CULTURAL RESOURCES SURVEY COVER SHEET

Author: Alyson M. Rollins, Anne Peebles and Julia M. Rowland

Title of Report: Archaeological Investigation Report: Thatcher Bay Nearshore Restoration Project, Blakely Island, Washington

Date: June 2, 2009

County (ies): San Juan Sections: 4 Township: 35N Range: 1W
Quad: Blakely Island Acres: ~1.8

CD submitted? ☒ Yes ☒ No

Does this replace a draft? ☐ Yes ☒ No

Sites Found? ☐ Yes ☒ No

TCP(s) found? ☐ Yes ☒ No

DAHP Archaeological Site #:

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REPORT CHECK LIST

Report should contain the following items:

- Clear objectives and methods
- A summary of the results of the survey
- A report of where the survey records and data are stored
- A research design that:
  - Details survey objectives
  - Details specific methods
  - Details expected results
  - Details area surveyed including map(s) and legal locational information
  - Details how results will be feedback in the planning process

Please submit reports unbound. Please be sure that any electronic version of a report submitted to DAHP has all of its figures, graphics, appendices, attachments, correspondence, cover sheet, etc., compiled into one single PDF file. Thank you!

ARCHAEOLOGICAL INVESTIGATION REPORT: THATCHER BAY NEARSHORE RESTORATION PROJECT, BLAKELY ISLAND, WASHINGTON.

Prepared for:

Skagit Fisheries Enhancement Group

June 2, 2009

Prepared by:

ERCI

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CREDITS AND ACKNOWLEDGMENTS

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LEAD AGENCY ..... United States Army Corps of Engineers

DAHP CONTACT ..... Robert Whitlam, Department of Archaeology and Historic Preservation

Equinox Research and Consulting International Inc. would like to thank Alison Studley and the Skagit Fisheries Enhancement Group for retaining us for this investigation and for her commitment to the process and the archaeological resource.

We extend our thanks to the representatives of the Swinomish Indian Tribal Community, the Lummi Indian Nation and the Samish Indian Nation for their insights and timely attention to this project.

The opinions and recommendations in this report are those of Equinox Research and Consulting International Inc. alone and do not necessarily reflect those held by any of the organizations or individuals mentioned above. Any errors or omissions are the responsibility of Equinox Research and Consulting International Inc. (ERCI).

MANAGEMENT SUMMARY

Project APE: Thatcher Bay, Blakely Island, Washington
Parcel #150413001001
Owner: Blakely Island Timberland LLC
Project Area Acres: <2

Section 4, Township 35 North, Range 1 West
Quad map: Blakely Island
Elevation: <10 ft
Nearest water body: Thatcher Bay
Latitude and Longitude: 48 33' 6.41" N and 122 48' 54.93" W
UTM: Zone 10 513633 E 5377648 N

Alison Studley of Skagit Fisheries Enhancement Group contacted Equinox Research and Consulting International Inc. (ERCI) on December 30, 2008 to perform a cultural resource survey for the Thatcher Bay Nearshore Restoration Project on Blakely Island in San Juan County, Washington. The proposed ground disturbing activities include removal of up to 12,900 cubic yards of wood waste and wood waste contaminated sediments that are remnants of lumber milling operation.

This report documents the initial survey, identification and evaluation of historic properties within the project APE.

No protected cultural material or historic properties were encountered during this investigation.

The management recommendations that we are now providing are based on the testing carried out during this initial investigation of the project APE.

1. We recommend that this project proceed as planned.

2. We recommend that the Unanticipated Discoveries Protocol (UDP) (See Appendix 3) be reviewed by the contractor and project manager before any ground disturbing activities occur. Each of these individuals should have a copy of the UDP onsite before beginning work within the project APE.

3. In the event that any ground-disturbing activities or other project activities related to this development or in any future development uncover protected cultural material (e.g., bones, shell, stone or antler tools), all work in the immediate vicinity should stop, the area should be secured, and any equipment moved to a safe distance away from the location. Then the contractor or landowner should contact the USACE staff archaeologist, Ms. Elizabeth Ellis (206-764-3634). The USACE staff archaeologist would then coordinate internally with the Corps Regulatory Project Manager and externally with the Department of Archaeology and Historic Preservation; Dr. Robert Whitlam (360-586-3080), the Lummi Indian Nation Tribal Historic Preservation Officer, Ms. Lena Tso (360-384-2298), the Swinomish Indian Tribal Community Cultural Resources Planner, Mr. Larry Campbell (360-466-1236) and the Samish Indian Nation Cultural Resource Manager, Ms. Diana Barg (360293-6404 Ext 215).

4. In the case of an unanticipated discovery of human remains, the project manager will cease excavation, secure the area, and contact the USACE staff archaeologist, Ms. Elizabeth Ellis (206-764-3634). The USACE staff archaeologist would then coordinate internally with the Corps Regulatory Project Manager and externally with law enforcement who will determine if the remains are forensic in nature. If the remains are not forensic in nature then the USACE staff archaeologist will coordinate with the Department of Archaeology and Historic Preservation, Dr. Robert Whitlam (360-586-3080), who will then contact the Lummi Indian Nation Tribal Historic Preservation Officer, Ms. Lena Tso (360-384-2298), the Swinomish Indian Tribal Community Cultural Resources Planner, Mr. Larry Campbell (360-466-1236) and the Samish Indian Nation Cultural Resource Manager, Ms. Diana Barg (360293-6404 Ext 215).

TABLE OF CONTENTS

LIST OF FIGURES

1.0 INTRODUCTION

Alison Studley of Skagit Fisheries Enhancement Group contacted Equinox Research and Consulting International Inc. (ERCI) on December 30, 2008 to perform a cultural resource survey for the Thatcher Bay Nearshore Restoration Project on Blakely Island in San Juan County, Washington (Figure 1 and Figure 2). The proposed ground disturbing activities include removal of up to 12,900 cubic yards of wood waste and wood waste contaminated sediments that are remnants of lumber milling operation.

This report documents the initial survey, identification and evaluation of historic properties within the project APE.

Proposed ground disturbing activities for this project include:

- Dredging of wood waste and wood waste contaminated sediments up to two and a half meters deep
- Dredged materials are expected to be disposed of in an open water disposal site in the waters of nearby Rosario Straight, however the final disposal location will be determined and approved by the Dredged Materials Management Program
- Substrate composed of course grain sand and pea gravel deposited in the area to replace the removed sediment
- Replication of the current bathymetry and shoreline (Breems and Warinner 2008)

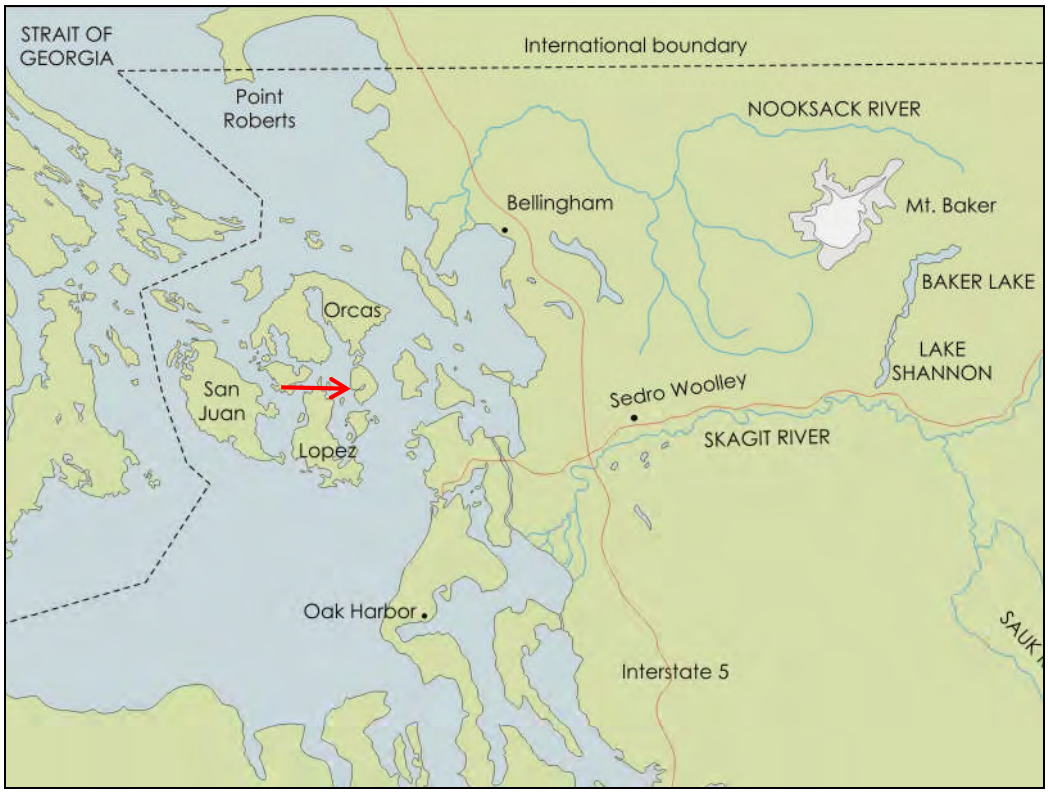

Figure 1: Regional map showing the location of Blakely Island and the subject property.

