

**PROFESSIONAL SERVICES AGREEMENT BETWEEN
GEI CONSULTANTS OF MICHIGAN, P.C.
AND THE CITY OF ANN ARBOR
FOR HYDROELECTRIC DAMS FERC PART 12 INSPECTION AND REPORT**

The City of Ann Arbor, a Michigan municipal corporation, having its offices at 301 E. Huron St. Ann Arbor, Michigan 48104 ("City"), and GEI Consultants of Michigan, P.C. ("Contractor") a Michigan Corporation with its address at 940 N. Main Street, Ann Arbor, MI 48104 agree as follows on this 6th day of February, 2018.

The Contractor agrees to provide services to the City under the following terms and conditions:

I. DEFINITIONS

Administering Service Area/Unit means Public Services Area/Water Treatment Services Unit.

Contract Administrator means Senior Utilities Engineer, acting personally or through any assistants authorized by the Administrator/Manager of the Administering Service Area/Unit.

Deliverables means all Plans, Specifications, Reports, Recommendations, and other materials developed for and delivered to City by Contractor under this Agreement

Project means Hydroelectric Dams FERC Part 12 Inspection and Report.

II. DURATION

This Agreement shall become effective on February 6th, 2018, and shall remain in effect until satisfactory completion of the Services specified below unless terminated as provided for in Article XI.

III. SERVICES

- A. The Contractor agrees to provide Professional Engineering Services ("Services") in connection with the Project as described in Exhibit A. The City retains the right to make changes to the quantities of service within the general scope of the Agreement at any time by a written order. If the changes add to or deduct from the extent of the services, the contract sum shall be adjusted accordingly. All such changes shall be executed under the conditions of the original Agreement.

- B. Quality of Services under this Agreement shall be of the level of quality performed by persons regularly rendering this type of service. Determination of acceptable quality shall be made solely by the Contract Administrator.
- C. The Contractor shall perform its Services for the Project in compliance with all statutory, regulatory and contractual requirements now or hereafter in effect as may be applicable to the rights and obligations set forth in the Agreement.
- D. The Contractor may rely upon the accuracy of reports and surveys provided to it by the City (if any) except when defects should have been apparent to a reasonably competent professional or when it has actual notice of any defects in the reports and surveys.

IV. INDEPENDENT CONTRACTOR

The Parties agree that at all times and for all purposes under the terms of this Agreement each Party's relationship to any other Party shall be that of an independent contractor. Each Party will be solely responsible for the acts of its own employees, agents, and servants. No liability, right, or benefit arising out of any employer/employee relationship, either express or implied, shall arise or accrue to any Party as a result of this Agreement.

V. COMPENSATION OF CONTRACTOR

- A. The Contractor shall be paid in the manner set forth in Exhibit B. Payment shall be made monthly, unless another payment term is specified in Exhibit B, following receipt of invoices submitted by the Contractor, and approved by the Contract Administrator.
- B. The Contractor will be compensated for Services performed in addition to the Services described in Section III, only when the scope of and compensation for those additional Services have received prior written approval of the Contract Administrator.
- C. The Contractor shall keep complete records of work performed (e.g. tasks performed/hours allocated) so that the City may verify invoices submitted by the Contractor. Such records shall be made available to the City upon request and submitted in summary form with each invoice.

VI. INSURANCE/INDEMNIFICATION

- A. The Contractor shall procure and maintain during the life of this contract such insurance policies, including those set forth in Exhibit C, as will protect itself and the City from all claims for bodily injuries, death or property damage which may arise under this contract; whether the act(s) or omission(s) giving rise to the claim were made by the Contractor, any subcontractor or anyone employed by them directly or indirectly. In the case of all contracts involving on-site work, the

Contractor shall provide to the City, before the commencement of any work under this contract, documentation satisfactory to the City demonstrating it has obtained the policies and endorsements required by Exhibit C.

- B. Any insurance provider of Contractor shall be admitted and authorized to do business in the State of Michigan and shall carry and maintain a minimum rating assigned by A.M. Best & Company's Key Rating Guide of "A-" Overall and a minimum Financial Size Category of "V". Insurance policies and certificates issued by non-admitted insurance companies are not acceptable unless approved in writing by the City.
- C. To the fullest extent permitted by law, Contractor shall indemnify, defend and hold the City, its officers, employees and agents harmless from all suits, claims, judgments and expenses, including attorney's fees, resulting or alleged to result, from any acts or omissions by Contractor or its employees and agents occurring in the performance of or breach in this Agreement, except to the extent that any suit, claim, judgment or expense are finally judicially determined to have resulted from the City's negligence or willful misconduct or its failure to comply with any of its material obligations set forth in this Agreement.

