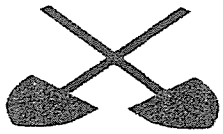


**New England Archaeology Company, LLC**
**Brian Valimont, MA**

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Edna Feighner, Review and Compliance Coordinator
New Hampshire Division of Historical Resources
19 Pillsbury Street, 2nd Floor
Concord, NH 03301-3570

Ms. Feighner,

Enclosed is a copy the report, "Proposed Jackson's Landing Master Plan, Durham, New Hampshire, Phase I Archaeological Investigation" along with the enclosed inventory form. Please direct any correspondence regarding this report both to myself as well as:

Michael Lynch
Director of Public Works
Town of Durham, NH
100 Stone Quarry Drive
Durham, NH 03824

Sincerely,

Brian Valimont

Brian Valimont
New England Archaeology Co., LLC

# PROPOSED JACKSON'S LANDING MASTER PLAN
# DURHAM, NEW HAMPSHIRE
# PHASE I ARCHAEOLOGICAL INVESTIGATION

REPORT PREPARED FOR
TOWN OF DURHAM, NEW HAMPSHIRE

BY BRIAN VALIMONT, MA
NEW ENGLAND ARCHAEOLOGY CO., LLC

JANUARY 2008

## Management Summary

Phase I archaeological investigation was conducted for property proposed for the Jackson's Landing Master Plan on the Town of Durham property located at Jackson's Landing (Tax Map 10 Lots 11-3 and 11-4), Strafford County, New Hampshire. Te project area lies between the south side of Old Piscataqua Road and the north side of the Oyster River. The Mater Plan includes the construction of paved parking lots, a picnic area. erosion controls, a recreational walking trail and replacement of deteriorating boat ramps. The archaeological investigation was required by the Recreational Trails Program grant regulations under Section 106 of the National Historic Preservation Act of 1966 (36 CFR 800, as amended, and 16 U.S.C. 470f) as administered by the New Hampshire Department of Recreational and Economic Development and the New Hampshire Division of Historical Resources. The archaeological investigation entailed field inspection of the project area, archival documentary research, the excavation of 10 archaeological shovel test pits, preparation of this report and was completed between November 2007 and January 2008.

The majority of the project area has been previously impacted by the construction of the existing dirt parking lot, access road, ice hockey rink, playground and sewer main pipe. Due to these impacts the majority of the project area does not have the potential for intact archaeological resources. Based upon field inspection of the project area in conjunction with geological, archaeological and historical information, the proposed trail area was determined to have a high potential for the presence of Native American and historic archaeological sites. The proposed walking trail is positioned on undisturbed, level, well-drained glacial marine silt along the Oyster River, in an area where archeological evidence in the surrounding area has indicated that Native American archaeological sites are likely to be present. A history of Durham and historical Durham maps indicate that the project area was utilized as early as 1658 through present times. Thus, there was a high potential that significant historical archaeological resources might be encountered within undisturbed portions of the proposed walking trail. Thus, a total of 10 archaeological shovel test pits were excavated in the area of the proposed walking trail. No Native American artifacts and no significant historic artifacts were recovered, and thus no archaeological sites were defined as a result of the excavations. It is recommended that no further archaeological investigation is necessary for the proposed Jackson's Landing Master Plan project area.

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## Investigation Methods

Three specific approaches were used in order to conduct the Phase I archaeological investigation. A combination of field inspection, archival documentary research and the excavation of 10 archaeological shovel test pits were used to gain an understanding of how the project area was used in the past by humans. The results were applied together and are discussed in the following sections of this report.

### Field Inspection

The entire project area was field-inspected (Figures 1 and 3). The project area was walked over in its entirety in order to determine if archaeological sites were visibly present on the ground surface. The sections of the project area where the ground surface was cleared of vegetation were closely inspected for the presence of historic and Native American artifacts. Exposed areas that were examined for artifacts include patches of bare dirt, the roots of fallen trees and the exposed banks of the Oyster River and two small tributaries. No Native American or historic cultural artifacts were discovered in these areas during the inspection. The project area was also assessed for its potential to contain archaeological resources under the ground surface. Digital photographs were taken in order to document the existing conditions of the project area.

### Archival Documentary Research

An understanding of past environments aids in assessment of potential archaeological resources that are not readily visible on the ground surface. Information regarding the past and present environments of the project area was drawn from a number of sources. The New Hampshire Department of Environmental Services in Concord, NH provided bedrock and surficial (i.e., surface) geological maps (Figure 4) and data relevant to the project area (Koteff et al. 1989; Novotny 1969). Supplemental information from adjacent quadrangles was also helpful in illuminating the surficial geology of the project area (Smith 1999). Also helpful in illuminating the surficial geology of the project area was soil maps and related soil data (Figure 4) provided by the Strafford County Conservation District, Dover, NH.

Documents related to the history of Durham were perused to gather information about the town's historical uses. Attention was paid to gather historical information that was specifically pertinent to the project area. Assessment of historic development of the project area relied upon histories of Durham (Anonymous 1882; Stackpole and Meserve 1913; Stackpole and Thompson 1913). A series of historic maps that are archived in the Special Collections at the Tuck Library, New Hampshire Historical Society in Concord, NH were reviewed to gain a cartographic perspective on how the project area was developed in historical times (Figure 5). Maps reviewed in this process included:

- A recreated map of the early 1600s settlement of Oyster River in Stackpole and Thompson's 1913 town history
- An 1805 plan of the town of Durham (Smith 1805)
- The relevant section of a 1856 wall map of Strafford County (Chace Jr. 1856)
- A map of Durham in an 1871 atlas of Strafford County (Sanford and Everts 1871)
- The town map of Durham in D.H. Hurd's 1892 Town and City Atlas of the State of New Hampshire
- A 1931 property map of Durham (Walker 1931)

At the New Hampshire Division of Historic Resources (NHDHR), the Durham town files were reviewed. No files or forms related to adjacent properties along Old Piscataqua Road were encountered. Also at the NHDHR, sites files and maps related to documented archaeological sites in the Durham area were reviewed to establish how such archaeological sites were related to the project area. Several limited distribution archaeological reports were reviewed for relevant information. All of the above materials were reviewed, collated and synthesized in this report to illustrate past human use of the project area.

Subsurface Excavation

Because of the high probability of encountering both significant historic and prehistoric archaeological sites in the project area, Phase I-B archaeological investigation was recommended and undertaken by archaeological consultant Brian Valimont in November of 2007. The excavation of 10 shovel test pits (STP's) was completed in the eastern, undisturbed section of the project area where development of a walking trail is proposed (Figure 6). The STP's were excavated at 8 meter (24 feet) intervals along two transects across the assigned site sensitive area. The shovel tests measured 50 by 50 centimeters (19.5 inches) square and were excavated to the greatest depths obtainable through the efforts of hand excavation. The depth of the STP's ranged between 28 and 44 centimeters (11 and 17 inches) and averaged 33 centimeters (13 inches) in depth. All STP's were screened through ¼ inch mesh to facilitate the identification and recovery of cultural artifacts. The soil strata of each STP along with the relationship of soil strata, soil color, soil texture, percent and type of rock inclusions and the depths of strata were recorded in a field notebook. Upon completion of recording each STP, the soil was backfilled into the shovel test pit.

The excavations revealed a soil profile typical of marine silt deposits. Consistently there were three strata present, the principle variable being the relative thickness of each of the strata:

- A naturally developing A horizon between the ground surface and an average depth of 5 centimeters (2 inches). The A horizon was very dark grayish brown (10 YR 3/2) humic silty loam.

- This was underlain by a B horizon that extended to an average depth of 28 centimeters (11 inches). The B horizon was light olive brown (2.5 Y 5/4) silty loam.
- Underlying this was a C horizon that extended to an undetermined depth. The C horizon was light yellowish brown (2.5 Y 6/4) clayey silt.