Figure 2: View southeast, overview of project APE from Thatcher Bay

2.0 TRIBAL CONSULTATION

Kelly R. Bush of Equinox Research and Consulting International Inc. (ERCI) has had numerous discussions with the Lummi Nation Tribal Historic Preservation Office, the Swinomish Indian Tribal Community Cultural Resources Planner, and the Samish Indian Nation Cultural Resource Manager about developments in the San Juan Islands.

As the San Juan Islands are culturally significant to all of these groups, the representatives from each of the tribal entities request careful monitoring and review of all projects in the Islands. All three of these tribal representatives will receive a copy of this report.

3.0 BACKGROUND

3.1 Project Area

The project area is located on Thatcher Bay on Blakely Island in San Juan County, Washington. Located on the southwestern shore of Blakely Island, the project APE is owned and managed by the Blakely Island Timberland LLC. The area of potential effect (APE) for this project is about 1.8 acres in size (Figure 3, Figure 4, and Figure 5). An eelgrass bed is present at the mouth of Thatcher Bay and a small seasonal creek enters the bay to the north of the project APE. Both of these areas are outside of the APE.

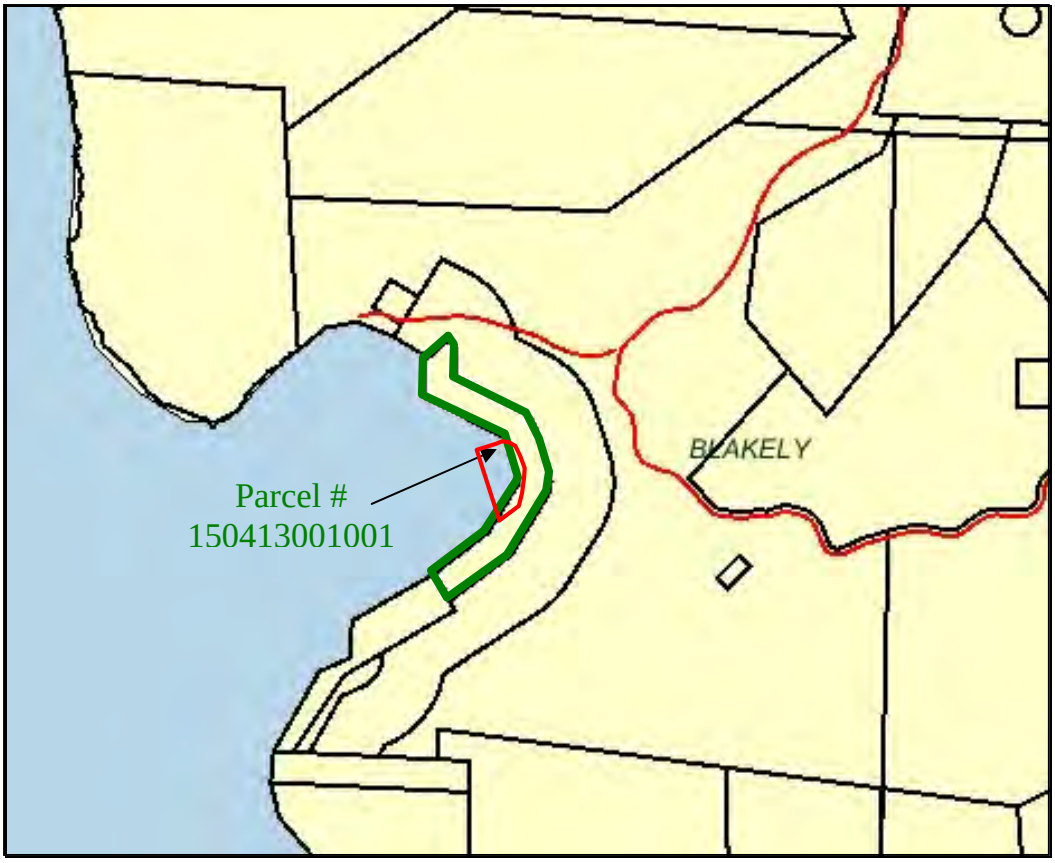

Figure 3: Plat map of the subject property.

Figure 4: Map of project APE, courtesy of SFEG

Figure 5: View southeast, overlooking project APE

3.2 Environmental Setting

It is outside the scope of this project to describe in detail the landform processes which sculpted the current Puget Sound environment; however, detailed descriptions of landform origins for this region and sea-level stabilization can be found in Armstrong 1977; Burns 1985; Clague 1980; Downing 1983; Easterbrook 1963, 1968; Goudie 1983; Fladmark 1975; Hilbert and Miller 2001; Ness and Richins 1958; Pielou 1991; Prater 1991; Thorson 1980, 1989; White 1980; Whitlock 1992; Wright 1983.

The project APE is in the northern half of the Puget Trough Province, characterized by glacial geology and topography (Franklin and Dyrness 1983:16). As the most recent glacial epoch retreated, glacial till and outwash were deposited with soils formed in glacial materials under the influence of coniferous forest vegetation. Glacial retreat also caused isostatic rebound as the weight of glacial ice on the surface subsided; isostatic rebound in San Juan County reached heights of 140 meters. Modern sea level and shoreline configurations in this area did not stabilize until about 5,000 years ago (Thorson 1981).

Blakely Island is the sixth largest Island of the San Juan Islands and is situated at the confluence of the Puget Sound, the Strait of Juan de Fuca (in Washington state), and the Strait of Georgia (in British Columbia, Canada). It provides essential nearshore habitat for diverse salmonid, forage fish, and bird populations. The nearshore areas of the San Juan Islands provide a critical link between the terrestrial and marine environments (Breem and Warinner 2008).

Prior to the influx of European settlers, Blakely Island and the surrounding islands likely supported mixed prairie-forest vegetation with a solid component of Douglas fir. The local environment is an open transitional forest including such species as *Pseudotsuga menziesii* (Douglas fir), *Arbutus menziesii* (Pacific Madrone), *Rosa* sp. (Rose), *Berberis* sp. (Barberries), and *Mahonia Aquifolium* (Oregon Grape).

Warm, dry summers and mild, wet winters allow some unusual flora to survive in this biogeoclimatic zone. Blakely Island likely supported plants and animals common to nearshore areas of San Juan County. Land mammals and plant resources would also have been abundant in all seasons here, but much of the use of these shoreline sites has traditionally been interpreted as related to shellfish and saltwater resource availability. For a more detailed description of the flora associated with these areas, see Franklin and Dyrness 1988, Huesser 1983, Pojar and Mackinnon 1994, and Turner 1995.

The shores of Blakely Island continue to be impacted by natural forces. Weathering and erosion related to ocean and terrestrial forces are obvious along the shores.

Soil data for this project was obtained from the Web Soil Survey (WSS), which provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. The site is updated and maintained online as the single authoritative source of soil survey information. According to the WSS, the Project APE has three major soil types: Beaches-Endoaquents, Tidal-Xerorthents Association (0-5% slopes); Doebay, moist-Cady-Rock Outcrop Complex (10-30% slopes), and Turtleback-Cady-Rock Outcrop Complex (25-75% slopes).

The *Beaches-Endoaquents, Tidal-Xerorthents Associ*ation is found at an elevation of 0 to 50 feet. The Beaches generally have a slope of 0 to 5% with the water table anywhere from 0 to 80 inches. A typical profile is 0 to 60 inches of stratifies sand to gravel.

Xerorthents is found on hillslopes and beaches with 0-5% slopes. The parent material is beach sand and colluvium from glacial outwash. This soil is excessively well drained and the depth to a restrictive feature and to the water table is more than 80 inches. A typical profile is 0 to 1 inches: very gravelly sand, 1 to 20 inches: very gravelly sand, and 20 to 60 inches: very gravelly sand.

Endoaquents, Tidal is found on beaches with 0-2% slopes and the parent material is beach sand. The depth to a restrictive feature is more than 80 inches and it is very poorly drained. The water table is at 0 inches and flooding is very frequent. A typical profile is 0 to 29 inches: gravelly sand, 29 to 48 inches: very gravelly coarse sand, and 48 to 60 inches: extremely gravelly coarse sand.

The *Doe bay, Moist-Cady-Rock Outcrop complex* is found at an elevation of 0 to 1,600 feet and has a slope of 10 to 30%.

