

ERIE COUNTY WATER AUTHORITY
AUTHORIZATION FORM
For Approval/Execution of Documents
(check which apply)

Contract: MP-085-2001 **Project No.:** 202000166
Project Description: Sturgeon Point Piping and Valves Improvements Project

Item Description:

<input type="checkbox"/> Agreement	<input checked="" type="checkbox"/> Professional Service Contract	<input type="checkbox"/> Amendment	<input type="checkbox"/> Change Order
<input type="checkbox"/> BCD	<input type="checkbox"/> NYSDOT Agreement	<input type="checkbox"/> Contract Documents	<input type="checkbox"/> Addendum
<input type="checkbox"/> Recommendation for Award of Contract	<input type="checkbox"/> Recommendation to Reject Bids		
<input type="checkbox"/> Request for Proposals			
<input type="checkbox"/> Other _____			

Action Requested:

<input checked="" type="checkbox"/> Board Authorization to Execute	<input checked="" type="checkbox"/> Legal Approval
<input type="checkbox"/> Board Authorization to Award	<input checked="" type="checkbox"/> Execution by the Chairman
<input type="checkbox"/> Board Authorization to Advertise for Bids	<input type="checkbox"/> Execution by the Secretary to the Authority
<input type="checkbox"/> Board Authorization to Solicit Request for Proposals	
<input type="checkbox"/> Other _____	

Approvals Needed:

APPROVED AS TO CONTENT:

<input checked="" type="checkbox"/> Sr. Production Engineer	<u><i>Richard Agnew</i></u>	Date: <u>05/27/2020</u>
<input checked="" type="checkbox"/> Chief Operating Officer	<u><i>Russell J. Felt</i></u>	Date: <u>5/28/2020</u>
<input checked="" type="checkbox"/> Executive Engineer	<u><i>Leonard F. Kralik</i></u>	Date: <u>05/28/2020</u>
<input checked="" type="checkbox"/> Director of Administration	<u><i>Laronya Lester</i></u>	Date: <u>05/28/2020</u>
<input checked="" type="checkbox"/> Risk Manager	<u><i>Molly Jo Musarra</i></u>	Date: <u>05/28/2020</u>
<input checked="" type="checkbox"/> Chief Financial Officer	<u><i>Karen A. Pendugast</i></u>	Date: <u>05/27/2020</u>
<input checked="" type="checkbox"/> Legal	<u><i>Margaret A. Murphy</i></u>	Date: <u>05/28/2020</u>
APPROVED FOR BOARD RESOLUTION:		
<input checked="" type="checkbox"/> Secretary to the Authority	<u><i>T. E. [Signature]</i></u>	Date: <u>05/28/20</u>

Remarks: _____

Resolution Date: _____

Item No: _____



ERIE COUNTY WATER AUTHORITY

INTEROFFICE MEMORANDUM

May 27, 2020

To: Terrence D. McCracken, Secretary to the Authority

From: Leonard F. Kowalski, Executive Engineer

A handwritten signature in blue ink, appearing to be "LFK", is written over the name Leonard F. Kowalski.

Subject: Contract MP-085-2001
Sturgeon Point Water Treatment Plant
Piping and Valves Improvements
ECWA Project No. 202000166

The following material is attached:

- Blue Authorization Form indicating the requested Board action and approvals needed.
- Professional Service Contract for the above referenced project (2 copies) with Arcadis of New York, Inc., for execution by the Chairman.
- Copy of Interoffice Memorandum from Leonard F. Kowalski, Executive Engineer, dated May 12, 2020, detailing recommendations for the contract assignment after review of Request for Proposals (PN 202000047).

This project will focus on improvements to the sedimentation and filtration processes at the Sturgeon Point Water Treatment Plant. This project will involve five distinct tasks that will further define and advance the scope, schedule and estimated cost of much needed capital construction projects to be completed at Sturgeon Point over the next 5 to 10 years.

Funds for this project are included in the 2020 Capital Budget under 2510 Engineering and Construction – Sturgeon Point, Item 101506.

Work on the Piping and Valves Improvement Project will start immediately. Completion of basis of design documents for all five tasks is currently projected as March 2021.

LFK:MWW

cc: K.Prendergast
R.Stoll
M.Wymer
L.Lester



ERIE COUNTY WATER AUTHORITY

INTEROFFICE MEMORANDUM

May 12, 2020

To: Terrence D. McCracken, Secretary to the Authority

From: Leonard F. Kowalski, Executive Engineer

A handwritten signature in blue ink, appearing to read "LFK", is written over the name Leonard F. Kowalski.

Subject: Request for Proposals
Sturgeon Point Water Treatment Plant
Piping & Valve
ECWA Project No. 202000047

The Erie County Water Authority (ECWA) recently issued a Request for Proposal (RFP) for the design of a series of improvements related to the filtration system of the Sturgeon Point Water Treatment Plant. This project will involve five distinct tasks that will further define and advance the scope, schedule and estimated cost of capital construction projects to be completed at Sturgeon Point over the next 5 to 10 years.

The tasks to be completed under this project may be summarized as follows:

- **Task 1 - Evaluation of Sedimentation Basin Effluent Valves and Actuators:** evaluation and preliminary design of improvements to automate the operation of the sedimentation effluent valves.
- **Task 2 – Evaluation of Filter Backwash Supply Piping Header and Valves:** inspection and analysis of the condition of the existing filter backwash supply piping.
- **Task 3 – Evaluation of WTP Building Filtered Water Basin/Clearwell Bypass:** evaluation and preliminary design of alternatives to bypass and isolated the existing filtered water basin.
- **Task 4 – Evaluation of Wash Water Tank and Transfer Pump Discharge Interconnection:** evaluation and preliminary design options to utilize the filtered water transfer pumps for uninterrupted filter backwash water supply during maintenance of the existing backwash supply tank.
- **Task 5 – Evaluation, Design, and Construction Services, Filter Nos. 1-10 Piping and Valves Replacements and Improvements:** design, bidding and construction services for the replacement of filter piping and valves including the reconfiguration of filter-to-waste piping to comply with Department of Health requirements.

RFPs were issued to four consulting engineers: Arcadis, GHD, Nussbaumer & Clark, and Hazen & Sawyer. Another three firms obtained the RFP through our website (O'Brien & Gere, CPL, and Barton & Loguidice). In the end, two firms, Arcadis and GHD, chose to submit proposals for this project. This is a single project requiring one consulting firm.

To: Terrence D. McCracken
Secretary to the Authority

- 2 -

May 12, 2020

The proposals were reviewed and discussed among the engineering staff (Len Kowalski, Michael Wymer, David Patton, Clayton Johnson, and Michael Quinn). Experience, staffing, scope, and project approach were considered. It was determined that each firm possessed the basic relevant qualifications to perform the work proposed.

Arcadis provided an experienced project team to perform the work and demonstrated a higher degree of current, direct experience with recent/ongoing work in facilities of comparable treatment technology and capacity to the Sturgeon Point WTP. Their approach and level of effort showed an understanding of the necessary project process and workflow for the five tasks in this RFP and beyond to subsequent phases. Their construction phase team includes resident inspectors who provide multiple years of experience on several previous projects at Sturgeon Point. Their fee is reasonable and is comparable with regard to fees charged on other similar water utility projects.

If there are no objections, the Engineering Department plans on moving forward with negotiations with Arcadis to develop a Professional Services Contract for the referenced project.

LFK:MWW:jmf
cc: K.Prendergast
R.Stoll
L.Lester

**PROFESSIONAL SERVICES AGREEMENT
FOR ENGINEERING SERVICES**

This Agreement, effective as of June 4, 2020 (“Effective Date”), is by and between

ERIE COUNTY WATER AUTHORITY
295 Main Street, Room 350
Buffalo, New York 14203

hereinafter referred to as the “Authority,” and

ARCADIS OF NEW YORK, INC.
Key Center at Fountain Plaza
50 Fountain Plaza, Suite 600
Buffalo, New York 14202

hereinafter referred to as the “Engineer.”

The Authority project, for which engineering services are to be provided under this Agreement, relates to upgrades and improvements to the Sturgeon Point Water Treatment Plant (STP) Piping and Valves related to the sedimentation and filtration processes (the “Project”).

In consideration of the mutual promises set forth in this Agreement, the Authority and the Engineer agrees as follows:

ARTICLE 1 – THE PROJECT

1.01 The Authority intends to conduct a series of improvements related to the filtration system of the Sturgeon Point Water Treatment Plant. This project will involve five distinct tasks. Tasks 1 through 4 will produce basis of design documents that will further define and advance the scope, schedule and estimated cost of four future capital construction projects. Task 5 will include design of the project and services through the completion of construction.

- A. **Task 1 – Sedimentation Basin Effluent Valves and Actuators.** The STP has five (5) coagulation/sedimentation basins, each with connections to the two settled water conduits that continue to the filters. The connections differ between basins and may consist of a butterfly valve, gate valve, or sluice gate. The manual operation of these valves has been proven to be very difficult at times to complete. To further improve the removal efficiency of the sedimentation process and increase filter performance, the Authority desires to perform capital improvements to allow the basin’s effluent valves/gates to be more efficiently closed during each sludge removal process/cycle and re-opened upon completion of the cycle.
- B. **Task 2 –Filter Backwash Supply Header and Valves.** The filter backwash supply piping header was constructed in two phases and accordingly, sections of

the piping have been in service for over sixty years. The exact condition of the piping system is unknown as the piping is insulated throughout its alignment and not visible for inspection. The Authority would like to thoroughly inspect and evaluate the existing piping system's condition, including hangers and support components, and identify physical and operational improvements to the backwash supply piping header and surrounding environment.

- C. **Task 3 – WTP Building Filtered Water Basin/Clearwell Bypass.** The STP was originally constructed with a filtered water basin/clearwell located below grade/under the existing Filter/Control Building. The existing filtered water basin's structure is over 60-years old and its configuration does not allow for it to be fully isolated and removed from service while the plant is online. Therefore, the Authority would like to evaluate and determine options available to bypass and isolate the existing filtered water basin (in segments or in entirety) while maintaining continuous plant production and delivered water flows.
- D. **Task 4 – Wash Water Tank and Transfer Pump Discharge Interconnection.** The STP filters are currently supplied backwash water solely from an existing elevated water storage tank. Recent inspections indicate the tank requires immediate maintenance including recoating of the interior surfaces. The original backwash water supply system backwash pumps are not in service. Therefore, the Authority would like to evaluate and determine options available to supplement backwash flows through an interconnection with the existing transfer pumps discharge piping.
- E. **Task 5 – Filter Nos. 1-10 Piping and Valves Replacement and Improvements.** The STP filters were constructed in two phases, with Filter Nos 1 – 4 built in 1958 and Filter Nos. 5 – 10 built in 1970. The piping and valve systems are all from original construction and have all past their expected useful life. Additionally, the Department of Health has requested that any renovations to the filter pipe gallery include modifications of the existing filter to waste (FTW) piping to provide a suitable air gap and to allow for flow at the current filter loading rate for all filters. The Authority also plans on retrofitting all existing filters with air/water backwash capabilities and replacing filter media. Therefore, the Authority would like to evaluate, design, bid, and construct improvements to replace the existing filter piping and valves, underdrain system and media, to provide greater reliability and operational flexibility.

ARTICLE 2 – COMPLIANCE STANDARDS

2.01 **Standard of Performance**

- A. ***Standard of Care:*** The standard of care for all professional engineering and related services performed or furnished by the Engineer under this Agreement will be the care and skill ordinarily used by members of the subject profession practicing under similar circumstances at the time and in the same locality.

- B. ***Technical Accuracy:*** The Authority shall not be responsible for discovering deficiencies in the technical accuracy of the Engineer's services. The Engineer shall correct deficiencies in technical accuracy without additional compensation, unless such corrective action is directly attributable to deficiencies in Authority-furnished information.

2.02 Compliance with Laws and Regulations, and Policies and Procedures

- A. The Authority and the Engineer shall comply with all applicable federal, state or local laws and regulations and all applicable Authority policies and procedures.
- B. The Engineer shall comply with the provisions set forth in Public Authorities Law §§ 2875, 2876, and 2878 of the laws of the State of New York. In response to the Authority's Request for Proposals, the Engineer submitted and signed Forms A, B, and C, a copy of which is attached to, and incorporated in, this Agreement as Appendix D.
- C. By executing this Agreement, the Engineer affirms under the penalties of perjury that there was no collusion in the proposal submitted to the Authority, upon which forms the basis of this Agreement.
- D. The Engineer shall comply with the provisions of State Finance Law § 139-L of the laws of the State of New York. In response to the Authority's Request for Proposals, the Engineer submitted and signed the Sexual Harassment Bidding Certification, a copy of which is attached to, and incorporated in, this Agreement, as Appendix D.
- E. The Engineer shall comply with the provisions of the Shield Act, codified at General Business Law § 899-aa of the laws of the State of New York.
- F. The Authority shall provide the Engineer in writing any and all Authority policies and procedures applicable to the Engineer's performance of services under this Agreement. The Engineer agrees to comply with such policies and procedures to the extent compliance is not inconsistent with professional practice requirements.
- G. While on Authority property, the Engineer's employees, representatives and engineers shall comply with the specific applicable security and access rules established by the Authority's Security Officer.

2.03 Unknown Conditions. The Engineer shall not be required to sign any documents, no matter by whom requested, that would result in the Engineer having to certify, guarantee, or warrant the existence of conditions whose existence the Engineer cannot ascertain. The Authority agrees not to make resolution of any dispute with the Engineer for payment on any amount due to the Engineer in any way contingent upon the Engineer signing any such documents.

ARTICLE 3 – SCOPE OF SERVICE

3.01 Kick-off Meeting. Prior to rendering any professional services, the Engineer will conduct a kickoff meeting with Authority personnel to take place at the same time as the site walkthroughs referenced in § 3.02 through § 3.06 of this Agreement.

3.02 Task 1 – Basis of Design: Sedimentation Basin Effluent Valves and Actuators. The Engineer shall provide all engineering services necessary and complete the basis of design documents to evaluate and determine the options available to automate the operation of the sedimentation basin effluent valves/gates. Evaluation shall include, but not be limited to, the following:

- A. In contemplation of the basis of design (“BOD”), the Engineer shall:
 - 1. Review reports, drawings, specifications, and other records furnished by the Authority, including, but not limited to, the assumptions and recommendations from previous work.
 - 2. Verify site conditions related to the sedimentation basin effluent valves.
 - a. Complete a site walkthrough and review of operating records to verify existing conditions and to assist in the preparation of preliminary design documents.
 - b. Establish or confirm the process design parameters and criteria, including any deviations from regulatory requirements.
 - c. Obtain information on existing valves and sluice gates, actuators/operators, electrical, control, and all other related equipment and installation information.
 - 3. Prepare preliminary design documents for the proposed sedimentation basin effluent valve/sluice gate and actuator system. Evaluate the alternative of installing the new equipment in the existing location and installation within the effluent chamber at the end of each basin. Evaluate the option of replacement of the existing valves and sluice gates with electronically actuated valves. Preliminary design documents should:
 - a. Include final design criteria, including, but not limited to, equipment selection, component capacity, and compliance with applicable regulatory/code requirements and best practices.
 - b. Perform hydraulic calculations for the modified systems. Determine hydraulic impact of proposed improvements to process hydraulics.
 - c. Identify through preliminary drawings, the general arrangement/alignment of the proposed equipment including

dimensions and elevations of valve chambers and vaults. Preliminary design drawings shall include:

- i. Plan View: Coagulation Basins 1-5
 - ii. Sections and Details
 - iii. One-Line Diagram and Electrical Details
 - iv. P&ID and Instrumentation Details
 - d. List the required technical specifications for final design.
 - e. Include an equipment/motor list for all electrical equipment. Evaluate power source and capacity and identify any necessary improvements. Identify code compliance requirements for electrical components.
 - f. Evaluate available PLCs and remote I/O availability for automated actuator control. Complete a control narrative for operation and monitoring of the new system.
 - g. Describe the construction sequencing in conjunction with the continuation of plant operations. Provide a table summarizing required shutdowns and tie-ins.
 - h. State an opinion of probable project costs.
 - i. Set forth a Project schedule identifying the duration of final design, bid, and construction phases.
- B. The Engineer shall prepare a draft BOD Report, setting the factors considered by the Engineer including, but not limited to, those specifically identified in paragraph A of this section. The Engineer shall supply the Authority with ten (10) copies of the draft BOD Report with supporting documentation, along with a digital .pdf file of the draft BOD Report with supporting documentation.
- C. The Engineer shall meet with the Authority to review the draft BOD Report and will incorporate all comments into a final version. The Engineer shall supply the Authority with ten (10) copies of the final BOD Report with supporting documentation, along with a digital .pdf file of the final BOD Report with supporting documentation. The Engineer shall submit the final BOD Report with supporting documentation to the Erie County Department of Health (ECDOH) and New York State Department of Health (NYSDOH) for review and approval.
- D. The Engineer will prepare a Project schedule identifying the duration of final design, bid, and construction phases.

