



Draft Cultural Resource Study Plan/Scope of Work

Juneau Hydropower Inc

Sweetheart Lake Hydroelectric Project P-13563

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1.0 Introduction

In December 2010, the Federal Energy Regulatory Commission (FERC) in Washington D.C. issued to Juneau Hydropower Inc. (JHI) a Preliminary Permit (Permit) for the Sweetheart Lake Hydroelectric Project (FERC No. 13563, Project). This cultural resources study plan addresses the Lower Sweetheart Lake, Sweetheart Creek, and immediate area and associated facilities Project and is based on Project details provided in the Preliminary Application Document issued July 2010 and prepared by JHI.

The operational proposal include a storage dam; the current proposal is to draw water from Lower Sweetheart Lake in such a way as to contain lake level fluctuations to 60 feet, with final drawdown prescriptions to be determined based on further economic and environmental considerations. The proposed Project consists of an intake structure at Lower Sweetheart Lake, a dam at Lower Sweetheart Lake, a power conduit consisting mostly of tunnels, and a steel penstock leading to a buried or partially buried powerhouse located above or adjacent to the barrier falls at Sweetheart Creek. An operators' house would be built collocated at the power house but depending on public comments and final design could be built away from the powerhouse and situated toward the dock infrastructure on Gilbert Bay.

Transmission of electricity would occur either by a mix of submarine and overhead transmission traversing the west side of Gilbert Bay or through a submarine cable across Gilbert Bay to the Snettisham transmission line point of interconnection. (Figure 1).

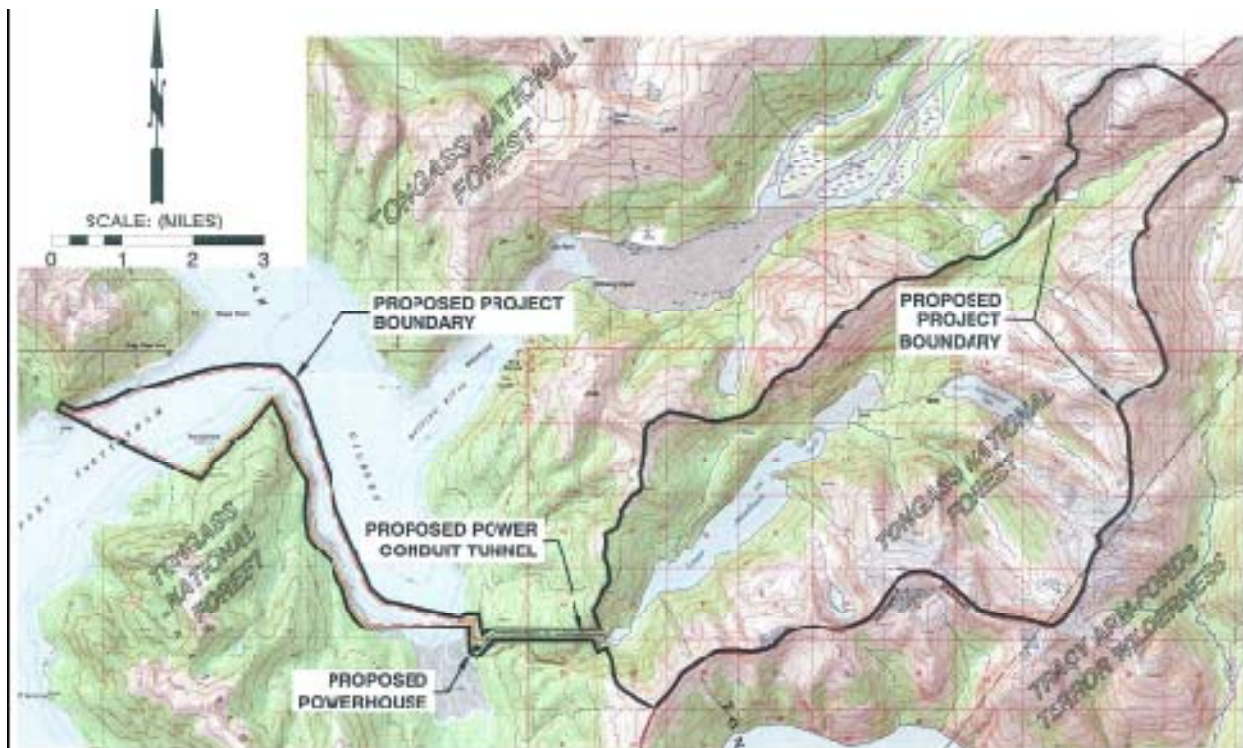


Figure 1. Proposed Project Boundary and Transmission Line Alternatives.