No Native American artifacts were recovered from the 10 STP's. A low density of historic artifacts was recovered. Coal was the principal historic artifact that was recovered from all of the STP's except 7, 8 and 10. A few bits of clear window glass and wire nails were also recovered. The only diagnostic artifacts that were recovered are two fragments of stoneware recovered from the upper 20 centimeters of STP 5. The stoneware has a gray glazed exterior and a brown Albany glazed interior. The use of Albany glaze indicates a 1800s date of manufacture for the stoneware. The presence of historic 1800s artifacts is consistent with the presence of the house adjacent to the project area at 22 Old Piscataqua Road. The artifacts were recorded in the field notebook and were then discarded and backfilled back into the STP. An exception was made for the artifacts from STP 5, which was more numerous than the low density of the other artifacts and included the stoneware fragments. No artifacts were recovered from STP's 7, 8 and 10. The historic artifacts that were recovered are typical of historic refuse disposal. No historic artifacts identifiable to the 1600s and 1700s were recovered. The artifacts recovered in the area of the proposed walking trail do not constitute a discrete and potentially significant archaeological deposit.

Durham History

The land of present-day Durham was originally a part of Dover when settlement originated in the early 1600s. The settlement was established at Dover Point in 1623 by Edward Hilton, William Hilton and Thomas Roberts. Captain Thomas Wiggin came from Bristol, England ten years later with dozens of people and established a settlement about one mile north on Dover Neck. These settlers were assigned 3-4 acre house lots on the neck in addition to larger agricultural lots along Great Bay, Little Bay and the tributary rivers. Some settlers also traded with the resident Native Americans to acquire claim to lands. Many people moved from the Dover Neck settlement and established farmsteads around the bays and rivers. By 1640, the Oyster River was settled up to the tidal limit by William Hilton, Rev. Thomas Larkham, Darby Field, Thomas Stevenson, William Williams, William Beard and John Ault among others. Civic organization came quickly; settlers of the Exeter area signed a combination in 1639 to establish a community organization. The settlers of Dover Neck, Cocheco and the Newington area also signed a combination in 1640. The first sawmill was erected at Durham Falls in 1649 by Valentine Smith and Thomas Beard (Stackpole and Thompson 1913: 3-4).

The settlers around the Oyster River were positioned about halfway between Exeter and Dover, and so where geographically separated from each community. In addition, both Exeter and Dover claimed the lands along the Oyster River as part of their territory. Parson Wheelwright of Exeter has obtained a deed from the Native Americans which included land up to a mile north of the Oyster River. The first land grants of Exeter included four lots from the Lamprey River to Little Bay. This portion of land would later be called Lubberland. Members of the Dover settlement had also claimed these same lands. Taxes were levied on at least 22-27 residents of Oyster River by Dover between 1648 and 1650. The number continued to increase every year. Nevertheless, the Oyster River settlers desired to establish their own community separate from Exeter and Dover. The first petition to the court of Massachusetts for an Oyster River township failed. A second petition was made in 1695 to the court of New Hampshire which also failed. Oyster River was separated as a parish of Dover in 1716, but the line between them came into dispute by 1729. Finally in 1732, the township of Durham was incorporated by New Hampshire. In the following years, lands were allotted to numerous proprietors (Anonymous 1882: 616-618; Stackpole and Thompson 1913; 5-21).

The 1760 tax roll lists 160 men and widows in Durham, so if the wives and children of these are also included then Durham was quite a populated town Lee was established as a parish of the western part of Durham in 1765 and was incorporated as a township the following year. Lee and is named after Lee, Scotland and Durham for Durham, England. The western portion of Lubberland along the northwest shore of Great Bay was set off and annexed to Newmarket in 1770. Members of Durham participated in the establishment and incorporation of new towns in the interior of New Hampshire, including New Durham in 1762, Rochester, Canterbury, Holderness, Barrington, Barnstead and Nottingham (Anonymous 1882: 618; Stackpole and Thompson 1913; 21-29).

Fear and mistrust between the settlers and Native Americans remaining and passing through the area led to incidents of conflict, which were mostly minor in nature. For example, Thomas Chesleys' fiancé Miss Randall was struck in the neck by an arrow as the two returned from church one Sunday. A violent conflict erupted in Oyster River in 1694. The French and Indian War was underway between the British settlers and Native Americans whom were outfitted by the French settled in Canada. A war party of about 200 Norridgewocks (from Maine) and Penacooks (from Amoskeag Falls at present-day Concord, NH) attacked the Oyster River settlement. There were 12 garrisons at the time, but they were not well stocked with ammunition and most of the residents did not reside nightly within them. At dawn on July 18, the Native Americans raided the town, quickly destroying 5 of the garrisons and numerous defended and undefended houses. John Drew surrendered his garrison and was killed, his wife and child were taken hostage but later escaped capture. Thomas Drew and his wife were captured, enslaved in Canada, but both returned to Durham 4 years later, where they raised 14 children and lived to old age. Another violent encounter with Native Americans occurred in 1704 in which more than 50 residents were killed (Anonymous 1882: 617-618).

The first meetinghouse (church) in Durham was constructed in 1651 with the services of Rev. Fletcher retained at 50 pounds for one year in 1655. The second preacher was the physician John Buss, whom preached for more than 30 years. The Congregationalist church became officially organized in Durham in 1718 (Anonymous 1882: 618).

Walter Jackson's Family and Potential for Historic Archaeological Sites

The lower, tidal section of the Oyster River was the area first settled in Durham. The land of the Jackson's Landing project area was first settled by Walter Jackson. Walter Jackson fought in the battle of Worcester in 1651 against Oliver Cromwell's army. He along with about 10,000 other Scotchmen were taken prisoner and marched to London. Jackson along with 271 other prisoners were shipped to Boston in 1658 aboard the ship "John and Sara." The prisoners were usually sold as laborers for 20 pounds and after working 5-8 years were set free. Some even received grants of land in the towns were they had worked. Some of these men were consigned to work for Thomas Kemble whom was part owner of the mills at the falls in Durham with Valentine Hill. Jackson acquired about 20 acres of land along the Oyster River from Valentine Hill between 1658 and 1666. Jackson sold some of the land to Robert Watson in 1668. Watson was subsequently killed by Native Americans, and his remarried widow and her husband John Ambler sold some of the land in 1703 to Phillip Chesley. Walter Jackson's lot was located between the Oyster River and the path to Cocheco and bordered both Jackson's and Chesley's land. Jackson appears to have been involved to some extent in the civic affairs of the settlement. For example, he was one the appraisers of Alexander McDaniel's estate in 1663, at least partially because McDaniel owed him some money. Walter Jackson had two wives: Jane, whom he married in 1663 and Ann whom he married in 1667. It is not certain but it may be possible that Ann Jackson was killed by Native Americans. Walter Jackson died in 1697-8. The homestead passed to his oldest son William, and the homestead remained in the family until the early 1800s. The last member of the family to live in the Jackson Homestead in Durham was Josiah Jackson

(1767-1833) (Stackpole and Meserve 1913: 226-228; Stackpole and Thompson 1913: 65-99).

According to the landowner of the house in 2007, the current house was moved onto the property in the 1800s. The current house is along the immediate side of the road. The timing of placement of a house moved onto the property is consistent with the terminal time of the presence of the Jackson residence on/near the same property. The precise location of the ca. 1658-1833 Jackson Homestead is at present unknown. Because it is confirmed that the project area is part of historic occupation of Durham continuously since the mid-1600s, there is a high probability that significant historic archaeological resources could be present in the project area. Thus, subsurface excavation was undertaken in the undisturbed section of the eastern project area proposed for the construction of a walking trail. It is possible that the 1800s-present house might have been placed upon the same or nearby location of the original Jackson homestead (ca. 1658-1833). However, this remains to be confirmed or negated by future archaeological investigation. The subsurface archaeological investigations on the Durham town property in the area of the proposed walking trail did not uncover any evidence of a pre-1800s historic occupation.

## Environmental Context

### Project Overview

The majority of the western side of the project area is a town park that has previously been developed. Along the north side of the project area is Old Piscataqua Drive, an asphalt road that provides access to the town park and a few residences. A covered ice hockey rink lies at the intersection of Old Piscataqua Drive and the access road to the park (Photo 1). On the southeast side of the ice rink is a playground area (Photo 2). Adjacent to the playground area is a family burial ground (Photos 3 and 4). In addition to the original wrought-iron fence surrounding the burial ground there is a modern metal fence and some signs that protect the burial ground from entry. The terrain descends in elevation to a large dirt parking lot and boathouse (Photos 5 and 6). Along the edge of the river are a series of floats and ramps that provide boat access to the water. The proposed construction in this area consists of paving the park access road and parking spaces and the construction of a landscaped picnic area (Figure 3). The eastern side of the project area is mostly undeveloped (Photos 10 and 11). A sewer main pipe (Photo 7) lies along the property line of a private residential lot that abuts the town property (Photo 8). There is also an historic burial crypt built into the bank along the river (Photo 9).