- E. The Engineer will conduct at least three (3) review meetings with the Authority and at least two (2) review meetings with appropriate regulatory agencies. Where, as approved by the Authority and as the progress of the work allows, review meetings for Task 1 may be held consecutively with review meetings for other tasks.

3.03 Task 2 – Basis of Design: Filter Backwash Supply Header and Valves. The Engineer shall provide all engineering services necessary to complete inspection and condition evaluation of the components of the backwash supply piping system and complete the basis of design documents. Engineer shall provide an analysis of the piping for the intended design conditions and determine the piping's suitability for continuing service. Evaluation shall include, but not be limited to, the following:

- A. In contemplation of the basis of design ("BOD"), the Engineer shall:
 - 1. Review reports, drawings, specifications, and other records furnished by the Authority, including, but not limited to, the assumptions and recommendations from previous work.
 - 2. Verify site conditions related to the backwash supply header system.
 - a. Complete a site walkthrough to verify existing conditions and to assist in the preparation of preliminary design documents. Note any repairs or modification from the original installation.
 - b. Obtain information on existing piping and valves. Obtain information on ancillary components including actuators, hangers and support, meters and insulation/coatings. Note existing conditions with regard to moisture and condensation.
 - c. In conjunction with backwash supply header system inspection, identify locations for sampling and testing of pipe insulation and coatings for hazardous materials.
 - i. If material sampling and testing becomes necessary, such sampling and testing would be considered a Special Service, subject to the provisions of § 3.13 of this Agreement.
 - 3. Complete an inspection of the backwash supply header system utilizing visual and non-destructive testing technologies. The inspection shall include ancillary components including actuators and hangers/supports. The inspection shall include:
 - a. Twenty (20) locations (two per filter) on welded steel piping utilizing visual, ultrasonic thickness (UT), and broadband electromagnetic (BEM) testing methodologies.
 - b. Twenty (20) locations (two per filter) on cast or ductile iron pipe fittings utilizing visual and BEM testing methodologies

- c. Twenty (20) locations (two per filter) pipe supports using visual and micrometer measurement methodologies.
 - d. All valve and actuator locations using visual methodology.
 - e. Three (3) locations on the buried portion of the backwash supply header utilizing BEM testing methodology. The Authority shall provide excavation services for access to the pipe.
- 4. Complete a condition assessment and evaluate the continued performance of the backwash supply header system relative to the original installation and current operating conditions. The evaluation shall include an analysis of the piping for the intended design conditions and determine the piping's suitability for continued service. The analysis shall take into consideration all anticipated loading conditions, including pressure due to fluid static head, internal and external pressures, and attachment/accessories loads.
- 5. In consideration of the findings of the inspection, complete an evaluation of construction sequencing necessary for any future repair or replacement of the existing backwash supply header. The evaluation shall include:
 - a. Routing and interconnection options for a permanent redundant backwash supply line extending from the backwash tank to the west end of the filter pipe gallery.
 - b. Routing and interconnection options for a temporary, at-grade or buried, backwash supply line.
 - c. Identification of operational and contractor-specific procedures to minimize the length of construction shutdowns.
- 6. Complete an evaluation of alternate approaches to condensation control as a method to control corrosion within the existing pipe gallery and filter operating floor. The evaluation shall include:
 - a. Evaluate the cost, useful life, constructability, and maintenance of different pipe materials including carbon steel, stainless steel, and ductile iron as materials for necessary pipe and fitting replacement within the filter pipe gallery.
 - b. Evaluate options for reducing or mitigating condensation of new and existing piping and appurtenances within the filter pipe gallery including standard epoxy coatings, insulation, and thermal coating systems.
 - c. Evaluate options for reducing or mitigating condensation within the general area of the filter pipe gallery and filter operating floor through dehumidification including:

- i. Calculations to allow preliminary sizing of dehumidification equipment including compressors, blowers, duct routing, and intake/exhaust louvers.
 - ii. Identification of potential locations for equipment, including an option for building expansion.
 - iii. Use of partitions or dividers on the filter operating floor level to isolate the filter cells from the rest of the area.
- 7. Prepare preliminary design documents specific to the inspection and evaluation of the backwash supply header system. Preliminary design documents should:
 - a. Document the results of the piping inspection and evaluation including the following:
 - i. Drawing of the backwash supply piping system accurately illustrating the points of inspection.
 - ii. Photographic record.
 - iii. Micrometer measurements.
 - iv. Information on hazardous materials found in coating and insulation.
 - v. External visual observations including pit depth measurements.
 - vi. Internal visual observations, as available, including pit depth measurements and/or borescope camera inspection.
 - vii. Valve and actuator condition including functionality and O&M history
 - b. Document the results of the condition assessment. All assumptions used in the analysis shall be provided to the Authority in detail for review and approval. Documentation should include the following:
 - i. Identify all deficiencies and required repairs and improvements. Present findings with the support of a 3-dimensional pipe diagram.
 - ii. Prepare an opinion of probable construction costs and perform present worth analysis of all deficiencies comparing options for repair versus full replacement considering capital cost, useful life, and cost of operational disruptions for implementation

- iii. Provide recommendations and alternatives for replacement or rehabilitation of backwash supply system components.
 - c. Document the results of the evaluation of construction sequencing.
 - i. Describe the construction sequencing in conjunction with the continuation of plant operations. Provide a table summarizing required shutdowns and tie-ins.
 - ii. Identify through a preliminary drawing, the general arrangement/alignment of the proposed redundant filter backwash piping.
 - d. Document the results of the evaluation of alternate approaches to condensation control including the following:
 - i. Matrix table directly comparing condensation control options.
 - ii. Summary of preliminary design and sizing criteria.
 - iii. HVAC system schematic.
 - iv. Preliminary drawings including:
 - (a) General Site Plan
 - (b) Mechanical/HVAC Plan
 - (c) Mechanical/HVAC Sections
 - (d) Structural/Architectural Plans and Sections
 - v. State an opinion of probable construction costs and perform present worth analysis comparing options considering capital cost, operating and maintenance costs and useful life.
 - vi. Provide recommendations and alternatives for replacement or rehabilitation of backwash supply system components.
 - e. Set forth a Project schedule identifying the duration of final design, bid, and construction phases.
- B. The Engineer shall prepare a draft BOD Report, setting the factors considered by the Engineer including, but not limited to, those specifically identified in paragraph A of this section. The Engineer shall supply the Authority with ten (10) copies of the draft BOD Report with supporting documentation, along with a digital .pdf file of the draft BOD Report with supporting documentation.

- C. The Engineer shall meet with the Authority to review the draft BOD Report and will incorporate all comments into a final version. The Engineer shall supply the Authority with ten (10) copies of the final BOD Report with supporting documentation, along with a digital .pdf file of the final BOD Report with supporting documentation. The Engineer shall submit the final BOD Report with supporting documentation to the ECDOH and NYSDOH for review and approval.
- D. The Engineer will prepare a Project schedule identifying the duration of final design, bid, and construction phases.
- E. The Engineer will conduct at least three (3) review meetings with the Authority and at least two (2) review meetings with appropriate regulatory agencies. Where, as approved by the Authority and as the progress of the work allows, review meetings for Task 2 may be held consecutively with review meetings for other tasks.

3.04 Task 3 – Basis of Design: WTP Building Filtered Water Basin/Clearwell Bypass. The Engineer shall provide all engineering services necessary to complete an evaluation of alternate methods to provide a bypass of the existing Filtered Water Basin and complete the basis of design documents. Engineer shall provide an analysis of the piping, valving/slucice gates, and structural improvements that may be necessary. Evaluation shall include, but not be limited to, the following:

- A. In contemplation of the basis of design (“BOD”), the Engineer shall:
 - 1. Review reports, drawings, specifications, inspections, and other records furnished by the Authority, including, but not limited to, the assumptions and recommendations from previous work.
 - 2. Verify site conditions related to the Filtered Water Basin.
 - a. Complete a site walkthrough and review underwater inspection documentation to verify existing conditions and to assist in the preparation of preliminary design documents. Note any repairs or modification from the original installation.
 - b. Obtain information on existing piping, valves and sluice gates. Obtain information on ancillary components including chambers and vaults, instrumentation and chemical feed points.
 - 3. Evaluate two (2) options for bypassing the Filtered Water Basin including:
 - a. Temporary bulkhead within the filtered water basin and new piping connection to a point downstream of the basin. Evaluate a minimum of three (3) connection points.
 - b. New piping from a connection point at the existing Filtered Water Conduits near Filters 9 and 10 to a point downstream of the basin. Evaluate a minimum of three (3) connection points.

4. Prepare preliminary design documents for the two (2) options for the proposed Filtered Water Basin bypass. Preliminary design documents should:
 - a. Include final design criteria, including, but not limited to, equipment and material selection, component capacity, impact on water quality, chemical system modifications, and compliance with applicable regulatory/code requirements and best practices.
 - b. Perform hydraulic analysis of the modified systems. Determine hydraulic impact of proposed improvements to overall plant process hydraulics.
 - c. Identify through preliminary drawings, the general arrangement/alignment of the proposed equipment including dimensions and elevations of valve chambers and vaults. Preliminary design drawings shall include:
 - i. Plan, Section and Details - Bypass Influent
 - ii. Plan, Section and Details - Bypass Effluent
 - iii. Plan and Profile – Bypass Piping
 - iv. Filtered Water Basin Improvements Details
 - v. Mechanical and Structural Details
 - vi. One-Line Drawing and electrical Details
 - vii. P&ID and Instrumentation Details
 - d. Complete a control narrative for operation of the bypass system.
 - e. Describe the construction sequencing in conjunction with the continuation of plant operations. Provide a table summarizing required shutdowns and tie-ins.
 - f. State an opinion of probable project costs.
 - g. Set forth a Project schedule identifying the duration of final design, bid, and construction phases.
- B. The Engineer shall prepare a draft BOD Report, setting the factors considered by the Engineer including, but not limited to, those specifically identified in paragraph A of this section. The Engineer shall supply the Authority with ten (10) copies of the draft BOD Report with supporting documentation, along with a digital .pdf file of the draft BOD Report with supporting documentation.

- C. The Engineer shall meet with the Authority to review the draft BOD Report and will incorporate all comments into a final version. The Engineer shall supply the Authority with ten (10) copies of the final BOD Report with supporting documentation, along with a digital .pdf file of the final BOD Report with supporting documentation. The Engineer shall submit the final BOD Report with supporting documentation to the ECDOH and NYSDOH for review and approval.
- D. The Engineer will prepare a Project schedule identifying the duration of final design, bid, and construction phases.
- E. The Engineer will conduct at least three (3) review meetings with the Authority and at least two (2) review meetings with appropriate regulatory agencies. Where, as approved by the Authority and as the progress of the work allows, review meetings for Task 3 may be held consecutively with review meetings for other tasks.

3.05 Task 4 – Basis of Design: Wash Water Tank and Transfer Pump Discharge Interconnection. The Engineer shall provide all engineering services necessary to complete an evaluation of options available to supplement backwash flows by using the existing transfer pumps and discharge piping. Engineer shall provide an analysis of an interconnection including routing between the transfer pump discharge piping and wash water tank discharge piping. Engineer shall evaluate hydraulics of interconnection including resulting variations from current backwash operating procedures. Evaluation shall include, but not be limited to, the following:

- A. In contemplation of the basis of design (“BOD”), the Engineer shall:
 - 1. Review reports, drawings, specifications, and other records furnished by the Authority, including, but not limited to, the assumptions and recommendations from previous work.
 - 2. Verify site conditions related to the proposed interconnection.
 - a. Complete a site walkthrough to verify existing conditions and to assist in the preparation of preliminary design documents. Note any repairs or modification from the original installation.
 - b. Obtain information on existing pumps, piping and valves. Obtain information on ancillary components including chambers and vaults, instrumentation and chemical feed points. Obtain information on existing wash water tank and filter backwash hydraulics including standard operating procedures. Obtain information and details of current automation of filter backwash and transfer pump operation. Obtain information on required disinfection contact time (CT) compliance practices.
 - 3. Conduct a hydraulic analysis to determine/confirm the flow and head available from the transfer pumps for backwash operations. Identify

conditions in which a potential control valve failure and resulting surge could lead to filter upset. Note any proposed modifications to the current filter backwash standard operating procedures resulting from the use of the transfer pumps. Prepare a hydraulic profile drawing of the filter backwash process utilizing the proposed interconnections. Conduct a workshop to review analysis with plant and supervisory personnel.

4. Evaluate two (2) options for the proposed location and type of interconnection to the Wash Water Tank discharge. Options to be evaluated include:
 - a. Tee cut into the 42-inch cast iron Wash Water Tank discharge line.
 - b. Tapping valve and sleeve connection on the 42-inch cast iron Wash Water Tank discharge line.
5. Evaluate two (2) options for the proposed location and type of interconnection to the Transfer Pump discharge. Options to be evaluated include:
 - a. Steel discharge header within the High Service Pump Station.
 - b. Buried pre-stressed concrete pipe leading to the East Clearwell.
6. Prepare preliminary design documents for the recommended interconnection options. Preliminary design documents should:
 - a. Include final design criteria, including, but not limited to, equipment and material selection, component capacity, impact on water quality, chemical system modifications, and compliance with applicable regulatory/code requirements and best practices.
 - b. Identify through preliminary drawings, the general arrangement/alignment of the proposed equipment including dimensions and elevations of piping, valves, and interconnection valve chambers and vaults. Preliminary design drawings shall include:
 - i. Plan – Wash Water Pipe Connection
 - ii. Plan – Transfer Piping Connection
 - iii. Sections – Piping and Connections
 - iv. Details – Piping and Connections
 - v. One-Line Drawing and Electrical Details
 - vi. P&ID and Instrumentation Details

- c. Complete a control narrative for operation of the proposed system. Discuss the need and degree of SCADA automation associated with short and long-term operation of the proposed interconnection.
 - d. Discussion of hydraulic and surge analysis and required mitigation measures.
 - e. Describe the construction sequencing in conjunction with the continuation of plant operations. Provide a table summarizing required shutdowns and tie-ins.
 - f. State an opinion of probable project costs.
 - g. Set forth a Project schedule identifying the duration of final design, bid, and construction phases.
- B. The Engineer shall prepare a draft BOD Report, setting the factors considered by the Engineer including, but not limited to, those specifically identified in paragraph A of this section. The Engineer shall supply the Authority with ten (10) copies of the draft BOD Report with supporting documentation, along with a digital .pdf file of the draft BOD Report with supporting documentation.
- C. The Engineer shall meet with the Authority to review the draft BOD Report and will incorporate all comments into a final version. The Engineer shall supply the Authority with ten (10) copies of the final BOD Report with supporting documentation, along with a digital .pdf file of the final BOD Report with supporting documentation. The Engineer shall submit the final BOD Report with supporting documentation to the ECDOH and NYSDOH for review and approval.
- D. The Engineer will prepare a Project schedule identifying the duration of final design, bid, and construction phases.
- E. The Engineer will conduct at least three (3) review meetings with the Authority and at least two (2) review meetings with appropriate regulatory agencies. Where, as approved by the Authority and as the progress of the work allows, review meetings for Task 4 may be held consecutively with review meetings for other tasks.

