

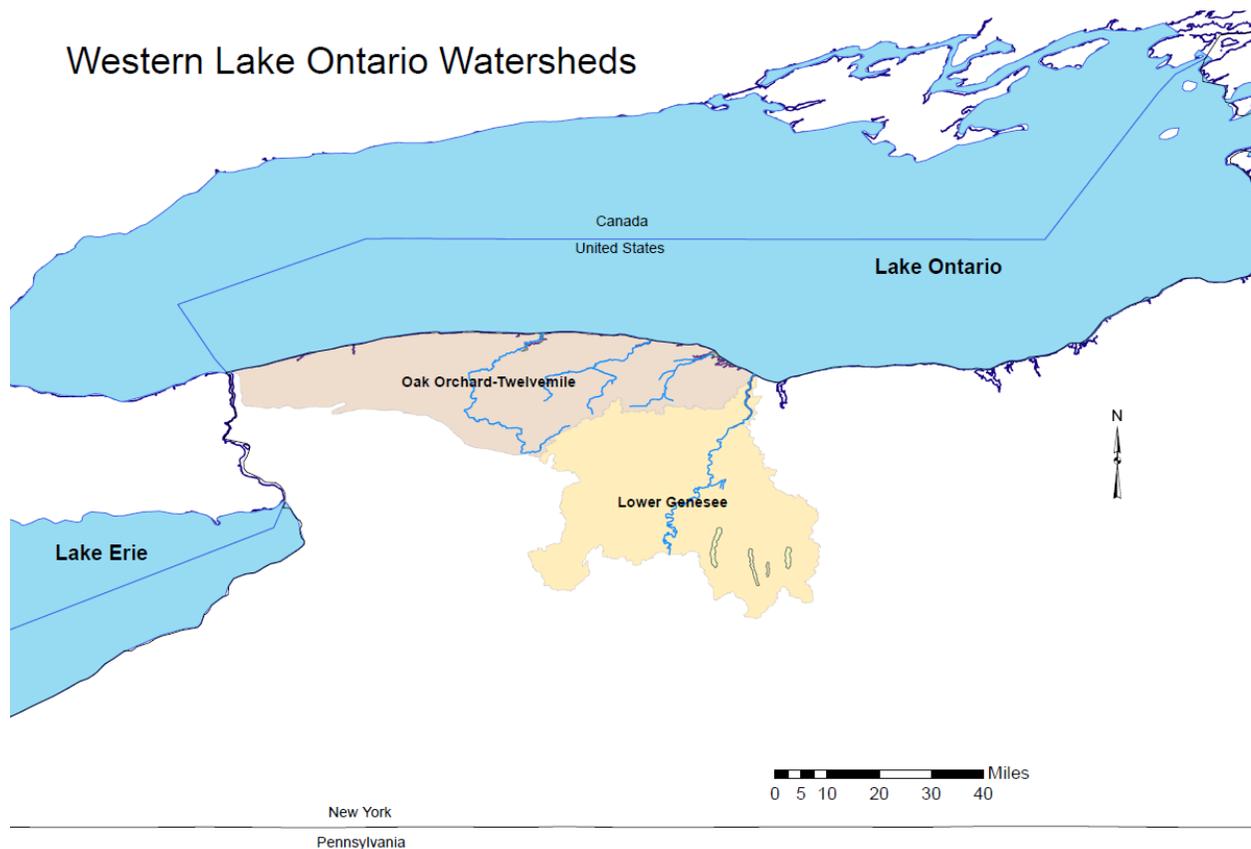


**US Army Corps  
of Engineers®**  
Buffalo District

## ARCHITECT – ENGINEER SCOPE OF WORK

**Great Lakes Restoration Initiative FY10 Projects  
Western Lake Ontario 905(b) Study,  
Eastern Lake Ontario Regional Sediment Management,  
Niagara River AOC Strategic Plan for BUI Delisting, and  
Buffalo River AOC Strategic plan for BUI Delisting**

### Buffalo District



**Delivery Order 0002 of  
Contract No. W912P4-10-D-0002**

U.S. Army Engineer District, Buffalo  
1776 Niagara Street  
Buffalo, NY 14207-3199  
June 25, 2010

**Architect-Engineer Scope of Work  
Lake Erie Sediment Management and  
GLRI Planning  
June 25, 2010**

**Delivery Order 0002 of  
Contract No. W912P4-10-D-0002**

**1.0 General**

The Architect-Engineer Contractor, hereinafter referred to as the A-E, shall provide all labor, material, and equipment necessary to perform the professional services described in detail below. The A-E shall furnish the required personnel, equipment, instruments, and transportation, as necessary to accomplish the required services. The A-E shall furnish to the Government reports and other data together with supporting material developed. During the execution of the work, the A-E shall provide adequate professional supervision and quality control to assure the accuracy, quality, completeness and progress of the work.

**2.0 Introduction**

The Great Lakes Restoration Initiative provides funding to implement a variety of ecosystem restoration projects under existing USACE authorities. The following table provides a list of the various projects and tasks associated with this Delivery Order.

Funding Source	Task Number	Description	Project Name	GLRI ?	Project Manager
1	1	Quality Control Plan	Western Lake Ontario	Yes	Forgette
1	2	905(b) WLO Analysis Report	Western Lake Ontario	Yes	Forgette
1	3	WLO Stakeholder Meetings	Western Lake Ontario	Yes	Forgette
1	4	Ten Factsheets - Significant Projects	Western Lake Ontario	Yes	Forgette
1	5	Eco Benefits of WLO Coastal Sediments	Western Lake Ontario	Yes	Forgette
2	6	Eco Benefits of Eastern Lake Ontario Sed.	Eastern Lake Ontario	No	Forgette
1	7	WLO Sediment Budget	Western Lake Ontario	Yes	Forgette
2	8	Eastern Lake Ontario Sediment Budget	Eastern Lake Ontario	No	Forgette
3	9	Niagara River AOC Strategic Plan for BUI Delisting	Great Lakes Remedial Action Plan	No	Hinterberger
3	10	Buffalo River AOC Strategic plan for BUI Delisting	Great Lakes Remedial Action Plan	No	Hinterberger
1	11	Eighteenmile Creek AOC Strategic Plan for BUI Delisting	Western Lake Ontario	Yes	Forgette
1	12	Rochester Embayment AOC Strategic Plan for BUI Delisting	Western Lake Ontario	Yes	Forgette

**3.0 Location and Description of Study Area**

### 3.1 Western Lake Ontario

The Western Lake Ontario 905(b) study performed under on SEC. 102 WRDA 1966 Public Law 89-789 covers the Western Lake Ontario coastal watersheds from where the Niagara River enters Lake Ontario in New York to the Lower Genesee River, a priority watershed in the EPA Action Plan. The area covers two NY AOCs: Eighteenmile Creek and Rochester Embayment.

#### Location

- The geographic extent of the study includes the coastal portions of the western Lake Ontario watersheds, from the mouth of the Niagara River eastward to the Genesee River basin up to Mount Morris Dam.

#### Project Description

- Comprehensive investigation of measures to improve fish and wildlife habitat, contaminated sediments, navigation, flood damage reduction, recreation, and water quality in the western portion of Lake Ontario and its tributaries.
- Urbanization and lake level regulation have severely impacted critical habitat in the lake and its tributaries. Agricultural activities have also had a negative impact on the ecosystem and maintenance of harbors. Contaminated sediment is also a critical issue impacting navigation and the ecosystem.
- While many of the resources in the basin have been lost or negatively impacted over time significant opportunity remains to restore the ecosystem, reduce sediment loads and remediate contaminated lake sediments.

#### Importance

- The Reconnaissance Study will identify opportunities for sustainable development in the watershed by examining comprehensive ecosystem restoration including habitat and wetland restoration, prevention of future environmental losses, remediation of contaminated sediments, improvements to navigation, and analysis of flood control operations to ensure that they are meeting evolving conditions.

#### Consequences

- This project will be instrumental in convening stakeholders to identify projects that could be implemented under the Great Lakes Restoration Initiative.

#### 3.1.1 Eighteenmile Creek Area of Concern (AOC)

The Eighteenmile Creek Area of Concern (AOC) is located in the Town of Newfane, Niagara County, in western New York State. The creek flows from the south and discharges through Olcott Harbor into Lake Ontario, approximately 18 miles east of the mouth of the Niagara River. The AOC includes Olcott Harbor at the mouth of the creek and extends upstream to the farthest point at which backwater conditions exist during Lake Ontario's highest monthly average lake level. This point is located just downstream of the Burt Dam, approximately 2 miles south of Olcott Harbor. The Eighteenmile Creek watershed downstream of the Burt Dam is primarily composed of cropland, orchards and residential areas. Upstream of the Burt Dam, the watershed

is composed mainly of cropland and orchards, with residential and commercial areas like the historically industrialized City of Lockport.

The New York State Department of Environmental Conservation (DEC) completed the development of a Remedial Action Plan (RAP) for the Eighteenmile Creek AOC in August 1997. The RAP identifies beneficial use impairments (see table below) and pollution sources, and recommends some remedial strategies/actions. Sources of pollution included contaminated sediments, hazardous waste disposal sites, past industrial and municipal discharge practices, combined sewer overflows, and the use of pesticides.

### **3.1.2 Rochester Embayment AOC**

The Rochester Embayment is an area of formed by the indentation of the Monroe County (New York) shoreline between Bogus Point in the town of Parma and Nine Mile Point in the town of Webster, both in Monroe County. The northern boundary of the embayment is delineated by the straight line between these two points. The southern boundary includes approximately 9.6 km (6 miles) of the Genesee River that is influenced by lake levels, from the river's mouth to the Lower Falls. The drainage area of the embayment is more than 3,000 square miles (7,770 km<sup>2</sup>) in area. This area consists of the entire Genesee River Basin and parts of two other drainage basins; the easternmost area of the Lake Ontario West Basin and the westernmost area of the Lake Ontario Central Basin.

### **3.2 Eastern Lake Ontario**

The Eastern Lake Ontario study is being performed as a component of the National Regional Sediment Management Program, part of the USACE Operations and Maintenance Navigation program. The creation of this sediment budget takes advantage of the

### **3.3 Great Lakes Remedial Action Plans (RAP)**

Under the Great Lakes Water Quality Agreement between the U.S. and Canada, geographic areas having serious contamination and degradation problems to a greater degree than in the rest of the Great Lakes have been designated as “Areas of Concern.” The Water Quality Agreement calls for the development and implementation of a Remedial Action Plan for each Area of Concern (AOC).

