



Memorandum

To	Scott White Confluence Environmental Company	File no	5915178990
From	Jason B. Cooper, M.A., RPA Amec Foster Wheeler Environment & Infrastructure, Inc. Connie Walker Gray, Senior Architectural Historian, Confluence Environmental Company	cc	Dan Meatte, WA State Parks Jennifer Vanderhoof, King County Laura Murphy, Muckleshoot Indian Tribe Brandon Reynon, Puyallup Tribe of Indians Rob Whitlam, DAHP
Date	November 10, 2015		
Subject	Archaeological Resources/Built Environment Assessment and Monitoring Results from the Geotechnical Exploration at Saltwater State Park, King County, Washington		

King County, in collaboration with Washington State Parks (Parks), is in the early stages of planning the McSorley Creek Pocket Restoration Project (Project). The Project proposes to remove 150 feet of rock armoring along both banks of McSorley Creek to restore one acre of intertidal habitat at the creek delta and remove as much of the 2,500 feet of marine shoreline armoring as possible to maximize habitat benefits while maintaining protection of known cultural resources. The mouth of McSorley Creek is currently bulk-headed with rip-rap and no longer flows in its original channel. Removing the bulkhead at the creek's mouth and restoring some of its ability to flow naturally will help bring back natural processes that create juvenile Chinook salmon habitat and potentially improve nearshore baitfish spawning. For the feasibility study, data is being collected on a variety of parameters including eelgrass, stream habitat, geotechnical soil characterization, hillside conditions, and cultural resources.

This memorandum provides a brief synopsis of the archeological and built environment resources at Saltwater State Park, as well as the results from the archaeological monitoring by Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) of eight geotechnical test pits that were excavated within Saltwater State Park on September 15-16, 2015 (**Photograph 1**). The

geotechnical exploration of the park, which was carried out by Shannon & Wilson Incorporated (SWI) under contract with Confluence Environmental Company (Confluence), was necessary at this time to provide environmental and cultural information to the King County Department of Natural Resources and Parks (King County) that will help support a feasibility study for a proposed habitat restoration project along McSorley Creek and the shoreline in Saltwater State Park (**Figure 1**).

In addition, this memorandum contains an overview of the built environment resources. Connie Walker Gray, Senior Architectural Historian at Confluence conducted a high-level assessment of built environment resources in order to identify extant resources that are listed or eligible for listing in the National Register of Historic Places (NRHP).

Overview of Archeological Resources in Saltwater State Park

Saltwater State Park maintains the previously documented archaeological site 45KI436 (**Figure 2**). Site 45KI436 is recorded as a pre-contact and ethnohistoric shell midden (Solimano 1994; Smith 2009; Wilson 2010). **Figure 2** depicts the site boundary for 45KI436 as documented with both the State of Washington Department of Archaeology and Historic Preservation (DAHP) and with Parks. Recent archaeological investigations at 45KI436, which were associated with the 2009 installation of a bio-retention system in the park, expanded the site's original boundary and reported that no intact shell midden deposits were located within their project area (Smith 2009). At that time, it was recommended that the portion of site 45KI436 within the bio-retention system was not eligible for listing in the National Register of Historic Places (NRHP) due to the prior disturbances to the shell midden from previous construction activities in the park (Smith 2009).

In February 2015, Confluence and Amec Foster Wheeler contacted Dan Meatte, Manager of the Parks Archaeology Program, to discuss the Project in the context of cultural resources. At that time, Parks shared information on the existing condition of site 45KI436 and indicated that further coordination would be necessary on the Project. In June 2015, Park's Archaeology Program contacted Confluence concerning a recent application for a Right of Entry Permit at Saltwater State Park submitted by King County. The application was seeking approval from Parks in order to access and conduct the feasibility study for the Project. A concern was raised by the Parks Archaeology Program that site 45KI436 may be adversely impacted by the proposed geotechnical exploration. Parks recommended coordination with the Muckleshoot Indian Tribe (Muckleshoot) and Puyallup Tribe of Indians (Puyallup) and development of both an Archaeological Monitoring Plan (AMP) and Inadvertent Discovery Plan (IDP) for the excavation of the geotechnical test pits. Subsequent coordination between Confluence, Parks, and both tribes resulted in a compliant AMP and IDP (Cooper 2015).

The proposed geotechnical test pits for the feasibility study were proposed outside the known site boundary of 45KI436 (**Figure 2**). As a result, an archaeological excavation permit from DAHP was not required at this time for conducting the geotechnical exploration. However, Saltwater State Park maintains a high probability for unknown and significant cultural resources, and unknown buried archaeological deposits could potentially be affected by the proposed geotechnical exploration, arc Therefore, archaeological monitoring was requested.