VII. COMPLIANCE REQUIREMENTS

- A. Nondiscrimination. The Contractor agrees to comply, and to require its subcontractor(s) to comply, with the nondiscrimination provisions of MCL 37.2209. The Contractor further agrees to comply with the provisions of Section 9:158 of Chapter 112 of the Ann Arbor City Code and to assure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity.
- B. Living Wage. If the Contractor is a "covered employer" as defined in Chapter 23 of the Ann Arbor City Code, the Contractor agrees to comply with the living wage provisions of Chapter 23 of the Ann Arbor City Code. The Contractor agrees to pay those employees providing Services to the City under this Agreement a "living wage," as defined in Section 1:815 of the Ann Arbor City Code, as adjusted in accordance with Section 1:815(3); to post a notice approved by the City of the applicability of Chapter 23 in every location in which regular or contract employees providing services under this Agreement are working; to maintain records of compliance; if requested by the City, to provide documentation to verify compliance; to take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee or person contracted for employment in order to pay the living wage required by Section 1:815; and otherwise to comply with the requirements of Chapter 23.

VIII. WARRANTIES BY THE CONTRACTOR

- A. The Contractor warrants that the quality of its Services under this Agreement shall conform to the level of quality performed by persons regularly rendering this type of service.

- B. The Contractor warrants that it has all the skills, experience, and professional licenses necessary to perform the Services specified in this Agreement.
- C. The Contractor warrants that it has available, or will engage, at its own expense, sufficient trained employees to provide the Services specified in this Agreement.
- D. The Contractor warrants that it is not, and shall not become overdue or in default to the City for any contract, debt, or any other obligation to the City including real and personal property taxes.
- E. The Contractor warrants that its proposal for services was made in good faith, it arrived at the costs of its proposal independently, without consultation, communication or agreement, for the purpose of restricting completion as to any matter relating to such fees with any competitor for these Services; and no attempt has been made or shall be made by the Contractor to induce any other person or firm to submit or not to submit a proposal for the purpose of restricting competition.

IX. OBLIGATIONS OF THE CITY

- A. The City agrees to give the Contractor access to the Project area and other City-owned properties as required to perform the necessary Services under this Agreement.
- B. The City shall notify the Contractor of any defects in the Services of which the Contract Administrator has actual notice.

X. ASSIGNMENT

- A. The Contractor shall not subcontract or assign any portion of any right or obligation under this Agreement without prior written consent from the City. Notwithstanding any consent by the City to any assignment, Contractor shall at all times remain bound to all warranties, certifications, indemnifications, promises and performances, however described, as are required of it under the Agreement unless specifically released from the requirement, in writing, by the City.
- B. The Contractor shall retain the right to pledge payment(s) due and payable under this Agreement to third parties.

XI. TERMINATION OF AGREEMENT

- A. If either party is in breach of this Agreement for a period of fifteen (15) days following receipt of notice from the non-breaching party with respect to a breach, the non-breaching party may pursue any remedies available to it against the breaching party under applicable law, including but not limited to, the right to terminate this Agreement without further notice. The waiver of any breach by any party to this Agreement shall not waive any subsequent breach by any party.

- B. The City may terminate this Agreement, on at least thirty (30) days advance notice, for any reason, including convenience, without incurring any penalty, expense or liability to Contractor, except the obligation to pay for Services actually performed under the Agreement before the termination date.
- C. Contractor acknowledges that, if this Agreement extends for several fiscal years, continuation of this Agreement is subject to appropriation of funds for this Project. If funds to enable the City to effect continued payment under this Agreement are not appropriated or otherwise made available, the City shall have the right to terminate this Agreement without penalty at the end of the last period for which funds have been appropriated or otherwise made available by giving written notice of termination to Contractor. The Contract Administrator shall give Contractor written notice of such non-appropriation within thirty (30) days after it receives notice of such non-appropriation.
- D. The provisions of Articles VI and VIII shall survive the expiration or earlier termination of this Agreement for any reason. The expiration or termination of this Agreement, for any reason, shall not release either party from any obligation or liability to the other party, including any payment obligation that has already accrued and Contractor's obligation to deliver all Deliverables due as of the date of termination of the Agreement.

