
Extended Phase I Archaeological Testing Report

Downtown Library Mixed-Use Project Santa Cruz, California

NOVEMBER 2022

Prepared for:

**CITY OF SANTA CRUZ
ECONOMIC DEVELOPMENT DEPARTMENT**

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
CHRIS	California Historical Resources Information System
City	City of Santa Cruz
DPR	California Department of Parks and Recreation
F	Archaeological Feature
NWIC	Northwest Information Center
Project	Downtown Library Mixed-Use Project, Santa Cruz, California
TT	Test Trench

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1 Management Summary

This letter report presents the results of archaeological subsurface testing for the proposed development of a new downtown library mixed-use project (Project) in downtown Santa Cruz, California. The Project included mechanical subsurface archaeological testing at four locations where the potential for subsurface historical period resources was indicated in a preliminary Phase I archaeological report (D'Oro 2022). The purpose of the Project was to test for presence/absence of archaeological deposits to identify the potential presence of a historical resource, as described by the California Environmental Quality Act (CEQA).

No prehistoric deposits were identified, but the testing produced positive results for historical period archaeological resources in all four trench locations. In three trenches the artifacts were contained in a cultural layer of variable thickness between gravel fill used to support the modern asphalt parking surface and the native silty sand below. In one trench, two distinct historical period refuse deposits (features) were identified and excavated by hand. Analysis shows that both features contain domestic artifacts strongly associated with the mid- to late nineteenth century land uses that existed along Lincoln and Cedar Streets at that time. Although the artifacts in the other three trenches were not in discrete features, they do largely date also to the mid- to late nineteenth century.

Due to the small sample of the current Extended Phase I investigation, Dudek recommends a more extensive Phase II archaeological evaluation to broaden and intensify the geographic coverage of the investigation to complete a formal evaluation of found resources within the Project area for California Register of Historical Resources (CRHR) eligibility under CEQA. The Phase II testing should be guided by a research design developed using the results of the previous Phase I investigation (D'Oro 2022) and this report, which should be integrated to a work plan that describes research questions, field work and analytical methods that will be used to make a CRHR eligibility determination for the resource under CEQA guidelines. National Archaeological Database information for this Project is provided in Appendix A.

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2 Project Description, Location, and Background

2.1 Project Description

The Project includes removal of all existing improvements and construction of a 308,000 square foot building in the Cedar Street Village Corridor of the City's Downtown Plan.

2.2 Project Location

The Project is in downtown Santa Cruz on the east side of Cedar Street and spans the full block between Lincoln Street and Cathcart Street. The project area of approximately 1.5 acres includes two parcels currently designated as Assessor's Parcel Numbers (APNs) 005-141-21 and 005-141-11. The Project location is found on the U.S Geological Survey (USGS) Santa Cruz 7.5-minute topographic map, a portion of which is reproduced in Figure 1, Project Location.

2.3 Project Background

The Project is subject to compliance with CEQA. As the CEQA lead agency, the City is required to complete an environmental review and make a determination regarding the effect of the Project on historic resources. As part of the environmental review process for cultural resources, a Phase I cultural resources report (D'Oro 2022) was prepared by Albion and submitted to the City.

Based on a review of records obtained from the California Historical Resources Information System (CHRIS), Albion reported that no archaeological resources have been previously recorded within the Project area and that there are ten known resources within a 0.25-mile radius of the Project area. The Albion study was the first archaeological study for the Project area. Albion's visual inspection of the Project area surface revealed no evidence of buried archaeological deposits; not surprising given the Project area is almost entirely covered with modern hard surfaces including asphalt parking lots and one building.

Notwithstanding the above findings, Albion found potential for buried historical period resources indicated based on a review of maps and aerial photographs of the Project area dating from 1853 to 1964. Of particular interest were building footprints and privy pits associated with residential properties that existed in the nineteenth century. This evidence was shown clearly on maps dating before AD 1886. Based on that information, Albion recommended the Project area be considered to have a medium to high sensitivity for buried archaeological deposits and recommended an Extended Phase I investigation (subsurface testing) be conducted at four specific locations to test for presence/absence of deposits under the present hard surface of the parking lot and the one existing building. The present study follows from the Albion recommendations and this report is supplemental to Albion (D'Oro 2022).

Of the four testing locations suggested by Albion, one was under a currently occupied existing building. Because the City requested the subsurface testing be conducted during the planning phase, the testing location under the existing building was replaced with one currently accessible in the parking lot area where potential deposits were also indicated. The trench locations are shown on Figure 2, Project Area and Subsurface Test Locations.

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Project Site

Project Boundary

SOURCE: Digital Globe Imagery (accessed 2022), Open Street Map 2019



FIGURE 1

Project Location

Downtown Library Mixed-Use Project

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SOURCE: Digital Globe Imagery (accessed 2022), Open Street Map 2019

FIGURE 2
Project Area and Subsurface Test Locations
 Downtown Library Mixed-Use Project

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3 Regulatory Context

3.1 State of California

3.1.1 The California Register of Historical Resources

In California, the term “historical resource” includes “any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California” (Public Resources Code (PRC) Section 5020.1[j]). In 1992, the California legislature established the California Register of Historical Resources (CRHR) “to be used by state and local agencies, private groups, and citizens to identify the state’s historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1[a]). The criteria for listing resources on the CRHR, enumerated in the following text, were developed to be in accordance with previously established criteria developed for listing in the NRHP. According to PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains “substantial integrity,” and (ii) meets at least one of the following criteria:

- 1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage
- 2) Is associated with the lives of persons important in our past
- 3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values
- 4) Has yielded, or may be likely to yield, information important in prehistory or history

To understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see 14 CCR 4852[d][2]).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

3.1.2 California Environmental Quality Act

As described further in the following text, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

PRC Section 21083.2(g) defines “unique archaeological resource.”

PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) define “historical resources.” In addition, CEQA Guidelines Section 15064.5(b) defines the phrase “substantial adverse change in the significance of an historical resource.” It also defines the circumstances when a project would materially impair the significance of a historical resource.

PRC Section 21074(a) defines “tribal cultural resources.”

PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.

PRC Sections 21083.2(b)–(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

Under CEQA, a project may have a significant effect on the environment if it may cause “a substantial adverse change in the significance of an historical resource” (PRC Section 21084.1; CEQA Guidelines Section 15064.5[b]). If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1[q]), it is a “historical resource” and is presumed to be historically or culturally significant for purposes of CEQA (PRC Section 21084.1; CEQA Guidelines Section 15064.5[a]). The lead agency is not precluded from determining that a resource is a historical resource, even if it does not fall within this presumption (PRC Section 21084.1; CEQA Guidelines Section 15064.5[a]).

A “substantial adverse change in the significance of an historical resource” reflecting a significant effect under CEQA means “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired” (CEQA Guidelines Section 15064.5[b][1]; PRC Section 5020.1[q]). In turn, the significance of a historical resource is materially impaired when a project does any of the following:

- 1) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- 2) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- 3) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA [CEQA Guidelines Section 15064.5(b)(2)].

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any “historical resources,” then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource’s historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2[a], [b], and [c]).

Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- 1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
- 2) Has a special and particular quality such as being the oldest of its type or the best available example of its type
- 3) Is directly associated with a scientifically recognized important prehistoric or historic event or person

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2[a]; CEQA Guidelines Section 15064.5[c][4]). However, if a non-unique archaeological resource qualifies as tribal cultural resource (PRC 21074[c]; 21083.2[h]), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described in the following text, these procedures are detailed in PRC Section 5097.98.

3.1.3 Native American Historic Cultural Sites

State law (PRC Section 5097 et seq.) addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and established the Native American Heritage Commission (NAHC) to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

3.1.4 California Health and Safety Code Section 7050.5

In the event that Native American human remains or related cultural material are encountered, Section 15064.5(e) of the CEQA Guidelines (as incorporated from PRC Section 5097.98) and California Health and Safety Code Section 7050.5 define the subsequent protocol. If human remains are encountered, excavation or other disturbances shall be suspended of the site or any nearby area reasonably suspected to overlie adjacent human remains or related material. Protocol requires that a county-approved coroner be contacted in order to determine if the remains are of Native American origin. Should the coroner determine the remains to be Native American, the coroner must contact the NAHC within 24 hours. The NAHC will assign a most likely descendent, who may make recommendations to the landowner or the person responsible for the excavation work, for means of treating, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98 (14 CCR 15064.5[e]).

3.2 City of Santa Cruz

The Project must comply with the City of Santa Cruz Code Section 24.12.430 Santa Cruz City regulations specifically require an archaeological survey and report identifying and inventorying archaeological resources for any project involving ground-disturbing work in an area classified as archaeologically sensitive. The subject property is classified as “Highly Sensitive” for archaeological sensitivity on resources maps maintained by the City’s Planning Department. This report is intended to meet requirements put forth in local Policy HA1.2 of the City of Santa Cruz General Plan 2030 (adopted June 2012).

4 Natural and Cultural Contexts

4.1 Environmental Context

The Project area is in the extreme lower San Lorenzo River Valley about 0.5 miles north of Monterey Bay and about 2 miles south of the foothills of the Santa Cruz Mountains of the greater Coast Ranges of western California. The San Lorenzo River lies about 800 feet to the east. The geology of the vicinity is Holocene floodplain. Soils are classified as Baywood loamy sand, 0% to 2% slopes. Vegetation of the area is categorized as coastal prairie-scrub mosaic (Küchler 1977); however, the native landscape has been significantly changed by intensive modern development. Currently, the Project area is within an urban setting. The Monterey Bay area enjoys a Mediterranean climate.

4.2 Cultural Context

4.2.1 Prehistory

The prehistory of indigenous groups living within Santa Cruz County follows general patterns identified within the archaeological record of the greater Central Coast area of California. These patterns represent adaptive shifts in settlement, subsistence strategies, and technological innovation demonstrated by prehistoric people throughout the Holocene and earlier. The California Central Coast Chronology (Jones et. al. 2007) presents an overview of prehistoric life ranging upwards of 10,000 years. Six temporal periods describe changes in prehistoric settlement patterns, subsistence practices, and technological advances (Table 1).

Table 1. California Central Coast Chronology

Temporal Period	Date Range*
Paleo-Indian	pre-8000 cal BC
Milling Stone (or Early Archaic)	8000 to 3500 cal BC
Early	3500 to 600 cal BC
Middle	600 cal BC to cal AD 1000
Middle-Late Transition	cal AD 1000-1250
Late	cal AD to 1250-1769

Note:

* Calibrated dates.

4.2.1.1 Paleo-Indian

The Paleo-Indian era represents people's initial occupation of the region. These were highly mobile hunters who focused subsistence efforts on large mammals. Multiple migrations into the region may have occurred both terrestrially and by sea (Erlandson et. al. 2007). Although no coastal Paleo-Indian sites in the Central California Coast region have been discovered, they may have been inundated because of rising ocean levels throughout the Holocene (Jones and Jones 1992).

Evidence of this era is generally found through isolated artifacts or sparse lithic scatters (Bertrando 2004). In the San Luis Obispo area, fluted points characterizing this era are documented near the town of Nipomo (Mills et. al.

2005) and Santa Margarita (Gibson 1996), but so far, no fluted points have been found in the Central Coast north of the Santa Barbara area. Possible evidence for Paleo-Indian occupation is reported in buried contexts in CA-SCL-178 in the Santa Clara Valley and at CA-SCR-177 in Scotts Valley (Cartier 1993). The early radiocarbon dates from charcoal, however, pose questions of validity (Jones et. al. 2007).

4.2.1.2 Milling Stone

Settlement in the Central Coast appears with more frequency in the Milling Stone Period. Sites of this era have been discovered in Big Sur (Jones 2003; Fitzgerald and Jones 1999) and Moss Landing (Jones and Jones 1992; Milliken et. al. 1999). Assemblages are characterized by abundant milling stones and hand stones, cores and core-cobble tools, thick rectangular (L-series) Olivella beads, and a low incidence of projectile points, which are generally lanceolate or large side-notched varieties (Jones et. al. 2007). Eccentric crescents are also found in milling stone components. Sites are often associated with shellfish remains and small mammal bone, which suggest a collecting-focused economy. Newsome et. al. (2004) report that stable isotope studies on human bone, from a milling stone component at CA-SCR-60/130, indicate a diet composed of 70%–84% marine resources. Contrary to these findings, deer remains are abundant at some milling stone sites (cf. Jones et. al. 2008), which suggests a flexible subsistence focus. Similar to the Paleo-Indian era, archaeologists generally view people living during the Milling Stone era as highly mobile.

4.2.1.3 Early

The Early Period corresponds with the earliest era of what Rogers (1929) called the “Hunting Culture.” According to Rogers, the “Hunting Culture” continues through to what is termed the Middle-Late Transition in the present framework. The Early Period is marked by a greater emphasis on formalized flaked stone tools, such as projectile points and bifaces, and the initial use of mortar and pestle technology. Early Period sites are located in more varied environmental contexts than milling stone sites, suggesting more intensive use of the landscape than practiced previously (Jones and Waugh 1997).

Early Period artifact assemblages are characterized by Large Side-notched points, Rossi Square-stemmed points, Spire-lopped (A), End-ground (B2b and B2c), Cap (B4), and Rectangular (L-series) Olivella beads. Other artifacts include less temporally diagnostic Contracting-stemmed and Año Nuevo long-stemmed points, and bone gorges. Ground stone artifacts are less common relative to flaked stone tools when compared with Milling Stone-era sites.