Overview of the Built Environment of Saltwater State Park

Saltwater State Park was dedicated on August 20, 1933, after almost a decade of planning and development. The park, located between Seattle and Tacoma, came to signify a truce between the two feuding cities. In 1934 and 1935, the Civilian Conservation Corps (CCC) built Camp Saltwater at the site, which included buildings, two fire pits, shelters, trails, a sea wall, and drinking fountains. Many of these features are still extant. Also in 1934, Saltwater State Park Bridge (King County Bridge No. 3139) was constructed to span McSorley Creek. The bridge was determined eligible for listing in the National Register of Historic Places (NRHP) in 2014.

Additional buildings and structures were constructed in the 1960s by Parks, and some CCC features were modified or removed during this time. The mid-1980s saw the construction of a day use kitchen and associated shelters by the Washington Conservation Corps.

Results of Archaeological and Built Environment Resource Evaluations

Background and field investigations conducted by Amec Foster Wheeler and Confluence have resulted in findings summarized in this section.

Archaeological Monitoring of Geotechnical Test Pits

Amec Foster Wheeler archaeologist Jason B. Cooper (M.A., RPA) conducted the archaeological monitoring of eight geotechnical test pits over two days in Saltwater State Park. The test pits were numbered 1 through 8 (**Figure 2**). In general, the test pits were 4-feet wide by 8-feet long at the surface (**Photograph 2**). The depths of the test pits varied from 6 to 10 feet below the surface, depending on the water table, compaction of soil, and concentration of subsurface rocks and boulders.

On September 15, 2015, Test Pits (TPs) #2, 3, 7, and 8 were excavated, and on September 16, 2015, TPs #1, 4, 5, and 6 were excavated (**Figure 2**). Shell material was found in all but two of the test pits, TP #1 and #5. The observed shell was not in association with a cultural midden, and did not contain organically-stained sediment, fire-modified rock (FMR), lithics, and/or bone. Shell identified in TPs #3, 4, and 6, and lesser degree TPs #7 and 8, were all associated with a deeply buried beach deposit

approximately 7 to 8 feet below the modern surface. The buried beach deposits in these test pits were a grey colored coarse grain sand, silt and gley. Gley is a waterlogged soil lacking in oxygen and usually grey to blue in color. No burnt soil, organics, or charcoal were observed in association with the shell. The buried beach sediments excavated from the test pits were sifted through and carefully examined for any evidence of cultural material. None were found.

In TPs #2 and #3, historic period archaeological resources were identified. TP #2, which was located nearest to the site boundary of 45KI436 (**Figure 2**), revealed two buried saw cut poles approximately 76 centimeters (30 inches) below the surface (**Photograph 3A**). The poles, which are likely remnants of an abandoned revetment used to manage the former course of McSorley Creek, were exposed at the southern end of the test pit in profile. The poles measure 1-foot in diameter and are separated by approximately six inches (**Photograph 3B**). The length of the poles is unknown. Notes and photographs of the poles were taken and the test pit was backfilled.

Figure 3 shows Saltwater State Park circa 1936, with a King County 1937 park map overlaid. The aerial image of the park, which was taken by King County in 1936 and published in 1937, was photographed prior to the installation of the bulkhead, while the overlaid park map illustrates the improvements made to the park during the late-1930s. Of note is the former course of McSorley Creek, which once traversed south across the area where the parking lot is now before turning west and meeting Puget Sound south of the former kitchen building (currently known as The Tides) along the park's southern boundary (**Figure 3**). The alignment of the two buried poles in TP #2 (i.e., north/south) suggests that they were installed along the creek's eastern bank to minimize erosion and help maintain the creek within its streambed. A State of Washington Archaeological Site Inventory form will need to be completed and submitted to DAHP for Smithsonian Trinomial assignment¹. Additional research on the two poles will also need to take place prior to completing the site form. This documentation will take place during the full cultural resources assessment of the Project's Area of Potential Effect (APE), once the preferred alternative for the restoration project is identified.

