



**Request for Proposal for:**

**Johnson Seymour Mill Race  
Hydrokinetic Energy Study**

**Project No. 11224**

**Department of Environmental Services  
Bureau of Architecture and Engineering Services**

**City of Rochester, New York**

**James R. McIntosh, P.E.  
City Engineer**



# **Table of Contents**

- 1.0 General Information
  - Project Title & Location
  - RFP Pre-Proposal Site Tour (Not Mandatory)
  - Proposal Schedule and Delivery Information
- 2.0 Hydrokinetic Study Overview
  - Study Objective
  - Background
  - Related Studies
  - Education and Promotion of Green Initiatives
  - Potential for Future Funding
- 3.0 Draft Scope of Services
  - Site Reconnaissance & Data Generation
  - Review of Existing Studies, Water Rights and Operational Agreements
  - Stakeholder Coordination
  - Draft Feasibility Study and Cost Estimates
  - Implementation Strategy
  - Final Feasibility Study and Cost Estimates
  - Project Schedule
- 4.0 Proposal Requirements
  - Technical Proposal
  - Basic Services Fee
  - Direct Reimbursable Expenses
- 5.0 City Provisions
  - Living Wage Requirements
  - Local Preference
  - Affirmative Action



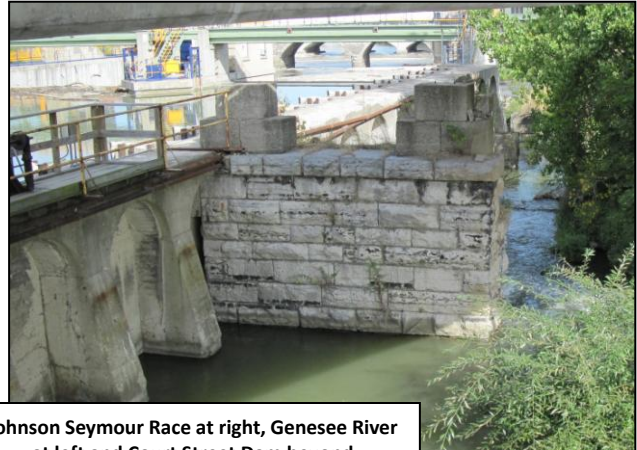
## 1.0 GENERAL INFORMATION

### Project Title & Location

---

Title: Johnson Seymour Mill Race Hydrokinetic Energy Study

Location: The historic Johnson Seymour Mill Race originates at a riverfront site referred to as Erie Harbor Park, adjacent to South Avenue on the east side of the Genesee River, opposite Woodbury Boulevard in the City of Rochester downtown. The race runs under the Rochester Rundel Memorial Library and into the RGE Substation No. 6 (Please refer to attached location map).



Johnson Seymour Race at right, Genesee River  
at left and Court Street Dam beyond

### RFP Pre-Proposal Site Tour (Not Mandatory)

---

Consultant representatives are invited to attend the following pre-proposal site tour:

What: Johnson Seymour Mill Race Hydrokinetic Energy Study Pre-Proposal Site Tour  
When: **April 13, 2011, Wednesday, 11:00 am**  
Where: Rundel Memorial Library Entrance (west side of South Ave.)  
115 South Avenue, Rochester, New York

### Proposal Schedule and Delivery Information

---

Submit the bound original and four (4) bound copies of the proposal by:

**5:00 p.m. on April 29, 2011**

To the following location: **Holly E. Barrett, P.E., Project Manager  
Bureau of Architectural & Engineering Services  
City of Rochester  
30 Church Street, Room 300 B  
Rochester, N.Y. 14614**