#### **3.3.1 Niagara River AOC**

The Niagara River Area of Concern encompasses the entire River on both sides of the international border. Ontario and New York independently developed Remedial Action Plans for the Canadian and U.S. portions of the AOC. Along New York’s coast, the AOC extends from Smokes Creek near the southern end of Buffalo Harbor north to the mouth of the Niagara River at Lake Ontario. Past municipal and industrial discharges and waste disposal sites have been a source of contaminants to the Niagara River. A long history of development has also changed the original shoreline along much of the river, affecting fish and wildlife habitat. Habitat degradation and the survival of aquatic life in the AOC have been impaired by toxic chemicals such as PCBs, mirex, chlordane, dioxin, dibenzofuran, hexachlorocyclo-hexane, PAHs, and pesticides. Fish

migration from Lake Ontario has an influence on the Niagara River community as does the related affects of invasive species. Metals and cyanides in the sediment prevent open lake disposal of bottom sediments dredged from the river. Sources and loadings of pollutant causing use impairments in the Niagara River include these sediments as well as inactive hazardous waste sites, combined sewer overflows, and other point and nonpoint sources. Contamination originating from discharges within Lake Erie's watershed contributes to effects in the Niagara River and Lake Ontario. These sources and river shoreline practices both contribute to the identification of use impairments for which remedial action is being taken to restore and protect beneficial uses.

In April 2010, the Buffalo Niagara Riverkeeper organization, as local sponsor, entered into an Agreement for Technical, Planning, and Engineering Assistance with the U.S. Army Corps of Engineers (USACE). The agreement calls for the development of independent strategic planning documents for resolving Beneficial Use Impairments in the Buffalo River Area of Concern and the Niagara River Area of Concern (AOC). This Scope of Work addresses the development of the document for the Niagara River AOC.

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The Niagara River Area of Concern encompasses the entire River on both sides of the international border. Ontario and New York independently developed Remedial Action Plans for the Canadian and U.S. portions of the AOC. Along New York's coast, the AOC extends from Smokes Creek near the southern end of Buffalo Harbor north to the mouth of the Niagara River at Lake Ontario.

The New York State Department of Environmental Conservation (DEC) completed the development of a Remedial Action Plan (RAP) for the Niagara River AOC in September 1994. The RAP identifies beneficial use impairments (see table below) and pollution sources, and recommends remedial strategies. Sources of pollution included contaminated sediments, hazardous waste disposal sites, wastewater discharges, nonpoint sources and combined sewer overflows.

### **3.3.2 Buffalo River Area of Concern (AOC)**

The Buffalo River AOC is located in the City of Buffalo in Western New York State. The river flows from the east and discharges into Lake Erie near the head of the Niagara River. The Buffalo River Area of Concern "impact area" extends from the mouth of the Buffalo River to the farthest point upstream at which the backwater condition exists during Lake Erie's highest monthly average lake level. The impact area is 6.2 miles (10 km) in length. The AOC also includes the entire 1.4-mile (2.3 km) stretch of the City Ship Canal, located adjacent to the river. The AOC impact area is characterized by historically heavy industrial development in the midst of a large municipality. There are three major streams in the watershed that create the AOC "source area": Cayuga Creek, Buffalo Creek and Cazenovia Creek. Land use in the tributary watersheds primarily consists of residential communities, farmland, wooded areas and parks

interspersed with commercial land use. The total drainage area for the Buffalo River watershed is approximately 440 square miles.

In April 2010, Buffalo Niagara Riverkeeper, as local sponsor, entered into an Agreement for Technical, Planning, and Engineering Assistance with the U.S. Army Corps of Engineers (USACE). The agreement calls for the development of independent strategic planning documents for resolving Beneficial Use Impairments in the Buffalo River Area of Concern and the Niagara River Area of Concern (AOC). The following Scope of Work addresses the development of the document for the Buffalo River AOC.

In the mid-1980's, the lower 6.2 miles of the Buffalo River were designated as an Area of Concern by the International Joint Commission. This designation indicated that the area exhibited environmental degradation and that some beneficial uses of the water or biota were impaired. Under the Amendments to the U.S.-Canada Great Lakes Water Quality Agreement remedial action plans (RAPs) were to be developed for each AOC.

The New York State Department of Environmental Conservation (DEC) completed the development of a combined Stage 1 and Stage 2 Remedial Action Plan (RAP) for the Buffalo River AOC in 1989. The RAP identified contaminated bottom sediments and nonpoint source pollution as certain causes for BUI impairments. In 2003, Buffalo Niagara Riverkeeper was selected by USEPA GLNPO to coordinate the Buffalo River RAP. Since that time, significant progress has been made towards delisting the AOC including a full reassessment of BUIs, creation and updates to delisting criteria, and identification of data gaps.

#### **4.0 Delivery Order Tasks**

Section 8.2 provides Submittal Requirements Summary including list of submittals, format and number of copies, and a submittal schedule. Upon receipt of submittal by the A-E, USACE shall have 30 calendar days to provide A-E comments on submittals.

#### **4.1 Task One – Quality Control Plan and Independent Technical Review, and USACE Safety Requirements**

##### **4.1.1 Subtask 1.1 - Quality Control Plan**

4.1.1.1 The A-E shall prepare and execute a single Quality Control Plan (QCP) to cover development of all products described in this Delivery Order for submittal to, and approval by, the USACE. The QCP is the A-E's management plan for execution of all aspects of the contract. It describes the way the A-E shall produce the deliverables and the steps that shall be taken to control product quality and the Independent Technical Review (ITR) required under the contract for this project. The QCP shall be submitted in accordance with Section 8.0 Submittal Requirements and Schedule. The following items are key components of a QCP, but shall not be interpreted as excluding others:

4.1.1.1.1 Management Philosophy. Discuss the organization's technical management philosophy relative to its commitment to quality. If the firm has undergone a peer review of its organization, practices and procedures, a statement shall be made describing it. Give the date, the name of the person(s) who conducted the peer review, and a brief description of resulting changes.

4.1.1.1.2 Management Approach. Define the specific management methodology to be followed during the performance of the work, including such aspects as documentation management and control, communications, design coordination procedures, checking, and managerial continuity and flexibility. References to approved specific company policy and procedures are appropriate.

4.1.1.1.3 Management Structure. Delineate the organizational composition of the A-E firm to clearly show the interrelationship of management and the project delivery team (PDT) components, including all consultants. Include an organization chart to identify by name the key project delivery team, quality control team, and Independent Technical Review (ITR) team members. Show their specific responsibilities related to the project and some indication as to the extent of their knowledge (whether they are senior or junior members, professional standing, etc.). The A-E shall include the qualifications (i.e., resume) and experience of all the team members. Quality Control shall be a continual process during product development with internal quality control meetings occurring on a regular basis.

4.1.1.1.4 Project Risks. List and describe the risks inherent to the project. Risk factors shall determine the appropriate level of effort required for the QCP.

4.1.1.1.5 Design Tools. Describe the design tools that shall be used in execution of the contract, such as CADD, MCACES, SPECSINTACT, MATHCAD, DrChecks, computer application programs, Corps-approved design programs, etc. All calculations shall be generated electronically.

4.1.1.1.6 Schedule. Clearly show review meetings by the quality control team and product delivery team and correction periods scheduled prior to submittals. The schedules shall also include adequate review periods for the USACE quality assurance team as required by the scope of work. The A-E shall provide and maintain/update a critical path schedule showing the sequence of events involved in carrying out specific tasks within the specified period of service. Identify activities/tasks, their expected duration and planned and actual accomplishment, along with any milestones to be met in order to successfully complete the work. Primavera (SURETRACK, Project Manager, 2.0) format is preferred.

4.1.1.1.7 Cost Control. Describe how project costs shall be monitored and controlled.

4.1.1.1.8 Communications. Discuss the methods by which clear and accurate communications are to be achieved within the organization, and outside the organization. For instance, indicate the frequency and type of meetings, both in-house and with USACE. Also describe how conflicts relating to both internal and external comments shall be resolved. Indicate the names of all parties authorized to request modifications to the work, and specifically how these modifications shall be coordinated and documented.

## **4.1.2 Subtask 1.2 - Independent Technical Review**

4.1.2.1 The A-E shall perform an Independent Technical Review (ITR) of all key deliverables (as detailed in Section 8.2, Submittal Requirements Summary) before they are submitted to the USACE for review. The ITR shall focus primarily on conformance to planning policies and procedures related to the completion of ecosystem restoration studies outlined in ER 1105-2-100 and related regulations. Although the ITR is not for value assessment or value engineering, such comments may be a natural outcome of the review. Such comments shall be considered suggestions and shall not require formal response.

4.1.2.2 The A-E's goal shall be to submit complete and technically sound, implementable documents sufficient for acceptance upon initial review by the USACE.

4.1.2.3 Performance of the ITR shall not be accomplished by the same personnel that produced the product. Personnel performing the ITR must have different supervision than those individuals producing the product. This is to ensure that a truly independent technical review is accomplished. The ITR team shall be identified in the QCP. Upon completion of the ITR, the A-E shall submit to USACE a Completion / Certification of Independent Technical Review signed by the reviewer(s), along with responses to comments received. An example of this Completion / Certification of Independent Technical Review is provided as Attachment 1 to this scope of work.

4.1.2.4 It is understood that performance of the ITR on the work products required by this scope of work may result in the generation of comments and/or concerns that would normally be addressed during subsequent finalization of the subject work product. These comments and/or concerns shall nevertheless be noted on the Completion / Certification of Independent Technical Review for the ITR completed on the work products.

4.1.2.5 Costs associated with this effort shall be included with the task order for the item being reviewed.

### **4.1.3 USACE Safety Requirements**

This is an Administrative Support Contract and involves no field work during the required contractor site visits; an Accident Prevention Plan (APP) is not required at this time. If, for any reason there is an alteration in scope that involves field work or sampling, an APP shall be required (contact with the Safety Office is required if there are any changes). Prior to any work associated with this contract, the Contractor is required to develop the deliverables noted below and subsequently submit them as required. Contractor shall comply with the USACE Safety & Health Requirements Manual (EM385-1-1) which is available on-line at:  
<http://www.usace.army.mil/CESO/Pages/EM385-1-1,2008.aspx>

All Contractor accidents involving injuries or property damage >\$2,000.00 during the execution of this contract shall be reported to USACE within 4 hours of the contractor becoming aware of its occurrence. The USACE initial contact must be made personally (telephone or email messages only are not acceptable). to one of the following:

1. Contracting Officer = Jeff Ernest work (716) 879-4173; Blackberry (716) 803-5405  
Email to: Jeffrey.G.Ernest@usace.army.mil
2. Project Manager = Craig Forgette work (716) 879-4187; Blackberry (716) 704-2760  
Email to: Craig.M.Forgette@usace.army.mil

#### **Required Safety Submittals:**

- Contractor Monthly Man-Hour Reports by the 5th day of each month (attached)
- Eng Form 3394 Accident Investigation Report as incidents occur (attached) also available at [www.mvs.usace.army.mil/safety/eng3394.pdf](http://www.mvs.usace.army.mil/safety/eng3394.pdf)

## 4.2 Task Two– Section 905(b) Western Lake Ontario (WLO) Analysis Report

See **Attachment 4** of SOW for report template. The A-E shall complete a reconnaissance study and Section 905(b) Analysis report in accordance with the guidance provided in ER-1105-2-100, Appendix G (pages 10-14) at <http://140.194.76.129/publications/eng-regs/er1105-2-100/toc.htm>.