During the initial consultation agency meeting of the Project, stakeholders, including entities representing the State of Alaska, the U.S. government, indicated the necessity to determine if there are

potential Project effects on cultural resources stemming from land disturbances related to Project construction and operation. This study plan responds to study requests and issues made during the initial agency meeting held October 28, 2010 and subsequent written comments from agencies, while outlining work to comply with federal laws and regulations.

Cultural resource data gathering and field surveys discussed in this plan will be used by the FERC and state and federal resource agencies to help evaluate and resolve impacts of the Project prior to issuance of the Project license.

1.1 General

FERC license applicants must comply with Section 106 of the National Historic Preservation Act. This law requires the head of any federal department or independent agency having the authority to license an undertaking to take into account the effect of the undertaking on historic properties. The regulations implementing Section 106 appear in 36 CFR Part 800.

Historic properties are prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or eligible for inclusion in, the National Register of Historic Places (NRHP), regardless of the age or nature of the property. These properties may include archaeological sites, historical buildings and structures, and traditional cultural properties. The latter are places associated with the cultural practices or beliefs of a living community that are both rooted in that community's history and important in maintaining the continuing cultural identity of the community. Assessment of historic properties is conducted in consultation with the State Historic Preservation Officer (SHPO), which is housed in the State of Alaska, Alaska State Historic Preservation Office / Office of History and Archaeology and the affected Alaskan Native Tribe(s).

If adverse effects are anticipated, the parties consult to address the effects and provide for managing the historic properties during the term of the new license. If needed, mitigation and management measures form part of a Historic Properties Management Plan. The Section 106 process typically involves several steps:

- Definition of the Area of Potential Effects (APE)—the area within which a project could affect historic properties, if any exists;
- Identification of prehistoric and historic-period archaeological sites and historical buildings and structures;
- Consultation with tribal representatives to document traditional cultural properties;
- Evaluation of National Register eligibility to determine which resources are historic properties;
- Documentation of project-related impacts to eligible properties; and
- Development of a Historic Properties Management Plan with measures to avoid, reduce, or mitigate impacts to historic properties.

Cultural resources/properties that are eligible for listing in the NRHP are termed historic properties if they retain integrity and meet one or more of the following criteria:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and meet one or more of the following criteria:

- a. That is associated with events that have made a significant contribution to the broad pattern of our history;
- b. That is associated with the lives of persons significant in our past;
- c. That embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and
- d. That have yielded, or may be likely to yield, information important to prehistory or history (36 CFR §60.4).

JHI is required by FERC to comply with Section 106 of the National Historic Preservation Act of 1966 (NHPA) for the Sweetheart Lake Hydroelectric Project. The NHPA requires federal agencies to consider the effects of their undertakings on archaeological, historical, or cultural properties that are listed or eligible for listing in the National Register of Historic Places. The entire proposed project lies on lands managed by the U.S. Forest Service. As such, the methods proposed for this study generally follow the “Tongass National Forest Standards and Guidelines” and the “Alaska Programmatic Agreement among the USDA Forest Service, Alaska Region, the Advisory Council on Historic Preservation, and the Alaska State Historic Preservation Officer” dating to 2010. The inventory described here would provide a determination of effect for record for the project as part of the NEPA process, and as per forest-wide standards and guidelines (USDA Forest Service 1997:4-15).