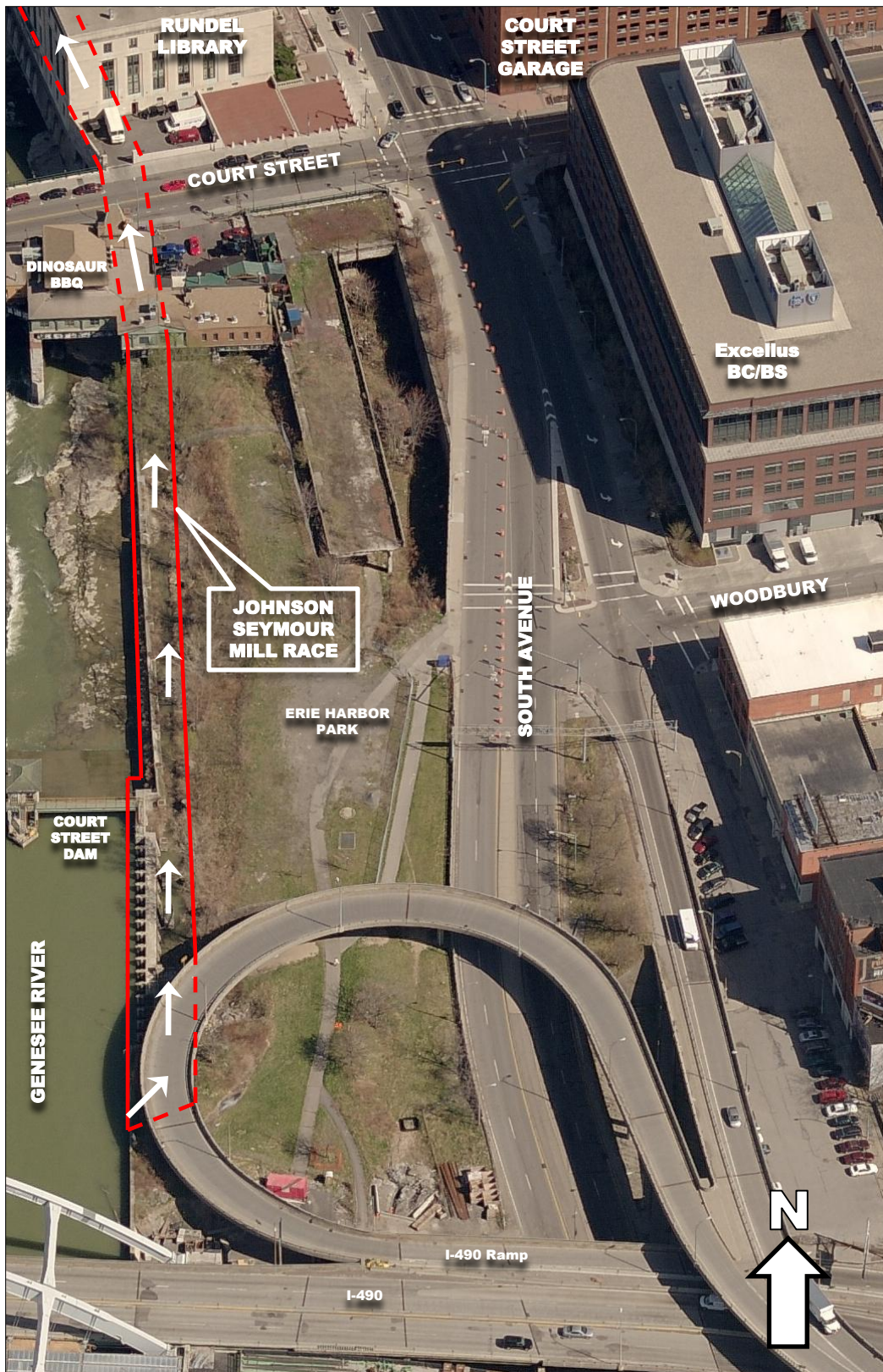
(585) 428-6384

[Barretth@cityofrochester.gov](mailto:Barretth@cityofrochester.gov)

For an electronic version of this proposal please go to the following web site:

<http://www.cityofrochester.gov/bidandrfp/>





**Johnson Seymour Mill Race Location Map**  
**City of Rochester, New York**  
No Scale

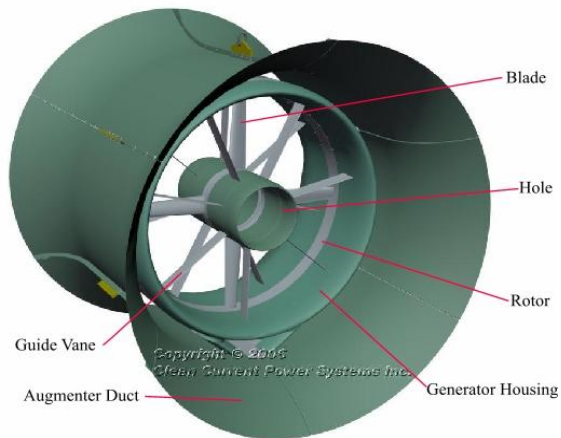


## 2.0 HYDROKINETIC STUDY OVERVIEW

### Study Objective

---

The objective of this study is to evaluate the feasibility of harnessing energy from the historic Johnson Seymour Mill Race through the use of hydrokinetic (in-stream) turbines or similar technology.