### Drainage

The project area is situated 2.5 miles above where the Oyster River empties into Little Bay. The Oyster River originates to the northeast of the project area and flows for about 12.7 miles before emptying into the bay. The Oyster River occupies the drainage divide between the Lamprey and Bellamy rivers. From its entry into Little Bay, waters from the Oyster River flow another 11.7 miles into the Piscataqua River and ultimately empty into the Atlantic Ocean at Portsmouth Harbor.

### Bedrock

The project area is underlain by bedrock of the Exeter Diorite (Figure 4). Diorite is an igneous rock that resembles granite, except that it has a finer mineral grain and is darker in color due to large amounts of pyroxene. Evidence of fracturing is often preserved in diorite. The bedrock of the Exeter Diorite is a pluton that covers an area of about 4 by 20 miles, underlying the area positioned between Exeter and Rollinsford, NH. The Exeter Diorite formed from magma that rose from deep within the earths' mantle and came close to the earths' crust without penetrating it. The magma cooled below ground and the minerals crystallized into diorite. This occurred during the Lower Devonian period, about 408 to 385 million years ago (Novotny 1969). Within the project area the Exeter diorite is largely covered over by glacially worked deposits that were deposited since 13,000 years ago.

Surficial Geology

The appearance of the project area today is a result of post-glacial actions and earth shaping processes that begun during the ice age, between 1.5 million and 13,000 years ago. Enormous sheets of ice several thousands of feet thick expanded from the arctic and stretched across the landscape at least three times. As the glacier expanded, it scoured, crushed and absorbed massive amounts of rock and soil from the earth's surface, carrying these sediments along with it. The last glacier began to occur about 25,000 years ago. North America as far south as Long Island, NY was entirely covered (and hence scoured) by ice. A warmer global climate caused the glacier to begin to shrink in size, and withdraw back to the arctic. The last episode of glacial retreat occurred between 17,000 and 10,000 years ago. As the glacier "retreated," it dropped the large quantities of scoured rock and soil. These deposits are known as glacial till. Glacial till is readily recognizable in the New England landscape, as rock-strewn fields or forests. Oftentimes, these rocks were removed to create fields and were piled into the numerous stonewalls that are visible throughout New England. Tunnels within the ice also deposited long lines of sand and gravel, exposed today as eskers. Other deposits of till, sand and gravel formed mounds (kames) and ridges (end moraines) along the ice/ocean margin. Glacial melt waters flooded out of the glacier in streams, and emptied massive quantities of sand and gravel that formed deltas and fans at the ocean/glacier contact margin (Smith 1999).

Due to the massive weight of the glacial ice upon the continental crust, the land was actually depressed several hundred feet lower than it is today. Sea level rose much higher than the present-day sea level between 13,000 and 11,000 years ago due to the lower elevation of the land. Areas now far inland (at some points 420 feet above present sea level) were inundated by the rise in sea level. The ocean flooded the depressed landscape. Finer, small particles of clay, silt and sand accumulated on the recently formed ocean floor. These glacial marine sediments that are exposed on dry land today are known as the Presumpscot formation (Smith 1999). The upland, dry land portions of the project area consist of marine silt and clay deposits of the Presumpscot formation (Figure 4).

As the level of the land rebounded upward from the former glaciers' weight, the sea level began to drop. Sea level actually dropped rapidly to 197 feet below present-day sea level by 8000 years ago. As sea level dropped, sands were deposited at the successive receding shorelines and built up to considerable amounts over many sections of the Presumpscot Formation. Sand was deposited from streams flowing into the ocean, and the sandy gravel sediments were progressively reworked with the clay and silt of the Presumpscot Formation along a series of successive shorelines. Many streams meandered widely during this time, creating the winding bends in the streams. Oxbow lakes and meander scars along the floodplain edges of these streams attest to this period where the streams "settled down" from previous glacial activity. Periodic flooding led to the development of the build up of alluvium sediments along the banks of some streams. Sediment deposition along with ground water discharge led to the development of swamp and marsh deposits along some of the streams (Smith 1999). The lower lying marshes

along the margins of the Oyster River within the project area consist of these later formed salt marsh deposits (Figure 4).

The continental plate then settled from the previous rapid rise, rebounding again but this time lowering in elevation to a level similar to present-day. This isostatic rebound (as it is called) caused sea level to rapidly rise once again to 40 feet below present-day sea level by 7,000 years ago. At that point, glacial melt water had significantly reduced in amount, and the continental crust had basically settled from the previous glacier weight upon it. Sea level began to rise at a much slower pace. By 2000 years ago, sea level was slightly lower than present-day (Smith 1999).

Soils

After episodes of glacial and post-glacial deposition has ceased, soils began to form on the top of these deposits (Figure 4). The lowland soils that correlate with the salt marshes along the southern half of the project area are poorly drained due to constant inundation by both ground water discharge and surface water runoff. The upland soils in the northwestern quarter of the project area are classified as well drained Windsor loamy fine sand and moderately well drained Buxton silt loam. A small section of the eastern project area is classified as poorly drained Scantic silt loam. The mapping of surficial deposits indicates that the development of the boat docking and parking area in the southwestern project area consist of artificial fill (Figure 4).

## Native American Context

Overview

At the time of contact with Euro-American settlers, an extensive system of Native American trails was present in and around New Hampshire that interconnected Native American villages throughout New England (Price 1967). The Cocheco village was located along the falls in what is now downtown Dover, NH. The village of Quamphegan was located at what is now South Berwick, ME along the Salmon Falls River to the east of the project area. The village of Newichwannock was located across the Salmon Falls River in Rollinsford, NH. The village of Squamagonic was located on the southwest side of present day Rochester, NH. Another village was located at Wadleigh Falls, on the Lamprey River in present-day Epping, NH (Price 1967).

Archaeological studies in the 20th century have determined that Native Americans have occupied North America for the past 18,000 years. Evidence of Native Americans in New England has been firmly dated to 12,500 years ago, after the glacier retreated and areas of the land were able to be occupied. Archaeologists have been able to track changes in artifact styles and the pattern of sites across the landscape during that long span of time. Archaeologists generally refer to the time of past occupation in terms of years BP (before present). For example, 1000 B.C. is 3000 B.P. The main divisions that have been detected thus far are the Paleo-Indian (12,500-10,000 B.P.), the Early Archaic (10,000-8000 B.P.), Middle Archaic (8000-6000 B.P.), Late Archaic (6000-3000 B.P.), Early Woodland (3000-2000 B.P.), Middle Woodland (2000-1000 B.P.), Late Woodland (1000-450 B.P.) and the Contact (450-350 B.P.) periods (Bourque 2001; Snow 1980).

The following discussion of Native American prehistory will focus primarily on sites that have been recorded in the broad vicinity of the project area. While dozens of such sites have been recorded in the seacoast area there is a lack of detailed site analysis in published form. The sites under discussion provide the most detail on Native American settlement, subsistence and technology. These sites provide a wealth of information on the Native American presence and use of the area, and serve as a measuring stick by which archaeologists can evaluate and predict the locations of other such sites in the area. Sites discussed include:

- Sites along the Oyster River
- Sites on the Lamprey River
- The Wadleigh Falls Site (27 RK 1)
- Sites on Great Bay
- The Brackett's Point site (27 RK 139)
- The Adams Point site (27 ST 32)

Sites along the Oyster River

Only a few Native American archaeological sites have been professionally documented along or adjacent to the Oyster; doubtlessly there are numerous that await formal documentation. A few Native American artifacts were recovered from excavations at the Frost-Sawyer house (27 ST 4) in downtown Durham, although the cultural deposits at this site are predominantly a result of the historic occupation of the site. Close to the Oyster River on the east side of Durham a stone gouge (wood working tool) and other Native American artifacts were found at another residence (27 ST 25). At a residence on Edgewood Road a Late Archaic period (6000-3000 B.P.) Normanskill type spear point was recovered (27 ST 41).