3.06 Task 5 – Basis of Design: Filters Nos. 1 – 10 Piping and Valves Replacement and Improvements The Engineer shall provide all engineering services necessary and complete the basis of design to evaluate, design, bid, and construct improvements to replace the existing filter “face” piping, all valves and actuators (including influent, effluent rate controller, backwash waste, surface wash supply, backwash supply and filter to waste), underdrain system and filter media.

- A. In contemplation of the basis of design (“BOD”), the Engineer shall:

1. Review reports, drawings, specifications, and other records furnished by the Authority, including, but not limited to, the assumptions and recommendations from previous work.
2. Verify site conditions related to the proposed filter improvements.
 - a. Complete a site walkthrough to verify existing conditions and to assist in the preparation of preliminary design documents. Note any repairs or modification from the original installation.
 - b. Obtain information on piping and valves/actuators. Obtain information on ancillary components including controllers, meters, instrumentation and chemical feed points. Obtain information on filter cells including underdrain and media. Obtain information on filter hydraulics including standard operating procedures and details of current automation of filter operation.
3. Conduct a hydraulic analysis of the proposed piping and valve improvements. Determine required pipe sizes considering modifications required to incorporate FTW and air piping. Note any proposed modifications to the current filter standard operating procedures resulting from the proposed improvements. Conduct a workshop to review analysis with plant and supervisory personnel.
4. Evaluate options available for filter materials and equipment including:
 - a. Pipe material
 - b. Valves
 - c. Actuators
 - d. Flow monitoring/control
 - e. Interdependencies with air/water underdrain system including location of air supply blowers, piping, valves and controls.
5. Evaluate improvements to the FTW piping including reconfiguration of piping to provide suitable air gap to comply with ECDOH and NYSDOH requirements. Evaluation shall include investigation of alternate design and operational approaches to address turbidity levels following a filter backwash and the corresponding effect on the design of the modifications to the FTW system.
6. Evaluate improvements to the filter underdrain system to provide air/water backwash capabilities. Provide recommendations on air/water flowrates, sizing and location of air blowers including building expansion options, underdrain configurations/manufacturers, and media characteristics.

7. Prepare preliminary design documents for the proposed filter improvements. Incorporate results of evaluations under this Task. In addition, the preliminary design documents should:
 - a. Include final design criteria, including, but not limited to, equipment and material selection, component capacity, impact on water quality, chemical system modifications, and compliance with applicable regulatory/code requirements and best practices.
 - b. Identify through preliminary drawings, the general arrangement/alignment of the proposed equipment including dimensions and elevations of piping, valves, air blowers and piping, filter cell including underdrain, interconnections, valve chambers and vaults. Preliminary design drawings shall include general plan, section and details on the pipe and valve improvements, filter cell including underdrain and media, process flow diagram and P&ID drawing.
 - c. Complete a control narrative for operation of the proposed system. Discuss the need and degree of SCADA automation associated with the operation of the proposed improvements.
 - d. Describe the construction sequencing in conjunction with the continuation of plant operations. Provide a table summarizing required shutdowns and tie-ins.
 - e. State an opinion of probable project costs.
 - f. Provide list of technical specifications
 - g. Set forth a Project schedule identifying the duration of final design, bid, and construction phases.
- B. The Engineer shall prepare a draft BOD Report, setting the factors considered by the Engineer including, but not limited to, those specifically identified in paragraph A of this section. The Engineer shall supply the Authority with ten (10) copies of the draft BOD Report with supporting documentation, along with a digital .pdf file of the draft BOD Report with supporting documentation.
- C. The Engineer shall meet with the Authority to review the draft BOD Report and will incorporate all comments into a final version. The Engineer shall supply the Authority with ten (10) copies of the final BOD Report with supporting documentation, along with a digital .pdf file of the final BOD Report with supporting documentation. The Engineer shall submit the final BOD Report with supporting documentation to the ECDOH and NYSDOH for review and approval.

- D. The Engineer will prepare a Project schedule identifying the duration of final design, bid, and construction phases.
- E. The Engineer will conduct at least three (3) review meetings with the Authority and at least two (2) review meetings with appropriate regulatory agencies. Where, as approved by the Authority and as the progress of the work allows, review meetings for Task 5 – Basis of Design may be held consecutively with review meetings for other tasks.

3.07 Task 5 – Design: Filters Nos. 1 – 10 Piping and Valves Replacement and Improvements:

Following approval of the Basis of Design documents, the Engineer will complete design documents to design, bid, and construct improvements to replace the existing filter “face” piping, all valves and actuators (including influent, effluent rate controller, backwash waste, surface wash supply, backwash supply and filter to waste). The scope of work for this task does not include design of improvements to the underdrain system, air wash, filter media, and building expansion.

A. *Detailed Design Drawings, Specifications and Contract Documents:* Upon authorization from the Authority, the Engineer shall complete the following design services:

1. Prepare detailed design drawings and specifications at 60%, 90%, and 100% design stages including, but not limited to:
 - a. Preparing engineering calculations to support the design of the improvements, including related civil, mechanical, electrical/instrumentation, structural, and architectural features of the project;
 - b. Preparing draft and final plans, profiles, and job specific detail drawings that include editing of the Authority’s standard detail drawings where appropriate;
 - c. Using the quantity take-off method, provide detailed measurements of a Project’s components, materials, and construction labor to determine a scope of work required and a cost estimate of the construction project;
 - d. Preparing engineering data, where necessary, for regulatory permit applications as required to obtain local, state, federal and public utility approval for the initiation and construction of the work;
 - e. Submitting the BOD Report with contract specifications, drawings, application forms and fees to ECDOH and NYSDOH for approval;
 - f. Preparing any necessary and applicable documentation for compliance with New York State SEQRA, including Type II declaration;
 - g. Preparing and updating, as needed, a schedule for the Project utilizing the Authority’s standard format; and

- h. Preparing base drawings in AutoCAD version 2018 from the available records furnished by the Authority and other agencies.
- 2. Prepare contract documents including, but not limited to:
 - a. Preparing contract specifications with edited Authority's standard "front end" specifications and standard technical specifications where appropriate;
 - b. Preparing additional technical specifications as required;
 - c. Obtaining New York State Prevailing Wage Rates and inserting such rates into the specifications;
 - d. Assisting the Authority with assembling known reports and drawings of existing conditions, and identifying the technical data contained in such reports and drawings upon which bidders may rely; and
 - e. Using the "Standard General Conditions of the Construction Contract" as prepared by the Engineers Joint Contract Documents Committee (EJCDC C-700, 1996 Edition) or other general conditions mutually agreed to by the Authority and the Engineer and setting forth the exceptions to these general conditions, specific to this Project.

B. *Design Phase Meetings and Reports.* The Engineer shall:

- 1. Conference with the Authority and other related Project stakeholders, as necessary and as required;
- 2. Report to the Authority bi-weekly on the progress of the design work via email, with the following information:
 - a. Design work performed during the previous two weeks;
 - b. Design work scheduled for the next two weeks;
 - c. Schedule status/deliverable status, attaching an updated project schedule in Microsoft Project format, identifying all project milestones and current project status;
 - d. Budget status/percent completed;
 - e. Input needed from the Authority or others;
 - f. Requests for scope changes; and
 - g. Other issues or concerns;

3. Furnishing the Authority with five (5) hardcopy sets of review copies of the drawings, specifications and other contract documents, to the Authority during 60%, 90%, and 100% design and providing digital .pdf file version of each set of documents;
4. Conduct at least three (3) meetings with the Authority engineers and operators to discuss and/or review detailed design drawings, specifications and contract documents; and
5. Attend a final design meeting with the Authority.

3.08 Task 5 – Construction Services: Filters Nos. 1 – 10 Piping and Valves Replacement and Improvements Construction Phase

A. Construction Bids. Upon authorization from the Authority, the Engineer shall:

1. Assist Authority personnel in preparing bid invitation and contract documents;
2. Refrain from discussing the Project or the bid process with anyone outside of the Authority prior to the advertisement of bids and during the restricted period for the submission and award of bids;
3. Furnish twenty (20) sets of contract drawings, final specifications, and other documents required for bidding and construction purposes for each contract;
4. Conduct, at the appropriate time, a pre-bid meeting:
 - a. Prepare and distribute addenda for pre-bid meeting;
 - b. Record, publish, and distribute minutes from the pre-bid meeting; and
 - c. Prepare, if necessary, publish, and distribute any addendum to the bid invitation and contract documents; and
5. Evaluate and determine whether substituted materials and equipment proposed in a bid submission of a prospective contractor is acceptable and at least equal to the materials and equipment set forth in bid and contract documents; and
6. Assist the Authority in securing bids, bid results, analyzing bid results, and making recommendations on the award of each construction contract.

B. Pre-Construction. Prior to construction, the Engineer shall:

1. Provide pre-construction meeting notice to all municipalities, utility companies, fire districts, and all other interested stakeholders;

2. Conduct a pre-construction meeting:
 - a. Prepare and distribute agenda for pre-bid meeting; and
 - b. Record, publish, and distribute minutes from the pre-bid meeting.

C. ***Construction.***

1. The Engineer is not responsible for the construction means, methods, techniques, sequences or procedures, time of performance, programs or for any safety precautions in connection with the construction work (the “Work”). The Engineer shall not be held liable to the Authority for the failure of the construction contractor (the “Contractor”) to execute the Work in accordance with the contract documents (the “Contract Documents”).
2. The Engineer shall notify the Authority of all permanent Work which does not conform to the result required in the Contract Documents, prepare a written report describing any apparent non-conforming permanent Work and make recommendations to the Authority for its correction and when requested by the Authority, have recommendations implemented by the Contractor.
3. The Engineer shall have responsibility over the following:
 - a. Defective Work:
 - i. Based on the Engineer’s observations, if the Engineer believes that the Work is defective under the terms and standards set forth in the Contract Documents, the Engineer shall reject the Work and provide the Authority with its recommendations regarding whether the Contractor should correct such Work or remove and replace such Work, or whether the Authority should consider accepting such Work as provided in the Contract Documents.
 - b. Compatibility with Design Concept:
 - i. If the Engineer has actual knowledge a specific part of the Work, although not defective under the terms and standards set forth in the Contract Documents, but nonetheless is not compatible with the design concept of the completed Project as a functioning whole, the Engineer will inform the Authority of such incompatibility, and provide recommendations for addressing such Work.
 - c. Clarifications and Interpretations:

- i. When the Contractor and the Authority submits to the Engineer any question concerning the requirements of the Contract Documents, including any requests for information (RFIs), or relating to the acceptability of the Work under the Contract Documents, the Engineer shall, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents.
- d. Differing Site Conditions:
 - i. When the Contractor notifies the Engineer of differing site conditions, including conditions relating to underground facilities such as utilities, and hazardous environmental conditions, the Engineer shall promptly review the condition and prepare findings, conclusions, and recommendations to the Authority as to how to address the condition.
- e. Substitutes and “Or-equal”:
 - i. The Engineer shall evaluate and determine the acceptability of substitute or “or-equal” materials and equipment proposed by Contractor.
- f. Change Orders:
 - i. The Engineer shall notify the Authority when a change in the Work is proposed, which will cause an adjustment in the contract cost.
 - ii. The Engineer will evaluate whether the proposed change is justified and reasonable, and if necessary, prepare change orders, field directives, and make recommendations for approval by the Authority’s Board of Commissioners.
 - iii. The Engineer shall discuss changes in the plans or procedures recommended by the Engineer with the Authority prior to implementation.
 - iv. The Engineer must obtain approval for all change orders from the Board of Commissioners prior to implementation.
- g. Change Proposals and Claims:

i. Review and respond to Change Proposals.

- (a) The Engineer shall review each submitted Change Proposal from Contractor and either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part.
- (b) Such actions shall be in writing, with a copy provided to the Authority and Contractor.
- (c) If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, the Engineer will notify the parties that the Engineer will not resolve the Change Proposal.

ii. Reporting of Claims

- (a) When the Engineer becomes aware of a situation from which a legal dispute or claim (“Claim”) could be filed by a contractor, subcontractor, property owner or other third party against the Authority, the Engineer will promptly report the situation to the Authority.
 - (b) Upon request, the Engineer will assist the Authority’s Legal Department in its investigation and examination of any Claim. The Engineer will provide the names and, if available, addresses and phone numbers of individuals involved or having knowledge of the Claim.
 - (c) The Engineer will also gather information or data to the Authority regarding engineering or technical matters pertaining to the Claim.
4. The Engineer shall consult, report and advise appropriate Authority personnel as to all relevant and pertinent matters relating or affecting the progress of construction.
5. The Engineer shall review and determine the acceptability of any and all schedules that the Contractor is required to submit to the Engineer, including a Progress Schedule, Schedule of Submittals, and Schedule of Values.
6. The Engineer shall supply the Authority with a construction schedule, which has been submitted by the Contractor and approved by the Engineer.

7. The Engineer will prepare elementary sketches and supplementary sketches, when necessary or required, to resolve issues with actual field conditions encountered.
8. The Engineer shall interpret Contract Documents and resolve problems as to amount, quality, acceptability, and fitness.
9. The Engineer will review the Contractor's submittals of material and/or equipment for compliance with the design concept and take appropriate action such as but not limited to: "approved", "approved as corrected", "revise and resubmit"; or "not approved".
10. The Engineer will provide the Contractor and the Authority with detailed stakeout information, including benchmarks, reference and axis lines along the routes of the construction or wherever necessary.
11. The Engineer shall check installation for preparation of record drawings.

D. *Construction Meetings and Reports.*

1. The Engineer will schedule and attend progress meetings with the pertinent Authority personnel, the Contractor, subcontractors and other interested stakeholders at a minimum every two (2) weeks.
2. The Engineer will report to the Authority monthly on the progress of the Work with a written monthly summary including daily inspector reports.
3. The Engineer will report, via email, to the Authority bi-weekly on the progress of the Work with the following information:
 - a. Summary of the Work performed in the previous two-week period;
 - b. Updated project schedule, attached and in Microsoft Project format, identifying all project milestones and current project status;
 - c. Forecast of all upcoming work and project costs expected for the project, including the identification of any contract items which may exceed bid quantities; and
 - d. Copies of final inspection reports attached in .pdf format for reports in the previous two-week period.

4. As previously stated in paragraph C, subparagraphs 3f and 3g of this section, the Engineer shall notify the Authority when a change in the work is proposed which will cause an adjustment in the contract cost and will:
 - a. Evaluate whether the proposed change is justified and reasonable, and if necessary, prepare change orders, field directives, and make recommendations for approval.
 - b. Discuss changes in the plans or procedures authorized by the Engineer with the Authority prior to implementation.
 - c. Obtain approval for all change orders from the Authority's Board of Commissioners prior to implementation.
5. The Engineer will make a final inspection, furnish a report on project completion, and make recommendations for final payments to contractors and for the release of retained amounts, if any.