XII. REMEDIES

- A. This Agreement does not, and is not intended to, impair, divest, delegate or contravene any constitutional, statutory and/or other legal right, privilege, power, obligation, duty or immunity of the Parties.
- B. All rights and remedies provided in this Agreement are cumulative and not exclusive, and the exercise by either party of any right or remedy does not preclude the exercise of any other rights or remedies that may now or subsequently be available at law, in equity, by statute, in any agreement between the parties or otherwise.
- C. Absent a written waiver, no act, failure, or delay by a Party to pursue or enforce any rights or remedies under this Agreement shall constitute a waiver of those rights with regard to any existing or subsequent breach of this Agreement. No waiver of any term, condition, or provision of this Agreement, whether by conduct or otherwise, in one or more instances, shall be deemed or construed as a continuing waiver of any term, condition, or provision of this Agreement. No waiver by either Party shall subsequently effect its right to require strict performance of this Agreement.

XIII. NOTICE

All notices and submissions required under this Agreement shall be delivered to the respective party in the manner described herein to the address stated in this Agreement or such other address as either party may designate by prior written notice to the other. Notices given under this Agreement shall be in writing and shall be personally delivered, sent by next day express

delivery service, certified mail, or first class U.S. mail postage prepaid, and addressed to the person listed below. Notice will be deemed given on the date when one of the following first occur: (1) the date of actual receipt; (2) the next business day when notice is sent next day express delivery service or personal delivery; or (3) three days after mailing first class or certified U.S. mail.

If Notice is sent to the CONTRACTOR, it shall be addressed and sent to:

Scott Dierks, PE
GEI Consultants of Michigan, P.C.
940 N. Main Street
Ann Arbor, MI 48104

If Notice is sent to the CITY, it shall be addressed and sent to:

City of Ann Arbor
Glen Wiczorek, PE
919 Sunset Rd.
Ann Arbor, Michigan 48103

XIV. CHOICE OF LAW AND FORUM

This Agreement will be governed and controlled in all respects by the laws of the State of Michigan, including interpretation, enforceability, validity and construction, excepting the principles of conflicts of law. The parties submit to the jurisdiction and venue of the Circuit Court for Washtenaw County, State of Michigan, or, if original jurisdiction can be established, the United States District Court for the Eastern District of Michigan, Southern Division, with respect to any action arising, directly or indirectly, out of this Agreement or the performance or breach of this Agreement. The parties stipulate that the venues referenced in this Agreement are convenient and waive any claim of non-convenience.

XV. OWNERSHIP OF DOCUMENTS

Upon completion or termination of this Agreement, all documents (i.e., Deliverables) prepared by or obtained by the Contractor as provided under the terms of this Agreement shall be delivered to and become the property of the City. Original basic survey notes, sketches, charts, drawings, partially completed drawings, computations, quantities and other data shall remain in the possession of the Contractor as instruments of service unless specifically incorporated in a deliverable, but shall be made available, upon request, to the City without restriction or limitation on their use. The City acknowledges that the documents are prepared only for the Project. Prior to completion of the contracted Services the City shall have a recognized proprietary interest in the work product of the Contractor.

Unless otherwise stated in this Agreement, any intellectual property owned by Contractor prior to the effective date of this Agreement (i.e., Preexisting Information) shall remain the exclusive property of Contractor even if such Preexisting Information is embedded or otherwise incorporated in materials or products first produced as a result of this Agreement or used to develop Deliverables. The City's right under this provision shall not apply to any Preexisting Information or any component thereof regardless of form or media.

XVI. CONFLICTS OF INTEREST OR REPRESENTATION

Contractor certifies it has no financial interest in the Services to be provided under this Agreement other than the compensation specified herein. Contractor further certifies that it presently has no personal or financial interest, and shall not acquire any such interest, direct or indirect, which would conflict in any manner with its performance of the Services under this Agreement.

Contractor agrees to advise the City if Contractor has been or is retained to handle any matter in which its representation is adverse to the City. The City's prospective consent to the Contractor's representation of a client in matters adverse to the City, as identified above, will not apply in any instance where, as the result of Contractor's representation, the Contractor has obtained sensitive, proprietary or otherwise confidential information of a non-public nature that, if known to another client of the Contractor, could be used in any such other matter by the other client to the material disadvantage of the City. Each matter will be reviewed on a case by case basis.

XVII. SEVERABILITY OF PROVISIONS

Whenever possible, each provision of this Agreement will be interpreted in a manner as to be effective and valid under applicable law. However, if any provision of this Agreement or the application of any provision to any party or circumstance will be prohibited by or invalid under applicable law, that provision will be ineffective to the extent of the prohibition or invalidity without invalidating the remainder of the provisions of this Agreement or the application of the provision to other parties and circumstances.

