station is owned and operated by the Erie County Water Authority (ECWA), and it consists of a 5 million-gallon (5 mg) ground storage tank and a total of five horizontal centrifugal pumps. Only four of the pumps are currently in service (Pump 3 has been out of service for some time). Pumps 1 and 2 are high-capacity pumps capable of delivering approximately 28 million gallons per day (mgd) at 60 pounds per square inch (psi) of pressure. Pump 4 has a capacity between 12 and 18 mgd, but its output is sporadic and not effective for boosting pressure. Pump 5 is a smaller 1 mgd pump and is only used to circulate water in the tank. All of the pumps operate at pressures significantly lower than their design operating points (93 psi) due to distribution system pressures being lower than the design condition. The larger pumps (1, 2, and 4) are not used during the typical day, and they are only operated during periods of high system demand or emergency conditions.

These periods have been infrequent, and typically only occur during the summer months. In fact, ECWA records show that Pumps 1, 2, and 4 did not operate for almost 4 years between 2012 to 2016.

Our response

The ECWA has retained GHD to provide engineering services for rehabilitation of the Guenther Pump Station. The main goal of this project is to implement pumping modifications that will allow for daily use of the pumps and storage tank. In addition to pumping upgrades, GHD evaluated various other improvements to bring the pump station up to date and more energy efficient. Recommended improvements include:

- Pumping Upgrades: four new 700 hp horizontal pumps each rated for a design point of 22 mgd, with new Surgebuster style swing check valve, new suction and discharge isolation valves, and piping modifications to accommodate the new pump inlet and outlet connection sizes.
- Backup Power Generator with Building Addition: a new 2000kW diesel engine backup generator capable of operating two of the new pumps and all of the station's other loads, along with a new 2,300 SF masonry building addition. The addition will also include space for a 4,000-gallon diesel fuel tank, electrical equipment room, a bathroom, and a 500 SF garage/storage area. Layout of the generator room will be similar to the one located at the ECWA's Ball Pump Station. The building addition requires modifications of the site access driveway, parking area, and onsite septic system
- Valve, Flow Meter, and Piping Upgrades: replacement of all of the station's exposed valves. This includes all new surge valves with piping modifications to improve maintenance access to the valves, a new tank fill line altitude valve with a motor operated butterfly valve, a new station bypass valve with a motor operated butterfly valve, a new suction header interconnection valve with a motor operated butterfly valve, and replacement of all large diameter manually operated butterfly isolation valves, along with replacement of all piping insulation after the valve replacements are completed.

- Electrical and Control Upgrades: new 480V variable frequency drives (VFDs) for variable speed control of the new pumps and replacement of the main electrical service switchgear. This includes a new 480V, 4,000amp switchboard and all new electrical distribution equipment located in the building addition. It is assumed that NYSEG will provide a new 480V secondary service with a utility owned pad mounted transformer. Monitoring and control of the new pumps, VFDs, valves and instrumentation will be incorporated into the existing SCADA and HMI. These upgrades also include the electrical work associated with replacing motorized valves, new LED lighting, and HVAC work. The existing exterior 15kV and 5kV switchgear will be removed, along with the 5kV MCC, 480V MCC, and the 500kVA transformer located inside the station.
- General Building and Crane Upgrades: The existing building will receive a new EPDM roof and miscellaneous concrete and brick repairs. The existing pump room manual bridge crane will be upgraded with a motorized bridge, trolley and hoist with remote radio controls. Hazardous materials identified in the completed Asbestos and Lead Survey (e.g., asbestos containing materials such as insulation and lead based paint) will be abated as appropriate. The valve chamber concrete staircase will be replaced to provide improved access, and site security fencing will be replaced per AWWA standards with the incorporation of a new motorized gate entrance.
- HVAC Improvements include all the exhaust fans, louvers and unit heaters that are original to the pump station will be replaced. HVAC equipment will also be sized and installed in the new generator building addition, along with appropriate fire protection equipment.

The impact

The project is currently under construction and is scheduled for completion in 2022.

The replacement of the existing pumps and associated equipment will allow the ECWA to operate this station on a daily basis. Utilizing the onsite storage tank and pump station capacity contributes to increased redundancy within the distribution system. In addition, the upgrades will allow for the station to boost pressures further out in the distribution system when demand is high. The valve replacement will give the potential for the pump station to bypass the storage tank and operate solely as a booster pump station if necessary. Lastly, the installation of VFDs on each of the new pumps will allow for a wider range of operation, which aids in meeting changing system demands.



High Service Pumping Improvements

Mission

Evaluation, design and construction of new 20 MGD 750 HP pumps at the Colonel F. G. Ward Pumping Station and 48-inch suction header.

Client

City of Buffalo, Division of Water Peter J. Merlo, PE; 716-851-9626

Date

2006-2013 (Original Project)

Value

Approximate Construction Value: \$8 Million

The challenge

The City of Buffalo's water demands had steadily declined from 100 million gallons per day (mgd) in the 1990s to 70 mgd in the mid-2000s, and their original 5000 horsepower (HP) 50 mgd pumps were oversized and could no longer meet system needs. The pumps had to be throttled and water was recycled, which was neither energy efficient nor cost-effective. Starting and stopping of the pumps was also done manually, was very labor intensive and difficult to control, which would lead to pressure spikes and cause line breakages.

Our response

GHD evaluated and recommended actions to improve the energy efficiency and system operation at the Colonel F. G. Ward (Col. Ward) and Massachusetts Avenue high service pumping stations. Our evaluation included a review of existing power use data, operations records, SCADA information, and discussions with City staff. Hydraulic modeling and desktop analyses were used to evaluate alternatives. To meet future conditions, GHD screened various pumping options and configurations to identify three alternatives having the greatest potential energy savings and hydraulic improvements. Based on the evaluation conclusions, recommendations, and the anticipated energy reduction, GHD assisted the City in securing a \$512,000 incentive from the NYSERDA Commercial and Industrial Performance Program to offset costs to implement the improvements.

GHD was retained for design and construction of the recommended improvements. Our design included the installation of two new high efficiency 20 mgd pumps with 750 HP motors at the Col. Ward pumping station, to operate in lieu of the existing 50 mgd pumps. A new 48-inch diameter suction header was tunneled into the clearwell with branch piping to each pump. Due to the configuration, a physical model of the suction pimping was constructed and tested with flow vanes and straighteners to optimize design of the pump inlet conditions. The suction header installation also required a subsurface excavation within the station at depths below the adjacent Lake Erie water surface.

GHD designed a grout curtain wall around the excavation to prevent the lake from flooding the building and a 60-inch tunnel through the building foundation into the clearwell.

The project

Extensive civil, mechanical, and electrical upgrades were made to retrofit the pumps into the existing building. The Phase 1 project included two (2) 750 HP 20 mgd pumps, 20-inch pump discharge cone valves with electrohydraulic actuators, 48-inch diameter suction and discharge piping, pump priming system improvements, 4160 Volt motor starters, and HVAC improvements. Starting and stopping controls for the new pumps and the existing 50 mgd pumps were modernized with new PLC automation and SCADA computer system. The new pump room was also renovated to match the historic architectural style of the Col Ward pump station, which was built in 1912. The resulting energy savings from the initial project exceeded expectations. Based on that, the City worked with GHD and Siemens Industry, Inc. to evaluate additional opportunities to improve energy efficiency at the Col. Ward facility and throughout the Buffalo Water System. GHD was retained to provide design and construction services for a Phase 2 project, including addition of a third 20-mgd pump, significant HVAC upgrades, lighting retrofits, and building envelope repairs/weatherization improvements. The Phase 2 project also included implementation of a new system-wide SCADA system for their storage tanks and remote pump stations with new telemetry and security system for all remote sites, replacement of the pump discharge cone valves at the Massachusetts Avenue pumping station, and remote control of the Massachusetts Avenue pumps from the Col Ward operator control room via the new SCADA system.