Doe bay, moist is found on hill slopes and mountain slopes, has a slope of 10-30%, its depth to a restrictive feature is 20-40 inches to lithic bedrock, it is well drained and the depth to the water table is more than 80 inches. A typical profile is 0-1 inches: slightly decomposed plant material, 1-6 inches: loam, 6-16 inches: fine sandy loam, 16-21 inches very gravelly sandy loam, 21-35 inches: extremely gravelly sandy loam, and 35-45 inches: unweathered bedrock.

Cady is found on hill slopes and mountain slopes, has a slope of 10-30%, its depth to a restrictive feature is 10-20 inches to lithic bedrock, it is well drained and the depth to the water table is more than 80 inches. A typical profile is 0-1 inches: slightly decomposed plant material, 1-4 inches: loam, 4-16 inches: fine sandy loam, 16-26 inches: unweathered bedrock.

Rock outcrop is found in drainage ways on mountain-bases and base slopes, has a slope of 10-30%, its depth to a restrictive feature is 0 inches to lithic bedrock. A typical profile is 0-6 inches: unweathered bedrock.

Turtleback-Cady-Rock Outcrop Complex is found at an elevation of 0 to 2,200 feet and has a slope of 25 to 75%. Turtleback is found on mountain slopes and hillslopes with a parent material of Glacial drift mixed with colluvium from metasedimentary bedrock. The restrictive lithic bedrock is 40 to 60 inches and this soil is generally well drained. The water table is more than 80 inches. A typical profile is 0 to 3 inches: slightly decomposed plant material, 3 to 13 inches: very gravelly very fine sandy loam, 13 to 40 inches: extremely gravelly sandy loam, 40 to 48 inches: extremely gravelly loamy sand, and 48 to 58 inches: unweathered bedrock.

3.3 Cultural Setting

It is beyond the scope of this study to provide a detailed description of traditional Coast Salish land use and lifeways. For in-depth descriptions of traditional Coast Salish culture readers should consider the following references: Adamson 1969; Allen 1976; Ames and Maschner 1999; Amoss 1977a, 1977b, 1978, 1981; Barnett 1938, 1955; Belcher 1986; Bennett 1972; Bierwert 1993, 1999; Borden 1950, 1951, 1975; Boxberger 1986, 1996; Boyd 1999; Bryan 1955; Bryan and Lurman 1953; Carlson 1990, 1996; Collins 1952, 1974a, 1974b, 1974c; Dewhirst 1976; Duncan 1977; Elmendorf 1971, 1974, 1993; Guilmet *et al.* 1991; Gunther 1928, 1945; Haeberlin and Gunther 1930; Harmon 1998; Harris 1994; Howay 1918; Island County Historical Society 1993; Jermann 1977; Jorgensen 1969; Kew 1972, 1990; Kozloff 1973; Lane and Lane 1977; Mansfield 1993; Mattson 1971, 1985; B. Miller 1993, 1997, 1998, 2001; Miller and Boxberger 1994; J. Miller 1988; Mitchell 1971; Mooney 1976; Neil 1989; Onat 1987; Roberts 1975; Robinson 1980, 1981, 1999; Ruby and Brown 1986; Sampson 1972; H. Smith 1900, 1907; Smith and Fowkes 1901; M. Smith 1941, 1950, 1956; Snyder 1964, 1981; Spier 1935, 1936; Stein 1984, 2000; Stewart 1977; Strickland 1984, 1990; Suttles 1958, 1960, 1987, 1990; Taylor n.d.; Thompson 1978; Wessen 1988; White 1980; and Whitlam 1980.

The southern Northwest Coast Salish peoples that traditionally inhabited the project area prior to European settlement lived a comfortable, successful, and highly adapted lifestyle in this west coast environment. They excelled at resource extraction, processing, and tool and structure manufacture. Their lives followed a seasonal round that included both permanent and temporary summer camps along the coast for fishing and shellfish and plant gathering. In pre-contact times the San Juan Islands were likely a popular summer gathering spot for at least as long as sea levels have been stable, which is approximately 5000 years (Wessen 1988). The shellfish and other ocean resources available traditionally in this cove could easily support the larger populations of people estimated for this area near the time of contact with Europeans. There were also the terrestrial resources including mammals and the harvest of plant resources that were carefully maintained and utilized at the time of early contact with Europeans. There may have been groups that used this cove year round, including the possibility of larger aggregate village use. Much of the evidence for this extensive pre-contact and proto-historic land use has been obliterated by the development of the last two hundred years.

It is important to note that there is evidence for human occupation and use in this region for at least 10,000 years. Although some archaeologists believe that North America was populated by migrations of people from present-day Asia crossing a bridge of land in the Bering Strait of Alaska, some native peoples of the area do not believe this, as their origin narratives take place here in the islands of the Northwest (Stein 2000). Additionally, fossil remains and bones of buffalo, bison, a small prehistoric horse, and wolves have been found on the islands (McDonald 1990).

Spanish explores first entered the area on June 24, 1791, which happens to be the birthday of St. John the Baptist, the namesake of the islands. Due to a string of bad weather, however, the Spanish explorers encountered only very few of the islands, and did very little exploration. The following year the British were in the area, followed by the Americans in 1841 (McDonald 1990).

In the San Juans, native groups

> continued to arrive seasonally from other locales. They camped in mat shelters on the protected beaches until time to return to their winter homes. A few maintained permanent villages. All were from Salish tribes—the Clallams of the Olympic Peninsula, Lummis and Samish from the Bellingham Bay region, Saanich, Songish, and Cowichans from British Columbia. These migrants invented place-names for parts of the archipelago indicating foods found there.
>
> Thus in the Lummi language Waldron Island was "the place of deepwater fishing." Patos was "where the native oyster is found." Sucia was "mussels on the rocks." Matia was Punnawhing, an edible bulb. Shaw was Somemana, an oily little fish. Friday Harbor's name signified that first-run sockeye salmon passed there (McDonald 1990: 3).

Native houses were present on Lummi, Cypress, and Guemes Islands into the twentieth century, and early setters on Orcas encountered "cedar posts of a communal house 200 feet long on the beach facing East Sound" (McDonald 1990: 4).

> As long ago as 1898, a writer in an American Museum of Natural History publication described trenches he visited on Lopez, which he supposed were primitive fortifications. He found them at Hunter Bay, MacKaye Harbor and Richardson. Later a circular trench 150 feet long was uncovered on a hillside overlooking Lopez Sound. (MacDonald 1990:4)

The first European structure built on the islands was a log cabin constructed in 1850 by William John McDonald of the Hudson's Bay Company (HBC) at Eagle Cove. Nearby was another HBC venture, Bellevue Farm, a fishing station and sheep ranch. Two years later, in 1852, both William R. Prattle and later Richard Coussans began brief businesses harvesting timber on Lopez Island, before they were variously run off by the Chief Factor Douglas of the Hudson's Bay Company (MacDonald 1990). Numerous conflicts on Lopez at this time were part of the overall settlement of the boundary dispute between the American and British interests in the islands.

One of the most well-known conflicts the San Juan Islands is the Pig War, a dispute between American and British, both claiming the archipelago for their countries. Nine years after the HBC had established a presence in the islands with Bellevue Farm, a pig belonging to an HBC employee was rooting through the garden of an American settler, Lyman Cutler, who shot and killed the pig to protect his investment. HBC officials demanded he be arrested, and the Americans responded by sending sixty-six soldiers to this boundary-disputed area; the British countered with warships. By September there were three warships with numerous guns and roughly two thousand men on the British side, and nearly five hundred Americans with decidedly fewer cannons. Through negotiations, a joint military presence was agreed upon and a celebration ensued (McDonald 1990; NPS 2005; Roe 1995). The British and American occupation ended in 1872 when Germany's Kaiser Wilhelm I acted as an arbitrator and settled the dispute in favor of the Americans (NPS 2005).

Spencer Mill was a lumber mill that operated between 1879 and 1942 in Thatcher Bay on the southwest side of heavily timbered Blakely Island (Figure 6), one of the San Juan Islands of Washington State. Historically the island was long used by the Samish and Lummi tribes for fishing, hunting, and plant gathering (Roe 2005:6), and for slave raids by the Haida and other tribes from the north (2005:5). Shell middens remain on the north end of the island, and an early resident of Orcas Island recalls Indian potlatches and gatherings along Obstruction Pass (2005:7). According to

another of Roe's sources, Indians from southeastern Alaska collected camas bulbs and tule reeds at Thatcher Bay on trips to Puget Sound to trade or sometimes raid local tribes (2005:7).

