

**APPENDIX B**

Archaeological Report



**2019 CULTURAL RESOURCES INVESTIGATION AND  
SECTION 106 RECOMMENDATIONS AND FINDINGS  
FOR THE DENALI COMMISSION DILLINGHAM  
WASTEWATER LAGOON RELOCATION STUDY,  
LOCATED IN DILLINGHAM, ALASKA**

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## EXECUTIVE SUMMARY

The City of Dillingham (City) obtained federal funding from the Denali Commission to improve the existing sewage and wastewater treatment system in Dillingham, Alaska. The Dillingham Wastewater Lagoon Relocation Study is designed to look at a range of potential sites for sewage lagoon relocation and rehabilitation, and construction of a new wastewater treatment plant (WWTP). Bristol Engineering Services Company, LLC, (BESC) was contracted by the City to complete the study as part of the preliminary engineering design.

Given the project is funded by the Denali Commission, consultation pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and its implementing regulations (36 CFR §800) will be required prior to construction to determine whether or not historic properties will be adversely affected by the undertaking. BESC does not have staff meeting professional qualification standards for assessing whether or not the undertaking will result in such effects pursuant to the Act. As such, True North Sustainable Development Solutions, LLC, (TNSDS) was subcontracted by BESC to carry out a cultural resources investigation for providing recommendations to the lead federal agency for issuing a finding per 36 CFR §800.

Three alternatives were identified as possible sites for improvement to the existing sewage and wastewater treatment system: the first alternative is east of Dillingham, the second is directly in Dillingham, and the third is south of Dillingham and towards the Kakanak Hospital. The assessment and recommendations for the project, herein referred to as the Dillingham Wastewater Lagoon Relocation Study, is based on a desktop survey consisting of research from previous cultural resource investigations, recorded cultural resources, and an assessment for predicting the probability of identifying undiscovered cultural resources within the three proposed areas of potential effects (APE). TNSDS Principal Historic Properties Consultant Robert L. Meinhardt, III, M.A., and Cultural Resources Project Manager Amy Ramirez carried out this research and prepared a report to provide information necessary for making recommendations for complying with Section 106 of the NHPA and its implementing regulations 36 CFR §800.



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## ACRONYMS/ABBREVIATIONS

<b>ADCCED DCRA</b>	Alaska Department of Commerce, Community, and Economic Development; Division of Community and Regional Affairs
<b>AES</b>	ASRC Energy Services
<b>AHRS</b>	Alaska Heritage Resource Survey
<b>ANTHC</b>	Alaska Native Tribal Health Consortium
<b>APE</b>	Area of Potential Effects
<b>BBAHC</b>	Bristol Bay Area Health Corporation
<b>BESC</b>	Bristol Engineering Services Corporation
<b>BIA</b>	Bureau of Indian Affairs
<b>BLM</b>	Bureau of Land Management
<b>DNR DMLW</b>	Department of Natural Resources, Division of Mining, Land, and Water
<b>DOE</b>	Determination of Eligibility
<b>HUD</b>	Housing and Urban Development
<b>IBS</b>	Integrated Business Suite
<b>NHPA</b>	National Historic Preservation Act
<b>NLUR</b>	Northern Land Use Research
<b>NPS</b>	National Park Service
<b>NRHP</b>	National Register of Historic Places
<b>OHA</b>	Office of History and Archaeology
<b>RAC</b>	Russian American Company
<b>SHPO</b>	State Historic Preservation Office
<b>TNSDS</b>	True North Sustainable Development Solutions
<b>WWTP</b>	Wastewater Treatment Plant

## INTRODUCTION

The Dillingham Wastewater Lagoon Relocation Study is intended to propose sites for a sewage lagoon relocation and rehabilitation, and the construction of a new wastewater treatment plant (WWTP). Three sites have been proposed as potential solutions to the need for improved water sanitation in the community. Locations for the three sites include an area directly in Dillingham, an area just east of Dillingham, and an area south of Dillingham, near the Kanakanak Hospital.

### Project Location and Physical Setting

The Dillingham Wastewater Lagoon Relocation Study is undertaken in Dillingham, Alaska, which is located at the extreme northern end of Nushagak Bay, in Bristol Bay, at the confluence of the Wood and Nushagak rivers. Dillingham is 327 miles southwest of Anchorage. The town has a population of 2,382 people with employment primarily offered through commercial fishing and the large regional hospital at Kanakanak (ADCCED, DCRA 2019).

The region falls within the transitional climate zone, characterized by tundra interspersed with boreal forests, and weather patterns of long, cold winters and shorter, warm summers. Heavy fog is common in July and August. Winds of up to 60-70 mph may occur between December and March. The Nushagak River is ice-free from June through November (ADCCED, DCRA 2019).

As previously mentioned, the Dillingham Wastewater Lagoon Relocation Study proposes three alternatives for improving the existing WWTP. The three sites proposed are located at various areas within and around the vicinity of Dillingham (Figure 1). These three locations are as follow.

#### Site #1 – Improvements to the Existing Sewage Lagoon

The project location for Site #1 is just east of Dillingham, between Tower Road and the west bank of the Nushagak River. This proposed area containing the existing sewage lagoon is relatively flat, consisting of primarily moist

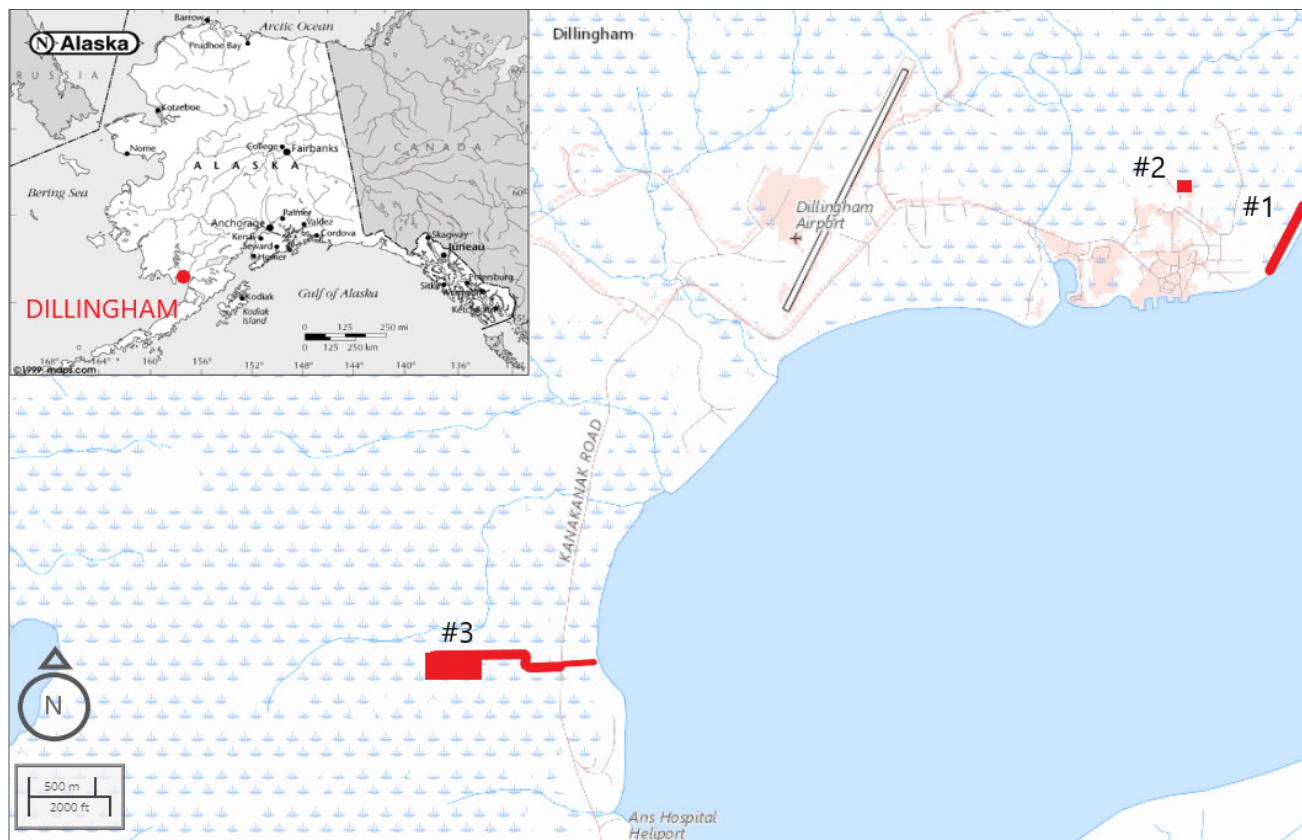


Figure 1. Location map containing proposed project sites in red.

tundra. An actively eroding bluff paralleling the river is included as a consideration in this site, as the bank has been eroding over time and water levels can fluctuate. Reinforcement of the shoreline would be necessary for this site to be viable. An access road for ongoing maintenance in the area would also be constructed for this site.

### **Site #2 – Construction of a New WWTP at the City Shop**

The project location for Site #2 is the northwest edge of the existing pad where the City Shop is located. Areas to the north of the pad consists of a moist, tundra landscape. Surface disturbances are more evident to the south of the existing pad in which Site #2 is located. This area consists of an improved and developed landscape containing various construction pads and roadways.

### **Site #3 – Construction of a New Two-Cell Lagoon**

The project location for Site #3 is south of Dillingham, near the Kanakanak Hospital. The proposed area is unimproved land along the west side of Kanakanak Road. The terrain is relatively flat, consisting mostly of tundra and intermittent black spruce canopies with an understory of willow alder thickets. This site includes installation of sewer lines and a new outfall area on the east of the Kanakanak Road as well.

## **Project Scope**

The Dillingham Wastewater Lagoon Relocation Study is to identify alternatives for long-term wastewater treatment in Dillingham, Alaska. Multiple treatment and site alternatives are presented in the Study and are analyzed based on life-cycle costs and other qualitative criteria. The Study is intended to be used by the City as a planning document to secure funding for additional development (design and construction) of the selected alternative. The current wastewater lagoon does not have effective aeration of sewage in holding and the water may be moving through the existing lagoon system too quickly. The study considers three possible sites for wastewater treatment improvements:

- treatment improvements at the existing lagoon and shoreline erosion protection;
- wastewater treatment improvements adjacent to the City Shop pad; and

- wastewater treatment improvements along Kanakanak Road, southwest of Dillingham.

## **PRELIMINARY AREA OF POTENTIAL EFFECTS (APE)**

The Dillingham Wastewater Lagoon Relocation Study is assessing three sites at various locations within and around the vicinity of Dillingham. As such, these three locations should be considered as the area of potential effects (APE) for the Denali Commission to meet its requirements pursuant to Section 106 of the NHPA and its implementing regulations 36 CFR §800. For the purposes of identifying the level of effort necessary for identifying historic properties and assessing whether not historic properties will be affected by the undertaking, the preliminary APE will be discussed as three APEs for each of the proposed sites included in the Dillingham Wastewater Lagoon Relocation Study (APE 1, APE 2, and APE 3).

### **Proposed APE 1**

Proposed APE 1 for Site #1 is located east of Tower Road and along the west bank of the Nushagak River. This alternative proposes to install improvements at the existing lagoon and create a protective barrier against the encroaching river to the east and/or sheetpile wall will be placed along a roughly one-half-mile portion of the riverbank after scraping surface vegetation and grading is completed (Figure 2).

### **Proposed APE 2**

Proposed APE 2 is along the northwest edge of the existing pad for the City Shop at 810 West 2nd Avenue, in Dillingham, Alaska. Wastewater treatment improvements will be constructed north and east of the City Shop pad. Subsurface sewer lines will be installed and connected to the existing city system (Figure 3).

### **Proposed APE 3**

Proposed APE 3 is west of Kanakanak Road, between Dillingham and Kanakanak Hospital. This alternative proposes to construct wastewater treatment improvements with a two-lane access road west of the Kanakanak Road, and will include the installation of a wastewater outfall line to the east of the Kanakanak Road. New subsurface force mains from Dillingham, and possibly the hospital, will be installed beneath Kanakanak Road to connect with the new facility (Figure 4).



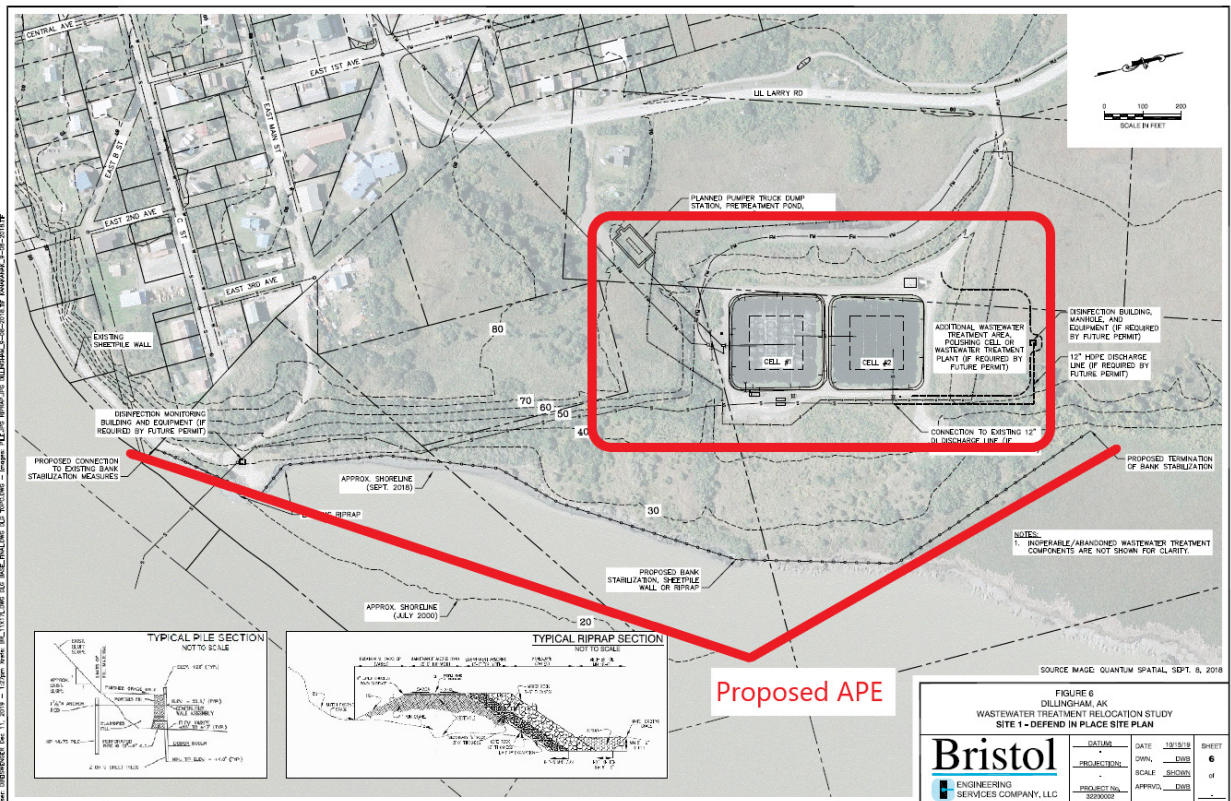


Figure 2. Proposed APE 1 – fortification of existing sewage lagoon cells.