Early Period sites are common and often found in estuary settings along the coast or along river terraces inland and are present in both Monterey and Santa Cruz Counties. Coastal sites dating to this period include CA-MNT-108 (Breschini and Haversat 1992a), CA-SCR-7 (Jones and Hildebrandt 1990), and CA-SCR-38/123 (Jones and Hildebrandt 1994).

Archaeologists have long debated whether the shift in site locations and artifact assemblages during this time represent either population intrusion as a result of mid-Holocene warming trends, or an in situ adaptive shift (cf. Mikkelsen et. al. 2000). The initial use of mortars and pestles during this time appears to reflect a more labor-intensive economy associated with the adoption of acorn processing (cf. Basgall 1987).

4.2.1.4 Middle

The trend toward greater labor investment is apparent in the Middle Period. During this time, there is increased use of plant resources, more long-term occupation at habitation sites, and a greater variety of smaller “use-specific” localities. Artifacts common to this era include Contracting-stemmed projectile points, a greater variety of Olivella

shell beads and *Haliotis* ornaments that include discs and rings (Jones 2003). Bone tools and ornaments are also common, especially in the richer coastal contexts (Jones and Ferneau 2002a; Jones and Waugh 1995), and circular shell fishhooks are present for the first time. Grooved stone net sinkers are also found in coastal sites. Mortars and pestles become more common than milling stones and hand stones at some sites (Jones et. al. 2007). Important Middle Period sites include CA-MNT-282 at Willow Creek (Jones 2003; Pohorecky 1976), and CA-MNT-229 at Elkhorn Slough (Dietz et. al. 1988), CA-SCR-9 and CA-SMA 218 at Año Nuevo (Hylkema 1991).

Jones et. al. (2007) discuss the Middle Period in the context of Rogers' "Hunting Culture" because it is seen as a continuation of the pattern that begins in the Early Period. The pattern reflects a greater emphasis on labor-intensive technologies that include projectile and plant processing. Additionally, faunal evidence highlights a shift toward prey species that are more labor intensive to capture, either by search and processing time or technological needs. These labor-intensive species include small schooling fishes, sea otters, rabbits, and plants such as acorn. Jones and Haney (2005) offer that Early and Middle Period sites are difficult to distinguish without shell beads due to the similarity of artifact assemblages.

4.2.1.5 Middle-Late Transition

The Middle-Late Transition corresponds with the end of Rogers' "Hunting Culture." Artifacts associated with the Middle-Late Transition include contracting-stemmed, double side-notched, and small leaf-shaped projectile points. The latter are thought to represent the introduction of bow and arrow technology to the region. A variety of *Olivella* shell bead types are found in these deposits and include B2, B3, G1, G2, G6, and K1 varieties, notched line sinkers, hopper mortars, and circular shell fishhooks (Jones 1995; Jones et. al. 2007). Sites that correspond with this time are CA-MNT-1233 and -281 at Willow Creek (Pohorecky 1976), CA-MNT-1754, and CA-MNT-745 in Priest Valley (Hildebrandt 2006). A greater number of Middle-Late Transition sites are found in San Luis Obispo County to the south.

The Middle-Late Transition is a time that appears to correspond with social reorganization across the region. This era is also a period of rapid climatic change known as the Medieval Climatic Anomaly (cf. Stine 1994). The Medieval Climatic Anomaly is proposed as an impetus for the cultural change that was a response to fluctuations between cool-wet and warm-dry conditions that characterize the event (Jones et. al. 1999). Archaeological sites are rarer during this period, which may reflect a decline in regional population (Jones and Ferneau 2002b).

4.2.1.6 Late

Late Period sites are found in a variety of environmental conditions and include newly occupied task sites and encampments, as well as previously occupied localities. Artifacts associated with this era include Cottonwood (or Canaliño) and Desert Side-notched arrow points, flaked stone drills, steatite and clamshell disc beads, *Haliotis* disc beads, *Olivella* bead types E1 and E2, and earlier used B2, B3, G1, G6, and K1 types. Milling stones, hand stones, mortars, pestles, and circular shell fishhooks also continue to be used (Jones et. al. 2007). Sites dating to this era are found in coastal and interior contexts. Late Period sites include CA-MNT-143 at Asilomar State Beach (Brady et. al. 2009), CA-MNT-1765 at Moro Cojo Slough (Fitzgerald et. al. 1995), CA-MNT-1485/H and -1486/H at Rancho San Carlos (Breschini and Haversat 1992b), and CA-SCR-117 at Davenport Landing (Fitzgerald and Ruby 1997).

Coastal sites dating to the Late Period tend to be resource acquisition or processing sites, while evidence for residential occupation is more common inland (Jones et. al. 2007).

4.2.2 Ethnohistoric

The Project Area lies within the territory traditionally occupied by people called “Costanoan” by the Europeans at the time of contact. Many modern descendants prefer to be called “Ohlone,” or by their specific tribal band name. The Ohlone spoke eight separate dialects of the Penutian language family and lived between the vicinities of what is now Richmond in the north and Big Sur in the south. The Ohlone were organized under approximately fifty autonomous polities or tribelets (Levy 1978; Milliken 1995). At the time of European contact, the Awaswas Ohlone dialect was reportedly spoken within this portion of what is today Santa Cruz County. Ethnographic accounts of Ohlone at the time of contact described them as living in permanent villages, but also spending time in smaller camps to collect or process seasonal resources such as acorn or shellfish (Levy 1978).

4.2.3 Historical Period

The Santa Cruz area strongly associated with early Euro-American exploration and settlement beginning in the late eighteenth century as well as later commercial, industrial, and recreational development of the region throughout the nineteenth and twentieth centuries. The history of the Santa Cruz Area is generally divided into three periods: The Spanish Period (1769 to 1822), the Mexican Period (1822 to 1846), and the American Period (1846 to present).

4.2.3.1 Spanish Period (1769–1822)

The first European to explore the Central Coast was Sebastián Vizcaíno, who, in 1602, was sent by the Spanish government to map the Californian coastline for suitable ports. It was Vizcaíno who named the area “Puerto de Monterey” after the Conde de Monterey, the Viceroy of New Spain in Mexico (Chapman 1920; Hoover et. al. 2002). The Gaspar de Portolá expedition traveled through the region in 1769 and returned in 1770 to establish both the Monterey Presidio, Spain’s first military base in Alta California. Mission Santa Cruz was established in 1791 as the twelfth mission to be established in California. Native Americans were forced to build the mission church and auxiliary structures from local timber, limestone, and adobe, as well as cultivate wheat, barley, beans, corn, and lentils for the mission Padres and soldiers. Villa Branciforte was also established at that time on the eastern part of Santa Cruz as one of three Spanish civil settlements in California. The Spanish missions drastically altered the lifeways of the Native Americans. Spanish missionaries conscripted members of local Native American communities to move to the Mission, where they were indoctrinated as Catholic neophytes (Hoover et. al. 2002; Lehmann 2000; Koch 1973; Milliken 1995).

4.2.3.2 Mexican Period (1822–1846)

After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the new government ended Spanish policies and decreed California ports open to foreign merchants. The Spanish Missions across the territory were secularized during this period releasing the Native Americans from control of the mission-system. The City of Monterey continued as the capital of Alta California and the Californios, the Mexicans who settled in the region, were given land grants, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated its colonization efforts. Land grants to citizens covered over 150,000 acres of present-day Santa Cruz County (Koch 1973; Lehmann 2000; Cleland 2005).

4.2.3.3 American Period (1846–Present)

The Mexican–American War, ending with the Treaty of Guadalupe Hidalgo in 1848, brought California into control of the United States. As the Gold Rush picked up steam in 1849, a massive influx of people seeking gold steadily flooded the rural counties of California. The gold fields quickly dried up causing many new arrivals to refocus on other economic opportunities. In Santa Cruz County, one of the 27 original counties of California, insightful entrepreneurs saw the arrival of opportunity-seeking laborers as a means to harvest the abundant natural resources found throughout the area. The lumber, lime, cement, fishing, and leisure industries formed the economic foundation of the County. California officially became a state with the Compromise of 1850. The new state of California recognized the ownership of lands in the state distributed under the Mexican Land Grants of the previous decades (Lehmann 2000; Koch 1973).

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5 Methods

5.1 Field Methods

The Phase I investigation was “Extended” by executing four mechanical test trenches (TT) with 10-centimeter hand auger probes continuing down from the bottom of each TT. Each TT was excavated using a backhoe equipped with a 30-inch bucket with a straight blade. Each TT was approximately 10 feet long by 2.5 feet wide by 5 feet deep. Under the direction of Dudek’s project manager, work crews removed soil evenly from the TTs in approximately 4-inch lifts, keeping the bottom of the TT as level as possible. This excavation technique allowed Dudek archaeologists to observe and record soil stratigraphy and concentrations of artifacts. Dudek also collected two 5-gallon samples of excavated matrix at a minimum of three depths in each TT. The sample was screened through 0.25-inch mesh in search of small cultural constituents. All cultural material was collected in labelled plastic bags and returned to Santa Cruz laboratory for further analysis. Where archaeological features were encountered, Dudek halted mechanical testing and exposed the cultural deposits using hand tools including shovels, trowels, and small brushes.

Augers were hand-excavated in arbitrary 1-foot levels from the lowest depth of each TT to a depth of 7.5 feet below ground surface (when possible), with the excavated matrix screened through 0.25-inch mesh. All excavated matrix was screened through 0.25-inch mesh. The locations of the four TTs are shown on an ariel photograph in Figure 2 and on the 1892 Sanborn Map in Figure 3 (see Section 2.3, Project Background).

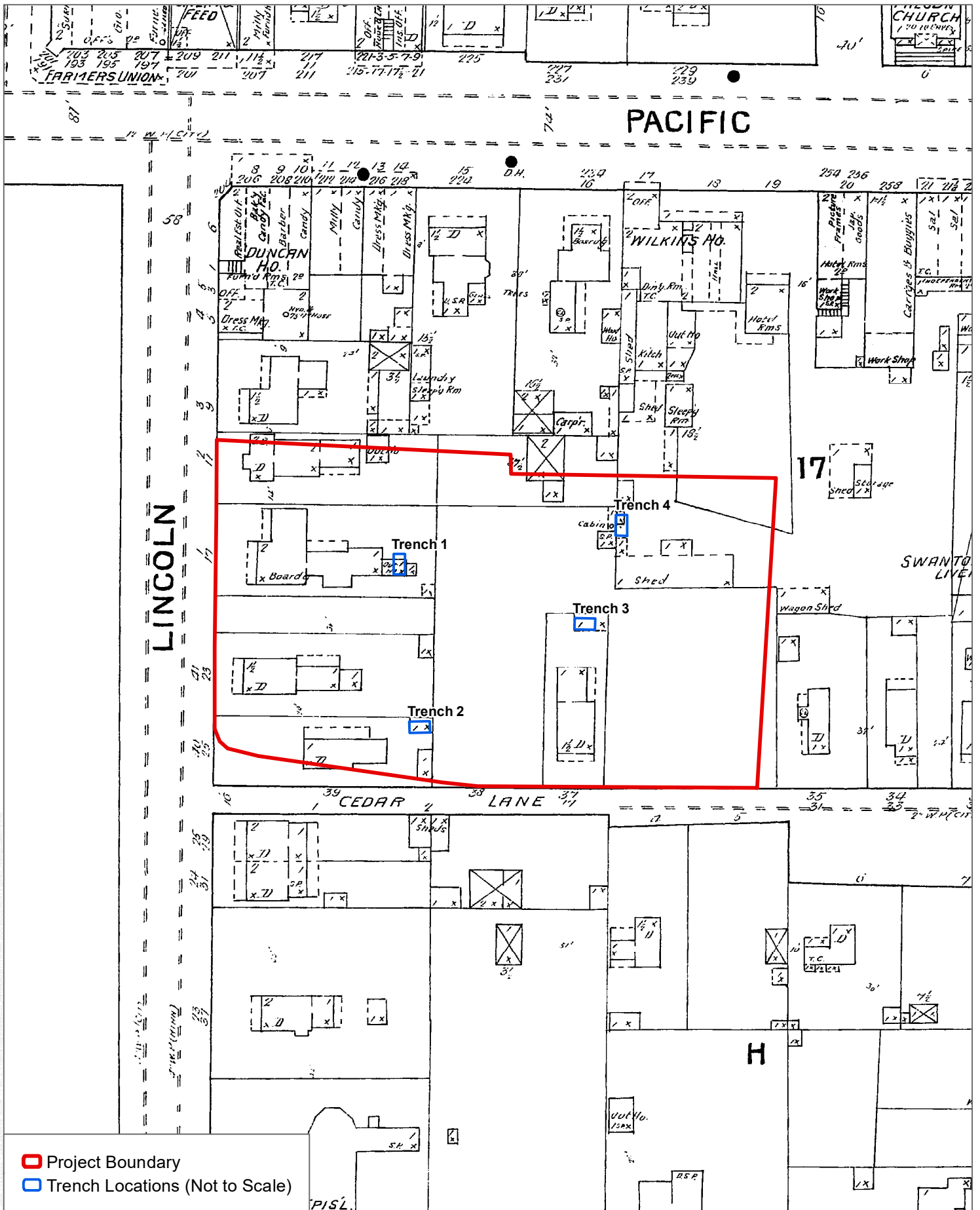
Photographs and profile drawings were used to document soils, stratigraphic information, and disturbances in all four TT. Field notes were recorded on standardized forms to log artifact and feature recovery, soil descriptions, disturbances, and any other pertinent information.

5.2 Laboratory Methods

Following the field work, laboratory analysis was performed in the Dudek’s Santa Cruz office. The work included sorting, washing, cataloging, and analyzing the archaeological collection. All recovered materials were individually examined and cataloged according to class, object (subclass), and material; counted and weighed on a digital scale. All coded data were entered into a general artifact catalog presented in Appendix B.

