City of Norwich

One City Plaza
Norwich NY 13815

Telephone - (607) 334-1201
Fax - (607) 334-1208
Mayor@norwichnewyork.net

Brian J. Doliver
Mayor

August 24, 2023

Dear Consultant:

The enclosed Request for Qualifications is being distributed to consultants who are experienced in working with local flood hazard studies funded by FEMA as well as NYS DHSES programs. It outlines services for professional engineering services associated with hydrologic analysis, hydraulic modeling, and a local flood hazard report. **Proposals will be accepted until 5 PM on September 15, 2023.**

If you have any questions, please contact the City of Norwich at 607-334-1229 or via email at escrivener@norwichnewyork.net

Sincerely,

Dee DuFour

Dee DuFour
City Clerk

REQUEST FOR QUALIFICATIONS (RFQ)

City of Norwich

Engineering Services

Hazard Mitigation Grant Program
Local Flood Hazard Analysis

Introduction
The City of Norwich is seeking proposals from an engineering consultant (Consultant) qualified to provide engineering services in connection to a Hazard Mitigation Grant Program (HMGP) Local Flood Hazard Analysis for a city-wide flood hazard analysis study assessing flooding originating from the Chenango River, Canasawacta Creek, and the combination of both sources. Please note that the city may develop potential additional applications to the Federal Emergency Management Agency (FEMA) and the NYS Division of Homeland Security and Emergency Services (DHSES). The qualified engineering firm's services will include an updated hydrologic analysis, 2D hydraulic modeling with HEC-RAS, and preparation of a Local Flood Hazard Analysis Report.

Time of Performance
The City of Norwich anticipates awarding one contract for all engineering services as listed above.

Scope of Services
The City of Norwich was awarded $79,800 for the project HMGP 4480-0016 Local Flood Hazard Analysis and has executed a Master Contract (Contract Number C000941) with the NYS DHSES. The Detailed Scope of Work in the Master Contract is included as Attachment A, and several tasks and deliverables are referenced to be completed by the Consultant.

Please provide information on how your firm can provide one or more of these tasks as listed in Attachment A. The proposal should address personnel qualifications and experience providing these services to municipalities.

Compensation and Method of Payment
Compensation for all services must be related to actual performance. Compensation for administration services may be proposed on a fixed-fee basis and/or hourly rate basis and should be clearly explained in the proposal.

Work Time Frames
Project completion shall be achieved within the specific program's allowable time frame.

Statements of Qualification
Statements of Qualification should include the following:

A. Background information describing the nature and history of the firm, including client listings and references.

B. Specific information regarding the firm's experience and technical expertise with securing and implementing HMGP and DHSES programs and similar project work as described in the Detailed Scope of Services in Attachment A.

C. Resumes of the individuals who will provide the services and their respective roles.

Selection
The City of Norwich will rank the responses received on an evaluation of technical skills, experience, and reference information. The City of Norwich will select a Consultant based on these qualifications to enter into an agreement for services, subject to negotiation.

Submission Procedures
If you wish to submit a proposal, please submit three (3) copies of all information to the City no later than **5 PM on September 15, 2023**

The address is as follows:

ATTN Responses to Local Flood Hazard RFQ
City of Norwich
1 City Plaza
Norwich, NY 13815

If you have any questions, please contact Erik Scrivener, Community Development Director at 607-334-1229 or via email at: escrivener@norwichnewyork.net

Miscellaneous
A. The City of Norwich reserves the right to reject any or all statements of qualifications and to conduct interviews at its sole discretion.

B. The City of Norwich assumes no responsibility of liability for costs incurred by respondents to the Request for Qualifications including any requests for additional information, interviews, or negotiations.

DETAILED SCOPE OF WORK Attachment A

PROBLEM STATEMENT

The City of Norwich is susceptible to repeated flooding from the Chenango River and Canasawacta Creek in response to heavy rainfall, snow melt and ice jams. A large majority of damages to homes and businesses have been reported in the south end of the City where both flood sources converge. Past flood events have principally impacted basements, causing damages to critical mechanical systems, but have not qualified for first floor flooding assistance. In many cases residents have been displaced from homes and have made necessary repairs out-of-pocket.