Cultural or heritage resources, which include prehistoric and historic-period archaeological sites, historical buildings and structures, and traditional cultural properties (places that are important to communities such as Alaska Natives but which may not have material remains), may occur within the Sweetheart Lake Hydroelectric Project area. JHI Contractor shall implement both archaeological and historical surveys within an Area of Potential Effects (APE) to document the presence of historic properties. This will provide a baseline on which to evaluate Project-related effects. Sweetheart Lake Hydroelectric Project cultural resource studies will comprise three efforts: 1) consultation and literature search; 2) detailed discussions with SHPO records, USFS records, and Douglas Indian Association records; and 3) archaeological and historic field studies, as described in detail below. The overall focus of the proposed study is to conduct inventory for heritage resources and attempt to document prehistoric and historic use of the area. All actions taken by employees or contractors of the Forest Service will meet JHI expects all contractor actions to meet professional standards under regulations developed by the Secretary of the Interior (see *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines*, 48 FR 44716, 1983). These Personnel Qualifications are identified in Appendix A. JHI will employ contractor that has respect from agencies and credibility for results of study

to SHPO, USFS and related Native Alaskan Tribes. JHI requires contractor to conduct all phases simultaneously, to the extent feasible.

1.2 Project Description and Area of Potential Effects

A project's Area of Potential Effects (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties if any such properties exist (36 CFR §800.16(d)).

To comply with Section 106 of the National Historic Preservation Act, JHI must consider a project's potential to affect historic properties. There has been little archaeological survey in the proposed project area to identify sites with the exception of a 1980 Environmental Impact Statement (EIS) conducted for recreational use and a potential timber sale in the area. Areas that fall within the high sensitivity zone for the presence of historic properties will need to be inventoried with site evaluations and determinations of eligibility and effect completed for all sites discovered.

The Project would be located approximately 30 air miles and 33 nautical miles southeast of the city of Juneau, Alaska on the western shore of mainland, just south of the Harding River and located in Gilbert Bay (**Figures 1**). The proposed Project would utilize the existing Lower Sweetheart Lake and would consist of: (1) a 1,635-acre impoundment; (2) a new concrete and rock-faced dam approximately 500-foot-long and 90-foot-high at the outlet of Lower Sweetheart Lake; (3) a new 9-foot-diameter, 1,650-foot-long penstock connecting to the powerhouse; (4) a new powerhouse containing two new generating units having an installed capacity of 30 megawatts; (5) a new tailrace returning flows to Sweetheart Creek; (6) a new 138-kilovolt transmission line that would be either 8.9 miles overhead, or 0.4 miles overhead and 8.0 miles undersea and (7) appurtenant facilities. The proposed Sweetheart Lake Project would have an average annual generation of 136 Gigawatt-hours. JHI has not yet determined the APE for the undertaking under 36 CFR 800. 4(a)(1), though we have engaged in informal consultation with SHPO staff members regarding this subject through e-mail correspondence with Rachel J. Dale, Alaska Department of Natural Resources.

Portions of the project area fall within the high sensitivity zone for the presence of cultural resources. The Alaska Region Programmatic Agreement Appendix D identifies the high sensitivity areas for the presence of cultural resources to include these areas of likely importance to the Sweetheart Lake Hydroelectric Project:

- all land between lower low water and 100 feet in elevation above mean high water, with no consideration of slope,
- areas of former lode and placer mining activity,
- lakes and stream systems containing anadromous fish runs, including a focus on barrier falls location in such systems.

In addition to archaeological inventories, the contractor will assist JHI in consulting with culturally affiliated Tribes, Corporations and Certified Local Governments regarding the presence and significance of sites or traditional cultural properties. The State Historic Preservation Officer has oversight responsibilities to ensure that federal agencies comply with the National Historic Preservation Act and federal agencies required to consult with the SHPO regarding any agency's determinations of eligibility and effect to all historic properties.

The Area of Potential Effects is known to have been used by and is located in the historical land territory of the Douglas Indian Association (DIA), Taku Tribe, Tlingit. JHI has begun, as an early step in initial consultation to query the Douglas Indian Association about cultural and historical resources within and Area of Potential Effect (APE) relative to potential Project-related land disturbance and to collaborate with DIA on this matter. Further consultations will occur with the Alaska Department of Natural Resources State Historic Preservation Office (SHPO), the USFS and historic resources, DIA and other resources as available. JHI encourages the contractor to work with and to the extent possible hire DIA members for ground survey work within the APE.