The cultural material was sorted into the following general classes: historic and modern artifacts were categorized by material type (glass, metal, and bone). Historic artifacts were then further analyzed to identify the form, function, and approximate age of the specimen to the highest degree possible. Ceramic artifacts were analyzed by domain (domestic, architectural, or infrastructural), function (i.e., food storage, tableware, insulator, or sewer pipe), material type, origin, stylistic motifs, and maker’s marks. Each specimen was measured by length, width, and thickness. Glass artifacts were classified as historic or modern/nondiagnostic. Historic attributes were determined by form, manufacturing technique, color, decoration, alteration, and maker’s marks. Metal artifacts were analyzed by form and function, with unidentifiable fragments weighed by bulk. Artifacts were quantified in a standard manner using counts and weights. References were consulted in order to attribute an approximate age of the artifacts. Photographs of selected diagnostic historical period artifacts are presented in Appendix C.

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SOURCE: Sanborn Map Company 1892

FIGURE 3

Testing Locations on 1892 Sanborn Map

Downtown Library Mixed-Use Project

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6 Results

6.1 Horizontal and Vertical Findings

6.1.1 Horizontal Findings

All four TT locations were positive for cultural materials. However, findings suggest that historical period features more likely exist in the northwest portion of the project area. In TT 1, TT 3, and TT 4, sparse artifacts were present in a layer of variable thickness that existed below the gravel fill layer supporting the asphalt parking surface. The random nature of the recovery suggests that the artifacts in the south and east portion of the project area are not in the locations of original deposition and have been significantly disturbed over time. In TT 2, located in the northwest portion of the Project area, two discrete historical period features were identified that contained notable quantities of artifacts likely in their original locations and with minimal post depositional disturbances.

6.1.2 Stratigraphy

USDA Web soil survey shows a Baywood loamy sand soil complex with 0 to 2% slope in this location. The soil is excessively drained with very low runoff and no chance of flooding (USDA 2022).

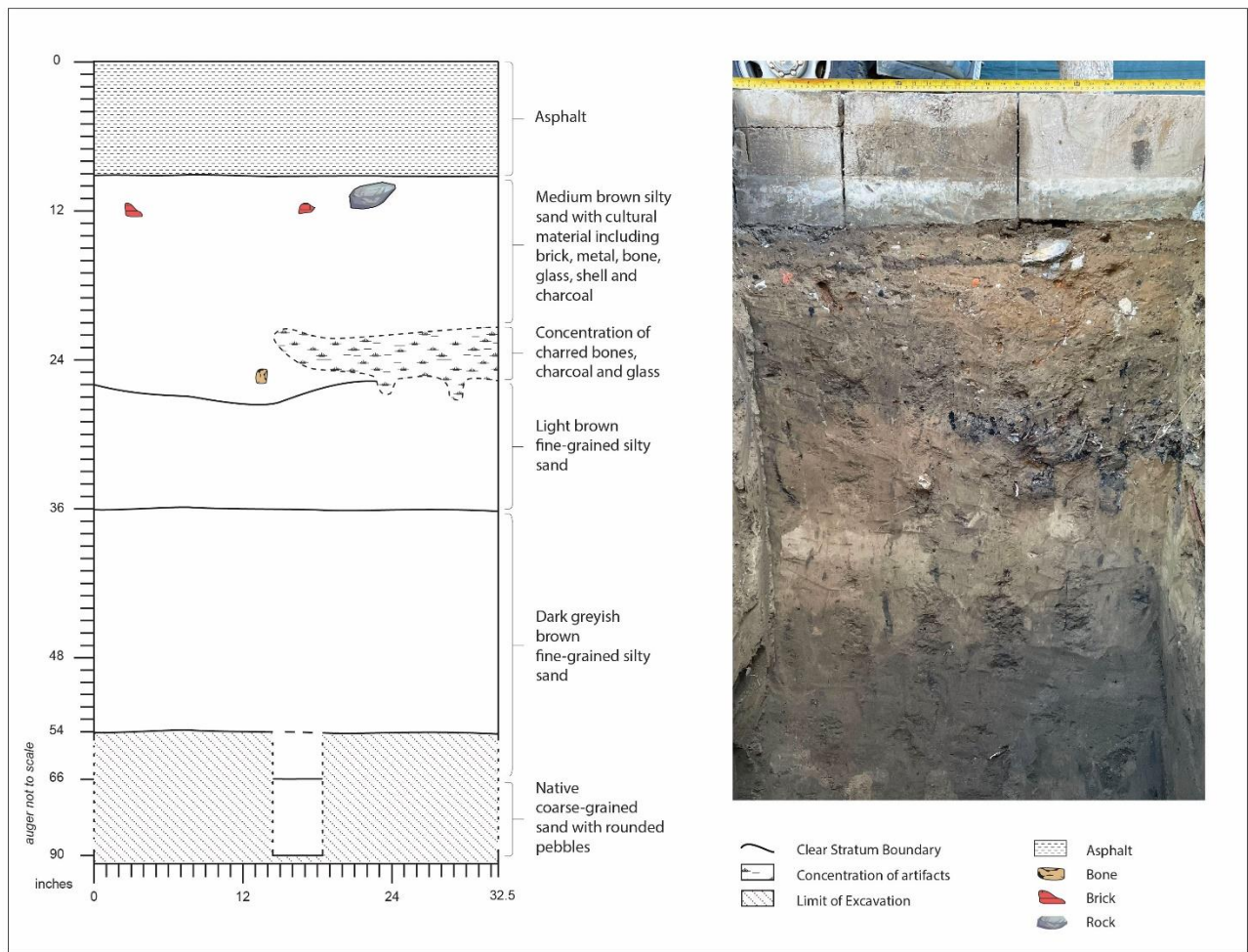
Although soil profiles of the four TTs presented some variability, stratigraphy observed during the exploratory trenching effort showed reoccurring patterns over the tested area. Overall, four distinct strata were identified capped under a layer of 6 to 9 inches of asphalt. The first stratum was a layer of orange-brown construction fill extending as far as 25 inches below the ground surface (below parking lot grade). The second stratum was a disturbed mixed soil consisting of dark brown silty loam to medium brown silty sand which held cultural material. This layer was observed as deep as 50 inches below the ground surface. Two layers of native soils were identified underlying Stratum 2. These include a light brown fine grained silty sand situated above a coarse-grained sand with water-worn pebbles. The transition between the two layers ranged between 58 and 89 inches below ground surface.

Slight variations were observed throughout the four TTs. The soil profiles of each TT are described below and illustrated in Figures 4 through 7.

Test Trench 1

Dudek identified 4 unique soil strata capped by a layer of 9 inches of asphalt. The first stratum, directly below the asphalt, extended to 26 inches below the ground surface and consisted of a medium brown fine-grained silty sand with sparse cultural material including brick, metal, glass, shell, bone, and charcoal. A concentration of historic material showing heat treatment (glass, charred bone, and charcoal) was observed within this stratum in the southeast corner of the trench, from 21 to 26 inches below surface. The second stratum was observed from 26 to 36 inches below surface and consisted of a light brown fine-grained silty sand with very low cultural constituents. The last two strata appeared to be native sediments consisting of a dark greyish brown fine-grained silty sand transitioning to a coarse-grained sand with water-worn pebbles at 66 inches below ground surface. Cultural material was absent in both of these strata (Figure 4, TT 1 East Profile).

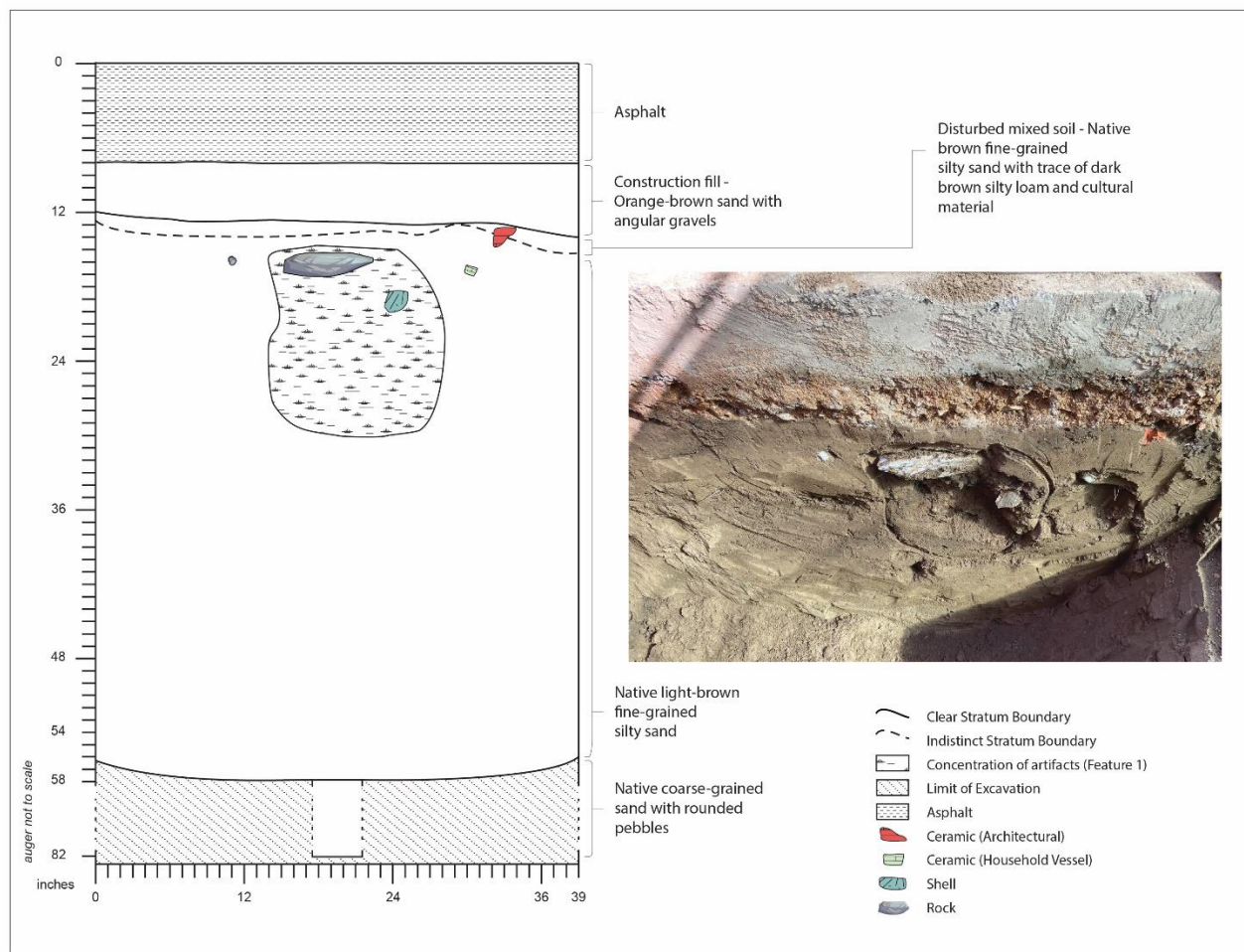
Figure 4. TT 1 East Profile



Test Trench 2

Dudek identified four distinct soil strata capped by a layer of 8 inches of asphalt (Figure 5, TT 2 East Profile). The first stratum was a layer of orange-brown gravelly sand construction fill extending 4 inches below the asphalt (to 12 inches below ground surface). A thin layer of mixed disturbed soil was observed below, down to 14 inches below ground surface. The stratum consisted of fine-grained brown silty sand containing historic material (similar to the first stratum in TT 1) mixed with dark brown silty loam. A layer of sterile lighter brown fine-grained silty sand was observed below, down to 58 inches below surface. Two concentrations of cultural material were found intrusive to this stratum. They are described below as Feature 1 and 2. The last stratum observed in this trench, from 58 inches until the bottom of the unit at 82 inches below ground surface, was the same coarse-grained sand with water-worn pebbles observed at the bottom of TT 1.

