



FOX WATERWAY AGENCY

*45 S. Pistakee Lake Road ♦ Fox Lake, Illinois 60020
(847)587-8540*

March 28, 2022

Request for Proposals - Engineering Services

Trinski's Island - Proposed HEC-RAS Modeling Scope of Work

The Fox Waterway Agency is seeking cost proposals from several well qualified engineering firms to provide assistance with hydrologic and hydraulic modeling of a proposed in-lake island structure designed to store and retain dredged sediment from surrounding areas of the proposed island containment facility. In order to continue in its effort to obtain State and Federal Regulatory Permits, the FWA must first complete this HEC-RAS model and hopefully obtain acceptable results. The proposed In-Lake Structure has been thoroughly reviewed by the State and Federal Regulators (i.e. Army Corps of Engineers - Chicago District, the Illinois EPA and the Illinois DNR) since originally submitted in 2012. There have been several Public Meetings and exchanges of review comments and responses, and final issuance was held up due to concerns about the original FEQ model results completed by IDNR in 1995 that were completed to evaluate potential flood impacts from sediment filled islands in various Chain of Lakes locations.

The Illinois DNR Office of Water Resources recently stated that the Permit Application will need to be re-submitted due to recent changes in Floodway Permitting requirements and that prior to any submittal, a HEC-RAS model must be completed that demonstrates through a hydraulic analysis that the proposed work will not increase flood heights nor create any adverse velocities for all floods up to and including the 100-year flood elevation. As a component of the model development, it is assumed that current bathymetry will be required for the areas adjacent to the proposed island in addition to upstream and downstream areas that would be required for the model. Therefore, the bathymetric survey area only needs to include as much as the model would require in order to evaluate potential flood impacts for either of the two island configurations shown in the attached figures. Cost effective approaches to the survey can be considered if the collected bathymetry provides acceptable data for accurate model development. Available Illinois DNR water depth survey data from 2005 can be provided for reference. The bathymetry survey from the mouth of Nippersink Creek up to the Route 12 Bridge is also requested as part of the survey since there are reoccurring navigational concerns in that stream reach.



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The IDNR Office of Water Resources indicated that: “A current set of plans and specifications must be submitted along with the HEC-RAS analysis. The plans, specifications and the analysis must be signed and sealed by a registered professional engineer licensed in the State of Illinois.” However, if the model shows a measurable rise in flood elevations for either of the two island configurations, then the proposed Project may not go forward with revised plans and a permitting re-submittal. Therefore, the requested Scope of Work for this RFP only includes the HEC-RAS Model and associated bathymetric surveying.

Proposals are to include a Statement of Qualifications with a minimum of 3 references of similar types of projects completed. The project would need to meet a completion date within 90 days of the Notice to Proceed. All results of the data collected and modeled are to be supplied to the FWA electronically via thumb drive and printed with 5 copies. The Engineer’s Illinois P.E. Seal must be stamped on the Modeling Output Report for submittal to IDNR/OWR. The printed materials will be in color format.

Proposals are to be received by Wednesday, April 20, 2022 by 2PM, submitted electronically to Rob@foxwaterway.com or hard copy to:

Fox Waterway Agency
45 S Pistakee Lake Road
Fox Lake, IL 60020
Attention: Rob Bowman