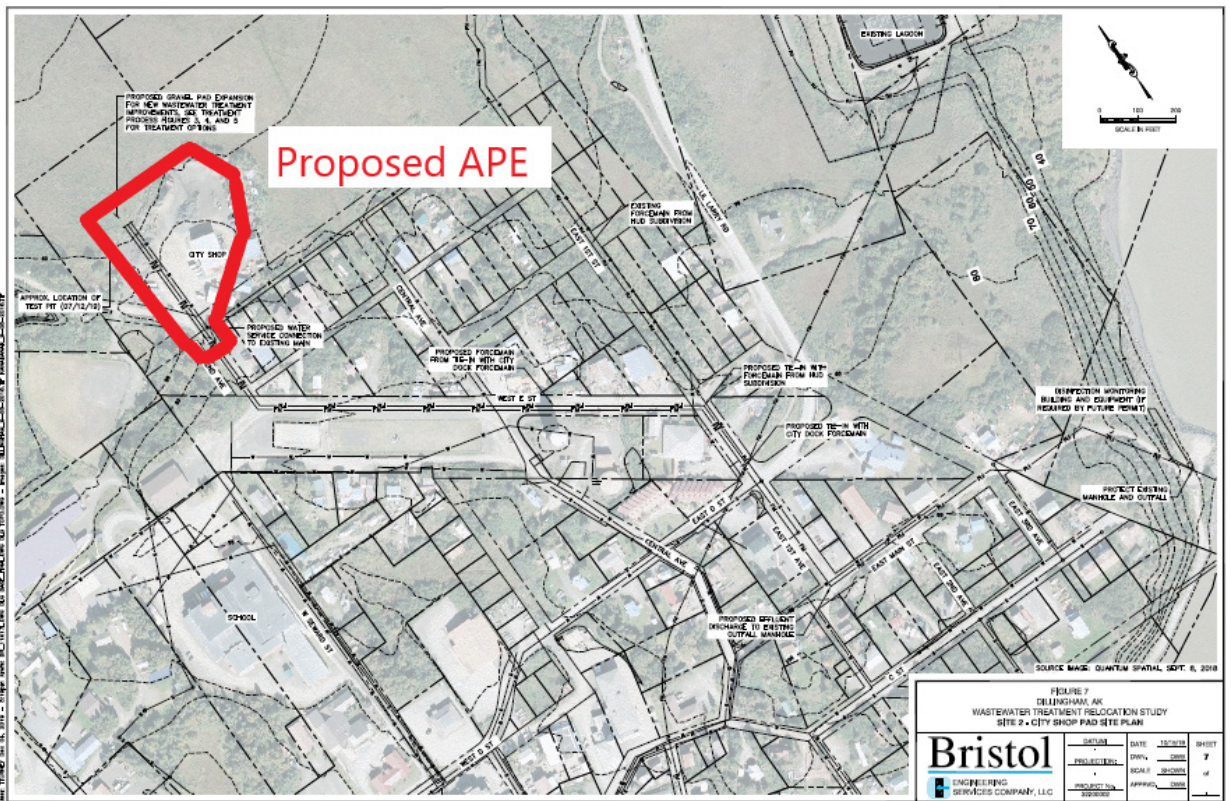


Figure 3. Proposed APE 2 – wastewater treatment improvements and utility line tie-ins.

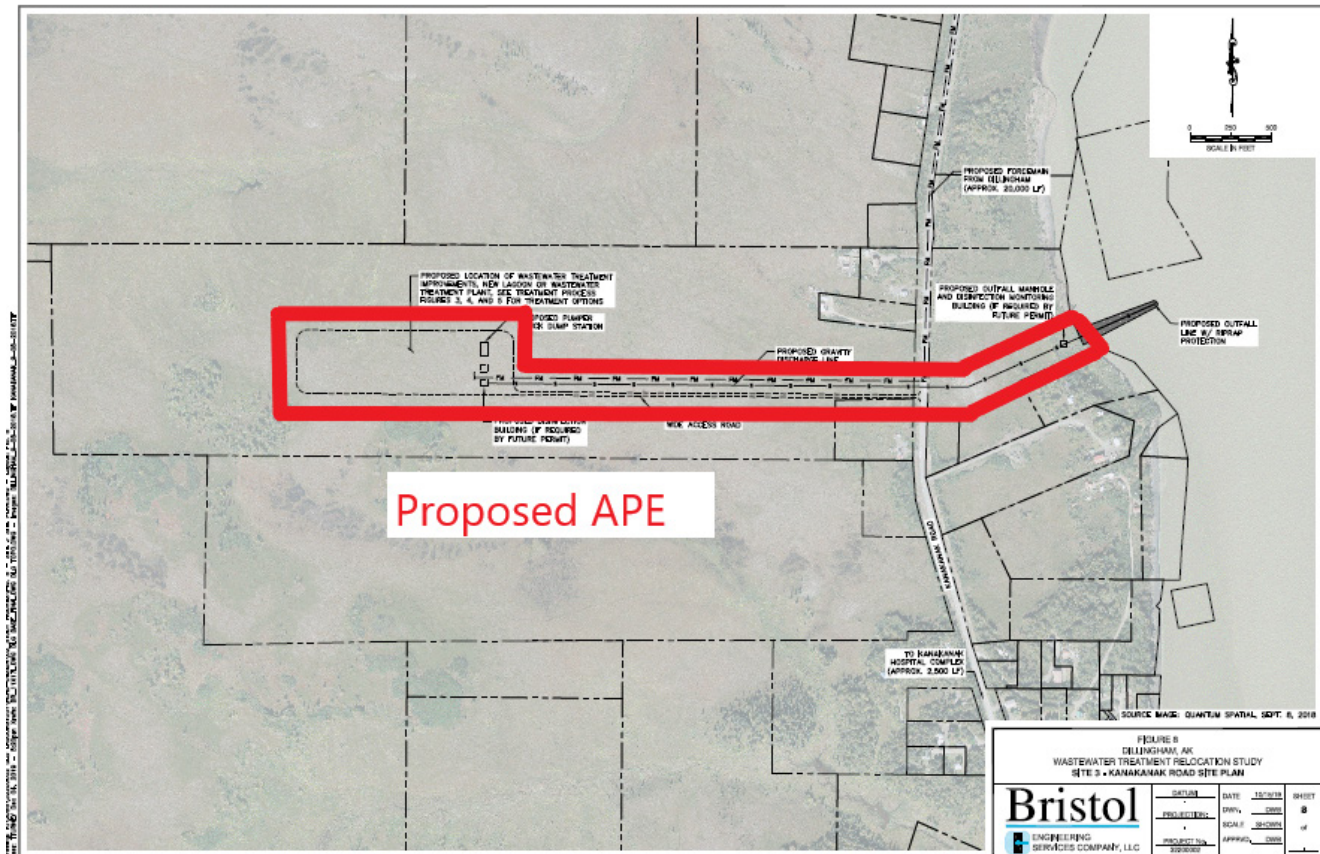


Figure 4. Proposed APE 3 – wastewater treatment improvements with access road, utility line tie-ins, and new outfall zone.

## METHODOLOGY

Conducting a cultural resource desktop survey and assessing potential effects to historic properties for the Dillingham Wastewater Lagoon Relocation Study involved searching records held on file at the Office of History and Archaeology (OHA). Preliminary research was focused on the location, size, and age of cultural resources reported within and/or near the preliminary APE. The search was then expanded to two miles beyond each of the APEs for the proposed sites to identify the types of possible undocumented resources that may be located in each. This research aided in the development of a historic context for the development history of the region, as well as a synthesis of results from previous cultural resource surveys and a quantification of documented historic and/or prehistoric sites, buildings, structures, districts, or objects within the project site areas and assessing effects to historic properties pursuant to 36 CFR §800.

## Literature Review

A literature review was conducted to identify previous cultural resources and reports of investigations in and around the preliminary APE. Relevant sources including online databases, agency databases, and public database resources were researched to yield information pertinent to the proposed sites and study area for the desktop survey. The IBS Portal online at OHA was searched for previous cultural resources investigations in the preliminary APE for the three proposed sites and expanded search area. The NRHP database maintained by the National Park Service (NPS) was also searched for potential properties that were previously nominated on the NRHP (NPS 2019).

## Archival Review

A search of the IBS Portal at the OHA covered all available modules: AHRs, the AHRs Mapper, AHRs References,

National Register Nominations, Determinations of Eligibility (DOEs), Surveys, RS-2477 Historic Trails Data Layer, Bureau of Land Management (BLM) Native Allotment Selections Layer, and the Document Repository (Alaska OHA 2019). The search area initially focused on the three proposed APEs and was then expanded two miles from the study area in an effort to gain a better understanding of the historic trends and settlement patterns within and adjacent to it. The information obtained from this search aided in the identification of various types of cultural resources that might be encountered within the proposed APEs and for the development of a prehistoric and historic context from which resources can be evaluated for inclusion in the NRHP.

### Probability Model for Identifying Cultural Resources

A probability model based on a preliminary desktop survey involving a literature and archival review was developed for assessing the likelihood of encountering undocumented cultural resources in the study area (Table 1). Previous archaeological investigations provided information pertaining to the type of sites recorded in the study area and the greater region, as well as their density. In particular, James VanStone's *Historic Settlement Patterns in the Nushagak River Region, Alaska* provided detailed information regarding site location and characteristics in the region (VanStone 1971).

According to VanStone, the peoples who have left their mark on the landscape as seen through the archaeological record were Central Based Wanderers. Habitation took the form of sedentary seasonal settlements with both permanent and temporary bases. The duration of occupancy at each settlement site relates directly to seasonality and available resources in a given area. Populations in the region were considered rather transient and frequently moved across the landscape (VanStone 1971). All sites along the Nushagak River, its tributaries, and in its bay conformed to the same general pattern. Sites located directly along riverbanks (high banks, free from flooding and giving protection, some located near streams for access to fresh water) were observed as cleared areas with a thick overgrowth of grasses. Such sites consisted primarily of individual house pits that were deep, distinct, and very noticeable by investigators. Coastal bay sites are also seen in cleared areas along elevated beach ridges and terraces.

House pits observed by VanStone were relatively large, measuring up to eight meters wide, and contained various entrance tunnels. They were often located with a good view downriver and near wood for building houses and used for fuel. Pits were well defined but hard to distinguish from one another due to vegetative overgrowth. Houses were semi subterranean, with square or rectangular living rooms and connecting tunnels. Most of the houses faced a lake or down river. Hard packed dirt floors contained a central hearth, with the main structure made of spruce logs, or the occasional cottonwood or birch. Sleeping benches were placed along the outer walls and the roof was supported by four central interior posts. Kashgees, or men's houses, followed the same floor plan but were much larger in size and had interior steam bath areas. All river sites characteristically lack deep midden deposits (as do coastal sites) presumably due to erosion. Sites on the river are relatively easy to access, whereas lake sites are much more difficult to access (VanStone 1971).

In the lower Nushagak drainage, seasonal settlements have been observed along anadromous streams, including estuaries where spawning salmon could be easily caught. Caribou regularly migrated between the Brooks Range to the north and the Mulchatna and Nushagak rivers to the east/southeast of Dillingham. Sites at the mouth of Nushagak River likely sprang up for fishing related activities (1880-1900) due to cannery and commercial salmon fishing in Nushagak Bay. Coastal Eskimos are known to have been familiar with the Wood River and the Wood River Lakes, parallel lakes that drain the eastern side the Kilbuck Mountains into Nushagak Bay. Two flu pandemics (1830s, 1918s) decimated the populations in the Nushagak and Wood River drainages. The population never rebounded due to shift in economic importance of Nushagak Bay for a commercial fishing economy (VanStone 1971).

Based on the precursory literature review and file searches, it was determined from previous cultural resource investigations that most cultural resources recorded within the vicinity of the study area are historic and prehistoric village sites consisting of individual and/or isolated house depressions; buildings associated with the canning industry and an old hospital campus; and several cemetery sites. Prehistoric archaeological sites

previously recorded on the AHRS database were mostly located near water sources (i.e. coastal areas of Nushagak Bay and along the Nushagak River).

Areas subject to intense development and/or infrastructure improvements were identified and played a role when predicting areas where cultural resources may be encountered. Heavily disturbed areas located within the study area, such as existing city streets, construction pads, and utilities development are considered to yield a low potential for containing archaeological sites.

Elevated landforms away from water sources are considered a moderate potential. Areas located along interior riverbanks and water outages areas near lakes are considered to yield moderate to high potential for containing archaeological sites. Terraces along interior corridors of anadromous rivers (i.e. Wood and Nushagak rivers) and coastal areas near river outages are considered high probability.

Of particular concern are those areas of the study area where cultural resources have been recorded on the AHRS database. These areas are also considered high probability and will warrant archaeological survey and/or monitoring because of the presence of known cultural resources. No sites were identified through background research as being located within any of the three proposed APEs. A total 119 were identified in the expanded search area and depict a pattern of archaeological sites and historic buildings concentrated along shorelines.

**Table 1. Probability Model**

Probability	Description
Low Potential	Heavily disturbed areas, perennially water-logged lands
Moderate Potential	Elevated landforms and terraces
Moderate-to-High Potential	Riverine lands, water outage areas at lakes
High Potential	Coastal areas near river outages, areas with high concentrations of AHRS sites (Kanakanak, shorelines), terraces of interior water courses

## CONTEXT STATEMENTS

### Applicability

Context statements are an important aspect of conducting a cultural resources survey. Such statements aid in evaluating the significance of a property and, therefore, identifying whether it is a historic property that may be adversely affected by a federal undertaking. The statement provided below will focus on the prehistoric and historic context most significant to resources located within or around the preliminary APE. It is important to note the date ranges provided in Table 2 for prehistoric cultural traditions are general and overlap in time, as one tradition slowly incorporated new technologies, and thus became defined as a new, distinctly different tradition. The information is also constantly changing as new data is acquired.

The prehistoric context of the region has been derived from archaeological sites located from the Platinum/Good News Bay area, south to Togiak, Dillingham, east the Naknek Drainage, and north to the Wood River Lakes and the Ahklun Mountains. A regional prehistoric chronology for Southwest Alaska has been developed through the archaeological investigations of Ackerman (1980; 1988; 1994; 1996 a&b), Anderson (1970), Dumond (1984; 1987), Henn (1978), Holmes (1986), and VanStone (1967; 1984). The identified traditions have been called the American Paleoarctic, Northern Archaic, Arctic Small Tool tradition, Norton (a regional variation of late Arctic Small Tool), and Western Thule/Late Prehistoric Eskimo. Archaeological evidence suggests that each tradition was uniquely adept at exploiting the resources available in a given environment and that the toolkit assemblages became more refined and specialized over time.

### Anthropological Research in Southwest Alaska

The first anthropologist to have conducted research in the greater region was Ales Hrdlicka. In 1931, he travelled the Nushagak River to Old Koliganek, and then the Mulchatna River in search of skeletal specimens for the US National Museum. He identified and documented several archaeological sites along both rivers (Hrdlicka 1944; VanStone 1967).

Helge Larsen identified villages at Chagvan Bay while completing surveys in the Bristol Bay region in 1948. Larsen's work was expanded upon by Bob Ackerman who in 1962 excavated a hunting camp in Security Cove. Tools observed at the site were indicative of an Alaskan interior tool complex focused on hunting land-based mammals, rather than a maritime focused tool set focused on the procurement of marine resources. The observations helped to form a picture of a nomadic people who travelled between different environments to obtain resources (Ackerman 1964; Ackerman 2008; Shaw 1998).