The impact

As part of our start up services, GHD worked closely with City operators to develop standard operating procedures for the new equipment and provided training to optimize use of the pumps. For several months, GHD monitored flow rates, pressures, tank levels, and energy usage to finalize the standard procedures and optimum pumping combinations. The City of Buffalo now has a modern PLC based SCADA system to operate their Col. Ward and Massachusetts Avenue high service pumping stations and potable water distribution system.



Appendix B Required Forms*

(* Per RFP, a copy of the signed forms are included with original copy only).

Appendix C Resumes of Key Project Professionals

GHD

A GHD Principal

Robert P. Lannon Jr., PE

Project Director

Location

Buffalo, New York, USA

Qualifications/Accreditations

- B.S. Civil Engineering, 1985

Registrations/Memberships/Registrations

- Registered Professional Engineer: New York
- Water Environment Federation
- New York Water Environment Association, Western Chapter Board of Directors

Relevant experience summary

Bob has 36 years of experience in the civil engineering field and has completed projects at Niagara Falls Water Board facilities since 1987. Bob has served as Project Director/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.

Experience

36 years

Project experience – Municipal Wastewater

WWTP Emergency Flood Repairs and Main Pump Replacement

Project Officer |

Niagara Falls Water Board | Niagara Falls, NY, USA

Bob directed 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 2 – Gorge Pump Station Rehabilitation

Project Director | Niagara Falls Water Board | Niagara Falls, NY, USA

Bob is directing the engineering and construction administration staff in the replacement of three 13 mgd, 500 HP vertical dry pit wastewater pumps, new pump VFDs, sluice gates, influent grinders, and heating and ventilation systems. Design addressed ongoing vibration issues with the use of specialized vibration, performance testing and finite element analysis of the existing pump and building structure. The project also includes modifications to a CSO outfall regulator inside the Falls Street Tunnel to divert CSO flows away from the Niagara Falls tourist area.

Emergency Generator Improvements at the Wastewater Treatment Plant and Sanitary Lift Stations

Project Officer | Niagara Falls Water Board | Niagara Falls, NY, USA

Bob directed the team in 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.



Gorge Pumping Station Rehabilitation (Contract 55)

Project Officer | Niagara Falls Water Board | Niagara Falls, NY, USA

Bob managed the rehabilitation of a 20 mgd wastewater pump station, which included rebuilding three 13 mgd pumps, two 500 HP motors, and the replacement of the pump suction piping. Other items included new motorized 24-inch valves; repairs to the wet well sluice gates, replacement bar screens or new grinder units, concrete improvements to the influent approach channel, new PLC based pump controls, new ultrasonic level sensors for pump control and overflow weir monitoring, modifications to the overflow weir, and new variable frequency drives in a dedicated VFD room.

WWTP Phase 3 Rehabilitation

Project Officer | Niagara Falls Water Board | Niagara Falls, NY, USA

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.

Capital Plan, Phase 1A

Project Officer | Niagara County Sewer District No. 1 | Wheatfield, NY, USA

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.

Capital Plan, Phase 1 (Contracts 41G and 41E)

Project Officer/Manager | Niagara County Sewer District No. 1 | Wheatfield, NY, USA

Project Manager for the addition of two non-clog, centrifugal wastewater pumps, associated piping and valves, headworks facility upgrades, emergency power upgrades, general site improvements, and electrical high voltage loop switch replacements.

Sheridan Pumping Station Modifications

Project Manager | Town of Tonawanda | Tonawanda, NY, USA

Project Manager for Sheridan Pumping Station modifications and sanitary sewer force main extension. Project scope integrated renovations to existing pumping station involving installation of new underground high voltage power service, automatic power transfer switch, three variable frequency drives controlling 200 HP motors with horizontal pumps. Installation of 16-inch sanitary sewer force main including subsurface borings with installation of steel casing carrier pipe under state highway and railroad tracks. Restoration of state highway roadway, concrete curbs and sidewalks. Project services included inspection of construction and testing activities.

Project experience – Municipal Water

Guenther Pump Station Rehabilitation

Project Director Erie County Water Authority | Hamburg, NY, USA

As Project Director Bob has ensured the availability to staff to support the project, which includes rehabilitation of a potable water booster pump station with flows between 16 and 40 mgd. The project includes four new 22 mgd pumps with 600 HP motors, pump control VFDs, process valves, and a backup power generator.

Massachusetts Avenue Pumping Station Upgrades

Project Manager | City of Buffalo | Buffalo, NY, USA

Bob managed upgrades for the 160 mgd Massachusetts Avenue Pumping Station. Upgrades included the rehabilitation of two 24-inch and two 36-inch cone valves, and the replacement of four 30-inch cone valves with electrically actuated 36-inch butterfly valves. Rehabilitation of two 50 mgd and two 30 mgd vertical centrifugal Delaval pumps, and two 2500 hp and two 1500 hp Westinghouse motors. Installation of four 36-inch diameter venturi meters with associated three-valve manifolds, differential pressure transmitters, and pen plotters with flow totalizers. Converted 15 medium voltage (5 kV) circuit breakers from air magnetic type interrupters to vacuum interrupters. Replaced field control system for the pumps, motors, and cone valves; and modified vacuum priming system for the pumps.

Career history

2003 – present	GHD, Principal
1983 – 2003	O'Brien & Gere Inc., Project Manager
GHD

A GHD Associate

Casey W. Cowan PE Senior Project Manager

Location Buffalo, New York, USA

Qualifications/Accreditations

- BS, Environmental, Resource & Forest Engineering, 1996

Registrations/Memberships

- Registered Professional Engineer New York
- New York Water Environment Association

Relevant experience summary

Casey is a Civil Engineer and Senior 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 solutions and communicating to the project team. Casey has completed numerous engineering service 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.

Experience

24 years

Project experience – Municipal Wastewater WWTP Emergency Flood Repairs and Main Pump Replacement

Project Manager | Niagara Falls Water Board | Niagara Falls, NY, USA |

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 2 – Gorge Pump Station Rehabilitation

Project Manager | Niagara Falls Water Board | Niagara Falls, NY, USA

Currently serving as project manager for replacement of three 13 mgd, 500 HP vertical dry pit wastewater pumps,

new pump VFDs, sluice gates, influent grinders, and heating and ventilation systems.

The new pumps were designed to address ongoing vibration issues with the use of Specialized Vibration, Performance Testing and Finite Element Analysis of the existing pump and building structure. The project also includes modifications to a CSO outfall regulator inside the Falls Street Tunnel to divert CSO flows away from the Niagara Falls tourist area. The \$5 million project is partially funded by the NYSDEC.

WWTP and Lift Station Standby Power Generators

Project Manager | Niagara Falls Water Board | Niagara Falls, NY, USA

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.



WWTP Phase 3 Rehabilitation

Project Manager | Niagara Falls Water Board | Niagara Falls, NY, USA

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 provided construction administration assistance.

WWTP Rehabilitation, Phase 2A

Project Manager | Niagara Falls Water Board | Niagara Falls, NY, USA

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 start-up of the new system, while keeping the project under budget.