In TP #3 (**Figure 2**), a thick steel wire rope, measuring 1-1/2" in diameter, was identified in the test pit at approximately 1.2 to 1.8-meters (4 to 6-feet) below the surface (**Photograph 4**). Immediately above the coiled rope, a large bent piece of steel in the shape of a hook, approximately 1.5-feet in length was pulled from the test pit (**Photograph 5**). The steel wire rope, which was heavily corroded with rust, was damaged during the geotechnical exploration. Researching the King County Map Vault on-line database, a map from the King County Engineering's Office from the late-1930s shows a bulkhead reinforcement schematic for Saltwater State Park. This drawing depicts 1-1/2" galvanized plow steel wire rope, affixed with galvanized drop forged wire rope clamps (**Exhibit 1**).

1 – For each archaeological site and isolated find recorded in Washington State, DAHP issues an alphanumeric number, called Smithsonian Trinomial, which is comprised of three parts: 45=Washington State Identifier; KI=County Abbreviation; and the next sequential number for that county.

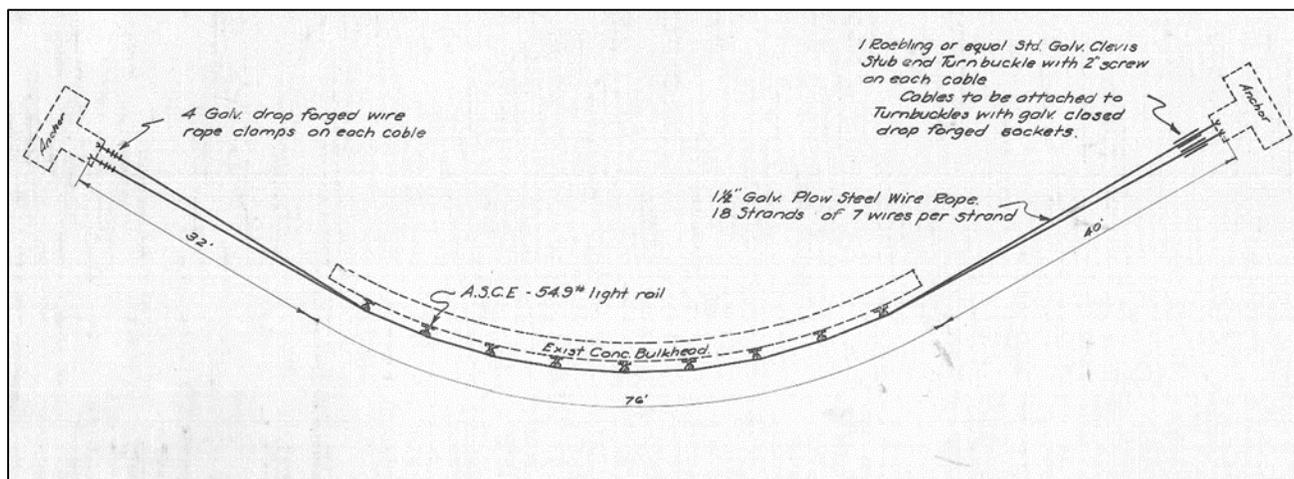


Exhibit 1. Bulkhead Reinforcement Schematic for Saltwater State Park (Source: King County Map Vault, #20150915-7049).

Unfortunately, the map does not depict the placement of the subsurface structure in relationship to the former course of McSorley Creek or the modern-day bulkhead. Still, it is believed that we encountered the partial remains of Saltwater State Park's former bulkhead anchoring system. It is unclear if the anchoring system is still connected in any way to the remaining bulkhead or if it was abandoned in place after the partial removal of the bulkhead near TP #3. **Figure 3** shows a linear bulkhead tracking south toward the former course of McSorley Creek. This portion of the bulkhead no longer exists, having been removed at some point during the latter half of the 20th century. Additional research on the park's bulkhead is necessary before further attributing the find in TP #3 to the anchoring system. Further documentation, including an archaeological site inventory form for the wire rope and wire clamp, will be completed during the full cultural resources assessment of the Project's APE.

Analysis of Test Pits Containing Shells

As described above, all but two of the test pits contained shell remnants. The following paragraphs provide an overview of the shells identified in each test pit.

- **Test Pit #1**

TP #1 was one of two geotechnical test pits that did not contain any shell. It also provided the most interesting stratigraphic profile of all eight test pits (**Photograph 6**). Fill material was identified in the top 20 to 60 centimeters (7 to 23 inches) of the test pit with the shallowest fill deposit along the northern end of the pit. The fill material is likely a result from the construction of the road/bridge prism that supports the park's access over the current course of McSorley Creek. An intact wedge of sand with silt is present from the test pit's north wall (south-facing) sitting atop a 45-centimeter (18-inch) thick deposit of coarse-grain sand. The stratigraphic contact between the sand with silt wedge and coarse-grain sand is a thin lens of soil oxidation

reduction. Below the coarse-grain sand, is a return to an interbedded sand with silt layer extending down to approximately 2.5 meters (8 feet) below the surface.