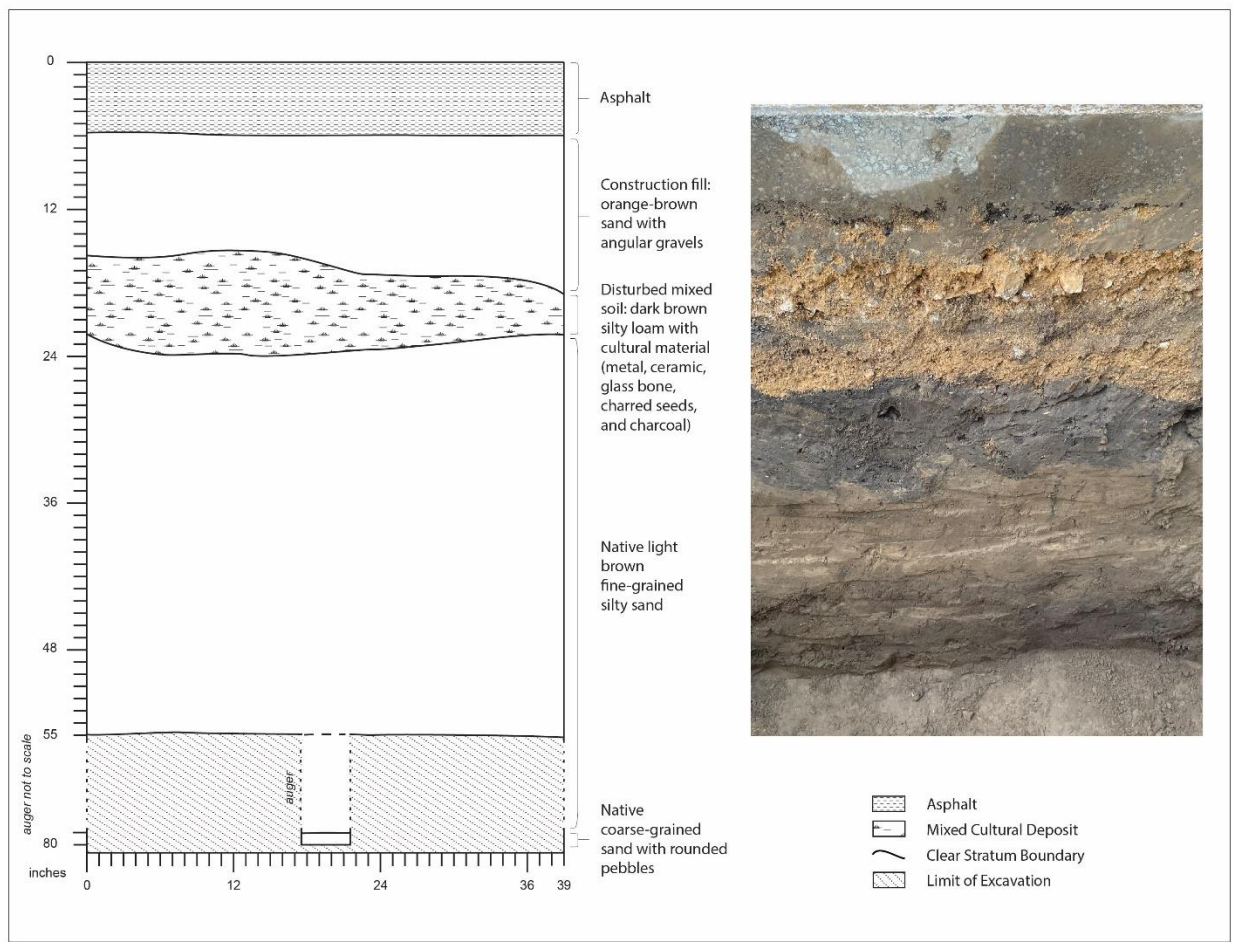
Figure 5. TT 2 East Profile



Test Trench 3

Dudek identified four distinct soil strata capped by a layer of 6 inches of asphalt (Figure 6, TT 3 East Profile). The first stratum was the same layer of construction fill observed in TT 2. The layer extended 10 inches below the asphalt (to 15 inches below ground surface). A layer of mixed disturbed soil was observed below, down to 24 inches below ground surface. The stratum consisted of dark brown silty loam containing a high density of cultural material including historic ceramic, glass, and metal artifacts along with bone, charred seeds and charcoal. Native light brown fine-grained silty sand (same as in TT 2) was observed below to a depth of 79 inches below ground surface. Lastly, the same coarse-grained sand with water-worn pebbles observed at the bottom of TT 1 and TT 2 was present at the bottom of TT 3 starting at 89 inches below surface.

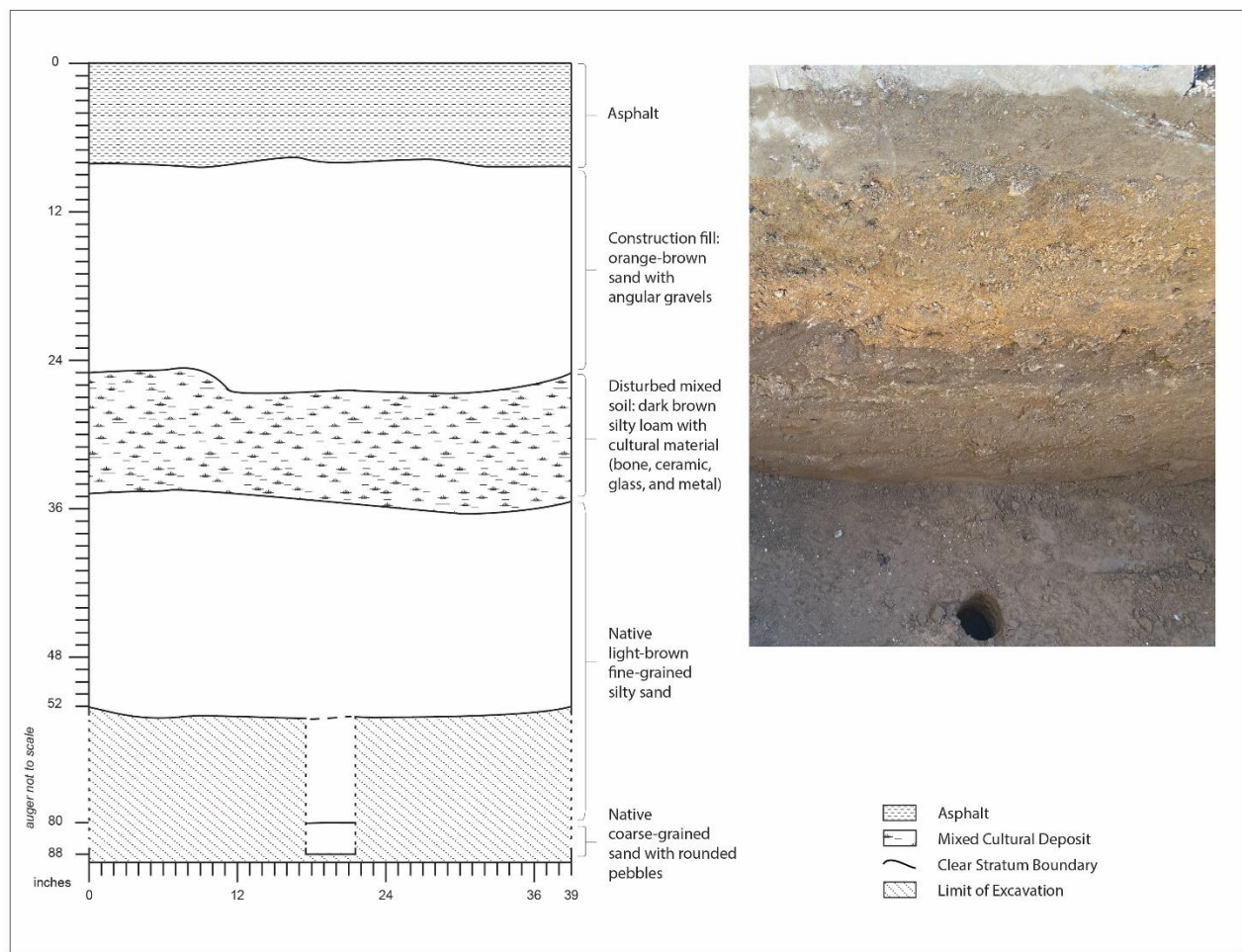
Figure 6. TT 3 East Profile



Test Trench 4

Again, Dudek identified 4 distinct soil strata capped by a layer of 8 inches of asphalt. The first stratum was the same layer of construction fill observed in TTs 2 and 3. The layer was thicker than in previous trenches and extended to 25 inches below ground surface. A layer of mixed disturbed soil was observed below, down to 35 inches below ground surface. The stratum consisted of dark brown silty loam containing sparse cultural material including historic ceramic, glass, and metal artifacts, and faunal bone. Native light brown fine-grained silty sand (same as in TT 2 and 3) was observed below to a depth of 80 inches. Lastly, the same coarse-grained sand with water-worn pebbles observed at the bottom of TT 1, TT 2, and TT 3 was present at the bottom of TT 4 (Figure 7, TT 4 East Profile).

Figure 7. TT 4 East Profile



The layer of coarse-grained sand with water-worn pebbles mentioned above was identified at the bottom of each trench using the hand auger to excavate through the bottom center of each TT and confirmed that all soil below was culturally sterile native sand.

6.1.3 Features

Dudek identified two features during the Extended Phase I field effort, both in TT 2. The features were located 24 inches apart and were both exposed starting at approximately 15 inches below surface. Dudek excavated the features independently due to the discrete nature of each.

Feature 1

Feature 1 was found in the central portion of TT 2 just under the gravel fill supporting the asphalt parking surface, at approximately 15 inches below the surface. The cultural layer present in the other three trenches was very thin (less than 2 inches) in TT 2, and Feature 1 was surrounded by native silty sand that was identified as native soil in the other three TTs. Since Feature 1 is intrusive into native soil and appears in situ, it seems likely it was dug intentionally as part of one or several dumping events.

The observable dimensions of Feature 1 were 18 inches long, 16 inches wide, and 14 inches thick. These dimensions must be considered incomplete however, as Feature 1 clearly extended into the east sidewall of TT 2. A 2-inch metal utility pipe bounded Feature 1 on the south side in a narrow area of relative sterile soil between Feature 1 and Feature 2 to the south.

Artifacts recovered from Feature 1 included 78 ceramic whiteware sherds, 1 porcelain sherd, 18 glass shards, 7 metal artifacts including nails, 1 safety pin, and various fragments of unidentifiable slag, 29.9 grams of marine shell fragments, and 45 faunal bone specimens (see Table 2). See Section 6.2 below for a detailed analysis of the recovered artifacts. Feature 1 is shown in plan view in Figure 8.

Figure 8. Feature 1 Plan View at 20 Inches Below Surface (1240)



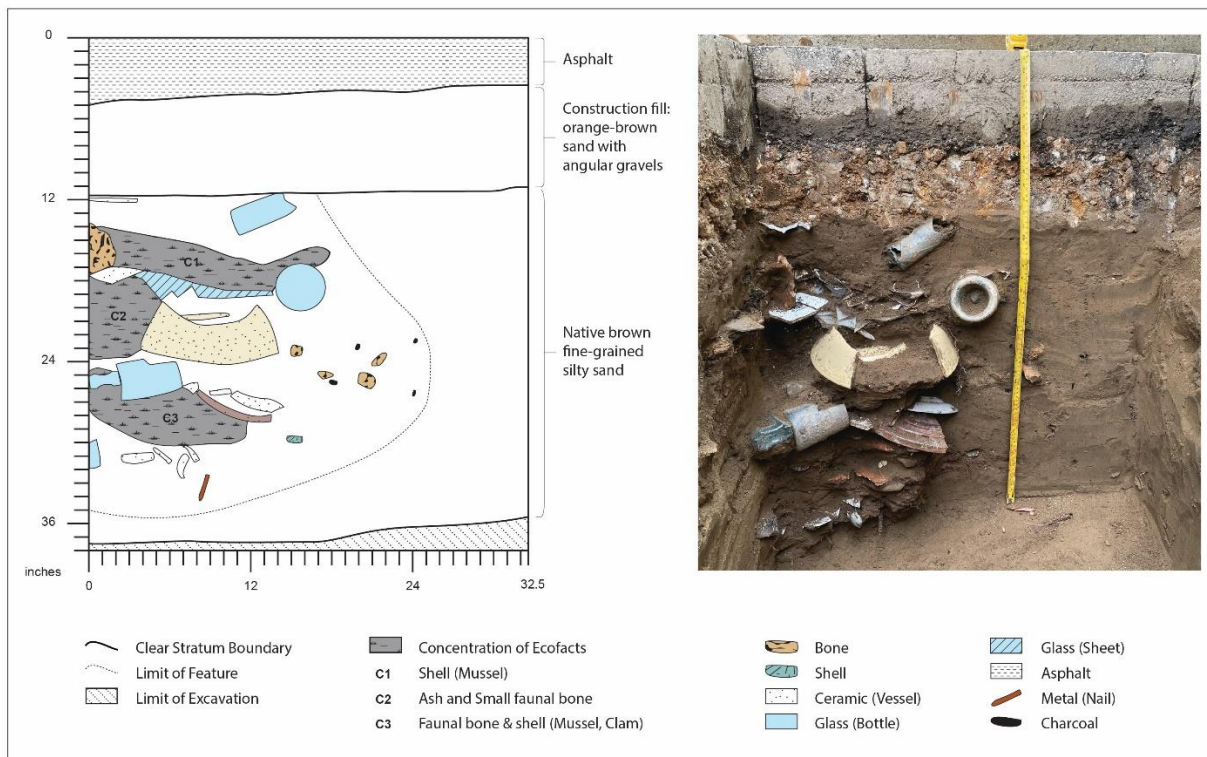
Feature 2

Like Feature 1, Feature 2 was found immediately below the gravel fill supporting the asphalt parking surface. However, Feature 2 was larger and more compact. The top of Feature 2 was uncovered at 15 inches below the surface in the southeast corner of TT 2. The feature consisted of a concentration of historic refuse intrusive into native silty sand. The feature constituents appeared in situ and the feature seems likely to have been dug intentionally as part of one or several dumping events.

The observable dimensions of Feature 2 were 24 inches long (East-West), 20 inches wide (North-South), and 20 inches thick. The feature clearly extended into the east and south sidewall of TT 2, however. A 2-inch modern metal utility pipe bisected TT 2 between Features 1 and 2, approximately 14 inches north of Feature 2. No utility trench was visible as the pipe seems to be laying directly in the same native silty sand than both features.

A total of 171 historic period artifacts, 174 faunal bone specimens, 619.6 grams of avian shell, marine shell, and charcoal were recovered from Feature 2. Specific collected material included 41 ceramic whiteware sherds, 3 porcelain sherds, 1 intact whiteware bowl, 37 glass bottle shards, 21 pane glass shards, 1 canning jar lid shard, 1 intact milk glass button, 2 colorless glass decorative knobs, 5 glass tumbler shards, 1 intact aqua glass bottle, 1 spoon with a bone or ivory handle, 42 miscellaneous slag-covered pieces of hardware, 1 small engraved photo frame, 1 skeleton key, 1 pocketknife, 2 fragments of an etched metal dish, 6 shell button/button fragments, and 12 burned seeds. One soil sample containing charred organic material was also recovered during excavation. Many of the artifacts were temporally diagnostic or bore unique patterns, marks, and/or characteristics. See Section 6.2 below for a detailed analysis of the recovered artifacts. Feature 2 is shown in profile in Figure 8.