XVIII. EXTENT OF AGREEMENT

This Agreement, together with any affixed exhibits, schedules or other documentation, constitutes the entire understanding between the City and the Contractor with respect to the subject matter of the Agreement and it supersedes, unless otherwise incorporated by reference herein, all prior representations, negotiations, agreements or understandings whether written or oral. Neither party has relied on any prior representations, of any kind or nature, in entering into this Agreement. No terms or conditions of either party's invoice, purchase order or other administrative document shall modify the terms and conditions of this Agreement, regardless of the other party's failure to object to such form. This Agreement shall be binding on and shall inure to the benefit of the parties to this Agreement and their permitted successors and permitted assigns and nothing in this Agreement, express or implied, is intended to or shall confer on any other person or entity any legal or equitable right, benefit, or remedy of any nature whatsoever under or by reason of this Agreement. This Agreement may only be altered, amended or modified by written amendment signed by the Contractor and the City. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall be deemed to be one and the same agreement.

FOR CONTRACTOR

By _____
Jamie Matus, Vice President/Principal
GEI Consultants of Michigan, P.C.

FOR THE CITY OF ANN ARBOR

By _____
Christopher Taylor, Mayor

By _____
Jacqueline Beaudry, City Clerk

Approved as to substance

Howard S. Lazarus, City Administrator

Craig Hupy, Public Services Area
Administrator

Approved as to form and content

Stephen K. Postema, City Attorney

EXHIBIT A SCOPE OF SERVICES

Part 1 – FERC Dam Safety Inspection

Task 1.1 – Project Kick-Off and 90-Day Pre-Inspection Meeting

Per the FERC’s request, the IC will participate in a conference call with the Licensee and the FERC approximately 90 days prior to the Part 12D site inspections. The purpose of this meeting is to confirm the requirements of the Part 12D inspection and updates to the PFMs from FERC’s perspective. In addition, GEI proposes to use this meeting to perform a general review the inspection and survey schedules and work plan. The work plan will detail the proposed sequencing of work activities while on-site, including detailed survey procedures. GEI will submit draft work plans to the City prior to the pre-inspection meeting.

Task 1.2 – Supplemental Potential Failure Modes Analysis (SPFMA) Session and Reporting

To prepare for the SPFMA, the IC will independently review the SPFMA report (Section 1 of the STID). GEI proposes to draft a separate SPFMA report in addition to Section 3 of the Consultant Safety Inspection Report (CSIR). GEI has used this approach successfully on past Part 12D inspections with other licensees. This approach provides a separate clean report that allows for the reorganization of the existing and potential newly developed PMFs into a logical order. Particular attention will be made to fully describe all the steps in the failure process from initiation through reservoir breach as required by FERC.

GEI will develop and issue a draft SPFMA reports (one for each dam) in advance of the formal SPFMA sessions. The formal SPFMA review sessions are planned to be held immediately prior to the Part 12D inspections at a location yet to be chosen. The SPFMA review meeting is anticipated to address the following:

- Whether more detail is needed for the failure mode narrative to fully describe how the potential failure mode develops from initiation through progression to breach.
- Changes or additions to the positive and negative contributing factors based on new data, studies or repairs constructed since the last PFMA updates.
- Changes in the list of possible risk reduction measures, additional studies needed, or surveillance and monitoring measures based on new data, studies or repairs constructed since the last PFMA updates.
- Current failure mode category and if changes are recommended, based on new data, studies, or repairs constructed since the latest PFMA updates.
- Whether additional failure modes are needed as a result of new data, studies, or repairs constructed since the latest PFMA updates.

These formal sessions will review the revised PFMs, identify any further improvements, and will finalize the categorization of the PFMs. The finalized documents will be incorporated into the draft submittals of the CSIRs.

For the purposes of our proposal, we have budgeted one day for the SPFMA sessions. If, as an outcome of the SPFMA, FERC concludes that more extensive edits or revisions to the SPFMA reports are needed beyond simply updating the failure mode descriptions, or if FERC concludes that a new SPFMA is needed, it will be considered additional services.

