REQUEST FOR PROPOSALS

Planning in Water's Way:
Flood Resilient Economic Development Strategy for the I-86 Innovation Corridor

Southern Tier Central Regional Planning and Development Board (STC) is seeking a qualified engineering consultant to conduct an economic analysis to quantify the existing vulnerability to flood hazards and to develop flood resiliency recommendations for municipalities along the I-86 Innovation Corridor.

BACKGROUND

The Southern Tier Central Regional and Planning Development Board (STC) is undertaking a project titled "Planning in Water's Way" to promote economic resilience to flood risks within the I-86 Innovation Corridor in Chemung and Steuben Counties, New York. This corridor extends from the Town of Erwin in Steuben County to the City of Elmira in Chemung County. The project area encompasses the Cities of Corning and Elmira; the Towns of Big Flats, Corning, Erwin, Horseheads, and Elmira; and the Villages of Elmira Heights, Horseheads, Painted Post, Riverside, and South Corning. This area encompasses 25 census tracts: Chemung 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 103, 104,105, 106, 107, 108, 109, and part of 110; Steuben 9623, 9624, 9625, 9626, 9627, 9628, and 9629.

The project area is drained by the Chemung River and its tributaries. At the upstream end of the corridor, the Tioga, Canisteo, and Cohocton Rivers join in the Town of Erwin to form the Chemung River, which flows east through the Cities of Corning and Elmira. Flood protection along the Tioga and Chemung Rivers is provided by the Tioga-Hammond and Cowanesque Dams in Pennsylvania. Additional protection of developed areas is provided by the Corning area levee system (protecting the Gang Mills area of the Town of Erwin; the Villages of Painted Post, Riverside, and South Corning; and the City of Corning), the Elmira area levee system (protecting the West Elmira area of the Town of Elmira and the City of Elmira), and the Ithaca Road levee along Newtown Creek (protecting areas in the Town and Village of Horseheads).

This area is extremely vulnerable to the physical damages and economic disruptions caused by flooding, including the potential for levee overtopping, widespread damage in low- lying areas, and flash flooding along small streams. Since 1970, there have been 8 presidentially declared flood disasters in Chemung County and 14 in Steuben County; at least 6 impacted the project area. The region has also experienced floods and flash floods that were locally severe but did not receive federal disaster declarations. The frequency of intense rainfall events is increasing and expected to cause even more extreme flood events and flash flooding in the future.

Because much of the developable land within this economically important region is prone to flooding, this project will assemble information and data that enable businesses, public facilities, and the community to both prevent future flood damage to facilities and quickly resume operations after a disaster. Existing information about flood hazards will be compiled, including digitizing maps showing flood limits for the 1972 Hurricane Agnes event (which overtopped

levees and submerged parts of these communities under as much as eight feet of water). FEMA's Hazus-MH software tool will be used to estimate the physical, economic, and social impacts of flooding within this corridor and then to evaluate mitigation options for existing and future development. These data will be used to develop recommendations for increasing the viability of existing businesses based on identification of feasible mitigation options, estimates of project costs, and quantified assessment of the potential benefits. In addition, the project team will identify flood-safe areas for focused economic development and make model zoning recommendations for future development. STC will develop a strategy for flood resilient economic development within the I-86 Innovation Corridor encompassing: (1) maps showing the varying levels of flood risk within the Corridor, (2) quantified flood loss estimates for existing development, (3) recommendations and cost-benefit information for flood resiliency strategies, and (4) land use guidelines that stimulate resilient development. This will provide the data needed to incorporate flood resilience into implementation of the "I-86 Innovation Corridor – Strategic Action Plan" (July 2015), implement cost-effective flood mitigation activities, and integrate flood resilience into municipal land use regulations.

SCOPE OF WORK

STC is seeking services of a consultant to utilize FEMA's Hazus-MH software tool (or a comparable model) to conduct a quantitative analysis of the physical, economic, and social impacts of flooding within the project area and then to evaluate mitigation options for existing and future development. These data will be used to develop recommendations for increasing the viability of existing businesses based on identification of feasible mitigation options, estimates of project costs, and quantified assessment of the potential benefits.