The A-E shall complete a 905(b) Analysis Reconnaissance Report for review and determination of Federal Interest by USACE. The A-E shall deliver an ITR'd draft of the report within 120 days of the notice to proceed. The USACE shall provide comments on the draft within 30 days. A final ITR'd version of the report is due within 180 days of the notice to proceed. The USACE shall accept the report, or provide additional comments within 30 days. The USACE shall make the determination as to whether or not a project is in the Federal Interest. The A-E shall provide information and analysis in sufficient detail for USACE to make that decision.

The 905(b) Analysis Reconnaissance Report shall address the requirements of Section 905(b) of the WRDA of 1986, as amended. This provision requires that the reconnaissance study shall include an analysis of the Federal interest, costs, benefits, environmental impacts of proposed action(s), and an estimate of the costs of preparing the feasibility report.

Existing, readily available data shall be used during the Expedited Reconnaissance Study. Sponsor, other agency, State, and local government sources of available data must be used to the maximum extent possible.

The accomplishment of the tasks under ER-1105-2-100 Appendix G-7a.(1)(2), shall be based on professional and technical judgment, utilizing an experienced study team. Special attention must be given to identifying the problem, project purposes, types of outputs, and whether the intended project purpose and/or likely outputs are consistent with Army/ Corps implementation and budgetary policies. While sound judgment and limited analytical approaches shall be employed during the Expedited Reconnaissance Study, the detailed procedures for conducting economic and environmental analyses outlined in Principles and Guidelines (P&G), and in Corps regulations based on P&G, shall not be required. However, the principles of P&G justification shall be followed. Economic and environmental investigations shall be limited to qualitative assessments of benefits and costs of a limited number of potential solutions in sufficient detail to indicate that a solution to the water resource problem shall likely warrant Corps participation. The economic assessment shall describe the existing conditions, and potential magnitude and types of benefits from proposed solutions. Likewise, the environmental evaluation shall describe existing conditions, effects of potential measures, and the likely requirement for mitigation. ER 1105-2-100 Appendix G, Amendment #1 30 Jun 2004 G- 13

To keep the Expedited Reconnaissance Study focused, cost low, and duration short, the following items shall not be included for these studies: (1) development and formalized displays of detailed cost estimates (such as MCACES); (2) detailed engineering and design studies and data gathering; (3) detailed environmental resources evaluations; (4) optimization and benefit-cost analyses; (5) detailed real estate information; (6) report preparation; (7) formal coordination with other Federal and state agencies and; (8) other studies not directly needed to support the essential tasks. There is no need to quantify benefits and costs. Meaningful qualitative descriptions of likely benefits and costs are sufficient to support Federal interest in feasibility studies.

As part of the Section 905(b) Analysis Reconnaissance Report, the A-E shall describe the major feasibility phase assumptions that shall provide the basis for the study, discussion of alternatives that shall be considered, and estimate of feasibility study cost and schedule. The **Section 905(b) Analysis Reconnaissance Report format available in ER-1105-2-100 Appendix Exhibit G-2** provides the minimum requirements for USACE review and approval, and a sample set of assumptions.

#### **4.3 Task Three – Western Lake Ontario Stakeholder Meetings**

The A-E shall hold approximately ten meetings to work with local stakeholder groups to include the following: USACE, USGS, NYS DEC, local soil and water conservation districts, Genesee/Finger Lakes Regional Planning Council (G/FLRPC), local municipalities, shoreline residents, recreational boaters, NYS Department of State Coastal Zone Management, NY SeaGrant, The Nature Conservancy, Lake Ontario Coastal Initiative (LOCI), the AOC Remedial Action Plans (RAP) and others. The purpose of the meeting is to identify and develop plans for identification of projects that support delisting of Western Lake Ontario Great Lakes AOC BUIs, and the Great Lakes Restoration Initiative. An agenda item on all meetings shall involve furthering local understanding of Lake Ontario Coastal Processes. A-E shall provide a map (electronic projection of Google Earth is acceptable) of sufficient resolution for local interests to be able to point to specific locations in explaining recommendations for future projects, including

Locations for additional stream gauging to enable measuring of flow and sediment to measure progress in erosion and sediment deposition reductions.

Locations and plans for additional AOC sampling

Potential habitat assessments

Future sediment modeling

Necessary bathymetric surveys

Cultural resource assessments

Phosphorous source/contribution studies

Interests in cost sharing future studies

#### **4.4 Task Four – Western Lake Ontario Fact Sheets for Significant Projects**

Ten fact sheets shall be prepared for projects that support delisting of Western Lake Ontario Great Lakes AOC BUIs, and the Great Lakes Restoration Initiative. Facts Sheets shall include the following information at a minimum:

- a. Conceptual drawings of restored habitat, or other restorations if applicable.
- b. Estimated costs for Feasibility, Design, and Construction phases of project.
- c. Size of habitat area in acres.
- d. Site description including a list of key flora, fauna, and target species.
- e. Current property owners.
  
- f. Relevance to Great Lakes Restoration Initiative Metrics
- g. Any other key information relevant to Great Lakes Restoration Initiative Grant Applications

- h. Evaluation of opportunities for beneficial use of clean dredged material in key habitat areas.

In selecting the ten projects for fact sheet preparation, the A-E shall prepare a prioritization matrix for approval by USACE for potential projects. For each project, the matrix shall be used to evaluate the following parameters: (1) Does the project fall within a Great Lakes AOC, (2) Does the project support GLRI metrics, (3) Can Project be implemented either through GLRI grants or through existing Corps Authorities, (4) Feasibility for project to be constructed in FY12 or FY13, and (5) public support.

#### **4.5 Task Five - Ecosystem Benefits of Western Lake Ontario Coastal Sediments**

The A-E shall prepare analysis of two significant littoral areas based on potential ecosystem gains/losses. Based on the A-E's best professional judgment, the report shall explain the significance of regional sediment management in the littoral cell from a shoreline ecosystem restoration perspective using a GIS based analysis. Potential future changes in habitat shall be correlated to changes in sediment budget in a region. The objective is to develop a platform for comparing changes in environmental outputs with changes in the sediment budget.

#### **4.6 Task Six - Ecosystem Benefits of Eastern Lake Ontario Coastal Sediments**

Currently, there is no established standard for documenting ecosystem benefits as related to sediment budgets. The A-E is uniquely suited to prepare such an analysis, that may become a standard for future studies. The A-E shall prepare analysis of two significant littoral areas based on potential ecosystem gains/losses. Based on the A-E's best professional judgment, the report shall explain the significance of regional sediment management in the littoral cell from a shoreline ecosystem restoration perspective using a GIS based analysis. If there is a correlation, changes in habitat shall be correlated to changes in sediment budget in a region, using analysis techniques similar to those done on the Lake Ontario Regulation Study. The objective is to develop a platform for comparing changes in environmental outputs with changes in the sediment budget.

#### **4.7 Task Seven - Western Lake Ontario Sediment Budget**

Sediment Budget shall be developed to assess

- 1) Pre settlement condition
- 2) Developed shoreline condition
- 3) Future condition sediment budget

Analysis shall include clear description of littoral boundaries, predominant sediment transport mechanisms, and develop quantities for both fine grained and coarse grained sediment. Sediment transport budget shall be a GIS based by-pass analysis of harbors and structures in Lake Ontario that in the best professional judgment of the A-E significantly inhibit littoral flow. Report shall include recommendations and rough cost estimates for areas of further study. A-E shall provide final database of ecosystem benefits and sediment budget data along with relevant graphics to USACE- ERDC-EL-MS care of Steven.L.Ashby@usace.army.mil, in addition to the USACE Contracting Officer ([Jeffrey.G.Ernest@usace.army.mil](mailto:Jeffrey.G.Ernest@usace.army.mil)) and project manager (Craig.M.Forgette@usace.army.mil). ERDC shall prepare visualization of sediment results in a KML file format for review and comment by A-E.

#### **4.8 Task Eight - Eastern Lake Ontario Sediment Budget**

Sediment Budget shall be developed to assess

- 1) Pre settlement condition

- 2) Developed shoreline condition
- 3) Future condition sediment budget

Analysis shall include clear description of littoral boundaries, predominant sediment transport mechanisms, and develop quantities for both fine grained and coarse grained sediment. Sediment transport budget shall be a GIS based by-pass analysis of key harbors and structures in Lake Ontario that in the best professional judgment of the A-E significantly inhibit littoral flow. Report shall include recommendations and rough cost estimates for areas of further study. A-E shall provide final database of ecosystem benefits and sediment budget data along with relevant graphics to USACE-ERDC. ERDC shall prepare visualization of sediment results in a KML file format.

**4.9 Task Nine - Niagara River AOC Strategic Plan for BUI Delisting**

For each of the seven confirmed or possible beneficial use impairments (BUIs), one or more delisting criteria have been adopted by the RAP as measures of the improvement that shall occur in order for the beneficial use to be considered restored and protected. When the criteria are met, a BUI may be delisted. Full restoration of BUIs is the goal; however, for a variety of reasons, full restoration of some BUIs under the AOC Program within a reasonable time may prove to be infeasible. In these cases, development of a strategic approach to identify the best option to address, and re-designate the status of, the BUI is a viable course of action.

A strategic planning effort is needed at this time to determine as clearly as possible for each of the BUIs the actions needed to advance to the point of delisting or re-designation. A strategic plan shall help to ensure efficient collaboration among agencies and organizations working to restore the AOC. It shall also be valuable for predicting costs and documenting progress. Therefore, the strategic plan shall be instrumental in obtaining funding for the necessary work and advancing the AOC to delisting or to re-designation as an Area in Recovery.

In the Great Lakes Water Quality Agreement, the United States and Canada defined 14 potential beneficial use impairments for Areas of Concern that could result from changes in the chemical, physical or biological integrity of the Great Lakes System. The table below shows the status of impairments for the U.S. portion of the Area of Concern.