Gorge Pump Station Rehabilitation

Senior Project Engineer | Niagara Falls Water Board | Niagara Falls, NY, USA

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.

Babcock Pump Station RTC

Project Manager | Buffalo Sewer Authority | Buffalo, NY, USA

Casey is managing rehabilitation of a 5 mgd pump station that includes real time control (RTC) storage of CSO within an existing 2 million-gallon concrete box culvert. The station will receive all new 35HP pumps, piping, trash rack, instrumentation, heating/ventilation, painting, roofing, grating, handrail, ladders, electrical, and SCADA control systems. Project was worth \$2.5 million in capital improvements.

Vanderbilt Pumping Station, Depew Pumping Station and Overflow Retention Facility Upgrades

Design Manager |

Erie County Department of Environment and Planning | Depew, NY, USA

Casey was the lead engineer and coordinated the design team for several improvements in Erie County Sewer District No. 4. Improvements included new 185 HP pumps, valve chamber, flow meter chamber, VFDs, generator, and PLC upgrades to restore hydraulic

capacity of two pump stations and an overflow retention facility (ORF).

South Buffalo Pump Station VFD Upgrades

Project Manager Buffalo Sewer Authority | Buffalo, NY, USA

Casey managed the design and construction for the installation of four new VFDs at an 80-year-old, 100 mgd pump station. The project included new 100 HP VFDs, rebuilding the original motors, bar screen panels, bubbler lever system, PLC control upgrades, and 4160V switchgear. Demonstrated successful implementation through commissioning and start-up of the new system, while keeping the project under budget.

Project experience – Municipal Wastewater

Guenther Pumping Station Rehabilitation

Design Manager | Erie County Water Authority | Hamburg, NY, USA

Served as design manager for rehabilitation of a potable water booster pump station with flows between 16 and 40 mgd. The project includes four new 22 mgd pumps with 600 HP motors, pump control VFDs, process valves, a 2-kW diesel engine backup power generator, 4,000-gallon diesel fuel tank, heating and ventilation systems, electrical service, and a 2,300 SF building addition with associated site work to house the new equipment.

Colonel Ward High Service Pumping Improvements

Design Manager | City of Buffalo | Buffalo, NY, USA

Casey coordinated the design for two new 20 mgd, 750 HP high service pumps, a new pump pit and 48-inch suction pipe, electrohydraulic cone valves, 36-inch steel discharge piping, and PLC/SCADA upgrades. Project included a physical hydraulic model of the intake piping to optimize the hydraulic performance. Helped the client with obtaining a \$500,000 incentive from NYSERDA for energy savings related to operation of the new pumps. Also assisted the client with performing the work under an energy services contract.

Career history

Dec. 2004 – present	GHD, Buffalo, NY
2002 – 2004	O'Brien & Gere Engineers, Inc., Williamsville, NY,
1997 – 2002	EMCON/The IT Group, Mahwah, NJ and Tonawanda, NY



David Woolley EIT

Engineer

Location Buffalo, New York, USA

Qualifications/Accreditations

- B. S, Civil Engineering, 2015

Registrations/Memberships

- Engineer in Training: New York (2015)
- Buffalo Section American Society of Civil Engineers
- New York Water Environment Association
- Member, North American Society for Trenchless Technology

Relevant experience summary

Dave has worked in consulting for approximately 6 years' time and has been involved in the planning, design, and construction of multi-disciplined projects, with a focus on municipal water and wastewater linear infrastructure and process-mechanical design. Dave is currently project coordinator for the NFWB's Project 2 – Gorge Pump Station Rehabilitation project.

Experience

6 years

Project experience – Municipal Wastewater Treatment, Pumping and Collection Systems

Project 2 Gorge Pump Station Rehabilitation

Project Engineer | Niagara Falls Water Board | Niagara Falls, NY, USA

The NFWB Gorge Pump Station Rehabilitation involves the replacement of three (3) pumps with 500 horsepower motors, VFDs, 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.

Raw Wastewater Pump #3 Rebuild

Project Engineer | Buffalo Sewer Authority | Buffalo, NY, USA

Dave is coordinating design efforts for a full rebuild of Raw Wastewater Pump #3 (RWWP#3), which was retrofitted with an eddy current drive and synchronous motor in the early 1980s, along with an investigation of the 60-inch check valve. In addition, BSA would also like to provide a modern programmable logic control (PLC) based control system.

Wastewater Treatment Plant Protective Measures

Project Engineer | Niagara Falls Water Board | Niagara Falls, NY, USA

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, 2 feet and 4 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.

West Side Sewer Extension, Phase 1

Project Engineer/Construction Administrator | South & Center Chautauqua Lake Sewer Districts | Chautauqua, NY, USA

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 determine 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. He is also overseeing construction administration and preparing and oversight of the subcontracted resident inspector.

2019 O&M Project

Project Engineer and Coordinator | Niagara County Sewer District No. 1 | Niagara County, NY, USA

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.

Wastewater Treatment Plant UV Disinfection System Replacement

Project Engineer | City of Auburn Department of Municipal Facilities | Auburn, NY, USA

Dave developed design plans and specifications for the replacement of an existing UV disinfection system at the Auburn WWTP in order to mitigate the likelihood of SPDES Permit violations, renew aging equipment and increate operational reliability as well as provide energy savings and reduce O&M. The new system was designed to disinfect peak flows of 25.4 mgd. The project also included a new pre-engineered steel building to house the UV disinfection equipment, replacement of sluice gates, replacement of grit classifiers, replacement of three 150 HP settled sewage pumps, and replacement of an overhead bridge crane. Dave also assisted during the bidding process and was provided construction administration and oversight.

Career history

2015 – present	GHD, Buffalo, NY
2014 – 2015	PCS Crane & Rigging Company, Piqua, OH,
2013 – 2014	Clark Patterson Lee Design Professionals, Buffalo, NY,



A GHD Associate

Jeffrey Gee PE Electrical/SCADA/Controls

Location

Buffalo, New York, USA

Qualifications/Accreditations

- B.S., Electrical and Computer Engineering, 1989
- Registered Professional Engineer: NY, NJ, TX, MI, TN, OH, PA, IL, IN, ID, MO, AZ, RI, IA

Key technical skills

- NFPA 70 Training, 2014
- NFPA 70E Training, 2018
- OSHA 40-hour HAZWOPER, 2000

Relevant experience summary

Jeff is a Licensed Electrical Engineer and the North American Automation, Instrumentation and Control System Design Lead. He has more than 31 years of experience in system evaluation, design, construction, troubleshooting, and project coordination with small and large scale electrical and automation projects. His electrical work has encompassed many industrial 480 Volt system designs inclusive of transformer selection, motor controls, VFD specification, grounding, and coordination. His automation work history spans many hardware and software platforms across several PLC, HMI, SCADA development environments. Key areas of experience include instrumentation specification, communications systems design, upgrades of existing electrical automation architectures, software project management, construction management, Arc Flash Hazard assessments, and computer-based Arc Flash Potential studies.

Experience

Memberships

31 years

Project experience – Municipal Water and Wastewater

Water Pollution Control Center

Project Automation Engineer | Niagara County Sewer District | Wheatfield, NY, USA

Provided the hardware and infrastructure design and project management to update and automate all the plant process equipment for this 35 MGD facility. Cellular modems and automation hardware were then added throughout the collection system for pump station and pipeline monitoring across their 50 sq mile service area.