Don Dumond began conducting archaeological studies on the Alaska Peninsula in 1960 and continued his investigations for 15 years. His work resulted in a better understanding of the prehistory of the Alaska Peninsula, including specific cultural sequences along the Nushagak drainage that reached back nearly 4,000 years (Dumond 1962; Dumond et al. 1975; Dumond 1981).

Beginning in 1964, James VanStone spent five years the Nushagak drainage area. He collected ethnographic information from the inhabitants of the region and published an ethnography in 1967 (VanStone 1967), a series of two monographs pertaining to 19th century village sites along the Nushagak River (VanStone 1968; VanStone 1970), a monograph on the historic settlement patterns of the region (VanStone 1971), and a translation of F.P. von Wrangell's *"Observations on Alaskan Eskimos and Indians"* (Wrangell 1970).

Complementing the efforts of VanStone and Dumond, several other individuals completed investigations in the greater region, including Don Clark, Winfield Henn and Roger Harritt. Michael Yarborough began an excavation

at Ugashik in 1981, followed by the 1990 identification of 11 sites near Iliamna that reflect land-use spanning nearly 8,000 years (Yarborough 1983; Yarborough 1991).

Ackerman surveyed the shores of Lake Chikuminuk in Wood Tikchik State Park. Three additional lakes were surveyed in 1983-1984 by Bob Shaw (Ackerman 1981; Shaw 1989). Ackerman also completed research on and near the Kuskokwim River, identifying occupations nearly 10,000 years old; occupations closer to Nushagak are much more recent, beginning roughly 3,500 years ago (Ackerman 1996b; Shaw 1998).

The most recent research on the Alaska Peninsula has been conducted by Herbert Maschner and Hiroaki Okada, whom focused on the lower peninsula. The central portion of the peninsula was the subject of a 2009 dissertation by Richard VanderHoek, and the entire southern coast of the peninsula was extensively researched in response to the Exxon Valdez Oil Spill in 1989

The cumulative result of this ongoing research has been the understanding of the broad trends and patterns of the nearly 10,000 year-long human history of the Alaska Peninsula, and the greater Bristol Bay Region. Information from these academic studies provide insight into the lifeways of those who inhabited the northern and southern edges of the Alaska Peninsula and areas between the Bering Sea and Pacific Ocean coastlines.

## Prehistory

The prehistoric context of the region has been derived from archaeological sites located from the Platinum/Good News Bay area, south to Togiak, Dillingham, and the Naknek Drainage, and north to the Wood River

**Table 2. Cultural Traditions of the Nushagak Bay Area.**

Tradition	Phase	Years BP	Material Items and Site Characteristics
<b>Paleoarctic</b>	Paleoarctic	12,000 - 7,000	Microblades, wedge-shaped cores, bifacial tools, burins, endscrapers
<b>Northern Archaic</b>	Northern Archaic	6,000 - 4,000	Microblades, wedge-shaped cores, side-notched projectile points/bifaces
<b>Arctic Small Tool</b>	Arctic Small Tool	5,000 - 3,000	Abundant microblades, finely detailed end and side scrapers
<b>Norton</b>	Norton	3,000 - 1,000	Chipped stone, pecked stone vessels, oil lamps, organic tempered pottery, labrets, ground stone, net weights
<b>Thule</b>	Thule	1,000 - 250	Chipped stone, pottery, organic material use, depression dwellings with sunken entrances, European trade goods
<b>Yup'ik</b>	Yup'ik	250 - Present	European trade goods, western religion, subsistence lifestyle

Lakes and the Ahklun Mountains. A regional prehistoric chronology for Southwest Alaska has been developed through the archaeological investigations of Ackerman (1980; 1988; 1994; 1996a&b), Anderson (1970), Dumond (1984; 1987), Henn (1978), Holmes (1986), and VanStone (1967; 1984). The identified traditions have been called the American Paleoarctic, Northern Archaic, Arctic Small Tool tradition, Norton (a regional variation of late Arctic Small Tool), and Western Thule/Late Prehistoric Eskimo. Archaeological evidence suggests that each tradition was uniquely adept at exploiting the resources available in a given environment and that the tool-kit assemblages became more refined and specialized over time.

### **Paleoarctic Tradition (12,000 – 7,000 BP)**

The Paleoarctic tradition proposed by Anderson (1970) groups early artifact assemblages that show resemblances to materials found in northeast Asia. Paleoarctic tradition assemblages include microblades, wedge-shaped cores, bifacial tools, burins, endscrapers, and expedient tools made on blades (Figure 5). Groups were highly mobile, with seasonal encampments located in opportune locations for hunting. The tradition is based on materials originally found at Onion Portage in northwestern Alaska (Anderson 1970) and encompasses site data previously defined as the Denali Complex (West 1967). In the study area, Paleoarctic assemblages dating between 7,500-7,900 years before present (BP) have been found at Koggiung at the head of Kvichak Bay, and 8,400-year old materials have been recovered at Ugashik Narrows, some 80 mi (130 km) to the south (Henn 1978: 5).

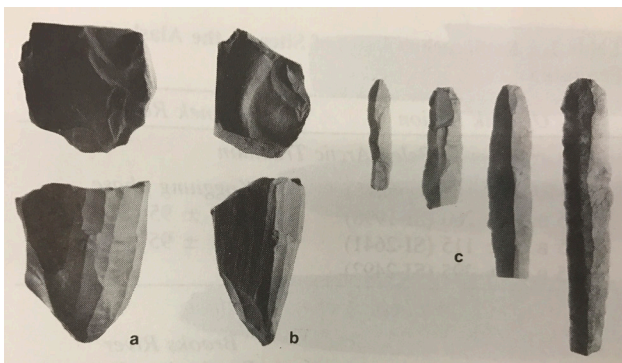


Figure 5. Wedge-shaped cores with tablet platform (left) and microblades (right) from the American Paleoarctic Tradition (Dumond 1984).

### **Northern Archaic Tradition (6,000 – 4,000 BP)**

The Northern Archaic tradition shows an increased use of marine resources, primarily salmon, with continued use of big game species. Side-notched projectile point/biface forms begin to appear in Alaskan archaeological assemblages together with incised pebbles and continued use of microblade technology is present (Figure 6; Braund 2001). Notched and stemmed projectile points enter the artifact assemblage during this period, and dwellings are made of willow frame and covered with skins, with semi-subterranean floors that contain thick midden deposits. The middens commonly contain caribou bone as well as oxidized lenses of sand and charcoal. In Northern Archaic campsites thought to have temporary use, researchers have identified stone-lined tent rings and thin surface scatters of stone artifacts, though with a notable lack of hearth features, possibly a result of aeolian forces (Campbell 1961). Northern Archaic sites are numerous in inland tundra areas, both on the upper Alaska Peninsula and in the far north (Lobdell 1981, 1995), and reach as far south as Ugashik Lakes (Henn 1978). At the head of Kvichak Bay Northern Archaic sites date to 4500-5000 BP (Dumond 1981: 112).

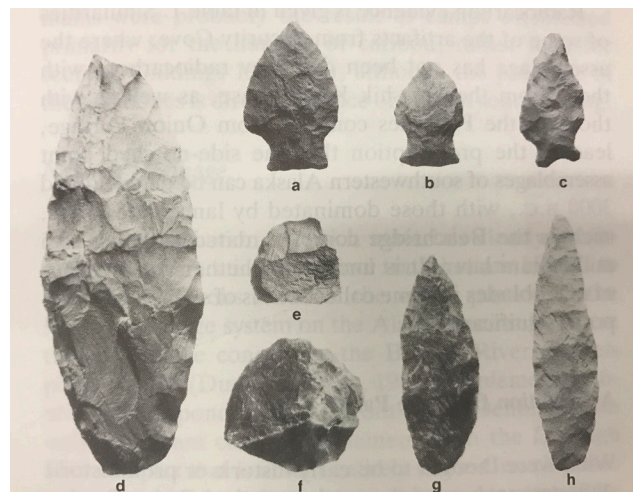


Figure 6. Leaf-shaped biface (left), scrapers (center), and notched projectile points (top) attributed to the Northern Archaic tradition (Dumond 1984).

### Arctic Small Tool Tradition (5,000 -3,000 BP)

This tradition is marked by small, intricately-knapped endblades and sideblades, distinctive, small burins and an abundant use of microblades, all of which become more common as the tradition developed (Figure 7). Along with the progressive increase in tool workmanship is the gradual shift in subsistence resources. Early in the tradition, caribou are a primary food source, with a gradual incorporation of the use of fish resources. Near the end of the tradition, salmon is intensely harvested (Irving 1962: 77). Dwellings early in the tradition are square, semi-subterranean sod enclosures, which gradually become round in floor plan. Excavation of dwelling floors indicates distinct activity areas within the houses. Habitation sites were seasonal, with coastal areas being inhabited in the spring and summer, and interior tundra sites in the fall and winter. Sites containing this phase have been identified in a number of locations in the upper Naknek and Kvichak drainages, with some containing semi-subterranean dwellings (NLUR 2009).

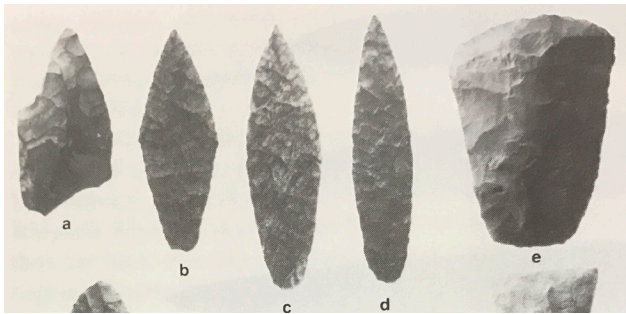


Figure 7. Finely flaked side scraper (left), projectile points (center), and end scraper (right) attributed to the Arctic Small Tool tradition (Dumond 1984).

### Norton Tradition (3,000 – 1,000 BP)

The Norton tradition represents the convergence of two social groups, one from each side of the upper Alaska Peninsula, across the entire landform. By 1,000 BP the people of both sides of the upper Alaska Peninsula maintained contact with each other and have been referred to as a single social group (Dumond 1987: 71). Artifact assemblages contain both flaked stone tools and coarsely ground slate implements. Some Norton stone tools seem to be derived from the preceding Arctic Small Tool tradition. Pecked stone vessels, some used as oil lamps, also occur along with thin and hard organic tempered pottery, labrets from organic material, and notched stones thought to be net sinkers (Figure 8). Use of ma-

rine resources increases, and dwellings vary from large, square, deeply set houses to small, semi-subterranean houses. All houses have entrance tunnels to prevent the cold from entering the living space. Norton sites are numerous and widely spread in the upper Alaska Peninsula (Ackerman 1988). The Norton occupation in the Lake Iliamna region occurs both earlier and later than elsewhere. Norton sites are also present on the Pacific side of the peninsula. Kukak Bay and Takli Island contained what were described as Norton components (Clark 1977).

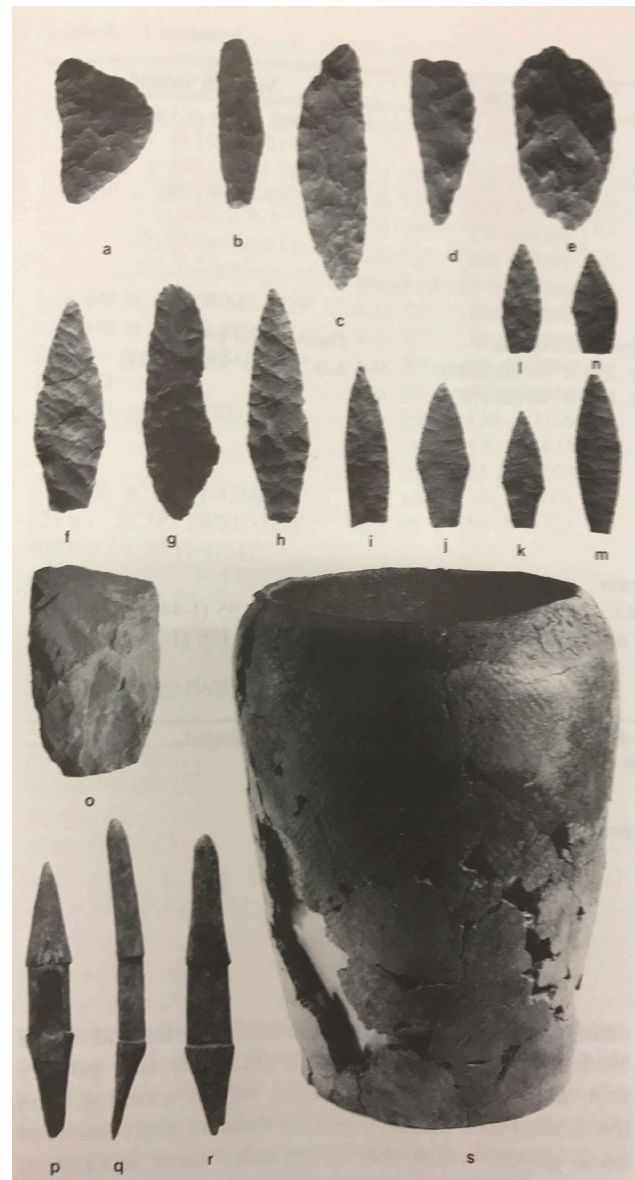


Figure 8. Finely flaked bifaces (top), projectile points (center) and tempered pottery vessel (bottom) from the Norton tradition (Dumond 1984).

### Thule Tradition (1,000 – 250 BP)

People of the Thule tradition were a pan-North-American phenomena, spreading from Greenland to Alaska. This includes the North Slope to the coastal areas of southwest and southern Alaska. The appearance of Thule culture on the Alaska Peninsula occurred immediately after the disappearance of the Norton tradition (Braund 2001). Sites representative of the Thule tradition are thought to have been inhabited by the direct ancestors of the people observed in southern Alaska at the time of early Russian contact. The Thule people relied heavily on ground slate for cutting and thrusting implements, though some forms of chipped stone tools persisted. Thick, poorly fired, gravel tempered pottery is created, and use of organic materials such as grasses and antler intensify (Figure 9). Houses employed a sunken entrance to restrict cold air-flow into the structure and evidence of dog use for transportation is present (Dumond 1984). Three phases of the Thule tradition are represented in the upper Alaska Peninsula. Brooks River Camp and Brooks River Bluffs phases are distinguished by changes in weapon forms and ceramics. Pavik, the third phase, is distinguished by the replacement of Native implements by European or Euro-American goods (NLUR 2009).