Questions regarding this RFP can be directed via email to:
Rob@foxwaterway.com



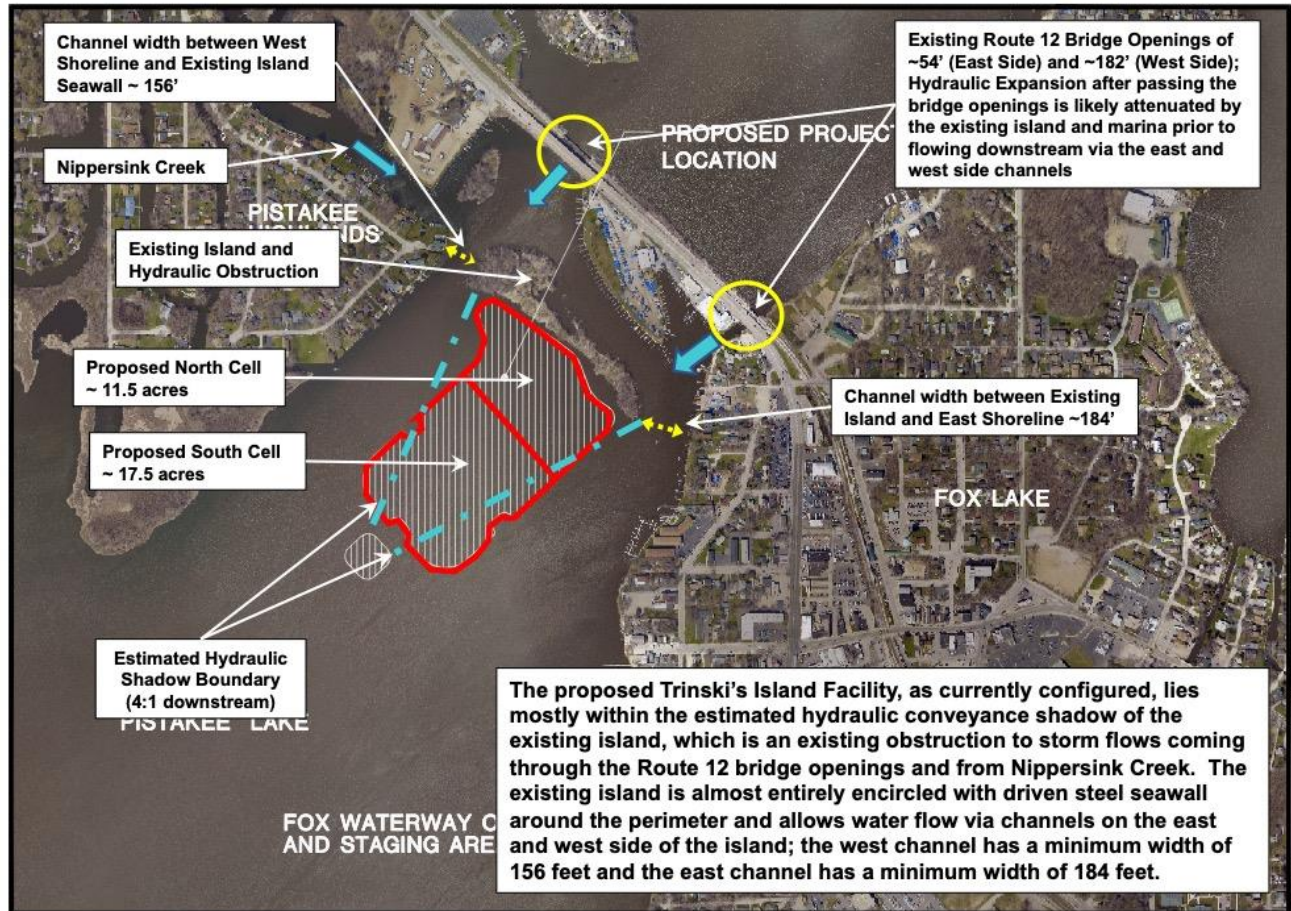
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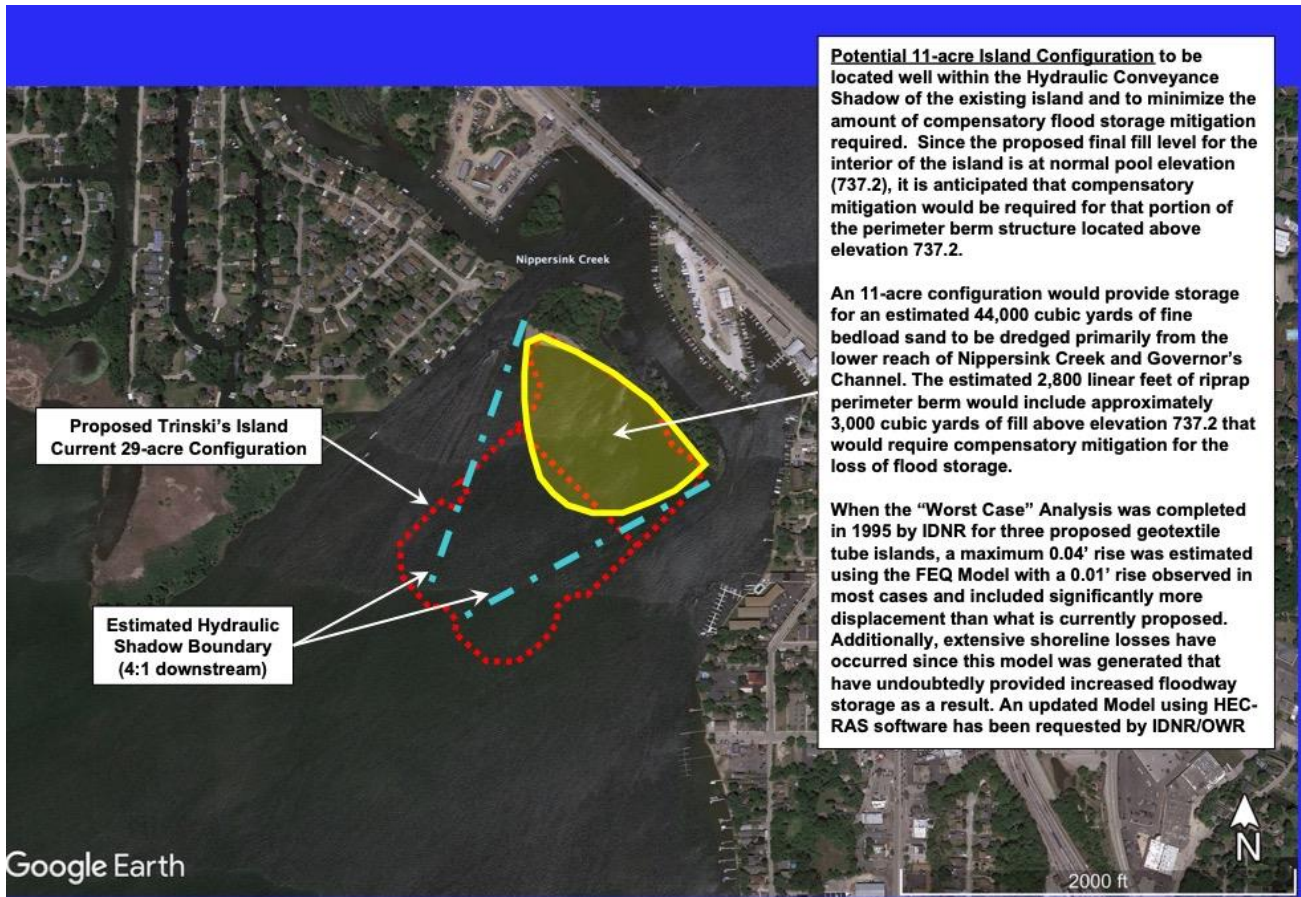
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Potential 11-acre Island Configuration to be located well within the Hydraulic Conveyance Shadow of the existing island and to minimize the amount of compensatory flood storage mitigation required. Since the proposed final fill level for the interior of the island is at normal pool elevation (737.2), it is anticipated that compensatory mitigation would be required for that portion of the perimeter berm structure located above elevation 737.2.

An 11-acre configuration would provide storage for an estimated 44,000 cubic yards of fine bedload sand to be dredged primarily from the lower reach of Nippersink Creek and Governor's Channel. The estimated 2,800 linear feet of riprap perimeter berm would include approximately 3,000 cubic yards of fill above elevation 737.2 that would require compensatory mitigation for the loss of flood storage.

When the "Worst Case" Analysis was completed in 1995 by IDNR for three proposed geotextile tube islands, a maximum 0.04' rise was estimated using the FEQ Model with a 0.01' rise observed in most cases and included significantly more displacement than what is currently proposed. Additionally, extensive shoreline losses have occurred since this model was generated that have undoubtedly provided increased floodway storage as a result. An updated Model using HEC-RAS software has been requested by IDNR/OWR

Preliminary 11-Acre Trinski's Island Configuration