European use of the island began in the 1800's. In 1841, during his naval exploration of the Pacific, Charles Wilkes named the island for Johnston Blakely, a naval officer and hero of the War of 1812 (2005:5). White settlement began before 1867 when John P. Reed and his Tlingit wife, Tacee, lived there for some time while they logged with oxen, which they had rafted to the island (Jones-Lamb 1994:6). They later moved to Decatur Island for more grazing land (Jones-Lamb 1994:6). The first official property owner on Blakely was Paul K. Hubbs, Jr., who raised sheep there with his wife, Sasha, and is listed in the San Juan County census records of 1870 as owning the island (Roe 2005:13). He sold the island, or the portion southeast of Spencer Lake, to Edward C. Gillette in 1874, and at some point in the 1870's, William H. Vierick, whose father homesteaded on Orcas Island, bought the property where Spencer Mill, at that time called Thatcher Mill, was later built (2005:16).

By 1873, William Harrison Coffelt, another homesteader on Orcas Island, was living part-time in a cabin at Thatcher Bay, intending to manufacture steam engines and build a lumber mill there (2005:15). The Coffelt and Vierick families, who were close friends on Orcas Island, did some logging on Blakely, finding good quality timber around the island's two upland lakes, Horseshoe and Spencer (the latter then known as the Lower Lake) (2005:15-16). In the late 1870's, William Harrison Coffelt and William H. Vierick decided to build a mill on the beach where water from the Lower Lake swiftly flowed down a steep ravine into Thatcher Bay (2005:16). Thatcher Mill, constructed by Coffelt with his brother John's help, began operating in 1879, the same year that Coffelt married Vierick's sister, Anna (2005:16).

Coffelt's son, Al, in his oral history of life on Blakely, explained how his father built the mill:

> He framed that mill, built all the parts, the timbers, braces, and everything. To hold the braces he'd bore a hole through the timbers and drive in wooden pins. There was no iron bolts around. Then they had a mill-raising. I guess everybody from all around the whole country was there. I remember I stood on the hill and looked down to see them. A lot of men hauling with block and tackle putting the mill up. They got it up in a day [Strickland 1984:48-49].

The mill was powered by a water wheel which, connected to reduction gear with a leather belt and "glued with cow parts," as Roe says (2005:18), ran a reciprocal saw. The line shaft between the water wheel and the saw was suspended at intervals from above with supports containing bearings (Roe 2005:18). By 1884, logs were transported from the island's uplands to the mill by a series of log pipes or open flumes running down the ravine from the Upper Lake (2005:18). Loggers felled trees into the lake or used horses to drag logs into it and also into a storage pond about half a mile from the lake (2005:35, 125). Then they towed the logs by rowboat in booms to the lake's southestern end and loaded them into the log chute (2005:35).

In 1887, Coffelt added a circular saw powered by a steam engine and boiler (2005:17). The engine consisted of a steam piston, moved by a series of pipes, which rotated a crank shaft and then a fly wheel (2005:18). In addition to powering the saw, the steam system created limited electricity, possibly the first produced in the San Juan Islands (2005:19). The mill manufactured lumber and wooden box materials used in shipping fruit and fish (2005:17).

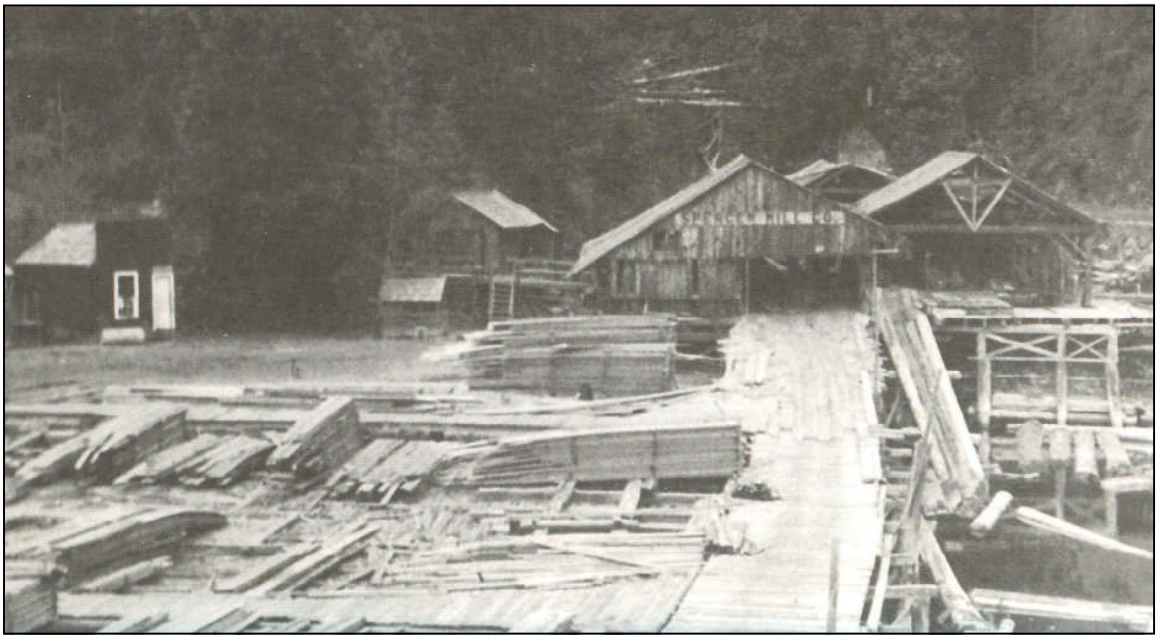

Figure 6: Photograph of Old Spencer Mill and Post Office, taken from Roe 2005

Roe quotes Coffelt's explanation of how the mill worked from the book Times and Lives of Some Coffelts in America:

> We had boom men taking care of the bull pen, guiding the logs to the drag chain. The logs rolled off the conveyor onto the cold deck. The carriage man dogged the logs in place against the bolsters, in order to line up the logs with respect to the circular saw. The carriage moved back and forth to bring the log in contact with the large circular saw. The logs were then squared. The sawyer operated the carriage back and forth. The logs were meticulously slabbed into cants. Squared logs were sawed into cants on the head rig. The cants were led through rollers to resaw into lumber [Roe 2005:19].

At the height of the Thatcher Mill operation, the Vierick and Coffelt families owned all of Thatcher Bay and the adjacent land up to Lower Lake (2005:19). Most of the early residents of the island worked at the mill, and a small community developed, called Thatcher, with a post office in a small store next to and north of the mill (2005:19.35). Coffelt was the first postmaster (2005:19). He also built a school in the 1880's, which was in use by 1889 (2005:35). John Vierick (William H. Vierick's brother?) was a teacher there in 1889 or earlier (2005:14, 35-36).

In 1888, Coffelt purchased the mill from William H. Vierick (2005:19), and then, when business declined in the 1890's, sold it in 1892 to Theodore Spencer who renamed it Spencer Mill (2005:17, 19). The Lower Lake became Spencer Lake (2005:16, 19). Coffelt operated the mill for Spencer for a few years and then resigned and moved to Orcas Island, continuing to sell logs to the mill as late as 1899 (2005:19). The Viericks and other Orcas Island families also were hauling logs there in 1899, with the steamer Hermosa (Jones-Lamb 1994:36). Later on, Al Coffelt worked at the mill (2005:19).

Spencer modernized the mill's hydropower system (2005:31) around 1900, and it continued to be profitable for several decades (2005:32). Most of the houses around Thatcher Bay belonged to Spencer's numerous relatives or employees (2005:31), and by 1923, Spencer's brothers Ray, Roscoe

and a relative, Walter Spencer, owned the rest of Blakely Island (2005:32). In the years leading up to the Great Depression, the market for logs declined and the logging operation ended in 1929 (2005:35). Mill work continued with purchased and stored logs until 1942 when the mill closed due to its remote location and the need for repair and further modernization when the power system failed (2005:35; Nelson 2006). People left the island and in 1946, the Spencers sold the island, including the mill property, to Lloyd W. and Margaret Hines (Roe 2005:51).

In 1954, Floyd Johnson, a salesman for a Cessna dealership in Portland, took an option to purchase the entire 4900 acre island from Hines (2005:52), began development of homes and an airstrip on the north end of the island, called San Juan Aviation & Yachting Estates (2005:55), and paid it off in 1956 (2005:53). In 1957, he sold all the upland forests and timber to Puget Sound Pulp & Timber Company of Bellingham, stipulating no timber harvesting for about 20 years, and retaining an easement on the lakes, water, and roads for recreation, and 600 foot easements on the shorelines of Thatcher and Armitage Bays plus certain other pieces for future development (2005:55).

In January 1965, melting snow, heavy rain, and high water washed out the small retaining dam at Spencer Lake, rushing down the ravine and destroying the remains of the old flumes, the mill, and the post office (2005:81). Passengers on a ferry to Lopez reported the event, which left the lake at half its usual level, dug the ravine 75 feet deeper, and created a waterfall with a pool at its base (2005:81). Heavy iron machinery, including a large Pelton wheel, was moved from the mill out onto the beach and into the bay where it was still visible in 2005 at low tide (2005:81). A new dam was constructed and the lake gradually refilled (2005:81). Today, all that remains of the Spencer Mill are pilings, concrete debris, steel cables (Johannessen and MacLennan 2006:Appendix 2), and sawdust on the beach and in the bay (Nelson 2006).