The City of Rochester is committed to promoting clean energy and the newly expanding technology of Hydrokinetic turbines and similar technology would fit well with Rochester's extensive natural hydraulic resources. Since hydrokinetic turbines produce energy from ambient movement of the water rather than water pressure and have the distinct advantage of being available in a broad range of scales, the hope is that lower cost mini-turbines can be installed within the Mill Race with relative ease. Preliminary analysis indicates that the turbines would generate 25-30 KW of power at

a minimum. Outcomes of the study should address the following to an extent that feasibility can be determined:

### Data Collection

- Availability of turbines or similar technology
- Seasonal versus all-season use; power alternatives if turbines or similar technology can only be used seasonally
- Hydrological and physical data to assess feasibility
- Water flow requirements – cursory summation to establish impact of turbines
- Water rights – rights and associated costs if applicable
- cursory estimated flow rates, efficiencies, power generation, and energy cost savings sufficient to determine overall feasibility

### Benefits

- Precedents for usage of Hydrokinetic turbines or similar technology
- Revenue generation – feasibility and market potential including preliminary exploration of energy storage and distribution system options
- Energy use for illumination of adjacent facilities. Potential candidates include:
  - Court Street Bridge
  - Court Street Parking Garage
  - Rochester Rundel Memorial Library Exterior
  - Johnson Seymour Mill Race including illumination of future trails and/or promenades
  - Blue Cross Arena
- Educational opportunities and promotion of Green Initiatives



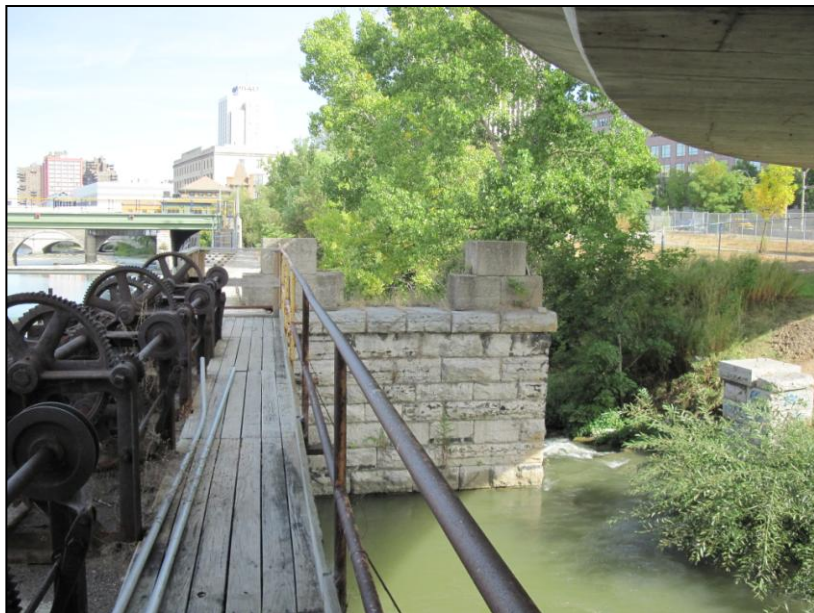
## Impacts and Operations

- Preliminary Summary of Environmental and Site Impacts
- Public Safety Requirements
- Potential Impacts on turbine performance from low water, drought, flooding and/or floating debris
- Operations and Maintenance considerations
  - Sediment load potential and the effect on maintenance
  - Equipment durability, cold weather care, and ease of replacement
  - Energy storage and distribution system operations and maintenance
  - Short term project implementation and long term processes for maintenance, operation and maximum efficiency



## Implementation

- Implementation plan, conceptual drawings and alternatives
- Project Estimates including site preparation, turbine purchase and installations, structural alterations to adjacent walls directly related to turbine installation, mill race channel work directly related to turbine installation and performance.
- Project estimates for energy usage such as site work, foundations, lights, conduit, computer panels and related equipment for illumination options
- Potential funding sources and grants
- Public/Private partnership opportunities