Figure 9. Feature 2 Profile, View South



6.2 Material Recovery and Analysis

Following fieldwork, post-field laboratory analysis was performed in the Dudek office in Santa Cruz, California. The work included sorting, washing, cataloging, and analyzing the archaeological collection. All recovered materials were individually examined and cataloged according to class, object (subclass), and material; counted and weighed on a digital scale. All coded data were entered into the general artifact catalog. All artifacts recovered during the excavation corresponded to the historic period and were thus categorized by material type. Dudek conducted further analysis for items that possessed diagnostic characteristics.

Table 2 presents gross material recovery by type and testing location. A total of 754 historical period items (including 686 grams of marine and avian shell) were recovered between the four TTs. An overwhelming percentage of the artifacts recovered were from TT 2, with 149 artifacts and 29.9 grams of marine shell specifically recovered from Feature 1 and 353 artifacts and 619.6 grams of avian shell, marine shell, and charcoal recovered from Feature 2 (see Table 2 for artifact count by TT and Feature). The complete artifact catalog is included in Appendix B.

Table 2. Recovered Artifacts and Ecofacts by Class and Trench

Test Location and Depth (in)	Artifacts by Class Type									
	Historical Period Artifacts				Ecofacts					Row Artifact Total Count (ct) / Weight (g)
	Glass	Ceramic	Metal	Other	Faunal Bone	Marine Shell (g)	Avian Shell (g)	Coal (g)	Seeds	
TT 1										
0-21	26	8	59	—	1	0.3	—	9.2	—	94ct / 9.5g
21-25	1	—	—	—	—	—	—	—	—	1 ct
25-36	—	—	2	—	—	—	—	—	—	2 ct
TT 1 Total	27	8	61	—	1	0.3	—	9.2	—	97ct / 9.5g
TT 2										
0-20	5	12	—	—	9	—	—	0.1	—	26ct / 0.1g
20-82	1	—	—	—	—	—	—	—	—	1 ct
TT 2 Total	6	12	—	—	9	—	—	0.1	—	27ct / 0.1g
TT 2, Feature 1										
15-29	18	79	7	—	45	29.9	—	—	—	149ct / 29.9g
TT 2, Feature 1 Total	18	79	7	—	45	29.9	—	—	—	149ct / 29.9g
TT 2, Feature 2										
15-35	68	47	49	7	170	607.8	1.8	10	12	353ct / 619.6g
TT 2 Feature 2 Total	68	47	49	7	170	607.8	1.8	10	12	353ct / 619.6g

Table 2. Recovered Artifacts and Ecofacts by Class and Trench

Test Location and Depth (in)	Artifacts by Class Type									
	Historical Period Artifacts				Ecofacts					Row Artifact Total Count (ct) / Weight (g)
	Glass	Ceramic	Metal	Other	Faunal Bone	Marine Shell (g)	Avian Shell (g)	Coal (g)	Seeds	
TT 3										
0-20	9	7	61	—	41	21.3	—	5.1	—	118ct / 26.4g
20-34	—	—	—	—	—	—	—	0.5	—	0.5g
TT 3 Total	9	7	61	—	41	21.3	—	5.6	—	118ct / 26.9g
TT 4										
0-30	5	3	1	—	1	—	—	—	—	10ct
TT 4 Total	5	3	1	—	1	—	—	—	—	10ct
Excavation Total	133	156	179	6	267	659.3	1.8	24.9	12	754ct / 686g

Notes: in = inches below the surface; TT = Test Trench.
Soil sample from TT 2 not included in totals.

6.2.1 Glass

One hundred and thirty-three glass artifacts were recovered between all four trenches. Several artifacts exhibited no diagnostic artifacts. These included 81 bottle shards of various colors, 9 fragments of paneled colorless glass tumblers, 1 shard of white milk glass from a canning jar lid, 3 colorless decorative knobs, and 21 shards of thin, aqua pane glass likely from photo frames (see Table 3 for recovered glass artifacts by TT). Three identical paneled aqua bottles without diagnostic characteristics were recovered in various stages of fragmentation (one intact, one broken at the neck, and one in seven shards; Cat Nos. 96, 48, and 57, respectively). One intact colorless glass bottle (Cat No. 16) was embossed with sunburst lines on the base, but the manufacturer could not be identified. One intact round, white, molded milk glass button (Cat No. 125) was recovered from Feature 2, but a finite temporal range could not be established. Five catalogue numbers (Cat Nos. 19, 46, 47, 87, and 99) exhibited characteristics that corresponded to a temporal range between the 1830s and the 1910s (see Table 4). These final five artifacts are described in detail below.

Table 3. Glass Artifacts by Trench

Unit	Bottle Shards	Pane Shards	Tumbler Shards	Canning Lid Shards	Decorative Glass	Buttons	Nearly Complete Bottles	Complete Bottles	Row Total
TT 1	24	—	—	—	1	—	1	1	27
TT 2	Isolate	—	2	—	—	—	1	3	6
	Feature 1	16	2	—	—	—	—	—	18
	Feature 2	37	21	5	1	2	1	1	68
TT 3	9	—	—	—	—	—	—	—	9
TT 4	5	—	—	—	—	—	—	—	5
Total by Type	91	21	9	1	3	1	2	5	133

Table 4. Temporally Diagnostic Glass Artifacts

ID	Unit	Feature / Depth (in)	Function	Mark	Date	Reference	Comments
Cat No. 19	TT 1	25 in	Ink bottle	None	1890s-1910s	Society for Historical Archaeology (SHA) 2021a	Complete semi-automated machine-manufactured bottle
Cat No. 46	TT 2	14 in	Unknown	None	1865-1870	SHA 2021b	Complete dip-molded bottle with no seams
Cat No. 47	TT 2	14 in	Medicinal bottle	Hegeman & Co, Chemists, New York	1859-1878	Bay Bottles 2016	Fragmented cod liver oil bottle
Cat No. 87	TT 2	20 in	Sauce/Dressing bottle	Worcestershire Sauce, Lea & Perrins, B CO V	1840s-1877	Odyssey's 2022	Intact bottle
Cat No. 99	TT 2	Feature 2 / 15-35 in	Perfume bottle	Murray & Lanman, Druggists, New-York	1835-1853	Bay Bottles 2018	Fragmented Murray & Lanman's Florida Water bottle for toilets, handkerchiefs, or cologne

Cat No. 19 is an intact, colorless ink bottle recovered from TT 1 at 25 inches below surface. The ink bottle bears no maker's mark but exhibits characteristics that identify it as an early example of semi-automated machine manufacturing. Identifying characteristics include a sharp horizontal ring encircling the base of the cylindrical bottle with side mold seams that end at the base of the finish (SHA 2021a). Based on these attributes, the bottle dates to the late 1890s–1910s.

Cat No. 46 is an intact colorless glass bottle with a flaking patina recovered from TT 2 above Features 1 and 2. No visible seams or maker's mark are present, and the glass matrix contains bubble inclusions. While the patination does not provide useful information to date the bottle, the lack of mold seams and the presence of the bubbles indicate the bottle was likely dip-molded versus manufactured in an automated machine (SHA 2021b). These characteristics suggest the bottle was manufactured between 1865 and 1870, when the manufacturing process transitioned to semi-automation.

Cat No. 47 is a complete aqua medicinal glass bottle recovered from TT 2 above Features 1 and 2. The bottle is embossed with "HEGEMAN & CO//CHEMISTS//NEW YORK///{mold mark}", and bubbles were noted within the glass matrix. Hegeman & Company was first established in New York in 1843 when William L. Rushton, an established wholesaler of pharmaceuticals and preparations created by himself, partnered with his employee, William Hegeman. After Rushton's death in 1855 and the creation and dissolution of multiple partnerships, Hegeman & Co. was established in 1859 (Bay Bottles 2016). Hegeman & Co. was primarily known for three products: Camphor Ice with Glycerin, Concentrated Benzine, and Cod Liver Oil, the latter of which was likely the contents of Cat No. 47. In 1878, Hegeman & Co. incorporated and began embossing the word "Incorporated" under the company name on their products. Cat No. 47 does not include this additional embossing and therefore likely dates between 1859 and 1878.

Cat No. 87 is a complete aqua glass bottle recovered from TT 2 as an isolate below 20 inches. The bottle is embossed with “WORCESTERSHIRE SAUCE/LEA & PERRINS///B/C O/V”. First commercially produced in England in 1838, Lea & Perrins began being imported into the US in the 1840s by John Duncan’s Sons, New York (Odyssey’s 2022). In 1877, John Duncan began production of Lea & Perrins Worcestershire Sauce in partnership with Salem Glass Works, who embossed the bases of those bottle with the initials “JDS”. Since Cat No. 87 lacks the embossed JDS initials, it likely was an imported bottle rather than one produced in the US. These characteristics date the bottle between the early 1840s and 1877.

Cat No. 99 is a nearly complete aqua glass bottle in 10 fragments, and one of two significant glass specimens recovered from Feature 2 in TT 2. The bottle is embossed with "RIDA/MURRAY & LANMAN/DRUGGISTS/[N]EW YORK///19". Murray & Lanman first registered in 1835 and was a partnership between Lindley Murray and Davin Trumball Lanman. Both Murray and his brother were established druggists in New York at the time. After Murray’s death in 1848, Lanman ran the business as a sole proprietor until 1853 when he formed a new partnership with George Kemp called David T. Lanham & Co. (Bay Bottles 2018). Murray & Lanham produced Florida Water, a toilet water or perfume that could be added to toilets, baths, or handkerchiefs. Under different incorporations, the same product has been sold now for over 200 years. Although it was first available in the US in 1808, bottles were not embossed with the Murray & Lanman name until 1835. Based upon these characteristics, the bottle dates between 1835 and 1853.

6.2.2 Ceramics

Ceramic artifacts were also recovered from all four trenches, totaling 156 specimens (see Table 5). Several ceramic sherds exhibited no diagnostic characteristics. These included 89 undecorated/unmarked whiteware sherds, 18 unmarked whiteware sherds exhibiting decoration (molded or printed pattern), 6 porcelain sherds, and 10 sherds of miscellaneous composition (brick, terra cotta, Monterey stone). Half of a white porcelain bead with black paint (Cat No. 8) was recovered from TT 1 21 inches below the surface. A complete, undecorated, white clay bead (Cat No. 126) was recovered from TT 2 between 21 and 35 inches below the surface. Neither bead exhibited distinguishable characteristics. The rest of the ceramic assemblage was highly fragmented. Sixteen sherds contained portions of printed or embossed maker’s marks that were illegible (Cat Nos. 44, 73, 76, 94, 105, 136, 138, and 143). Twelve sherds (Cat Nos. 71, 72, 74, 75, 77, 95, 106, 139, and 144) recovered from TT 2 exhibited complete or identifiable portions of maker’s marks that corresponded to a temporal range of roughly 90 years, between 1804 and the 1890s (see Table 6). These final 14 artifacts are described in detail below.

Table 5. Ceramic Artifacts

Unit	Undecorated Whiteware Sherds	Decorated Whiteware Sherds	Porcelain Sherds	Beads	Misc. Sherds (brick, terra cotta, Monterey Stone)	Complete Whiteware	Row Total
TT 1	—	1	1	1 (porcelain)	5	—	8
TT 2	Isolate	6	—	—	—	—	12
	Feature 1	68	10	1	—	—	79
	Feature 2	40	1	3	1 (clay)	1	47
TT 3	2	—	1	—	4	—	7
TT 4	3	—	—	—	—	—	3
Total by Type	119	18	6	2	10	1	156

Table 6. Temporally Diagnostic Ceramic Artifacts

ID	Unit	Feature / Depth (in)	Description	Date	Reference
Cat No. 71	TT 2	Feature 1 / 15-29 in	Single WIE base sherd with partial mark reading, "Porcelain, Adams".	1804-1840	The Potteries 2022a
Cat No. 72	TT 2	Feature 1 / 15-29 in	Single WIE base sherd with partial mark of the Prince of Wales Coat of Arms, and "[Ro]yal Patent, Ironstone, [Bur]gess & Goddard" below.	1840s-1890s	The Potteries 2022b
Cat No. 74	TT 2	Feature 1 / 15-29 in	Nearly complete WIE bowl consisting of a single, large sherd with a complete printed mark consisting of the Prince of Wales Coat of arms above "Royal Patent, Ironstone, Burgess & Goddard".	1840s-1890s	The Potteries 2022b
Cat No. 75	TT 2	Feature 1 / 15-29 in	Two WIE base sherds that fit together with a printed mark that reads, "Imperial White Granite" and "Gelson Bros, Hanley" above and below a Royal Coat of Arms respectively.	1867- 1876	The Potteries 2022c
Cat No. 77	TT 2	Feature 1 / 15-29 in	Single WIE base sherd with a printed mark of a Crown & Banner. Inside a blank triangle in the center of the design "Ironstone, China, Powell & Bishop" is printed.	1867- 1878	The Potteries 2022d
Cat No. 95	TT 2	Feature 2 / 15-35 in	2 base sherds of WIE with intact mark of an eagle and shield with "French Porcelain, Adams" in a banner below.	1804-1840	The Potteries 2022a
Cat No. 106	TT 2	Feature 2 / 15-35 in	Single WIE base sherd with a printed mark of a Royal Coat of Arms. In the banner of the image "Dieu et Mon Droit, Stone China, J.T Cose & Co, Stoke Upon Trent" is written.	1860s	The Potteries 2022f
Cat No. 139	TT 2	Feature 2 / 21-35 in	Two WIE base sherds with a printed mark consisting of a Royal Coat of Arms. In the banner, "[Di]eu et Mon Droit, W&T Adams, Ironstone China, Tunstall" is written.	1862- 1866	The Potteries 2022e
Cat No. 144	TT 2	Feature 2 / 21-35 in	Single WIE base sherd with a partial printed mark reading "T Adams, Ironstone Chi[na], Tunstall" written in a banner.	1862- 1866	The Potteries 2022e

Cat No. 71 consists of a single plain whiteware base sherd with a partial printed maker's mark reading, "PORCELAIN"/ADAMS". The sherd was recovered from TT 2 Feature 1. Additionally, Cat No. 95, recovered from TT 2 Feature 2, is printed with an identical but complete printed maker's mark. Cat No. 95 consists of 2 plain whiteware sherds that retrofit together, displaying a mark that reads, "{In banner: IMPERIAL}/[Eagle with Coat of Arms]/{In banner: FRENCH PORCELAIN}/ADAMS". The eagle in this printed mark represents the Great Seal of the United States, used to authenticate certain federal documents, and dates between 1804 and 1840 (The Potteries 2022a).