In the early 1970's, Puget Sound Pulp & Timber sold its holdings, 3744 of the island's 3400 acres, to Georgia Pacific (Roe 2005:95), which in turn optioned them to David Syre, a lawyer interested in development, and a Tacoma group called Talmo, interested in the timber (2005:98). Concerned about the rumors of clear cutting by Talmo, Thomas Crowley, who owned a home on Blakely and whose family owned the San Francisco tugboat and ship company, became Syre's partner and bought out Talmo (2005:100). In 1976, Crowley drew up a conservation easement that donated 910 acres to Seattle Pacific University for use as a scientific research center, gave Crowley 30 sites for development (which he reduced to 19 in 1993), and gave Syre 500 acres for development at the south end of the island,which became 20 lots for homes of the South Bay Associates (2005:101-103). A hydroelectric plant was installed near the site of Spencer Mill in 1984, which now is studied by science and engineering students (2005:128). The plant's turbine, a 9 ¾ inch Pelton wheel within a 12 inch pipe, accommodated a very forceful 3 cu.ft./sec. of water at a nominal head of 200 feet, with the power transferred into the Orcas Power and Light Cooperative grid (2005:128).

A 1989 trust agreement included the old Spencer Mill property in Blakely Island Trust under Trustees Thomas B. and Molly M. Crowley (San Juan County Auditor's Office, Friday Harbor, Washington [SJCAO] 1989), and in 2008, the Crowleys quit claimed the Trust to Blakely Island Timberland LLC, care/of Thomas B. Crowley (SJCAO 2008).

For further history of the San Juan Island and the surrounding area, the reader is directed to Cook 1973, Cummings and Cummings 1987; Island County Historical Society 1993, Kellogg 1934, McDonald 1990; Neil and Brainard 1989, Richardson 1964; White 1980, and Willis 1973.

3.4 Previous Archaeology

The earliest archaeological studies of the region are from the now famous Harlan I. Smith 1901 and 1907. For more details about the archaeology of this area see Ames 1992; Borden 1975, 1979; Bryan 1955, 1963; Burley 1980; Bush and Ferry 2006a and b; Bush and Ross 2004a and b; Bush et al 2006 a and b; Butler 1961; Carlson 1960, 1990; Duncan 1977; Fladmark 1986; Jermann 1977; King 1950; Matson 1995; Mattson 1971 and 1985; Mitchell 1971, 1990; Moss 1995; Blukis Onat 1985, 1987; Robinson 1980, 1981, 1999; Snyder 1981; Stein 1984, 1992, 1996, 2000; Suttles 1987, 1990; and Wessen 1988.

Although new sites are being recorded all the time, most archaeological sites were recorded in the San Juan Islands during the 1950s with many areas less developed than now. By the 1950s effects of settlement including historic logging, road building and the subsequent plowing for agriculture had already left its mark on the archaeological record.

Previous archaeological investigations have recorded five sites within approximately 2.5 miles of the project APE and they include:

Number	Type	Distance from APE
45SJ244	Shell Midden	~.2 miles
45SJ154	Shell Midden	~1 miles
45SJ151	Shell Midden	~1.5 miles
45SJ152	Shell Midden	~2 miles
45SJ153	Shell Midden	~2.5 miles

Table 1: Previously recorded archaeological sites.

Site **45SJ151** was originally recorded in 1947 as a precontact shell midden located on a small cove on the northwest side of Blakely Island. At this time the dimensions of the site were 1032 feet long by 30 feet wide and 10 inches deep. This location was revisited in 1985 by Gary Wessen and the shell mound was not relocated, likely due to the large number of homes with landscaped yards and the Blakely Marina store and parking lot (Wessen 1986a).

Site **45SJ152** was originally recorded in 1947 as a precontact shell midden located on the northwest side of Blakely Island, just north of 45SJ151. The site was located on a gravel bar facing westward toward Orcas Island. A ground slate point was also found in association with the shell mound. This location was revisited by Gary Wessen (1986b) and the shell mound was not relocated.

Site **45SJ153** is located approximately two and one half miles north of the project APE – was originally recorded in 1947 by Lane as a precontact shell midden. The site was revisited by Wessen in 1985. This site is located on the northwest side of Blakely Island on a cuspate foreland with a lagoon in the center. This site is 504 feet long by twelve feet wide with depths of 10 inches.

This site is disturbed. A residence, associated out buildings, lawns and gardens have been developed there. Wessen was unable to locate any evidence of the site in 1985, however, he did believe there may be some buried deposits still present at the site (Lane et al 1947; Wessen 1986c).

Site **45SJ154** was originally recorded in 1947 as a precontact shell midden located on the southwest side of Blakely Island. Gary Wessen (1986d) revisited the site in 1985 and describes it as "a continuous mass of shell midden deposits exposed in slump stabilized bank facing along the beach."

The low density and highly fragmented shells were dominated by *Protothaca* and *Saxidomus*. Wessen (1986d) also noted fish and mammal bones and at least seven varieties of shell fish.

Site **45SJ244** was originally recorded by Keith Thomson and was revisited in 1985 by Gary Wessen. The site is described as a Precontact shell midden site measuring about 22 meters long by five meters wide and 40 cm deep. Wessen (1986e) describes this as a "zone of shell midden deposits exposed in wave undercut/slump stabilized bank facing the beach." Also noted during this investigation were faunal remains and fire cracked rock.

4.0 METHODOLOGY

4.1 Archival Research

1) Review of site forms and previous reports for Blakely Island on file at the Department of Archaeology and Historic Preservation in Olympia, Washington

2) Review of published information on the prehistory or traditional native use of the area.

3) Review of archaeological site location maps for Blakely Island.

4.2 Field Methods

The fieldwork was carried out on Monday, April 27, 2009 by Alyson M. Rollins, Tamela S. Smart and Brett N. Meidinger. Fieldwork involved an intensive pedestrian survey inside the project APE and outside the APE on the rocky outcroppings immediately to the east (beach/berm area) and to the north to observe any surface evidence of the previously recorded site. We saw no surface indicators such as culture rich shell, FMR, or features. Shovel tests and profile scrapes were excavated inside the project APE and on the rocky outcropping immediately to the east (beach/berm area). In addition, monitoring of subsurface coring within the project APE was conducted. All excavated matrices were screened through 6 mm mesh and are recorded in Appendix 1. All photographs are logged in Appendix 2 and stored in the ERCI offices. No samples were taken.

5.0 RESULTS AND RECOMMENDATIONS

5.1 Results

No Cultural Resources or Protected Historic Properties were identified during our field investigation of the project APE. Testing of the project area included six shovel tests and six profile scrapes inside the APE, as well as an intensive pedestrian survey of the rocky slopes immediately east (beach/berm area) and north of the project APE (Figure 7). In addition, monitoring was conducted during core sampling on the beach (using Vibracore Sampling) and the offshore (using Gravity Sampling) project APE.

Vibracore Sampler System

To collect the sediments on the beach of Thatcher Bay, a vibracore sampler system was used. This is a three part system including a frame or tripod, an aluminum pipe and a vibrating device (Figure 8, Figure 9, Figure 10, Figure 11, and Figure 12). A hollow aluminum tube measuring 8 cm in diameter was lowered into the underlying sediments using hand power and the vibrating device. The aluminum tube was then capped on the top to create suction and removed vertically using a tripod and wench system. The bottom end was immediately capped to prevent sediment loss. Sea water was

then added to the cores to aid in preservation. Some of the tubes however contained a significant amount of sea water, so they were cut down to the sediment line to ease in transportation.

Previous coring activities identified a layer of sawdust and wooden debris from the old saw mill, which was underlain by natural mud flats. The project area that contained sawdust on the surface also had scattered historic garbage. Historic cultural material observed during survey included: two piles of rock and modern cinder blocks, a heavily rusted drain pipe, wooden lath, sawdust, sawn logs, metal logging cable, glass fragments, tire rubber, and fragments of liquor bottle glass and porcelain.

A total of five cores were taken from the beach near previously cored sites #30, 8, 21, 12 and 10. All samples except for the core taken near previous core #8 were taken to a depth of a least one foot below the sawdust layer into the underlying native sediments. The core taken near #8 was not taken to depth due to compaction issues. Coring was done by an oceanographer and students from the University of Washington. Each core was collected within an aluminum tube measuring 8 cm in diameter with variable lengths. Visibility of the sediments was extremely limited. The cored hole was inspected after core removal, but the water table obstructed observation. No sediment was observed from the cores in the field, as they were incased within the aluminum pipe upon removal.

