



(360) 678-4708  
Toll Free (888) 678-4922  
Fax (360) 678-2271  
www.whidbeycd.org

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P.O. Box 490 – 1 NE 4<sup>th</sup> St, Coupeville, WA 98239

## **Greenbank Marsh Restoration Issues Assessment Project Request for Engineering and Environmental Consulting Services**

### **Project Background**

Whidbey Island Conservation District (WICD) recently received a grant from the Washington Salmon Recovery Funding Board to evaluate specific land use issues and site conditions that are relevant to the design and eventual implementation of measures to restore tidal connectivity and nearshore ecological functions in Greenbank Marsh. Greenbank Marsh is a roughly 20-acre relict coastal wetland system located in the community of Greenbank on Whidbey Island. The marsh system consists of a large freshwater wetland that connects through a county road to a smaller, brackish tidal lagoon. The lagoon in turn connects to Holmes Harbor through a small tidegate and stormwater outfall pipe. The project site is privately owned by the Greenbank Beach and Boat Club, Inc. (GBBC) and its parent organization, the Holmes Harbor Estates homeowners association. Figure 1 (attached) shows the current site conditions.

### **Scope of Services**

WICD desires to contract for engineering and environmental consulting services to support future planning and permitting activities at the project site. The scope of services will include completion of the following tasks:

- Survey elevation control points and determine an accurate tidal elevation datum
- Install two shallow groundwater monitoring wells and evaluate geotechnical conditions
- Complete a hydrology study to assess flood risks under existing conditions and “mitigated” scenarios to be defined by the project team
- Subcontract with a cultural resources consultant to complete a “reconnaissance-level” cultural resource survey of the project area.

Each of these tasks is described below.

#### Elevation Survey and Tidal Datum

WICD desires professional land survey services to establish three topographic survey control points on the project site, referenced to the NAVD88 datum. Tentative locations of the control points are shown on the attached site plan. The services will also include determining an accurate tidal datum for the site using NOAA’s most recent VDatum protocols.

### Groundwater Wells and Geotechnical Evaluation

WICD desires two shallow groundwater monitoring wells to be installed at the site. Tentative locations of the wells are shown on Figure 1. Well installation should follow WDOE requirements for construction, permitting and registration. WICD will use the wells to deploy level loggers to measure long term fluctuation in water table elevation and salinity at the project site. We also request the consultant to do a basic evaluation of geotechnical engineering properties of soil samples that are collected during installation of the wells.

### Hydrology Study

Stormwater runoff drains from an approximately 480-acre catchment area through various field ditches, road culverts and overland flow to enter Holmes Harbor through a tidegate and beach outfall on GBBC's property. In 2013, WICD completed a preliminary hydrology assessment of the catchment area and determined that the existing capacity of the outfall was insufficient to convey runoff from modeled storm events. WICD can provide a copy of the preliminary assessment upon request.

WICD desires a more in-depth engineering assessment of the drainage capacity of GBBC's stormwater infrastructure to be completed. Currently, we think that this effort should include setting up and running WDOE's Western Washington Hydrology Model, EPA's SWMM model, or similar computational model to evaluate the following scenarios:

- Estimating runoff flows from relevant sub-basins of the overall catchment area to compare relative contributions from each, as compared to runoff generated on land located within the Holmes Harbor Estates subdivision. Relevant sub-basins include land owned by Island County (roads), the Port of Coupeville (Greenbank Farm), and neighboring private residential properties.
- Estimating capacity of GBBC's existing tidegate and beach outfall to convey runoff from relevant storm recurrence events, and the capacity needed to meet WWHM's "pass" criteria. Capacity should be estimated at the full range of tidal elevations to evaluate the effect of tidal backwatering.
- Evaluating the drainage capacity of various scenarios to replace the existing tidegate and outfall, including a larger, deeper outfall pipe and a simple open channel through the beach berm. WICD will work with the consultant to identify these scenarios.

WICD encourages consultants to suggest an alternative approach to evaluating and modeling the hydrology and hydraulic characteristics of GBBC's drainage infrastructure, if they believe that it will better meet the overall project objectives.

### Cultural Resources Survey

A "reconnaissance" level cultural resource survey should be done to evaluate the potential presence of cultural resources that are regulated by the Washington Department of Archaeology and Historic Preservation (DAHP) and Section 106 of the federal Historical

Preservation Act within the project site's "Area of Potential Effect." The survey should consist of literature review and a limited field testing. The purpose of the survey is to address Section 106 and DAHP permitting requirements for subsequent project designs and to inform plans for future restoration scenarios. Figure 1 shows the outline of the site's APE.

### **Relevant Existing Information and Site Access**

In 2013, WICD completed a preliminary site assessment titled *Alternatives Analysis and Conceptual Design Report, Greenbank Beach and Boat Club, Inc. Drainage and Habitat Improvement Project*. The report of this study is available on request. Access to the site is via GBBC's boat ramp parking area, with permission from GBBC.

### **Budget and Schedule**

WICD has budgeted roughly \$40,000 in grant funding for the consulting services described above. Our target for completing the consulting services is late October 2016. We anticipate awarding a contract for this work by mid July 2016.

### **Request for Proposals**

WICD requests proposals from interested consulting firms to provide the services described above. Proposals should include a brief technical discussion that outlines and justifies the consultant's proposed approach, a cost estimate for the work and a brief description of a few project examples where the consultant has used the proposed approach to address objectives similar to this project. These example project descriptions should include client or owner contact information. We request that proposals should be brief, ideally not to exceed five or six pages. The contract award will be based on WICD's evaluation of the consultant's technical approach and previous project experience.

Proposals must be received by June 27, 2016 to be considered. Please submit the proposals either by mail or email to:

Rob Hallbauer  
Whidbey Island Conservation District  
PO Box 490  
Coupeville, WA 98239-0490  
Tel. (360) 678-4708  
Email [rob@whidbeycd.org](mailto:rob@whidbeycd.org)

For questions about the technical approach and objectives of this project, please contact Mr. Tom Slocum, PE at tel. (360) 428 4313 or email [tom@skagitcd.org](mailto:tom@skagitcd.org) .