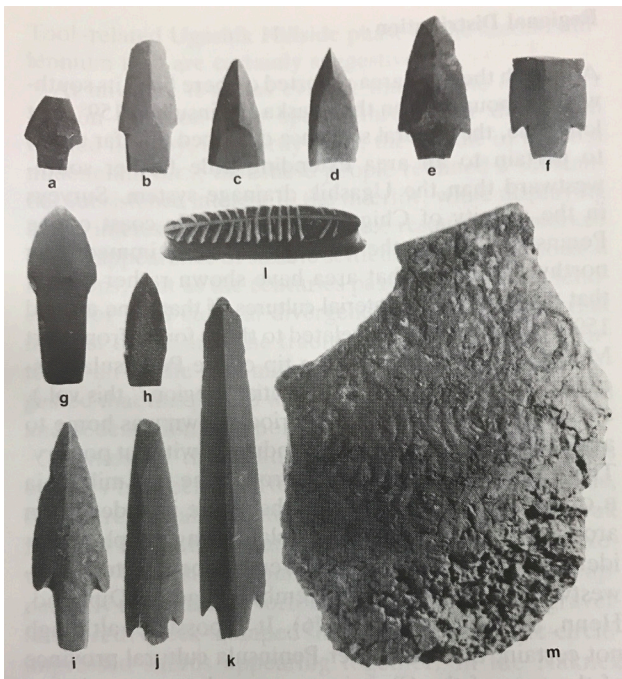


Figure 9. Polished slate knife and projectile inserts (top), carved anthracite labret (center), polished slate dart blades (bottom left) and concentric-circle stamped pottery sherd (bottom right) attributed to the Thule tradition (Dumond 1984).

### Yup'ik Tradition (250 BP – Present)

Yup'ik harvesters are thought to have focused on salmon, seal, and caribou as a main source of nutrition in their diets (Bockstoce 1979). However, some have argued that landscape, technological innovation, population pressure, and warfare may have had a greater impact on subsistence choices which could have focused on riverine or terrestrial resources rather than marine (Fienup-Riordan 1986; Shaw 1998). Late prehistoric populations in the Nushagak River drainage were considered rather transient and frequently moved across the landscape (VanStone 1971). All sites along the Nushagak River, its tributaries, and in its bay conformed to the same general pattern. Sites located directly along river banks (high banks, free from flooding and giving protection, some located near streams for access to fresh water) were observed as cleared areas with a thick overgrowth of grasses.

Yup'ik structures commonly involved semi-subterranean housing with four wood posts in the corners of a square room 50 cm deep and 3-4 m long with an arctic entry. Often small rooms were joined in the late prehistoric period. Men's houses (*qasgi*) also existed as large rooms covered with wood planking. Depending on population, which may vary from 20 to 1,000 people, each winter village could have one to three *qasgi* with housing for women and children (*eneat*), where they were constructed in a linear fashion, or surrounding them, depending upon the landscape. Most of the houses faced a lake or down river and contained hard packed dirt floors and a central hearth. The Yup'ik often constructed winter housing on the same mound from the previous season (Shaw 1998). They were often located with a good view downriver and near wood for building houses and for use as fuel. Technological traditions followed much from the Norton tradition, though the invention of the net, likely expanded from harvesting large numbers of fish, to also terrestrial and aerial use with animals such as hares and waterfowl, expanding the breadth of the subsistence harvest and increasing the ability to harvest in larger numbers. (Figure 10; Shaw 1998).

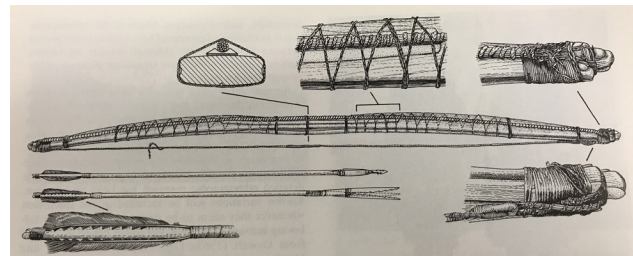


Figure 10. Long bow typical of southern Yup'ik hunters (VanStone 1984).



## Regional Ethnohistory

Dillingham is located in a transitional zone where the Bristol Bay and Alaska Peninsula regions converge, and ethnic boundaries shifted through time. The interaction of multiple ethnic groups where the co-occurrence of chipped and polished stone tools has been observed is evident in oral histories and in the archaeological record (VanStone 1984; Dumond 1981; Dumond 1984). Central Yup'ik Eskimo, Pacific Eskimo, and Athabascan Indians lived in relative proximity to one another and interacted during various periods of the region's history (Reuther et al. 2003). Athabascan Indian groups inhabited the lands to the east, in Cook Inlet, and likely had trade interaction with the Eskimo groups to the west (Clark 1984). It has been well documented that the peoples in Bristol Bay, along the Kuskokwim and Nushagak rivers, and those on the Pacific side of the Alaska Peninsula were frequently at war (Dumond and VanStone 1995; Nelson 1983).

Linguistically, the study area is located within the Central Alaska Yup'ik territory, which consisted of seven different subcategories of cultural groups; three of the groups inhabited the project area: the Kiatagmiut, the Aglurmiut, and the Tuyuryamiut (Figure 11).

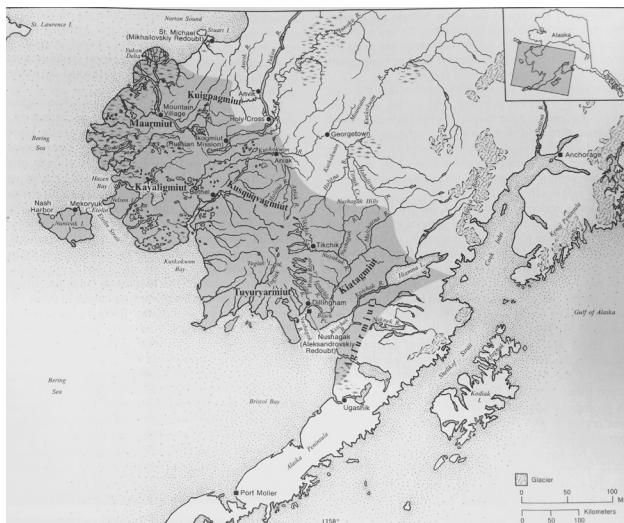


Figure 11. Map depicting the traditional territory of the seven Central Yup'ik speaking subcultural groups (source: VanStone 1984).

Dillingham is located in the area of the Kiatagmiut. The traditional territory of the Kiatagmiut includes the Nushagak River drainage to the east of Dillingham. Historically, the Kiatagmiut, or Nushagak River Eskimos, occupied the entire Nushagak River, the lower Mulchatna

River, and areas to the north including Wood River Lakes, upper Kivchak River, and Lake Iliamna (VanStone 1984). The Kiatagmiut used riverine resources and interior game species for subsistence. They did not venture into the coastal areas of Nushagak Bay, likely due to the occupation of area by the Aglurmiut, who were their bitter enemies. The Aglurmiut inhabited the Nushagak Bay coastal area and the upper portion of the Alaska Peninsula and focused heavily on coastal and marine resources. Their traditional territory included lands to the south as far as Ugashik, and to the north into the Iliamna Lake area (VanStone 1984). The Tuyuryamiut are people of the Togiak River region to the west of Manokotak and are referred to as Tuyuryamiut (VanStone 1984: 224) or Togiagmiut (Oswalt 1967: 8). Their traditional lands included the Togiak River drainage and extended as far west as Manokotak, which is located at the boundary between the Tuyuryamiut and the Kiatagmiut. In general, Tuyuryamiut peoples followed a seasonal subsistence pattern of fishing and hunting. Salmon and sea mammals were exploited heavily from coastal and riverine areas, while game species were hunted from the surrounding mountain ranges. The subsistence rounds included seasonal camps for hunting, fishing, and gathering, as well as a winter camp (Mobley 1996) and utilized sea mammals, marine and freshwater fishes, terrestrial mammals, and migratory birds.

## Historic Context

### Early Contact

While it is likely that Europeans had been voyaging to Alaska as early as 1732, the credit for the so-called "discovery" of Alaska by Euro-Americans is often attributed to members of the second Beringia Expedition, who were led by the Danish Sea Captain Vitus Bering (1681-1741). Instead of finding the northwest passage, in July of 1741, Bering and his crew discovered Alaska (Fortune 2005: 6). Later expeditions were largely focused on coastal areas and major rivers (Meinhardt et al. 2014: 23) and were driven by land acquisition and expansion. Fur trade soon became a primary interest as valuable sea otter pelts, beaver, lynx, bear, and fox, were observed in abundance in Alaska (Golovin 1979: 162 as cited in Meinhardt et al. 2014: 23). The contact period in the Bristol Bay region began in the early 19th century with Russian explorers entering the area as they sought furs and brought with them disease and trade goods (AK ARNG 2004).

The “contact” resulted in a significant increase in infectious and deadly diseases, including smallpox, influenza, measles, venereal diseases, pulmonary diseases, and tuberculosis, that were especially deadly to the Native population. Particularly hard hit were areas like Bristol Bay. Beginning in the mid-1800s, contact with outsiders was becoming more frequent, the population (in some areas) was comparatively dense, and the access to healthcare was limited. As trade increased, more trading posts were needed to keep up with demand. The Russian American Company (RAC) led expeditions into the Bristol Bay region, north of the Alaska Peninsula. In 1818, they established the Aleksandrovskiy Redoubt along the east side of the Nushagak River at an Eskimo village called Nushagak (VanStone 1984). The redoubt was likely named after Alexander Baranov who ordered the establishment of the trading post (Orth 1971). The RAC worked to unify the local inhabitants and attempted to maintain peace. The trading post itself became known as Nushagak, which was the name also given to a post office that opened 1.5 miles north of Aleksandrovskiy at Carmel in 1899 (Orth 1971). Nushagak was the principal village of several smaller villages located nearby.

Russian Orthodox missionaries followed the routes of the trappers and traders as they introduced Christianity to Alaskan Natives (Figure 12). Christianity was adopted by many villages sometime after 1822. Russian Orthodox churches were established west of the redoubt and as far as Togiak in ca. 1829 (Kowta 1965: 17). A Russian Orthodox church was established in 1831 at the Aleksandrovskiy Redoubt and in 1937 a mission was opened. The mission opened a school at the trading post in 1842 (VanStone 1984). Moravian missionaries entered the area in 1884 and established a mission at Carmel but their efforts were small in scale when compared to that of the Russian Orthodox religion.



Figure 12. Russian Church at Nushagak, 1896-1913 (George Talmadge Collection, UAF-1974-18-64, University of Alaska Fairbanks).

The great smallpox epidemic from 1835-1840, “laid waste the entire population of the southern half of Alaska, causing the death of an estimated one-third of the population” (Fortune 1992: 316). The onslaught of a series of infectious diseases, the alteration of subsistence patterns, and other stresses, likely made the Native more susceptible to tuberculosis which was beginning its slow but steady creep across the territory.

### Commercial Fisheries

Commercial whaling began in the Bering Sea region to the north after 1850. In the 1880s, commercial fishing began to play a role in Bristol Bay. In 1884, the first salmon cannery in the Bristol Bay region was constructed by Arctic Packing Company, to the east of the site of modern-day Dillingham. Ten more were established within the next seventeen years, including the Cannery of the Arctic at Carmel, and the Alaska Fisherman’s Packing Association at Nushagak. The canneries brought with them increased pressure from outside influences, altering Native population subsistence activities. Alaska’s commercial salmon industry and the number of salmon canneries grew until 1891, when the market was threatened with an oversupply of salmon (Stewart et al. 2010).

The Alaska Packers Association formed in 1892 and had an almost complete monopoly on Alaskan canneries by the 1890s (Moore 1993). Salteries and canneries were typically located near the mouths of the main tributaries of Bristol Bay, including the Kvichak, Nushagak, Naknek, Ugashik, Wood, and Togiak rivers. By 1908, ten canneries and numerous salting stations were operating in Nushagak Bay (Stewart et al. 2010). Each cannery and salting station were a complex of numerous wood, framed buildings, typically located on the waterfront (Figure 12). The canneries were typically used only a month or two out of the year, tended to be owned by non-Alaskan companies, and commonly employed non-residents (Hoagland 1993). A large seasonal migration of workers from around the world came to the Bristol Bay region to work in the canneries, a practice that continues to this day (Halliday 2000). Most Natives in the region chose to pursue employment avenues other than cannery labor such as seasonal fishing and trapping for access to the Western economic system (Moser 1902; Cobb 1921). It was not until World War II, which resulted in a prohibition against foreign workers in the canneries, that there was

an introduction of many Native men into the fisheries and both Native men and women into the cannery labor force (Ellanna and Balluta 1992).

Two canneries operated out of Dillingham (Figure 13). The first major outside influence in commercial fishing was the Scandinavian Cannery, operated by the Alaska Packing Company and located on Scandinavian Creek. began operations in 1885 and closed in 1949 as salmon runs began to diminish in the bay. The Alaska-Portland Packer's Association Nushagak River Cannery, today known as the Peter Pan Cannery, was established in 1901 and is currently operating on the same site in Dillingham.



Figure 13. Cannery along waterfront in Dillingham, no date (Alaska State Library 2019).

In 1886, the first cannery near Kanakanak, southwest of Dillingham was established at Bradford Point on the west side of the Nushagak River. Kanakanak was an Eskimo village and the area north of Kanakanak was called Dillingham in honor of US Senator Paul Dillingham (Orth 1971). The Bristol Bay Canning Company's Bradford Cannery attracted a small population of cannery workers and their families. A school was established in one of the cannery buildings as early as 1906 until a school building was built in 1909 (VanStone 1967). The school was converted to a hospital complex in 1918 to help combat an influenza epidemic that devastated the Native population in the region. An orphanage was built adjacent to the hospital in 1920 to house all of the orphans from the influenza outbreak. A post office was established in Kanakanak in 1929 but was discontinued in 1944 (Orth 1971). The hospital was devastated by a fire in 1932 and rebuilt in 1940. It was expanded in 1949 to accommodate the tuberculosis patients that arrived from across the region (Figure 14).



Figure 14. Nurses Quarters (left) with Hospital, 1955 (Steve McCutcheon, McCutcheon Collection, Anchorage Museum, B1990.14.5.TV.85.5).

### Expansion of Commerce and City Growth

Population growth centered on Dillingham (formerly Snag Point), near the confluence of the Wood and Nushagak rivers. The larger canneries offered dry goods to area residents, however, in 1925 the Alaska Packers Association opened a year-round store at the Scandinavian Cannery (Parker 1974). Dillingham began to develop as a regional economic and population center during the 1920s, with salmon still a major economic focal point. During the period commercial enterprises and service industries began to take-off, from professional business and schools, to social services and transportation. Building re-use was common and the vacancy rate was low (Parker 1974). In 1930, the US Census referred to the area as Dillingham, and in 1944, the settlement near Snag Point officially became Dillingham (Orth 1971: 272). In 1944, the area north and adjacent to the hospital complex and the original location of the settlement called Dillingham was renamed Nelsonville after Minnesota Governor Knute Nelson. The Fishermen's Co-Op was established in 1944 and offered dry goods, lines of credit, and public meeting space. The townsite was surveyed in 1947 and the community incorporated as a city in 1963 (ADCCED, DCRA 2019). By the early 1950s, Dillingham had several general stores, a hardware store, two movie theaters, numerous restaurants, a hotel, and an ice cream parlor (Mehls 1994).

Early education in the region was provided by religious missionaries until the first school was constructed in 1910 near Snag Point. As the population grew, numerous additions were constructed for the small single room school. In 1940, the old building was removed, and a new school was constructed. The Public Health Center opened in 1948 to provide preventive healthcare; emergency healthcare was offered at the Kanakanak Hospital

five miles to the south. The Dillingham Volunteer Fire Department was formed in 1947 and a separate high school was built in 1960 (Parker 1974).