System Integration Services

Project Automation Engineer | Binghamton-Johnson City Joint Water Treatment Facility | Binghamton, NY, USA

Provided the automation and communication infrastructure standards and design, as well as supervised the integration activities for this new facility that incorporated 23 plant and OEM PLCs. Fiber optic communications design, tight VFD integration through Ethernet, power system monitoring, implementation of a data historian, and ISA 101 compliant SCADA graphics design are highlights of this project.

- International Society of Automation (ISA)

Vanderbilt/Depew Pumping Stations and Overflow Retention Facility Upgrades

Automation Engineer | Erie County Department of Environment and Planning | Depew, NY, USA

Designed the electrical distribution, automation, and controls for an 11.5 mgd wastewater pump/lift station. Project included new instrumentation, PLC, OIT, variable frequency drives (VFDs), and SCADA communications for remote monitoring and control.

PLC and SCADA Development

Automation Engineer | City of Batavia | Batavia, NY, USA

Designed and installed a Rockwell Automation and cellular modem-based control and data acquisition system for a municipal wastewater plant and collection system. Project consisted of the integration of 11 individual PLCs into a centralized Ethernet-based network for easy monitoring, alarming, and diagnostics of operations by plant personnel. He also designed



and installed a new automation and control system for the municipal water supply plant, including a new monitoring, control, backwashing, and alarming package for 12 sand filters.

Automation Design/Programming

Project Automation Engineer | Onondaga County Dept of Water Environment Protection | Onondaga County, NY, USA

Provides automation design with SCADA and PLC programming services to accomplish tasks assigned under a Term Services Agreement, as well as to implement, field test, and verify correctness. Tasks to date have included updates and programming of Cimplicity®, programming of multiple PLC platforms and HMIs, design, and development of Cimplicity® and HMI screens, and integration of new or upgraded equipment.

Various Improvement Projects

Project Automation Engineer |

Onondaga County Department of Water Environment Protection | Onondaga County, NY, USA

Responsible for the design of instrumentation and control systems for improvements at several OCDWEP wastewater treatment facilities (Metro, Oak Orchard, Brewerton, Meadowbrook-Limestone), including the development of control system architectures, fabrication-level control panel drawings (with Bill of Materials), internal schematics, I/O schematics, and field cable/conduit routings for chlor/de-chlor systems.

Vanderbilt/Depew Pumping Stations and Overflow Retention Facility Upgrades

Automation Engineer | Erie County Department of Environment and Planning | Depew, NY, USA

Designed the electrical distribution, automation, and controls for an 11.5 mgd wastewater pump/lift station. Project included new instrumentation, PLC, OIT, variable frequency drives (VFDs), and SCADA communications for remote monitoring and control.

Controls System Design

Automation Engineer | City of Auburn | Auburn, NY, USA

Designed and installed new automation, controls, PLCs, and SCADA software for a 20 mgd wastewater treatment plant. The project consisted of total system reverse engineering, new control panel designs, I/O schematics, contract documents, software development, startup, and debug of six CompactLogix PLCs networked together with four SCADA terminals and a master ControlLogix PLC, specification and installation of new Ethernet base fiber optic communications, and Ethernet switches monitored by PLC and SCADA.

Project experience – Environmental

Automation System Design

Controls System Engineer | Confidential | Waterloo, NY, USA

Developed, designed, and installed a redundant PLC architecture for the safe extraction and transportation of landfill gas (LFG) to a power generation facility. Work included design and development of automation control panel, selection of field instrumentation, construction management, PLC software development, on-site startup and debug, and operator training.

Automation System Design

Controls System Engineer | Confidential | Lewiston, NY, USA

Designed and implemented the power distribution, controls, PLC software, and SCADA software for numerous groundwater pumping stations. Work included implementation of spread spectrum Ethernetbased radio modems for automated control and data acquisition from remote locations.

Career history

2000 - present	GHD, Electrical Engineer
1999 - 2000	General Motors Powertrain, Electrical Engineer
1989 - 1999	Keller Technology, Electrical Engineer



Steven Josa PE Electrical/SCADA/Controls

Location Buffalo, New York, USA

Qualifications/Accreditations

- B.S., Electrical Engineering, 2008

Registrations/Memberships

- Registered Professional Engineer: New York

Relevant experience summary

Steve has 13 years of experience in electrical and automation engineering. The first 6 years included extensive automation design experience of custom machinery for the private sector. This involved the design of control panel, sizing of electrical equipment, schematics, PLC/SCADA programming, and troubleshooting. The majority of time over the past year was spent completing power distribution maintenance and arc flash mitigation projects, root cause analysis, DC drive troubleshooting and boiler/steam system instrumentation and pump upgrades in the paper and pulp industry. Steve assisted the Niagara Falls Water Board during Phase 3 of the WWTP rehabilitation and developed in 2016 assisted in the preparation of a memorandum that outlined the programming implemented for changes to the intermediate pump eddy current drives, which enabled remote SCADA control of the pump speeds.

Project experience – Municipal WWTP Phase 3 Rehabilitation

Project Automation Engineer | Niagara Falls Water Board | Niagara Falls, NY, USA

Designed instrumentation and control systems upgrades for improvements at the WWTP. This included the development of control system architecture, fabrication-level control panel drawings (with Bill of Materials), internal schematics, input/output (I/O) schematics, field cable/conduit routings and I/O riser diagrams.

SCADA and PLC Programming Term Services

Project Engineer | Onondaga County Department of Water Environment Protection | Onondaga County, NY, USA

Steve is the Project Engineer responsible for providing professional SCADA and PLC programming services under a Term Services Agreement. Under OCDWEP Instrumentation/Electrical staff supervision, Steve is responsible for developing programs to accomplish the assigned tasks, as well as to implement, field test, and verify correctness. Assignments have included:

- Updating and programming Allen Bradley PLC platforms and Human Machine Interfaces (HMIs)
- Designing and developing Exor HMI screens to replace obsolete HMI panels
- Integrating new and upgraded equipment, along with startup assistance

Various Improvement Projects

Project Automation Engineer | Onondaga County Department of Water Environment Protection | Onondaga County, NY, USA

Steve designed instrumentation and control systems for improvements at several OCDWEP wastewater treatment facilities (Oak Orchard and Brewerton). This included the development of control system architectures, fabrication-level control panel drawings (with Bill of Materials), internal schematics, input/output (I/O) schematics, and field cable/conduit routings:

 Upgraded an Allen Bradley PLC-5 at the Oak Orchard WWTP to an Allen Bradley ControlLogix PLC. This

Experience 13 years

included programming of the PLC and integration with the existing SCADA system.

 Programmed and integrated a new disinfection system for the Brewerton WPCP. Including the programing of an Allen Bradley CompactLogix PLC, Exor HMI and integration with the existing SCADA system.

Project experience – Industrial

Plant Electrical Maintenance

Electrical Engineer | Confidential Client | Niagara Falls, NY, USA

Lead electrical maintenance engineer for a recyclable based paper mill. All electrical activities were coordinated and planned with assistance from the electrician and technician supervisor.

- Scheduled and analyzed regular inspections and repairs of electrical equipment, including visual inspections, infrared thermography, and transformer oil analysis.
- Provided 24-hour support and troubleshooting for plant electrical power distribution issues for 12.4kV, 4160V, 2300V, and 480V substations.
- Provided 24-hour support and troubleshooting for plant controls issues, including the plant DCS, instrumentation, PLCs, RTUs, SCADA system, and VFDs.
- Performed root cause analysis for failures that were determined to have been electrical or controls based.
- Reviewed electrical stock in storeroom.
 Recommended items to be removed to save costs and items to be purchased to reduce potential downtime.