- **Test Pit #2**

TP #2 is located in an area of the park that once was located directly adjacent to the north/south flowing McSorley Creek (**Figure 3**). The water table was extremely high in this test pit; infiltrating approximately 1 to 1.2-meter (3 to 4-feet) below the surface. This high water table is indicative of the natural flow of underground water in the park likely associated with the former course of McSorley Creek. Some shell flecking was identified in the test pit's back dirt pile, but not in any significant concentration. This is a similar result to what was identified in 2009 during the bio-retention project that took place along the park's parking lot (Smith 2009). TP #2 was the closest pit to the documented site boundaries of 45K1436. With the presence of two saw cut poles buried underground, it is clear that this area was heavily disturbed during the 1930s development of the park.

- **Test Pit #3**

TP #3 is located along a portion of previously removed bulkhead within Saltwater State Park (**Figure 3**). Fill material was observed in the top 45 to 60 centimeters (18 to 24 inches) below the surface. Sand with silt continued down until changing over to a coarse-grain sand approximately 120 centimeters (48 inches) below the surface. It was at this sediment transition that the steel hook (**Photograph 3B**) was recovered. And it was another 15 to 30 centimeters (6 to 12 inches) into the coarse-grain sand that the steel coiled cable was uncovered. Below the abandoned bulkhead anchoring system, a layer of fine-grain sand was observed sitting atop a coarse-grain sand lens with both rounded cobbles and pulverized shell fragments (**Photograph 7**). This coarse-grain sand with rounded cobbles appears to be stratigraphic horizon associated with a former streambed of McSorley Creek directly below a period of stable and low-energy beach development (i.e., fine-grain sand).

- **Test Pit #4**

TP #4 is located amongst the made-land associated with the park's bulkhead and re-routed McSorley Creek (**Figure 3**). The made-land consists of imported fill material that was leveled on both sides of the current course of McSorley Creek and behind the bulkhead. The made-land was created during original park improvements. Fill dominated the top 1-meter (3.2-feet) of the test pit, with a thick sand with silt deposit below it. Two to 3 meters (6.5 to 9 feet) below the surface the water table appeared along with a coarse-grain sand with silt (gley) deposit (**Photograph 8**). Identifiable shell fragments were documented within this sediment, but no cultural midden (i.e., FMR, lithics, and/or bone) was observed in the pit. This stratigraphic horizon appears to represent a very old beach deposit that has the best potential for unknown

and significant cultural resources, although no archaeological material was identified during the monitoring effort of TP #4. Regardless, this area at this depth (i.e., 2 to 3 meters below surface) maintains the best chance of maintaining intact cultural deposits based on the results of the archaeological monitoring.

- **Test Pit #5**

TP #5 is located south of the park's sand volleyball court and north of the bulkhead. No shell was identified in this test pit (**Figure 2**). Similar to TP #4, fill material was present in TP #5 extending down for approximately 1-meter (3.2 feet). The fill material is likely the result of construction grading of the park during the installation of the bulkhead. Silt with sand, cobbles, and small boulders was observed down to 2 meters (6.5 feet) transitioning to a grey silt then silt sand and finally a coarse-grain sand at the bottom of the test pit.

- **Test Pit #6**

TP #6 is located south of the large stone fire ring/pit, which was constructed by the CCC in the late-1930s (**Figure 2**). Fill gravel was identified just below surface extending down 25 centimeters (10 inches). Below this imported gravel was a compacted silt with some sand reaching approximately 1-meter (3-feet) below the surface. At approximately 2.1 meters (7 feet) below the surface, the top of an old beach deposit was identified that included shell fragments and wood fragments. Large boulders were also associated with the beach deposit, possibly indicating an ancient landslide had occurred in this area. Even though no cultural material was identified while monitoring TP #6, this area at this depth (i.e., 2 meters below the surface) maintains high probability for unknown and significant archaeological resources.

- **Test Pit #7**

TP #7 is located along the narrow stretch of the park's waterfront near its northern boundary (**Figure 2**). An asphalt footpath is between the test pit and the bulkhead. This test pit was excavated perpendicular to the shoreline, whereas TP #8, described below, was placed parallel with the shoreline. A silt sand deposit with large colluvium was identified in the top 60 centimeters to 1 meter (2 to 3 feet) of TP #7. The colluvium was possibly derived from mass wasting associated with ancient landslides off the steep slope above the test pit.