Commercial air transport in the region began as early as 1938 with the use of float planes that landed on rivers and in the Nushagak Bay (Bouker 1994). It would be some time before reliable, affordable air cargo services were offered in Dillingham (Figure 13). The city airport was originally a military air strip, crudely designed by the Army in 1942 in an attempt to re-launch a crashed aircraft. In 1944, the city spearheaded an effort to make the strip serviceable for commercial flights. Many air services operated out of Dillingham during the late 1940s to the 1960s. By 1967, Dillingham had daily flights to Anchorage, in addition to scheduled flights to other towns around Bristol Bay (Vanstone 1967). The increased air traffic into and out of Dillingham was facilitated by the construction of a larger airport in 1951 (Parker 1974).



Figure 15. Pilgrim 100B Aircraft, tail number N709Y, 1965; owned at the time by Star Airlines (Ted Spencer, n.d.)

## CULTURAL RESOURCES DESKTOP SURVEY RESULTS

Background research conducted for this desktop survey revealed the three proposed sites for sewage improvements in Dillingham do not contain sites previously recorded on the AHRs database. It is important to emphasize the area surrounding Site #1 was subject to previous cultural resources investigations, but the other two proposed sites have not been. A summary of these previous cultural resources investigations is pertinent for assessing the likelihood for encountering undocumented cultural resources based on the aforementioned predictive model.

## Previous Cultural Resources Investigations

Five previous cultural resources investigations provided pertinent information regarding proposed APE 1. No previous investigations were identified within or adjacent to proposed APE 2. Proposed APE 3 had two relevant cultural resources investigations (Table 3).

### Previous Investigations Within or Adjacent to Proposed APE 1

Previous cultural resources investigations within or adjacent to proposed APE 1 include those for a sewer line installation, a road easement on a federally restricted Native allotment, the advertised sale of a federally restricted Native allotment, a mortgage application for a federally restricted Native allotment, and a federally-funded road improvement project. The results from these investigations are as follow:

- Bureau of Indian Affairs (BIA) completed an archaeological survey of the lot directly north of proposed APE 1 in 1983 for advertised sale of Lot A of the Native allotment AA-7799. The survey was negative for historic properties, and the proposed advertised sale was approved (Crozier 1983).
- 1998 BIA cultural resources survey of Native allotments AA-7799B and AK-54452 located south of proposed APE 1 for both a mortgage application and a road easement (Biddle and DePew 1998). The cultural resources surveys carried out for these undertakings were negative for historic properties. The mortgage was approved and easement permitted for 7799B. A revision and second issuance of “no historic properties affected” in 2006 for a negotiated sale of allotment 54452 (Hoff 2006).
- Upgraded sewer lines associated with the sewage lagoon were installed in proposed APE 1 in 2001 west of the lagoon and across Tower Road to tie into the existing lines north of C Street. The literature review revealed no previous historic properties in the area, and the Alaska SHPO issued a concurrence with the Alaska Department of Community and Economic Development finding of no historic properties affected (Cordes 2001).
- Tower Road was surveyed in 2006 under a BIA Tribal Transportation Program grant for realignment and

resurfacing. The road was improved and widened from the intersection of 1st Avenue and E Street to the Snag Point Subdivision. A 100-foot wide corridor was subject to a cultural resources survey that identified areas of modern debris and previous disturbance. No historic properties were identified from this survey (Pipkin 2008).

**Previous Investigations Within or Adjacent to Proposed APE 2**

No previous investigations were identified within or adjacent to proposed APE 2.

Table 3. Previous Cultural Resources Investigations		
Investigative Level	Resulting Document	Reference
Level IIC - Pedestrian	Findings of Section 106 Review of Allotment AKA-6107 Mortgage Application	Schley, Brown, and Dobriche 1981
Level IIC - Pedestrian	Findings of Section 106 Review of Allotment AA-7799A	Crozier 1983
Level IIC - Pedestrian	Findings of Section 106 Review of Allotments AA-7799B and AK-54452	Biddle and DePew 1998
Level I - Literature Review	Letter Report Re: Proposed Sewer Project At Snag Point Subdivision, Dillingham	Cordes 2001
Level I - Literature Review	Findings of Section 106 Review of the Jean Berglof Allotment AK-54452 Negotiated Sale	Hoff 2006
Level IIC - Pedestrian	Findings of Section 106 Review of the Eugene Saunders Allotment AA-985 Negotiated Sale	Garcia 2008
Level IIC - Pedestrian	2006 Archaeological Survey Of The Tower Road Improvements Project Area, Dillingham, Alaska	Pipkin 2008
Level I - Literature Review	2008 Annual Report of Bureau of India Affairs Archaeology Investigations	Hoff 2011

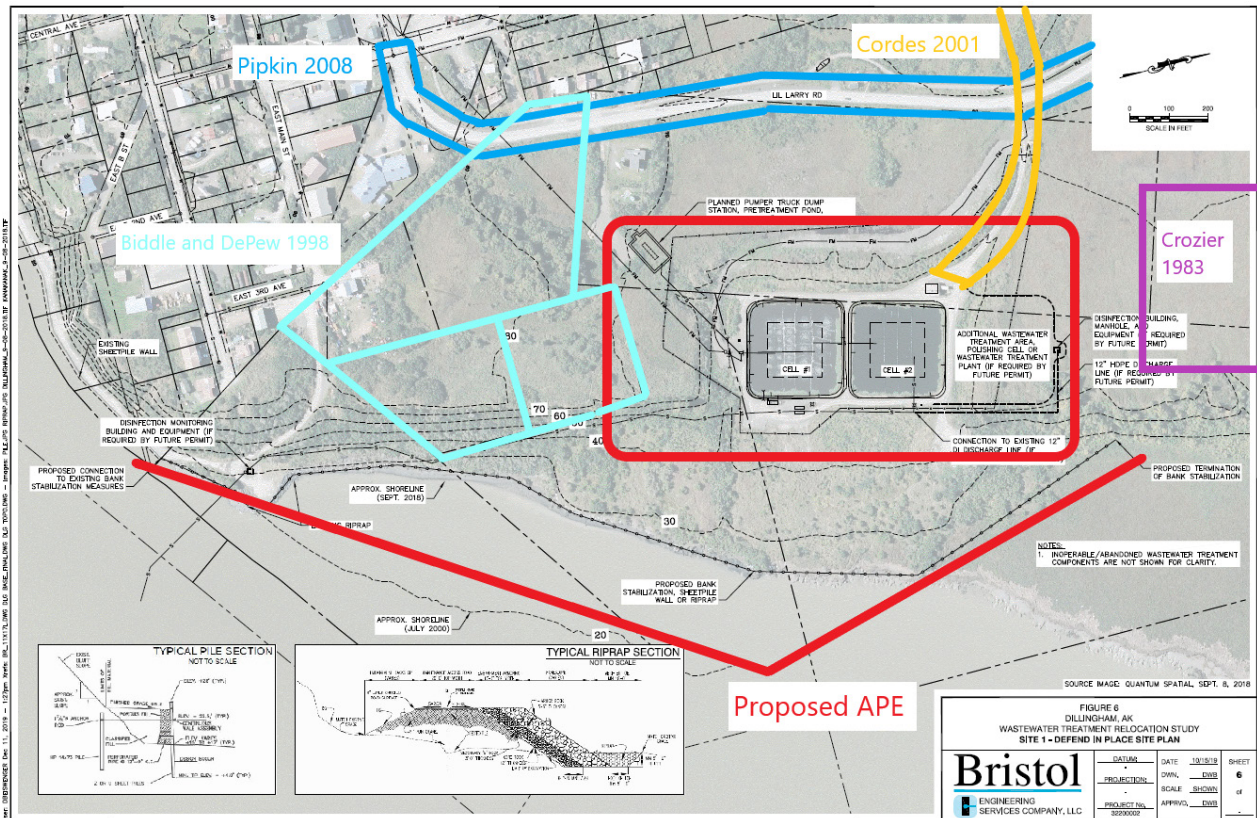


Figure 16. Locations of previous investigations relevant to proposed APE 1.

### Previous Investigations Within or Adjacent to Proposed APE 3

One previous cultural resources investigation was identified within proposed APE 3 as well as one on the lot directly north of the proposed APE. In 1981, the BIA completed a cultural resources survey across the entire parcel of Native allotment AA-6107. This allotment entirely encompasses proposed APE 3. The survey was negative for cultural resources and a proposed mortgage application approved (Schley, Brown, and Dobriche 1981). BIA completed a pedestrian survey in 2008 on the to the north of proposed APE 3 for an advertised sale of a Native allotment (Garcia 2008). The low-lying, moist tundra environment was considered to have low potential for containing cultural resources. The survey yielded negative results, and the sale of the property was approved with a no historic properties finding by BIA (Hoff 2011).

### Previous Investigations in the Expanded Search Area

Previous cultural resources investigations in the expanded search area range from archaeological surveys and burial reinterment to documentation of historic buildings and structures. Earlier investigations were academic, relying heavily on archival records to help direct archaeological surveys, including those of the Russian American Company, the US Census, and the US Postal Service. More recent investigations, however, relate more to compliance with state and federal historic preservation laws and regulations, as well as the reinterment of burials.

Over fifty previous investigations were identified in the OHA's IBS Portal database (Alaska OHA 2019). Nearly all of these cultural resources investigations were undertaken by agencies for compliance with federal and state reg-

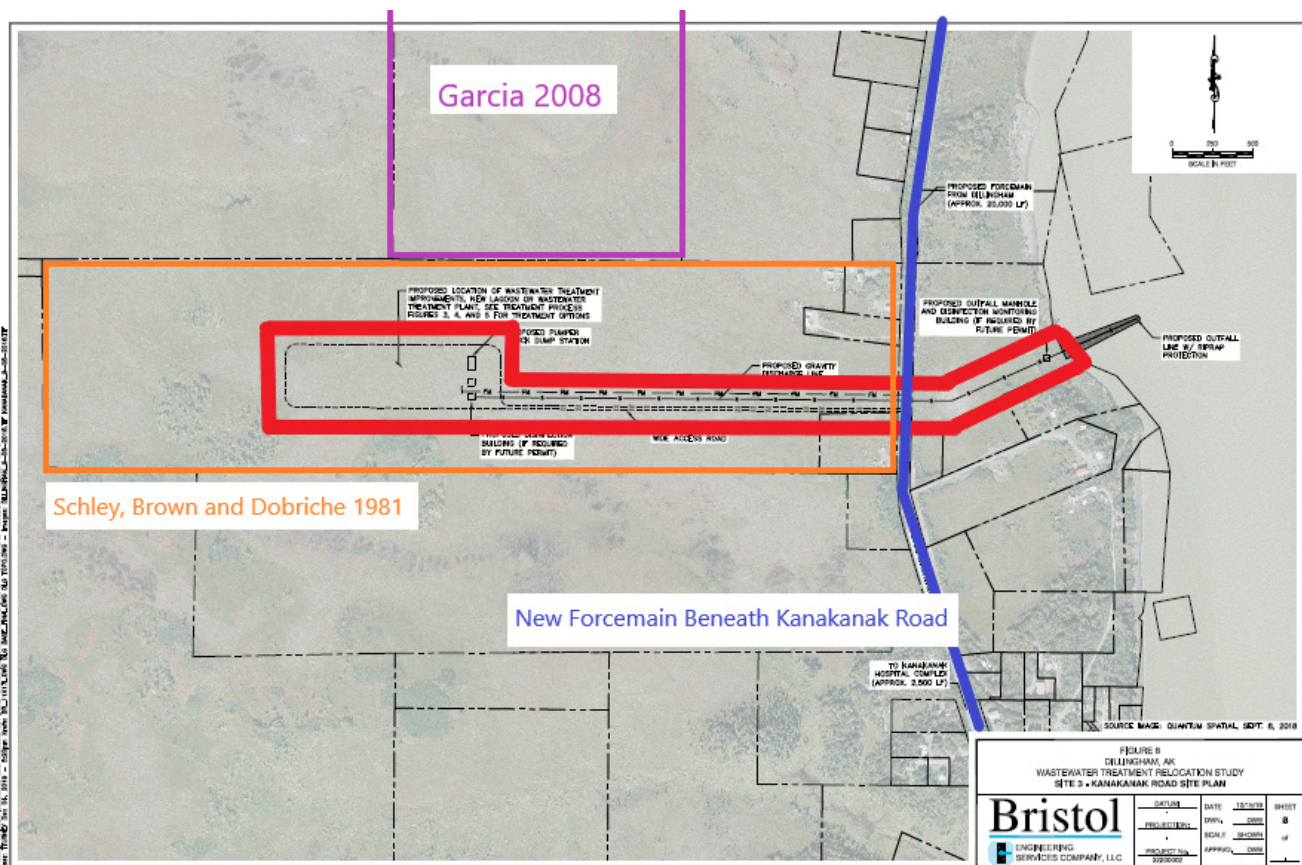


Figure 17. Locations of previous investigations in relation to proposed APE 3.

ulations. More specifically, many were associated with transportation improvements, real estate transactions, health care facility improvements, and installation and replacement of water and sewer systems (Table 4).

- James VanStone completed his ethnographic publication, *Historic Settlement Patterns in The Nushagak River Region, Alaska*, using several grant sources in 1971. Research began in 1964 using oral history and interviews with local inhabitants to systematically locate and survey for archaeological resources in the Nushagak drainage. The report included detailed discussion regarding the location of Old Kakanak, New Kakanak, Nelsonville/Olsonville, and Dillingham (VanStone 1971);
- Road improvements along Wood River Road in 1982 and 1983 undertaken by the City of Dillingham were subject to an archaeological investigation resulting in the identification of numerous archaeological features (Yarborough 1982a). One particular site, DIL-00069, was tested to ascertain the horizontal and vertical extent of the resources and its possible cultural associations (Yarborough 1982b). The site contained two loci of activity, with cache pits, historic artifacts, charcoal, and a possible house pit, likely associated with the Wood River Cannery (City of Dillingham 1983).
- Bristol Bay Area Health Corporation's (BBAHC) redesign and construction of new sewer and water systems at the Kakanak Hospital campus began in the early 2000s. Hazardous materials assessments and pre-construction planning to avoid impacts to cemeteries located on the property were included in the project's design (Pearson 2002). DEC issued a proposal for addressing all concerns, including third-party review of existing contaminants data, including petroleum releases, landfills, and leachate issues; third-party review of the geomorphic results of the bluff erosion rate; and summary of known historic burial information and establishment of a reinterment plan for eroding burials (Pearson 2002). Owen Mason was contracted by the DEC to review the geomorphic data from DOWL and found that the data could not be replicated and recommended against using it for planning purposes. Private consulting firm IHI Environmental and University of Alaska's Environment and Natural Resources Institute (ENRI) completed an environmental review in the fall of 2002 for addressing the exposure of burials along the bluff (IHI/ENRI 2002). The DEC worked with ENRI to develop guidelines based on the legal requirements of the Native American Graves Protection and Repatriation Act (NAGPRA) and Section 106 of the NHPA for the purpose of managing the eroding graves (ENRI 2003; ENRI 2005).
- NLUR completed a literature review and pedestrian survey of the proposed APE for BBAHC's proposed construction of a new mental health facility and its associated parking lot and driveway in 2003. An archaeological reconnaissance of the entire Kakanak Hospital Campus was also carried out at the request of BBAHC. This survey intended to identify locations of marked and unmarked burials as the Alaska Native Tribal Health Consortium (ANTHC) worked to reintern graves actively eroding from the bluff edge. No subsurface testing was carried out due to the possibility of encountering burials. Archaeological features consisting of house pits, however, were identified during this survey in the northern portion of the campus. An evaluation of the cultural resources for inclusion in the NRHP was not completed as part of this cultural resources investigation (Legge et al. 2003).
- In 2006, Chris Campbell of ANTHC conducted a follow-up cultural resources investigation in conjunction with the construction of a new boiler building (Building 601) at the hospital campus. Campbell completed a pedestrian survey with subsurface testing within the proposed APE by referencing a map developed by informant George Shade in 2003 (Shade 2003). The results from this investigation were negative for cultural resources and ANTHC issued a finding of no historic properties affected, with concurrence from the Alaska SHPO (Campbell 2006).
- Rogan Faith updated AHRS cards for Building 301, Building 303, Building 304, and Building 312 on the Kakanak Hospital campus that were provided to the SHPO on behalf of BBAHC in 2007. The stand-alone card submittal included statements of significance and precursory recommendations of eligibility (Faith 2007).