Sites along the Lamprey River

Numerous Native American sites have been reported along the Lamprey River, and there is no doubt that countless other sites have yet to be recorded. Surprisingly, few sites have been recorded on the stretch of the Lamprey along the final 6 mile stretch before it drains into Great Bay. Two sites, the Wiswell Falls site and the Locus 1 site have been reported. The Wiswell Falls site (27 ST 23) is located along the banks of the Lamprey River at Wiswell Falls in Durham, NH. Excavations and surface collections have recovered stone tool manufacturing debris that includes chert. The Locus 1 site (27 ST 45) is located on an upper terrace 130 meters (446 feet) from and overlooking the Lamprey River in Durham, NH. Excavations recovered 7 pieces of quartz stone tool manufacturing debris.

The Wadleigh Falls Site

The Wadleigh Falls site (27 RK 1) is located on an island downstream of the falls on the Lamprey River in Lee, NH, about 8.7 miles southwest of the project area. The site is covered over with 110 centimeters (3 feet) of flood deposited sediments (called alluvium). Artifacts were discovered in intact soils another 45 to 60 centimeters (1.5 to 1.75 feet) below the alluvium. Vertical displacement of the artifacts appears to largely be the result of the burrowing forces of insects and rodents. Nevertheless, two cultural strata (called components) were discerned, one overlying the other with a thin break between them. The lower component consists largely of quartz stone tool material and the upper component consists largely of rhyolite. Different stone tool types in each component suggest different kinds of activities that were being conducted at the site during successive times (Maymon and Bolian 1992).

Artifacts from the lower component suggest the manufacture of expedient stone tools from quartz that was acquired from cobbles and veins in the local area. Artifacts mostly consist of quartz cores and flakes from manufacturing such tools. Also recovered was quartz unifaces (likely scrapers for removing hair from hides), retouched and utilized flakes, projectile point fragments (for attaching to the ends of spears to hunt animals), spokeshaves (for stripping bark from wood, such as in the production of spears), choppers (for cutting up plant and animal food), grinding stones (for grinding nuts, etc..) and hammerstones (multi-purpose pounding tools). One projectile point resembles an

Early Archaic (9,000-7,000 BP) Kirk Stemmed point. A red jasper graver (for splitting open bone to make tools) was also recovered. A radiocarbon date obtained from wood charcoal in the densest artifact concentration in the middle of this component is 8630 +/- 150 BP, placing it squarely in the Early Archaic period (Maymon and Bolian 1992).

The upper component of the site is of much greater density, consisting of 85% of the stone tool remains recovered at the site. Artifacts recovered included Middle Archaic (7000-6000 BP) Neville, Neville variant and Stark points, flake scrapers, hide perforators, heavy flaked choppers, tabular whetstones, a full grooved axe and hafted scrapers. One of the primary activities being conducted at this time was the manufacture of projectile points (called bifaces). There is a large amount of stone tool making debris that indicates all stages of biface manufacture. The majority of the stone tool material used is rhyolite which is not locally available and had to have been imported from quarry locations many miles distant from the site. A radiocarbon date obtained from scattered charcoal within this component is 6530 +/- 80 BP, placing it squarely in the Middle Archaic period (Maymon and Bolian 1992).

Two archaeological cultural features were identified. One is a concentration of fire altered rocks, a cooking hearth that was excavated from the top of the upper component. A second, more substantial cooking hearth yielded a radiocarbon date of 7920 +/- 100 BP. It is darkly stained with charcoal from burning, and is bowl shaped. It was located squarely in the middle of the upper component. It contained fire altered rocks at the bottom and several charred nut and bone fragments along with a large quantity of charcoal. The material included 23 unidentifiable bone fragments, 3 turtle shell fragments, 16 oak, hickory and walnut nut fragments and one grape seed (Maymon and Bolian 1992).

This site is important to our understanding of Native America prehistory for several reasons: the nearly undisturbed context, the long time that it was occupied, the layering of different times of occupation over one another, the variety of artifacts recovered, and the presence of numerous cultural features that greatly aid our ability to reconstruct past activities at the site.

Sites on Great Bay

About one dozen sites have been reported along and near the shores of the Great Bay Estuary. The number of recorded sites is increasing due the high intensity of development that is occurring in these popular bay side communities. Doubtlessly, numbers of sites will also be summarily destroyed prior to professional investigation. The Gray site (27 RK 144) is located on a hill top 100 meters (343 feet) from and overlooking Great Bay, on the north side of Newmarket, NH. Excavations recovered quartz, rhyolite and hornfels stone tool manufacturing debris and one triangular projectile point made of hornfels (Brummer and Chesley 1979 and 1980). No determination of the time of occupation of this site has been made, and beyond the manufacture of stone tools utilizing various types of stone, the functional activities of the site have yet to be determined.

The Brackett's Point site

One site has been well-reported in Greenland, NH along Great Bay. The Brackett's Point (or Great Bay) site (27 RK 139) is a Native American site located on the southern side of Great Bay in Greenland, NH. The site is situated on a sandy, level terrace overlooking extensive tidal flats. Large beds of clams and oysters were noted in the tidal flats below the site. The site is situated on well-drained Pennichuck Channery very fine sandy loam. Four streams, three of which are intermittent, pass through the site location and over a steep bank into the bay. A fresh water spring seeps into the bay and is covered over at high tide. The terrain of the site consists of a farm field that has become overgrown with forest. House and railroad construction has disturbed portions of the site (Finch 1969).

Several archaeological cultural features were encountered at the Brackett's Point site. A charcoal filled fire pit was encountered that was eight inches thick that contained two large rocks, several pieces of pottery and a piece of sawed bone. A fire cracked rock concentration (or hearth) was encountered that was 15 inches thick and up to four feet wide, but had no artifacts associated with it. The soil around this hearth feature was reddened from heat but no charcoal was present. An additional fire pit was encountered that was 15-18 inches deep and 40 inches wide with a large flat rock and stone tool flakes. A post hole was also encountered (Finch 1969).

A number of artifacts were recovered at the Brackett's Point site including stone tools, burned bone, Native American clay pipe fragments, pottery and shell. The Native American pottery that was recovered was abundant and varied. The majority of the pottery was mineral tempered. Two of the three pipe bowl fragments have incised lines. Flaked stone artifacts recovered from the Brackett's Point site include 5 projectile points, 10 knives, 2 scrapers, a chopper and stone tool flakes. Ground stone artifacts include 3 hammerstones, a plummet, an axe and 3 whetstones. One area of the site was defined as a stone tool workshop due to the higher density of stone flakes recovered (Finch 1969). Based on the drawings that accompany Finch's (1969) report on the site, the recovered artifacts indicate Middle Archaic to Late Woodland (8,000-400 BP) occupation at the site. One of the projectile points is a Middle Archaic (8,000-6,000 BP) Stark point. Another projectile point is a Late Archaic (6,000-3,000 BP) Small Stemmed point. Pottery from the site includes examples from the Early to Late Woodland (3,000-450 BP).

The Adams Point site

The Adams Point site (27 ST 32) is a Native American site located in Durham, overlooking Great Bay at the southern tip of Adams Point. The site is situated on Furber Strait, the narrow stretch of water that connects Great Bay to Little Bay. The site is situated on Hollis-Charlton fine sandy loam, excessively drained soils formed on thin glacial till. A shell midden consisting primarily of oyster is located along the shoreline. A large collection of artifacts was recovered from the ground surface and eroding from the banks of the shoreline. Several shovel tests and test pits were also excavated. The

artifacts include a large number of pottery sherds and stone tool flakes. The pottery is primarily grit-tempered, with some shell-tempered sherds. A cache (or pit) was discovered with large-sized, shell-tempered sherds and a baseball-sized nodule of maroon-colored rhyolite. Stone tool flakes consisted of maroon- and yellow-colored jasper, or possibly heat treated chert. A plummet (a stone fishing net sinker) and turtle shell fragments were also recovered. A Middle Woodland (2,000-1,000 B.P.) Jack's Reef Corner Notched point was recovered, along with a Greene point, point tips, two scrapers and a bone harpoon (Hecker 1995).