According to the 1998 [1947] Goldschmidt and Haas, *Haa Aani, Our Land: Tlingit and Haida Land Use Rights*, Chart 6 identified a potential former fish camp at the mouth of Sweetheart Creek. A thorough review by JHI staff of the Sealaska Publication, *Native Cemetery & Historical Sites of Southeast Alaska, 1975* identified one confirmed site and three unconfirmed sites in the Port Snettisham geographical area. The AHRS data depicts two sites in the vicinity of the project; SUM00118, Sweetheart Creek Stone Fish Trap, and SUM00098, Sweetheart Creek Cabin.

2.0 Proposed Cultural Resources Studies

2.1 Task Issues

Cultural Issue C1.

Recent Isostatic rebound and technology improvements may provide new abilities to find and register cultural or historical sites. There have been technology and technique improvements since the 1980 EIS conducted a cultural resource investigation in the area. Purpose would be to identify any potential cultural or historical site in the project area surrounding the barrier falls of Sweetheart Creek, where a proposed powerhouse, access road and dock will be located. Further potential identification might be needed along proposed overland transmission line route near the former town site of Snettisham.

JHI contractor will coordinate with designated USFS archeologist and Douglas Indian Association to receive input on contractor plan to identify potential cultural or historical sites.

Archeologist survey may be necessary at least on the coordination level. There will be coordination expected between contractor and JHI, SHPO, DIA and USFS.

Findings of interest, location, description, and alternatives for mitigation will be developed and discussed with USFS Juneau Ranger District archeologist, SHPO and Douglas Indian Association.

Cultural Issue C2.

Effects of Increased Access on Existing Cultural Resources in the Sweetheart Lake Basin.

Whether construction-related access might allow increased visitation to known or suspected cultural resource sites, with accompanying disturbance or resource loss.

JHI Studies

It should be noted that the 1980 USFS FEIS conducted by the USFS made the following determination: “Based on the 1979 and 1980 surveys of Gilbert Bay, prehistoric use is not evident”. The 1980 FEIS documentation is merely a starting point for baseline information to build on.

JHI intends to conduct due diligence, using an approved contractor in consultation with local tribes, an inventory of cultural resources in an Area of Potential Effect (APE) sufficient to document the existence of cultural resources within areas which might be affected by project-related construction, corridor building or other ground disturbance.

JHI, based on comments received from the Initial Agency Meeting conducted on October 29, 2010 proposes to conduct a cultural study as follows: A thorough updated review of an examination of the Alaska Office of History and Archaeology site inventory list (Alaska Heritage Resources Survey-AHRS) for previously identified historical or archeological sites that might have been identified and catalogued since the last review by the USFS was conducted in 1980; conduct a limited archaeological survey of the proposed infrastructure areas limited to the proposed powerhouse location, barrier falls area, proposed tailrace area, access road and corresponding transmission line from power house to dock area, and proposed dock area. JHI will also conduct limited archaeological survey in those areas along the proposed power line route if the overland route is the preferred alternative transmission route determined in the scoping process.

These surveys will be in two stages: Stage I will be less-intensive reconnaissance surveys within the high sensitivity zone of the direct and indirect impact area of the Project Areas of Potential Effect.. The more intensive Stage II surveys will be conducted in those areas identified in the Stage I surveys as having a reasonable likelihood of containing sites. The scope of all survey work will be determined in consultation with the SHPO, the USFS, and the Douglas Indian Association and any other interested federally recognized tribal entity.

2.2 Determination of the Area of Potential Effects

Before either of the two main tasks is begun, the contractor, in association with JHI, SHPO, DIA and USFS will determine an Area of Potential Effects (APE) relative to proposed land disturbances, including construction and operation of generating facilities, access roads, transmission lines, and clearings. The APE will take into consideration direct, indirect, temporary, and cumulative effects to potential historic properties. The APE will generally delineate the boundaries of the field studies.