- The Dillingham Downtown Streets Rehabilitation Project led by the Alaska Department of Transportation and Public Facilities (DOT&PF) has been in progress since 2007. An archaeological survey aimed at meeting regulatory requirements of Section 106 for these federally funded improvements was completed in 2008 (Grover et al. 2010). While no archaeological resources were identified from the survey, a recommendation for archaeological monitoring was suggested near the Russian Orthodox cemetery (DIL-00134), as the boundaries of the cemetery are poorly defined. An architectural survey of the project area was completed in 2010, which identified sixteen buildings in the project APE predating 1966. Six of these were associated with the Alaska Portland Packers Association Nushagak River Cannery (DIL-00101). The cannery is eligible for inclusion in the NRHP listing. Three additional properties recommended as individually eligible for inclusion in the NRHP under Criterion A: the Old Dillingham Elementary School (DIL-00093); the Aurora Hotel (DIL-00129); and the Emma Nielsen Residence (DIL-00132). The remainder of the buildings subject to this survey were either not historically significant or no longer retained enough integrity to convey historical significance (Stewart et al. 2010). The Alaska SHPO concurred with these findings in December of 2010 (McMahan 2010). DOT&PF modified scope in 2011 to include areas of possible land acquisition to the proposed APE. A subsequent finding of no historic properties adversely effected was issued for this change in scope (Riley 2011). Additional changes and the added need to acquire rights-of-ways for the project prompted the Federal Highways Administration (FHWA) to consult and receive concurrence from the Alaska SHPO in 2014 with their finding of no adverse effects to historic properties (Fletcher 2014). In 2014, changes in project scope related to drainage and sewer systems prompted DOT&PF to consult with the Alaska SHPO regarding the changes, and the 2010 finding of no adverse effects to historic properties previously issued. The Alaska SHPO concurred with the finding (duVall 2014). The project resurfaced in 2018, with an additive of the removal of a building from the ROW and the installation of water lines (Hilsinger 2018). DOT&PF again issued a finding of no adverse effect to historic properties, although the Alaska SHPO responded with a comment that the building (DIL-00254) had not been evaluated under an appropriate period of significance. Moreover, a concurrence from SHPO for evaluations of two other buildings of age for inclusion in the NRHP had not been submitted as part of the agency's consultation for the project (Bittner 2018). DOT&PF then clarified the previous eight years of correspondence, providing documentation, including a re-evaluation of DIL-00254, and again issued a finding of no adverse effect to historic properties for the project (Price 2018). In 2019, the Alaska SHPO concurred with the finding and all of the added recommendations for determining eligibility for inclusion in the NRHP (Bittner 2019).
- In 2009, the right-of-way for the Wood River Reconstruction Project was surveyed from the point-of-beginning at the intersection with the Dillingham-Kanakanak Road to the Wood River Village (Furnis and Hauer 2009). The 200-foot wide survey corridor was centered on Wood River Road. The cultural resources investigation resulted in the documentation of nine cultural resources, which included historic resources such as clusters of 55-gallon metal drums and an auto repair shop. None of the reported cultural resources were determined eligible for inclusion in the NRHP (Furnis and Hauer 2009).
- ANTHC contracted NLUR in 2011 to conduct additional research for the 2007 determination of eligibility for three buildings at the Kakanak Hospital Campus. The evaluation was in response to proposed building alterations funded through the American Recovery and Reinvestment Act (ARRA). Alterations included the relocation and replacement of a steam generator in Building 401, exterior repairs and painting of Building 401, insulating and repainting of Building 301, installation of new autoclave in Building 601, and installation of a new oxygen generator with upgrades to the medical gas system. Buildings 401 and 601 were assessed as not meeting the 50-year requirement by the NRHP for inclusion. Building 301, the Hospital Administration Building (DIL-00187), was recommended not eligible for inclusion in the NRHP due to lack of physical integrity. As a result, a finding of no historic prop-



erties affected was issued pursuant to Section 106 of the NHP. The Alaska SHPO concurred with this finding (Reckard et al. 2011).

- ANTHC carried out archaeological monitoring during road improvements for the Kakanak Hospital Campus in 2011. The decision to place an archaeological monitor on site during construction activities was a result of consultation with the Alaska SHPO (Harritt 2011). A possible cemetery was identified near the proposed APE during the 2003 cultural resources investigation. No cultural resources or burials were inadvertently discovered, and a finding of no historic properties affected was issued for the undertaking (Florey 2011; Alaska OHA 2018).
- ANTHC contracted ASRC Energy Services Alaska, Inc. (AES) in 2015 to conduct a cultural resources survey for the proposed rehabilitation of a failing sewer leach field system to the property located on 3356 Chuthmok Road, Lot 12, US Survey 4985, in Dillingham, Alaska. The ANTHC Scattered Sites Program aims to bring new water and sewer service to approximately 60 individual, Native-owned homes across the state annually. AES completed a literature review and a pedestrian survey with soil coring and subsurface testing. The results were negative for cultural resources. All reporting followed guidelines set forth in the Scattered Sites Programmatic Agreement document (Thompson and Miller 2015).
- BBAHC proposed to remove four modular buildings from the hospital campus in 2018. BBAHC consulted with its cultural resources management and historic properties consulting company TNSDS to provide Section 106 recommendations for the buildings.

Given the lack of significance and loss of physical integrity, TNSDS recommended a finding of no historic properties affected (Meinhardt 2018). A letter from IHS dated October 4, 2018 mirrored TNSDS recommendation, receiving concurrence from the Alaska SHPO on October 8, 2018 (Pihlaja 2018).

- On-going hospital campus improvements and revisions of the BBAHC campus master plan, coupled with the real property transfer of the hospital from IHS to BBAHC warranted a detailed historic structures survey for historic properties and an archaeological survey to identify areas containing burials and possible unmarked graves. This cultural resources investigation was initiated in 2018 and is ongoing. TNSDS completed the surveys, and submitted a report to BBAHC with a recommendation that there are no historic properties individually eligible for inclusion on the NRHP. TNSDS did, however, recommend a Kakanak Hospital Campus Staff Housing District (DIL-00263) containing six contributing properties be considered for inclusion in the NRHP under Criteria A, B, and C. A finding of adverse effects to historic properties was recommended to IHS for the real estate transfer to BBAHC. This report is still pending final review and consultation between IHS and the Alaska SHPO.

Other cultural resources investigations of a smaller scale included those for NRHP nominations (Buzzell 1984), determinations of eligibility for individual properties (Mehls 1994), new home construction (Ream 1993), harbor improvements (Grover 2001), and cell tower construction and collocations (Meinhardt et al. 2019a; Meinhardt et al. 2019b).

**Table 4. Previous Investigations in the Expanded Search Area.**

Report ID	Investigative Level	Resulting Document	Reference
4908	Level III - Intensive Survey	Historic Settlement Patterns in the Nushagak River Region, Alaska	VanStone 1971
15898901	Level IIC - Pedestrian	Archaeological Investigation of the Proposed Yako Road Right-of-Way	Yarborough 1982a
15898902	Level IIIA - Testing for DOE or NRHP, archaeology	Further Testing of Site DIL-069, Archaeological Investigation for Yako Road	Yarborough 1982b
15754407	Level IIC - Pedestrian	Archaeological Investigation for Yako Road	City of Dillingham 1983
16117988	Level I - Literature Review	National Register of Historic Places Inventory Nomination Form, Pilgrim 100B Aircraft, DIL-00035	Buzzell 1984
3462	Level I - Literature Review	Letter Report Re: Recon Arch Survey For Selected Subdivision House Lots In Dillingham, New Stuyahok And King Salmon, Alaska	Ream 1993

Table 4 continued on next page

Table 4. Previous Investigations in the Expanded Search Area.

Report ID	Investigative Level	Resulting Document	Reference
3389	Level I - Literature Review	Determination of Eligibility for Fishermen's Co-Op, AKA Trapper's Inn Roadhouse, Floyd Smith's Store (DIL-090)	Mehls 1994
15755373	Level I - Literature Review	Letter to SHPO RE Bradford Cannery	Hardin 1994
670	Level I - Literature Review	BLM Anchorage Report of Examination for Cultural Resources, A-052010, Dept of Army and City of Dillingham	Redding 1998
16510097	Level IIC - Pedestrian	COE Archaeological Survey for Dillingham Harbor Improvements	Grover 2001
	Level IV - Mitigative	Kanakanak Hospital Cemetery Archaeological Monitoring of Burial Recoveries from Eroding Bluff, Trip Report Oct 21, 2002	Mason 2002a
	Level I - Literature Review	Preliminary Assessment of Kanakanak Bluff Erosion Estimates in the Hospital Master Plan	Mason 2002b
	Level I - Literature Review	Letter Re: Correspondence to Shade at TEARS, Environmental Concerns in Dillingham	Pearson 2002
	Level I - Literature Review	Review of Environmental and Cultural Resources Issue, Kanakanak Hospital - Bristol Bay, Alaska	IHI/ENRI 2002
	Level I - Literature Review	Identification of Cemetery and Fuel Spill Locations on the Kanakanak Hospital Campus	Shade 2003
	Level IV - Mitigative	Trip Report: Kanakanak Graves Recovery Project	Harritt 2003
	Level I - Literature Review	Reburial Plan for Protecting Eroding Graves on the Campus of the Kanakanak Hospital, Alaska	ENRI 2003
2711	Level I - Literature Review	Letter Report Re: Construction Of The All-Tide Dock, Dillingham, AK ADP File # 3130-1R EDA	Fulton 2003
9801	Level IIC - Pedestrian	Cultural Resources Survey of the Kanakanak Hospital Property, Dillingham, Alaska	Legge et al. 2003
2790	Level II - Reconnaissance Survey	FHA Letter Report Re: Upgrade Pedestrian Pathway, Dillingham, AK ADP File # 3130-1R FHWA.	DeCleva 2004
8443	Level I - Literature Review	Letter Re New Water Treatment Plant At Dillingham	Campbell 2005
4943	Level IIC - Pedestrian	Section 106 Review Of A Portion Of The Alaska Native Allotment Of Nels J. Anderson, Sr. (A-57915) And Determination Of Eligibility For Site 49DIL-00183	Diters 2005
	Level IV - Mitigative	Kanakanak Hospital Reburial Project Phase II: Results of the Archival Research and Interviews	ENRI 2005
7184	Level IIC - Pedestrian	An Archaeological Survey Of The Proposed Boiler Site, Kanakanak Campus, Alaska, Written By Campbell, C., Written For ANTHC, ADP File 3130-3R ANTHC	Campbell 2006
	Level IV - Mitigative	Trip Report: Kanakanak Graves Recovery Project	Harritt 2006
8702	Level I - Literature Review	Mail Regarding AHRS Sites DIL-00092 And DIL-00133,	Boydston 2007
8738	Level I - Literature Review	Dillingham Federal Scout Readiness Center, Cultural Resources Survey, Written For AK Army National Guard, ADP File 3130-2R DMVA	Anders 2007
15979774	Level I - Literature Review	Kanakanak Hospital 2007 AHRS Cards	Faith 2007
	Level I - Literature Review	Project Summary Document, 2008 Kanakanak Eroding Graves	IHS 2008
15993569	Level IIB - Architectural Level IIC - Pedestrian	Report on Architectural and Archaeological Inventory for the Wood River Road Reconstruction Project, DOT&PF Project No. PLD-0001(260)/55130	Furnis and Hauer 2009
16009421	Level II - Reconnaissance Survey	Archaeological Survey for the Dillingham Downtown Streets Rehabilitation Project (DOT&PF Project No. 571080)	Grover et al 2010
16009408	Level IIB - Architectural	Historic Buildings Survey for the Dillingham Downtown Streets Rehabilitation Project (DOT&PF Project No. 57180)	Stewart et al 2010
16484109	Level I - Literature Review	Letter Re: Dillingham Downtown Streets Rehabilitation Project (DOT&PF Project No. 57180) - Finding of Effect	Viteri 2010
16484109	Level I - Literature Review	Letter Re: Dillingham Downtown Streets Rehabilitation Project (DOT&PF Project No. 57180) - Finding of Effect SHPO Concurrence	McMahan 2010

Table 4 continued on next page

Table 4. Previous Investigations in the Expanded Search Area.

Report ID	Investigative Level	Resulting Document	Reference
16484109	Level I - Literature Review	Letter Re: Dillingham Downtown Streets Rehabilitation Project ROW Acquisitions	Riley 2011
15993100	Level I - Literature Review	Historic Building Eligibility Research Kakanak Hospital, Buildings 301 and 401 Dillingham, Alaska	Reckard et al. 2011
	Level I - Literature Review	Findings of Section 106 Review, Alaska Native Tribal Health Consortium: Kakanak Road Paving.	Harritt 2011
15995441	Level IV - Mitigative	Cultural Resource Monitoring for Roadway Improvements for the Kakanak Hospital Campus near Dillingham, Alaska	Florey 2011
16030439	Level IIB - Architectural Level IIC - Pedestrian	Cultural Resources Report for the Dillingham Airport Improvements Project (59304)	Meitl et al. 2011
16484109	Level I - Literature Review	Letter Re: Dillingham Downtown Streets Rehabilitation - Scope Change	Fletcher 2014
16484109	Level I - Literature Review	Letter Re: 57180 - Dillingham Downtown Streets Rehabilitation - Section 106 Consultation - Scope Change	duVall 2014
	Level I - Literature Review	Environmental Review and Determination, Sanitation Facilities Construction Project With the Alaska Native Tribal Health Consortium. Kakanak Disinterment and Reburial Project, Dillingham, Alaska	IHS 2011
16337117	Level IIC - Pedestrian	Findings of Section 106 Review for the Emil A. Egeland Native Allotment AA-56297	Williams 2015
16344829	Level IIC - Pedestrian	Cultural Resources Survey 3356 Chuthmok Road, Scattered Sites Program, Dillingham, Alaska	Thompson and Miller 2016
16484109	Level I - Literature Review Level II - Reconnaissance Survey	Dillingham Downtown Streets Rehabilitation, STP-0001(335)/57180	Hilsinger 2018
16489671	Level I - Literature Review	Dillingham Downtown Streets Rehabilitation Project, STP-0001(335)/57180 October 2018 SHPO Response	Bittner 2018
	Level IIB - Architectural	Letter Re: Removal of Four Modular Units from Kakanak Hospital Campus	Meinhardt 2018
	Level IIB - Architectural Level IIC - Pedestrian	Report of Cultural Resources Investigation Including a Historic Structures Survey and Determination of Eligibility for the Kakanak Hospital Staff Housing Historic District (DIL-00263), and Section 106 Recommendations for the Real Property Transfer of the Kakanak Hospital Campus	Meinhardt et al. 2018
16484109	Level I - Literature Review	Letter Re: Dillingham Downtown Streets Rehabilitation Project, STP-0001(335)/57180 Request for Clarification	Price 2018
16513514	Level I - Literature Review	Dillingham Downtown Streets Rehabilitation Project, STP-0001(335)/57180 April 2019 Update	Bittner 2019
	Level IIC - Pedestrian	Cultural Resources Investigation and Section 106 Findings for the Proposed Telecommunications Co-location Nelson Hill, Located in Dillingham, Alaska	Meinhardt et al. 2019a
	Level IIC - Pedestrian	Cultural Resources Investigation and Section 106 Findings for the Proposed Telecommunications Nushtel Central Office Co-Location, Located in Dillingham, Alaska	Meinhardt et al. 2019b

### Previously Documented AHRs Sites

As mentioned, there are no previously documented cultural resources recorded in the AHRs database in any of the three proposed APEs. Moreover, there no cultural resources listed in the NRHP or determined eligible for inclusion. There are a total of 119 cultural resources recorded in the AHRs database within a two-mile radius

from the preliminary APE (Appendix A). These cultural resources include 91 historic buildings in the vicinity of Dillingham and the Kakanak Hospital. Two of these buildings have been listed on the NRHP.