Potential for Native American Archaeological Sites

Archaeological and geologic data indicates that the project area was available for Native American habitation as early as 14,500 years ago, except between 13,000 and 11,000 when the project area was inundated by the ocean. In addition, archaeological evidence indicates that the region surrounding the project area along the Oyster River, Great Bay and Little Bay was occupied and utilized by Native Americans during the past 10,000 years. Based upon field inspection of the project area in conjunction with geological, archaeological and historical information, the undisturbed eastern section of the project area has been determined to have a high potential for the presence of Native American archaeological sites because:

- It is positioned on level, well-drained glacial marine silt
- positioned in an area where archeological evidence in the region has indicated that Native American archaeological sites are likely to occur
- Is positioned along the Oyster River, a major fresh water source that also served as a natural transportation route and food procurement source, such as catching fish, shellfish and waterfowl

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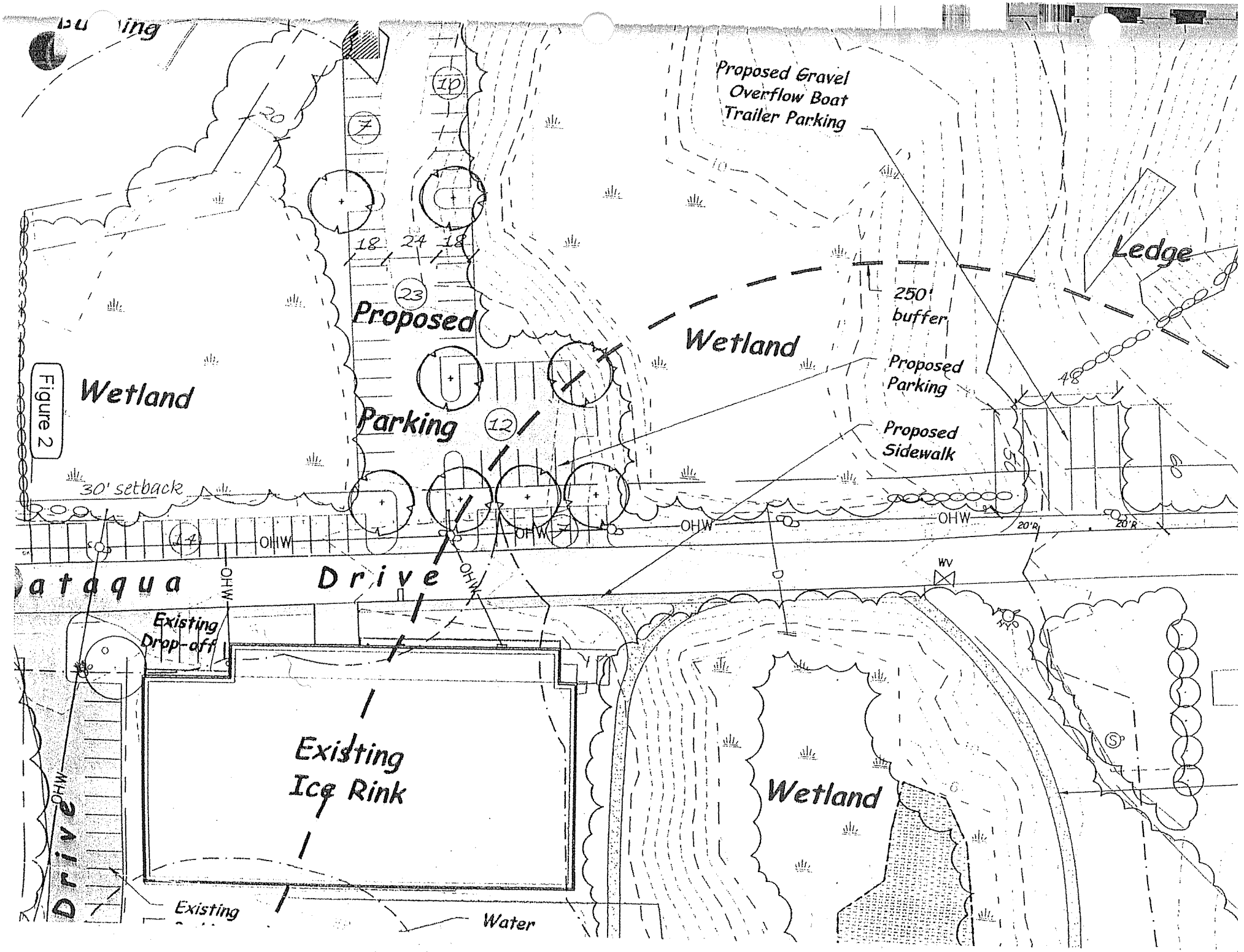
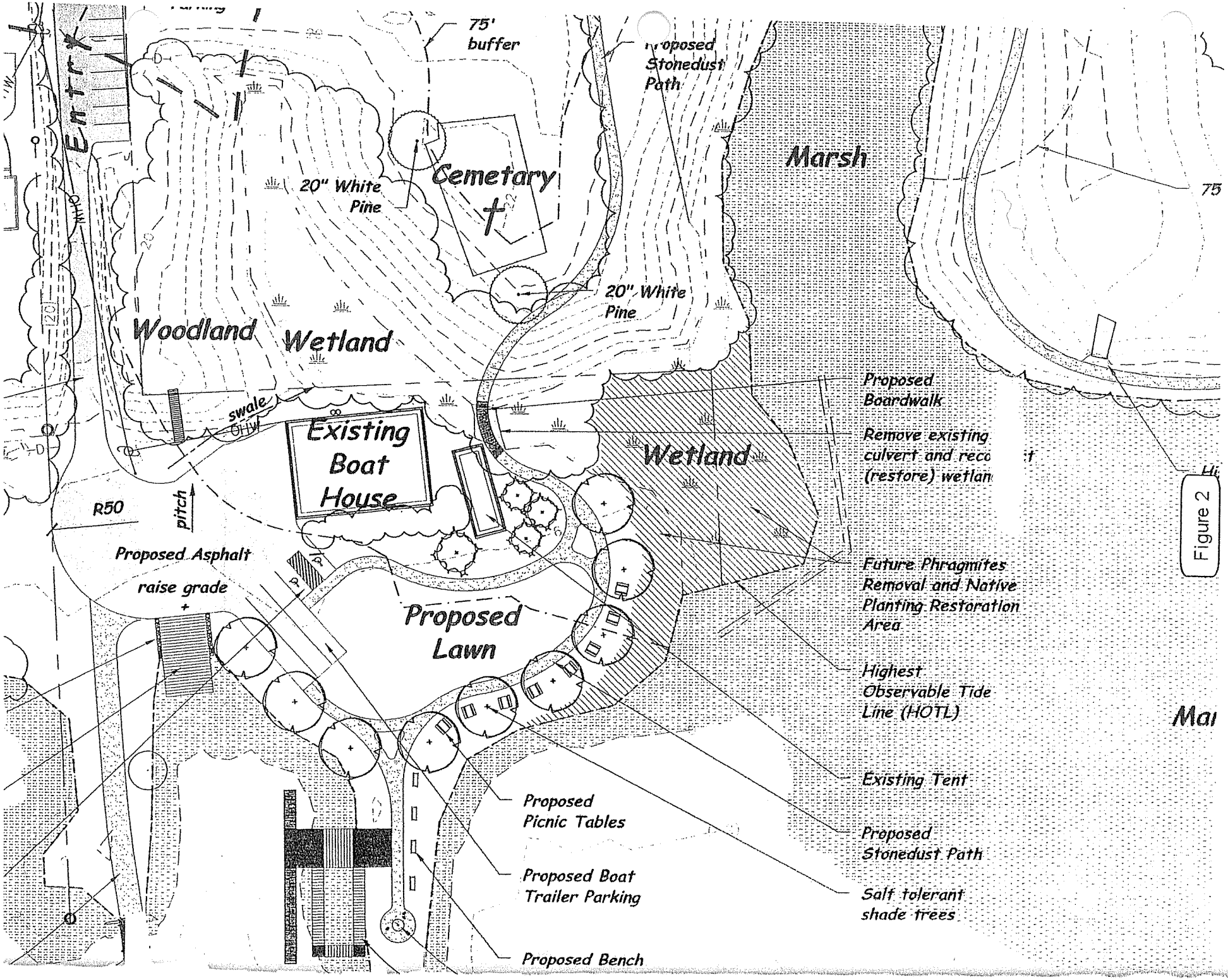