The 2021 Update to the Multi-jurisdictional Hazard Mitigation Plan for Chenango County (HMP) includes the proposed hazard mitigation initiatives to be undertaken by the City of Norwich. In response to frequent flooding in the south end of the City, a conceptual "Flood Study for the South End of City" was identified as a high-priority project in the FEMA-approved HMP, which was subsequently adopted by the City on August 17, 2021. The first phase of the project is to prepare a flood study to assess the existing and future risk of damages in the city and identify potential mitigation strategies. A future phase will utilize this planning tool to assess the feasibility, benefit and cost effectiveness of individual flood mitigation projects. The City's approach to the study follows:

APPROACH

The City of Norwich will contract with an experienced engineering consultant (Consultant) to develop a city-wide flood hazard analysis study assessing flooding originating from the Chenango River, Canasawacta Creek, and the combination of both sources. The study will incorporate new hydrologic data from relevant stream gages on the Chenango River, re-evaluation of flows on Canasawacta Creek, updated hydraulic analyses using HEC-RAS, and an assessment of projected increases in peak flood flows due to climate change from both flooding sources. The Consultant will be responsible for providing a complete evaluation in the form of a written report that targets the Eligible Hazard Mitigation Planning-Related Activities below, as defined in Section E.1.3.1 of the HMA 2015 Guidance. Further details of each proposed activity are included in the Task descriptions.

- Assessing risk and vulnerability of the community based on new hydrologic/hydraulic information and advanced flood modeling techniques;
- Providing recommended mitigation strategies linked to HMA and other funding opportunities;
- Incorporating climate change driven hydrologic conditions into an assessment of risk to historic properties, cultural resources, and critical community services with the goal of identifying mitigation strategies that integrate climate adaption principles;
- Integrating disaster preparedness planning efforts by understanding future impacts to emergency resources, evacuation routes and potential magnitude of post-disaster recovery efforts; and
- Evaluating necessary updates to local ordinances to reduce risk and manage community resources (e.g., parks and open space conservation) in a manner that increases resilience to flood hazards.

DETAILED SCOPE OF WORK

TASKS

The City envisions this work being broken into three major tasks, as outlined in the following.

Task 1: Updated Hydrologic Analysis (Estimated Cost $8,200.00)

Task 1 will establish present and future flooding conditions on the Chenango River and Canasawacta Creek. An updated hydrologic analysis of flood discharges following U.S. Geological Survey (USGS) *Guidelines For Determining Flood Flow Frequency Bulletin 17C* will be prepared incorporating additional historical gage data for the Chenango River not presently incorporated into the values used by FEMA for the community's current Special Flood Hazard Area delineations. The results of the Consultant's analysis will be compared to the original results incorporated in the effective FEMA Flood Insurance Study report, and if appropriate, the City will request the Consultant to provide recommendations for a formal revision to Flood Insurance Rate Maps (FIRMs) via a Letter of Map Revision (LOMR) based on the updated hydrologic analysis. The Consultant will also be required to provide an assessment and recommendations of future flood flows based on relevant climatic projections for the region.

Deliverables:

- Hydrologic calculations, model output files and electronic copies of hydrologic models
- Table of recommended flood frequency discharges and projected future peak flows to be evaluated in Task 2

Task 2: 2D Hydraulic Modeling with HEC-RAS (Estimated Cost $44,600.00)

The City will coordinate a request for electronic copies of previous hydrologic and hydraulic studies prepared by FEMA for both the Chenango River and Canasawacta Creek. Based on a review of the Flood Insurance Study report for Chenango County, it is expected that the Canawawacta Creek model will only be available as scans of the original HEC-2 model and output files (either electronic PDF or microfilm). The Consultant will be responsible for reviewing and converting model data to a format that may be used with U.S. Army Corps of Engineer's HEC-RAS model software.