High Pressure Boiler Condensate Tank Instrumentation Installation & Integration

Electrical Engineer | Confidential Client | Niagara Falls, NY, USA

A high-pressure condensate tank was upgraded, and new tank and control system was installed in a paper mill.

- Determined the MCC location of the power feed based on current plant loads and application load. Specified an MCC plug in unit for the application.
- Instrumentation control panels were designed to accommodate the wiring for all new field instrumentation devices. Devices were connected to the plant DCS and programmed.
- Provided startup assistance.

Paper Machine Condensate Pump Upgrade

Electrical Engineer | Confidential Client | Niagara Falls, NY, USA

An upgrade of a larger main and auxiliary condensate return pump and motor was designed and coordinated for a paper mill. Updates included motor starter panels, electrical feeds, and motors.

- Specified the required equipment to be demolished to prepare for installation of new equipment.
- Determined the MCC location of the power feed based on current plant loads and application load.
 Specified an MCC plug in unit for the application.
- Startup assistance was provided and coordinated with the mechanical and process engineers.

Paper Mill Arc Flash & Short Circuit Current Mitigation

Electrical Engineer | Confidential Client | Niagara Falls, NY

An arc flash and short circuit current study on a paper mill was conducted by a contractor and analyzed to determine the state of electrical safety in the plant.

- Specified various fusing and circuit breaker changes where current protection devices did not meet the calculated available short circuit current.
- Worked with contractor to determine cost effective solutions to mitigate equipment with dangerous arc flash levels. This included adding or changing various circuit breakers, fusing, and protective relays.
- Coordinated a plant-wide electrical shutdown to implement the required changes.

Career history

2015 – present	GHD, Buffalo, NY
2014 – 2015	Norampac Industries, Niagara Falls, NY
2008 – 2013	Keller Technology Corporation, Tonawanda, NY



Daniel Kolkmann Pumping Operations

Location Buffalo, New York, USA

Qualifications/Accreditations

- AS, Engineering, 1984
- AAS, Construction Technology, 1982

Relevant experience summary

Dan leads our Buffalo construction services group and has more than 40 years of experience in the inspection, contract administration, and construction management of municipal water and wastewater facility and infrastructure projects. Responsibilities have included: review of bid proposals, overseeing receipt/responses to requests for information from prospective bidders, advising/making recommendations to the Client regarding contract award, overseeing the construction of Projects. Dan also manages contractor progress payment recommendations, shop drawing review/processing, and provides consultation relative to substitutions and design modifications.

Experience

44 years

Project experience – Municipal Wastewater Treatment Pumping and Collection Systems

Wastewater Treatment Plant Emergency Flood Repairs and Main Pump Replacement

Contract Administrator | Niagara Falls Water Board | Niagara Falls, NY, USA

At the request of the NFWB, Dan provided construction management and general consultation for emergency recovery efforts after the WWTP was incapacitated by a storm event. The project included the selection of five prime contractors, assessment of all related damage, and oversight of the recovery design and construction. Recovery efforts included the installation of five temporary pumping facilities for the main plant influent and full replacement of the four existing 22 mgd pumps, magnetic drives, motors, medium voltage power centers and MCCs. Approximately \$8 million in total mechanical, electrical and HVAC work was performed with all costs recovered within the associated insurance claim.

Project 2 – Gorge Pump Station Rehabilitation

Contract Administrator | Niagara Falls Water Board | Niagara Falls, NY, USA

Dan is overseeing construction phase services for the replacement of three 13 mgd, 500 HP vertical dry pit

wastewater pumps, new pump VFDs, sluice gates, influent grinders, and heating and ventilation systems and modifications to a CSO outfall regulator inside the Falls Street Tunnel.

Wastewater Treatment Plant and Sanitary Sewer Lift Station Standby Generator Systems

Contract Administrator | Niagara Falls Water Board | Niagara Falls, NY, USA

Dan provided construction phase services for standby generator improvements at the WWTP and the sanitary lift stations. Improvements included:

- WWTP Standby Generator and Electrical Upgrades: project involved the demolition and replacement of the existing indoor 250kW diesel generator with a new 400kW generator. Accompanying electrical upgrades included three 600A automatic transfer switches, lighting and power panelboard replacements, transformer upgrades, and data connections.
- Sanitary Lift Station Upgrades: included installation of standby generators at the Stevenson Avenue, Frontier Avenue, 56th Street and Luick Avenue Pump Stations with 100kW, 80kW, 125kW and 65kW generators, respectively.

Work included all electrical connections, ATS units and natural gas service installations. These projects were

completed with funds from the Dormitory Authority of the State of New York.

Gorge Pumping Station Rehabilitation (Contract 55)

Contract Administrator | Niagara Falls Water Board | Niagara Falls, NY, USA

Dan provided construction contract administration for the rehabilitation of a 20 mgd wastewater pump station. This project consisted of rebuilding three 13 mgd pumps, two 500 HP motors, replacement of the pump suction piping, and new motorized 24-inch valves. Repairs were made to the wet well sluice gates and new grinder units installed. Concrete improvements were made to the influent approach channel, and new PLC based pump controls, new ultrasonic level sensors for pump control and overflow weir monitoring, modifications to the overflow weir, and new variable frequency drives in a dedicated VFD room.

Vanderbilt Pumping Station, Depew Pumping Station and Overflow Retention Facility Upgrades

Contract Administrator | Erie County Department of Environment and Planning | Depew, NY, USA

Contract Administrator for the installation of new 185 HP pumps, valve chamber, flow meter chamber, VFDs, generator, and SCADA upgrades at the Vanderbilt Pumping Station; new flow meter, flow control valve, and SCADA programming at the Depew Pumping Station; and upgrades to restore hydraulic capacity of the ORF to 75 mgd.

South Buffalo Pump Station VFD Upgrades

Contract Administrator | Buffalo Sewer Authority | Buffalo, NY, USA

Dan oversaw the construction/installation of new pump discharge valves, pump motor rehabilitation, switchgear, and new variable frequency drives for the pump motors.

South Buffalo Pump Station Rehabilitation

Contract Administrator | Buffalo Sewer Authority | Buffalo, NY, USA

Dan oversaw construction and inspection services for the rehabilitation of a 100 mgd wastewater pump station. The project included repairs to two 15 mgd pumps, two 37 mgd pumps, two 50 HP motors, and two 150 HP motors; repairs to the station influent gates and screens; new effluent valve electric actuators; PLC based pump control upgrades; new ultrasonic level sensing instruments; heating and ventilation upgrades; and a new secondary 750kVA transformer with automatic transfer switch.

Project experience – Municipal Water Treatment, Pumping and Transmission

Colonel Ward High Service Pumping System Improvements

Contract Administrator | City of Buffalo, Division of Water | Buffalo, NY, USA

Dan provided services during construction of improvements being completed under a performance contract. Improvements included the installation of two new 750 HP 20 mgd vertical centrifugal pumps, installation of a new 48-inch suction header pipe, new flow control rotovalves, several motorized butterfly valves, new discharge piping, and SCADA control upgrades. The project also included upgrades to the existing 50 mgd high service pumps to improve the priming system, discharge check valve, and automate the pump changeover procedures.