Cat No. 72 is a single plain whiteware base sherd with a partial printed maker's mark reading, "{partial Prince of Wales Coat of Arms. In banner: "ET MON DROIT"} /[RO]YAL.PATENT./[I]RONSTONE./[BUR]GESS & GODDARD", recovered from Feature 1 in TT 2. Cat No. 74, also recovered from Feature 1 in TT 2, is a nearly complete plain whiteware bowl with an intact printed maker's mark identical to Cat No. 72 reading, "{Prince of Wales Royal Coat

of Arms)/ROYAL PATENT/IRONSTONE/BURGESS & GODDARD”. Burgess and Goodard were importers based out of Longton in the UK. The company traded under the name Burgess & Goddard in the US and Goodard & Burgess in the UK 9 (The Potteries 2022b). The company operated between the 1840s and the 1890s.

Cat No. 75 consists of two plain whiteware sherds that fit together with the printed maker’s mark reading, “IMPERIAL WHITE GRANITE/{Royal Coat of Arms}/GELSON BROS HANLEY.” The sherds were recovered from Feature 1 in TT 2. The partners of Gelson Bros included Elizabeth Sander, Thomas Gelson, William Gelson, James Gelson, and George Gelson. The company originally produced white graniteware specifically for the American market but eventually switched production to high class goods for the home trade, such as gilded, printed or enameled service sets (The Potteries 2022c). The partnership dissolved in 1876. Cat No. 75 dates between 1867 and 1876, but likely was produced in the late 1860s before the company abandoned the American market.

Cat No. 77 consists of a complete plain whiteware base sherd with a printed maker’s mark that reads, “{Crown & Banner/ Inside triangle of design: IRONSTONE/CHINA/In banner: POWELL & BISHOP.}”. The sherd was recovered from Feature 1 in TT 2. Powell & Bishop was originally founded in 1851 as Livesley, Powell & Co. Shortly thereafter in 1860, the partnership with Livesley was dissolved and the company rebranded as Powell & Bishop in 1867. Powell & Bishop produced China and earthenware in Stoke-on-Trent together until 1878, when a new partner joined the company and they rebranded again as Powell, Bishop & Stonier (The Potteries 2022d). Cat No. 77 likely dates between 1867 and 1878 as the printed maker’s mark reads “Powell& Bishop” without another partner’s name.

Cat No. 139 consists of 2 plain whiteware sherds that fit together with a printed maker’s mark that reads, “{Royal Coat of Arms}/ {In banner: EU ET MON DROIT/W&T ADAMS/IRONSTONE CHINA}/ TUNSTALL”. The sherds were recovered from Feature 2 in TT 2 between 21 and 35 inches. Similarly, Cat No. 144 consists of a single plain whiteware sherd, also recovered from Feature 2 in TT 2 between 21 and 35 inches. Cat No. 144 has a partial printed maker’s mark that reads, “{In banner: T. ADAMS/CHI[NA]}/TUNSTALL”. William and Thomas Adams were brothers in a large family of potters from the UK. The brothers, along with three of their cousins, extensively produced various forms of ceramic products throughout the 19th century. The Adams family began earthenware production as early as 1650 (The Potteries 2022e). Ironstone and other earthenware bearing the printed maker’s mark with both brothers’ initials date between 1862 and 1866.

Cat No. 106 is a single plain whiteware sherd recovered from Feature 2 in TT 2. The printed maker’s mark on the sherd reads, “{Royal Coat of Arms}/{In banner: DIEU ET MON DROIT}/ STONE CHINA/J.T. CLOSE & CO/STOKE UPON TRENT”. J.T. Close & Co. was owned and primarily solely operated by John Theophilus Close in Stoke-on-Trent between 1855 and 1869. Close operated out of the Bridge Bank Works, a factory previously managed by competing potters William Adams & Sons. Close struggled financially, filing for bankruptcy at least three times and even marked his earliest wares with a “late W. Adams & Sons” mark to gain popularity in the market (The Potteries 2022f). In the later years of production Close took on partners and added “& Co.” to his business name. Since Cat No. 106 is printed with “& CO.” it like dates to the 1860s when Close had added partners.

6.2.3 Metal

Between the four trenches, 179 metal artifacts were recovered (see Table 7). Several of the metal artifacts exhibited no diagnostic characteristics. These included 44 miscellaneous chunks of slag, 128 slag-covered hardware (including nails, bolts, washers, and wire), 2 fragments of a thin, decoratively etched brass dish, 1 similarly engraved 4-inch brass picture frame, and 1 etched bowl-end of a spoon. Three artifacts were identifiable, but a specific date range of manufacture could not be constructed (Cat Nos. 131 and 132; see Table 8). These artifacts are briefly described in detail below.

Table 7. Metal Artifacts

Unit		Partial & Complete Nails	Misc. Hardware	Unidentifiable Slag	Tools	Tableware	Personal/Decorative Items	Row Total
TT 1		48	2	11	—	—	—	61
TT 2	Isolate	—	—	—	—	—	—	—
	Feature 1	4	1	2	—	—	—	7
	Feature 2	16	5	21	3	1	3	49
TT 3		50	1	10	—	—	—	61
TT 4		1	—	—	—	—	—	1
Total by Type		119	9	44	3	1	3	179

Table 8. Temporally Diagnostic Metal Artifacts

ID	Unit	Feature / Depth (in)	Function	Description	Date	Reference
Cat No. 131	TT 2	Feature 2 / 21-35 in	Tool	Barrel key with decoratively shaped bow in two pieces.	Early to mid-1800s	LockRite 2022
Cat No. 132	TT 2	Feature 2 / 21-35 in	Tool	Nearly complete pocketknife with etched wood grain design. Blade appears to have broken off but may contain other attachments embedded in slag.	1850s to early 1900s	Peterson 1958

Cat No. 131 is a barrel key in two pieces recovered from Feature 2 in TT 2 between 21 and 35 inches. Cat No.131 appears to be a barrel key, which is very similar to a skeleton key but lighter due to its hollow shaft. Barrel keys also lack the pre-cut pattern skeleton keys have on the tip and biting. Medium-sized keys like Cat No. 131 were between 2 and 4 inches and were usually manufactured for doors. The modern “flat key” was first created and mass-produced ca. 1848 by Linus Yale Sr. and Jr. (LockRite 2022). Based on its style and size, Cat No.131 most likely dates between the early to mid-1800s.

Cat No. 132 is a slag-covered pocketknife recovered from Feature 2 in TT 2. The knife is engraved with a faux-bone design on at least one side. The blade of the knife is extended and broken near the base. Folding knives have existed since the Roman era, with many different styles and sizes. During the American Revolution soldiers carried a large, folding single-blade knife called a ‘Jack knife’ (Peterson 1958). Later during the 19th century during the Industrial Revolution many different specialized blades became available. Folding knives began to include accessory tools such as corkscrews, saws, awls, screwdrivers, scissors, files, and can openers during this period. While it’s difficult to discern much detail on Cat No. 132 due to the effects of rust, it appears the knife may contain accessory attachments and likely dates between the 1850s to early 1900s.

6.2.4 Other Historical Artifacts

Four shell buttons were recovered from Feature 2. Cat Nos. 110 and 123 are very degraded shell (likely mother-of-pearl or abalone) buttons in 2 pieces. Both have 4 holes in a depressed center with no hard edge. Cat No. 124 is an abalone 1-5/8-inch button with 2 holes in a raised center. Similarly, Cat No. 154 is also an abalone 1-5/8-inch button but has flat sides and 4 holes concentrated in the center. During the nineteenth century, shell buttons with two holes were the most common, but styles with four holes are found frequently in historical contexts. Shell buttons were frequently made from bivalves, including mussel, oyster, clam, and abalone. Buttons in the early to mid-1800s would have been handmade until ca. 1850 when machine-cut versions began dominating the market during the Industrial Revolution (Nichols 2019).

6.2.5 Ecofacts

TT 2 yielded 12 burned stone fruit pits and coffee beans (Cat Nos. 89 and 153) both recovered from within Feature 2 at 21–35 inches and 16.5–20 inches respectively. Twenty-one fragments of charcoal (Cat No. 90) weighing 10 grams were found in association with Cat No. 89. An additional fragment of charcoal (Cat No. 82; 0.1g) was recovered at 13 inches in TT 2, as well as 25 fragments weighing 5.6 grams from TT 3 (Cat Nos. 38 and 45) and 17 fragments weighing 9.2 grams from TT 1 (Cat No. 18). A gallon-Ziplock bag soil sample was taken from the surrounding soil (Cat No. 88). The seeds, pit, and charcoal were carefully separated and are stored in a manner preserving their integrity in case radiocarbon analysis is determined to be necessary,

Additionally, 1.8 grams of avian eggshell fragments (Cat No. 147) were recovered from Feature 2 in TT 2 at 70 inches. The shell fragments are white and likely the remnants of a hard-boiled chicken or duck egg. The amount of shell and texture indicate a medium-sized egg that is not from wild fowl such as quail or turkey.

6.2.5.1 Invertebrate Remains

Several fragments of invertebrate remains from locally available species were recovered from TT 1, 2, and 3 (see Table 9). Over 450 mussel (*Mytilus* sp.) fragments weighing 549.2 grams were recovered, with 93% exclusively from TT 2. Additional species recovered from Feature 2 in TT 2 included Black Turban Snail (*Tegula* sp.), abalone (*Haliotis* sp.), and various clams (*Leukoma* sp., *Tivela* sp., and *Venerupis* sp.). Although the collected invertebrate assemblage appears degraded from soil leeching and exposure to the elements, no anthropogenic modifications, such as burning, were observed.

Table 9. Recovered Marine Shell by Trench

Unit	Abalone (g)	Clam (g)	Mussel (g)	Turban Snail (g)	Row Total
TT 1	—	—	0.3	—	0.3
TT 2	Isolate	—	—	—	—
	Feature 1	24.1	—	5.8	29.9
	Feature 2	—	81.6	521.8	4.4
TT 3	—	—	21.3	—	21.3
TT 4	—	—	—	—	—
Total by Type	24.1	81.6	549.2	4.4	659.3

6.2.5.2 Vertebrate Remains

The vertebrate assemblage consisted of diverse species both domestic and wild. All specimens reflect species that would have been locally available historically. The number of identified specimens (NISP) recovered totaled 269 between all four trenches (see Table 10). An overwhelming percentage of the faunal material recovered was from TT 2 with 16.8% (NISP=45) of the overall assemblage recovered from Feature 1 and 64.6% (NISP=174) from Feature 2. Over half of the assemblage (53.9%; NISP=144) was anthropogenically modified, including evidence of cut marks, burning, and saw cut portioning. Several of the specimens recovered (NISP=186) were too fragmented or too burned to identify beyond Class. Of this portion 140 specimens were attributed to Terrestrial Mammals and 50 to Avian.

Table 10. Number of Identifiable Vertebrate Specimens (NISP) by Trench

Unit	Terrestrial Mammal								Avian				Fish						Row Total		
	Undiff.		B. taurus		O. aries		O. beecheyi		Undiff.		M. gallopavo		Undiff.		Sebastes sp.		Salmonidae				
	NISP	g	NISP	g	NISP	g	NISP	g	NISP	g	NISP	g	NISP	g	NISP	g	NISP	g	NISP	g	
TT 1	1	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	0.3
TT 2	Isolate	1	6.4	4	38.4	—	—	—	—	2	0.8	—	—	—	—	—	—	—	—	7	45.6
	Feature 1	14	84.1	2	40.3	11	162.1	—	—	18	17.5	—	—	—	—	—	—	—	—	45	304
	Feature 2	83	135.2	23	578.9	17	78.7	—	—	30	44.1	2	17.1	—	—	17	5.9	2	2.5	174	862.4
TT 3	40	29.6	—	—	—	—	1	0.3	—	—	—	—	—	—	—	—	—	—	—	41	29.9
TT 4	1	1.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1.4
Total by Type		140	257	29	657.6	28	240.8	1	0.3	50	62.4	2	17.1	—	—	17	5.9	2	2.5	269	1,243.6

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Seventy-nine terrestrial mammal specimens identifiable to a species level. Mammals observed in the assemblage included ground squirrel (*Otospermophilus beecheyi*; NISP=1), domestic sheep (*Ovis aries*; NISP=28), and cow (*Bos taurus*; NISP=29). Terrestrial mammals were the most modified and exhibited the widest variety of modifications in proportion to the percentage modified. Cut marks, burning, and saw cut portioning were common within this classification. All of the specimens identified as domestic sheep exhibited unfused epiphyses indicating the individual was a juvenile. Age determination was not possible on most specimens as this portion of the assemblage was highly modified and fragmented.