Task 1. Build a Hazus-MH flood model for the project area.
The consultant will build a Hazus-MH flood model (or a comparable tool) for the project area (Cities of Corning and Elmira; Towns of Big Flats, Corning, Erwin, Horseheads, and Elmira; and Villages of Elmira Heights, Horseheads, Painted Post, Riverside, and South Corning). This model will utilize the best available data for a riverine flood hazard analysis module and a flood loss estimation module. The consultant will coordinate with STC staff to identify existing data that can be practically used to develop a flood loss model that provides as much detail and accuracy as possible. In addition to nationally available and default data, the following information sources can be evaluated and utilized if appropriate:

Flood hazard information:

- Effective Flood Insurance Rate maps, dates range from 1979 to 2002. Contact: FEMA Region II.
- Work maps for Chemung County Map Mod project, 2010. Project included model-based approximate studies in Chemung County (City of Elmira; Towns of Big Flats, Horseheads, and Elmira; and Villages of Elmira Heights, and Horseheads). No new detailed studies were conducted. Mapping was discontinued prior to preparing preliminary maps. Contact: FEMA Region II.
- Modeling for Chemung Watershed Risk MAP project, 2013. Model-based approximate studies were conducted for the Town of Corning. Detailed studies were conducted for: reaches of the Chemung River without levees (Towns of Corning, Big Flats, and Elmira),

Cuthrie Run (Town of Big Flats), Hoffman Brook (City of Elmira; and Towns of Big Flats and Elmira), Meads Creek (Town of Erwin), Newtown Creek upstream of the Elmira area levee (Towns of Horseheads and Elmira; and Village of Horseheads), North Branch of Newtown Creek (Town of Horseheads), and Sing Sing Creek (Town of Big Flats). No maps were prepared. Contact: FEMA Region II.

- Chemung River Flood Inundation Mapping project, in progress, (hydraulic model development scheduled for completion in June 2018). FEMA model for the Chemung River will be extended to include reaches with levees. Contact: US Army Corps of Engineers, Baltimore District (Stacey Underwood, 410-962-4977).
- Modeling of the Susquehanna Watershed upstream of the Conowingo Dam. Model was developed by Dewberry (incorporating FEMA data) for Exelon Power Corporation, which operates the Conowingo Hydroelectric Generating Station.
- Inundation mapping for the flood of June 1972. The US Geological Survey mapped the 1972 flood extent for the Chemung, Cohocton, Tioga, and Canisteo Rivers. Existing paper maps will be digitized by STC as part of this project.

Elevation data:

- USGS 3 meter resolution DEM is available for the entire project area.
- Chemung County LiDAR, 2003. Contact: STC.
- FEMA Chemung Watershed LiDAR, 2011. Covers most of the project area in Steuben County.
- NYS GIS Program Office Allegany, Steuben LiDAR, 2016. Covers part of the Town of Erwin.

Inventory of assets (available from STC):

- Tax parcel database includes: location of parcels, structures, land use, value of structure, basement, value of property, and in some cases age of the structure. Structures are designated by type of use (e.g. residential, commercial, industrial, etc.).
- Locations of government facilities, such as military installations and government offices.
- Roads
- NYS Department of Transportation and county bridge inventories
- Communication infrastructure
- Fire stations and police stations
- Churches and other religious facilities
- Hospitals
- Schools
- Other public buildings

<u>Task 2. Conduct economic analysis of flood vulnerability</u>

The consultant will utilize the Hazus flood model to conduct an economic analysis that quantifies the existing vulnerability to flood hazards throughout the project area. This will include identification of areas with the highest loss potential, average annual loss estimates, direct economic losses (for buildings, agriculture, transportation, utilities, etc.), and indirect economic impacts (income and employment impacts). The results of this analysis shall be illustrated on maps and compiled into a report that clearly and concisely communicates the potential impacts

for non-technical readers. The report should highlight the most vulnerable areas and types of development. Detailed outputs shall also be provided as a supplemental document. This information will be used to inform local plans, land use regulations, development guidelines, recovery planning, and flood hazard education.

Task 3. Develop flood resiliency recommendations

The consulting engineer will calculate the return on investment of various flood resiliency strategies using the Hazus flood model and other information. The consultant will collaborate with STC staff to develop what-if scenarios that use the Hazus model to evaluate the consequences of various mitigation actions to protect existing and future development from flooding. The results of these scenarios, cost estimates for mitigation options, and other research will be used to conduct a quantitative analysis of mitigation strategies for locations throughout the project area, including those with levee protection. This analysis shall take into account the challenges of retrofitting historic structures, as well as those associated with the safety and flood resiliency of low income, elderly, and special needs residents. The consultant will prepare recommendations and guidance for cost-effective flood resiliency measures based on use and location within the Innovation Corridor, including those that require little or no expense. Resiliency strategies should address facilities, infrastructure, operations, and organizational structures. Per-square-foot cost estimates for facility mitigation shall be provided so that businesses and developers can use to seek implementation funding. The findings of this resiliency analysis shall be presented in a report that provides recommendations for increasing the viability of businesses based on the location, feasibility of mitigation options, project cost estimates, and quantified assessment of the potential benefits.