## Background

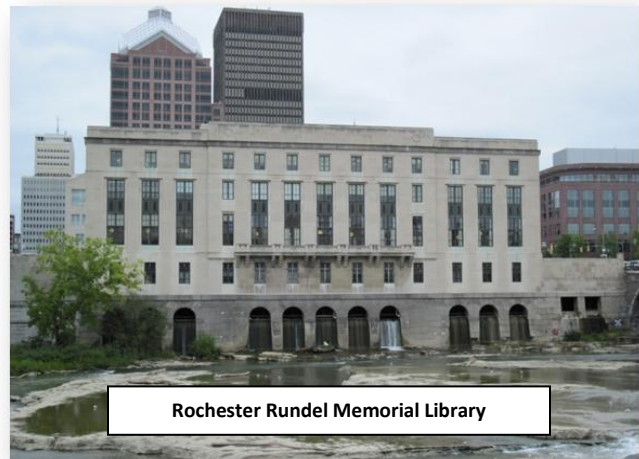
---

The Johnson Seymour Mill Race dates its roots to 1815 when it was opened by Elisha Johnson to serve milling operations on the east bank of the Genesee River and is arguably the only active and functioning historic mill race in Western NY. The raceway is in direct proximity to the only active and functioning sector gate dams remaining in the nation (circa 1918 Court Street Dam) and compliments the historic significance of hydraulic power within Rochester. The preservation and enhancement of the raceway as a landmark is an essential and strategic component of the City's redevelopment plan for this area.



The Johnson Seymour Mill Race is incorporated into the sub-basements of two downtown buildings which are constructed over the waterway. The Rundel Memorial Library building was constructed in the 1930s with the raceway incorporated into the architecture in a dramatic way. The library was built on a series of columns straddling the raceway with a series of arched spillways incorporated into the river facade to allow portions of race water to return to the river. The race water spills through these portals to this day.

The second building which incorporates the race is Rochester Gas & Electric Station 6, located on the east bank of the river, just north of the library. The building has a deep sub-basement that contains abandoned wheel pits from one of Rochester's first mills. The Johnson and Seymour Raceway falls in a cascade into the old wheel pits before emptying back into the Genesee River.



The continued flow of water in the raceway is critical and agreed upon not just for aesthetics and architectural purposes, but because it serves as a critical function for a major re-watering initiative now underway for Rochester's Historic Canal District. The continued flow of water serves as the primary source of coolant for Central Library air-conditioning units. Rochester Gas & Electric in partnership with the City of Rochester has an agreement to provide water along the raceway in the amount of 50cfs to provide seasonal aesthetic-veiling flow through portals located below the Rundel Library. This agreement is further ratified under the Federal Energy Regulatory Commission (FERC).

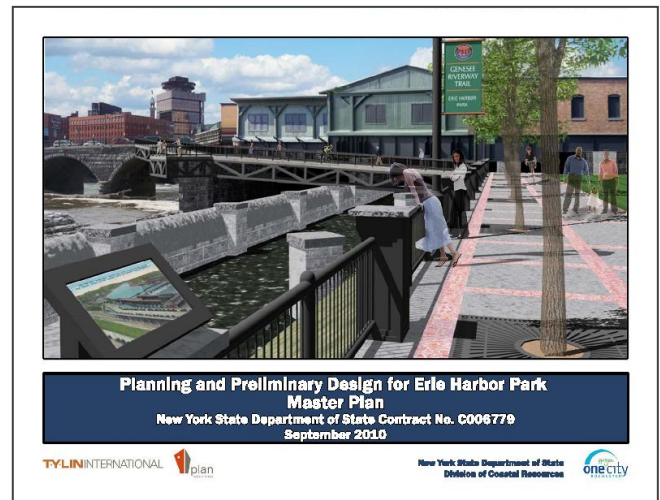


## Related Studies

Should hydrokinetic energy prove to be feasible, it will be a substantial compliment to important City initiatives that include Rochester's Historic Canal District and the Erie Harbor Park Master Plan.