The Alaska Portland Packers Association Nushagak River Cannery (DIL-00101) is a historic district located on a pier along the downtown waterfront. The cannery

consists of 25 buildings, with six historic buildings contributing to the district (DIL-109, DIL-00110, DIL-00112, DIL-00113, DIL-00117, DIL-00124). Nine historic sites consisting mainly of debris scatters and building ruins, and three prehistoric cache sites have been recorded north of Dillingham, along Wood River Road. Six cemeteries scattered across the Dillingham area have been recorded on the AHRs database. One prehistoric settlement consisting of house pits is also located within this two-mile search area. There are four historic settlements in this search area as well. Two of these are associated with canneries. There is a historic homestead, one historic road, and a historic runway also recorded in the AHRs database (Alaska OHA 2019).

**NRHP Resources – Expanded Search Area**

There are two historic resources within the expanded search area listed in the NRHP, although one listing has since been revoked by the Keeper of the Register. A Pilgrim 100B Aircraft, tail number N709Y0 (DIL-00035) was listed on the NRHP in 1986 under Criterion A for its association with the advancement of aviation in Alaska from the late 1930s through the early 1940s. This particular

aircraft is believed to be the last known Pilgrim in existence. The Fishermen’s Co-Op Building was listed on the NRHP under Criterion A for its association with the development of Dillingham during its Commercialization Period of the 1930s (DIL-00090). The Keeper of the Register revoked this listing in 1995 after the building was destroyed (Alaska OHA 2019).

**Historic Trails**

Although there are no historic trails present in the Dillingham vicinity that have been previously recorded on AHRs database, a RS 2477 trail was recorded along the shoreline near proposed APE 1. It is important to note RS 2477 trails are typically a route historically used by the public as a transportation corridor. The Dillingham-Lewis Pont Trail (RST 195) historically received funding for maintenance from the Alaska Road Commission (Alaska DNR DMLW 2019) as early as 1924. It runs along the Nushagak River east from Dillingham, crossing the Wood River, and continuing southeast to Lewis Point. This 20-mile route was and remains in use as a winter trail for dog sleds and snow machines. RST 195 is part of a much larger trail system from Bethel to Kanatak.

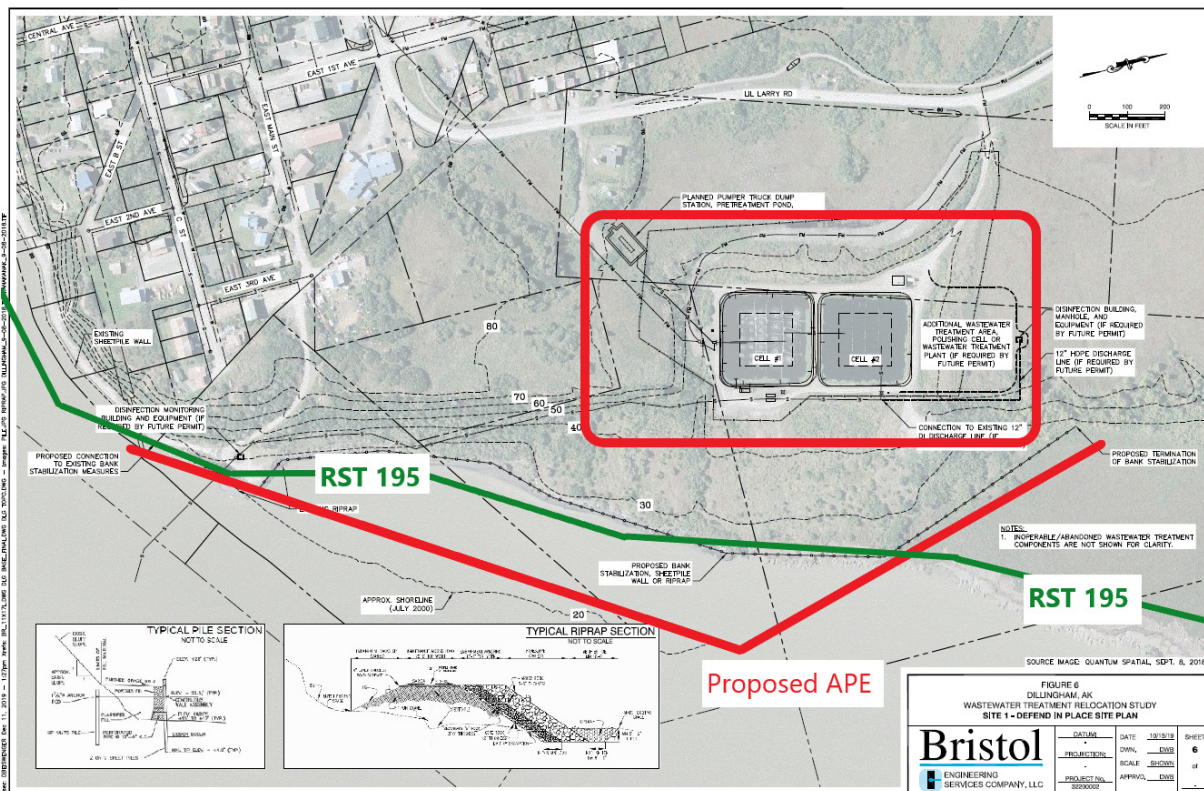


Figure 18. Location of RST 195 in relation to proposed APE 1.

## CULTURAL RESOURCES DESKTOP SURVEY ASSESSMENT

### Site #1

Site #1 proposes to install treatment improvements at the existing lagoon, construction of a bluff access road, and placement of riprap on the bluff embankment. The proposed APE for Site #1 is just east of Tower Road at the existing sewer lagoon, and along the shoreline of the Nushagak River. Areas surrounding the proposed APE, as well as a portion of the sewage lagoon access road from Tower Road, were previously surveyed for cultural resources. These surveys resulted in negative findings for cultural resources. Site #1 includes the existing lagoon, which is considered to yield a low-probability for containing cultural resources. The proposed lagoon improvements are assessed as unlikely to impact cultural resources that may constitute historic properties pursuant to Section 106 of the NHPA and its implementing regulations (36 CFR §800).

In addition to the treatment improvements at the lagoon Site #1 will include removal of vegetation and grading for placement of riprap along the embankment. It will also involve the construction of a new access road. This particular scope under Site #1 is in a location considered to have moderate-to-high potential for containing cultural resources and has yet to be investigated for such resources. Based on this desktop survey, shorelines along fresh and saltwater sources have the highest density of cultural resources in the Nushagak Region. As such, it is safe to assume pre-historic and historic cultural resources may be discovered in the areas of Site #1 where construction will take place along the shoreline. It is, therefore, recommended these particular areas (riprap and access road) within Site #1 be subject to an on-site survey for cultural resources prior to construction by a professional who meets the Secretary of Interior (SOI) qualification standards as an archaeologist during all construction activities.

### Site #2

Site #2 proposes the construction of wastewater treatment improvements at the City Shop and includes the expansion of the construction pad and installation of sewer and water lines beneath West 2nd Avenue and West E Street. This area has not been subject to any previous cultural resources investigations. The land to the north of

the existing construction pad proposed for expansion is a mixed habitat of wetlands consisting of low-lying tundra, grasses, and willow thickets. Small ponds and areas where water is pooling scatter the landscape. Based on the predictive model for identifying cultural resources, Site #2 is assessed as being proposed in an area considered to have low probability for containing cultural resources. Moreover, the installation of sewer lines as part of the site development and construction of the pad will be serviced from within the confines of the existing roadbed. As would be expected, this roadbed is heavily disturbed from road construction and maintenance, with layers of compacted gravels and soils previously placed onsite during past road improvement activities. The proposed APE for this site is, therefore, assessed as having a very low likelihood for encountering undocumented resources during construction. As such, it is recommended construction proceed with no further investigation.

### Site #3

Site #3 proposes to construct wastewater treatment improvements south of Dillingham, along Kakanak Road. A new access road will be constructed to extend west of the existing road to the new wastewater treatment system. An effluent sewer water line will be installed from the lagoon, along the access road, to the east side of the Kakanak Road, where a new outfall will be placed. Marine outfall is typically a pipeline or tunnel that discharges wastewater to the sea. Additional pipeline installation will be required beneath Kakanak Road for connecting areas from Dillingham and possibly to the Kakanak Hospital.

The area for the proposed wastewater treatment improvements and access road was previously surveyed for cultural resources. The area was considered a low probability at that time of the cultural resources investigations and the results from the surveys were negative. These previous cultural resources investigations were associated with Kakanak Road and a Native allotment. The investigation undertaken on the Native allotment that once comprised what is now the project area was carried out in the early 1980s. More recent surveys at the Kakanak Hospital suggests the area may yield a more moderate probability for containing cultural resources, particularly unmarked graves. As such, it is recommended this portion of Site #3 be subject to an on-site

survey for cultural resources prior to construction by a professional meeting SOI qualification standards as an archaeologist.

The area proposed for the new outfall zone is set along the shoreline of the Nushagak River and directly south of a freshwater stream that empties into the river. Site density in the Nushagak Region has been determined to be the highest along fresh and saltwater shorelines. Cultural resource recorded on the AHRS database for this area are prevalent at the confluences of streams and creeks, particularly along the Nushagak River. As such, the proposed outfall area is considered to have a high potential for containing undocumented cultural resources. More importantly, areas on and adjacent to the Kakanak Hospital Campus have been known to contain unmarked graves. As such, the outfall installation should be monitored for cultural resources by a professional meeting the SOI qualification standards as an archaeologist during all construction activities.

## SECTION 106 RECOMMENDATIONS

A desktop survey was completed for three proposed sites for improvements to the sewage lagoon system in Dillingham, Alaska. Improvements to the existing lagoon (Site #1), wastewater treatment improvements adjacent to the City Shop (Site #2), and wastewater treatment improvements off of Kakanak Road, south west of Dillingham (Site #3) are all being considered as possible solutions for improving the existing system. Two of the three sites have areas assessed as warranting an on-site cultural resources survey prior to construction and/or archaeological monitoring during construction.

Site #1 contains a proposed road and riprap component along the shore of the river, in an area consider to yield a moderate-to-high potential for containing cultural resources. It is recommended the areas proposed for the installation of the and/or sheetpile wall and road construction be subject to an archaeological survey.

Site #3 is assessed as resulting in the largest area of ground disturbance when compared to the three other options proposed within this study. Site #3 proposes the construction of wastewater treatment improvements with access road in an area of low probability. However, this area is relatively close to where unmarked graves

have been identified. The area within Site #3 proposed for the construction of a new outfall zone is consider to yield a higher probability for containing cultural resources, with more likelihood of encountering unmarked graves. It is, therefore, recommended Site #3 be subject to an on-site survey within the area of the wastewater treatment improvements and access road to ensure no potential graves or archaeological sites are present, but also have an archaeological monitor on site during construction in the new outfall zone. It is also recommended an archaeological monitor be on site for the installation of subsurface sewage lines, particularly along Kakanak Road.

It is important to note the level of effort for identifying historic properties in an APE pursuant to Section 106 of the National Historic Preservation Act of 1966 and its implementing regulations 36 CFR §800 is contingent on consultation from the Alaska SHPO and other consulting parties. Once a site is chosen for the undertaking, the Denali Commission should carry out consultation per the Act for determining the appropriate level of effort for identifying historic properties. In the event Site #2 is the preferred alternative, it is recommended the Denali Commission issue a finding of no historic properties affected pursuant to Section 106 of the National Historic Preservation Act of 1966 and its implementing regulations 36 CFR §800. If either of the two other sites are preferred (Site #1 or Site #3), then it is recommended Denali Commission propose the level of effort recommended in this cultural resources desktop survey and assessment.

