

ATTACHMENT 4

HYDROLOGIC/HYDRAULIC ENGINEERING SERVICES STATEMENT OF WORK

Hydrologic & Hydraulic Engineering Services Statement of Work SFAPT00483 King Cove Runway Resurfacing SFAPT00500 False Pass Airport Rehabilitation

The Southcoast Region State of Alaska Department of Transportation and Public Facilities (DEPARTMENT), Division of Preconstruction Services, Design Section, is seeking professional engineering services to provide hydrologic and hydraulic support for the development of the above-named FAA-funded projects.

SCOPE

The DEPARTMENT is requesting all necessary professional services to prepare required hydraulic and hydrologic data collection, documentation, reports, summaries, calculations, preliminary designs, environmental permit support, final designs including plans, specifications, estimates and quantity calculations during bidding and assistance during construction, each with unique work items and levels of complexity.

The Contractor shall meet the requirements of the Alaska Highway Drainage Manual, Alaska Highway Preconstruction Manual and the AASHTO Drainage Manual in work products where applicable. Other requirements will be agreed upon during consultation with assigned Hydraulics staff.

The Contractor may be asked to collect data to support environmental permitting as required to develop the various DEPARTMENT projects. The Contractor shall address hydraulic and hydrologic comments to the satisfaction of all permitting agencies involved with the project.

Work items include, but are not limited to:

- Culvert Design (less than 48" diameter)
- Fish Passage and Large Culvert Design (greater than 48" diameter)
- Production of Hydraulic and Hydrologic Reports
- Mining Plan Development Support
- Stormwater System and / or Treatment Design
- Hydrologic Data Collection
- Floodplain Analysis and Permitting Support
- Sediment Transport and River Modeling
- Bridge Scour and Channel Design
- Hydraulic Design of Dikes, Revetments and River Training Structures
- Permanent Erosion Control Structures
- Dewatering Plans
- Location Hydraulic Studies (In accordance with 23CFR650 and E.O. 13690)
- Reviews Related to Hydraulic / Hydrologic Designs
- Presenting / Attending Meetings
- Writing/assisting in updating design manuals

The services will likely require field trips; some field trips may be to remote sites. Field trips and site visits will be in collaboration with DEPARTMENT staff. The final scope of services for this project will be determined during negotiations.

ADMINISTRATIVE REQUIREMENTS

Project Staff. All services must be performed by or under the direct supervision of the following individuals. Only prior written approval from the DEPARTMENT shall accomplish replacement of, or addition to, the Project Staff named below:

(Contractor shall list here key individuals and their project assignments)

Professional Registration. *Where applicable*, all reports, plans, specification, estimates and similar work products provided by the Consultant shall be prepared by or under the supervision of the Registered Engineer, Architect or Land Surveyor in responsible charge for the services. These Engineers, Architects, or Land Surveyors shall be currently registered in the State of Alaska, and they shall sign and seal as to the accuracy of each final work product for which they are responsible.

Consultant Name on Plan Sheets and Documents. No Consultant logos shall be allowed on any electronic or hard copy document produced for the DEPARTMENT. Consultant letterhead shall be allowed only as exhibits in document appendices. The Consultant name shall be in the same font as other lettering on the plan sheet or document, shall be 0.05" in height on 11"x17" plan sheets, and shall be included in the binding edge of each sealed and signed plan sheet in the following format:

PLANS DEVELOPED BY: CONSULTING FIRM NAME, LLC,
CERT. OF AUTHORIZATION NO.
ADDRESS
PHONE NUMBER

Standards, Guidelines, References, and Software. *As applicable*, the Consultant shall use the most current editions of any publications of standards, guidelines, or references that have been adopted by the DEPARTMENT at the time that design services begin. Major changes in design guidance during the project that change the design criteria may be addressed by amendment. Design guidelines and standards include, but are not limited to:

- Alaska DOT&PF Preconstruction Manual,
- Alaska Traffic Manual,
- Standard Drawings Manual,
- Highway Drainage Manual,
- Alaska Sign Design Specifications,
- Manual of Uniform Traffic
- Control Device,
- Guide for Flexible Pavement Design & Evaluation,
- Standard Specifications, and

- The American Association of State Highway and Transportation Officials (AASHTO) Standards.

Standard software programs used by the DEPARTMENT include, but are not limited to, the following:

- AutoCAD Civil 3D 2019
- Microsoft Office Suite: Word, Excel, PowerPoint, Project, Teams
- AASHTOWare Preconstruction
- Synchro 7
- HCS
- HY-8
- HEC-RAS
- HEC-HMS
- SMS
- ESRI products, AGOL, Collector, Survey 123, Field Mapper

The most current version of AutoCAD and AutoCAD Civil 3D (C3D) adopted by the DEPARTMENT shall be used for all linework and modeling. The Consultant will use the DEPARTMENT's C3D template file, supplemented as necessary by the Consultant's library of styles. Consultant styles will be clearly differentiated by name so that the DEPARTMENT can review the styles for conformance to their standards.

The C3D drawing files will contain all assemblies, vertical and horizontal geometry, alignments, corridors, styles, surface models (existing, proposed and all pertinent intermediate). All two-dimensional items will be incorporated into the C3D drawing as AutoCAD linework. The Consultant will provide the file directory to the DEPARTMENT in a way that all dependencies among files are maintained.

The Consultant shall develop the Estimate for this project using AASHTOWare Preconstruction. Access to the program and instructional documentation for the software will be provided to the Consultant.

Submittal Requirements. Deliverables shall be compatible with DEPARTMENT standard software and submitted in their original electronic format as well as PDF. Hard copies shall be submitted for everything requiring an original seal, and as required by the project managers of the specific projects. Specific deliverables will be identified for each project added to the agreement.