For the purposes of this study plan, JHI proposes that the APE encompass the areas proposed to be impacted in JHI’s Preliminary Application Document and subsequent Scoping Document 1. Acreage estimates for the different facilities will be included in the forthcoming scoping document. The shoreline of Lower Sweetheart Lake is included to approximately 1 meter above the normal high pool level (to encompass the upper limit of the proposed 60-foot maximum lake fluctuation level described in the PAD. For the proposed linear features, including the transmission lines and access roads, an APE for archaeological sites of approximately 30 meters (about 100 feet) wide will be inventoried. This is currently the maximum width of the proposed right-of-way, which will follow proposed access roads and transmission line alternatives.

The proposed disturbance area for the powerhouse, residence, dock, and trench for the submarine cable is about 300 meters (1,000 feet) east-west by about 150 (500 feet) meters north-south.

Disturbance areas for the remaining submarine cable trenches are anticipated to be about 60 meters (200 feet) by 60 meters (200 feet) on the west side of Gilbert Bay and either side of Port Snettisham.

The tunnel from the lake outlet to the powerhouse and the route(s) of the submarine transmission line are included in the APE, but will be excluded from survey because the effects will be underground and not expected to impact any historic properties.

2.3 Literature and Information Review

2.3.1 Literature Review

The cultural resources contractor will research the cultural and historical resources background for the Project area will build upon findings already conducted and known. The cultural resources contractor will familiarize themselves with previous published documents and data to include the Alaska Heritage Resources Survey (AHRs) records and a previously conducted USFS EIS in the area conducted in 1980.

As the cultural resources contractor, the selected contractor will conduct additional research in available cultural and historical resources literature, including, but not limited to:

- Updated research in the AHRs records and atlases at the Office of History and Archaeology (OHA; aka the State Historic Preservation Office [SHPO]), Anchorage, Alaska, as necessary.
- USFS records and atlases, Juneau Ranger District, Juneau Alaska.
- Douglas Indian Association and Central Council of Tlingit and Haida Indian Tribes of Alaska.
- Available academic reports. Specifically in support of ethnographic inventory, JHI contractor will review Haa Aani, Our Land: Tlingit and Haida Land Rights and Use (Goldschmidt and Haas 1998), Native Cemetery and Historic Sites of Southeast Alaska (Sealaska Corporation 1975), and Tongass National Forest Cultural Resource Overview (Arndt et al. 1987).
- An online search for ship wrecks at <http://www.mms.gov/alaska/ref/ships/shipwr/shiplist.asp>.
- Land Status and Use Records and Master Title Plats from the Alaska State Office of the USDI Bureau of Land Management, through their Spatial Data Management System (SDMS) and their Alaska Case Retrieval Enterprise System (ACRES) website (<http://www.sdms.ak.blm.gov/acres/.htm>) as a review for historic activity.
- USDA Forest Service Alaska Region Final Environmental Impact Statement. Proposed Recreational Development and Independent Timber Sale Gilbert Bay/Holkham Bay Area Southeast Alaska . 1980. FEIS 10038001 to include Appendix P, Q cultural resource investigations.
- ShoreZone Mapping Data Summary, Southeast Alaska (2004-2005) National Marine Fisheries Service. Auke Bay Laboratory. December 2006.
- 1947 Goldschmidt and Haas, Haa Aani, Our Land: Tlingit and Haida Land Use Rights
- USFS, Cultural Resource Investigation at Gilbert Bay, 1979
- Sealaska Corporation. Native Cemetery & Historic Sites in Southeast Alaska. Wilsey and Ham, Inc. 1975.
- USFS Shoreline-Based Recreation Carrying Capacity Analysis for the Admiralty Island National Monument, Hoonah, Juneau, and Sitka Ranger Districts. 2001 and any subsequent updates.
- Olsen, Wallace P. A History of Fort Durham Hudson's Bay Company Trading Post located in Taku Harbor 1840-1843 within the boundaries of present day Juneau, Alaska. 1994
- Dictionary of Alaska Place Names. Geological Survey Professional Paper 567. 1967.