Beneficial Use Impairment	Status
1. Restrictions on Fish and Wildlife Consumption	Impaired
2. Tainting of Fish and Wildlife Flavor	Not impaired
3. Degradation of Fish and Wildlife Populations	Needs further assessment
4. Fish Tumors or Other Deformities	Impaired
5. Bird or Animal Deformities or Reproductive Problems	Needs further assessment
6. Degradation of Benthos	Impaired
7. Restrictions on Dredging Activities	Impaired

8. Eutrophication or Undesirable Algae	Not impaired
9. Restrictions on Drinking Water Consumption or Taste and Odor Problems	Not impaired
10. Beach Closings	Not impaired
11. Degradation of Aesthetics	Not impaired
12. Added Costs to Agriculture or Industry	Not impaired
13. Degradation of Phytoplankton and Zooplankton Populations	Not impaired
14. Loss of Fish and Wildlife Habitat	Impaired

**Project Results**

The A-E shall produce a “Niagara River AOC Strategic Plan for BUI Delisting” report. Generally, conclusions and recommendations in the report shall be based on the consultant’s evaluation of available data, assessment of data gaps, and consultation with experts.

For each of the seven beneficial uses currently considered impaired or in need of further assessment, the report shall recommend a series of actions to a) improve relevant conditions to the maximum extent practicable, and b) to document restoration and protection of the beneficial use in support of its delisting or re-designation. Recommended actions shall be organized into the following general project categories: inventory and assessment; project design and implementation; and monitoring and re-assessment. For the BUIs that need further assessment, the initial actions shall focus on monitoring efforts to support a final evaluation of the BUIs’ status.

The report shall provide preliminary cost estimates for recommended projects. Where appropriate, it shall suggest measures that shall help to identify a project’s quantitative environmental results.

In the course of evaluating a BUI, the A-E may judge that existing data shows the beneficial use has recovered sufficiently to allow delisting or re-designation. In these cases, the report shall include a recommendation to proceed with delisting or re-designation along with an explanation of the rationale and an assessment of the level to which the delisting criteria are satisfied.

**4.10 Task Ten - Buffalo River AOC Strategic plan for BUI Delisting**

For each of the nine confirmed “impaired” beneficial use impairments (BUIs), one or more delisting criteria have been adopted by the RAP as measures of the improvement that shall occur in order for the beneficial use to be considered restored and protected. When all of the criteria are met, a BUI may be considered restored and delisted. Full restoration of BUIs is the goal; however, for a variety of reasons, full restoration of some BUIs under the AOC Program within a reasonable time may prove to be infeasible. In these cases, development of a strategic approach to identify the best option to address, and re-designate the status of, the BUI is a viable course of action. Potential options shall be identified in the forthcoming New York State Delisting Guidance.

A strategic planning effort is needed at this time to determine as clearly as possible for each of the BUIs the actions needed to advance to the point of delisting or re-designation. A strategic plan shall help to ensure efficient collaboration among agencies and organizations working to restore the AOC. It shall also be valuable for predicting costs and documenting progress. Therefore, the strategic plan shall be instrumental in obtaining funding for the necessary work and advancing the AOC to delisting or to re-designation as an Area in Recovery.

Impaired BUI's in the Buffalo River Area of Concern		
Beneficial Use Impairment Indicator		Known or Likely Cause of Impairment
1.	Restrictions on Fish & Wildlife Consumption	PCB's and Chlordane in sediments.
2.	Tainting of Fish & Wildlife Flavor	PAHs in sediments.
3.	Degradation of Fish & Wildlife Populations	Low dissolved oxygen, river channelization, and contaminated sediments.
4.	Fish Tumors and Other Deformities	Contaminated sediments and navigational dredging.
5.	Bird or Animal Deformities or Reproductive Problems	PCBs, DDT, and metabolites in sediments.
6.	Degradation of Benthos	Contaminated sediments and navigational dredging.
7.	Restrictions on Dredging	Various contaminants in sediments.
11.	Degradation of Aesthetics	Floatables, debris and foul odor from CSOs and upper watershed.
14.	Loss of Fish & Wildlife Habitat	Physical disturbance such as bulk heading, dredging and steep slopes, and lack of suitable substrate.

**Project Results**

The A-E shall produce a “Buffalo River AOC Strategic Plan for BUI Delisting” report. Generally, conclusions and recommendations in the report shall be based on the A-E’s evaluation of available data, assessment of data gaps, and consultation with experts where appropriate and feasible.

For each of the nine beneficial uses currently considered impaired, the report shall recommend a series of actions to a) improve relevant conditions to the maximum extent practicable, and b) to document restoration and protection of the beneficial use in support of its delisting or re-designation. Recommended actions shall be organized into the following (or similar) general project categories: inventory and assessment; project design and implementation; and monitoring and re-assessment.

The report shall provide preliminary cost estimates for recommended projects. Where appropriate, it shall suggest measures that shall help to identify a project’s quantitative environmental results.

In the course of evaluating a BUI, the A-E may judge that existing data shows the beneficial use has recovered sufficiently to allow delisting or re-designation. In these cases, the report shall include a recommendation to proceed with delisting or re-designation along with an explanation of the rationale and an assessment of the level to which the delisting criteria are satisfied.

The scope of this project does NOT include assessment of natural resources damages. The A-E shall share draft results of the report with USACE, the Buffalo Niagara RIVERKEEPER and the Remedial Advisory Committee regarding any potential natural resources damages case concerns prior to the presentation of project information and deliverables.

**4.11 Task Eleven - Eighteenmile Creek AOC Strategic Plan for BUI Delisting**

According to the International Joint Commission review of the Eighteenmile Creek RAP, “A basic remedial strategy rather than specific remedial measures is outlined in Chapter 7 of the RAP document. Because of the limited detail provided, it is difficult to discern what actions are or shall be necessary to restore beneficial uses in the AOC.” In 1997, a number of beneficial uses were considered unknown and/or likely. Since then, the status of all unknown/likely beneficial uses for the creek have been assessed and identified as either impaired or not impaired. No remedial strategy to delist these impaired beneficial uses currently exists.

For each of the five (5) confirmed beneficial use impairments (BUIs), one or more delisting criteria have been adopted as measures of the improvement that shall occur in order for the beneficial use to be considered restored and protected. When the criteria are met, a BUI may be delisted. Full restoration of BUIs is the goal; however, for a variety of reasons, full restoration of some BUIs under the AOC Program within a reasonable time may prove to be infeasible. In these cases, development of a strategic approach to identify the best option to address, and re-designate the status of the BUI is a viable course of action.

A strategic planning effort is needed at this time to determine as clearly as possible for each of the BUIs the actions needed to delist or re-designate. A strategic plan shall help to ensure efficient collaboration among agencies and organizations working to restore the AOC. It shall also be valuable for predicting costs and documenting progress.

**Status of Beneficial Use Impairments in the Eighteenmile Creek AOC**

<b>Beneficial Use Impairment</b>	<b>Status</b>
1. Restrictions on Fish and Wildlife Consumption	Impaired
3. Degradation of Fish and Wildlife Populations	Impaired
5. Bird or Animal Deformities or Reproductive Problems	Impaired
6. Degradation of Benthos	Impaired
7. Restrictions on Dredging Activities	Impaired

## Project Results

The A-E shall produce an “Eighteenmile Creek AOC Strategic Plan for BUI Delisting” report. Generally, conclusions and recommendations in the report shall be based on evaluation of available data, assessment of data gaps, and consultation with experts where appropriate and feasible. For each of the five (5) beneficial uses currently considered impaired, the report shall prioritize and recommend a series of actions to: improve relevant conditions to the maximum extent practicable, and document restoration and protection of the beneficial use in support of its delisting or re-designation. Recommended actions shall be organized into the following (or similar) general project categories: inventory and assessment; project design and implementation; and monitoring and re-assessment. It shall be noted that all categories may not need to be addressed or required to delist a particular BUI.

The report shall also provide preliminary cost estimates and schedules for each of these actions, including the identification of additional funding sources, as needed. The monitoring and re-assessment sections of each BUI addressed in the report shall provide a detailed description and cost estimate of post-remedial monitoring, as necessary, to satisfy identified delisting criteria.

In the course of evaluating a BUI, the A-E may judge that existing data shows the beneficial use has recovered sufficiently to allow delisting or re-designation. In these cases, the report shall include a recommendation to proceed with delisting or re-designation along with an explanation of the rationale and an assessment of the level to which the delisting criteria are satisfied.

In addition to the final document, the following tasks have been identified as deliverables required to be completed as part of this project:

- Project “kick-off” meeting with Eighteenmile Creek AOC Remedial Advisory Committee and cooperating agencies/organizations.
- Assemble all existing data relevant to the impairment (water, sediment, biota) of identified beneficial uses and conduct a literature/data gap review. The review shall help understand to what level the data can support active impairment designation and/or delisting of a BUI.
- Solicitation of input from the public regarding strategy development.
- Solicitation of input from the public regarding the finalization of the strategy.

NOTE: The strategy and recommendations developed through this project are draft in nature and shall not represent the “plan” which is required to delist Eighteenmile Creek as an AOC. It is merely intended as a planning document/tool designed to inform and assist the Remedial Advisory Committee develop its own rationale to delist the AOC.

### **4.12 Task Twelve - Rochester Embayment AOC Strategic Plan for BUI Delisting:**

The Rochester Embayment Remedial Action Plan Committee has completed updates of its Stage II RAP and made significant progress toward delisting BUI's in the AOC. This project shall

examine data supporting these determinations, highlight possible gaps in the data, and suggest strategies for obtaining the remaining data where gaps are identified. The project shall also serve to define areas of impact from out of AOC areas such as the upper Genesee watershed that are out of the direct control of the RAP Oversight committee but that bear on the AOC BUIs, and shall indicate necessary actions, responsible entities and rough order of magnitude cost estimates for mitigating these impacts.

The A-E shall produce a “Rochester Embayment AOC Strategic Plan for BUI Delisting” report. Generally, conclusions and recommendations in the report shall be based on the A-E’s evaluation of available data, assessment of data gaps, and consultation with experts where appropriate and feasible.

In the Great Lakes Water Quality Agreement, the United States and Canada defined 14 potential beneficial use impairments for Areas of Concern that could result from changes in the chemical, physical or biological integrity of the Great Lakes System. The table below shows the status of impairments for the U.S. portion of the Rochester Embayment Area of Concern.

Beneficial Use Impairment	Status
1. Restrictions on Fish and Wildlife Consumption	Impaired
2. Tainting of Fish and Wildlife Flavor	Needs further assessment
3. Degradation of Fish and Wildlife Populations	Impaired
4. Fish Tumors or Other Deformities	Needs further assessment
5. Bird or Animal Deformities or Reproductive Problems	Impaired
6. Degradation of Benthos	Impaired
7. Restrictions on Dredging Activities	Impaired
8. Eutrophication or Undesirable Algae	Impaired
9. Restrictions on Drinking Water Consumption or Taste and Odor Problems	Impaired
10. Beach Closings	Impaired
11. Degradation of Aesthetics	Impaired
12. Added Costs to Agriculture or Industry	Impaired
13. Degradation of Phytoplankton and Zooplankton Populations	Impaired
14. Loss of Fish and Wildlife Habitat	Impaired

For each of the beneficial uses currently considered impaired or in need of further assessment, the report shall recommend a series of actions to a) improve relevant conditions to the maximum extent practicable, and b) to document restoration and protection of the beneficial

use in support of its delisting or re-designation. Recommended actions shall be organized into the following (or similar) general project categories: inventory and assessment; project design and implementation; and monitoring and re-assessment. For the BUIs that need further assessment, the initial actions shall focus on monitoring efforts to support a final evaluation of the BUIs' status.