3.09 Task 5 – Resident Inspection: Filters Nos. 1 – 10 Piping and Valves Replacement and Improvements:

- A. Upon authorization from the Authority, the Engineer shall furnish a full-time Resident Project Inspector (RPI) who will conduct technical inspection of the Work relating to the Project;
 1. *Inspector's duties and responsibilities:* The Engineer, through the RPI's observations, shall protect the Authority against defects and deficiencies in the Work.
 2. *RPI's duties and responsibilities:*
 - a. The RPI shall not:
 - i. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items), without written approval by the Authority and the Engineer;
 - ii. Exceed limitations of the Engineer's authority as set forth in this Agreement;
 - iii. Undertake any of the responsibilities of the Contractors, subcontractors, or suppliers;

- iv. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of the Contractor's work;
- v. Advise on, issue relating, or assume control over security or safety practices, precautions, and programs in connection with the activities of the Authority or its Contractors;
- vi. Participate in specialized field or laboratory tests or inspections conducted off-site by others; or
- vii. Accept shop drawings or sample submittals from anyone other than the Contractor.

b. The RPI shall:

- i. Review the progress schedule, schedule of Shop Drawing and Sample submittals, schedule of values prepared by the Contractor and consult with the Engineer concerning acceptability;
- ii. Attend meetings with Contractor and subcontractors, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings;
- iii. Provide email updates to the Engineer and the Authority regarding meetings with Contractor and subcontractors;
- iv. Conduct daily on-site inspections of all Work in progress;
- v. Prepare daily inspection reports to determine if the Work is progressing in accordance with Contract Documents;
- vi. Report to the Authority and the Engineer whenever the RPI believes any portion of the Work will not produce a completed Project, conforming with the Contract Documents, or will imperil the integrity of the Project design as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made;
- vii. Advise the Authority and the Engineer whether any part of the Work in progress should be corrected or rejected or should be uncovered for observations, or requires special testing, inspection, or approval;

- viii. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Authority personnel, and that the Contractor maintains adequate records relating to the same;
- ix. Observe, record, and report to the Engineer appropriate details relative to the test procedures and systems start-ups;
- x. Report to the Engineer and the Authority when clarifications and interpretations of the contract documents are needed and transmit to the Contractor clarifications and interpretations as issued by the Engineer;
- xi. Advise the Engineer and the Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which RPI believes that the submittal has not been approved by the Engineer; and
- xii. Submit, via email, bi-weekly updates to the Authority summarizing the resident inspection costs and projecting further resident inspection costs for the duration of the Work.

3.10 Task 5 - General Services: Filters Nos. 1 – 10 Piping and Valves Replacement and Improvements:

A. *Contractor's Request for Payment:*

- 1. As a general service to the Authority, the Engineer will review applications for payment with the Contractor for compliance with the established procedure for their submission and forward recommendation to the Authority, noting particularly the relationship of the payment requested to the schedule of values, work completed, and materials and equipment delivered to the Project site but not incorporated in the work.
- 2. Based on the Engineer's observations and on review of Applications for Payment and accompanying supporting documentation, the Engineer shall:
 - a. Determine the amounts that the Engineer recommends Contractor be paid;
 - b. Recommend reductions in payment based on the provisions stated in the Construction Documents;
- 3. Such recommendations of payment will be in writing and will constitute the Engineer's representation to the Authority, based on such observations and review, that, to the best of the Engineer's knowledge, information and

belief, the Contractor's Work has progressed to the point indicated, the Work is generally in accordance with the Contract Documents:

- a. Subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, and to any other qualifications stated in the recommendation, and
 - b. Subject to the conditions precedent that permits a Contractor to receive payment based on the Work performed, which has been reviewed and accepted by the Engineer.
4. In the case of unit price Work, the Engineer's recommendations of payment will include final determinations of quantities and classifications of the Work subject to any subsequent adjustments allowed by the Contract Documents.

B. *Standards for Certain Construction-Phase Decisions:*

1. The Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth in the Contract for initial interpretations, Change Proposals, and acceptance of the Work.
2. In rendering such decisions and judgments, the Engineer will not show partiality to the Authority or the Contractor, and will not be liable to the Authority, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

C. *Certificates, Operation and Maintenance Materials:*

1. During the course of construction, as a general service, the Engineer will verify whether materials and equipment certificates, operation and maintenance manuals and other data required by the Contract Documents to be assembled and furnished by the Contractor are applicable to the items actually installed and in accordance with the Contract Documents.
2. After receipt from the Contractor, the Engineer will review and transmit to the Authority:
 - a. Any maintenance and operating instructions,
 - b. Schedules,
 - c. Guarantees, bonds, certificates or other evidence of insurance required by the Contract Documents,

- d. Certificates of inspection, tests and approvals, and
 - e. Shop Drawings, Samples, and other data as required.
- 3. Upon receipt from the Contractor, the Engineer will review and transmit to the Authority the annotated record documents which are to be assembled by Contractor in accordance with the Contract Documents to obtain final payment.
 - 4. The Engineer must deliver to the Authority those documents described in subparagraph 2 of this paragraph, prior to the payment for such work.

D. *Completion:*

- 1. Upon authorization from the Authority, as general services, the Engineer shall:
 - a. Participate in visits to the Project to determine substantial completion, assist in the determination of substantial completion and the preparation of lists to be completed or corrected;
 - b. Participate in a final visit to the Project with Authority personnel; and prepare a final list of items to be completed and deficiencies to be remedied; and
 - c. Observe whether all items on the final list have been completed or corrected and make recommendations to the Authority concerning acceptance of the Project and final payment.
- 2. *Substantial Completion:*
 - a. After a notice has been given by the Contractor as to the substantial competition or completion of Work, the Engineer will promptly visit the Project site to review the Work and determine the status of completion.
 - b. The Engineer will follow the procedures in the Contract Document regarding the following:
 - i. the preliminary certificate of Substantial Completion,
 - ii. punch list of items to be completed,
 - iii. objections made by the Authority,
 - iv. notice to Contractor, and issuance of a final certificate of Substantial Completion.

- c. The Engineer will assist Authority regarding any remaining engineering or technical matters affecting Authority's use or occupancy of the Work following Substantial Completion.

3. *Final Notice of Acceptability of the Work:*

- a. After conducting a final visit to the Project, the Engineer will determine if the Work is complete and acceptable so that the Engineer may recommend, in writing, final payment to the Contractor.
- b. Accompanying the recommendation for final payment, the Engineer shall also provide a notice to the Authority and the Contractor that the Work is acceptable to the best of the Engineer's knowledge, information, and belief, and based on the extent of the services provided by the Engineer under this Agreement.

3.11 Task 5 - Record Drawings: Filters Nos. 1 – 10 Piping and Valves Replacement and Improvements:

- A. Upon authorization from the Authority, the Engineer shall:
 - 1. Provide record drawings, including the base mapping of all completed Work according to the latest Authority As-Built Standards, using the AutoCAD Version 2018 platform.
 - 2. Furnish all AutoCAD files on CD to the Authority.
 - 3. Submit two stamped/signed full size sets, AutoCAD files, .pdf version of the drawings and Project Manual (with addenda) and GPS coordinates no later than one month after final payment of the Work is recommended for approval and in accordance with Authority Standards.

3.12 Task 5 - Authority Program/Procedure Updates: Filters Nos. 1 – 10 Piping and Valves Replacement and Improvements:

- A. Upon authorization from the Authority, the Engineer shall:
 - 1. Revise the Authority's Standard Operating Procedures (SOPs) for the filtration system improvements. Revisions shall be done in accordance with the Authority's existing format.
 - 2. Revise the Authority's Arc Flash program for the filtration system improvements. Revisions shall be done in accordance with the Authority's existing format.

3. Revise the Authority's Lock-out Tag-out (LOTO) program documentation for the filtration system improvements. Revisions shall be done in accordance with the Authority's existing format.

3.13 Special Services. The Engineer may employ one or more of the following special services in carrying out the Project, subject to the Authority's approval:

- A. Soils investigations including test borings, pavement cores, and the related analysis;
- B. Field investigations to support verification of piping or other buried utilities;
- C. Detailed mill, shop and/or laboratory inspection of materials and equipment;
- D. Land surveys, maps, plates, descriptions and title investigations which may be required to acquire lands, easements, and rights-of-way for the proposed facilities;
- E. Preparation of additional copies of reports, contract drawings and documents;
- F. Development of detailed drawings outside the technical scope of work of this request for proposals;
- G. Air, water, and/or soil sampling, testing, and/or analysis;
- H. Hazardous material testing and assessment;
- I. Wetlands investigations, delineation, and mitigation;
- J. Technical assistance with operation and maintenance manuals;
- K. Technical assistance with preparing any necessary documents if required by the New York State Environmental Quality Review Act (SEQRA) for Type I or Unlisted actions;
- L. Technical assistance with preparing with Storm Water Pollution Prevention Plans (SWPPP), if required;
- M. Assistance with permit and other applications with the New York State Department of Environmental Conservation (DEC);
- N. Assistance with grant research, completion of grant applications, and reporting/documentation after award;
- O. Laboratory testing, jar testing, and pilot testing;

- P. Extra travel and subsistence for the Engineer and its staff beyond that normally required under ordinary circumstances, when authorized by the Authority;
- Q. Assistance to the Authority serving as an expert witness in litigation arising from project development or construction;
- R. Legal services, as deemed necessary and approved by the Authority's General Counsel, for acquiring lands, easements and rights-of-ways or other Project-related services; or
- S. Other services, as deemed necessary by the Authority's Chief Operating Officer and Chief Financial Officers.

3.14 Service Timeframe. Unless otherwise extended by mutual agreement of the parties, the Engineer will render professional services relating to this Project within the following timeframe:

- A. All services under Task 1 – Basis of Design: Sedimentation Basin Effluent Valves and Actuators shall be completed and delivered to the Authority within 120 days of the issuance of the Authority's notice to proceed;
- B. All services under Task 2 – Basis of Design: Filter Backwash Supply Header and Valves shall be completed and delivered to the Authority within 240 days of the issuance of the Authority's notice to proceed;
- C. All services under Task 3 – Basis of Design: WTP Building Filtered Water Basin/Clearwell Bypass shall be completed and delivered to the Authority within 120 days of the issuance of the Authority's notice to proceed;
- D. All services under Task 4 – Basis of Design: Wash Water Tank and Transfer Pump Discharge Interconnection shall be completed and delivered to the Authority within 160 days of the issuance of the Authority's notice to proceed;
- E. All services under Task 5 – Basis of Design: Filter Nos. 1-10 Piping and Valves Replacement and Improvements, Basis of Design shall be completed and delivered to the Authority within 300 days of the issuance of the Authority's notice to proceed;
- F. All services under Task 5 – Authority Program/Procedure Updates: Filter Nos. 1-10 Piping and Valves Replacement and Improvements, shall be completed and delivered to the Authority within 90 days following the contractor's date of Substantial Completion;
- G. All other services should be completed by the end of the project with an estimated completion date of July 1, 2023.

ARTICLE 4 – PAYMENT OF PROFESSIONAL SERVICES

4.01 Lump Sum Payments: The Engineer agrees to accept a lump sum payment for the following services:

- A. ***Task 1 – Basis of Design: Sedimentation Basin Effluent Valves and Actuators.*** For services described under § 3.02 of this Agreement, the Authority shall pay Engineer a lump sum which will include all expense, labor and cost associated with this service. Payment will be made monthly based on the percentage of completion up to 100% of the total lump sum amount.
- B. ***Task 2 – Basis of Design: Filter Backwash Supply Header and Valves.*** For services described under § 3.03 of this Agreement, the Authority shall pay Engineer a lump sum which will include all expense, labor and cost associated with this service. Payment will be made monthly based on the percentage of completion up to 100% of the total lump sum amount.
- C. ***Task 3 – Basis of Design: WTP Building Filtered Water Basin/Clearwell Bypass.*** For services described under § 3.04 of this Agreement, the Authority shall pay Engineer a lump sum which will include all expense, labor and cost associated with this service. Payment will be made monthly based on the percentage of completion up to 100% of the total lump sum amount.
- D. ***Task 4 – Basis of Design: Wash Water Tank and Transfer Pump Discharge Interconnection.*** For services described under § 3.05 of this Agreement, the Authority shall pay Engineer a lump sum which will include all expense, labor and cost associated with this service. Payment will be made monthly based on the percentage of completion up to 100% of the total lump sum amount.
- E. ***Task 5 – Basis of Design: Filter Nos. 1-10 Piping and Valves Replacement and Improvements, Basis of Design.*** For services described under § 3.06 of this Agreement, the Authority shall pay Engineer a lump sum which will include all expense, labor and cost associated with this service. Payment will be made monthly based on the percentage of completion up to 100% of the total lump sum amount.
- F. ***Task 5 – Design: Filter Nos. 1-10 Piping and Valves Replacement and Improvements, Design.*** For services described under § 3.07 of this Agreement, the Authority shall pay Engineer a lump sum which will include all expense, labor and cost associated with this service. Payment will be made monthly based on the percentage of completion up to 100% of the total lump sum amount.
- G. ***Task 5 – Construction and General Services: Filter Nos. 1-10 Piping and Valves Replacement and Improvements.*** For services described under § 3.08 and § 3.10 of this Agreement, the Authority shall pay Engineer a lump sum which will include all expense, labor and cost associated with this service. Payment will be made monthly based on the percentage of completion up to 100% of the total lump sum amount.

- H. ***Task 5 – Record Drawings: Filter Nos. 1-10 Piping and Valves Replacement and Improvements.*** For services described under § 3.11 of this Agreement, the Authority shall pay Engineer a lump sum which will include all expense, labor and cost associated with this service. Payment will be made monthly based on the percentage of completion up to 100% of the total lump sum amount.
- I. ***Task 5 – Authority Program/Procedure Updates: Filter Nos. 1-10 Piping and Valves Replacement and Improvements.*** For services described under § 3.12 of this Agreement, the Authority shall pay Engineer a lump sum which will include all expense, labor and cost associated with this service. Payment will be made monthly based on the percentage of completion up to 100% of the total lump sum amount.

4.02 Resident Inspection: For services described under § 3.09 of this Agreement, the Authority shall pay the Engineer the payable hourly rates listed under §4.04, paragraph B and direct non-salary expenses. Overtime premium will be paid at 50% of the Resident Inspectors’ direct hourly rate in addition to the payable hourly rate listed under §4.04, paragraph B. Payment for Resident Inspection and expenses will be made monthly.

4.03 Special Services: For services described under § 3.13 of this Agreement, the Authority shall pay the Engineer for special services pre-approved by the Authority’s Chief Operating Officer in an amount approved by the Authority’s Chief Financial Officer.

- A. When the Engineer is performing the special services described in § 3.13 of this Agreement, such services will be billed at the fixed rates included in Appendix A of this Agreement.
- B. When the Engineer obtains special services from a third party, the Engineer will be reimbursed based on the actual invoice cost paid by the Engineer, plus 5%.