- **Test Pit #8**

TP #8 is located immediately south of the park's boundary along the park's waterfront trail and north of TP #7 (**Figure 2**). Placed parallel to the shoreline, TP #8 consisted of silt and sand mixed with colluvium likely derived from upslope mass wasting. Shell fragments associated with buried beach deposits were observed 1.1-meter (3.6-feet) below the ground surface.

Saltwater State Park Built Environment Resource Evaluation

Confluence conducted a high-level evaluation of previous recorded built environment resources in the project area. In 2009, Parks conducted a survey of existing built environment resources within Saltwater State Park. Fourteen resources were recorded. Of these, five resources associated with the park's 1930s development were recommended NRHP-eligible, both individually and as part of a historic district. NRHP-eligible resources include the day use area fireplace (c. 1934), entry features (c.1934), day use comfort station 7 (c. 1934), ranger (caretaker's) residence 1 (c. 1935), and the stone fire circle (c. 1935). The NRHP-eligible Saltwater State Park Bridge would also likely contribute to a historic district. None of the other built environment resources within the park were recommended NRHP eligible because they lack integrity and/or do not meet NRHP eligibility criteria A, B, or C.

Table 1 summarizes the resources and their recommended NRHP eligibility.

Table 1. Saltwater State Park Built Environment Resources

Current Name	Historic Name	Date Built	Builder	NRHP eligible?
King County Bridge No. 3139	Saltwater State Park Bridge	1934	Builder: Nelse Mortenson & Company; Designer: Thomas D. Hunt	Determined eligible in 2014
Day Use Area Fireplace	Fireplace	1934	CCC	Recommended eligible in 2009
Entry Features	Entrance Features	1934	CCC	Recommended eligible in 2009
Day Use Comfort Station Bldg 7	Day Use Comfort Station	1934	WPA	Recommended eligible in 2009
Ranger Residence Bldg 1	Caretaker's Residence	1935	CCC	Recommended eligible in 2009
Fire Circle	Open Circular Fireplace	1935	CCC	Recommended eligible in 2009
Assistant Ranger Residence Bldg 2	Roberts House	1920	Roberts Family	No
Park Office and Garage Bldg 4	Caretaker's Garage	1935	CCC	No
Beach Comfort Station Bldg 8	Beach Comfort Station	1963	Washington State Parks	No
Comfort Station Bldg 9	Parking Lot Comfort Station	1963	Washington State Parks	No
Beach Kitchen Bldg 11	Beach Kitchen Shelter	1940	Unknown	No
Concession Bldg 12	Concession Bldg	1950	Jean Houplin	No
Kitchen Shelter Bldg 13	Creek Kitchen Shelter	1984	Washington Conservation Corps	No
Bridge Kitchen Bldg 15	Bridge Kitchen Shelter	1984	Washington Conservation Corps	No
Upper Kitchen Bldg 16	Day Use Area Kitchen	1985	Washington Conservation Corps	No

Recommendations

State of Washington archaeological site forms for the two historic-period archaeological resources identified during the monitoring of the eight geotechnical pits at Saltwater State Park need to be filled out and submitted to DAHP for Smithsonian Trinomial assignment. This will be accomplished during the Project's cultural resources assessment, which is scheduled for 2016.

The 2016 cultural resources assessment will need to focus on the buried beach deposits, especially located near TP #3 and TP #4, in an attempt to locate any cultural material in association with the observed natural beach deposits. An archaeological work plan describing the cultural resources assessment will need to be developed and reviewed by Parks, DAHP, and affected Native American tribes prior to carrying out the fieldwork. The fieldwork will need to be accomplished by excavating additional trenches in the park with a backhoe, as the excavation of shovel test probes by hand and shovel will not reach the buried beach deposits. In general, shovel test probes excavated by hand can only reach 1-meter (3.2-feet) below the surface. The observed buried beach deposits were largely below this depth. All sediment associated with the buried beach deposits exposed during the excavation of the cultural resources trenches will be screened for cultural material. Tribal monitors from the Muckleshoot and Puyallup tribes shall be present during the excavation of these trenches. Results from this cultural resources assessment will be presented in a DAHP-compliant technical report.