The report shall provide preliminary cost estimates for recommended projects. Where appropriate, it shall suggest measures that shall help to identify a project's quantitative environmental results.

In the course of evaluating a BUI, the A-E may judge that existing data shows the beneficial use has recovered sufficiently to allow delisting or re-designation. In these cases, the report shall include a recommendation to proceed with delisting or re-designation along with an explanation of the rationale and an assessment of the level to which the delisting criteria are satisfied.

## **5.0 Period of Performance**

The period of performance of this SOW is 180 days from the Notice to Proceed date. All final products of this SOW are required within a 180 day period of performance. Additional requirements for dates of specific submittals are defined in table in section 8.2.

## **6.0 Technical Criteria and Standards**

All documents and other submittals required by this Scope of Work shall comply the following regulations and appropriate guidance publications, as applicable:

- 6.1 EM 385-1-1, *Safety and Health Requirements Manual* (latest revision)
- 6.2 *Great Lakes Dredged Material Testing and Evaluation Manual* <http://www.epa.gov/glnpo/sediment/gltem>.
- 6.3 ER 1150-2-100, *Planning Guidance Notebook*, 22 April 2000 <http://www.usace.army.mil/inet/usace-docs/eng-regs/er1105-2-100/toc.htm>;
- 6.4 *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies*, adopted by the Water Resources Council; <http://www.iwr.usace.army.mil/iwr/pdf/p&g.pdf>
- 6.5 ER 5-1-11, *U. S. Army Corps of Engineers Business Process*, 17 Aug 2001; <http://www.usace.army.mil/inet/usace-docs/eng-regs/er5-1-11/toc.htm>;
- 6.6 ER 200-2-3, *Environmental Compliance Policies*, 30 October 1996; <http://www.usace.army.mil/inet/usace-docs/eng-regs/er200-2-3/toc.htm>;
- 6.7 ER 1165-2-501, *Water Resources Policies and Authorities - Civil Works Ecosystem Restoration Policy*, 30 Sep 1999; <http://www.usace.army.mil/inet/usace-docs/eng-regs/er1165-2-501/toc.htm>;
- 6.8 ER 1110-2-8154, *Water Quality and Environmental Management for Corps Civil Works Projects*
- 6.9 ER 200-2-2, *Procedures for Implementing NEPA*
- 6.10 EP 1165-2-502, *Ecosystem Restoration – Supporting Policy Information*, 30 Sep 1999; <http://www.usace.army.mil/inet/usace-docs/eng-pamphlets/ep1165-2-502/toc.htm>;

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- 6.11 EP 1165-2-1, *Water Resources Policies and Authorities - Digest of Water Resources Policies and Authorities* 30 Jul 1999; <http://www.usace.army.mil/inet/usace-docs/eng-pamphlets/ep1165-2-1/toc.htm>;
- 6.12 EM 1110-2-5025, *Dredging and Dredged Material Disposal*, 25 Mar 1983; <http://www.usace.army.mil/inet/usace-docs/eng-manuals/em1110-2-5025/toc.htm>;
- 6.13 EM 1110-2-5026, *Engineering and Design - Beneficial Uses of Dredged Material*, 30 Jun 1987, <http://www.usace.army.mil/inet/usace-docs/eng-manuals/em1110-2-5026/toc.htm>;
- 6.14 PGL 61 – *Application of a Watershed Perspective to Corps of Engineers Civil Works Programs and Activities*, Jan 1999
- 6.15 PGL 97-8 – *Watershed Management*, July 1997
- 6.16 WRDA 2000 Implementation Memo for Section 202 – *Watershed and River Basin Assessments*
- 6.17 40 CFR 1500 – *Regulations for Implementing NEPA*
- 6.18 42 USC 4321-4347, *National Environmental Policy Act*, 1969, As Amended
- 6.19 *Department of the Army, Corps of Engineers, Civil Works Strategic Plan, Fiscal Year 2004 – Fiscal Year 2009*, March 2004
- 6.20 Other applicable Federal, State and local safety and health requirements:  
General hyperlink for Corps of Engineers publications: <http://www.usace.army.mil/inet/usace-docs>;  
General hyperlink for Corps of Engineers Policy Guidance Letters: [http://www.usace.army.mil/inet/functions/cw/cecwp/branches/guidance\\_dev/pgls/pglindex.htm](http://www.usace.army.mil/inet/functions/cw/cecwp/branches/guidance_dev/pgls/pglindex.htm), and  
General hyperlink for Corps of Engineers Hydraulics and Hydrology guidance documents: <https://lrbintra/OrgSvc/H%26H.html>

## **7.0 Government Furnished Items**

All government furnished materials, related to a specific task/activity and of a unique nature, shall be returned to the government by the A-E when the task/activity has been completed.

## **8.0 Submittal Requirements and Schedule**

**8.1 Submittal Requirements.** The A-E shall submit design documentation and calculations/analyses on standard 8-1/2" x 11" paper/report size and drawings shall be submitted in half-size (for inclusion into/attached to the design report) and full size. As part of the final product, A-E shall furnish one set of reproducible design drawings in a set of sheets each 24x36 inches. Each sheet shall contain a simple legend indicating placement of each sheet within the set. The A-E shall provide all drawings in the standard USACE Buffalo District outline/title block. Drawing submissions for the draft report shall not require reproducibles. The number of copies required is shown in the table with paragraph 8.2.

8.1.1 The A-E submittals are required to be compatible with Windows XP Professional. Drawing files are required to be compatible with Bentley Corporation, Microstation V8 XM, without any translation by the Government. The file format (file name) is required to be “.DGN”. Use feet with subunits as inches as master units and subunits in the Microstation files unless specified otherwise. Drawing files are required to be 100%

compliant with the latest release of the U.S. National CAD Standard unless specified otherwise.

8.1.2 The A-E shall submit all documents (i.e., workplans, reports, etc.) in both hard copy and electronic formats acceptable to the USACE Buffalo District (e.g., Microsoft Office, Adobe Acrobat PDF, etc.). Materials prepared for presentation at meetings required by this SOW shall be in MS Word and PowerPoint format. All environmental data generated under this A-E SOW shall be submitted to the USACE Buffalo District in Microsoft Access format. Computer files (if practical, one file for the entire project) shall be on CD-ROM or DVDs (or other format acceptable to the Contracting Officer) for use on an Intel Windows NT 4.0 operating system. A-E shall include all cells used for this contract. All electronic submittals must comply with Section 508 of the Rehabilitation Act of 1973.

8.1.3 Levels and Government Standards shall be found in the A/E/C CADD Standard Release 2.0 available from the U. S. Army Corps of Engineers CADD/GIS Technology Center located at website: <http://tsc.wes.army.mil/Products/standards/aec/aecstdweb.asp>.

8.1.4 Packaging and Marking. Packaging of completed work shall be accomplished such that the materials shall be protected from handling damage. Each package shall contain a transmittal letter or shipping form, in duplicate, listing the materials being transmitted, being properly numbered, dated and signed. Shipping labels shall be marked as follows:

Submittals 1-10, and 15 sent to:

US Army Engineer District, Buffalo  
Attn: CELRB-PM-PM (Mr. Craig Forgette, Western Lake Ontario Project Manager)  
Contract No. W912P4-10-D-0002  
Delivery Order No. **DNXX**  
1776 Niagara Street  
Buffalo, NY 14207-3199

Submittals 11-14 sent to:

US Army Engineer District, Buffalo  
Attn: CELRB-PM-PM (Mr. Bryan Hinterberger, Remedial Action Program Manager)  
Contract No. W912P4-10-D-0002  
Delivery Order No. **DNXX**  
1776 Niagara Street  
Buffalo, NY 14207-3199

Hand carried submissions shall be packaged and marked as above, and delivered to the same address.

## **8.2 Submittal Requirements Summary**

<b>Submittal Schedule</b>	<b>Submittal Type Required</b>	<b>Classification</b>
S Prior to Shipment	O Original	FIO For Information Only
B Prior to Balance of Payment	P Print / Photocopy	GR Government Review

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- |   |                     |
|---|---------------------|
| A Per S/C Schedule                                    | T Transparency      |
| M Prior to Mobilization                               | M Microfilm         |
| W Prior to Commencing Work                            | PH Photograph       |
| Y Prior to Progress Payment<br>For Each Specific Task | E Electronic Format |
| Z As Required   | S Sample            |

**Upon receipt of submittal by the A-E, USACE shall have 30 calendar days to provide A-E comments on submittals.**

SUBMITTAL REQUIREMENTS SUMMARY						
<u>NOTICES</u>						
1. To each item submitted, attach a copy of this form and circle the title of the item being submitted.						
2. Failure to submit required submittals as delineated on this form may result in withholding of payment in accordance with provisions of the contract.						
3. The Contract Administrator is responsible for distributing submittals to the requesting Department (e.g., Construction). The Department is responsible for further distributions (e.g., Site Superintendent).						
#	Submittal	Scope of Work (SOW) Paragraph	Classification	ITR Required	Submittal Schedule (Calendar Days after NTP)	Submittal (No.) and Type
1	QCP	4.1.1	GR	No	15	(1) O (1) E
2	Eng Form 3394 Accident Investigation Report	4.1.3	GR	No	As Necessary	(1) O (1) E
3	Contractor Monthly Man-Hour Reports	4.1.3	GR	No	5 <sup>th</sup> day of each month	(1) O (1) E
4	Monthly Progress Report, Accruals Report	9.2 – 9.3	GR	No	Monthly, NLT 5 <sup>th</sup> of following month	(1) O (1) E
5	905(b) WLO Analysis Report - Draft	4.2	GR	Yes	120	(1) O (1) E
6	905(b) WLO Analysis Report – Final	4.2	GR	Yes	180	(1) O (1) E
7	WLO Stakeholder Meeting Minutes, Sign in Sheets	4.3	Z	No	100	(1) E
8	WLO Fact Sheet Matrix	4.4	GR	Yes	90	(1) O (1) E
9	WLO Fact Sheets	4.4	GR	Yes	150	(1) O (1) E
10	GIS Sediment Budget and Ecosystem Benefits Database	4.5-4.8	GR	Yes	75	(1) O (1) E
11	Sediment budget/ecosystem benefits Report	4.5-4.8	GR	Yes	75	(1) O (1) E
12	Niagara River AOC Strategic Plan for BUI Delisting – presentation to USACE, RAP, and BNRKPR	4.9	GR	Yes	120	(1) O (1) E
13	Niagara River AOC Strategic Plan for BUI Delisting	4.9	GR	Yes	165	(1) O (1) E
14	Buffalo River AOC Strategic Plan for BUI Delisting – presentation to USACE, RAP, and BNRKPR	4.10	GR	Yes	120	(1) O (1) E