4.04 Engineering Cost Schedule:

A. *Engineering Costs:*

1. Lump Sum Task 1 – Basis of Design Cost	\$ 48,500.00
2. Lump Sum Task 2 – Basis of Design Cost	\$153,000.00
3. Lump Sum Task 3 – Basis of Design Cost	\$ 80,000.00
4. Lump Sum Task 4 – Basis of Design Cost	\$ 92,000.00
5. Lump Sum Task 5 – Basis of Design Cost	\$249,500.00
6. Lump Sum Task 5 – Design Cost	\$295,000.00
7. Lump Sum Task 5 – Construction and General Services Cost	\$123,600.00
8. Lump Sum Task 5 – Record Drawing Cost	\$ 6,200.00
9. Lump Sum Task 5 – Authority Program/Procedures Update	\$ 22,600.00

TOTAL LUMP SUM COST:	\$1,070,400.00
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B. *Resident Inspection Costs:*

	Payable Hourly Rate	Employee Direct Hourly Rate
Resident Project Inspector	\$118.00	\$42.14
Construction Engineer	\$170.00	\$60.71

The Dollar amount for Estimated Resident Inspection is based fixed hour estimate of 2,000 hours of Project Engineer/Inspector Payable Hourly Rate and 400 hours of Construction Engineer Payable Hourly Rate during the duration of the project. Payment will be made for actual hours worked during the duration of construction. Actual hours will vary based on production rates of the Contractor during construction, unforeseen circumstances that develop during construction, and weather conditions.

1. Estimated Resident Inspection \$304,000.00
2. TOTAL NOT TO EXCEED RESIDENT INSPECTION: \$340,000.00

C. Special Services (not to exceed) \$50,000.00

D. Other Costs:

1. Estimated Mileage (IRS rate) \$0.575/mile
2. Estimated Copy Costs (per copy) \$0.10/sheet
3. Prints (per print) \$1.00/print
4. Subcontractor Expenses, invoiced
as special services Cost plus 5% maximum
5. Other Direct Non-Salary Costs At cost

4.05 Audit: The Authority reserves the right to audit the Engineer's records to verify bills submitted and representations made. For this purpose, the Engineer agrees to make company records available for inspection upon written notice by the Authority. The Authority shall have two years from the date of the Engineer's final bill to complete its audit. If the audit establishes an overcharge, the Engineer agrees to refund the excess.

ARTICLE 5 – GENERAL PROVISIONS

5.01 Subcontract and Assignments: The Engineer may not subcontract or delegate any of the work, services, and/or other obligations of the Engineer without the express written consent of the Authority. The Authority and the Engineer bind themselves and their successors, administrators and assigns to the terms of this Agreement. The Engineer shall not assign, sublet or transfer its interest in the Agreement without the written consent of the Authority.

5.02 Amendments: No modification or variation from the terms of this Agreement shall be effective unless it is in writing and authorized by a resolution of the Board of Commissioners of the Authority and signed by all parties.

5.03 Right to Terminate: The Authority reserves the right to terminate the Engineer's services at any time, without cause, based on seven (7) days' written notice. The Engineer shall not be entitled to lost profit and shall perform only such services, after notification of termination, as the Authority directs.

5.04 Indemnification:

- A. To the fullest extent permitted by law, the Engineer agrees to indemnify and hold the Authority harmless from all third party claims, liabilities, damages and costs (including all reasonable attorney's fees, and cost of defense) to which the Authority, its officers, directors and employees may be subject to, arising out of the death or bodily injury to any person or the destruction or damage to any property to the extent caused by the negligent acts, errors or omissions, or willful misconduct of the Engineer's performance of professional services provided under this Agreement and those of its subcontractors or anyone for whom the Engineer is legally liable.
- B. To the fullest extent permitted by law, the Authority agrees to indemnify and hold the Engineer harmless from all third party claims, liabilities, damages and costs (including all reasonable attorney's fees and cost of defense) to the extent caused by the negligent acts, errors or omissions of the Authority, its contractors, engineers, or anyone for whom the Authority is legally liable.

5.05 Confidential Information:

- A. In order to assist the Engineer in the performance of this Agreement, the Authority may provide the Engineer with confidential information including, but not limited to information relative to the services to be performed. All information received by the Engineer in any fashion and under any conditions resulting from the rendering of the services in consideration of this agreement, are considered confidential. The Engineer shall hold in confidence and not disclose to any person or any entity, any information regarding information learned during the performance of services including but not limited to information relative to the services to be performed.
- B. The Engineer shall use at least the same degree of care to protect and prevent unauthorized disclosure of any confidential information as it would use to protect and prevent unauthorized disclosure of its own proprietary information. The Engineer shall use confidential information only in the performance of this Agreement. No other use of the confidential information whether for the Engineer's benefit or for the benefit of others shall be permitted.
- C. In no event is the Engineer authorized to disclose confidential information without the prior written approval of the Authority. The Engineer may provide such information to its subcontractors for the purpose of performing the services; or disclose such information, with notice to the Authority, if such information is required to be disclosed by law or court order.

- D. The terms of this section shall be binding during and subsequent to the expiration or termination of this Agreement.

5.06 Insurance:

- A. The Engineer shall secure and maintain such insurance as will protect itself from claims under the Workers' Compensation Act; claims for damages because of bodily injury, including personal injury, sickness or disease, or death of any of its employees or of any person other than its employees; and from claims for damages because of injury to or destruction of property including loss of use resulting therefrom in the amounts indicated on Appendix B.
- B. The Engineer shall provide and maintain insurance that will provide coverage for claims arising out of the negligent performance of its services.
- C. The Engineer shall provide Certificates of Insurance certifying the coverage required by this provision.
- D. The Engineer shall provide the name of an employee who will be responsible for providing the Authority with current and updated Certificates of Insurance. The Authority will require the name of the employee, the employee's phone number and email address.

5.07 Copyrights, Trademarks and Licensing: All materials produced under this Agreement, whether produced by the Engineer alone or with others, and regardless of whether produced during regular working hours, shall be considered work made for hire and the property of the Authority. The Engineer shall, during and subsequent to the terms of this Agreement, assign to the Authority, without further consideration, all right, title and interest in all material produced under this Agreement. All material produced under this Agreement shall be and remain the property of the Authority whether registered or not.

5.08 New York Law and Jurisdiction: Notwithstanding any other provision of this Agreement, any dispute concerning any question of fact or law arising under this Agreement which is not disposed of by agreement between the Engineer and the Authority shall be governed, interpreted and decided by a court of competent jurisdiction of the State of New York in accordance with the laws of the State of New York.

5.09 Conflicts of Interest: The Engineer represents that it has advised the Authority in writing prior to the date of signing this Agreement of any relationships with third parties, including competitors of the Authority, which would present a conflict of interest with the rendering of the services, or which would prevent the Engineer from carrying out the terms of this Agreement or which would present a significant opportunity for the disclosure of confidential information. The Engineer will advise the Authority of any such relationships that arise during the term of this Agreement. The Authority shall then have the option to terminate the Agreement without being subject to further obligations under its terms, except for the payment of services already rendered by the Engineer. So long as the Engineer reports such a conflict as required by this section, the

Engineer will have no further obligations for completing the scope of services under the terms of this Agreement.

5.10 Additional Conditions: The Engineer and the Authority acknowledge that there may be additional conditions, terms and provisions which shall apply specifically to the services to be performed. The parties agree to negotiate in good faith to agree upon such additional terms.

5.11 Entire Agreement: This Agreement constitutes the entire understanding of the parties and no representations or agreements, oral or written, made prior to its execution shall vary or modify the terms herein. This Agreement supersedes all prior contemporaneous communications, representations, or agreements, whether oral or written with respect to the subject matter hereof and has been induced by no representations, statements or agreements other than those herein expressed. No subsequent agreement made between the parties shall be binding on either party unless reduced to writing and signed by an authorized officer of the party sought to be bound by such agreement.

5.12 Independent Status:

- A. Nothing contained in the Agreement shall be construed to render either the Authority or the Engineer, an owner, member, officer, partner, employee or agent of the other, nor shall either party have authority to bind the other in any manner, other than as set forth in this Agreement, it being intended that the Engineer shall remain an independent contractor responsible for its own actions. The Engineer is retained by the Authority only for the purpose and to the extent set forth in this Agreement.
- B. The Engineer is free to choose the aggregate number of hours worked and the scheduling of such hours as it shall see fit at its discretion within the limitations set forth in Article 4.
- C. Neither the Engineer nor its employees shall be considered under the provisions of this Agreement or otherwise as having an employee, servant or agency status or as being entitled to participate in any plans, arrangements or distributions of the Authority.
- D. In providing the services under this Agreement, the Engineer represents and warrants that it has complied with all applicable federal, state and local laws particularly with respect to licenses, withholdings, reporting and payment of taxes. The Engineer agrees to furnish copies of documentation to the Authority evidencing its compliance with such laws. The Engineer further represents and warrants that any income accruing to the Engineer and its employees from the Agreement shall be reported as such to the appropriate taxation authorities.

5.13 Doing Business Status: The Engineer represents it is qualified to do business in the State of New York and has registered with the New York Secretary of State.

5.14 Force Majeure: Engineer shall not be liable to the Authority for any failure to perform the Services if any such failure is caused by forces beyond Engineer's reasonable control, including without limitation, actions or inactions of any governmental agencies, changes in law, strikes, lockouts, or other industrial disturbances, acts or omissions of third-parties, civil disturbances,

fires, floods, earthquakes, acts of God, acts of a public enemy or terrorism, epidemics or pandemics, including issues arising out of the COVID-19 pandemic, which may include without limitation, workforce shortages, lack of necessary supplies or Personal Protective Equipment, travel restrictions, and other restrictions resulting from public guidance and emergency orders.

5.15 Gratuities: The Engineer shall prohibit its agents, employees and consultants from using their positions for personal financial gain, or from accepting any personal advantage from anyone under circumstances which might reasonably be interpreted as an attempt to influence the recipients in the conduct of their official duties. The Engineer or its employees shall not, under circumstances which might be reasonably interpreted as an attempt to influence the recipients in the conduct of their duties, extend any gratuity or special favor to employees of the Authority.

5.16 Notice: Any notices required by this Agreement or otherwise shall be delivered by United States Postal mail or personal delivery upon the addresses hereinbefore stated. Any change in such addresses shall be required to be in writing to the other party and acknowledged as such.

ARTICLE 6 – SEVERABILITY

6.01 Any provision or part of the Agreement held to be void or unenforceable by a court of competent jurisdiction shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon the parties, which agrees that the Agreement shall be reformed to replace such stricken provisions or part thereof with a valid enforceable provision that comes as close as possible to expressing the intent of the stricken provision. The validity and enforceability of all other provisions of this Agreement shall not otherwise be affected.

ARTICLE 7 – TERMINATION

7.01 The Authority reserves the right to terminate this Agreement in the event it is found that the Certification filed by the Engineer in accordance with New York State Finance Law §139-k was intentionally false or intentionally incomplete. Upon such finding, the Authority may exercise its termination right by providing written notification to the Engineer in accordance with the written notification terms of this Agreement.

ERIE COUNTY WATER AUTHORITY

By _____
Jerome D. Schad, Chair

ARCADIS OF NEW YORK, INC.

By _____
Mark R. Lenz, P.E., Vice President

STATE OF NEW YORK)
COUNTY OF ERIE) ss:

On the _____ day of _____, in the year 2020, before me personally came Jerome D. Schad, to me known, who, being by me duly sworn, did depose and say that he resides in Amherst, New York, that he is the Chair of the Board of Commissioners for the Erie County Water Authority described in the above instrument; and that he signed his name thereto by order of the Board of Commissioners.

Notary Public

STATE OF NEW YORK)
COUNTY OF NEW YORK) ss:

On the _____ day of _____, in the year 2020, before me personally came Mark R. Lenz, P.E., Vice President, to me known, who, being by me duly sworn, did depose and say that he resides in _____, New York, that he is the Vice President of the Corporation described in the above instrument; and that he signed his name thereto by order of the Board of Directors of said Corporation.

Notary Public

APPENDIX A

FIXED RATES FOR SPECIAL SERVICES

Grade	Hourly Billing Rate
Project/Administrative Assistant I	\$65.00
Design Tech II/Field Technician II	\$80.00
Drafter I/Field Technician III and IV	\$90.00
Drafter II/Field Technician V	\$115.00
CADD Designer	\$125.00
Field Supervisor	\$150.00
Engineer/Scientist	\$120.00
Staff Engineer/Scientist/Architect	\$130.00
Project Engineer/Scientist/Architect	\$145.00
Senior Engineer/Scientist/Architect I	\$165.00
Senior Engineer/Scientist/Architect II	\$180.00
Principal Engineer/Scientist/Architect I	\$200.00
Principal Engineer/Scientist/Architect II	\$220.00
Engineer/Scientist Director	\$240.00

APPENDIX B

INSURANCE REQUIREMENTS FOR PROFESSIONAL SERVICES CONTRACT FOR CONSULTING ENGINEERING SERVICES

STURGEON POINT WATER TREATMENT PLANT VARIOUS PIPING AND VALVES UPGRADES AND IMPROVEMENTS

ECWA PROJECT No. 202000166 (RFP No. 202000047)

Insurance Specs:

The following minimum insurance requirements shall apply to vendors providing services to the Erie County Water Authority (the "Authority"). If a service or project, in the opinion of the Authority, represents an unusual or exceptional risk, the Authority may establish additional insurance requirements for that service or project. All insurance required herein shall be obtained at the sole cost and expense of the contractor, including deductibles and self-insured retentions, and shall be in full force and effect on the contract commencement date and for the duration of the contract. These requirements include but are not limited to the minimum insurance requirements.

Insurance Requirements:

a. Workers Compensation:

Part 1: Workers Compensation: Statutory

Part 2: Employers Liability: \$1,000,000.

Note: If New York State domiciled employees are used, coverage to be New York Statutory for both Parts 1 and 2

b. New York Disability Benefits Liability: Statutory coverage if New York State domiciled employees are used.

c. Commercial General Liability:

- \$2,000,000. General Aggregate
- \$2,000,000. Products/Completed Operations Aggregate
- \$1,000,000. Each Occurrence
- \$1,000,000. Personal Injury/Advertising Liability
- Erie County Water Authority to be scheduled as an Additional Insured for both on-going and completed operations (attach Additional Insured endorsement to Certificate of Insurance)
- Insurance to be primary and non-contributory

d. Automobile Liability:

- \$1,000,000. Each Accident
- Erie County Water Authority to be scheduled as an Additional Insured.

e. Umbrella Liability:

- \$1,000,000. Each Occurrence
- \$1,000,000. Aggregate
- Erie County Water Authority to be scheduled as an Additional Insured

e. Professional Liability:

- \$1,000,000 Per Claim
- \$1,000,000 Aggregate

Certificates of Insurance to be provided to the Authority prior to start of work as follows:

ACORD 25 (Item a-e) including copy of Additional Insured Endorsement Note: If coverage provided for NYS domiciled employees require Forms C 105.2 and DB 120.1 for Workers Compensation and NYS DBL.

Certificates of Insurance, on forms approved by the New York State Department of Insurance, must be submitted to the Authority prior to the award of contract. Renewals of Certificates of Insurance, on forms approved by the New York State Department of Insurance, must be received by the Authority 30 days prior to the expiration of the insurance policy period.

Certificates of Insurance and renewals, on forms approved by the New York State Department of Insurance, must be submitted to the Authority prior to the award of contract. Each insurance carrier issuing a Certificate of Insurance shall be rated by A. M. Best no lower than “A-” with a Financial Strength Code (FSC) of at least VII. The professional service provider shall name the Authority, its officers, agents and employees as additional insured on a Primary and Non-Contributory Basis, including a Waiver of Subrogation endorsement (form CG 20 26 11 85 or equivalent), on all applicable liability policies. Any liability coverage on a “claims made” basis should be designated as such on the Certificate of Insurance. Such insurance shall continue through the term of this Agreement and vendor shall purchase at his sole expense either 1) an Extended Reporting Endorsement (also, known as Tail Coverage); or 2) Prior Acts Coverage from new insurer with a retroactive date back to the date of, or prior to, the inception of this Agreement; or 3) demonstrate through Certificates of Insurance that vendor has Maintained continuous coverage with the same or original insurer. Coverage provided under items; 1), 2), or 3) will continue as long as the law allows.