Core samples were sent to Analytical Resources Incorporated (ARI) for analysis. Guenna Smith of ARI reported that a few shell fragments were identified in the core samples and that the samples were homogenous and consistent with what they would expect to see for this sediment type.

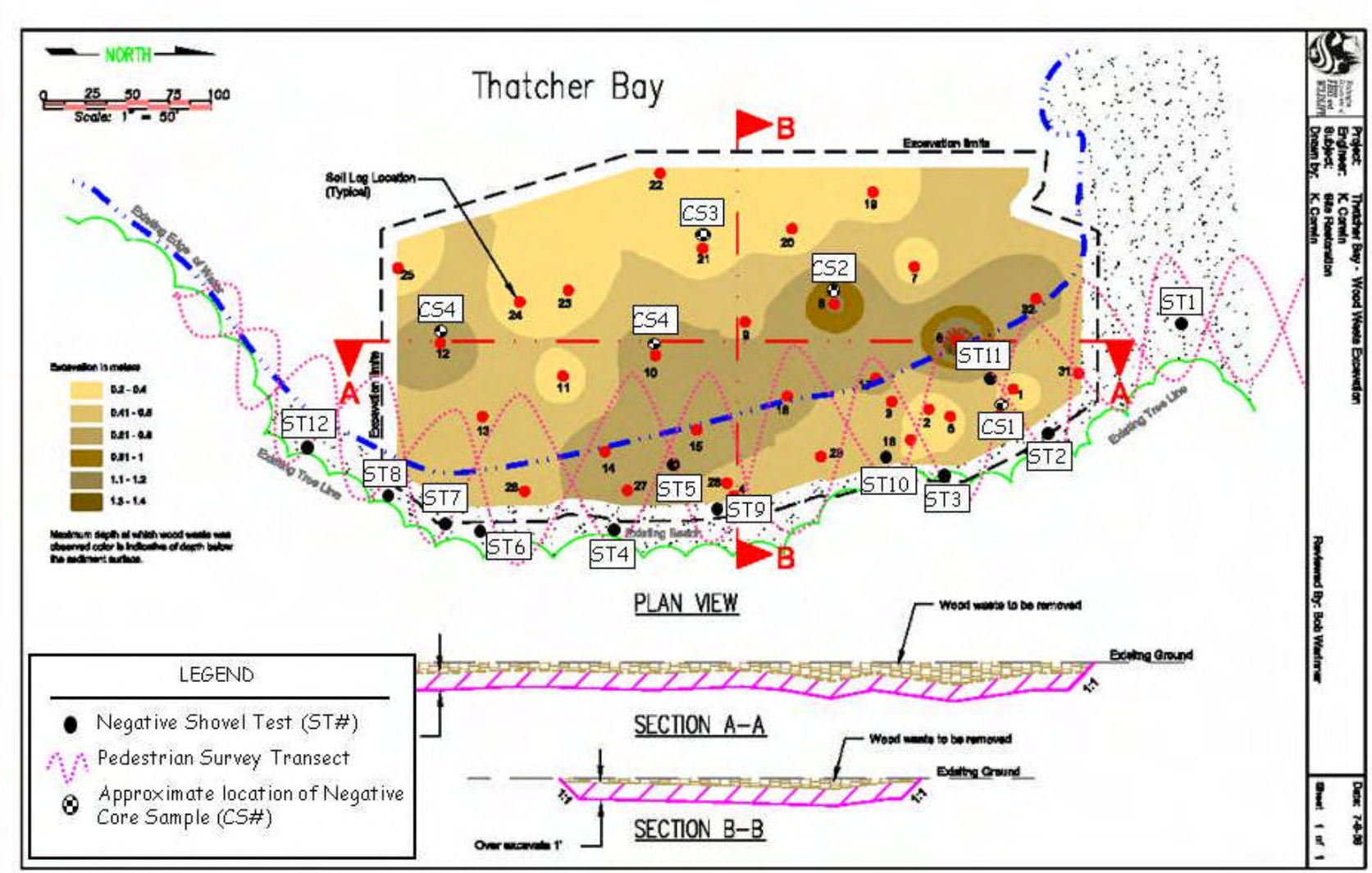

Figure 7: Sketch map of project APE

Figure 8: View northwest of vibracore sampler system on mud flat.

Figure 9: View southwest of tripod and wench system removing core from the mud flat.

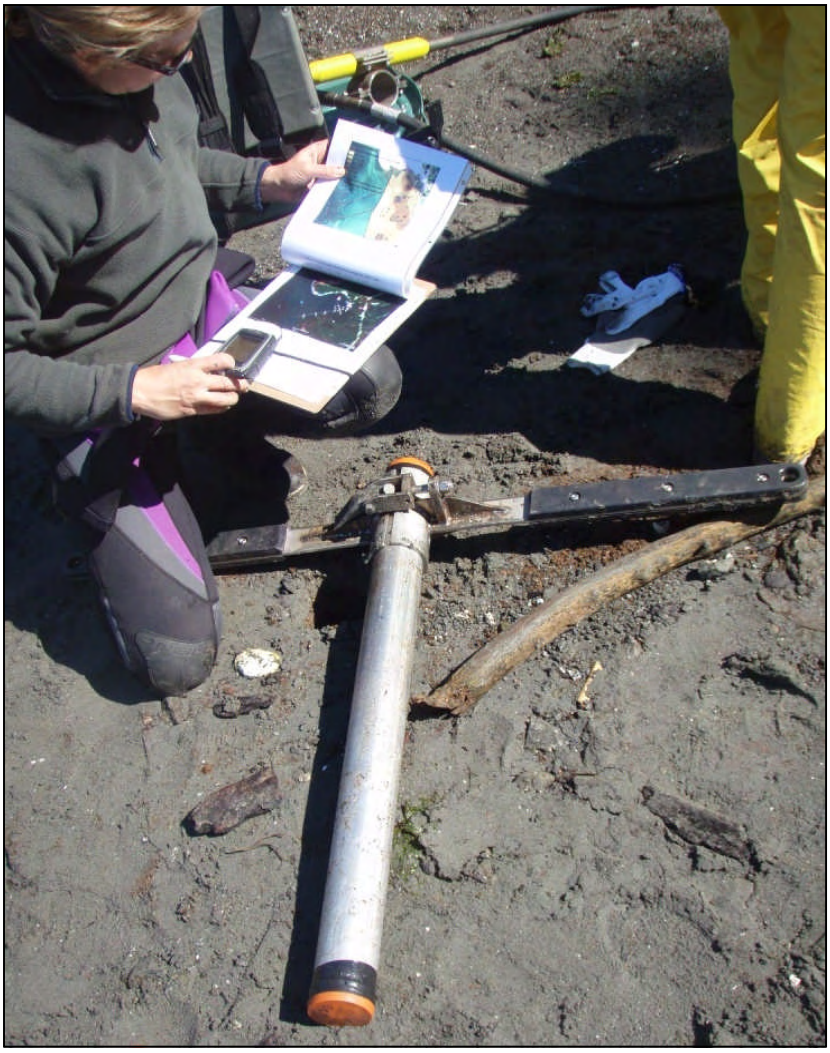

Figure 10: View south of core taken near original core #8 within aluminum tube.

Figure 11: View north of core taken near original core #8, note sawdust and water level.

Gravity Coring System

To collect sediments offshore of Thatcher Bay, a gravity coring device was utilized and the cores were taken by boat (Figure 12). These cores were taken to determine the vertical extent of the wood deposits. Coring activities were observed from an adjacent boat and no sediment collected within the core was inspected.

Figure 12: View northeast of gravity coring offshore of Thatcher Bay

Shovel Testing Program

Shovel tests, profile scrapes, and a pedestrian survey of the project APE were conducted (Figure 7). All 12 tests (six shovel tests and six profile scrapes) were negative (Figure 13, Figure 14, Figure 15, Figure 16, Figure 17, Figure 18, and Figure 19). Five shovel tests were excavated on the beach surface to determine the depth of the sawdust layer and the presence or absence of cultural materials beneath. Shovel testing on the beach surface was challenging due to the soft, slumping side walls and infilling of the shallow water table (10 cm dbs in some places) (Figure 15). The shovel tests located closer to the beach/bank interface were excavated to depths ranging from 26-67 cm dbs, as the soils were more stable. Only one shovel test (ST 3) was excavated on the steep rocky slope immediately east of the project APE (Figure 14), as the underlying bedrock was 10-20 cm dbs in most places.

All six profile scrapes were excavated at the wave undercut beach/bank interface. Profile locations were selected based on the presence of soils and accessibility, as the slope was too steep and rocky in many places for excavation. Overhanging trees and large root wads also presented challenges. Profiles were excavated by hand using a shovel or trowel against the near vertical face. The profiles ranged from 90-130 cm wide depending on the location and surrounding vegetation. Most of the profiles contained forest duff and brown silt, lots of organics, and a high percentage of pebbles and cobbles. Two of the profile scrapes (#2 and #12), contained large roots that were burned and partially decomposed (Figure 13). In these profiles, pockets of orange stained soil and black carbon stains were observed, however, they were not part of a cultural layer, but a byproduct of the natural decomposition process.