Task 1.3 – Part 12D Inspection and Report

Prior to mobilization to perform the Part 12D site inspections, the IC will review the previous CSIRs, previous FERC Annual Inspection Reports, relevant FERC correspondence, the Dam Safety Surveillance Monitoring Plans (DSSMP), the latest Dam Safety Surveillance Monitoring Reports (DSSMR), and project STIDs. This review will prepare the inspection team to focus on those areas most critical to dam safety. The Part 12D inspection for Barton and Superior dams will include the work outlined in Title 18, Part 12, Subpart D of the Code of Federal Regulations, Part 12D Safety Inspection Report Outline as presented in the letters. GEI is very familiar with the updated requirement of Chapter 14, “Dam Safety Performance Monitoring Program”, and specifically the guidelines outlined in the updated Appendix H, “Part 12D Safety Inspection Report Outline”. Mr. Michael D. Carpenter, PE, will be the IC for the inspection. In the event Mr. Carpenter is unable to perform the IC function, GEI proposes Mr. Steven Elver, PE, SE as an alternate. The conditions of the project structures listed within the RFP will be observed and documented on GEI inspection forms. During the inspection, special consideration will be given to the following items:

- Both Dams:
 - **Movement and Crest Elevation Surveys** – GEI will subcontract with a professional surveyor to conduct the movement monitoring survey for each dam in accordance with established procedures. The surveyor will provide a summary report with updated summary tables comparing results with previous data.
 - **Past CSIR Recommendations** – GEI will consider the recommendations included in the 2008 and 2013 CSIR prior to conducting the field inspection. Based on the observations from the inspection, GEI will consider the current status of each recommendation and remaining validity. These findings will be communicated at the completion of the field inspection and will be included within the CSIRs.
 - **Soundings** – GEI will conduct upstream and downstream soundings from a small boat using a SonarMite hydrographic survey equipment to efficiently collect detailed bathymetric data. The sounding data will be compared to the assumptions used in the stability analyses and downstream scour assessment. The sounding results will be included within the CSIRs. The upstream soundings for the Superior reservoir will include the entire reservoir and will be used to support the economic

assessment of Scenario No. 5. We will probe sediment depths, estimating the top of sediment and depth to refusal from the boat. In addition, sediment samples will be obtained during the sounding work. Sediment samples will be submitted to a certified laboratory for contaminant analysis. The sounding maps will be included within the CSIRs. The laboratory testing results will be submitted as part of the economic analysis deliverable.

- **Tainter Gate Inspection** – It is not clear from the RFP if the gate inspection is related to the FERC-required 10-year detailed Category I tainter gate inspection. For the purposes of this proposal, GEI assumes that the formal FERC-required inspection is needed and the gates will be closely inspected and compared to existing gate structural analyses. The inspection will be conducted using rope access techniques using certified rope access technicians. During the gate inspections, the concrete spillway can also be inspected. A tainter gate inspection and evaluation memorandum will be prepared for inclusion into the CSIRs.
- **Concrete Condition Survey** – The GEI IC will assess the condition of the concrete structures using hammer soundings. Particular attention will be given to previously repaired areas. The results of the concrete assessment work will be documented on representative project drawings for inclusion into the CSIRs.
- **Flow Control Review** – GEI will review the river flow operational procedures with the City’s staff while on site to better understand downstream flow fluctuations. Any areas for improved operations will be reviewed with the City and included within the CSIRs.
- Barton Dam:
 - **Right Embankment** – This structure has a history of seepage with some ground loss. An exploration and evaluation program is currently underway by a geotechnical consultant to address embankment seepage and stability. GEI will review the consultant’s evaluation and provide comment within the CSIR.
 - **Air Shaft Sinkhole** – A consultant has been retained to evaluate the cause of a sinkhole that appeared within the embankment adjacent to the shaft in April 2017. GEI inspect the areas and will review the evaluation conducted by the consultant and provide comment within the CSIR. In addition, we will inspect the significant corrosion between the shaft and the barrel arch of Bay 10.
 - **Water Main Replacement** – A consultant is in the process of designing a replacement water main from the reservoir. GEI will review the proposed replacement design and provide comment within the CSIR.
- Superior Dam:
 - **Control Building Slab Deterioration** – In July 2017, a small hole developed in the elevated slab in front of the control building. FERC has requested this area be specifically evaluated during the Part 12D inspection. The results of the inspection will be documented on representative project drawings for inclusion into the CSIR.

- **Gallery Inspection** – The interior of the spillway is proposed to be inspected with particular attention to the overall concrete condition and elevated slab condition. The results of the inspection will be documented on representative project drawings for inclusion into the CSIR.

At the completion of each field inspection, the IC will discuss any significant findings with the City and the FERC inspector and discuss recommendations, if needed, for adding any new PFMs or changes to the existing PFMs based on the inspection.