- Arndt, Katherine L., Russell H. Sackett, and James A. Ketz 1987 A Cultural Resource Overview of the Tongass National Forest, Alaska. Prepared by GDM, Inc., Fairbanks, Alaska. Prepared for USDA Forest Service, Tongass National Forest, Region 10, Juneau, Alaska
- Programmatic Agreement 2002 Second Amended Programmatic Agreement Among the USDA Forest Service, Alaska Region, the Advisory Council on Historic Preservation, and the Alaska State Historic Preservation Officer Regarding Heritage Resource Management on National Forests in the State of Alaska. Agreement # 02MU-111001-076.
- Emmons, *The Tlingit Indians*, edited by Frederica de Laguna. 1991
- Davis's Prehistory of Southeastern Alaska. In *Handbook of North American Indians, Vol. 7 Northwest Coast*, edited by W. Suttles. 1990.

2.3.2 Consultation with Native Alaskan Representatives.

In compliance with the NHPA, contractor in conjunction with JHI will contact the Douglas Indian Association (DIA) and the Central Council of Tlingit Haida Central Council of Indian Tribes of Alaska to meet to record any concerns and/or information regarding traditional use areas within the APE. Related to this, it is expected that the USDA Forest Service, Tongass National Forest, will determine that ethnographic research for the APE must be conducted and the Project APE must be inventoried and evaluated for the presence of heritage/cultural resources and, if present, determine if they are eligible for inclusion in the National Register of Historic Places (National Register).

Contractor will encourage participation of DIA qualified members in field surveys and data gathering.

2.4 Field Surveys

At this time the cultural resource inventory work may be conducted under the Special Use Permit issued to JHI. However, if an Organic Act permit, an Antiquities Act permit, or an Archaeological Resources Protection Act (ARPA) permit is required, the contractor will prepare the appropriate application. Field studies will document cultural resources potentially affected by Project activities within the APE. A determination of eligibility for listing in the National Register of Historic Places will be made for any resources located in the APE. The cultural resource inventory will be conducted following the predictive model developed by the Tongass National Forest and incorporated into the Second Amended Programmatic Agreement with the Advisory Council on Historic Preservation and the Alaska State Historic Preservation Office (Programmatic Agreement 2002). Within the APE, field studies will address the Programmatic Agreement's definitions of sensitivity zones (Programmatic Agreement Appendix E), which are as follows:

1. High sensitivity zones for cultural resources on the Tongass National Forest and immediately adjacent lands include:
 - a. All land between lower water and 100 feet of elevation above mean high water, with no consideration of slope.
 - b. Areas of former lode and placer mining activity.
 - c. River valleys and lake and river systems providing passes or portages across larger land masses.
 - d. Lake and stream systems containing, or known to have contained, anadromous fish runs; includes focus on barrier falls locations in such systems.

- e. Elevated/fossil marine, river, and lake terrace systems.
- f. Caves and rockshelters, areas of karst landforms, and igneous rock formations known for caves and rockshelters.
- g. Areas associated with myths and legends such as traditional cultural properties or cultural landscapes.
- h. Known sources of potential raw materials (obsidian sources; exceptional concentrations of cedars, etc.).
- i. Alpine areas if ethnographic or historic evidence or previous surveys conducted nearby indicate cultural use.
- j. Other areas identified through oral history research/sources.

2. Low sensitivity zone:

- a. The low sensitivity zone includes all land not relegated to the high sensitivity zone.

Under this model, most of the APE will be in the high sensitivity zone, with the exception of the slope between the lake and the powerhouse and portions of the transmission line north to the Snettisham transmission line point of interconnection.

Based on recent Forest Service studies, special attention will also be given to any terraces located at about 18 meters (60 feet) elevation. Regarding survey strategies, Appendix E also specifies that sensitivity zones be inventoried for cultural resources as follows:

1. High sensitivity zone.

- a. Intensive survey of all locations of direct, indirect, and cumulative impact in the undertaking's area of potential effect.
- b. Intensive survey of a sample of the high sensitivity zone outside the undertaking's area of potential effect, but within the larger project area; location and acreage surveyed is to be determined on a case-by-case basis.
- c. Monitor a sample of all direct impact areas during and/or after the actual ground disturbance. Impact areas to be monitored will be determined on a case-by-case basis.