### Erie Harbor Park Master Plan

Over the past several years the City of Rochester has aggressively pursued opportunities to strengthen the economic vitality, recreational use, and scenic beauty of the Genesee River Corridor. In 2009 the City received a matching grant from the New York state Department of State Division of Coastal Resources (with funds provided under Title 11 of the Environmental Protection Fund) to conduct planning and preliminary design for the site known as Erie Harbor Park. The site is located directly adjacent to the east bank of the Genesee River and the Johnson Seymour Mill Race.

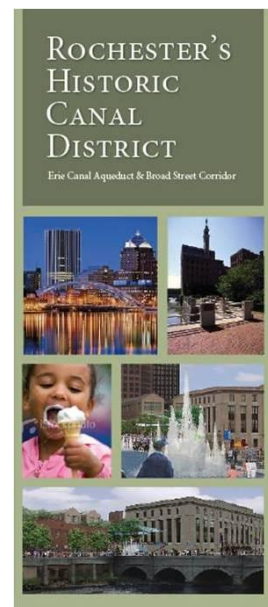


The resulting document includes the Erie Harbor Park Master Plan. This document showcases a vision for the site as a one of great potential as a valuable community asset with tremendous potential. The planning process planning process included extensive research of the site history, inventory and analysis of existing conditions and formation of a multi-phased implementation plan for public and private improvements for the site. Concepts include the site evolving into a landscaping, promenades, trail connections, and interpretive kiosks with the long term potential for residential / mixed use development.

### Rochester's Historic Canal District

The present day site of Erie Harbor Park was at one point simultaneously home to both the Johnson Seymour Mill Race and the Erie Canal, which were separated only by a narrow canal tow path. There was also once a canal weigh lock located on the site used to weigh canal packet boats, as the toll for shipping goods on the canal was based upon weight.

Recently, the City of Rochester has developed a master plan to create what will be known as Rochester's Historic Canal District, encompassing the portion of downtown where the Erie Canal originally flowed. The plan represents a strategic new beginning for a currently underutilized quarter of downtown, and creates a vision for the future of the district through rediscovering its past and its essence: the Genesee River and the Erie Canal.





The plan looks to establish a significant public realm enhanced and defined by water; creating a new distinctive identity for the district. The rediscovered watercourse of the Erie Canal will become the heart of the new Canal District, and the linear framework of public improvements the cohesive link between existing and planned public improvements. Erie Harbor Park and installation of modern hydrokinetic technology is a natural complement to the Canal District plan, and preservation of land use is essential to the success of this major initiative.

### **Education and Promotion of Green Initiatives**

---

As a part of the overall feasibility study, the historical education and promotion of green alternatives shall also be explored. The hydrokinetic turbines or similar technology would be prominently located in the vicinity of the Erie Harbor Park and could be presented for permanent public viewing as an educational and interpretive tool.

The technological display would serve as an informational centerpiece to promote clean “green” harvesting of energy throughout the surrounding Genesee River region. The hydrokinetic system installed within the historic mill race would be a wonderful way to showcase the evolution of the historic wood watermills and other antiquated power systems of the 1800’s to the high tech clean power methods being embraced today.

### **Potential for Future Funding**

---

According to the Federal Energy Regulatory Commission (FERC), congress supports research and development of new emerging water power technologies through the Energy Policy Act of 2005 and the Energy Independence and Security Act, which has authorized substantial new funding to conduct research and development on advanced hydrokinetic technologies.

The U.S. Department of Energy Hydropower Technologies Program has the stated mission of promoting responsible stewardship of national resources to increase the development and deployments of reliable, affordable, and environmentally sustainable water power technologies to realize the benefits of domestic renewable energy production. **This initiative fulfills the program criterion by aggressively promoting the tremendous untapped power potential of the Genesee River region.** The promotion of small hydrokinetic turbines or similar technology will begin to fulfill the ultimate vision of utilizing the public’s investment in water power technologies to maximize energy security, economic vitality, and environmental quality.

There is a great likelihood that additional programs and grants are available through any number of agencies for clean energy initiatives. Identification of these options as well as exploration of potential public/private partnerships should be regarded as a key component of this study.