Proposed Gravel Overflow Boat Trailer Parking
Ledge
250' buffer
Wetland
Proposed Parking
Proposed Sidewalk
Proposed
Parking
Wetland
30' setback
OHW
Drive
Existing Drop-off
Existing Ice Rink
Wetland
Existing
Water
Drive
18
24
18
48
20'R
20'R
WV

Figure 2


Entrk
75' buffer
Proposed Stonedust Path
Marsh
Cemetary
20" White Pine
20" White Pine
Woodland
Wetland
swale
OHW
Existing Boat House
Wetland
R50
pitch
Proposed Asphalt
raise grade
Proposed Lawn
Proposed Boardwalk
Remove existing culvert and reco
(restore) wetlan
Future Phragmites Removal and Native Planting Restoration Area
Highest Observable Tide Line (HOTL)
Existing Tent
Proposed Picnic Tables
Proposed Stonedust Path
Proposed Boat Trailer Parking
Salt tolerant shade trees
Proposed Bench
75
Figure 2

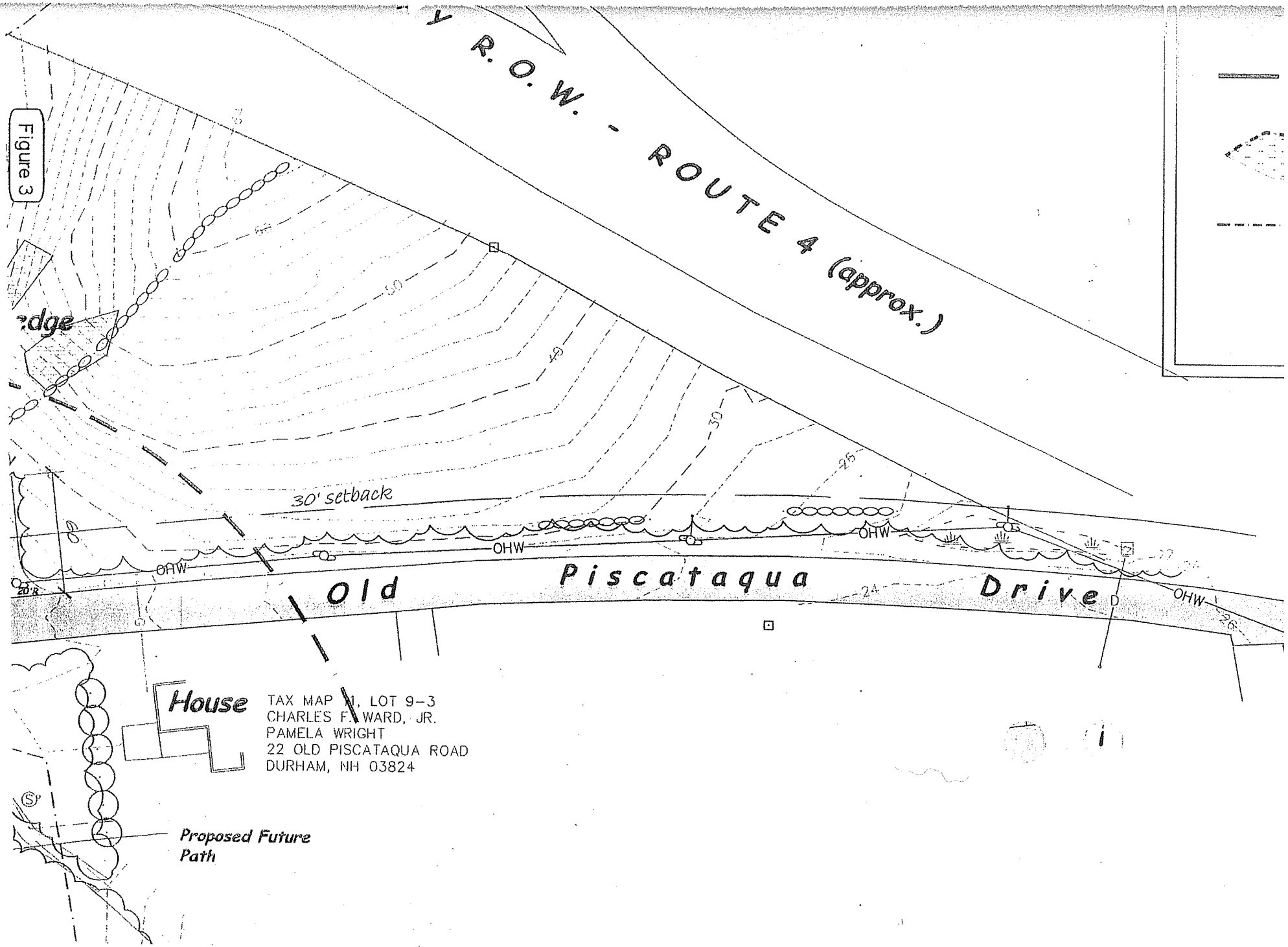


Figure 3
R.O.W. - ROUTE 4 (approx.)
30' setback
OHW
OHW
OHW
Old Piscataqua Drive
House
TAX MAP 11, LOT 9-3
CHARLES F. WARD, JR.
PAMELA WRIGHT
22 OLD PISCATAQUA ROAD
DURHAM, NH 03824
Proposed Future Path

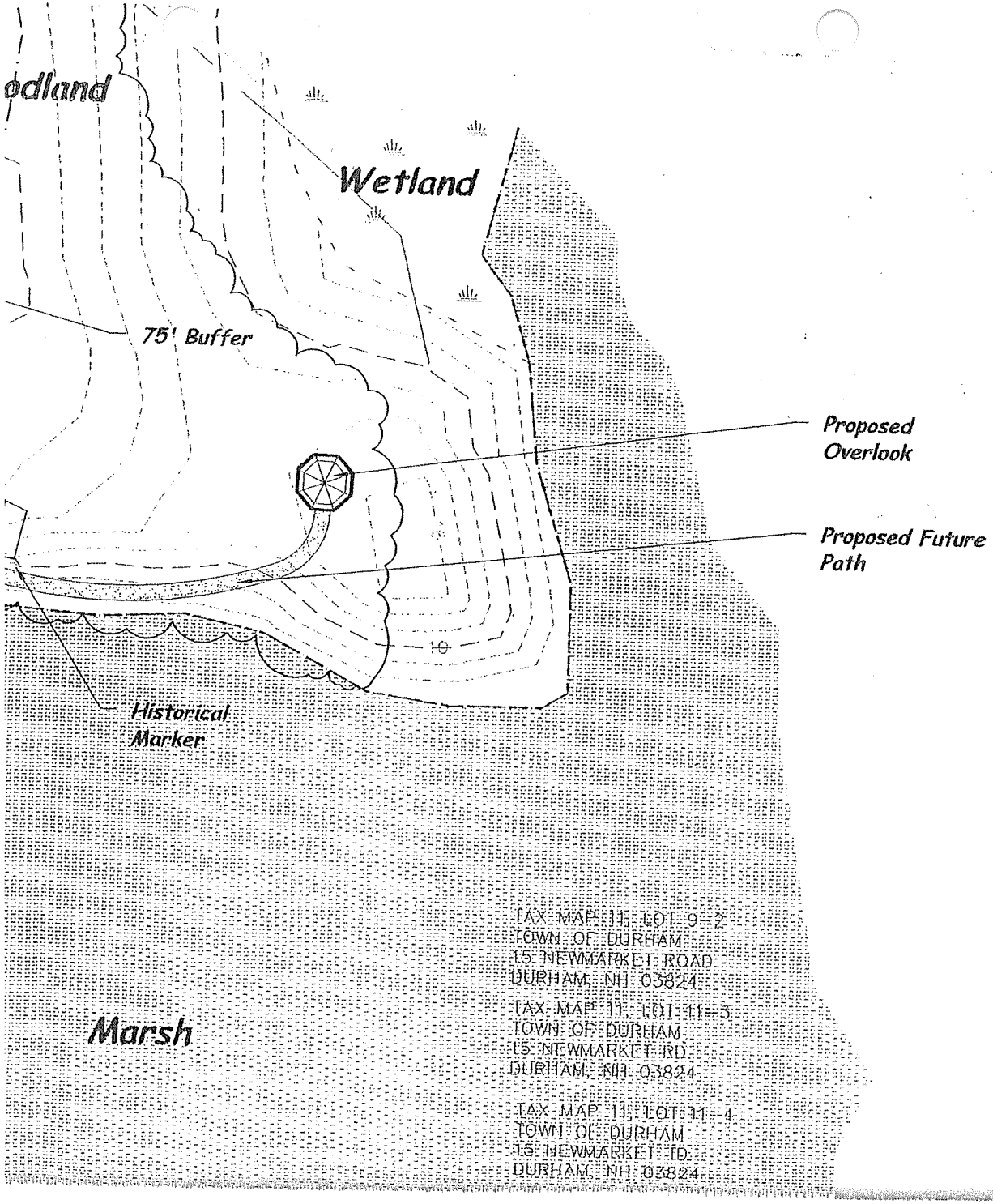
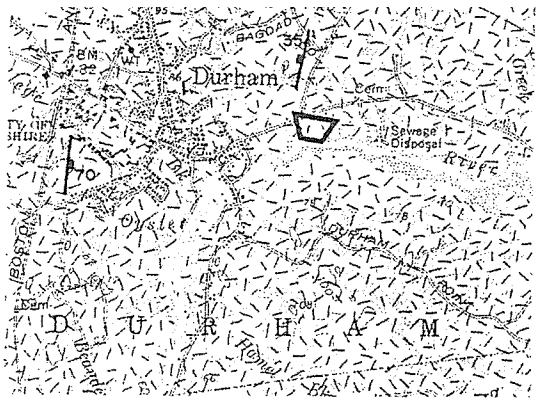