Additional evaluation should be conducted on the historic resources at Saltwater State Park, including a formal determination of NRHP eligibility in compliance with Section 106 of the National Historic Preservation Act. It is assumed that these recommended NRHP resources meet the criteria for inclusion in the NRHP, both individually and as a district. When the project alternatives are developed, the effects of each alternative will be determined. If the integrity of these resources are diminished as a result of an undertaking, the effect would likely be considered adverse and would be resolved through the development of a Memorandum of Agreement (MOA) between King County, Parks, DAHP, and the affected Native American tribes.

If you have any questions or comments about the information provided in this memorandum, please feel free to contact Jason Cooper at jason.cooper@amecfw.com/425-368-0953, or Connie Walker Gray at connie.gray@confenv.com /206.718.1095.

Sincerely,

A handwritten signature in black ink that reads "Jason B. Cooper". The signature is fluid and cursive, with a long, sweeping underline that extends to the left.

Jason B. Cooper, M.A., RPA
Associate Archaeologist

A handwritten signature in blue ink that reads "Connie Walker Gray". The signature is cursive and elegant, with a large, rounded initial "C".

Connie Walker Gray
Senior Architectural Historian

References

Cooper, J.B.

2015 *Archaeological Monitoring Plan, Supervisory Plan, and Inadvertent Discovery Plan for McSorley Creek Pocket Estuary Restoration Project at Saltwater State Park, King County, Washington*. Submitted to King County Department of Natural Resources and Parks. Prepared by Amec Foster Wheeler Environment & Infrastructure, Inc., Bothell, Washington.

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Solimano, P.

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Wilson, J.

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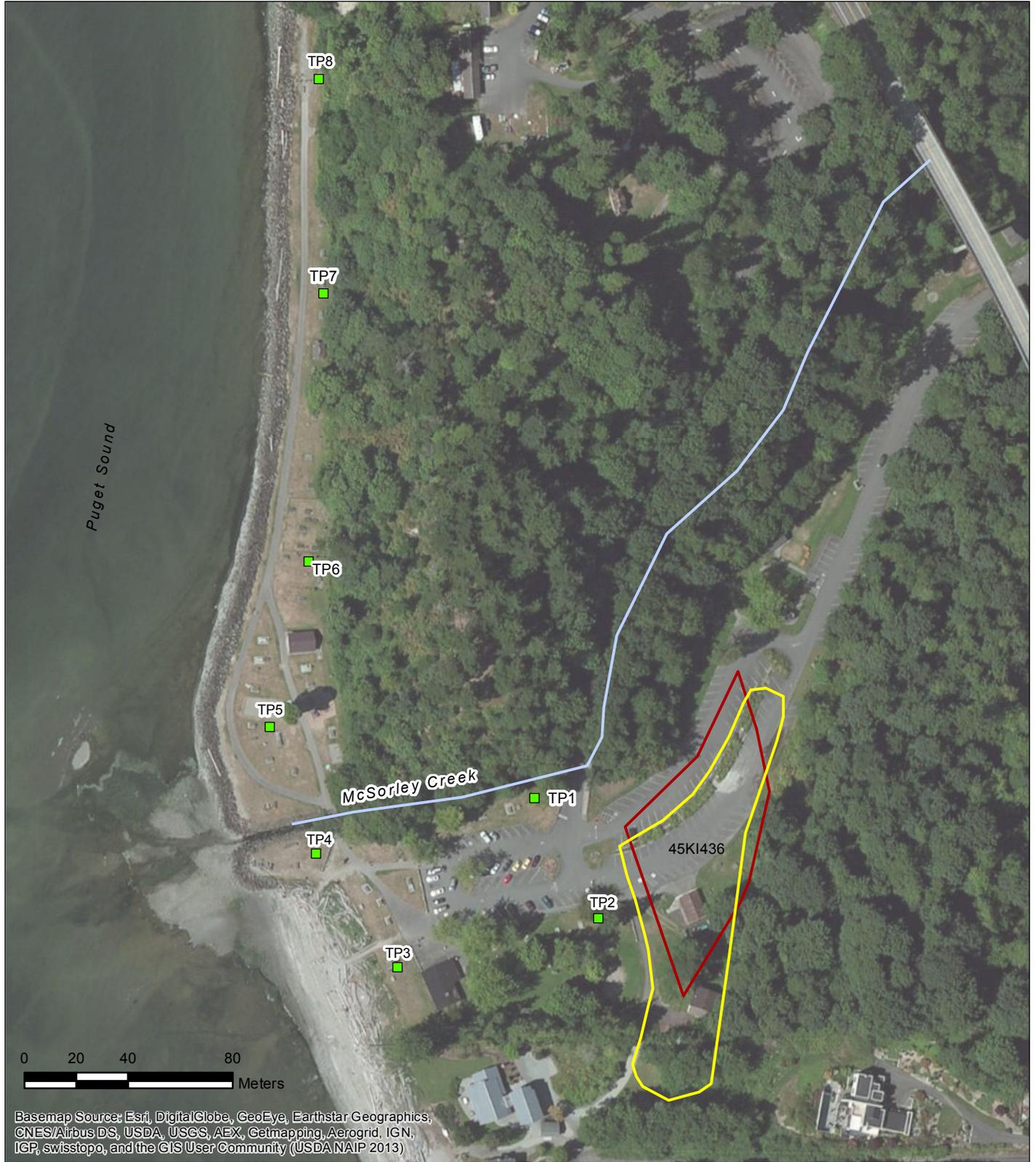