To avoid confusion with similar insurance company names and to properly identify the insurance company, please make sure that the insurer’s National Association of Insurance Commissioners (N.A.I.C.) identifying number or A. M. Best identifying number appears on the Certificate of Insurance. Also, at the top of the Certificate of Insurance, please list the project number.

Acceptance of a Certificate of Insurance and/or approval by the Authority shall not be construed to relieve the outside vendor of any obligations, responsibilities or liabilities.

Certificates of Insurance should be e-mailed to mmusarra@ecwa.org or mailed to Ms. Molly Jo Musarra, Claim Representative/Risk Manager, Erie County Water Authority, 295 Main Street, Room 350, Buffalo, New York 14203-2494, or If you have any questions you can contact Ms. Musarra by e-mail or phone (716) 849-8465.



CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)
05/27/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Aon Risk Services South, Inc. Franklin TN Office 501 Corporate Centre Drive Suite 300 Franklin TN 37067 USA	CONTACT NAME:	
	PHONE (A/C. No. Ext): (866) 283-7122	FAX (A/C. No.): 800-363-0105
	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	NAIC #
INSURED Arcadis of New York, Inc. One Lincoln Center 110 West Fayette St., Suite 300 Syracuse NY 13202 USA	INSURER A: Greenwich Insurance Company	22322
	INSURER B: XL Specialty Insurance Co	37885
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES**CERTIFICATE NUMBER:** 570081893333**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

Limits shown are as requested

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY			GEC001076118 SIR applies per policy terms & conditions	10/01/2019	10/01/2020	EACH OCCURRENCE	\$1,000,000
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR		DAMAGE TO RENTED PREMISES (Ea occurrence)				\$1,000,000	
	<input checked="" type="checkbox"/> Contractual Liability		MED EXP (Any one person)				\$10,000	
	GEN'L AGGREGATE LIMIT APPLIES PER:						PERSONAL & ADV INJURY	\$1,000,000
	<input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC						GENERAL AGGREGATE	\$2,000,000
	OTHER:						PRODUCTS - COMP/OP AGG	\$2,000,000
B	AUTOMOBILE LIABILITY			AEC001075818	10/01/2019	10/01/2020	COMBINED SINGLE LIMIT (Ea accident)	\$1,000,000
	<input checked="" type="checkbox"/> ANY AUTO		BODILY INJURY (Per person)					
	<input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY		BODILY INJURY (Per accident)					
	<input checked="" type="checkbox"/> Property Damage to		PROPERTY DAMAGE (Per accident)					
B	<input checked="" type="checkbox"/> UMBRELLA LIAB	<input checked="" type="checkbox"/> OCCUR		UEC001075918	10/01/2019	10/01/2020	EACH OCCURRENCE	\$5,000,000
	<input type="checkbox"/> EXCESS LIAB	<input type="checkbox"/> CLAIMS-MADE	AGGREGATE				\$5,000,000	
	DED <input checked="" type="checkbox"/> RETENTION \$10,000							
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						PER STATUTE	OTH-ER
	ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	<input type="checkbox"/> Y / <input checked="" type="checkbox"/> N / A					E.L. EACH ACCIDENT	
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE-EA EMPLOYEE	
							E.L. DISEASE-POLICY LIMIT	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: ECWA PROJECT No. 202000166 (RFP No. 202000047)
Erie County Water Authority, its officers, agents and employees are included as Additional Insured in accordance with the policy provisions of the General Liability, Automobile Liability and Umbrella Liability policies. General Liability and Automobile Liability policies evidenced herein are Primary and Non-Contributory to other insurance available to an Additional Insured, but only in accordance with the policy's provisions. A Waiver of Subrogation is granted in favor of Erie County Water Authority, its officers, agents and employees in accordance with the policy provisions of the General Liability, Automobile Liability and Umbrella Liability policies

CERTIFICATE HOLDER**CANCELLATION**

Erie County Water Authority Attn: Molly Jo Musarra 295 Main Street, Suite 350 Buffalo NY 14203 USA	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE <i>Aon Risk Services South Inc.</i>



ENDORSEMENT

This endorsement, effective 12:01 a.m., October 1, 2019 forms a part of Policy No. GEC001076118 issued to ARCADIS U.S., INC. AND CALLISONRTKL INC. by Greenwich Insurance Company.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE FORM

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location And Description Of Completed Operations
ANY PERSON OR ORGANIZATION THAT YOU ARE REQUIRED IN A WRITTEN CONTRACT OR WRITTEN AGREEMENT TO INCLUDE AS AN ADDITIONAL INSURED PROVIDED THE "BODILY INJURY" OR "PROPERTY DAMAGE" OCCURS SUBSEQUENT TO THE EXECUTION OF THE WRITTEN CONTRACT OR WRITTEN AGREEMENT.	VARIOUS
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

All other terms and conditions of this policy remain unchanged.

ENDORSEMENT

This endorsement, effective 12:01 a.m., October 1, 2019 forms a part of Policy No. GEC001076118 issued to ARCADIS U.S., INC. AND CALLISONRTKL INC. by Greenwich Insurance Company.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE FORM

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location(s) Of Covered Operations
ANY PERSON OR ORGANIZATION THAT YOU ARE REQUIRED IN A WRITTEN CONTRACT OR WRITTEN AGREEMENT TO INCLUDE AS AN ADDITIONAL INSURED PROVIDED THE "BODILY INJURY" OR "PROPERTY DAMAGE" OCCURS SUBSEQUENT TO THE EXECUTION OF THE WRITTEN CONTRACT OR WRITTEN AGREEMENT.	VARIOUS AS REQUIRED PER WRITTEN CONTRACT
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or

2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

All other terms and conditions of this policy remain unchanged.

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

SCHEDULE

Name Of Person Or Organization:

WHERE REQUIRED BY WRITTEN CONTRACT OR AGREEMENT EXECUTED PRIOR TO LOSS
(EXCEPT WHERE NOT PERMITTED BY LAW).

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

The following is added to Paragraph **8. Transfer Of Rights Of Recovery Against Others To Us** of **Section IV – Conditions**:

We waive any right of recovery we may have against the person or organization shown in the Schedule above because of payments we make for injury or damage arising out of your ongoing operations or "your work" done under a contract with that person or organization and included in the "products-completed operations hazard". This waiver applies only to the person or organization shown in the Schedule above.

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

Where required by written agreement signed prior to loss.

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.

(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Endorsement Effective
Insured
Arcadis U.S., Inc.
Insurance Company
XL Insurance America, Inc.

Policy No.
RWD9435163-14

Endorsement No.
Premium Included

Countersigned by _____

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US (WAIVER OF SUBROGATION)

This endorsement modifies insurance provided under the following:

AUTO DEALERS COVERAGE FORM
BUSINESS AUTO COVERAGE FORM
MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Named Insured: ARCADIS U.S., INC. AND CALLISONRTKL INC.

Endorsement Effective Date: October 1, 2019

SCHEDULE

Name(s) Of Person(s) Or Organization(s):

WHERE REQUIRED BY WRITTEN CONTRACT OR AGREEMENT EXECUTED
PRIOR TO LOSS (EXCEPT WHERE NOT PERMITTED BY LAW).

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

The **Transfer Of Rights Of Recovery Against Others To Us** condition does not apply to the person(s) or organization(s) shown in the Schedule,

but only to the extent that subrogation is waived prior to the "accident" or the "loss" under a contract with that person or organization.



CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)
05/27/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Aon Risk Services South, Inc. Franklin TN Office 501 Corporate Centre Drive Suite 300 Franklin TN 37067 USA	CONTACT NAME:	
	PHONE (A/C. No. Ext): (866) 283-7122	FAX (A/C. No.): (800) 363-0105
INSURED Arcadis of New York, Inc. One Lincoln Center 110 West Fayette St., Suite 300 Syracuse NY 13202 USA	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	
	NAIC #	
	INSURER A: Lexington Insurance Company	19437
	INSURER B: Indian Harbor Insurance Company	36940
	INSURER C:	
INSURER D:		
INSURER E:		
INSURER F:		

Holder Identifier :

COVERAGES **CERTIFICATE NUMBER:** 570081893551 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. **Limits shown are as requested**

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:						EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)
	UMBRELLA LIAB <input type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input type="checkbox"/> RETENTION						EACH OCCURRENCE AGGREGATE
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below <input type="checkbox"/> Y/N <input type="checkbox"/> N/A						PER STATUTE <input type="checkbox"/> OTH <input type="checkbox"/> E.L. EACH ACCIDENT E.L. DISEASE-EA EMPLOYEE E.L. DISEASE-POLICY LIMIT
B	Env Contr Poll			US00090310EO20 Professional & Pollution SIR applies per policy terms & conditions	06/01/2020	06/01/2021	Each Claim Annual Aggregate \$1,000,000 \$1,000,000

570081893551

Certificate No :

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
RE: ECWA PROJECT No. 202000166 (RFP No. 202000047)
For Professional Liability and Pollution Liability coverage, the Aggregate Limit is the total insurance available for claims presented within the policy period for all operations of the insured. The Limit will be reduced by payments of indemnity and expense.

CERTIFICATE HOLDER

CANCELLATION

Erie County Water Authority Attn: Molly Jo Musarra 295 Main Street, Suite 350 Buffalo NY 14203 USA	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE <i>Aon Risk Services South Inc.</i>

**ADDITIONAL REMARKS**

FORM NUMBER: ACORD 25 **FORM TITLE:** Certificate of Liability Insurance

[illegible]



**Workers'
Compensation
Board**

**CERTIFICATE OF
NYS WORKERS' COMPENSATION INSURANCE COVERAGE**

1a. Legal Name & Address of Insured (use street address only) Arcadis of New York, Inc. 110 W. Fayette Street, Suite 300 Syracuse, NY 13202 <i>Work Location of Insured (Only required if coverage is specifically limited to certain locations in New York State, i.e., a Wrap-Up Policy)</i>	1b Business Telephone Number of Insured 720-344-3803 1c NYS Unemployment Insurance Employer Registration Number of Insured 37-21861 1d Federal Employer Identification Number of Insured or Social Security Number 16-1448024
2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder) Erie County Water Authority Attn: Anthony Alessi 295 Main Street, Room 350 Buffalo, NY 14203	3a Name of Insurance Carrier XL Insurance America, Inc. 3b Policy Number of Entity Listed in Box "1a" RWD9435163-14 3c Policy effective period 10-1-2019 to 10-1-2020 3d The Proprietor, Partners or Executive Officers are <input checked="" type="checkbox"/> included. (Only check box if all partners/officers included) <input type="checkbox"/> all excluded or certain partners/officers excluded.

This certifies that the insurance carrier indicated above in box "3" insures the business referenced above in box "1a" for workers' compensation under the New York State Workers' Compensation Law. (To use this form, New York (NY) must be listed under **Item 3A** on the **INFORMATION PAGE** of the workers' compensation insurance policy). The Insurance Carrier or its licensed agent will send this Certificate of Insurance to the entity listed above as the certificate holder in box "2".

The insurance carrier must notify the above certificate holder and the Workers' Compensation Board within 10 days IF a policy is canceled due to nonpayment of premiums or within 30 days IF there are reasons other than nonpayment of premiums that cancel the policy or eliminate the insured from the coverage indicated on this Certificate. (These notices may be sent by regular mail.) **Otherwise, this Certificate is valid for one year after this form is approved by the insurance carrier or its licensed agent, or until the policy expiration date listed in box "3c", whichever is earlier.**

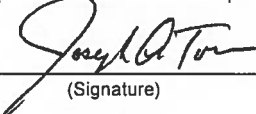
This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policy listed, nor does it confer any rights or responsibilities beyond those contained in the referenced policy.

This certificate may be used as evidence of a Workers' Compensation contract of insurance only while the underlying policy is in effect.

Please Note: Upon cancellation of the workers' compensation policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of Workers' Compensation Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Workers' Compensation Law.

Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named insured has the coverage as depicted on this form.

Approved by: Joseph Tocco
(Print name of authorized representative or licensed agent of insurance carrier)

Approved by:  10-1-19
(Signature) (Date)

Title: Chief Executive Officer

Telephone Number of authorized representative or licensed agent of insurance carrier: 213-239-8191

Please Note: Only insurance carriers and their licensed agents are authorized to issue Form C-105.2. Insurance brokers are NOT authorized to issue it.

C-105.2 (9-17)

www.wcb.ny.gov



CERTIFICATE OF INSURANCE COVERAGE
under the NYS DISABILITY AND PAID FAMILY LEAVE BENEFITS LAW

PART 1. To be completed by Disability and Paid Family Leave Benefits Carrier or Licensed Insurance Agent of that Carrier

1a. Legal Name & Address of Insured (use street address only) Arcadis of New York 110 W. Fayette St. Suite 300 Syracuse, NY 13202 Work Location of Insured (Only required if coverage is specifically limited to certain locations in New York State, i.e., Wrap-Up Policy)	1b. Business Telephone Number of Insured 3154469120 1c. Federal Employer Identification Number of Insured or Social Security Number 161448024
2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder) Erie County Water Authority Attn: Molly Jo Musarra 295 Main St. Room 350 Buffalo, NY 14203	3a. Name of Insurance Carrier CIGNA LIFE INSURANCE COMPANY OF NEW YORK 3b. Policy Number of Entity Listed in Box "1a" NYD067857 3c. Policy effective period 1/1/2020 to 1/1/2021

4. Policy provides the following benefits:

- ☒ A. Both disability and paid family leave benefits.
☐ B. Disability benefits only.
☐ C. Paid family leave benefits only.

5. Policy covers:

- ☒ A. All of the employer's employees eligible under the NYS Disability and Paid Family Leave Benefits Law.
☐ B. Only the following class or classes of employer's employees:

Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named insured has NYS Disability and/or Paid Family Leave Benefits insurance coverage as described above.

Marceline E. Reilly

Date Signed December 16, 2019 By _____
(Signature of insurance carrier's authorized representative or NYS Licensed Insurance Agent of that insurance carrier)

Telephone Number 1-866-761-4236 Name and Title Underwriting Director

IMPORTANT: If Boxes 4A and 5A are checked, and this form is signed by the insurance carrier's authorized representative or NYS Licensed Insurance Agent of that carrier, this certificate is COMPLETE. Mail it directly to the certificate holder.
If Box 4B, 4C or 5B is checked, this certificate is NOT COMPLETE for purposes of Section 220, Subd. 8 of the NYS Disability and Paid Family Leave Benefits Law. It must be mailed for completion to the Workers' Compensation Board, Plans Acceptance Unit, PO Box 5200, Binghamton, NY 13902-5200.

PART 2. To be completed by the NYS Workers' Compensation Board (Only if Box 4C or 5B of Part 1 has been checked)

State of New York

Workers' Compensation Board

According to information maintained by the NYS Workers' Compensation Board, the above-named employer has complied with the NYS Disability and Paid Family Leave Benefits Law with respect to all of his/her employees.

Date Signed _____ By _____
(Signature of Authorized NYS Workers' Compensation Board Employee)

Telephone Number _____ Name and Title _____

Please Note: Only insurance carriers licensed to write NYS disability and paid family leave benefits insurance policies and NYS licensed insurance agents of those insurance carriers are authorized to issue Form DB-120.1. **Insurance brokers are NOT authorized to issue this form.**



Additional Instructions for Form DB-120.1

By signing this form, the insurance carrier identified in Box 3 on this form is certifying that it is insuring the business referenced in box "1a" for disability and/or paid family leave benefits under the New York State Disability and Paid Family Leave Benefits Law. The Insurance Carrier or its licensed agent will send this Certificate of Insurance to the entity listed as the certificate holder in Box 2.