Several avian specimens were recovered reflecting consumption of wild game. Intact specimens and the portions of shaft fragments from long bone indicate wild turkey (*Meleagris gallopavo*; NISP=2) and smaller game, such as quail (*Callipepla californica*) or Clapper rail-sized fowl (NISP=38) were consumed. No domesticated avian specimens were recovered during excavation.

Pelagic fish were also represented in the faunal assemblage recovered specifically from Feature 2 in TT 2. Cranial elements (NISP=19) recovered indicate at least two species of fish were consumed, including Pacific Rockfish (Subcats Nos. 41-43, 50, and 60-65; NISP=17) and an individual from the Salmonidae family (Subcats Nos. 44 and 45; NISP=2). Salmonidae consists of extant species of ray-finned Salmonid fish such as Atlantic and Pacific salmon, trout, char, freshwater whitefish, grayling, taimen, and lenoks. Nine of the specimens exhibited evidence of burning (Subcats Nos. 60-65). No other anthropogenic modifications were noted.

6.2.6 Discussion

The artifact assemblage for the overall project correlates to a date range roughly between the 1840s and 1890s. These dates are primarily associated with the dense glass and ceramic components recovered from Features 1 and 2 in TT 2. Few specimens of these categories correlated to earlier dates but may be reflexive of items individuals and families have passed down or had in a collection before discarding. The recovered assemblage suggests the area around Trench 1 and 2 included middle to upper class hotels and/or restaurants at that time. The assemblage is impersonal in nature; only the ink bottle (Cat No.19), pocketknife (Cat No. 132), photo frame (Cat No. 134), and buttons (Cat Nos. 110, 123, 124, 125, and 154) appear to be relatively personal items. In a residential site, it is common to recover a much wider variety of personal items at greater frequency relative to the overall assemblage. These items would typically include such artifacts as personal grooming items (cold cream jars, perfume/cologne bottles, mirrors or combs, etc.) hobby and personal interest items (tobacco pipes, children's toys, etc.), or bottles from medicinal treatments.

The artifact assemblage also reflects a middle to higher socioeconomic status near TT 2. The presence of several types of dishes of similar design and style are typical of a dining set with pieces for different forms of consumption and events. The ceramic portion of the artifact assemblage consists of porcelain, plates with printed designs, bowl fragments, decorative knobs and handles, and dish fragments with decorative molded designs. The glass tumbler fragments recovered (Cat Nos. 83, 98, and 122) appeared to belong to two distinctive matching sets with decorative embossed paneling and design. The single spoon recovered (Cat No. 145) was decoratively engraved and had a bone handle. A typical lower socioeconomic household or establishment would have fewer styles of dishes and without flair or decoration due to the relatively higher cost.

Feature 1

Feature 1 was found in the central portion of TT 2 just under the gravel fill supporting the asphalt parking surface, at approximately 15 inches below the surface. Feature 1 is intrusive into native soil and appears in situ, it seems likely it was dug intentionally as part of one or several dumping events. Although a total of 149 artifacts and 29.9g of marine shell were recovered from Feature 1, only six ceramic artifacts were temporally diagnostic (Cat Nos. 71, 72, 74, 75 and 77). These artifacts date the Feature between 1804 and the 1890s. This broad temporal range is similar to Feature 2 as well as the material recovered from the other trenches. TT 1 contained a single diagnostic artifact, Cat No. 19, an ink bottle dating between the 1890s and 1910. Isolates recovered from above the Features in TT 2 date between the 1840s to 1878 (Cat Nos. 46-48, 87). No temporally diagnostic material was recovered from TT 3 or TT 4.

Feature 2

Like Feature 1, Feature 2 was found immediately below the gravel fill supporting the asphalt parking surface. However, Feature 2 was larger and more compact. The top of Feature 2 was uncovered at 15 inches below the surface in the southeast corner of TT 2. The feature consisted of a concentration of historic refuse intrusive into native silty sand. The feature constituents appeared in situ and the feature seems likely to have been dug intentionally as part of one or several dumping events. Like Feature 1, only a small portion (19 of 171 artifacts) were temporally diagnostic (Cat Nos. 95, 99, 106, 131, 132, 139, and 144). These artifacts date the Feature between 1835 and 1910, similar to Feature 1, and the isolates from TT 2, and TT 1.

Consumption activities, or at the least the discarding of the evidence of consumption activities, is concentrated around Feature 2. The highest percentage of ecofacts, including burned coffee beans and stone fruit pits, were recovered between 16 and 36 inches below the surface within Feature 2. Individuals appear to have consumed domestically raised lamb, beef, and other terrestrial mammals that were primarily butchered utilizing a bone saw. The domestic sheep bone fragment is consistent with a hind shank meat cut, which would have been typical for the mid- to late 1800s. Historic-era meat cuts were typically standardized, which resulted in relatively uniform cuts between meats. Over time these cuts became more specialized to each species with less of the “undesirable” portions, such as large portions of long bone, being sold to the public by the early to mid-1900s (Milne and Crabtree 2000). Locally available fish including Pacific Rockfish and salmon or trout as well as shoreline-accessible shellfish (mussel, abalone, clam) were represented in the assemblage. Wild avian resources were also exploited as elements from small undomesticated fowl were observed.

7 Associated Historical Research

This section presents historical research focused on the property at the southeast corner of the intersection of Lincoln and Cedar Streets. Information from the 1886, 1888, 1892, 1905, 1915, Sanborn maps and the 1940 aerial photos provided by Albion (D'Oro 2022) suggest the building located at the corner (previously addressed as 40 Lincoln Street and 25 Lincoln Street) was the main structure on the parcel where F1 and F2 were identified. The research was conducted by Dudek historian, Fallin Steffen, MPS.

According to the 1866 Forman and Wright survey, the property comprised part of a 1.5-acre lot that was owned by Andrew Trust. An 1873 article in the Santa Cruz Weekly Sentinel indicates that Andrew Trust was operating a Boarding house on his property. The earliest available Sanborn map covering the property dates to 1886. At this time, the property contained a one-story, L-shaped wood-frame residential building with a long porch located on the east elevation. Two smaller one-story out-buildings are present along the southern property line. The 1888 and 1892 Sanborn maps show no visible changes to the property. The 1905 Sanborn map indicates that the two outbuildings have been replaced or combined to form a rectangular stable building situated along the southern property line. The 1928 Sanborn map indicates that the main residence has had an expansion added to the rear of the building, and the stable has been replaced by a small, one-story L-shaped building. A small building constructed of stone is now present between the main residence and the new rear building. By 1956, historic aerial photography indicates that the buildings on the property have been demolished and a paved parking lot now occupies the site (City of Santa Cruz 1944: L-2; SC Weekly Sentinel 1873: 3; Sanborn Map Company 1886, 1888, 1892, 1905 and 1928). The structures at the northwest corner of Lincoln and Cedar are shown in circa 1925-1935 photograph in Figure 10. Note that the shape of the structures matches the building footprints and porch locations shown in Figure 3.

Figure 10. Historical Photograph of the Northwest Corner of the Intersection of Lincoln and Cedar Streets, View Southeast, Circa 1925–1935



8 Summary and Recommendations

The present subsurface testing has confirmed the presence of a potentially significant historical period archaeological resource within the Project Area. Results suggest that the sensitivity for finding prehistoric-era archaeological resources is low. Due to the fact that historic artifacts were recovered in each excavated trench, it is likely that the entire project area is a historic-era archaeological site. That two intact historic features were identified within one of the trenches highlights the sensitivity of the parcel for harboring intact historic contexts that could be used to evaluate the site as a potential historical resource under CEQA. However, due to the small sample size, the current study cannot characterize the cultural deposits present across the entire project area.

The results of this Extended Phase I investigation highlight that there is potential for the resource identified to be classified as a historic resource, as defined by CEQA. However, the sample size for the testing presented in this report is too small to confidently characterize the archaeological potential of the project area to address relevant research questions that could be used to determine whether the resource represents a historic resource under CEQA or whether it does not meet that threshold. Therefore, Dudek recommends Phase II archaeological testing to broaden and intensify the geographic coverage of the investigation. The Phase II testing should be guided by a research design developed using the results of Albion (D'Oro 2022) and this report and integrated into a work plan to describe the field work and analytical methods that will be used to complete the Phase II evaluation. A final Phase II report should evaluate the historic archaeological resources in the project area for CRHR eligibility under CEQA.

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9 References Cited

- Basgall, M.E. 1987. Resource Intensification Among Hunter-Gatherers: Acorn Economies in Prehistoric California. *Research in Economic Anthropology* 9:21–52.
- Bay Bottles. 2016. Hegeman & Co., New York. <http://www.baybottles.com/2016/09/27/hegeman-co-new-york/>. Accessed November 8, 2022.
- Bay Bottles. 2018. Murray & Lanham, Druggists, New York, Florida Water. <http://www.baybottles.com/2018/05/10/murray-lanham-druggists-new-york-florida-water/>. Accessed November 8, 2022.
- Bertrando, E. 2004. Evidence and Models for Late Pleistocene Chronology and Settlement Along California's Central Coast. In *Emerging from the Ice Age: Early Holocene Occupations on the California Central Coast*, edited by Ethan Bertrando and V.A. Levulett, pp. 93–105. San Luis Obispo County Archaeological Society Occasional Papers no. 17.
- Brady, R., J. Farquhar, T. Garlinghouse, and C. Peterson. 2009. Archaeological Evaluation of CA-MNT-143 for the Asilomar Boardwalk Replacement Project, Asilomar State Beach, Pacific Grove, California. Albion Environmental, Inc., Santa Cruz. Copies available from the Northwest Information Center, Department of Anthropology, Sonoma State University, Rohnert Park.
- Breschini, G. and T. Haversat. 1992a. Preliminary Excavations at CA-MNT-108, Fisherman's Wharf, Monterey County, California. In *Archaeological Investigations of Some Significant Sites on the Central Coast of California*, edited by H. Dallas, Jr. and G.S. Breschini, pp. 39–47. Coyote Press Archives of California Prehistory No. 37, Salinas.
- Breschini, G. and T. Haversat. 1992b. Baseline Archaeological Studies at Rancho San Carlos, Carmel Valley, Monterey County, California. Coyote Press Archives of California Prehistory No. 36, Salinas.
- Cartier, R. 1993. The Scotts Valley Site: CA-SCR-177. The Santa Cruz Archaeological Society, Santa Cruz.
- Chapman, C. 1920. "Sebastian Vizcaino: Exploration of California." *The Southwestern Historical Quarterly* 23(4). April 1920. Accessed July 29, 2020. <http://www.jstor.org/stable/27794572>.
- City of Santa Cruz. 1944. Map of Santa Cruz According to the Survey Made by Foreman & Wright 1866.
- Cleland, R.G. 2005. *The Cattle on a Thousand Hills: Southern California, 1850-80*. 2nd ed. San Marino, California: The Huntington Library.
- D'Oro, S. 2022. Phase I Cultural Resources Inventory for the Santa Cruz Library Project, Santa Cruz, Santa Cruz County, California.
- Dietz, S.A., W.R. Hildebrandt, and T. Jones 1988. Archaeological Investigations at Elkhorn Slough: CA-MNT-229 A Middle Period Site on the Central California Coast. *Papers in Northern California Anthropology*, Number 3.

- Erlandson, J.M., M.H. Graham, B.J. Bourque, D. Corbett, J.A. Estes, and R.S. Steneck. 2007. The Kelp Highway Hypothesis: Marine Ecology, the Coastal Migration Theory, and the Peopling of the Americas. *The Journal of Island and Coastal Archaeology* 2(2): 161–174.
- Fitzgerald, R.T. and A. Ruby. 1997. Archaeological Test Excavations at CA-SCR-117, the Davenport Landing Site. Garcia and Associates, San Anselmo. Report on file Northwest Information Center, Department of Anthropology, Sonoma State University, Rohnert Park.
- Fitzgerald, R.T. and T.L. Jones 1999. The Milling Stone Horizon Revisited: New Perspectives from Northern and Central California. *Journal of California and Great Basin Anthropology* 21:65-93.
- Fitzgerald, R.T., J.L. Edwards, J.M. Farquhar, and K. Loeffler. 1995. Archaeological Test Excavation at CA-MNT-1765, for the Moro Cojo Standard Subdivision Project (SH93001), Monterey County, California. Biosystems Analysis, Inc., Santa Cruz. Report on file Northwest Information Center, Department of Anthropology, Sonoma State University, Rohnert Park.
- Gibson, R.O. 1996. Results of Archaeological Monitoring for Unocal Soil Testing Program along Pipelines near Santa Margarita, San Luis Obispo County, California. Gibson's Archaeological Consulting, Paso Robles. Report submitted to UNOCAL CERT, San Luis Obispo. Copies available from the Central Coast Information Center, Department of Anthropology, University of California, Santa Barbara.
- Hildebrandt, W.R. 2006. Archaeological Evaluation of the Priest Valley Knoll Sites (CA-MNT-745), Eastern Monterey County, California. Far Western Anthropological Research Group, Inc., Davis. Copies available from the Northwest Information Center, Department of Anthropology, Sonoma State University, Rohnert Park.
- Hoover, M, H. E. Rensch, E. G. Rensch, and W. N. Abeloe. 2002. *Historic Spots in California*. 5th ed. Stanford, California: Stanford University Press.
- Hylkema, M.G. 1991. Prehistoric Native American Adaptations Along the Central California Coast of San Mateo and Santa Cruz Counties. Master's thesis, Department of Anthropology, San Jose State University. University Microfilms, Ann Arbor.
- Jones, D., and W.R. Hildebrandt. 1990. Archaeological Investigation at Sand Hill Bluff: Portions of Prehistoric Site CA-SCR-7, Santa Cruz County, California. Far Western Anthropological Research Group, Inc., Davis. Copies available from Northwest Information Center, Department of Anthropology, Sonoma State University, Rohnert Park.
- Jones, D., and W.R. Hildebrandt. 1994. Archaeological Investigations at Sites CA-SCR-10, CA-SCR-17, CA-SCR-304, and CA-SCR-38/123 for the North Coast Treated Water Main Project, Santa Cruz County, California. Far Western Anthropological Research Group, Inc. Copies available from Northwest Information Center, Department of Anthropology, Sonoma State University, Rohnert Park.
- Jones, T.L., N.E. Stevens, D.A. Jones, R.T. Fitzgerald, and M.G. Hylkema. 2007. "The Central Coast: A Midlatitude Milieu." In *California Prehistory Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp: 125-146. Altamira Press, Lanham.
- Jones, T.L. 1995. Transitions in Prehistoric Diet, Mobility, Exchange, and Social Organization Along California's Big Sur Coast. Unpublished Ph.D. Dissertation, Department of Anthropology, University of California, Davis.
- Jones, T.L. 2003. Prehistoric Human Ecology of the Big Sur Coast, California. Contributions of the University of California Archaeological Research Facility, Berkeley.