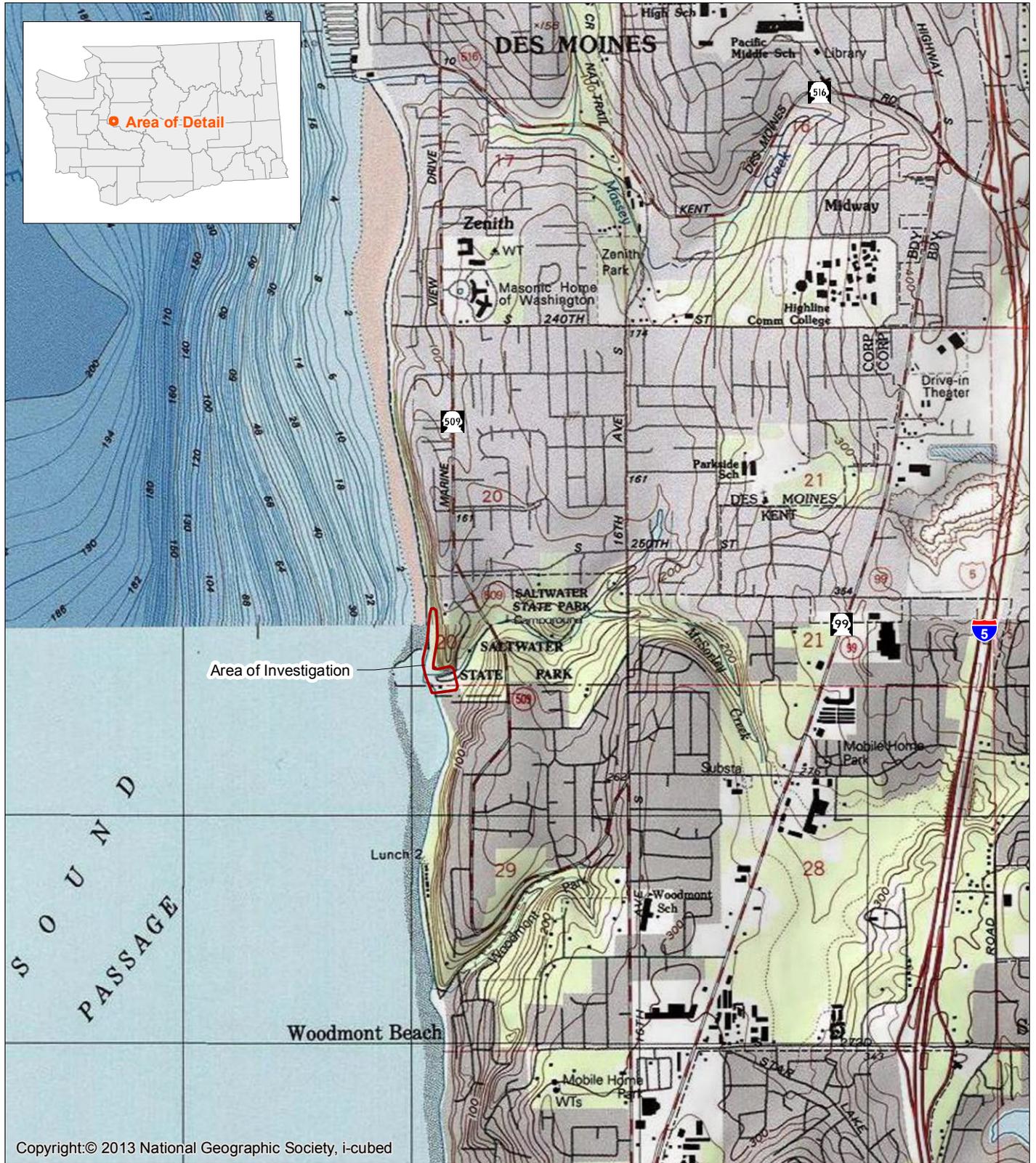
Figure Date: September 18, 2015



- 4' x 8' Test Pit Location
- 45K1436 Site Boundary (WA State DAHP)
- 45K1436 Site Boundary (WA State Parks)

