



## On-Call Survey and Model Services

### Request for Proposals

April 28, 2016

## Columbia River

Honor. Protect. Restore.

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Yakama Nation Fisheries is seeking proposals from qualified engineering firms to award an indefinite demand / indefinite quantity survey and hydraulic modeling services contract in support salmon habitat restoration activities taking place in the Upper Columbia salmon recovery region (Methow, Entiat, and Wenatchee Basins). Based upon the proposals received under this solicitation the Confederated Tribes and Bands of the Yakama Nation will award an up to two year on-call contract to the best quality bidder for the Scope of Work listed below:

### Scope of Work

The Contractor will be available at an on call basis to provide any of the following survey and hydraulic modeling tasks:

### Site investigation

#### Task 1 – Existing data review

Review existing data to be provided by Yakama Nation Fisheries, Bureau of Reclamation (BOR) or any other private or government entity that would aid future analysis and design. It is assumed this data may consist of fish habitat survey, stream flow data, and historical air photos.

#### Task 2 – Geomorphic Field investigation and site survey

To gain a perspective of river process, including fluvial geomorphology and sediment continuity, the river will be walked within the site boundaries and sufficient distances up and downstream to gain a reach level understanding of conditions. Air photos will be used during this investigation. An overview of reach conditions will be documented with general field notes and photos. Appropriate hydraulic cross sections will be identified and marked on maps and in the field for topographic survey.

A site survey will be conducted using a total station or survey grade GPS to collect survey data required for hydraulic analysis, conceptual designs and drawings. LIDAR data may be used in floodplain areas to complete hydraulic cross sections where appropriate.

Topographic and bathymetry survey will be completed on all lands from which ownership permission can be obtained by the Yakama Nation. Cross section survey and profile will be completed to develop a reach level hydraulic model. Survey will be based on an existing horizontal and vertical datum. A number of temporary bench marks using wooden hubs will be established for reference during construction. River and floodplain cross sections will be surveyed to develop both 1 and 2 dimensional models of the entire reach. Obvious infrastructural elements such as riprap, levees, bridges, irrigation diversions, well heads, power lines, building foundations, and/or other such elements shall be surveyed.

Stream substrate size will be documented by collection of pebble counts. Pebble count locations of representative bed load materials will be determined in the field. The data will be used in design considerations of sediment continuity and stream stability.

Existing riparian vegetative composition will be noted including species and elevations with respect to the stream.

Field and survey data will be downloaded into and summarized in appropriate software (i.e. Excel, AutoCAD).

Assumptions:

- Consent for access will be provided.
- Stream flows will be low enough to wade.

### **Task 3 – Hydrology**

Peak stream flow frequencies will be estimated or obtained from previous BOR and/or USGS work efforts or developed using available gage data. A channel forming discharge will be estimated based on modeled flow depths in comparison to vegetative and gravel bar indicators surveyed in the field.

### **Task 4 – Hydraulic analysis**

Hydraulic conditions will be modeled using both 1 dimensional and 2 dimensional models. Site survey collected in Task 2 will be used to build an existing conditions model. Manning's n values will be estimated from reference literature, professional experience and opinion. In support of the alternatives analysis and design tasks, the existing conditions model will be copied and modified for project conditions.

The U.S. Army Corps of Engineer's one-dimensional HEC-RAS hydraulic model will be used to consider and certify FEMA flood impacts. Two-dimensional modeling will be used to estimate surface flow behaviors at various stream discharges, including analyzing for changes in flow direction, sheer stress, and bed mobility based on the proposed conditions.

## **Baseline Qualifications**

To be considered competitive each firm's proposal will have to demonstrate the following:

- Field survey capabilities by in-house and regionally local (Washington/Oregon based) design engineers
- Ability to effectively model hydraulics using HEC-RAS
- Ability to effectively model inundation using a program like Flow 2-D (or similar)
- Have on staff a Geologist, Hydrologist, and a Professional Engineer with at least 10 years experience designing instream restoration projects
- Completion of at least 12 successful Engineered Large Wood Structures in the Upper Columbia Basin in last 5 years
- Experience with the creation of alcove habitat using groundwater collection galleries to create flow
- Experience designing and constructing constructed riffles or roughened channels

## **Bid Directions**

Each company seeking to be eligible for a contract award under this Request for Proposals must submit two hardcopies of their proposal in writing to:

Yakama Nation Fisheries  
Attn: Jackie Olney  
RE: UC On-Call Survey and Model Services Contract  
PO Box 151  
401 Fort Road (if using a shipping service)  
Toppenish, WA 98948

Proposals must be received by Close of Business, Wednesday, June 1, 2016. Faxed copies will not be accepted.

Each proposal must include a Statement of Qualifications pertaining to the bidder's qualifications to produce the Scope of Work items listed in this Request for Proposals. Please include resumes of key project staff. Each proposal must also include a completed bid schedule for the project staff (see attached form).

### **Project related questions should be directed to:**

Hans Smith, UCHRP Habitat Biologist  
Phone: 509-996-5005  
E-mail: [smih@yakamafish-nsn.gov](mailto:smih@yakamafish-nsn.gov)

## **Limitations**

The Yakama Nation reserves the right to accept or reject any and all of the proposals received as a result of this request, or to cancel in part or entirely this request if it is in the best interest of the Yakama Nation to do so. This request does not commit the Yakama Nation to pay any costs incurred in the preparation of a proposal.

The contractor shall furnish all supervision, labor, equipment and tools necessary to complete the work as outlined in the Scope of Work.

# On-Call Survey and Model Services RFP – Certified Hourly Rate Schedule

Firm Name: \_\_\_\_\_

Date Prepared: \_\_\_\_\_

Employment Position	Hourly Billing Rate
Principal	\$ .
Project Manager	\$ .
Senior Staff	\$ .
Staff	\$ .
EIT/Tech	\$ .
CAD	\$ .
Clerical	\$ .
(other - as needed)	\$ .
(other - as needed)	\$ .
(other - as needed)	\$ .
(other - as needed)	\$ .

By signing and submitting this form you are agreeing to honor the completed hourly rate schedule as this firm's competitive bid for a period of up to 180 days from the date this form was prepared.

## Certification

\_\_\_\_\_  
Printed Name and Title

\_\_\_\_\_  
Signature