2. Low sensitivity zone.

- a. Intensive survey of a sample of the locations of direct, indirect, and cumulative impact in the area of potential impacts; location and acreage surveyed is to be determined on a case-by-case basis.
- b. Post-disturbance monitoring of a sample of all areas of ground disturbance. The locations and acreage sampled will be determined on a case-by-case basis. Based on the above guidelines, field inventory will occur in areas in the APE considered to have a high probability of containing cultural resources, or high sensitivity zones, including the alternative access and transmission line routes. The acreage of such survey areas is difficult to calculate since much of it is narrow and linear. Using maps for tracking the boundaries of the APE, the areas of the intake facility, powerhouse, operators' houses, access roads and bridges, transmission lines, tailrace, and construction staging areas will be surveyed intensively through pedestrian survey and surface/duff scrapes and soil auger probes and shovel tests, where appropriate.

Survey of the shoreline of Lower Sweetheart Lake will focus on landforms at water level that are level or of low slope; steep bedrock and boulder fields or talus will not be surveyed on foot.

Contractor will attempt to inventory along Sweetheart Creek, but the steepness of the drainage suggests there are few if any high sensitivity landforms, and thick brush in most places restricts access and visibility. Fieldwork will also occur in a sample of the APE lands in the low probability, or low sensitivity zone, category. Based on previous experience on the Tongass National Forest, standard survey methods will include transect intervals no greater than 20 meters apart and 2.5-centimeter-

diameter soil auger probes spaced at 25 to 50-meter intervals in high probability areas where subsurface soil exposures are lacking. Shovel tests are also planned along any elevated terraces and at appropriate locations within identified cultural resource sites to obtain information for evaluation of National Register eligibility. Shovel tests of 0.5-meter square will be excavated in 10-centimeter increments, with excavated matrix screened or troweled for cultural material, which will be collected. The field team will excavate shovel tests to a minimum depth of 0.5 meter unless they encounter sterile deposits or material that cannot be penetrated. Excavators will collect materials such as charcoal, wood, shell, or bone, which may be suitable for radiocarbon dating and any lithic material. In addition, shovel test forms will be completed and stratigraphic profiles will be drawn of at least one shovel test at each site tested. In consultation with the USFS District Archaeologist, as many as two wooden stakes (if present) will be collected for radiocarbon dating purposes from any fish weirs located, which may not be subjected to subsurface testing.

The fieldwork will be recorded with daily survey notes, digital photographs, GPS location data, and appropriate resource forms. Sites, isolated artifacts, lithic source areas, culturally modified trees, and other relevant information will be accurately located on copies of available aerial photographs and U.S. Geological Survey (USGS) 15-minute quadrangle maps or more detailed project maps.

Upon identification of archaeological material, the field crew will place temporary flagging at the location of diagnostic artifacts or ecofacts and flag the apparent perimeter of the deposit. Such flagging will be removed upon completion of site recording. If feasible, a permanent natural feature such as a rock outcrop will be used as a datum for mapping the site, features and artifacts; otherwise tubular pieces of PVC will be used. The datum will be described and plotted on a site sketch map. Sketch maps of cultural sites discovered will be drawn to scale, based on compass bearings and measured dimensions. The sketch map will include the location of cultural and topographic features, areas of artifact concentration, location of diagnostic artifacts, and overall site conditions. If conditions allow, GPS points will be collected for sites and features.

In addition to mapping and recording of cultural remains, factors of environmental setting will be recorded, especially noting vegetation, water resources, topography, and any natural phenomena that may have been influential in selecting the particular location. The recording procedures employed will be designed to document, to the fullest extent feasible, the observable cultural and related natural phenomena.