Figure 3

# Jacks
# Mas

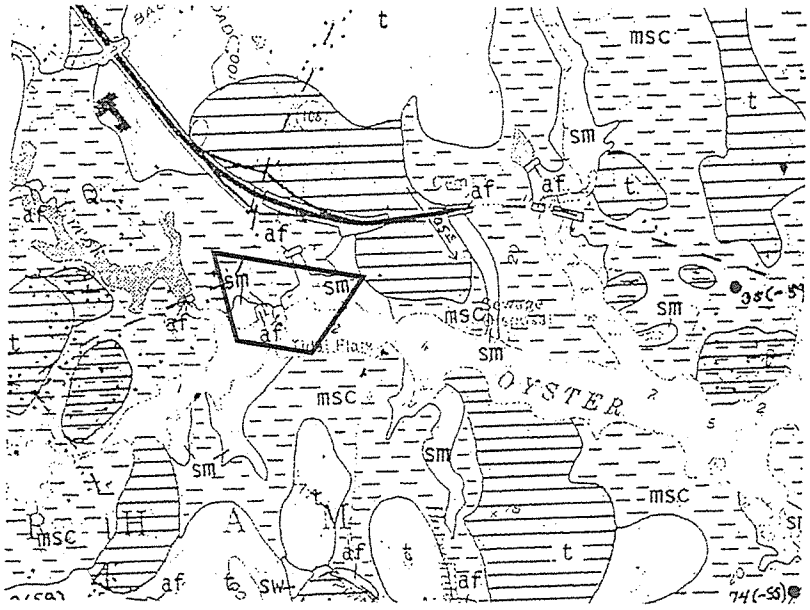



## Bedrock Geology

exd

Exeter diorite

*Light-gray to black, fine- to coarse-grained, massive diorite, quartz diorite, gabbro, and quartz monzonite, composed chiefly of oligoclase, andesine, or labradorite, hypersthene or augite, hornblende, biotite, and microcline.*

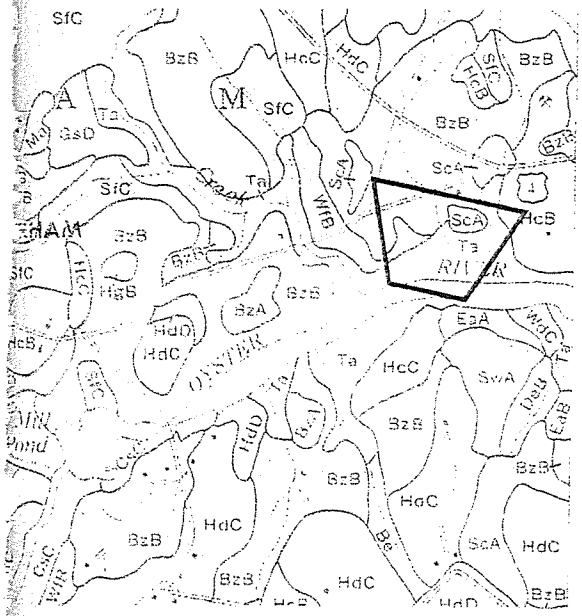



## Surficial Geology

sm — SALT MARSH DEPOSITS—Partly decomposed organic material mixed or interbedded with estuarine silt, clay, and sand

msc — MARINE SILT AND CLAY—Clayey silt, silty clay, and fine sand deposited on sea bottom. In some places grades upward and is interbedded with marine sand (ms). Highly variable in thickness. Unconformably overlies older glacial deposits and bedrock

af, aft — ARTIFICIAL FILL—Earth-fill material in road and railroad embankments and made land. Many small bodies not shown on map.
aft — sanitary land fill




## Soil Types

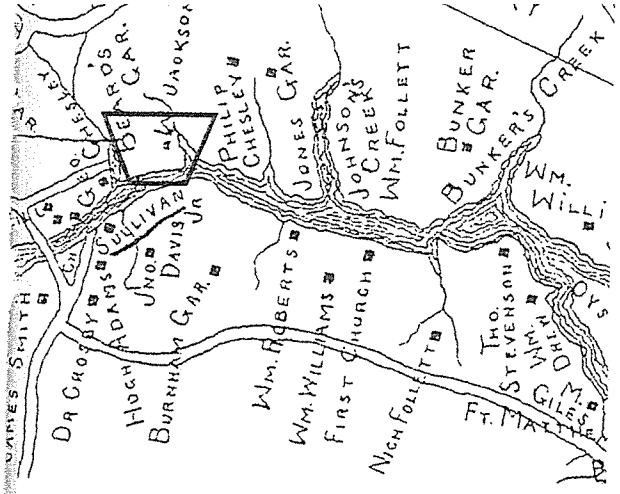
BzB: Buxton silt loam, 3-8% slopes, moderately well drained.

Sca: Scantic silt loam, 0-3% slopes, poorly drained

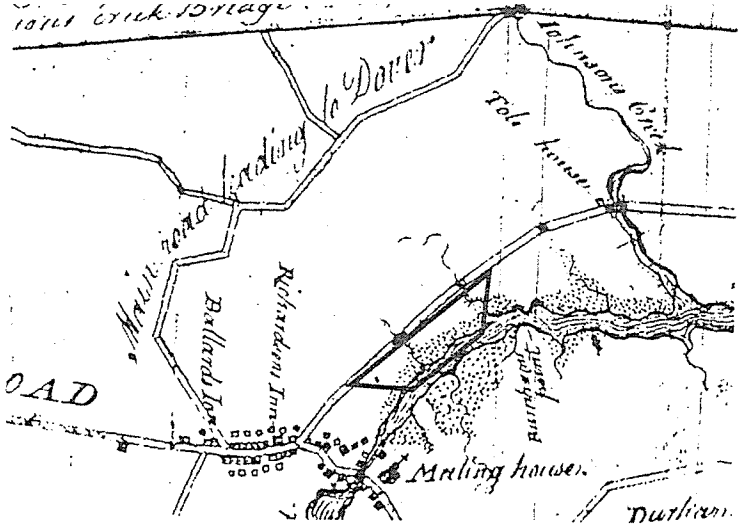
Ta: Tidal marsh, very poorly drained.

WfB: Windsor loamy fine sand, clay subsoil variant, 0-8% slopes, well drained.