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15	Buffalo River AOC Strategic Plan for BUI Delisting	4.10	GR	Yes	165	(1) O (1) E
16	Eighteenmile Creek AOC Strategic Plan for BUI Delisting	4.11	GR	Yes	180	(1) O (1) E
17	Rochester Embayment AOC Strategic Plan for BUI Delisting	4.12	GR	Yes	180	(1) O (1) E
18	Monthly Teleconference Notes	10.0	GR	No	5 days After Each Meeting	(1) E

## **9.0 Payment Requests and Accruals**

**9.1 Payment Requests:** Payment requests or invoices shall be submitted using an ENG Form 93 (refer to Attachment 3) and shall contain the following information as a minimum: Project Title, Contract Number, Delivery Order Number, Contractor's Title (name) and address as it appears in the contract award document, Invoice Number (or indicate FINAL PAYMENT), date of invoice, dates covered for each invoice, total contract amount with all modifications and amounts listed individually, amounts retained, amount remaining in the contract to be completed, certification of the invoice by a responsible individual of the firm, and any other pertinent information that shall assist in review and processing. The invoice must be accompanied by supporting documentation for each task worked on during the billing period. The USACE Contracting Officer cannot sign off on any invoice for which supporting documentation is not provided. Mail payments requests promptly to:

U.S. Army Engineer District, Buffalo  
ATTN: CELRB-PM-PA (Mr. Craig Forgette, Western Lake Ontario Project Manager)  
Contract No. W912P4-10-D-0002  
Delivery Order No. **DNXX**  
1776 Niagara Street  
Buffalo, NY 14207-3199

**9.2.1 Monthly Progress Reports:** On the second to last Wednesday of each month, the CONTRACTOR shall submit a roll-up report of all major work accomplishments and outstanding issues for each the reports included in this Task Order. The report shall include a list of remaining milestones to be accomplished as a reminder of requirements forthcoming for the proposed station. Completion of work prescribed by this Task Order shall be documented in these progress reports. The first monthly progress report shall be due one month after the Notice to Proceed on this Task Order.

The monthly progress report shall show various items included in the work as a percentage of the total fee, the order in which the work shall be carried out, and the dates on which the items of work shall be started and completed. Significant milestones such as review submittals shall be shown. The schedule shall provide for completion of all work within the time specified in this SOW (See Section 5.0). The CONTRACTOR shall assign sufficient personnel to insure the execution of the work in accordance with the approved progress schedule. An updated progress chart shall be submitted with each payment estimate (ENG Form 93).

### **9.2.1 Final Payment:**

When submitting for final payment, the A-E shall include a Release of Claims Statement on the ENG 93. The following statement is acceptable:

“The work under the above numbered task order having been completed and finally accepted, I hereby release the United States of America, it's officers and agents from all claims whatsoever arising under or by virtue of this contract upon payment of a balance due of \$\_\_\_\_\_.”

**9.3 Accruals.** Each month, accrual information shall be presented according to the following sample format:

Current Earnings & Cost Projections Project Name Project Phase (i.e., SI, RI, FS, PP/ROD, etc.) For Month Ending <b>May 2008</b>				Last Month's Earnings & Cost Projections Project Name Project Phase (i.e., SI, RI, FS, PP/ROD, etc.) For Month Ending <b>April 2008</b>			
Month	Actual Billings	Projections	Cumulative = Actuals + Projections	Month	Actual Billings	Projections	Cumulative = Actuals + Projections
Oct-07	\$0		\$0	Oct-07	\$0		\$0
Nov-07	\$0		\$0	Nov-07	\$0		\$0
Dec-07	\$0		\$0	Dec-07	\$0		\$0
Jan-08	\$0		\$0	Jan-08	\$0		\$0
Feb-08	\$53,222		\$53,222	Feb-08	\$53,222		\$53,222
Mar-08	\$120,031		\$173,253	Mar-08	\$120,031		\$173,253
Apr-08	\$80,349		\$253,602	Apr-08	\$60,349	\$20,000	\$253,602
May-08	\$95,000	\$35,000	\$383,602	May-08		\$130,000	\$383,602
Jun-08		\$200,000	\$583,602	Jun-08		\$200,000	\$583,602
Jul-08		\$50,000	\$633,602	Jul-08		\$50,000	\$633,602
Aug-08			\$633,602	Aug-08			\$633,602
Sep-08			\$633,602	Sep-08			\$633,602
<b>Total:</b>	\$348,602	\$285,000	\$633,602	<b>Total:</b>	\$233,602	\$400,000	\$633,602

The table shall include actual billings, accruals, and projections of costs for each month remaining in the fiscal year (i.e., 01 October 2007 - 30 September 2008). Updated earnings and cost projections for the current month shall be presented along side accrual information from the previous month.

Actual payments made may not include all of the earned value of work performed in a given month. Accruals are used to provide projections of the incremental costs not yet paid for, but earned. Consequently, there may be instances where both actual payments and an accrual must be entered for the current month. Accruals may also be entered for previous months where no billings/payments have been made but work has been accomplished.

**10.0 Progress Reporting / Meetings**

The A-E shall initiate and conduct a minimum of monthly telephone conference calls with the Buffalo District WLO Project Manager or his/her designee, to discuss Delivery Order work status and progress. A summary of these conversations shall be distributed to all involved parties not more than five days later.

**11.0 Public Affairs**

The A-E shall not make available to news media or publicly disclose any data generated or reviewed under this SOW. When approached by the news media, public officials, etc., the A-E shall refer them to:  
 U.S. Army Engineer District, Buffalo  
 ATTN: Bruce Sanders, Buffalo District Public Affairs Officer  
 1776 Niagara Street

**CELRB-PM-PM**

Buffalo, NY 14207-3199  
Phone: (716) 879-4260  
Email: Bruce.I.Sanders@usace.army.mil

Reports and data generated under this SOW shall become the property of the Government and distribution to any other entity by the A-E is prohibited, unless authorized by the USACE Contracting Officer. The USACE, Buffalo District shall prepare and publish all required legal notices.

**ATTACHMENT 1**

**Completion/Certification of  
Independent Technical Review**

**COMPLETION OF INDEPENDENT TECHNICAL REVIEW**

The (A-E) has completed the (report title) of (project name and location). Notice is hereby given that an Independent Technical Review has been conducted that is appropriate considering the level of risk and complexity inherent in the project, as defined in the Engineering & Design Quality Control Plan. During the Independent Technical Review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of assumptions; methods, procedures, and material used in analysis; alternatives evaluated, the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing USACE policy.

\_\_\_\_/Signature/\_\_\_\_\_ Date:\_\_\_\_\_

Design Team Leader

\_\_\_\_/Signature/\_\_\_\_\_ Date:\_\_\_\_\_

Design Team Members

\_\_\_\_/Signature/\_\_\_\_\_ Date:\_\_\_\_\_

Independent Technical Review Team Leader

\_\_\_\_/Signature/\_\_\_\_\_ Date:\_\_\_\_\_

Independent Technical Review Team Members

**CERTIFICATION OF INDEPENDENT TECHNICAL REVIEW**

Significant concerns and the explanation of the resolution are as follows:

<i>Item</i>	<i>Technical Concerns</i>	<i>Possible Impact</i>	<i>Resolutions</i>

As noted above, all concerns resulting from independent technical review of the project have been considered.

\_\_\_\_/Signature/\_\_\_\_\_ Date:\_\_\_\_\_

**ATTACHMENT 2**

**Contractor Monthly Man-Hour Reports  
and  
Eng Form 3394 Accident Investigation Report**



AccidentReport LRB-Contractor  
EngForm-3394.pdf MonthlyManhourE:

**USACE Buffalo, NY. District**  
**Contractor Monthly Man-Hour Report**  
 (Ref. EM 385-1-1, page-17, para. 01.D.05c)

MONTH: \_\_\_\_\_ YEAR: \_\_\_\_\_

PROJECT NAME	CONTRACTOR NAME	MANHOURS WORKED this Month	Civil or Military Funded	LOCATION (City & State)	# of Illness/Injury Cases	# of Days Away from Work Cases
			Civ / Mil			
			Civ / Mil			
			Civ / Mil			
			Civ / Mil			
			Civ / Mil			
			Civ / Mil			
			Civ / Mil			
			Civ / Mil			
			Civ / Mil			
			Civ / Mil			
			Civ / Mil			
			Civ / Mil			
			Civ / Mil			