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**APPENDIX A: PREVIOUSLY DOCUMENTED AHRS SITES IN THE EXPANDED SEARCH AREA**

ID NUMBER	AHRS	SITE NAME	TEMPORAL	RESOURCE TYPE	CULTURAL AFFILIATION	DOE STATUS	NRHP STATUS
15757081	DIL-00011	DILLINGHAM	Historic	Settlement	Yupik	None	None
15756771	DIL-00012	NEW KANAKANAK	Historic	Settlement	Euro American/Yupik	None	None
15754013	DIL-00022	ST SARAPHIM OF SAROV CHURCH, DILLINGHAM	Historic	Building	Euro American	None	None
15756613	DIL-00035	PILGRIM 100B AIRCRAFT (N709Y)	Historic	Object	Euro American	None	National Register of Historic Places
15755369	DIL-00054	BRADFORD CANNERY	Historic	Site	Euro American	None	None
15755470	DIL-00055	NELSONVILLE	Historic	Settlement	Euro American	None	None
15755580	DIL-00057	HOUSE PIT SITE	Prehistoric	Settlement	Yupik	None	None
15754401	DIL-00058	WOOD RIVER VILLAGE	Historic	Settlement		None	None
15898899	DIL-00069	DIL-00069	Historic	Site		None	None
15840806	DIL-00070	DIL-00070	Prehistoric	Site		None	None
15898904	DIL-00071	DIL-00071	Prehistoric	Site		None	None
15890915	DIL-00072	DIL-00072	Prehistoric	Site		None	None
15814262	DIL-00090	FISHERMEN'S CO-OP	Historic		Euro American	None	Listing revoked by Keeper
15814130	DIL-00091	YALE ROSINSTEIN DRY GOODS	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15814880	DIL-00092	JESSY POLLEGGEIO RESIDENCE	Historic	Building	Euro American	None	None
15814888	DIL-00093	SNAG POINT ELEMENTARY SCHOOL	Historic	Building	Euro American	Determined eligible by SHPO and agency	None
15814894	DIL-00094	RAY SMITH'S HOME	Historic	Building	Euro American	None	None
15814384	DIL-00095	MIKE MORAN'S HOME	Historic	Building	Euro American	None	None
15813112	DIL-00096	LOWE'S TRADING COMPANY STORAGE BUILDING	Historic	Building	Euro American	None	None
15820124	DIL-00097	FISHERMEN'S CO-OP WAREHOUSE	Historic	Building	Euro American	None	None
15820129	DIL-00098	SORENSEN'S STORAGE	Historic	Building	Euro American	None	None
15820134	DIL-00099	FELDER AND GALE MERCANTILE STORE DWELLING	Historic	Building	Euro American	None	None
15814277	DIL-00100	FELDER AND GALE MERCANTILE STORE COLD STORAGE	Historic	Building	Euro American	None	None
15817118	DIL-00101	ALASKA PORTLAND PACKERS ASSOCI- ATION NUSHAGAK RIVER CANNERY HISTORIC DISTRICT	Historic	District	Euro American	Determined eligible by SHPO and agency	None
15817123	DIL-00102	ROSCO SPEARS FLYING SERVICE	Historic	Building	Euro American	None	None
15812708	DIL-00103	CANNERY CARPENTRY SHOP/BOILER BUILDING	Historic	Building	Euro American	None	None
15816848	DIL-00104	CANNERY BUILDING	Historic	Building	Euro American	None	None
15812684	DIL-00105	CANNERY SUMMER SALMON PACK/ WINTER BOAT STORAGE	Historic	Building	Euro American	None	None
15812465	DIL-00106	CANNERY NET LOFT	Historic	Building	Euro American	None	None
15813140	DIL-00107	CANNERY POWER HOUSE	Historic	Building	Euro American	None	None
15812369	DIL-00108	CANNERY OFFICE/GROCERY STORE	Historic	Building	Euro American	None	None
15812374	DIL-00109	Cannery Mess Hall	Historic	Building	Euro American	Contributing w/in eligi- ble district 12/27/2010	None

ID NUMBER	AHRS	SITE NAME	TEMPORAL	RESOURCE TYPE	CULTURAL AFFILIATION	DOE STATUS	NRHP STATUS
15811588	DIL-00110	CANNERY LAUNDRY BUILDING	Historic	Building	Euro American	Contributing w/in eligible district 12/27/2010	None
15813380	DIL-00111	CANNERY K.P. BUILDING	Historic	Building	Euro American	None	None
15813451	DIL-00112	CANNERY WARM STORAGE	Historic	Building	Euro American	Contributing w/in eligible district 12/27/2010	None
15813456	DIL-00113	CANNERY COOKS' QUARTERS	Historic	Building	Euro American	Contributing w/in eligible district 12/27/2010	None
15813517	DIL-00114	CANNERY SUPERINTENDENT'S HOUSE	Historic	Building	Euro American	None	None
15813522	DIL-00115	CANNERY RADIO SHACK	Historic	Building	Euro American	None	None
15812699	DIL-00116	FISHERMEN'S BUNKHOUSE,	Historic	Building	Euro American	None	None
15813493	DIL-00117	CANNERY BATH HOUSE	Historic	Building	Euro American	Contributing w/in eligible district 12/27/2010	None
15812354	DIL-00118	CANNERY MACHINIST QUARTERS	Historic	Building	Euro American	None	None
15813611	DIL-00119	CANNERY COTTAGE	Historic	Building	Euro American	None	None
15813616	DIL-00120	CANNERY WAITRESS' QUARTERS	Historic	Building	Euro American	None	None
15813621	DIL-00121	CANNERY WATCHMEN'S QUARTERS	Historic	Building	Euro American	None	None
15813072	DIL-00122	CANNERY WORKERS' BUNKHOUSE	Historic	Building	Euro American	None	None
15812806	DIL-00123	CANNERY WORKERS' COOK HOUSE	Historic	Building	Euro American	None	None
15812811	DIL-00124	CANNERY MUD GANG QUARTERS	Historic	Building	Euro American	Contributing w/in eligible district 12/27/2010	None
15814283	DIL-00125	STORAGE BUILDING	Historic	Building	Euro American	None	None
15814288	DIL-00126	CANNERY BOAT WAY	Historic	Building	Euro American	None	None
15813508	DIL-00127	CANNERY PUMP HOUSE	Historic	Building	Euro American	None	None
15812470	DIL-00128	YALE ROSENSTEIN'S WAREHOUSE	Historic	Building	Euro American	None	None
15817696	DIL-00129	AURORA HOTEL	Historic	Building	Euro American	Determined eligible by SHPO and agency	None
15817702	DIL-00130	HARRY DOLEMAN HOUSE	Historic	Building	Euro American	None	None
15813654	DIL-00131	STAR CAFE	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15813902	DIL-00132	EMMA NIELSON RESIDENCE	Historic	Building	Euro American	Determined eligible by SHPO and agency	None
15814483	DIL-00133	CHURCH OF CHRIST	Historic	Building	Euro American	None	None
15814113	DIL-00134	RUSSIAN ORTHODOX CEMETERY	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15814118	DIL-00135	NORA'S LOG CABIN	Historic	Building	Euro American	None	None
15813537	DIL-00136	WHITE HOUSE	Historic	Building	Euro American	None	None
15812675	DIL-00137	SEVENTH DAY ADVENTIST CHURCH	Historic	Building	Euro American	None	None
15812680	DIL-00138	SEVENTH DAY ADVENTIST CHURCH RECTORY				None	None
15812752	DIL-00139	DOWNY RESIDENCE/ALASKA FISHERMAN'S UNION OFFICE	Historic	Building	Euro American	None	None
15816343	DIL-00140	CARLSON RESIDENCE	Historic	Building	Euro American	None	None
15816718	DIL-00141	MATT & DOLLY FLENSBURG RESIDENCE	Historic	Building	Euro American	None	None

ID NUMBER	AHRS	SITE NAME	TEMPORAL	RESOURCE TYPE	CULTURAL AFFILIATION	DOE STATUS	NRHP STATUS
15816979	DIL-00142	HENRY MCFADDEN HOUSE	Historic	Building	Euro American	None	None
15816784	DIL-00143	MIKE ADKISON HOUSE	Historic	Building	Euro American	None	None
15813923	DIL-00144	CHARLES NIELSON, JR. HOUSE	Historic	Building	Euro American	None	None
15813927	DIL-00145	MIKE HOSETH RESIDENCE	Historic	Building	Euro American	None	None
15851600	DIL-00180	INLAND CEMETERY	Historic	Cemetery	Euro American/Yupik	None	None
15851602	DIL-00181	BLUFF EDGE CEMETERY	Historic	Cemetery	Euro American/Yupik	None	None
15851604	DIL-00182	HOUSEPITS NORTH OF GRAVES	Historic	Site		None	None
15874215	DIL-00183	ANDERSON HOMESITE AND CEMETERY	Historic	Homestead	Euro American	Determined not eligible by SHPO and agency	None
15765152	DIL-00184	DIL-00184	Historic	Cemetery		None	None
15850942	DIL-00187	BUILDING 301, KANAKANAK HOSPITAL COMPLEX	Historic	Building		Determined not eligible by SHPO and agency	None
15850945	DIL-00188	BUILDING 303, KANAKANAK HOSPITAL COMPLEX	Historic	Building		None	None
15850948	DIL-00189	BUILDING 304, KANAKANAK HOSPITAL COMPLEX	Historic	Building		None	None
15830754	DIL-00190	WATER WELL BUILDING, KANAKANAK HOSPITAL COMPLEX	Historic	Building		None	None
15740095	DIL-00191	Scandinavian Creek Cannery Site	Historic	Site	Euro American	Determined not eligible by SHPO and agency	None
15740061	DIL-00192	CARETAKER'S HOUSE	Historic	Building	Euro American	Pending consultation between SHPO and agency	None
15740067	DIL-00193	CARPENTER'S WORKSHOP	Historic	Building	Euro American	Pending consultation between SHPO and agency	None
15898448	DIL-00205	WOOD RIVER CANNERY RUINS AND CEMETERY	Historic	Site, Cemetery		None	None
15899538	DIL-00208	20 DRUM SITE	Historic	Site		Determined not eligible by SHPO and agency	None
15899638	DIL-00209	SCHOOL CHAIR SITE	Historic	Site	Euro American	Determined not eligible by SHPO and agency	None
15899640	DIL-00210	ISOLATED OUTHOUSE	Historic	Site	Euro American/Yupik	Determined not eligible by SHPO and agency	None
15899642	DIL-00211	KL-4	Historic	Site	Euro American	Determined not eligible by SHPO and agency	None
15899650	DIL-00212	D AND J RENTALS	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15899652	DIL-00213	MAXINES HOBBY CACHE	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15899654	DIL-00214	CARL FLENSBURG BOAT SHACK	Historic	Building	Euro American/Yupik	Determined not eligible by SHPO and agency	None
15896261	DIL-00215	HAWKINS BOAT AND GEAR SHACK	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15896263	DIL-00216	CEMETERY FROM DIL-205	Historic	Cemetery		None	None
15903753	DIL-00217	GEORGE NELSON BUILDING	Historic	Building	Euro American/Yupik	Determined not eligible by SHPO and agency	None

ID NUMBER	AHRS	SITE NAME	TEMPORAL	RESOURCE TYPE	CULTURAL AFFILIATION	DOE STATUS	NRHP STATUS
15904429	DIL-00219	LOT 2, BLOCK 17, DILLINGHAM	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15904431	DIL-00220	218 MAIN ST, DILLINGHAM	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15904433	DIL-00221	141 MAIN ST, DILLINGHAM	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15904435	DIL-00222	LOT 3, BLOCK 20, DILLINGHAM	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15903430	DIL-00224	KANAKANAK REBURIAL SITE		Cemetery		None	None
15904263	DIL-00225	BRADFORD CANNERY CEMETERY	Historic	Cemetery	Euro American, Filipino, Chinese	None	None
15974835	DIL-00234	KANAKANAK BUILDING	Historic	Building	Euro American	None	None
15986988	DIL-00235	1611 KANAKANAK ROAD	Historic	Building	Euro American	None	None
15986989	DIL-00236	1901 KANAKANAK ROAD	Historic	Building	Euro American	None	None
15986990	DIL-00237	1834 KANAKANAK ROAD	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15986991	DIL-00238	400 WINDMILL ROAD	Historic	Building	Euro American	None	None
15986992	DIL-00239	430 FAIRVIEW STREET OR 1538 FAIRVIEW	Historic	Building	Euro American	None	None
15986993	DIL-00240	328 BIRCH LANE	Historic	Building	Euro American	None	None
15986994	DIL-00241	2036 MARTIN STREET	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15986995	DIL-00242	2027 MARTIN STREET	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15986996	DIL-00243	2013 MARTIN STREET	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15986997	DIL-00244	SORENSEN POLE BARN	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
15986998	DIL-00245	2570 AIRPORT SPUR ROAD	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
16008635	DIL-00247	DILLINGHAM AIRPORT RUNWAY	Historic	Structure	Euro American	Determined not eligible by SHPO and agency	None
16008636	DIL-00248	DILLINGHAM AIRPORT ROAD	Historic	Structure	Euro American	Determined not eligible by SHPO and agency	None
16471311	DIL-00254	DILLINGHAM PUBLIC SAFETY BUILDING	Historic	Building	Euro American	Determined not eligible by SHPO and agency	None
n/a	DIL-00256	DENTAL ANNEX	Historic	Building		None	None
n/a	DIL-00257	UNHEATED STORAGE, BUILDING 311	Historic	Building		None	None
n/a	DIL-00258	UNHEATED STORAGE, BUILDING 313	Historic	Building		None	None
n/a	DIL-00259	STAFF QUARTERS, BUILDING 315	Historic	Building	Euro American	None	None
n/a	DIL-00260	STAFF QUARTERS, BUILDING 316	Historic	Building	Euro American	None	None
n/a	DIL-00261	STAFF QUARTERS, BUILDING 317	Historic	Building	Euro American	None	None
n/a	DIL-00262	STAFF QUARTERS, BUILDING 318	Historic	Building	Euro American	None	None

**APPENDIX B: OHA COVER SHEET**

<b>CULTURAL RESOURCES REPORT COVERSHEET</b> Must Accompany All Reports Submitted To OHA/SHPO Alaska Department of Natural Resources, Office of History and Archaeology 550 W. 7th Ave., Suite 1310 Anchorage, AK 99501-3565 Phone: (907) 269-8718; Fax (907) 269-8908 http://www.dnr.state.ak.us/parks/oha/index.htm		Date Received: _____  ID: _____
Alaska Department of Natural Resources, Office of History and Archaeology 550 W. 7th Ave., Suite 1310 Anchorage, AK 99501-3565 Phone: (907) 269-8718; Fax (907) 269-8908 http://www.dnr.state.ak.us/parks/oha/index.htm	For Office Use Only	
<b>A. Project/Report Cover Sheet Information</b>		
1. Date Submitted: <u>Jan 2020</u>	2. Project Number: _____	
4. Project Name: <u>Dillingham Wastewater Lagoon Relocation Study</u>		
5. Report Title: <u>2019 CULTURAL RESOURCES INVESTIGATION AND SECTION 106 RECOMMENDATIONS AND FINDINGS FOR THE DENALI COMMISSION DILLINGHAM WASTEWATER LAGOON RELOCATION STUDY, LOCATED IN DILLINGHAM, ALASKA</u>		
6. Report Authors: <u>Robert Meinhardt and Amy Ramirez</u>		
7. Submitting Organization/Agency: <u>City of Dillingham</u>		
8. Organization/Agency Prepared For: <u>BESC</u>		
9. Principal Investigator(s): <u>Robert Meinhardt, MA</u>		
10. Type of Investigation: <u>Desktop</u>		
11. Sites found/revisited: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
11. List New AHRS Site #: _____		
12. List Updated AHRS Site #: _____		
<b>B. Geographic Information</b>		
1. Brief Description of the Project Area: <u>Dillingham Wastewater Lagoon Relocation Study proposes three alternatives for improving the existing WWTP. The three sites proposed are located at various areas within and around the vicinity of Dillingham</u>		
2. USGS Map Sheet(s): <u>Dillingham A-7</u>		
3. MTRS (ex. C41S67E23): <u>S 13S4W25,36 13S5W16,21</u>		
4. Land Owner(s): <u>Various</u>		
5. Acres Surveyed: <u>~40</u>		
<b>C. Cultural Resources Management Questions</b>		
1. Is the report part of a National Historic Preservation Act - Section 106 Consultation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
2. Is the report part of an Alaska Historic Preservation Act Compliance Consultation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
3. Does the report's data support the submitting agency's determination of eligibility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
4. Does the report's data support the submitting agency's determination of effect? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Was this report submitted to fulfill State Field Archaeology Permit Requirements If yes, please provide the Permit #: _____ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
6. Was this project and/or report overseen or authored by someone meeting the minimum qualifications of the Secretary of the Interior Standards and Guidelines (48 FR 44738-44739)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
7. Is the Principal Investigator's resume appended to the report or on file at OHA? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
8. Additional Comments: <div style="border: 1px solid black; height: 40px; width: 100%;"></div>		