As part of the preparation of the CSIRs and as required by the FERC, GEI will “review the project STID for conformity with the latest requirements of the FERC Engineering Guidelines and provide recommendations for updates, if needed.” This includes all analyses and supporting computations including project hydrology and hydraulics (STID Section 6), structure stability (STID Section 8), and the spillway gates (STID Section 9). FERC requires that the IC *“provide a clear and comprehensive statement of concurrence or non-concurrence with the methodology, assumptions, and conclusions of previous reports and studies summarized in the STID and that these analyses and studies were correctly applied and are appropriate given the current guidelines and state of dam practice.”* As an added benefit to efficient execution of the project, GEI will develop Section 7 of the CSIR (Assessment of the STID) prior to the formal SPFMA session and Part 12D inspection.

Part 2 – Economic Analysis and Preliminary Costs

Task 2.1 – Decommissioning Barton Hydro (dam remains)

This task will include developing an OPCC for decommissioning of the Barton Hydroelectric Plant. Decommissioning a hydropower plant includes several direct and indirect costs associated with the process of filing a surrender application with FERC, even if the dam remains. Decommissioning indirect costs that can be included in the OPCC include: internal planning and financial meetings, public outreach efforts, participating in stakeholder meetings, and consultation with state and federal regulatory compliance agencies. Decommissioning direct costs include: development of the FERC surrender petition, developing modified system operational and maintenance plans, and legal and financial liability transfer agreements.

The FERC surrender petition must set forth the exemption holder's plans with respect to disposition and restoration of the project works and lands. FERC may impose obligations under the exemption which will have to be fulfilled prior to the surrender of the exemption. A careful review of the project site and project plans will allow us to make an estimate of potential FERC requirements for the exemption surrender and potential costs of compliance.

Other direct costs would include construction related activities required to de-energize the facility and other ancillary facilities. These identified costs and any other costs

requested by the City will be evaluated for this scenario and included in the estimated OPCC. GEI does not anticipate preparing any drawings for this alternative.

Task 2.2 – Relicense Decommissioned Barton Dam

FERC does not have regulatory authority over non-powered dams. Therefore, if the generating equipment is removed from Barton Dam, FERC will no longer have regulatory oversight and no relicense application would be necessary. However, there will likely be other state and local permitting requirements. Our approach will be to prepare a regulatory review of the anticipated permitting requirements for this scenario, and then prepare an opinion of probable costs for compliance costs. GEI does not anticipate preparing any drawings or construction quantity estimates for this alternative.

Task 2.3 – Barton Hydro Equipment Improvement

GEI will review the existing system components, historical operational and power production data, system configuration and constraints, and identify potential powerplant improvements including upgraded components or new turbine units and styles or the potential to optimize hydropower plant operations. Based on this review, GEI will recommend a single system configuration with identified components to be improved or replaced. We will also prepare a regulatory review of the permits necessary to complete the plant improvements. Regulatory compliance costs will be included in the OPCC. The recommended Barton Hydropower equipment improvements will be incorporated into the economic analysis to determine the net present worth and any potential return on investment and determine the benefit/cost ratio.

Task 2.4 – Decommissioning Superior Hydro (dam remains)

Similar to Task 2.1, GEI will develop an OPCC for decommissioning of the Superior Hydroelectric Plant. This OPCC will include estimates of the direct and indirect cost identified in Task 2.1 above. GEI does not anticipate preparing any drawings for this alternative.

Task 2.5 – Removal of Superior Dam

This scenario involves several subtasks. GEI's approach to each subtask is described below:

- Conduct an Abbreviated Sediment Study
GEI will conduct a limited bathymetric/scour survey (in conjunction with the Part 12D sounding survey) to develop a 3D surface that can be used to estimate sediment loading within the reservoirs. We will estimate the top of unconsolidated sediment and depth to refusal. Because MDEQ only requires analysis of samples that contain less than 90% sand content, we will use the sediment survey to estimate locations of sand and finer material. During the sounding survey, GEI will collect approximately 10 sediment samples located throughout the reservoir for analysis. We may collect some additional samples to visually confirm sand content. GEI will run grain size test on samples to confirm the testing threshold has been met and then analyze samples that fall below MDEQ sand thresholds for metals, PCBs, volatile and semi-volatile organic compounds and other

identified hazardous materials (if any) that could affect the sediment management plan for the dam removal project. The sediment sampling methods and procedures, and obtained testing results will be summarized in a concise Technical Memorandum (TM) to document the findings.