Figure 4 - Environmental data. The Jackson's Landing project area is outlined in red.




mid-late 1600s

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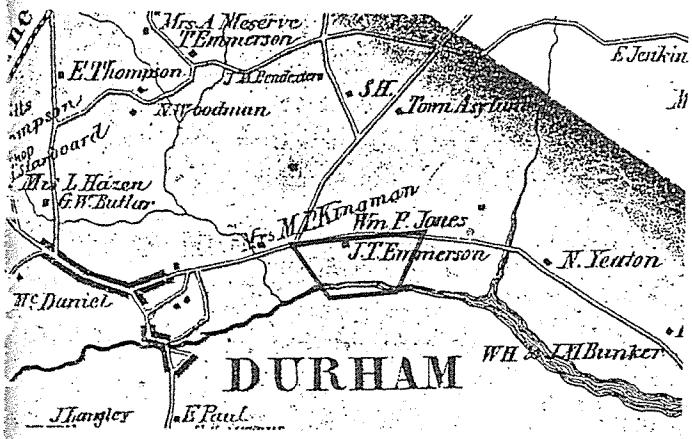


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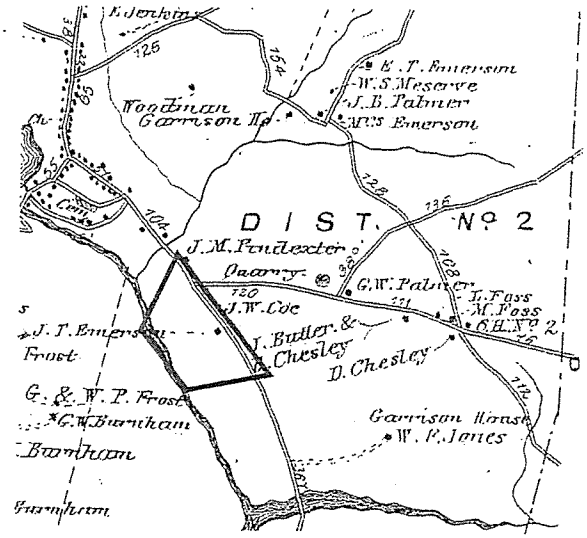


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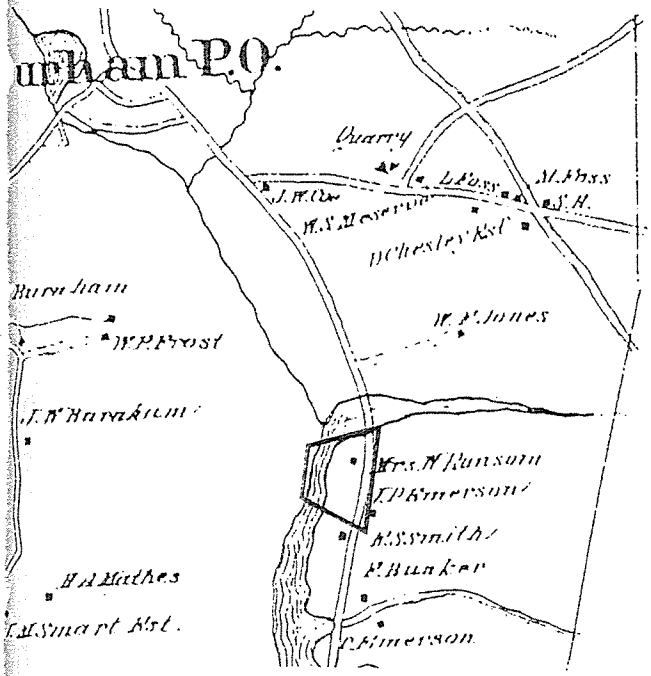
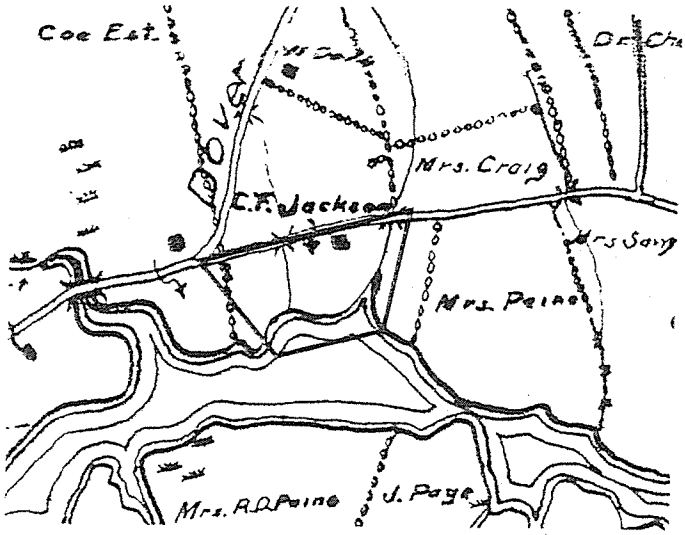



1892




1931

5 - Series of historic Durham maps, with the Jackson's Landing project area approximately outlined in red.

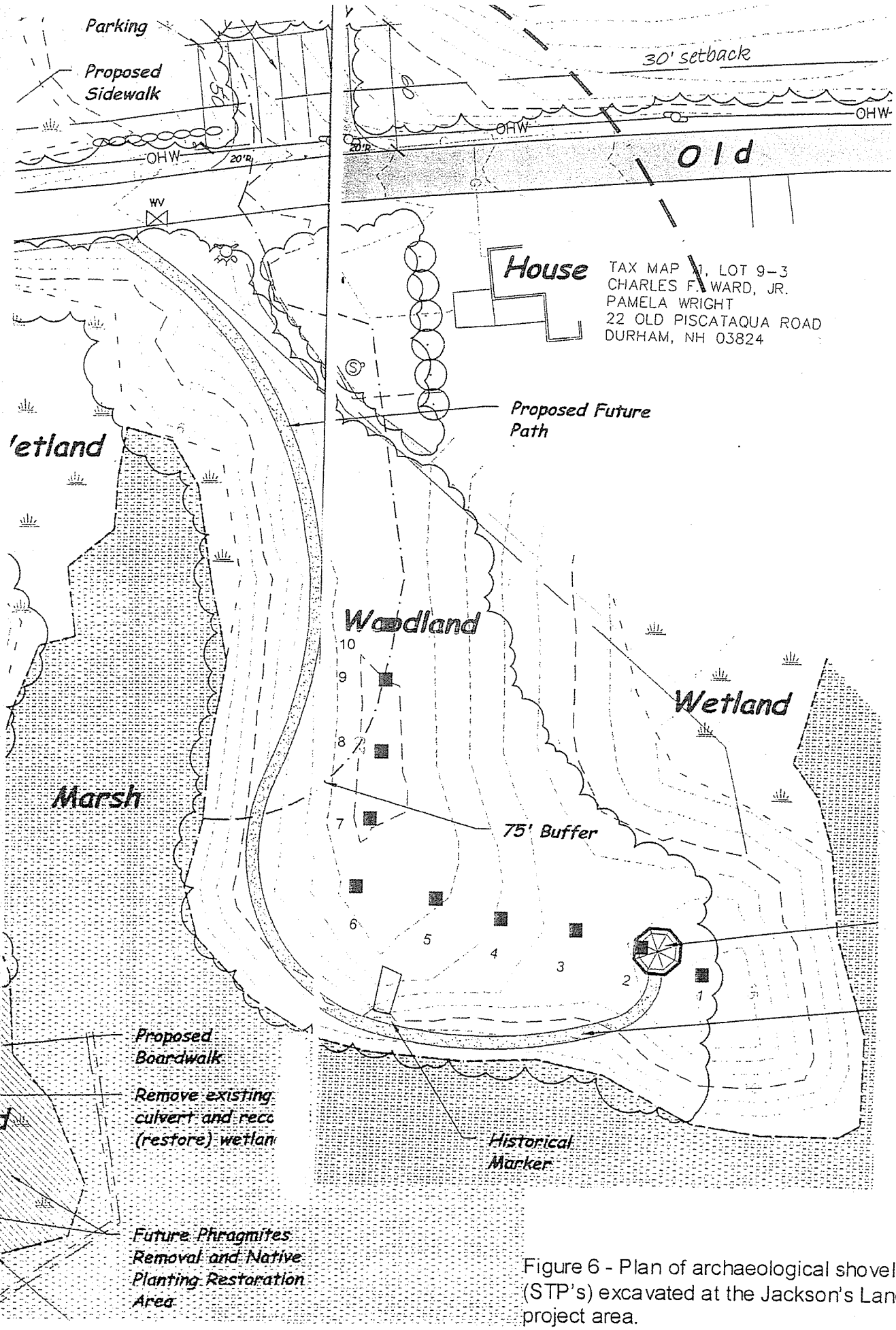



Figure 6 - Plan of archaeological shovel test pits (STP's) excavated at the Jackson's Landing project area.