Figure 13: View east of profile #2

Figure 14: View east, beach/bank interface with shovel marking location of test #3

Figure 15: View south of shovel test #5

Figure 16: View east of profile #6

Figure 17: View east of profile #8

Figure 18: View northwest, excavating shovel test #11 at north end of APE

Figure 19: View north of shovel test #11

Pedestrian Survey

An intensive pedestrian survey of the project APE and the rocky slopes immediately to the east and north of the project APE was conducted. The beach/bank interface immediately east of the project APE was very steep and the underlying bedrock was exposed in many places (Figure 20). Driftwood and large cobbles were present at the base of the slope. All exposed bank edges were observed, and in many places, the wave undercut slope had slumped exposing forest soils, roots, and bedrock.

During survey of the rock outcropping to the north, outside of the APE, previous disturbances related to the old saw mill and logging camp were observed, including the ruins of docks, wooden structures (living quarters and an outhouse), roads, plantings, wood pilings, rock fortifications, and many pieces of historic trash (Figure 20, Figure 21, and Figure 22). One juvenile deer skeleton and one dog bone were also identified during the pedestrian survey.

Figure 20: View east showing the steep beach/bank interface adjacent to the APE

Figure 21: View south of house structure on rock outcropping north (outside) of APE

Figure 22: View N, pilings in bay to the north (outside) of APE

5.2 Recommendations

The management recommendations that we are now providing are based on the testing carried out during this initial investigation of the project APE.

1. We recommend that this project proceed as planned.

2. We recommend that the Unanticipated Discoveries Protocol (UDP) (See Appendix 3) be reviewed by the contractor and project manager before any ground disturbing activities occur. Each of these individuals should have a copy of the UDP onsite before beginning work within the project APE.

3. In the event that any ground-disturbing activities or other project activities related to this development or in any future development uncover protected cultural material (e.g., bones, shell, stone or antler tools), all work in the immediate vicinity should stop, the area should be secured, and any equipment moved to a safe distance away from the location. Then the contractor or landowner should contact the USACE staff archaeologist, Ms. Elizabeth Ellis (206-764-3634). The USACE staff archaeologist would then coordinate internally with the Corps Regulatory Project Manager and externally with the Department of Archaeology and Historic Preservation; Dr. Robert Whitlam (360-586-3080), the Lummi Indian Nation Tribal Historic Preservation Officer, Ms. Lena Tso (360-384-2298), the Swinomish Indian Tribal Community Cultural Resources Planner, Mr. Larry Campbell (360-466-1236) and the Samish Indian Nation Cultural Resource Manager, Ms. Diana Barg (360293-6404 Ext 215).

4. In the case of an unanticipated discovery of human remains, the project manager will cease excavation, secure the area, and contact the USACE staff archaeologist, Ms. Elizabeth Ellis (206-764-3634). The USACE staff archaeologist would then coordinate internally with the Corps Regulatory Project Manager and externally with law enforcement who will determine if the remains are forensic in nature. If the remains are not forensic in nature then the USACE staff archaeologist will coordinate with the Department of Archaeology and Historic Preservation, Dr. Robert Whitlam (360-586-3080), who will then contact the Lummi Indian Nation Tribal Historic Preservation Officer, Ms. Lena Tso (360-384-2298), the Swinomish Indian Tribal Community Cultural Resources Planner, Mr. Larry Campbell (360-466-1236) and the Samish Indian Nation Cultural Resource Manager, Ms. Diana Barg (360293-6404 Ext 215).

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7.0 APPENDICES

Appendix 1: Subsurface Testing and Matrix Descriptions

Matrix Description
M1: 10 YR 2/2, Dark grayish brown duff with lots of organics and rootlets. 70-80 % rock shards and pebbles with some cobbles.

M2: 10 YR 5/3, Brown fine silt with lots of rootlets and underlying bedrock less than 10 cm dbs, 80% gravels and pebbles.

M3: 10 YR 3/2, Very dark grayish brown sandy silt with lots of charcoal from burned roots, underlying bedrock is about 15 cm dbs.

Test #	Dia.	Depth	Matrix Description	Comments
1	47	36	**Level 1:** 0-6 cm: Bluish gray angular beach gravels, highly fragmented shell, some organics, (beach wood and seaweed), loose composition, beach gravels, with plastic **Level 2:** 6-36 cm: Medium Brown silty coarse sand with 30-40% gravels and pebbles, some organics, shell (*balanus*), loose composition, beach sand **Level 3:** 36 cm: Bedrock	Negative Shovel Test. Located 1.5 meters from the base of the slope on the beach.
2	130	90	**Level 1:** 0-90 cm: M1, the north side of the profile is adjacent to a large tree and has some decomposing roots in it, giving it an orange tint with some burned roots	Negative Profile. Located just east of the north end of the APE.
3	36	68	**Level 1:** 0-68: Dark brown silt with lots of organics (roots, wood), 20 % angular cobbles, loose compaction duff layer	Negative Shovel Test. Located on the slope 2 meters from the bank edge. Terminated test due to a large boulder.
4	100	82	**Level 1:** 0-82 cm: M1, with underlying bedrock less than 10 cm dbs	Negative Profile. Located under a Madrona tree adjacent to the center of the APE.
5	50	30	**Level 1:** 0-30 cm: Reddish brown saw dust with pockets of beach sand, loose compaction	Negative Shovel Test. Water Table at 10 cm dbs.
6	95	108	**Level 1:** 0-108 cm: M2	Negative Profile. Located on the east bank

Test #	Dia.	Depth	Matrix Description	Comments
				towards the south end of the APE. Lots of Oregon grape in the immediate area.
7	100	75	**Level 1:** 0-75 cm: M3	Negative Profile. Bioturbation and bank slumping event.
8	90	65	**Level 1:** 0-65 cm: M3, with more rootlets and several large cobbles.	Negative Profile. Located on east bank in the south end of the APE. Unstable slope, limited visibility for more underlying soils.
9	44	26	**Level 1:** 0-3: Bluish gray angular beach gravels, highly fragmented shell, some organics, (beach wood and seaweed), loose composition, beach gravels **Level 2:** 3-26 cm: Bedrock with pocket of reddish brown sawdust	Negative Shovel Test. Located 4 meters from base of the slope on the beach. Terminated due to large boulder or bedrock.
10	51	41	**Level 1:** 0-2 cm: Bluish gray angular beach gravels, highly fragmented shell, some organics, (beach wood and seaweed), loose composition, beach gravels **Level 2:** 2-41 cm: Medium Brown silty coarse sand with 30-40% gravels and pebbles, some organics, shell (*balanus*), loose composition, beach sand	Negative Shovel Test. Terminated due to boulders.
11	41	64	**Level 1:** 0-15 cm: Gray medium grained sand with less than 10 % gravels **Level 2:** 15-38 cm: Sawdust mixed with pockets of sand **Level 3:** 38-64 cm: Gray silty course sand with 40% gravels and pebbles and pockets of iron oxide, terminating with decomposing bedrock	Negative Shovel Test. Located where the sawdust meets the rock line on the beach.
12	105	100	**Level 1:** 0-100 cm: M2, with very large cobbles, one large burned root penetrating the profile horizontally at 90 cm dbs	Negative Profile. Located on the southeast bank to the south of the APE.

Appendix 2: Photograph Logs

Number	View	Description
1	NE	The beach northwest of the project area
2	W	The rock outcropping to the northwest of the project area
3	S	Looking over the project APE
4	S	Looking over the project APE
5	S	Looking over the project APE
6	W	Thatcher Bay
7	E	The interface of the slope and the beach
8	S	The project APE and the coring crew
9	S	The project APE and the coring crew
10	E	North of the project APE at the base of the slope
11	W	Thatcher Bay and the coring crew
12	W	Thatcher Bay and the coring crew
13	E	Profile 2
14	E	Profile 2
15	E	Profile 2
16	E	Profile 2
17	E	Profile 4
18	E	Profile 4
19	E	The bank and a shovel marking the location of ST 3
20	E	The bank and a shovel marking the location of ST 3
21	E	The bank and a shovel marking the location of ST 3
22	E	Profile 6
23	E	Profile 6
24	E	Profile 6
25	E	Profile 6
26	E	Profile 6
27	NW	Looking over the north end of the project APE
28	W	Looking over the middle of the project APE
29	SW	Looking over the south end of the project APE
30	E	From the beach, looking at the bank and profile 6
31	N	The bay to the north of the project APE, from the top of the hill near the ruins of a house
32	W	The ruins of a house North of the project APE
33	S	Overview of the project APE from the old road
34	S	Overview of the project APE from the old road
35	S	Overview of the project APE from the old road
36	S	Overview of the project APE from the old road
37	S	Overview of the project APE from the old road
38	S	Overview of the project APE from the old road