Figure 2

Test Pit Locations



Copyright:© 2013 National Geographic Society, i-cubed

Figure Date: June 23, 2015
 USGS 7.5' Topographic Map Series
 Washington Quadrangles: Des Moines (1995) and Poverty Bay (1997)
 Sections 20 and 29 of Township 22 N, Range 4 E, W.M.

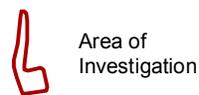


Figure 1
Project Vicinity



Photograph 1. Saltwater State Park, view is south from Test Pit #8.



Photograph 2. Geologist inspecting west-facing profile of Test Pit #8 at Saltwater State Park.



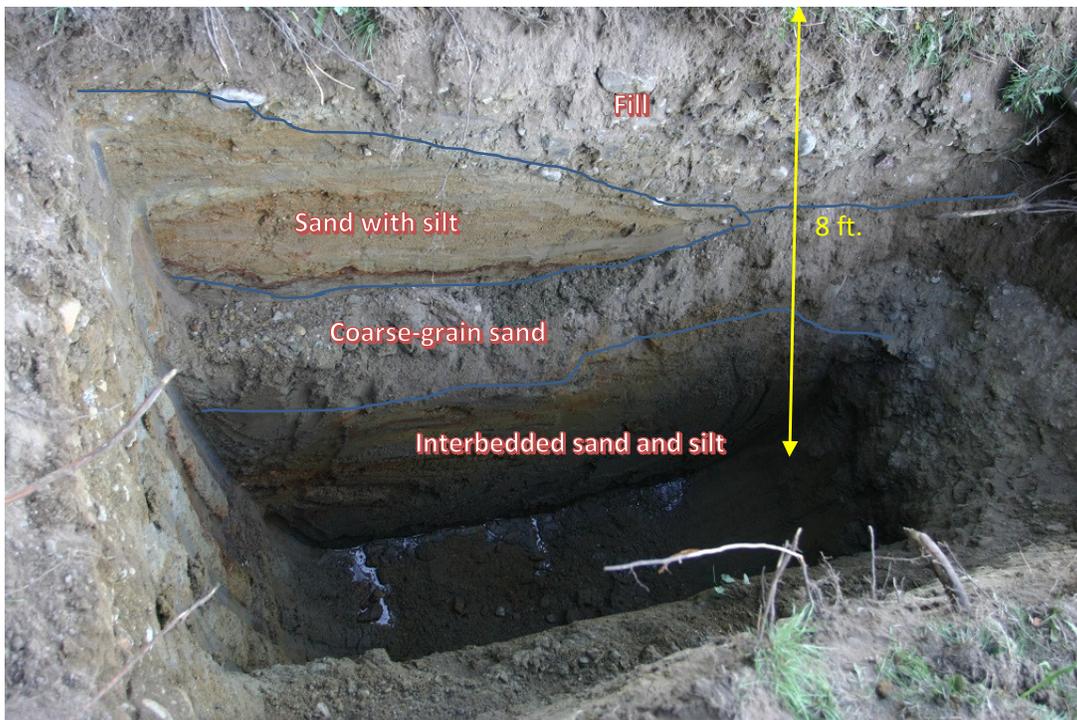
Photograph 3. A. View of the south wall (north-facing) profile in Test Pit #2 exposing two saw cut poles next to shovel. B. Close-up view of two stacked saw cut poles in Test Pit #2, view is south.



Photograph 4. An abandoned steel cable identified in Test Pit #3 likely associated with Saltwater State Beach's bulkhead that was partially removed.



Photograph 5. Steel hook or clasp recovered from Test Pit #3 immediately above the buried steel cable.



Photograph 6. View of the stratigraphic profile of Test Pit #1's east wall (west-facing), looking east.



Photograph 7. Stratigraphic profile at the bottom of Test Pit #3 showing a fine-grain sand lens atop a coarse-grain sand lens with both rounded cobbles and pulverized shell fragments.



Photograph 8. Coarse-grain sand deposit mixed with silt (gley), shell fragments, and rounded cobbles from the bottom of Test Pit #4.