Treatment Facilities Expansion

Contract Administrator | Niagara County Water Authority | Niagara Falls, NY,

Dan managed all on site Contract Administration services, including supervision of a four-person inspection team overseeing 13 separate construction contracts. The project included a \$16 million expansion of water treatment and pumping capacity for the District's Williams Road Treatment Plant, including installation of three new 1500 HP, 18 mgd vertical turbine pumps with VFDs, two new coagulation basins, and four new automatic backwash sand filters. Work also included modification and expansion of disinfection facilities.

Career history

USA

2003 – present	GHD, Senior Project Administrator
1986 – 2003	R&D Engineering, PC, Construction Manager
1977 – 1985	Stimm Associates, Inc., General Contractors and Engineers



ghd.com

→ The Power of Commitment

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NIAGARA FALLS WATER BOARD RESOLUTION # 2022-01-005

PAYROLL AND TIME MANAGEMENT SYSTEM TECHNOLOGY UPGRADE

WHEREAS, the Niagara Falls Water Board ("Water Board") has implemented a time clock system but has not fully integrated that system with its payroll processes, many of which remain paper-based; and

WHEREAS, Water Board staff solicited proposals for payroll and time clock system technology upgrades that will replace existing outdated and cumbersome systems and provide management and staff with improved and efficient access to information; and

WHEREAS, proposals and product demonstrations were receive from ADP, EBC, Paychex, and Tyler Technologies (New World); and

WHEREAS, Water Board staff recommend the Paychex product as providing the features and interface that are the best match for the Water Board's needs; and

WHEREAS, the Paychex system will cost approximately \$19,195.20 for payroll, time-and-attendance, and other features annually, with the exact cost based on the number of employees; and

WHEREAS, there will be a one-time cost of \$8,025 to purchase compatible timeclocks and annual maintenance of \$1,200 for those timeclocks; and

WHEREAS, the Paycheck solution will replace the existing EBC/Computerserve timeclock system which currently costs approximately \$8,450 per year and the New World HR Module which currently costs \$19,774.42 per year;

* CONTINUED ON NEXT PAGE *

NOW THEREFORE BE IT

RESOLVED, that the Niagara Falls Water Board hereby authorizes the procurement of payroll and time-and-attendance technology services from Paycheck for approximately \$19,195.20 per annum, together with the one-time purchase of compatible time clocks for \$8,025 and an annual maintenance plan for those time clocks at \$1,200 per annum.

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.: C-1, IT Plan Implementation Operating Budget Line: FA.8150.0000.0446.008 Software Maint/Licenses Budget/Capital Line Supplied by: B. Majchrowicz Available Fund Confirmed by: B. Majchrowicz

On January 31, 2022, the question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

	Y	es	N	0	Abs	tain	Ab	sent
Board Member Asklar	[]	[]	[]	[]
Board Member Kimble	[]	[]	[]	[]
Board Member Larkin	[]	[]	[]	[]
Board Member Leffler	[]	[]	[]	[]
Chairman Forster	[]	[]	[]	[]

Signed By:

Vote Witnessed By:

Nicholas J. Forster, Chairman

Sean W. Costello, Secretary to Board

Current annual payment to New World for the HR/Payroll service =	HR Mgt. Base	5,454.71
	Position Control	8,864.98
	Position Budgeting	5,454.73
		19,774.42
Current monthly payment to EBC for timeclocks=	2.25 per active employee(113)	254.25
	8.00 user accounts over 5(12)	96.00
	.30 interface to NW per active employee(113)	33.90
	64.00 Rental of timeclocks(5)	320.00
		704.15
		x 12 months
		8,449.80

Current total yearly cost 28,224.22	-	
	Current total yearly cost	28,224.22

	<u>Bi-weekly</u>		Monthly		Annual		Total Yearly Costs	Setup Costs
Paychex								
	Lease							
	1,053.25 x26=	27,384.50	722.50 x 12=	8,670.00	23.50 x1=	23.50	36,078.00	(\$400)
	Purchase of Timeclocks							
	579.00 x26=	15,054.00	343.20 x 12=	4,118.40	1,200.00 x1=	1,200.00	20,372.40	8,025.00
ADP								
	Enhanced Payroll							
	469.64 x26=	12,210.64	507.64 x 12=	6,091.68	448.00 x1=	448.00	18,750.32	3,750.00
	Essential Plus							
	716.04 x26=	18,617.04	507.64 x 12=	6,091.68	448.00 x1=	448.00	25,156.72	750.00
<u>EBC</u>								
	Lease of Timeclocks							
	1,079.85 x26=	28,076.10	840.00 x 12=	10,080.00	620.00 x1=	620.00	38,776.10	5,500.00
	Purchase of Timeclocks							
	1,079.85 x26=	28,076.10	- x 12=	-	620.00 x1=	620.00	28,696.10	23,555.00
New Wor	<u>'ld</u>							
					31,032.42 x1=	31,032.42	31,032.42	21,820.00

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Investment Summary

Niagara Falls Water Board

Prepared by:

Michael Russell Enterprise HCM Consultant mjrussel@paychex.com +1 9546107741 Created Date: 10-25-2021 Quote Number: Q-197881

Prepared for: Niagara Falls Water Board Abderrahman Zehraoui azehraoui@nfwb.org

Per Pay Period Fees - Bi-Weekly	Units	Total
Paychex Flex Enterprise		
Paychex Flex Payroll Bundle - Per Payrun Fee	1	\$86.90
Paychex Payroll	115	\$328.90
Flex Time	115	\$148.35
Paychex Flex Time - Per Payrun Fee	1	\$14.85
	Total	\$579.00

Monthly Fees	Units	Total
Employer Shared Responsibility - Base (2022)	1	\$72.05
Employer Shared Responsibility - Per User (2022)	115	\$81.65
Paychex Learning Enhanced - Base	1	\$40.00
Paychex Learning Enhanced - Per Employee	115	\$149.50
	Total	\$343.20

Annual Fees	Units	Total
YE Processing- Forms W2/1099 - Base	1	\$0.00
YE Processing- Forms W2/1099 - Per User	115	\$0.00
YE Handling Fee	1	\$23.50
	Total	\$23.50



One-Time Fees	Units	Total
Paychex Flex Payroll Bundle - Setup Fee	1	\$0.00
Paychex Flex Time - Setup Fee	1	\$0.00
Employer Shared Responsibility - Setup Fee (2022)	1	\$0.00
	Total	\$0.00 \$0.00



Package

Paychex Flex® Enterprise

Effectively Manage Critical Processes

Check Insertion Check Logo Data Exports Dedicated Service Rep **Direct Deposit** Full Service State Unemployment Insurance Garnishment Payment Service GL Report or GL Service Job Costing/Labor Distribution **On-Site Checks** Paycard **Payroll Processing** Readychex® or Check Signing Report Writer Tax Credit Service Taxpay® Service Time Óff Accrual WC Report or WC Payment Service

Increase Employee Productivity

24/7 Live Support Employee Access HR Library Learning Essentials Mobile App Online Reports Reports On-Demand Paychex Flex HR®

Hire & Retain Talent

Background Screenings – 15 New Hire/Change Transmission Paychex Flex® Onboarding Essentials

Engage & Motivate Your Workforce 401(K) Report FinFit

Reduce Business Risk Employee Handbook Builder Labor Compliance Poster Kit



Notations

Product / Billing

Totals displayed do not include sales tax where applicable.

Prices are subject to change with advance notice; promotions are excluded from change.

* Additional training content for Paychex Learning Product offering is purchased through the e-commerce tool site by authorized users.

A \$65 fee will be applied to your invoice per each Remote I9 request.