<i>(For Safety Staff only)</i>	REPORT NO.	EROC CODE	UNITED STATES ARMY CORPS OF ENGINEERS ACCIDENT INVESTIGATION REPORT <i>(For Use of this Form See Help Menu and USACE Suppl to AR 385-40)</i>		REQUIREMENT CONTROL SYMBOL: CEEC-S-8(R2)	
<b>1. ACCIDENT CLASSIFICATION</b>						
PERSONNEL CLASSIFICATION		INJURY/ILLNESS/FATAL	PROPERTY DAMAGE		MOTOR VEHICLE INVOLVED	DIVING
GOVERNMENT <input type="checkbox"/> CIVILIAN <input type="checkbox"/> MILITARY		<input type="checkbox"/>	<input type="checkbox"/> FIRE INVOLVED <input type="checkbox"/> OTHER		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> CONTRACTOR		<input type="checkbox"/>	<input type="checkbox"/> FIRE INVOLVED <input type="checkbox"/> OTHER		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> PUBLIC		<input type="checkbox"/> FATAL <input type="checkbox"/> OTHER			<input type="checkbox"/>	
<b>2. PERSONAL DATA</b>						
a. Name <i>(Last, First, MI)</i>		b. AGE	c. SEX <input type="checkbox"/> MALE <input type="checkbox"/> FEMALE	d. SOCIAL SECURITY NUMBER		e. GRADE
f. JOB SERIES/TITLE		g. DUTY STATUS AT TIME OF ACCIDENT <input type="checkbox"/> ON DUTY <input type="checkbox"/> TDY <input type="checkbox"/> OFF DUTY		h. EMPLOYMENT STATUS AT TIME OF ACCIDENT <input type="checkbox"/> ARMY ACTIVE <input type="checkbox"/> ARMY RESERVE <input type="checkbox"/> VOLUNTEER <input type="checkbox"/> PERMANENT <input type="checkbox"/> FOREIGN NATIONAL <input type="checkbox"/> SEASONAL <input type="checkbox"/> TEMPORARY <input type="checkbox"/> STUDENT <input type="checkbox"/> OTHER <i>(Specify)</i>		
<b>3. GENERAL INFORMATION</b>						
a. DATE OF ACCIDENT <i>(month/day/year)</i>	b. TIME OF ACCIDENT <i>(Military time)</i> hrs	c. EXACT LOCATION OF ACCIDENT			d. CONTRACTOR'S NAME	
e. CONTRACT NUMBER	f. TYPE OF CONTRACT <input type="checkbox"/> CONSTRUCTION <input type="checkbox"/> SERVICE <input type="checkbox"/> A/E <input type="checkbox"/> DREDGE <input type="checkbox"/> OTHER <i>(Specify)</i>	g. HAZARDOUS/TOXIC WASTE ACTIVITY <input type="checkbox"/> SUPERFUND <input type="checkbox"/> DERP <input type="checkbox"/> IRP <input type="checkbox"/> OTHER <i>(Specify)</i>		(1) PRIME:		
<input type="checkbox"/> CIVIL WORKS <input type="checkbox"/> MILITARY <input type="checkbox"/> OTHER <i>(Specify)</i>					(2) SUBCONTRACTOR:	
<b>4. CONSTRUCTION ACTIVITIES ONLY <i>(Fill in line and corresponding code number in box from list - see help menu)</i></b>						
a. CONSTRUCTION ACTIVITY (CODE)			b. TYPE OF CONSTRUCTION EQUIPMENT (CODE)			
#			#			
<b>5. INJURY/ILLNESS INFORMATION <i>(Include name on line and corresponding code number in box for items e, f &amp; g - see help menu)</i></b>						
a. SEVERITY OF ILLNESS/INJURY (CODE)		b. ESTIMATED DAYS LOST	c. ESTIMATED DAYS HOSPITALIZED	d. ESTIMATED DAYS RESTRICTED DUTY		
#		#	#	#		
e. BODY PART AFFECTED (CODE)		g. TYPE AND SOURCE OF INJURY/ILLNESS				
PRIMARY #		TYPE #				
SECONDARY #		SOURCE #				
f. NATURE OF ILLNESS / INJURY (CODE)						
#						
<b>6. PUBLIC FATALITY <i>(Fill in line and correspondence code number in box - see help menu)</i></b>						
a. ACTIVITY AT TIME OF ACCIDENT (CODE)			b. PERSONAL FLOATATION DEVICE USED?			
#			<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A			
<b>7. MOTOR VEHICLE ACCIDENT</b>						
a. TYPE OF VEHICLE		b. TYPE OF COLLISION		c. SEAT BELTS		
<input type="checkbox"/> PICKUP/VAN <input type="checkbox"/> AUTOMOBILE <input type="checkbox"/> TRUCK <input type="checkbox"/> OTHER <i>(Specify)</i>		<input type="checkbox"/> SIDE SWIPE <input type="checkbox"/> HEAD ON <input type="checkbox"/> REAR END <input type="checkbox"/> BROADSIDE <input type="checkbox"/> ROLL OVER <input type="checkbox"/> BACKING <input type="checkbox"/> OTHER <i>(Specify)</i>		USED    NOT USED    NOT AVAILABLE		
				(1) FRONT SEAT		
				(2) REAR SEAT		
<b>8. PROPERTY/MATERIAL INVOLVED</b>						
a. NAME OF ITEM		b. OWNERSHIP		c. \$ AMOUNT OF DAMAGE		
(1)						
(2)						
(3)						
<b>9. VESSEL/FLOATING PLANT ACCIDENT <i>(Fill in line and correspondence code number in box from list - see help menu)</i></b>						
a. TYPE OF VESSEL/FLOATING PLANT (CODE)			b. TYPE OF COLLISION/MISHAP (CODE)			
#			#			
<b>10. ACCIDENT DESCRIPTION <i>(Use additional paper, if necessary)</i></b>						
See attached page.						

<b>11. CAUSAL FACTOR(S) (Read Instruction Before Completing)</b>					
a. (Explain YES answers in item 13)	YES	NO	a. (CONTINUED)	YES	NO
DESIGN: Was design of facility, workplace or equipment a factor?	<input type="checkbox"/>	<input type="checkbox"/>	CHEMICAL AND PHYSICAL AGENT FACTORS: Did exposure to chemical agents, such as dust, fumes, mists, vapors or physical agents, such as, noise, radiation, etc., contribute to accident?	<input type="checkbox"/>	<input type="checkbox"/>
INSPECTION/MAINTENANCE: Were inspection & maintenance procedures a factor?	<input type="checkbox"/>	<input type="checkbox"/>	OFFICE FACTORS: Did office setting such as, lifting office furniture, carrying, stooping, etc., contribute to the accident?	<input type="checkbox"/>	<input type="checkbox"/>
PERSON'S PHYSICAL CONDITION: In your opinion, was the physical condition of the person a factor?	<input type="checkbox"/>	<input type="checkbox"/>	SUPPORT FACTORS: Were inappropriate tools/resources provided to properly perform the activity/task?	<input type="checkbox"/>	<input type="checkbox"/>
OPERATING PROCEDURES: Were operating procedures a factor?	<input type="checkbox"/>	<input type="checkbox"/>	PERSONAL PROTECTIVE EQUIPMENT: Did the improper selection, use or maintenance of personal protective equipment contribute to the accident?	<input type="checkbox"/>	<input type="checkbox"/>
JOB PRACTICES: Were any job safety/health practices not followed when the accident occurred?	<input type="checkbox"/>	<input type="checkbox"/>	DRUGS/ALCOHOL: In your opinion, was drugs or alcohol a factor to the accident?	<input type="checkbox"/>	<input type="checkbox"/>
HUMAN FACTORS: Did any human factors such as, size or strength of person, etc., contribute to accident?	<input type="checkbox"/>	<input type="checkbox"/>	b. WAS A WRITTEN JOB/ACTIVITY HAZARD ANALYSIS COMPLETED FOR TASK BEING PERFORMED AT TIME OF ACCIDENT? <input type="checkbox"/> YES (If yes, attach a copy.) <input type="checkbox"/> NO		
ENVIRONMENTAL FACTORS: Did heat, cold, dust, sun, glare, etc., contribute to the accident?	<input type="checkbox"/>	<input type="checkbox"/>			
<b>12. TRAINING</b>					
a. WAS PERSON TRAINED TO PERFORM ACTIVITY/TASK?		b. TYPE OF TRAINING.		c. DATE OF MOST RECENT FORMAL TRAINING.	
<input type="checkbox"/> YES <input type="checkbox"/> NO		<input type="checkbox"/> CLASSROOM <input type="checkbox"/> ON JOB		(Month) (Day) (Year)	
<b>13. FULLY EXPLAIN WHAT ALLOWED OR CAUSED THE ACCIDENT; INCLUDE DIRECT AND INDIRECT CAUSES (See instruction for definition of direct and indirect causes.) (Use additional paper, if necessary)</b>					
a. DIRECT CAUSE					
See attached page.					
b. INDIRECT CAUSE(S)					
See attached page.					
<b>14. ACTION(S) TAKEN, ANTICIPATED OR RECOMMENDED TO ELIMINATE CAUSE(S).</b>					
DESCRIBE FULLY:					
See attached page.					
<b>15. DATES FOR ACTIONS IDENTIFIED IN BLOCK 14.</b>					
a. BEGINNING (Month/Day/Year)			b. ANTICIPATED COMPLETION (Month/Day/Year)		
c. SIGNATURE AND TITLE OF SUPERVISOR COMPLETING REPORT		d. DATE (Mo/Da/Yr)	e. ORGANIZATION IDENTIFIER (Div, Br, Sect)	f. OFFICE SYMBOL	
CORPS _____					
CONTRACTOR _____					
<b>16. MANAGEMENT REVIEW (1st)</b>					
a. <input type="checkbox"/> CONCUR    b. <input type="checkbox"/> NON CONCUR    c. COMMENTS					
SIGNATURE		TITLE		DATE	
<b>17. MANAGEMENT REVIEW (2nd - Chief Operations, Construction, Engineering, etc.)</b>					
a. <input type="checkbox"/> CONCUR    b. <input type="checkbox"/> NON CONCUR    c. COMMENTS					
SIGNATURE		TITLE		DATE	
<b>18. SAFETY AND OCCUPATIONAL HEALTH OFFICE REVIEW</b>					
a. <input type="checkbox"/> CONCUR    b. <input type="checkbox"/> NON CONCUR    c. ADDITIONAL ACTIONS/COMMENTS					
SIGNATURE		TITLE		DATE	
<b>19. COMMAND APPROVAL</b>					
COMMENTS					
COMMANDER SIGNATURE				DATE	

<b>10.</b>	<b>ACCIDENT DESCRIPTION</b> <i>(Continuation)</i>

<b>13a.</b>	<b>DIRECT CAUSE</b> <i>(Continuation)</i>

<b>13b.</b>	<b>INDIRECT CAUSES</b> <i>(Continuation)</i>

<b>14.</b>	<b>ACTION(S) TAKEN, ANTICIPATED, OR RECOMMENDED TO ELIMINATE CAUSE(S)</b> <i>(Continuation)</i>

**ATTACHMENT 3**

**ENG Form 93 – Payment Estimate – Contract Performance**



**ENG Form  
93.pdf**



ATTACHMENT 4

***905(b) Analysis Report Template***

[Prepare an analysis report using the template below. The fourteen subject headings are to be completed; note that the data entry for a heading may only be "Not Applicable", but must still be included in the analysis report. No other subject headings are to be included in the analysis report.]

NAME OF STUDY  
SECTION 905(b) (WRDA 86) ANALYSIS

1. STUDY AUTHORITY

a. This Section 905(b) (WRDA) Analysis was prepared as an initial response to the (authority/authorities), which reads as follows:

“Provide the full text of the principle resolution(s) or other study authority.”

b. Funds in the amount of \$100,000 or other amount were appropriated in Fiscal Year 1999 to conduct the reconnaissance phase of the study.

2. STUDY PURPOSE

The purpose of the reconnaissance phase study is to determine if there is a Federal (Corps) interest in participating in a cost shared feasibility phase study to determine if there is a Federal interest in providing purposes improvements to indicate where. In response to the study authority, the reconnaissance study was initiated on indicate date. The reconnaissance study has resulted in the finding that there is a Federal interest in continuing the study into the feasibility phase. The purpose of this Section 905(b) Analysis is to document the basis for this finding and establish the scope of the feasibility phase. As the document that establishes the scope of the feasibility study, the Section 905(b) Analysis is used as the chapter of the Project management plan that presents the reconnaissance overview and formulation rationale.