Coordination and reporting

The consultant will be expected to maintain regular contact with STC project staff through periodic conference calls, sharing of draft information, bi-monthly project status reports, financial statements, and other communication. On-site meetings are not required.

DELIVERABLES

All of the products of this study will be delivered in both digital and hard-copy formats and should be web-ready. Mapping will be done in an ArcView-compatible format. Project deliverables include:

- Hazus-MH flood model, including input data if modified
- Report presenting results of the economic analysis and flood resiliency recommendations.
- Maps illustrating findings
- Supplemental results and data
- Bi-monthly project status reports
- Financial statements of funds expended

PROJECT BUDGET

A maximum budget of $50,000 has been established for this portion of the project. All costs, including the production of all draft and final products/documents, are included in this budget.

KEY DATES

June 4th, 2018	Proposal submission
June 2018	Consultant interviews and consultant selection
July 2018-December 2018	Build Hazus flood model and conduct economic analysis of flood vulnerability
July 2018-April 2019	Develop flood resiliency recommendations
April 30, 2019	Submit final report presenting results of economic analysis and flood resiliency recommendations

SELECTION CRITERIA

STC will evaluate proposals based on the consultant's response to all items of this RFP. The following list identifies some of the criteria that may be used in the evaluation and comparison of proposals, as well as the importance of each selection criteria.

a. Project Understanding (5%)

b. Qualifications of the Consultant/Project Team (15%)

c. Relevant Project Experience (40%)

d. Project Approach and Proposal Contents (30%)

e. Proposed Cost (10%)

SUBMISSION REQUIREMENTS

Proposal submissions should be clearly marked "Planning in Water's Way" and may be emailed to **mcostello@stcplanning.org**. If submitting by mail, please include 4 copies and send to:

Maggie Costello, Planner
Southern Tier Central Regional Planning & Development Board
8 Denison Parkway East, Suite 310
Corning, NY 14830

Proposals must be submitted by 4:00 p.m., August 10th, 2018. Proposers should indicate in their transmittal letters whether representatives of their project teams would be available for a video conference or an on-site interview at STC offices in Corning. Proposals must contain, at a minimum, the following information:

a. Understanding - Consultant shall discuss their understanding of the requested services as described in this document.

b. Project Team – Provide the names, titles, and a description of relevant experience for project staff. Include a Project Organization Chart showing the relationship between each team member and communication lines with the Project Manager. Include 1-page resumes of key project personnel and contact information for the Project Manager and Fiscal Contact.

   Include a written statement acknowledging that the individuals included in the Project Organization Chart will perform the work and that team members will not be replaced or removed from the team without written approval from STC.

c. Project Experience – Consultant shall provide descriptions of previous projects completed by the firm's current employees of similar type, size, and scope. Project descriptions shall include the date of completion and client reference information. Provide for digital access to the reports or other products developed for these projects.

d. Project Approach – Consultant shall provide a write-up on how they propose to undertake each project task, any anticipated problems that may be encountered, and how each problem will be addressed. State any assumptions made in developing the proposal.

e. Project Schedule - Include a detailed preliminary schedule incorporating all anticipated milestone dates, meetings, and document review periods.

f. Project Cost – Provide a detailed cost proposal that includes all project expenses.

ADDITIONAL CONDITIONS OF CONTRACT AWARD

As a contractual agent of STC, the consultant selected for this engagement must comply with all applicable nondiscrimination requirements. All qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. STC will and will cause its contractors and subcontractors to take good faith actions to achieve the Minority and Women Business Enterprise (MWBE) contract participation goals, pursuant to NY State Statute 5 NYCRR 142.8, and to solicit and utilize MWBEs for any contractual opportunities generated in connection with this project. Special consideration will also be granted in this procurement to federally-certified Disadvantaged Business Enterprises (DBE) or to firms proposing to subcontract with such enterprises.

All questions concerning this solicitation should be directed to Maggie Costello, Planner at STC (607) 962-5092, fax (607) 962-3400, e-mail: mcostello@stcplanning.org