A \$5 fee will be applied to your invoice per each E-Verify request.

Payroll Delivery: Delivery fees charged only if incurred.

Quarter/Year End Report Delivery: Quarter/YE Report Delivery fees are not included and will be charged if a package is delivered. Additional fees will apply.

Implementation

Check Signing or ReadyChex: ReadyChex

Worker's Compensation Report or Worker's Compensation Payment Service: Worker's Compensation Report General Ledger Report or General Ledger reporting service: General Ledger Report

Year-End Delivery

• Note: Please review your delivery method with your service provider before 12/31 to avoid additional charges.

Online Only:

- You and your employees will receive no physical output.
- W2s are typically available online within the first full week of January.



Investment Summary

Niagara Falls Water Board

Prepared by:

Michael Russell Enterprise HCM Consultant mjrussel@paychex.com +1 9546107741

Created Date: 01-21-2022 Quote Number: Q-238591

Prepared for: Niagara Falls Water Board Abderrahman Zehraoui azehraoui@nfwb.org

Annual Fees	Units	Total
Annual Maintenance Agreement	4	\$1,200.00
	Total	\$1,200.00
One-Time Fees	Units	Total
Purchase Proximity Clock **WIFI Enabled**	4	\$8,000.00
Time Clock Delivery	1	\$25.00
	Total	\$8,025.00
First year total		\$9,225.00
Annual total		\$1,200.00

Please initial to indicate your Approval of These Fees :



Notations

Product / Billing

Totals displayed do not include sales tax where applicable. Prices are subject to change with advance notice; promotions are excluded from change.

Year-End Delivery

• Note: Please review your delivery method with your service provider before 12/31 to avoid additional charges.



NIAGARA FALLS WATER BOARD RESOLUTION # 2022-01-006

WWTP ADMINISTRATION BUILDING CARPET REPLACEMENT

WHEREAS, the Niagara Falls Water Board ("Water Board") wastewater treatment plant administration building's carpet appears original to the 1970's era building, is torn, stained, and unsightly, and in places is becoming a tripping hazard; and

WHEREAS, Water Board staff solicited quotes for carpet replacement from multiple companies, but were successful in securing just two proposals, one from Payne's Carpet Outlet dated January 10, 2022 for a total cost of \$16,640 and one from Custom Carpet Centers dated January 25, 2022 for a total cost of \$39,966.31; and

WHEREAS, Water Board staff recommend selection of the proposal from Payne's Carpet Outlet;

NOW THEREFORE BE IT

RESOLVED, that the Niagara Falls Water Board hereby authorizes payment of \$16,640 to Payne's Carpet Outlet for replacement of the carpet in the wastewater treatment plant administration building.

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-17 WWTP Infrastructure Projects-Miscellaneous
 Capital Line Supplied by: B. Majchrowicz
 Available Funds Confirmed by: B. Majchrowicz

On January 31, 2022, 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 Kimble	[]	[]	[]	[]
Board Member Larkin	[]	[]	[]	[]
Board Member Leffler	[]	[]	[]	[]
Chairman Forster	[]	[]	[]	[]

Signed By:

Vote Witnessed By:

Nicholas J. Forster, Chairman

Sean W. Costello, Secretary to Board

298-0455

Payne's Carpet Outlet 2406 Military Road Niagara Falls, NY 14304

January 10, 2022 Niagara Falls Water Board 1200 Buffalo Ave Niagara Falls, NY

Attn. Joe Argona

Install Shaw Commercial Carpet: Neyland III color Medallion, with direct glue in offices, conference rooms, hallway, and all steps as per walk through. -Customer to remove carpet. -Customer to move all furniture. Total Square feet—4,380

\$13,990.00

Option: Tear up old carpet \$1,850.00 Moving larger Furniture \$800.00

Any questions, please call Jonathan @298-0455

NIAGARA FALLS WATER BOARD RESOLUTION # 2022-01-007

REALLOCATION OF BUDGETED FUNDS FOR AECOM CONSENT ORDER SERVICES

WHEREAS, the Niagara Falls Water Board has utilized the professional engineering services of AECOM for a number of tasks at the wastewater treatment plant as it complies with the terms of NYSDEC Order on Consent R9-20170906-129; and

WHEREAS, the funds for AECOM's services as onsite environmental monitor ("OEM") and miscellaneous engineering related to the Order on Consent (performed under contract/project No. 60578818) have been exhausted, while AECOM has completed other projects related to the Order on Consent (performed under contract/project No. 60597898) for less than the total amounts appropriated by the Water Board; and

WHEREAS, AECOM has presented a proposal to continue funding its OEM and miscellaneous engineering services related to the Order on Consent by executing a change order that will transfer the remaining \$109,711 budget from other Order on Consent projects (contract/project No. 60597898) to its agreement for the OEM and miscellaneous engineering services (contract/project No. 60578818); and

WHEREAS, by authorizing this change order, the Water Board is not obligating any new funds and the change order will allow accurate accounting for funds spent for each project;

* CONTINUED ON NEXT PAGE *

NOW THEREFORE BE IT

RESOLVED, that the Niagara Falls Water Board hereby authorizes the Executive Director to execute change orders dated January 24, 2022 for AECOM projects 60597898 and 60578818, to transfer \$109,711 in funds previously authorized for project 60597898 to pay for services to be rendered under project 60578818.

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

Water Board Budget Line or Capital Plan Item with Funds for this Resolution: No new funds are being approved, reallocation of existing appropriations.

On January 31, 2022, 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 Kimble	[]	[]	[]	[]
Board Member Larkin	[]	[]	[]	[]
Board Member Leffler	[]	[]	[]	[]
Chairman Forster	[]	[]	[]	[]

Signed By:

Vote Witnessed By:

Nicholas J. Forster, Chairman

Sean W. Costello, Secretary to Board

NIAGARA FALLS WATER BOARD



REQUEST FOR PROPOSALS ("RFP") NO. 2021-04 Wastewater Treatment Plant Intermediate Pumps Assessment

AWARD RECOMMENDATION MEMO

DATE: 1/27/2022

After review of the (2) two engineering consultant proposals received by January 19th, 2022 at 1:00 pm, (1) one final award recommendation has been made by the NFWB proposal evaluation team for the Request for Proposals ("RFP") No. 2021-04 Wastewater Treatment Plant Intermediate Pumps Assessment. The NFWB evaluation team reviewed and scored the (2) two proposals received using the following criteria, as stated in the RFP:

7. 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.

The NFWB evaluation team recommends awarding the Wastewater Treatment Plant Intermediate Pumps Assessment to GHD to complete the scope of services outlined in Section 3.2 of their proposal for a not-to-exceed fee of \$21,716, as stated in table 8.1 Effort and Budget Breakdown. Dr. Zehraoui Executive Director Niagara Falls Water Board 5815 Buffalo Avenue Niagara Falls, NY 14304

Subject: Change Order for Consent Order Services Reallocation of Budget

Dear Dr. Zehraoui:

Pursuant to our recent communications, AECOM USA Inc. (AECOM) is submitting this change order for the reallocation of budget from Project 60578818 (Pilot and Outfall Relocation) to Project 60597898 (Miscellaneous/Consent Order Engineering). The transfer of budget will allow for continued services associated with the Miscellaneous/Consent Order Engineer project which consists of an AECOM wastewater professional (i.e., John Goeddertz and/or Jeff Tudini) to provide operation and maintenance support. The originally approved budgets and proposed transfer are outlined below in Table 1.