3. LOCATION OF STUDY, NON-FEDERAL SPONSOR AND CONGRESSIONAL DISTRICTS

a. The study area is located short paragraph description.

b. The non-Federal sponsor for the feasibility phase of the study is name of proposed sponsor.

c. The study area lies within the jurisdiction of the following Congressional Districts:

1)

2)

4. PRIOR REPORTS AND EXISTING PROJECTS

a. The following reports were being reviewed as a part of this study:

1) Short paragraph discussion of each report.

2)

b. This study is investigating potential modifications of the following project(s):

1) Short paragraph discussion

2)

## 5. PLAN FORMULATION

During a study, six planning steps that are set forth in the Water Resource Council's Principles and Guidelines are repeated to focus the planning effort and eventually to select and recommend a plan for authorization. The six planning steps are: 1) specify problems and opportunities, 2) inventory and forecast conditions, 3) formulate alternative plans, 4) evaluate effects of alternative plans, 5) compare alternative plans, and 6) select recommended plan. The iterations of the planning steps typically differ in the emphasis that is placed on each of the steps. In the early iterations, those conducted during the reconnaissance phase, the step of specifying problems and opportunities is emphasized. That is not to say, however, that the other steps are ignored since the initial screening of preliminary plans that results from the other steps is very important to the scoping of the follow-on feasibility phase studies. The sub-paragraphs that follow present the results of the initial iterations of the planning steps that were conducted during the reconnaissance phase. This information will be refined in future iterations of the planning steps that will be accomplished during the feasibility phase.

### a. National Objectives

1) **The** national or Federal objective of water and related land resources planning is to contribute to national economic development consistent with protecting the nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements. Contributions to National Economic Development (NED) are increases in the net value of the national output of goods and services, expressed in monetary units. Contributions to NED are the direct net benefits that accrue in the planning area and the rest of the nation.

2) The Corps has added a second national objective for Ecosystem Restoration in response to legislation and administration policy. This objective is to contribute to the nation's ecosystems through ecosystem restoration, with contributions measured by changes in the amounts and values of habitat.

b. Public Concerns: A number of public concerns have been identified during the course of the reconnaissance study. Initial concerns were expressed in the study authorization. Additional input was received through coordination with the (*potential*) sponsor(s), and some initial coordination with other agencies. The public concerns that are related to the establishment of planning objectives and planning constraints are:

1)

2)

3)

c. Problems and Opportunities: The evaluation of public concerns often reflects a range of needs, which are perceived by the public. This section describes these needs in the context of problems and opportunities that can be addressed through water and related land resource management. For each problem and opportunity, the existing conditions and the expected future conditions are described, as follows:

1) Provide a discussion of each problem and opportunity, including a description of existing and expected future conditions. Include any critical findings and assumptions regarding the without project conditions.

2)

3)

d. Planning Objectives: The national objectives of National Economic Development and National Ecosystem Restoration are general statements and not specific enough for direct use in plan formulation. The water and related land resource problems and opportunities identified in this study are stated as specific planning objectives to provide

focus for the formulation of alternatives. These planning objectives reflect the problems and opportunities and represent desired positive changes in the without project conditions. The planning objectives are specified as follows:

1) *To reduce ... objectives should be achievable and specific in time and location, but should not be stated in terms of specific measures or level of output – “ to reduce flood damages in the xxx portion of the study area over a xx-year period of analysis” – not “to improve channel/build levees/remove structures for the floodplain, etc”.*

2) *To increase .....*

e. Planning Constraints: Unlike planning objectives that represent desired positive changes, planning constraints represent restrictions that should not be violated. The planning constraints identified in this study are as follows:

1) *Compliance with local land use plans (specify)*

2) *Applicable Executive Orders, Statutes and Regulations (specify)*

f. Measures to Address Identified Planning Objectives. A management measure is a feature or activity at a site, which address one or more of the planning objectives. A wide variety of measures were considered, some of which were found to be infeasible due to technical, economic, or environmental constraints. Each measure was assessed and a determination made regarding whether it should be retained in the formulation of alternative plans. The descriptions and results of the evaluations of the measures considered in this study are presented below:

1) No Action. The Corps is required to consider the option of “No Action” as one of the alternatives in order to comply with the requirements of the National Environmental Policy Act (NEPA). No Action assumes that no project would be implemented by the Federal Government or by local interests to achieve the planning objectives. No Action, which is synonymous with the Without Project Condition, forms the basis from which all other alternative plans are measured.

(2) *Non-Structural*

(3) *Structural*

(4) *Separable Features - such as for recreation or restoration if not already included above.*

(5) *Additional Measures for Complete Alternatives – secondary features to make an alternative complete, such as dredging methods, interior drainage, etc.*

g. Preliminary Plans. Preliminary plans are comprised of one or more management measures that survived the initial screening. The descriptions and results of the evaluations of the preliminary plans that were considered in this study are presented below:

1) Preliminary Plans Eliminated from Further Consideration

2) Preliminary Plans for further Consideration

3) Alternative Implementation Authorities

h. Conclusions from the Preliminary Screening. The preliminary screening indicates that alternatives that *summarize characteristics of plans for further consideration* have the greatest potential for implementation. The potential magnitude and types of benefits from the proposed actions would *qualitative evaluation with any numbers or ranges that may be available*. Likewise, the environmental effects are *describe significant environmental impacts* that would include *describe potential mitigation measures* as mitigation. Costs of the alternatives would *qualitative evaluation with any numbers or ranges that may be available*. Based on this information, alternatives to address the planning objectives appear viable.

## CELRB-PM-PM

i. Establishment of a Plan Formulation Rationale. The conclusions from the preliminary screening form the basis for the next iteration of the planning steps that will be conducted in the feasibility phase. The likely array of alternatives that will be considered in the next iteration includes describe and provide rationale for the likely array of alternatives. Future screening and reformulation will be based on the following factors: include factors.

### 6. FEDERAL INTEREST

Since project purpose(s) is an output with a high budget priority and that project purposes is the primary output of the alternatives to be evaluated in the feasibility phase, there is a strong Federal interest in conducting the feasibility study. There is also a Federal interest in other related outputs of the alternatives including other project purposes that could be developed within existing policy. Based on the preliminary screening of alternatives, there appears to be potential project alternatives that would be consistent with Army policies, costs, benefits, and environmental impacts. (expand as to why this conclusion is reached)

### 7. PRELIMINARY FINANCIAL ANALYSIS

As the local sponsor, name of sponsor will be required to provide 50 percent of the cost of the feasibility phase. The local sponsor is also aware of the cost sharing requirements for potential project implementation. A letter of intent from the local sponsor stating a willingness to pursue the feasibility study and to share in its cost, and an understanding of the cost sharing that is required for project construction is included as Attachment number.

### 8. ASSUMPTIONS AND EXCEPTIONS

a. Feasibility Phase Assumptions: The following critical assumptions will provide a basis for the feasibility study:

1) Without Project Condition Assumptions

2) \_\_\_\_\_

b. Policy Exceptions and Streamlining Initiatives: The study will be conducted in accordance with the Principles and Guidelines and the Corps of Engineers regulations. Exceptions to established guidance have been identified that will streamline the feasibility study process that will not adversely impact the quality of the feasibility study. Approval of the Section 905(b) Analysis by HQUSACE results in the approval of the following policy exceptions and streamlining initiatives:

1) Simplified methods, default values, use of related study results, etc.

2) \_\_\_\_\_

c. Other Approvals Required: Include items that require HQUSACE approval such as model studies and new benefit categories.

### 9. FEASIBILITY PHASE MILESTONES

**CELRB-PM-PM**

Milestone	Description	Duration (mo)	Cumulative (mo)
Milestone F1	Initiate Study	0	0
Milestone F2	Public Workshop/Scoping	2	2
Milestone F3	Feasibility Scoping Meeting	11	13
Milestone F4	Alternative Review Conference	9	22
Milestone F4A	Alternative Formulation Briefing	5	27
Milestone F5	Draft Feasibility Report	3	30
Milestone F6	Final Public Meeting	1	31
Milestone F7	Feasibility Review Conference	1	32
Milestone F8	Final Report to SPD	3	35
Milestone F9	DE's Public Notice	1	36
-	Chief's Report	4	40
-	Project Authoriztion	4	44

10. FEASIBILITY PHASE COST ESTIMATE

WBS#	Description	Cost
JAA00	Feas - Surveys and Mapping except Real Estate	
JAB00	Feas - Hydrology and Hydraulics Studies/Report (Coastal)	
JAC00	Feas - Geotechnical Studies/Report	
JAE00	Feas - Engineering and Design Analysis Report	
JB000	Feas - Socioeconomic Studies	
JC000	Feas - Real Estate Analysis/Report	
JD000	Feas - Environmental Studies/Report (Except USF&WL)	
JE000	Feas - Fish and Wildlife Coordination Act Report	
JF000	Feas - HTRW Studies/Report	
JG000	Feas - Cultural Resources Studies/Report	
JH000	Feas - Cost Estimates	
JI000	Feas - Public Involvement Documents	
JJ000	Feas - Plan Formulation and Evaluation	
JL000	Feas - Final Report Documentation	
JLD00	Feas - Technical Review Documents	
JM000	Feas - Washington Level Report Approval (Review Support)	\$50,000
JPA00	Project Management and Budget Documents	
JPB00	Supervision and Administration	
JPC00	Contingencies	
L0000	Project Management Plan (PMP)	
Q0000	PED Cost Sharing Agreement	
Total		\$50,000

11. VIEWS OF OTHER RESOURCE AGENCIES

Because of the funding and time constraints of the reconnaissance phase, only limited and informal coordination has been conducted with other resource agencies. Views that have been expressed are as follows:

- a.
- b.

12. POTENTIAL ISSUES AFFECTING INITIATION OF FEASIBILITY PHASE

a. Continuation of this study into the cost-shared feasibility phase is contingent upon an executed FCSA. Failure to achieve an executed FCSA within 18 months of the approval date of the Section 905(b) Analysis will result in termination of the study. Issues that could impact the initiation of the feasibility phase include Explain any issues related to the signing of the FCSA.

b. The schedule for signing the Feasibility Cost Sharing Agreement (FCSA) is Month/Year. Based on the schedule of milestones in Paragraph 9., completion of the feasibility report would be in Month/Year, with a potential Congressional Authorization in a WRDA year.

13. PROJECT AREA MAP

A map of the study area is provided as Enclosure A.

14. RECOMMENDATIONS

I recommend that the Name of proposed feasibility study study proceed into the feasibility phase.

Date

/s/

*Name of District Commander*

Colonel

Corps of Engineers

**District Engineer**