The recording procedures employed by the archaeological team will also be used for recording historic sites. Building or foundation dimensions will be paced or measured and their various exterior elevations will be photographed. Cultural properties will be photographed with a digital camera and electronic copies of exposures will be made available to JHI, involved Agencies, Tribes and the Project stakeholders, as appropriate without violating restrictions on confidential site location information. In addition to overview photographs, photographic documentation of relevant features, both cultural and natural, will be provided. Each exposure will be recorded on a photo data sheet denoting exposure number, date, site number, feature, location, and depth (if applicable).

Previously recorded resources will be updated if there are any observed changes since their last recording. When analyzed, the data collected at the sites will allow the cultural resource specialists to make a recommendation of eligibility for the National Register for each property. Properties recommended as National Register eligible will also be evaluated in terms of effects or potential effects

of the proposed activities. Contractor will make recommendations for how to avoid or mitigate identified effects to eligible resources.

2.4.1 Quality Assurance/Quality Control

The cultural resources team will follow several procedures to ensure quality control. Contractor will enable a quality control system. Suggested procedures will include that crew members and the crew leader will use standard forms developed by the USFS, as well as AHRS cards, for recording information on survey tracts and cultural resources. The crew leader will review work as it is completed and the principal investigator will review data forms for each survey area to identify information that appears to be incomplete or inaccurate. This procedure will enable the field team to correct the forms as needed before they leave the field.

2.5 Reporting

Contractor will prepare a brief summary report of the pre-field findings, including the results of the update of background and records research, ethnographic research and interviews and any recommended additions to the APE or field studies that may result, mapping of sensitivity zones for use during the field surveys, and a final Project APE definition and related consultation outcome seeking concurrence. In addition, draft Forest Service and State of Alaska permit applications will be submitted as appendices to the pre-field summary report, if required. The document will be submitted to JHI for review and comment. After addressing any comments the document will then be submitted to archaeologists at the Juneau Ranger District and the FERC.

Following completion of the field studies and analysis of the data and materials collected, Contractor will prepare a professional technical report. The technical report will discuss the methods and results of the cultural resource assessment, using maps, tables, and photographs where necessary. A second volume of the report will contain completed AHRS cards, Tongass Site Inventory Records, maps, and data sheets for each site, plus copies of any other applicable maps, that will only be submitted to AHRS, DIA and the USFS Archaeologist.

Contractor will be familiar with the NEPA and FERC ALP licensing process to assist JHI. Contractor will assist JHI in completing cultural resources required information in relation to the NEPA process and for the FERC hydropower licensing process

2.6 Study and Report Schedule

Pre-field studies (i.e., background research, ethnographic research and interviews, APE definition and consultation, mapping of sensitivity zones for field surveys, permit applications [if required]) will commence in 2011 and a draft summary report produced by the end of 2012 for review and comment by the Project stakeholders. A final version of the plan summary report, together with a final study plan and appropriate permit application(s), will be completed in late 2011.

The cultural resources field studies will commence in summer 2011 and could continue in 2012, pending agency concurrence on the APE and receipt of any USFS or State of Alaska permits. Field surveys will be completed before weather limits access to Lower Sweetheart Lake. The draft technical report will be submitted for review for public comments and agency review. The final report will consider comments along prompt review by the agency stakeholders, and should be available in early winter 2011/2012.

Contractor will provide JHI Cultural resource information/assistance services in the preparation of environmental documents for a Preliminary Draft Environmental Assessment and FERC License application.

3.0 Field Logistics

Food, lodging and transportation for the field crew will be supplied by the M/V Lizzy J, a fully contained vessel to be anchored in Gilbert Bay for periods requiring overnight stay for the duration of the 2011 survey and 2012 survey, if necessary. In the absence of the M/V Lizzy J, another suitable vessel will be supplied. An inflatable vessel with power will be supplied for reconnaissance and field crew transportation in and around Gilbert Bay. At no time will trash or waste of any kind be emitted from the vessel. A small power skiff or inflatable will be used on Lower Sweetheart Lake. A helicopter or float plan will be necessary to access survey areas on Lower Sweetheart Lake.

Agency personnel and Tribal personnel may attend field visits upon approval of JHI, contractor and field logistic arrangements.