The insurance carrier must notify the above certificate holder and the Workers' Compensation Board within 10 days IF a policy is cancelled due to nonpayment of premiums or within 30 days IF there are reasons other than nonpayment of premiums that cancel the policy or eliminate the insured from coverage indicated on this Certificate. (These notices may be sent by regular mail.) Otherwise, this Certificate is valid for one year after this form is approved by the insurance carrier or its licensed agent, or until the policy expiration date listed in Box 3c, whichever is earlier.

This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policy listed, nor does it confer any rights or responsibilities beyond those contained in the referenced policy.

This certificate may be used as evidence of a Disability and/or Paid Family Leave Benefits contract of insurance only while the underlying policy is in effect.

Please Note: Upon the cancellation of the disability and/or paid family leave benefits policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of NYS Disability and/or Paid Family Leave Benefits Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Disability and Paid Family Leave Benefits Law.

DISABILITY AND PAID FAMILY LEAVE BENEFITS LAW

§220. Subd. 8

(a) The head of a state or municipal department, board, commission or office authorized or required by law to issue any permit for or in connection with any work involving the employment of employees in employment as defined in this article, and notwithstanding any general or special statute requiring or authorizing the issue of such permits, shall not issue such permit unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits and after January first, two thousand and twenty-one, the payment of family leave benefits for all employees has been secured as provided by this article. Nothing herein, however, shall be construed as creating any liability on the part of such state or municipal department, board, commission or office to pay any disability benefits to any such employee if so employed.

(b) The head of a state or municipal department, board, commission or office authorized or required by law to enter into any contract for or in connection with any work involving the employment of employees in employment as defined in this article and notwithstanding any general or special statute requiring or authorizing any such contract, shall not enter into any such contract unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits and after January first, two thousand eighteen, the payment of family leave benefits for all employees has been secured as provided by this article.

APPENDIX C

ERIE COUNTY WATER AUTHORITY CONFIDENTIALITY AND COPYRIGHT LICENSING AGREEMENT

LICENSE:

Upon execution of this Agreement, the Engineer acquires from the Authority a license to use the proprietary and intellectual property of the Authority for the purpose of completing the work under this Agreement.

The Authority reserves the right to incorporate any Engineer-created data into the Authority's database.

OWNERSHIP:

This License Agreement does not constitute a transfer of title or interest in the data. Any portion of the data that is modified or merged into another computer file or program by the Engineer or is integrated with other programs or data to form derivative products, shall continue to be subject to the provisions of this License Agreement. The Authority retains ownership of the data and all such portions.

CONFIDENTIALITY CLAUSE:

The Engineer agrees that all digital data and hard copy from the ECWA GIS Basemap Features provided to the Engineer are copyrighted by the Authority, are protected by the copyright laws of the United States and are furnished to the Engineer with all rights reserved. Therefore, the Engineer is hereby permitted to use the digital data and hard copies thereof only for the purposes allowed under this Agreement. The Engineer agrees not to otherwise copy, reproduce or use the digital data, hard copy, or the information contained therein for any other purpose whatsoever.

COPYRIGHT NOTICE:

The copyright notice included in each of the files is not only to be retained in those files but is also to be included in any copies made of those files. No part of the files may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photographing and recording, or by any information storage or retrieval system, except as expressly permitted in writing by the Erie County Water Authority.

Upon notification by the Authority of any changes in copyright requirements, the Engineer will make said changes to all subsequent maps or reports, as required.

LIMITATION OF LIABILITY:

ECWA GIS Basemap Features are compiled to National Map Accuracy Standards for 1"=100' scale mapping by Woolpert, Dayton, Ohio, using Stereo photogrammetric methods from aerial photography dated April, May, and/or November, 1990. The control grid is based on New York State Plane Coordinates and North American Datum 1983. The parcels are from Erie County Tax Maps which were available in the County Finance office in June of 1993.

The Authority makes no claims as to the accuracy of the ECWA GIS Basemap Features and assumes no responsibility for their positional or content accuracy. The Authority makes no claims as to the ability of the ECWA GIS Basemap Features to fulfill Engineer application requirements. In providing data, the Authority assumes no obligation to assist the Engineer in the use of the data, or in the development, use, or maintenance of any applications applied to the data.

Engineer recognizes and agrees that the Authority makes NO REPRESENTATIONS OF ANY KIND INCLUDING, BUT NOT LIMITED TO, THE WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, NOR ARE ANY SUCH WARRANTIES TO BE IMPLIED, WITH RESPECT TO THE DATA OR INFORMATION FURNISHED.

TERMINATION:

The License to use data terminates upon completion of the work under this Agreement.

LIQUIDATION OF DAMAGES FOR BREACH OF AGREEMENT:

The parties agree that if Engineer breaches the Agreement and uses or discloses any of the copyrighted information in any way other than that allowed, during or subsequent to the terms of this Agreement for any purpose whatsoever, the damages of the Authority shall be deemed liquidated at three times the amount of the total value of the data as determined by the Erie County Water Authority.

In addition to treble damages for breach of Agreement, Engineer will additionally forfeit the license acquired to use copyrighted property of the Authority.

SPECIFIC TERMS OF ACCEPTANCE:

This Agreement constitutes the entire agreement between the parties.

APPENDIX D
RESPONSE TO RFP

Required Forms

Our completed forms are included next.


FORM A

Offerer's Affirmation of Understanding of, and Agreement to Comply with, the Permissible Contact Requirements During the Restricted Period

Instructions:

The Erie County Water Authority (the "Authority") is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). The Authority must obtain a written affirmation of understanding and agreement to comply with procedures regarding permissible contacts with the Authority in the restricted period for a procurement contract in accordance with State Finance Law §139-j and §139-k. It is required that this affirmation be obtained as early as possible in the procurement process, but no later than when the Offerer submits its proposal.

Offerer affirms that it understands and agrees to comply with the procedures of the Authority relative to permissible contacts as required by State Finance Law §139-j(3) and §139-j(6)(b).

By:  Date: March 27, 2020

Name: Mark Lenz, PE

Title: Senior Vice President

Contractor Name: Arcadis of New York, Inc.

Contractor Address: 50 Fountain Plaza, Suite 600, Buffalo, NY 14202

FORM B

**Offerer's Certification of Compliance
With State Finance Law §139-k(5)**

Instructions:

The Erie County Water Authority (the "Authority") is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). The Authority must obtain a Certification that the information submitted for a procurement contract is complete, true, and accurate regarding any prior findings of non-responsibility, such as non-responsibility pursuant to State Finance Law §139-j. The Offerer must agree to sign the Certification, under penalty of perjury, and to provide the Certification to the Authority. The Certification should be obtained as early as possible in the process, but no later than when an Offerer submits its proposal.

Offerer Certification:

I certify that all information provided to the Authority relating to the awarding of a procurement contract is complete, true, and accurate.

By:  Date: March 27, 2020

Name: Mark Lenz, PE

Title: Senior Vice President

Contractor Name: Arcadis of New York, Inc.

Contractor Address: 50 Fountain Plaza, Suite 600, Buffalo, NY 14202

FORM C**Offerer's Disclosure of Prior
Non-Responsibility Determinations****Background:**

The Erie County Water Authority (the "Authority") is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). New York State Finance Law §139-k(2) obligates the Authority to obtain specific information regarding prior non-responsibility determinations with respect to State Finance Law §139-j. In accordance with State Finance Law §139-k, an Offerer must be asked to disclose whether there has been a finding of non-responsibility made within the previous four (4) years by any Governmental Entity due to: (a) a violation of State Finance Law §139-j; or (b) the intentional provision of false or incomplete information to a Government Entity.

The terms "Offerer" and "Governmental Entity" are defined in State Finance Law §§139-j(1) and §139-k(1). These sections also set forth detailed requirements about the restrictions on contacts during the procurement process. A violation of State Finance Law §139-j includes, but is not limited to, an impermissible contact during the restricted period (for example, contacting a person or entity other than the designated contact person, when such contact does not fall within one of the exemptions).

As part of its responsibility determination, State Finance Law §139-k(3) mandates consideration of whether an Offerer fails to timely disclose accurate or complete information regarding the above non-responsibility determination. In accordance with law, no Procurement Contract shall be awarded to any Offerer that fails to timely disclose accurate or complete information under this section, unless a finding is made that the award of the Procurement Contract to the Offerer is necessary to protect public property or public health safety, and the Offerer is the only source capable of supplying the required Article of Procurement, as that term is defined in State Finance Law §§ 139-j(1)(b) and 139-k(1)(b), within the necessary timeframe. See State Finance Law §139-j(10)(b) and §139-k(3).

Instructions:

The Authority must include a disclosure request regarding prior non-responsibility determinations in accordance with State Finance Law §139-k in its solicitation of proposals or bid documents or specifications or contract documents, as applicable, for procurement contracts. The attached form is to be completed and submitted by the individual or entity seeking to enter into a Procurement Contract. It shall be submitted to the Authority conducting the Governmental Procurement no later than when the Offerer submits its proposal.

FORM C (Continued)**Offerer's Disclosure of Prior Non-Responsibility Determinations**

Name of Individual or Entity Seeking to Enter into the Procurement Contract:

Arcadis of New York, Inc.

Address: 50 Fountain Plaza, Suite 600, Buffalo, NY 14202

Name and Title of Person Submitting this Form: Mark Lenz, PE, Senior Vice President

Contract Procurement Number: 202000047

Date: March 27, 2020

1. Has any Governmental Entity made a finding of non-responsibility regarding the individual or entity seeking to enter into the Procurement Contract in the previous four years? (Please circle):
- ☒ No ☐ Yes

If yes, please answer the next questions:

2. Was the basis for the finding of non-responsibility due to a violation of State Finance Law §139-j (Please circle): ☐ No ☐ Yes
3. Was the basis for the finding of non-responsibility due to the intentional provision of false or incomplete information to a Governmental Entity? (Please circle) ☐ No ☐ Yes
4. If you answered yes to any of the above questions, please provide details regarding the finding of non-responsibility below.

Governmental Entity: _____

Date of Finding of Non-Responsibility: _____

Basis of Finding of Non-Responsibility: _____

(Add additional pages as necessary)

FORM C (Continued)

5. Has any Governmental Entity or other governmental agency terminated or withheld a Procurement Contract with the above-named individual or entity due to the intentional provision of false or incomplete information? (Please circle): No Yes

6. If yes, please provide details below.

Governmental Entity: _____

Date of Termination or Withholding of Contract: _____

Basis of Termination or Withholding:

(Add additional pages as necessary)

Offerer certifies that all information provided to the Erie County Water Authority with respect to State Finance Law §139-k is complete, true, and accurate.

By:  Date: March 27, 2020
 Signature

Name: Mark Lenz, PE

Title: Senior Vice President

SECTION 139-L OF THE STATE FINANCE LAW
STATEMENT RELATING TO SEXUAL HARASSMENT POLICY

1. "Bidder" has the same meaning as the term, "Offerer," as that term is defined in State Finance Law § 139-k(1)(h), and includes anyone who submits a bid or proposal.
2. Every proposal or bid hereafter made and submitted to the Erie County Water Authority, where competitive bidding or a sealed proposal is required by statute, rule or regulation, for work or services performed or to be performed or goods sold or to be sold, shall contain the following statement subscribed by the Bidder and affirmed by such Bidder as true under penalty of perjury:

SEXUAL HARASSMENT BIDDING CERTIFICATION

- (a) "By submission of this bid/proposal, EACH BIDDER AND EACH PERSON SIGNING ON BEHALF OF ANY BIDDER CERTIFIES, AND IN THE CASE OF A JOINT BID EACH PARTY THERETO CERTIFIES AS TO ITS OWN ORGANIZATION, under penalty of perjury, that the Bidder has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all its employees. Such policy shall, at a minimum, meet the requirements of Section two hundred one-g of the Labor Law."
3. A bid/proposal shall not be considered for award nor shall any award be made to a Bidder who has not complied with subdivision one of this section; provided, however, that if in any case the Bidder cannot make the foregoing certification, the Bidder shall so state and shall furnish with the bid/proposal a signed statement which sets forth in detail the reasons therefore.

The undersigned CERTIFIES, under penalty of perjury, that he is authorized to make this bid/proposal and execute this statement on sexual harassment; that he is familiar with the statements contained in ¶2(a) of this document, as well as the provisions of State Finance Law §139-L and Labor Law §201-g, and such statements are true and have been complied with by the Bidder.



Arcadis of New York, Inc.

(Name of Individual, Partnership or Corporation)

By

(Person authorized to sign)

END OF BID FORM SUPPLEMENTS

Proposed Project Schedule

We understand that the development of the BODR's for Tasks 1 -4 and the design and construction for the Task 5 improvements are priorities for ECWA. We believe our approach is efficient and effective in maintaining the desired schedule requested by ECWA while providing

consistency amongst all five tasks. Below we have provided a high-level schedule which highlights our major tasks with the detailed project schedule provided on the following page.

ECWA Sturgeon Point Water Treatment Plant Piping & Valve Improvements High Level Schedule

Task	ECWA Due Date	Arcadis Delivery Date	Project Schedule & Phases													
			2020			2021				2022						
			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
1: Sed Basin Valve BODR	9/7/2020	9/4/2020	BOD Report													
2: Filter BW Pipe BODR	1/3/2021	12/3/2020	BOD Report													
3: Clearwell Bypass BODR	9/7/2020	8/28/2020	BOD Report													
4: WW Tank Bypass BODR	10/17/2020	9/18/2020	BOD Report													
5: Filter Valve BODR	1/3/2020	12/3/2020	BOD Report													
5: Prelim (60% Design)	n/a	2/11/2021					Design									
5: Final (90% Design)	n/a	5/21/2021						Design								
5: Bid Doc's	n/a	7/8/2021								Bidding						
5: Construction (NTP)		9/4/2021									Award					
5: Construction (Final Completion)	n/a	12/9/2022										Construction				
5: Closeout Docs	n/a	12/23/2022												Closeout		

Arcadis has reviewed the Authority's milestones and we are confident based on our knowledge of ECWA's facilities, previous similar experience and availability of our key staff that we will be able to deliver **EARLY on all Contract Milestones**. Additionally, as we understand the importance of getting these improvements in place from an operational and capital spend perspective, we will quickly move Task 5 through detailed design in Q1 and Q2 of 2021 so that bidding & award can occur in Q3 and so **all improvements can be operational before the end of 2022**.

SECTION 10

Fee Proposal



Project Management

Delivering a successful project requires both technical excellence and outstanding project management capabilities. With Mark Lenz serving as project manager, Dan Seider as design lead and Tim Shafer as construction lead, ECWA will have individuals working on your project who are familiar with ECWA's way of doing business and will always be available and responsive, regardless of the topic. This staff will be supported by many others that have worked on similar projects regionally and across the country. This experience will be critical to your success in delivering a project that meets regulatory requirements, is easy to operate, and improves reliability and redundancy. Arcadis follows an integrated project management approach based on best practices from the Project Management Institute (PMI). Our management approach integrates scope, schedule and budget management with timely communications and effective quality controls to provide the following benefits to ECWA:

- **Effective management of schedule, resources and budget.** We use a work breakdown structure detailing the schedule and resource allocation for each task so that deadlines are met.
- **Clear and concise communications with all stakeholders.** Our communications approach ensures timely delivery of the right information to the right project participants and stakeholders. Outstanding issues will be tracked until resolved.
- **High-quality data and deliverables.** Our project manager will be responsible for verifying that deliverables receive appropriate quality control review prior to submittal to ECWA.

Project Fee Schedule

Fees for this project are based on the following rate schedule, overhead and mark-ups are noted below.