### 3.0 DRAFT SCOPE OF SERVICES

#### Site Reconnaissance & Data Generation

---

The Consultant shall conduct site-specific reconnaissance of the study area. Work shall include, at a minimum, identification and mapping of the following ***to the extent necessary to determine overall project feasibility***:

- General topographic overview (full topographic survey not expected)
- Ownership /lease/easement status of all land considered in study
- Adjacent land and water uses
- Schematic drawings and sketches adequate to show site, buildings and amenities, and above and below ground infrastructure
- Hydrological data, Water rights and flow requirements related to feasibility determination.
- Cursory achievable flow rates, efficiencies, power generation, and energy cost savings
- Potential Impacts – Environmental, and Archeological, Historical character and status per the New York State Historic Preservation Office (NYSHPO) and local historical agencies.
- Potential Impacts, if any, to State designated Significant Coastal Fish and Wildlife Habitat areas, Scenic Areas of Statewide Significance, Coastal Management Program special management areas, or sensitive resources
- Seasonal versus all-season use; power alternatives if turbines or similar technology can only be used seasonally
- Other key information, including relevant anecdotal information, which may materially benefit the study decision-making process.

#### Review of Existing Studies, Water Rights and Operational Agreements

---

The Consultant shall review all existing and ongoing plans, studies and reports that reference the Johnson Seymour Mill Race and related facilities. Water rights and operational agreements shall be evaluated to such an extent that feasibility can be fully evaluated. Operations of adjacent Court Street Dam and gates as they relate to the Mill Race shall be included in the review. Entities involved may include, but are not limited to, the City of Rochester, Rochester Gas and Electric, the New York State Power Authority, the Federal Energy Regulatory Commission (FERC), and the New York State Canal Corporation.



## **Stakeholder Coordination**

---

The Consultant shall conduct coordination and discussions with stakeholders to such an extent that feasibility can be fully evaluated:

- City of Rochester Department of Environmental Services
- Rochester Rundel Memorial Library
- RG&E (Rochester Gas and Electric)
- Adjacent Land owners such as Dinosaur Barbeque and the Cabot Group
- New York State Canal Corporation
- Rochester Landmark Society

## **Draft Feasibility Study and Cost Estimates**

---

The Consultant will develop and submit a draft feasibility study with a full evaluation of the feasibility of harnessing energy from the historic Johnson Seymour Mill Race through the use of hydrokinetic (in-stream) turbines or similar technology. The draft shall address objectives outlined in Section 2.0 and include preliminary estimates, schematic plans and sections for turbine installation and energy harvesting/storage. All site reconnaissance and data collection, stakeholder feedback, and review of existing studies, water rights and operational agreements shall be included.

## **Implementation Strategy**

---

In the event that the Draft Feasibility Study renders hydrokinetic turbines or similar technology to be a viable option, the Consultant shall work with the City to prepare an implementation strategy for design and construction. The implementation strategy shall include discussion on funding sources and available grants. The implementation plan shall be sufficiently detailed to serve as a step-by-step implementation guide to facilitate modification of the Mill Race and related areas to accommodate this new technology, and to design, purchase, install and operate the turbines or similar technology, including, but not limited to, the following:

- Specific tasks to be completed for final implementation (i.e. construction requirement analysis of all federal, state and local requirements for the design/permits and approvals; draft and final design and construction documents; bid and selection of construction contractor; and construction)
- Boilerplate project description for grant applications to obtain project funding
- Sources of technical support and assistance
- Defined roles for stakeholders
- Cost Estimates
- Tentative project schedule



## **Final Feasibility Study and Cost Estimates**

---

The Consultant shall submit a Final Feasibility Study and Cost Estimates

➤ **Products:**

- Ten (10) copies of the Draft Final Report (including appendix)
- Ten (10) copies of the Final Report (including appendix)
- Final Report in both Adobe PDF and Microsoft Word format

## **Project Schedule**

---

Notification to proceed is anticipated in June 2011. The target completion date is February 2012.



## 4.0 PROPOSAL REQUIREMENTS

### Technical Proposal

---

Proposals must be succinct and all pages must be numbered. **In no case shall requirements #1 through #4 (below) exceed 20 pages.** Boilerplate and glossy promotional materials are discouraged; any such materials deemed necessary should be included as a separate appendix and may or may not be considered as part of the evaluation.