Project	Original Budget	Budget Remaining	Proposed Amount to be Transferred	Budget Remaining after Transfer
60578818 (Pilot and Outfall Relocation)	\$1,045,591	\$109,711	-\$109,711	\$0
60597898 (Misc. and Consent Order Engineering)	\$350,440	-\$4,154 ¹	\$109,711	\$105,557

Table 1 Transfer of Budget Summary

Note:

1

The final budget will be less the overage and billed as part of project 60597898

If NFWB agrees with the proposed change order, please execute the Change Order Forms included with this letter and email an executed copy to my attention at <u>jeffrey.tudini@aecom.com</u>. We look forward to continuing work with you and your staff. If you have any questions or concerns, please do not hesitate to contact me at 716-868-4306.Sincerely yours,

AECOM USA, Inc.

Shiellin

Jeff Tudini Project Manager

Doug Gove Vice President



CHANGE ORDER

This Change Order No. 2, with an effective date of January 24, 2022 is issued under the Consulting Services Agreement ("Agreement") dated July 11, 2018 between The Niagara Falls Water Board ("Client") and AECOM USA, Inc., a New York Corporation ("AECOM"); each also referred to individually as a "Party" and collectively as "Parties". This Change Order modifies the Agreement as follows:

1. Changes to the Services:

None	

2. Change to Deliverables:

None

3. Change in Project Schedule (attach schedule if appropriate):

None – This project will be closed following transfer of available budget.

4. **Change in AECOM's Compensation**: This will be a net zero compensation change order with available budget being transferred to another project associated with consent order services. No additional budget is requested as part of this change order.

The Services set forth in this Change Order will be compensated on the following basis: [X] Time and Materials with a Not- to-Exceed amount of (\$109,711). The Hourly Labor Rate Schedule is set forth in **EXHIBIT B** (if applicable). Reimbursable expenses are included in the overall Not to Exceed cap.

Therefore, the total authorized Compensation, inclusive of this Change Order is \$0.

5. Project Impact:

There will be no immediate impact to the services provided under PN 60578818 and this project will be closed following the transfer of budget. The transfer of budget from PN 60578818 will allow for AECOM to continue to provide the services as part of project 60597898.

6. Other Changes (including terms and conditions):

None

U.S. Consulting Services Agreement - Change Order (March 19, 2018)



- 7. All other terms and conditions of the Agreement remain unchanged.
- 8. Each Party represents that the person executing this Change Order has the necessary legal authority to do so on behalf of the respective Party.

AECOM USA, Inc.

CLIENT: Niagara Falls Water Board

Signature

Doug Gove

Printed Name

Vice President

Printed Title

1/24/2022

Date

Address 1 John James Audubon PKWY Amherst, NY 14228 Signature

Printed Name

Printed Title

Date

Address

[End of the Change Order]

U.S. Consulting Services Agreement - Change Order (March 19, 2018)



CHANGE ORDER

This Change Order No. 1, with an effective date of January 24, 2022 is issued under the Consulting Services Agreement ("Agreement") dated January 23, 2019 between The Niagara Falls Water Board ("Client") and AECOM USA, Inc., a New York Corporation ("AECOM"); each also referred to individually as a "Party" and collectively as "Parties". This Change Order modifies the Agreement as follows:

1. Changes to the Services:

None		

2. Change to Deliverables:

None

3. Change in Project Schedule (attach schedule if appropriate):

The transferring of available budget to project 60597898 will extend the period of service through December 31, 2022

4. **Change in AECOM's Compensation**: This will be a net zero compensation change order with available budget being transferred to another project associated with consent order services. No additional budget is requested as part of this change order.

The Services set forth in this Change Order will be compensated on the following basis:

[X] Time and Materials with a Not- to-Exceed amount of (\$109,711). The Hourly Labor Rate Schedule is set forth in **EXHIBIT B** (if applicable). Reimbursable expenses are included in the overall Not to Exceed cap.

Therefore, the total authorized Compensation, inclusive of this Change Order is \$406,151.

5. Project Impact:

There will be no immediate impact to the services provided under PN 60597898. The transfer of budget from PN 60578818 will allow for AECOM to provide continued consent order services as part of project 60597898.

6. Other Changes (including terms and conditions):

None



- 7. All other terms and conditions of the Agreement remain unchanged.
- 8. Each Party represents that the person executing this Change Order has the necessary legal authority to do so on behalf of the respective Party.

AECOM USA, Inc.

CLIENT: Niagara Falls Water Board

Signature

Doug Gove

Printed Name

Vice President

Printed Title

1/24/2022

Date

Address 1 John James Audubon PKWY Amherst, NY 14228 Signature

Printed Name

Printed Title

Date

Address

[End of the Change Order]

U.S. Consulting Services Agreement - Change Order (March 19, 2018)

NIAGARA FALLS WATER BOARD RESOLUTION # 2022-01-008

OUTSIDE INFRASTRUCTURE REPLACEMENT MATERIALS

WHEREAS, the Niagara Falls Water Board ("Water Board") maintains extensive water distribution and wastewater and stormwater collection systems; and

WHEREAS, proper system maintenance requires having repair and replacement parts on hand, and the outside maintenance department desires to order parts anticipated to be necessary for 2022 operations prior to the March 2022 expiration of the current bid for such materials, at which time new bid prices may be higher; and

WHEREAS, Lock City Supply, Inc. and K & S Contractor Supply, Inc., previously were awarded the two-year bid to supply the materials that are the subject of this resolution pursuant to Resolution 2020-05-015 (Bid No. W2020-02);

NOW THEREFORE BE IT

RESOLVED, that the Niagara Falls Water Board authorizes the procurement of the following materials:

(1) From Lock City Supply Inc.:

(Funds From CIP Line W-1, Hydrant Replacement)

Bid				
Item #	Description	Unit Price	Qnty	Total
3	5 ft bury	\$2,245	10	\$22,450
4	6 ft bury	\$2,390	25	\$59,750
188	6" HYMAX	\$204.94	70	\$14,345.80
189	8" HYMAX	\$231.39	15	\$3,470.85

Tot. \$100,017

(Funds From CIP Line W-3, Large Valve Replacement) Bid

Item #	Description	Unit Price	Qnty	Total
67	12" Butterfly Valve	\$1,449	3	\$4,347
68	16" Butterfly Valve	\$2,436	5	\$12,180
69	20" Butterfly Valve	\$3,580	2	\$7,160

<u>Tot. \$23,687</u>

* CONTINUED ON NEXT PAGE *

(2) From K & S Contractor Supply, Inc. (Funds From CIP Line W-30, Water Infrastructure Projects, Misc.) Multiple Bid Item #s: Catch Basins (total 52): \$24,700 Multiple Bid Item #s: Various Catch Basin Frame Lids and Manhole Frame Lids: \$25,000

<u>Tot. \$49,700</u>

Total Funds Authorized by this Resolution Not to Exceed: \$173,404

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

Water Board Budget Line or Capital Plan Item with Funds for this Resolution: Capital Lines as Indicated Above Capital Line Supplied by: <u>M. Eagler</u> Available Funds Confirmed by: <u>B. Majchrowicz</u>

On January 31, 2022, 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 Kimble	[]	[]	[]	[]
Board Member Larkin	[]	[]	[]	[]
Board Member Leffler	[]	[]	[]	[]
Chairman Forster	[]	[]	[]	[]

Signed By:

Vote Witnessed By:

Nicholas J. Forster, Chairman

Sean W. Costello, Secretary to Board