- Conduct a Limited Bathymetric/Scour Survey
In addition to the sediment sampling and testing, GEI will use the developed 3D surface to determine how far upstream the dam removal would impact the banks and shoreline to identify and estimate restoration requirements. This will also include an estimate of the sediment volume behind that dam.
- Preliminary Opinion of Cost
GEI will prepare preliminary OPCC to remove Superior Dam, powerhouse, and embankments to restore the river to the original and natural course. The OPCC will include estimates for the sediment management; decommissioning activities; required demolition; site and stream restoration; and anticipated permitting, engineering, and administrative costs. To support this preliminary conceptual design, GEI will provide two (2) plan views, two (2) profiles and up to six (6) cross sections views for the Superior Dam removal project. These drawings will be used in developing construction quantity estimates and the OPCC for this scenario.
- Available Funding Sources
GEI will research and review available funding agencies and/or grant opportunities that could potentially assist the City in obtaining the necessary capital to implement the dam removal project. One of several potential sources include the Dam Management Grant Program (DMGP), which provides funding and technical assistance for managing dam removals, repair, and major maintenance projects that will enhance aquatic resources and fishing opportunities along with reducing infrastructure costs and improving public safety in Michigan. In addition, GEI will consider the Michigan Department of Natural Resources (MDNR) Aquatic Habitat Grant Program, the MDNR Trust Fund, and Great Lakes Restoration Initiative (GLRI) programs for grant funding. GEI has successfully used these sources on recent projects as described above. GEI will provide a list and summary of possible funding sources and application strategies for successful applications in a brief technical memorandum submitted to the City for review and discussion.

Task 2.6 – Improve Superior Dam

This scenario will preserve the Superior Hydroelectric Facility and assumes operations will continue while performing the necessary repairs and improvements to maintain the facility for at least the next 30 years. For this task, GEI will develop an estimate of the necessary capital improvement projects, and recurring operation and maintenance costs for the facility over a 30-year period. These anticipated expenditures will be presented both numerically and graphically to summarize investment costs over time to help the City with decision making and long-term budgeting. The OPCC for this scenario

will include cost estimates for improvements including: significant concrete repairs, roof replacement, turbine rebuild, gate painting, gate repairs, and costs associated with engineering, permitting, construction oversight, administration, and project management. To support this preliminary conceptual design, GEI will provide a plan view, a profile, and up to three (3) cross sections views for the improved system configuration to be used in developing construction quantity estimates and the OPCC for this scenario.

Refer to the Request for Proposal (RFP #17-31) and GEI's proposal for additional Scope of Work.

Schedule

Part 1 work will be complete, with final deliverable provided to the City by December 1, 2018.

Part 2 work will be complete, with final deliverable provided to the City by September 1, 2018.

**EXHIBIT B
COMPENSATION**

General

Contractor shall be paid for those Services performed pursuant to this Agreement inclusive of all reimbursable expenses (if applicable), in accordance with the terms and conditions herein. The Compensation Schedule below states nature and amount of compensation the Contractor may charge the City:

Project Fees

The proposed scope of services outlined in Exhibit A will be performed for a lump sum of **\$118,500** for Parts 1 and 2. A breakdown of the lump sum fee is summarized in the table below.

Each task lists the total staff hours. Please refer to the Technical Proposal for the key staff names that will be providing the majority of the hours listed. If additional services are required or requested beyond those described above and in the Technical Proposal, they will be performed on an accrued time and expense basis in accordance with the Rate Schedule below. Of course, we will notify you prior to performance of any. Please also note we do not have any proposed subcontractors for this project.

Summary of Costs Table

Part 1 – Perform FERC Part 12D Inspection and Report	Budgeted Hours	Lump Sum Fee
Task 1.1 – Project Kick-Off and 90-Day Pre-Inspection Meeting	25	\$2,500
Task 1.2 – SPFMA Session and Reporting	140	\$15,000
Task 1.3 – Part 12D Inspection and Report	320	\$39,000
Part 1 Total	485	\$56,500
Barton Dam Portion	230	\$26,000
Superior Dam Portion	255	\$30,500
Part 2 – Economic Analysis & Preliminary Costs	Budgeted Hours	Lump Sum Fee
Task 2.1 – Decommissioning Barton Hydro (dam remains)	49	\$5,000
Task 2.2 – Relicense Decommissioned Barton Dam	6	\$1,000
Task 2.3 – Barton Hydro Equipment Improvement	75	\$8,000
Barton Dam Subtotal	130	\$14,000
Task 2.4 – Decommissioning Superior Hydro (dam remains)	49	\$5,000
Task 2.5 – Removal of Superior Dam	276	\$30,000
Task 2.6 – Improve Superior Dam	85	\$10,000
Superior Dam Subtotal	410	\$45,000
Part 2 Total	540	\$59,000
Allowance for Follow-up Work		\$3,000
TOTAL		\$118,500

**EXHIBIT C
INSURANCE REQUIREMENTS**

Effective the date of this Agreement, and continuing without interruption during the term of this Agreement, Contractor shall have, at a minimum, the following insurance, including all endorsements necessary for Contractor to have or provide the required coverage.