Arcadis Project Staff Proposed Hourly Rates
ECWA Project No. 202000047

Grade	Hourly Rate
Project/Administrative Assistant I	\$65
Design Tech II/Field Technician II	\$80
Drafter I/Field Technician III and IV	\$90
Drafter II/Field Technician V	\$115
CADD Designer	\$125
Field Supervisor	\$150
Engineer/Scientist	\$120
Staff Engineer/Scientist/Architect	\$130
Project Engineer/ Scientist/Architect	\$145
Senior Engineer/ Scientist/Architect I	\$165
Senior Engineer/Scientist/Architect II	\$180
Principal Engineer/Scientist/Architect I	\$200
Principal Engineer/Scientist/Architect II	\$220
Engineer/Scientist Director	\$240

Hourly rates shown are based on staff salary, anticipated hours, and the specific scope of the currently proposed projects for ECWA. This is not a general 'rate sheet' for these staff.

Overhead Rate and Basis of Fee Development

Arcadis' audited overhead rate for the Water Business Line for 2020 is 1.75.

All indirect costs are included in the overhead rate including computers, reproduction, communication fees — as well as all taxes, benefits, rent, utilities, and administrative support services. The overhead rate shown above does not include other direct costs (ODCs) and transportation costs, which are billed separately as shown below.

Other Direct Costs. All expenses incurred for a project will be invoiced at cost plus 10 percent to cover administrative expenses. Other direct costs include such items as, but are not limited to shipping charges, external printing, field supplies and equipment, traveling expenses, special insurance, licenses, permits, or subcontractors.

Transportation: \$0.575/mile.

Equipment: A schedule of usage rates for specialty equipment is available for field assignments.

Fee Proposal

Arcadis is pleased to present our fee proposal associated with the engineering services for the PSTP Piping and Valve Upgrades Project. The table on the following page provides a detailed breakdown of engineering fees for each Task showing personnel hours and costs per the scope of work. Fees include ODC's in each task. We also note the following:

- To fully develop a basis-of design that sufficiently documents the recommended improvements associated with each task, we are proposing the preparation of a total of 19 drawings for Tasks 1 through 4. For Task 5, we are proposing 32 drawings for the BODR with a total of 57 drawings for the final set of construction documents.
- For each task, we are proposing to analyze multiple improvement options that will be reviewed and discussed in detail with ECWA staff through our workshop approach. This assures ECWA that the selected option is fully vetted with Engineering and Operations staff, is regulatory compliant, and simple to operate and maintain.
- We developed the following three optional services for ECWA to consider incorporating into the project:
 - Condensation Control Evaluation - Pipe Material, Insulation, Coatings and/or Dehumidification Alternatives
 - BEM Assessment of Buried Filter Backwash Piping
 - Expanded Task 5 BODR to Include Air Scour, Underdrain and Media Replacement

These services were not included as part of the base scope of work in the RFP but are discussed in detail within Section 2 of this proposal. We highly recommend that ECWA consider these additions to the project to ensure that all aspects of the filtration process have been analyzed and the future improvements are optimized for many years of effective operation.

Fee Review and Negotiation

While we develop a detailed WBS for each proposal specific to the tasks, sub-tasks and assigned personnel, we also check these fees versus typical metrics. The table below shows our design fee per sheet for the Task 5 engineering design effort which is consistent with our experience on similar projects and industry standards.

We believe our approach and fee structure will provide ECWA with the same high-value service that you expect and deserve. However, if you have any questions regarding the information we have presented, we would welcome the opportunity to sit down to review and refine our scope and fee.

Work Breakdown Structure

After the fee proposal table, we included our detailed work breakdown structure which shows the estimated number of hours for Arcadis staff assigned to each task. The work breakdown structure was developed for our proposed scope of work. The work breakdown structure for the optional services can be provided to ECWA pending ECWA's decision to incorporate them into the project.

Sturgeon Point Water Treatment Plant Piping and Valve Improvements Fee Estimate				
Task Name	Base Scope		Recommended Scope	
	Hours	Fee	Hours	Fee
Task 1 - Evaluation & BODR: Sedimentation Basin Effluent Valves and Actuators	410	\$48,500	410	\$48,500
Task 2 - Evaluation & BODR: Filter Backwash Supply Piping Header and Valves	344	\$32,000	344	\$32,000
	CPI Fee	\$48,500	CPI Fee	\$48,500
Task 2A - Expanded Scope of Testing including Testing of Pipe Hangers, 20 add'l BEM locations, up to 4 buried piping locations and Pb, Cd,Cr testing of pipe coatings			100	\$12,500
			CPI Fee	\$15,000
Task 2B - Dehumidification evaluation of filter gallery including preliminary sizing, equipment locations, bldg extension & duct routing			338	\$45,000
Task 3 - Evaluation & BODR: WTP Building Filtered Water Basin/Clearwell Bypass	595	\$80,000	595	\$80,000
Task 4 - Evaluation & BODR: Wash Water Tank and Transfer Pump Discharge Interconnection	686	\$92,000	686	\$92,000
Task 5 - Evaluation, BODR, Design, and Construction Services: Filter Nos. 1-10 Piping and Valve Replacement and Improvements				
Task 5 - Evaluation & BODR (Lump Sum)	1,201	\$123,500	1,201	\$123,500
	B&A Fee (Laser Scan)	\$11,000	B&A Fee (Laser Scan)	\$11,000
Task 5A - Expanded BODR for Air Scour, Underdrain Replacement and Media Replacement			900	\$115,000
Design (Lump Sum)	2,223	\$295,000	2,223	\$295,000
	no. sheets	57		
	\$/sheet	\$7,342		
General Services (Lump Services)	General Services Total	853	853	\$123,600
	Bid Phase Services	115		
	CA Phase Services	738		
RPR (Time and Materials)	2,400	\$296,000	2,400	\$296,000
Record Drawings (Lump Sum)	52	\$6,200	52	\$6,200
Authority Program/Procedure Updates (Lump Sum)	164	\$22,600	164	\$22,600
Other Direct Costs	\$12,056		\$12,056	
Total Fee	8,928	\$1,190,956	10,266	\$1,378,456
Special Services (TBD)	\$50,000		\$50,000	

Sturgeon Point Water Treatment Plant Piping and Valve Improvements			Kevin Zurek/Daniel	Isabel Fishback/Manager	Sander Kosowski/Bell	Brian H. Webster/Chico	Hugh Smith/Yale	Mikaela Bishop/Fennum	William D'Onofrio/Ketz	Shirley Coon	Salvatore Rockwell	Clayton Wehman/Cosak	Garner	Langston
TASK NAME		Project Team Hours												
Task 1 - Evaluation & BODR: Sedimentation Basin Effluent Valves and Actuators			16	4	22	28	4		66	48	196	48	4	4
Project Management			16											
Prepare, attend kick-off meeting & minutes			2								2			
PM			14	2							4		4	
Information Review			40											
Review of reports, plans/specifications/operations manuals			14						4	2	8			
Site walkthrough and verify site conditions			16			4			4	4	4			
ECMA Workshops (2 Assumed)			30	4	2			8						
Process Design			22											
Establish/confirm design criteria			8		2			8	8		12			
Hydraulic analysis of modified systems			9	1				4	4		4			
Develop control narrative and construction sequencing			44		2	4		8	8		12	8		
Preliminary Basis of Design Documents			151											
Prepare initial equipment/motor list for electrical equipment			30		2	8					8	8		
Develop schematic drawings and specifications list			71	1	2	4		8	8	16	16	24		
Develop Class 3 OPRC			12	1	2	2		8	4	8	16	8		
Develop project schedule			18	1	1			4	4					
Prepare Basis of Design Report			108											
Draft Report			74		2	2	4	4		4	40	8		
Submit to ECMA			4						2	4				
Address ECMA Comments			26	2	2	2			8	2	16			
Submit Final Report to ECMA			4								4			
Task 2 - Evaluation & BODR: Filter Backwash Supply Piping Header and Valves			15	3	16			44		64	118	88	3	3
Project Management			11											
Prepare, attend kick-off meeting & minutes			11											
PM			1	2							3		3	3
Information Review			26											
Review of reports, plans/specifications/operations manuals			4								4			
ECMA Workshops (2 Assumed)			22	2	2			2		8	8			
Process Design			111											
Establish/confirm design criteria			11											
Hydraulic analysis of modified systems			130	2	4	4	40			24	16	24		
Structural requirements required for bypass elements			8					1	24	8	4			
Develop control narrative and construction sequencing			64	1	8	1	16			24	8	8		
Preliminary Basis of Design Documents			179											
Develop schematic drawings and specifications list			119	1	8	2	8		20	20	20	40		
Develop Class 3 OPRC			43	1	2				8	16	16	16		
Develop project schedule			17	1	2	2			4	8				
Prepare Basis of Design Report			105											
Draft Report			48	2	8	2	16		16	4	40	40		
Submit to ECMA			4							4				
Address ECMA Comments			28	1	2	2	2		2	4	16			
Submit Final Report to ECMA			4											
Task 3 - Evaluation & BODR: WTP Building Filtered Water Basin/Clearwell Bypass			16	52	20	74	8		74	116	176	64	4	4
Project Management			13											
Prepare, attend kick-off meeting & minutes			1	1										
PM			12	2						2		4	4	4
Information Review			60											
Review of reports, plans/specifications/operations manuals			10		2					4	4			
Site walkthrough and verify site conditions			13	1	4					4	4	4		
ECMA Workshops (2 Assumed)			27	2	4	4				4	8			
Process Design			246											
Establish/confirm design criteria			11		4	1			4	2	2			
Hydraulic analysis of modified systems			130	2	4	4	40							
Structural requirements required for bypass elements			8					1	24	8	4			
Develop control narrative and construction sequencing			64	1	8	1	16			24	8	8		
Preliminary Basis of Design Documents			179											
Develop schematic drawings and specifications list			119	1	8	2	8		20	20	20	40		
Develop Class 3 OPRC			43	1	2				8	16	16	16		
Develop project schedule			17	1	2	2			4	8				
Prepare Basis of Design Report			105											
Draft Report			48	2	8	2	16		16	4	40	40		
Submit to ECMA			4							4				
Address ECMA Comments			28	1	2	2	2		2	4	16			
Submit Final Report to ECMA			4											
Task 4 - Evaluation & BODR: Wash Water Tank and Transfer Pump Discharge Interconnection			15	64	19	114	8	40	42	116	210	64	4	4
Project Management			14											
Prepare, attend kick-off meeting & minutes			14											
PM			1	2	1					2			4	4
Information Review			60											
Review of reports, plans/specifications/operations manuals			10		2						8			
Site walkthrough and verify site conditions			10	1	4					4	4	4		
ECMA Workshops (2 Assumed)			40	4	8	4	8			8	8			
Process Design			253											
Establish/confirm design criteria			63	1	8	1	4		4		40			
Hydraulic analysis of modified systems			134	2	16	4	40				24	40	8	
Develop control narrative and construction sequencing			57	1	4	4	20		4	12	4	8		
Preliminary Basis of Design Documents			253											
Prepare initial equipment/motor list for electrical equipment			46		2	4	46	4		16	12	8		
Develop schematic drawings and specifications list			134		2	2	20	20	20	24	24	40		
Develop Class 3 OPRC			35	1	2	4	4		4	16	4	4		
Develop project schedule			16	1	2	1				2	8			
Prepare Basis of Design Report			192											
Draft Report			96	2	8	2	12	8	8	8	40	40		
Submit to ECMA			4											
Address ECMA Comments			18	1	2	1	2		2	2	8			
Submit Final Report to ECMA			4											
Task 5 - Evaluation, BODR, Design, and Construction Services: Filter Nos. 1-10 Piping and Valve Replacement and Improvements			137	55	480	477	14	311	279	1,473	2,791	996	74	24
Project Management			216											
Prepare & attend kick-off meeting & minutes			10	2	2	2				2	4			
PM			208	40		80							24	24
Information Review			77											
Review of reports, plans/specifications/operations manuals			16			1	1	2	2	2	8			
Site walkthrough and verify site conditions			9	1	9	1	1	2	2	2	2			
ECMA Workshops - BODR (2 Assumed)			52	4	8	8		8	8	8	8			
Process Design			506											
Establish/confirm design criteria			42	2	8	4		4	4		20			
Hydraulic analysis of modified systems			210								32	64	64	
Develop control narrative and construction sequencing			70	2	4	16					24	8	16	
Task Schedule			184	2	10	40		4	4	24	80	20		
Preliminary Design Documents			160											
Prepare initial equipment/motor list for electrical equipment			46		4	8	8	8		24	16			
Develop schematic drawings and specifications list			170	2	4	16	12	8	8	40	40	40	20	
Develop Class 3 OPRC			104			8	16	8	8	16	40	16		
Develop project schedule			26	2	4					4	16			
Prepare Basis of Design Report			258											
Draft Report			204	4	4	12	12	4	8	8	32	80	40	
Submit to ECMA			4								4			
Address ECMA Comments			46	2	4	4	4			4	16	16		
Submit Final Report to ECMA			4											
Final Design Phase Documents			2,223											
Obtain field topographic survey data			28			8					8	16		
Visit site as needed to prepare final design drawings and specifications			88			8	8	8	8	8	8	8		
Overlaid with Authority of 60% NYS and 100%			148	12	12	12	12		24	12	24	24		
Review Basemap/Proposed by B&A			18							8	2	40		
Update engineering calculations to support final design			168	4		20	16		16	16	16	80		
Final design drawings and specifications			1,276	16	8	52	160		160	120	120	140	40	
Submit Eng. Rpt., Drawings and Specs at 60%, 90% & 100%			48		4	8	20	40	40	40	40	24	24	
Address ECHO/NYSDOH Comments			292	4	8	20	40	8	40	40	40	20	80	
Prepare HD Application and Submit Dam Disaster ECHO/NYSDOH			40											
Address ECHO/NYSDOH Comments			81	1	2	8	8	2	8	8	8	20	16	
Submit Final HD Application to ECMA/NYSDOH			16								8	8		
Construction Services			1,539											
Bidding			115											
Conduct pre-bid meeting & prepare agenda and meeting minutes			18	2	4					4	8			
Answer Questions During Bidding			25		2		1	4	1	4	16	16		
Advertise			48	2	2	8	4	2	4	8	12	16		
Bid Opening			2											
Bid Review/Recommendation of Award Letter			6			2				1	4			
Notice of Award & Contract Books			6			1	4			1	4			
Construction Administration			788											
Review of Construction bonds and insurance			1		1						1	1		
Prepare tracking log			11			1					2	8		
Pre-construction meeting prep., attendance, minutes			20	2	2					4	12			
"Conform" Documents			42							4	12	24		
Attend 15 progress meetings			88	8						30	30			
Minutes for 15 progress meetings			23		8					15				
Schedule: Review Contractors' initial schedule info			4											
Submit initial admin & review submittals (50			198	8	8	20	20	20	20	50	4	50		
"On equal" Reviews			28			8								
RFI admin and review and respond to 15 RFI			72			15	4			15	30			
Change orders (5) - review, negotiate			48	2		8	2	2	2	5	20			
Change Orders (5) - write, distribute			45	5	5	10				5	20			
Supplementary Materials (2)			25			15				15	15	20		
Contractor's Applications for Payment (15)			45											
Startup Assistance			46	4	2	16	16							
Prepare Sub. Comp. cert. & retainage estimate			8											
Substantial Completion Inspection			15			5				10	8			
Final inspection			8	2	2					4				
Final review of close-out package			4		2									
Resident Project Representative (RPR)			2,400											
Resident Project Representative			2,400											
Authority Program/Procedure Updates/Record Drawings			216											
Record drawings in AutoCAD 2014			52			4				8		40		
Review Authority pump station Standard Operating Procedures,														