After completing a review of the existing model data, the City and its Consultant will visit sites along both the Chenango River and Canasawacta Creek to identify areas that have been altered since the development of the original models, establish the scope of work for any supplemental survey needs, and assess the adequacy of existing model parameters. The Consultant will coordinate with a qualified survey subconsultant to obtain updated cross sections of the streambed and bridge structure data as necessary to represent existing conditions.

The City will further support Task 2 activities by cataloguing flooding complaints, coordinating property access with individual landowners, reviewing development records, providing location information on critical resources, and facilitating project meetings.

With the updated survey data, the Consultant will prepare a combined 1D/2D unsteady-state HEC-RAS model that incorporates the interaction between both flooding sources. The 2D component of the model will be used to assess flood conditions between the two flood sources where the highest density

of structures exists. It is assumed that the model with establish both baseline flooding conditions using established FEMA recurrence flood discharges and projected discharges as identified in Task 1.

The City has identified six possible model scenarios for evaluation:

1) Chenango River as the sole source of flooding;
2) Canasawacta Creek as the sole source of flooding;
3) Chenango River and Canasawacta Creek with concurrent base flood discharges; and
4) Prior three scenarios with projected future 100-year recurrence base flood discharge.

The HEC-RAS model results will be used to develop flood inundation maps for each scenario over recent aerial images, topographic data, locations of critical community services, and cultural/historic resources. The goal of the maps is to provide a planning resource to assess the flood risk and vulnerability of homes, businesses, services, historic properties and established evacuation routes.

Deliverables:

- Supplementary cross section and structure survey
- 2D HEC-RAS Model summary tables, flood profiles and electronic copies of hydraulic model files
- Flood inundation maps

Task 3: Preparation of Local Flood Hazard Analysis Report (Estimated Cost $27,200.00)

The report will document initial coordination efforts, chronology of the work, and the process of formulating and previous hydrologic and hydraulic studies for the Chenango River and Canasawacta Creek. Additionally, the report will include the following major components in-line with the City of Norwich's planning objectives.

- Summary of hydrologic analysis methods and flood-frequency discharges for Chenango River and Canasawacta;
- Discussion of hydraulic engineering methods, HEC-RAS profiles and model results;
- Flood inundation mapping and graphic representations of flood elevations over aerial imagery and topography;
- Identification of flood prone areas and cause of flooding, with a focus on the south end of the City of Norwich;
- Assessment of impacts on environmental, cultural and historic resources;
- Identification of impacts on critical services;
- Recommendations for improvements to Norwich flood protection ordinances that will improve flood resiliency; and
- Flood mitigation strategies to be further evaluated in a future engineering feasibility phase of the project.

The City of Norwich will require the submission of the draft report for review and coordination with project stakeholders. Subsequent to meeting with the external project stakeholders, the City will direct the consultant to resolve project team comments and address any additional information requests.

The final report will also include an identification of available funding opportunities to support the assessment of specific mitigation projects as a future phase of the project.

At the conclusion of Task 3, the City's engineering consultant will develop one presentation to be delivered separately to the Norwich Common Council and community stakeholders, or alternatively, a single presentation at a combined meeting which will include members of the general public. The presentation will be developed to discuss the findings of the study and final Local Flood Hazard Analysis Report.

Deliverables:

- Draft and Final copies of the Local Flood Hazard Analysis Report
- Development of one presentation to be delivered to the local project stakeholders

TASK SCHEDULE

The estimated task schedule for the proposed scope of work is summarized in the table below. The total duration of the project from start to completion is estimated to be 8 months.

	Task	Start Month	Task Duration (in months)
0	Management Costs	1	8
	Procurement of Engineering Consultant	1	1
	Grant Administration	1	8
1	Updated Hydrologic Analysis	2	1
2	2D Hydraulic Modeling with HEC-RAS	2	4
3	Preparation of Local Flood Hazard Analysis Report	5	4