A. The Contractor shall have insurance that meets the following minimum requirements:

1. Professional Liability Insurance or Errors and Omissions Insurance protecting the Contractor and its employees in an amount not less than \$1,000,000.

2. Worker's Compensation Insurance in accordance with all applicable state and federal statutes. Further, Employers Liability Coverage shall be obtained in the following minimum amounts:

Bodily Injury by Accident - \$500,000 each accident
Bodily Injury by Disease - \$500,000 each employee
Bodily Injury by Disease - \$500,000 each policy limit

3. Commercial General Liability Insurance equivalent to, as a minimum, Insurance Services Office form CG 00 01 07 98 or current equivalent. The City of Ann Arbor shall be an additional insured. There shall be no added exclusions or limiting endorsements which diminish the City's protections as an additional insured under the policy. Further, the following minimum limits of liability are required:

\$1,000,000	Each occurrence as respect Bodily Injury Liability or Property Damage Liability, or both combined
\$2,000,000	Per Job General Aggregate
\$1,000,000	Personal and Advertising Injury

4. Motor Vehicle Liability Insurance, including Michigan No-Fault Coverages, equivalent to, as a minimum, Insurance Services Office form CA 00 01 07 97 or current equivalent. Coverage shall include all owned vehicles, all non-owned vehicles and all hired vehicles. The City of Ann Arbor shall be an additional insured. There shall be no added exclusions or limiting endorsements which diminish the City's protections as an additional insured under the policy. Further, the limits of liability shall be \$1,000,000 for each occurrence as respects Bodily Injury Liability or Property Damage Liability, or both combined.

5. Umbrella/Excess Liability Insurance shall be provided to apply in excess of the Commercial General Liability, Employers Liability and the Motor Vehicle coverage enumerated above, for each occurrence and for aggregate in the amount of \$1,000,000.

- B. Insurance required under A.3 and A.4 above shall be considered primary as respects any other valid or collectible insurance that the City may possess, including any self-insured retentions the City may have; and any other insurance the City does possess shall be considered excess insurance only and shall not be required to contribute with this insurance. Further, the Contractor agrees to waive any right of recovery by its insurer against the City.
- C. Insurance companies and policy forms are subject to approval of the City Attorney, which approval shall not be unreasonably withheld. Documentation must provide and demonstrate an unconditional 30 day written notice of cancellation in favor of the City of Ann Arbor. Further, the documentation must explicitly state the following: (a) the policy number; name of insurance company; name and address of the agent or authorized representative; name and address of insured; project name; policy expiration date; and specific coverage amounts; (b) any deductibles or self-insured retentions which shall be approved by the City, in its sole discretion; (c) that the policy conforms to the requirements specified. Contractor shall furnish the City with satisfactory certificates of insurance and endorsements prior to commencement of any work. Upon request, the Contractor shall provide within 30 days a copy of the policy(ies) to the City. If any of the above coverages expire by their terms during the term of this contract, the Contractor shall deliver proof of renewal and/or new policies and endorsements to the Administering Service Area/Unit at least ten days prior to the expiration date.
- D. Sample language to be included in the project description:
- a. Project: Project Name, RFP#XXXX. The City of Ann Arbor is included as an additional insured in accordance with the policy provisions of the general and auto liability coverage as required by written contract. General Liability policy evidenced herein is primary to other insurance available to an additional insured by only in accordance with the policy's provisions as required by written contract. A Waiver of Subrogation is granted in favor of the City of Ann Arbor, Michigan in accordance with the policy provisions of the General Liability, Auto Liability and Workers Compensation policies as required by written contract. 30 day written notice of cancellation provided to certificate holder and additional insureds applies per policy provisions.
 - b. List Certificate Holder as:
City of Ann Arbor
ATTN: Glen Wiczorek, PE
301 E. Huron St.
Ann Arbor, MI 48104