The Technical Proposal (with Transmittal letter) shall address the following:

1. **Firm Identification:** A description of the firm, disciplines, location, and number of years the firm has been in business of conducting the described services.
2. **Relevant Firm Qualifications and Experience** for this type of work
3. **Sub-Consultant(s):** Qualifications and relevant experience of sub-consultants.
4. **Recent Clients and Projects** *relevant* to the services required herein. Identify when work was performed, type of work services performed and contact information of the client contact persons should reference checks be required.
5. **Project Understanding:** A demonstration that the Consultant understands the proposed project and its various tasks must be included as part of the Proposal.
6. **Technical Approach, Scope of Work, and Schedule:** Provide a detailed description of the consultant's proposed technical approach and scope of services for the completion of the tasks identified in this RFP. The consultant may propose alternate tasks that will meet the project objectives. A preliminary schedule for completing the tasks outlined in the RFP along with key study tasks should be included.
7. **Team Organization:** Makeup of the project team, including sub-consultants, with an organizational chart. Include a description of how the project will be organized, identification of the **key** project team members by name, field of expertise, specific responsibilities on the project and the ***estimated number of hours*** they will work on the project.
8. Other factors that would be helpful to the Selection Committee in evaluating the consultant for this project.

A selection committee will review all proposals using the above criteria. The committee will then select the engineering firm whose proposal in their judgment indicates the best opportunity for a completely successful project.

After selection of a consultant based on qualifications only, the committee will review the fee information for that firm. The committee may decide to recommend proceeding with the project for the fee proposed, or it may decide that negotiation of the fee is required. If



the fee negotiation is initiated and a satisfactory resolution of the fee cannot be reached within a reasonable time, the committee reserves the right to proceed to another firm and proceed as above. The City also reserves the right to postpone or cancel the project. The City may request to meet with the consultants at any time for further clarification of the Proposal.

The City will enter into a Professional Service Agreement with the selected consultant.

### **Basic Services Fee**

---

Provide direct technical and professional personnel hour subtotals for each of the following tasks as identified in the draft scope of services for **Johnson Seymour Mill Race**

#### **Hydrokinetic Energy Study:**

- Site Reconnaissance and Data Collection
- Review of Existing Studies
- Stakeholder Coordination
- Draft Feasibility Study and Cost Estimates
- Implementation Strategy
- Final Feasibility Study and Cost Estimates

The task subtotals shall be totaled to provide a not-to-exceed fee.

The not-to-exceed fee shall be presented on a “cost times multiplier” basis, indicating the multiplier. The consultant shall supply a 2011 salary rate structure and the proposed multiplier. **Due to funding restrictions the maximum not-to-exceed fee for this study is set at \$40,000.**

### **Direct Reimbursable Expenses**

---

The direct expenses only with no markup allowed shall be identified in the not-to-exceed fee for the following expenses:

- Reproduction of drawings, photographs, and printing
- Sub-consultants (such as Commissioning sub-consultant)
- Rental equipment (if required)
- Travel Expenses



## 5.0 CITY PROVISIONS

### **Living Wage Requirements**

---

Rochester City Council adopted the Rochester Living Wage Ordinance (8A-18), effective July 1, 2001, which requires covered employers who are awarded City service contracts of \$50,000 or more to pay a Living Wage, as defined in the Ordinance, to their employees who perform work under the contract. As set forth in 8A-18D (1) of the Ordinance, if the total amount of the proposal is \$50,000 or more during the period of one year, a written commitment to pay all covered employees a Living Wage and a list of the job titles and wages levels of all covered employees in each of the years for which this agreement is sought shall be submitted with the proposal. A copy of the ordinance can be found through the web link at: <http://www.cityofrochester.gov/index.cfm?id=571>

### **Local Preference**

---

Pursuant to City Council Resolution No. 91-25, the City shall, when awarding professional services agreements, give preference to organizations located within the City of Rochester or Monroe County. The use of local individuals or companies as subcontractors is also encouraged.

### **Affirmative Action**

---

City Council Ordinance No. 94-213 establishes M/WBE utilization goals for City architectural and engineering professional service agreements. The M/WBE utilization goal for this contract is 2.1% for African-American, 0.6% for Hispanic, and 3.5% for Woman Business Enterprises of the total dollar amount of the Professional Services fees. During the course of completing work under this agreement, the consultant will attempt to achieve these goals through use of M/WBE's.

The City of Rochester has a policy of Affirmative Action regarding consultants who perform professional services for public works projects. You are encouraged to employ sub-consultants who are Minority or Woman-owned Business Enterprises to the greatest extent possible.