Number	View	Description
39	S	Overview of the project APE from the old road
40	S	Overview of the project APE
41	E	Profile 7
42	E	Profile 7
43	E	Profile 7
44	E	Profile 8
45	E	Profile 8
46	E	Profile 8
47	E	Profile 8
48	E	Profile 8
49	E	Profile 8
50	E	Profile 8
51	E	Profile 8
52	E	The project APE from Thatcher bay
53	E	The project APE from Thatcher bay
54	E	The project APE from Thatcher bay
55	N	ST 1
56	W	ST 1
57	S	ST 3
58	S	ST 3
59	SW	Overview from ST 3
60	S	St 5
61	S	St 5
62	N	The ruins of an old structure on the point North of the project APE
63	N	The hydro building North of the project APE
64	S	Overview of the project APE
65	S	Overview of the Project APE
66	SW	View towards the water from ST 9
67	W	ST 9
68	NW	Technician digging ST 11
69	S	ST 10
70	N	ST 11
71	N	ST 11
72	SE	Overview of the project APE
73	NW	Coring near the original core 8
74	E	Coring with vibracore system
75	SW	Capping a core
76	Plan	A core in the aluminum tube near original core 8
77	N	A core hole with sawdust near original core 8
78	W	Coring at the shoreline

Number	View	Description
79	NE	Shovel testing along the first terrace
80	N	Technician digging a shovel test
81	N	Technician digging a shovel test
82	NW	Coring in relation to shoreline
83	W	Rock pile with cinder blocks and modern screws
84	SE	Coring in the project APE
85	Plan	Wood debris
86	Plan	Wood debris
87	NE	Metal pipe in the sawdust layer
88	N	Modern Building
89	NW	Project APE overview
90	N	Project APE overview
91	NE	Profile of deposits within a small drainage channel
92	Plan	A logging cable
93	W	Pulling a core
94	NE	Coring
95	NE	Coring
96	NE	Technician shovel testing
97	SW	Pulling out a core with the tripod
98	SW	Pulling out a core with a tripod
99	SE	Cutting off the excess tube to sediment level
100	E	Overview from the boat
101	E	Overview from the boat
102	E	Overview from the boat
103	E	Overview from the boat
104	E	Overview from the boat
105	E	Gravity coring from the boat
106	E	Gravity coring from the boat
107	SE	Overview of the project APE
108	SE	Overview of the project APE
109	S/SE	Gravity coring
110	S/SE	Gravity coring
111	S/SE	Gravity coring
112	E	Gravity coring
113	E	Gravity coring
114	E	Overview of the project APE

Appendix 3: Unanticipated Discoveries Protocol

In the event that any ground-disturbing activities or other project activities related to this development or in any future development uncover protected cultural material (e.g., bones, shell, antler, horn or stone tools), the following actions will be taken:

1. When an unanticipated discovery of protected cultural material (Figure 23, Figure 24, Figure 25, Figure 26, Figure 27, Figure 28, Figure 29, and Figure 30) occurs, the property owner or contractor will cease work and completely secure the location. Then to determine the appropriate and legal plan of action for the protected cultural resources, the onsite representative will contact:
    a. The USACE staff archaeologist; Ms. Elizabeth Ellis (206-764-3634). The USACE staff archaeologist would then coordinate internally with the Corps Regulatory Project Manager and externally with the Department of Archaeology and Historic Preservation; Dr. Robert Whitlam (360-586-3080), the Lummi Indian Nation Tribal Historic Preservation Officer; Ms. Lena Tso (360-384-2298), the Swinomish Indian Tribal Community Cultural Resources Planner; Mr. Larry Campbell (360-466-1236) and The Samish Indian Nation Cultural Resource Manager; Ms. Diana Barg (360293-6404 Ext 215).

2. If the discovery is human remains, the property owner or contractor will stop work in and adjacent to the discovery, completely secure the work area moving the land-altering equipment to a reasonable distance to continue working and will immediately contact:
    a. The USACE staff archaeologist; Ms. Elizabeth Ellis (206-764-3634). The USACE staff archaeologist would then coordinate internally with the Corps Regulatory Project Manager and externally with law enforcement who will determine if the remains are forensic in nature. If the remains are not forensic in nature then the USACE staff archaeologist will coordinate with the Department of Archaeology and Historic Preservation, Dr. Robert Whitlam (360-586-3080), who will then contact the Lummi Indian Nation Tribal Historic Preservation Officer, Ms. Lena Tso (360-384-2298), the Swinomish Indian Tribal Community Cultural Resources Planner, Mr. Larry Campbell (360-466-1236) and the Samish Indian Nation Cultural Resource Manager, Ms. Diana Barg (360293-6404 Ext 215).

Cultural material that may be protected by law could include but not be limited to:

- Logging, mining, or agriculture equipment older than 50 years
- Historic bottles and soldered dot cans
- Buried layers of black soil with layers of shell, charcoal, fish and mammal bones
- Buried cobbles that may indicate a hearth feature
- Non natural sediment or stone deposits that may be related to activity areas of people
- Stone tools or stone flakes
- Stone, bone, shell, horn, or antler tools that may include projectile points (arrowheads), scrapers, cutting tools, wood working wedges or axes, and grinding stones
- Perennially damp areas may have preservation conditions that allow for remnants of wood and other plant fibers; in these locations there may be remains including fragments of basketry, weaving, wood tools, or carved pieces
- Human remains

Figure 23: Example of Protected shell midden for UDP.

Figure 24: Example of Protected shell midden in Profile for UDP.

Figure 25: Example of Protected worked bone and bird claws for UDP.

Figure 26: Example of Protected Adze Blade for UDP.

Figure 27: Example of Ground Stone tool for UDP.

Figure 28: Example of Bone digging stick for UDP

Figure 29: Example of stone tool for UDP

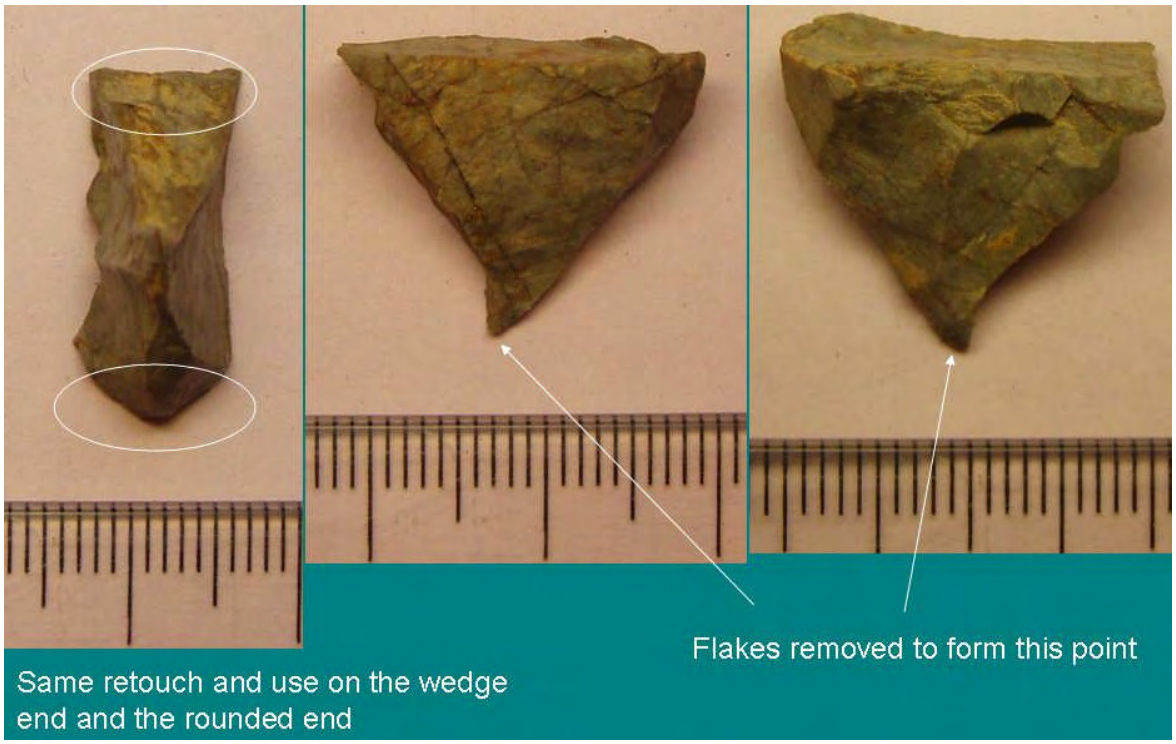

Figure 30: Example of stone tool for UDP.

Appendix 4: 1:24,000 Blakely Island Quad Map