- Jones, T.L. and G. Waugh 1995. Central California Coastal Prehistory: A View from Little Pico Creek. Perspectives in California Archaeology No. 3, Institute of Archaeology, University of California, Los Angeles.
- Jones, T.L. and G. Waugh 1997. Climatic Consequences or Population Pragmatism? A Middle Holocene Prehistory of the Central California Coast. In *Archaeology of the California Coast During the Middle Holocene*, edited by J.M. Erlandson and M.A. Glassow, pp. 111-128. Perspectives in California Archaeology 4. Institute of Archaeology, University of California, Los Angeles.
- Jones, T.L. and J. Haney. 2005. Archaeological Evaluation of CA-MNT-910, -1748/H, -1919, and -2182, Fort Hunter Liggett Military Installation, Monterey County, California. California Polytechnic State University, San Luis Obispo.
- Jones, T.L. and J.A. Ferneau 2002a. Prehistory at San Simeon Reef: Archaeological Data Recovery at CA-SLO-179 and -267, San Luis Obispo, California. San Luis Obispo Archaeological Society Occasional Paper No. 16.
- Jones, T.L., and J.A. Ferneau. 2002b. Deintensification along the Central Coast. In *Catalysts to Complexity: Late Holocene Societies of the California Coast*, edited by J.M. Erlandson and T.L. Jones, pp. 205-232. Perspectives in California Archaeology, Vol. 6. Cotsen Institute of Archaeology, University of California, Los Angeles.
- Jones, T.L., and D. Jones. 1992. Elkhorn Slough Revisited: Reassessing the Chronology of CA-MNT-229. *Journal of California and Great Basin Anthropology* 14:159-179.
- Jones, T.L., G. M. Brown, L.M. Raab, J.L. McVickar, W.G. Spaulding, D.J. Kennett, A. York, and P.L. Walker. 1999. Environmental Imperatives Reconsidered: Demographic Crises in Western North America During the Medieval Climatic Anomaly. *Current Anthropology* 40:137-170.
- Jones, T.L., J.F. Porcasi, J.W. Gaeta, and B.F. Coddig. 2008. The Diablo Canyon Fauna: A Coarse-grained Record of Trans-Holocene Foraging from the Central California Mainland Coast. *American Antiquity* 73:289–316.
- Koch, M. 1973. *Santa Cruz County: Parade of the Past*. Fresno, California: Valley Publishers.
- Küchler, A.W. 1977. Natural Vegetation of California (map). Department of Geography, University of Kansas, Lawrence, Kansas.
- Lehmann, Susan. 2000. "Fully Developed Context Statement for the City of Santa Cruz." Prepared for the City of Santa Cruz.
- Levy, R. 1978. "Costanoan." In *Handbook of North American Indians*. Vol. 8, edited by R.F. Heizer. Washington, D.C.: Smithsonian Institution.
- LockRite. 2022. The History of Yale Locks, a Staple in the Locking Industry. <http://www.lockrite.org/blog/the-history-of-yale-locks-a-staple-in-the-locking-industry/>. Accessed November 16, 2022.
- Mikkelsen, P., W.R. Hildebrandt and D.A. Jones 2000. Prehistoric Adaptations on the Shores of Morro Bay Estuary: Excavations at Site CA-SLO-165, Morro Bay, California. Occasional Paper No. 14, San Luis Obispo County Archaeological Society, San Luis Obispo, California.
- Milliken, R., J. Nelson, W.R. Hildebrandt, and P. Mikkelsen. 1999. The Moss Landing Hill Site: A Technical Report on Archaeological Studies at CA-MNT-234 in 1991 and 1997-1998. Far Western Anthropological Research Group, Inc., Davis. Copies available from the Northwest Information Center, Department of Anthropology, Sonoma State University, Rohnert Park.

- Milliken, R. 1995. *A Time of Little Choice*. Malki-Ballena Press.
- Mills, W.W., M.F. Rondeau, and T.L. Jones. 2005. A Fluted Point from Nipomo, San Luis Obispo County, California. *Journal of California and Great Basin Anthropology* 25:214-220.
- Milne, C. and P. Crabtree. 2000. Revealing Meals: Ethnicity, Economic Status, and Diet at Five Points, 1800-1860. In *An Interpretive Approach to Understanding Working-Class Life*, Rebecca Yamin, ed. Vol. II. West Chester, PA.
- Newsome, S.D., D.L. Phillips, B.J. Culleton, T.P. Guilderson, P. Koch. 2004. Dietary Reconstruction of an Early to Middle Holocene Human Population from the Central California Coast: Insights from Advanced Stable Isotope Mixing Models. *Journal of Archaeological Science* 31:1101-1115.
- Nichols, K. 2019. Artifact Spotlight-19th Century Shell Buttons. <http://www.thealamo.org/support/preservation/updates/shell-buttons>. Accessed November 17, 2022.
- Odyssey's. 2022. Lea & Perrin's Worcestershire Sauce Bottle and Stopper. <http://www.odysseysvirtualmuseum.com/products/Lea-&Perrin's-Worcestershire-Sauce-Bottle-and-Stopper.html>. Accessed November 8, 2022.
- Peterson, H. 1958. *American Knives*. Gun Room Press. New Jersey.
- Pohorecky, Z.S. 1976. *Archaeology of the South Coast Ranges of California*. University of Archaeological Research Facility 34, Berkeley.
- Rogers, D.B. 1929. *Prehistoric Man of the Santa Barbara Coast*. Museum of Natural History, Santa Barbara.
- Sanborn Map Company. 1886. Santa Cruz, California. Sheet 7. Electronic source accessed via the Sacramento Public Library, November 15, 2022.
- Sanborn Map Company. 1888. Santa Cruz, California. Sheet 7. Electronic source accessed via the Sacramento Public Library, November 15, 2022.
- Sanborn Map Company. 1892. Santa Cruz, California. Sheet 7. Electronic source accessed via the Sacramento Public Library, November 15, 2022.
- Sanborn Map Company. 1905. Santa Cruz, California. Sheet 20. Electronic source accessed via the Sacramento Public Library, November 15, 2022.
- Sanborn Map Company. 1928. Santa Cruz, California. Sheet 122. Electronic source accessed via the Sacramento Public Library, November 17, 2022.
- SC Weekly Sentinel (Santa Cruz Weekly Sentinel). 1873. "Delicate and Successful Operation". *Newspapers.com: Santa Cruz Weekly Sentinel (Santa Cruz, California)*. October 25, 1873. p. 3.
- SHA (Society for Historic Archaeology). 2021a. Ink Bottles & Ink Wells. <http://www.sha.org/bottle/household.htm#Ink%20Bottles>. Accessed November 8, 2022.
- SHA. 2021b. Bottle Dating. <http://www.sha.org/bottle/dating.htm>. Accessed November 8, 2022.

- Stine, S. 1994. Extreme and Persistent Drought in California and Patagonia during Medieval Time. *Nature* 369:546-549
- The Potteries. 2022a. The Adams Family of Potters. <http://www.thepotteries.org/potters/adams.htm>. Accessed November 14, 2022.
- The Potteries. 2022b. A to Z of Stoke-on-Trent Potters: Burgess & Goddard. <http://www.thepotteries.org/allpotters/205a.htm>. Accessed November 14, 2022.
- The Potteries. 2022c. A to Z of Stoke-on-Trent Potters: Gelson Bros. <http://www.thepotteries.org/allpotters/429.htm>. Accessed November 14, 2022.
- The Potteries. 2022d. A to Z of Stoke-on-Trent Potters: Powell & Bishop. <http://www.thepotteries.org/allpotters/821.htm>. Accessed November 14, 2022.
- The Potteries. 2022e. A to Z of Stoke-on-Trent Potters: William & Thomas Adams. <http://www.thepotteries.org/allpotters/3a.htm>. Accessed November 14, 2022.
- The Potteries. 2022f. A to Z of Stoke-on-Trent Potters: JT Close & Co. <http://www.thepotteries.org/allpotters/279a.htm>. Accessed November 14, 2022.
- USDA (United States Department of Agriculture). 2022. Web Soil Survey. Electronic document, <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed November 14, 2022.

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Appendix A

National Archaeological Database Information

NATIONAL ARCHAEOLOGICAL DATABASE (NADB) INFORMATION

Authors: Ryan Brady, MA, RPA, John Schlagheck, MA, RPA, and Angela Moniz, MA, RPA, Julie Royer, MA, and Fallin Steffen, MPS

Firm: Dudek

Project Proponent: City of Santa Cruz, California

Report Date: November 2022

Report Title: Extended Phase I Archaeological Testing for the Downtown Library Mixed-Use Project, Santa Cruz, California

Type of Study: Archaeological Testing

Resources: None

USGS Quads: 7.5-minute *Santa Cruz* Quad

Acreage: ~1.5 acres

Permit Numbers: Permit Pending

Keywords: Central Coast, Archaeological Testing, Historical Period Archaeology, Santa Cruz, CA

Appendix B

Artifact Catalog

Appendix B. Master Catalog Report

CAT	RTYPE	UNO	FEAT	TOPLEV	BOTLEV	OBJECT	MATERIA	Condition	CT	WT	COMMENTS
1	Trench	1			21	MET	Metal	Complete	1	13.2	Complete bolt covered in slag.
2	Trench	1			21	MET	Metal	Complete	22	101.8	Complete nails covered in slag.
3	Trench	1			21	MET	Metal	Fragment	24	69.9	Partial nails covered in slag.
4	Trench	1			21	MET	Metal	Fragment	11	6.6	Misc. metal fragments covered in slag.
5	Trench	1			21	MOD	Metal	Complete	1	1.3	Part of a clamp
6	Trench	1			21	IVR	Shell	Fragment	1	0.3	Mytilus
7	Trench	1			21	VER	Bone	Fragment	1	0.3	Burned bone fragment
8	Trench	1			21	OCR	Ceramic	Fragment	1	0.4	Half of a ceramic bead, black & white.
9	Trench	1			21	CER	Ceramic	Fragment	1	5.3	Fragment of WIE with printed floral motif.
10	Trench	1			21	CER	Ceramic	Fragment	1	3.3	Porcelain w/ green stripe and gold filagree design.
11	Trench	1			21	GLS	Glass	Fragment	2	1.2	Olive green bottle shards.
12	Trench	1			21	GLS	Glass	Fragment	2	3.2	Amber bottle shards.
13	Trench	1			21	GLS	Glass	Fragment	5	11.9	Aqua bottle shards.
14	Trench	1			21	GLS	Glass	Fragment	15	14.6	Colorless bottle shards.
15	Trench	1			21	GLS	Glass	Complete	1	7.7	Colorless decorative knob/handle.
16	Trench	1			21	GLS	Glass	Almost Complete	1	31.6	Nearly complete colorless bottle with patina. Seam on sides//panel on front//sunburst lines with 1 in center on bottom.
17	Trench	1			21	CER	Ceramic	Fragment	5	1133.9	Brick fragments with no MM.
18	Trench	1			21	C14	Charcoal	Fragment	17	9.2	Charcoal fragments.
19	Trench	1			25	GLS	Glass	Complete	1	105.3	Intact colorless ink bottle.
20	Trench	1			25	MET	Metal	Fragment	2	5.9	Partial nails.
21	Trench	3			20	IVR	Shell	Fragment	34	21.3	Mytilus
22	Trench	3			20	VER	Bone	Fragment	18	9	Unmodified, unidentifiable T mammal fragments.

CAT	RTYPE	UNO	FEAT	TOPLEV	BOTLEV	OBJECT	MATERIA	Condition	CT	WT	COMMENTS
23	Trench	3			20	VER	Bone	Fragment	2	2.1	Unidentifiable T mammal fragments with cut marks.
24	Trench	3			20	VER	Bone	Fragment	1	0.3	T mammal with cut mark. L tibia prx fragment.
25	Trench	3			20	VER	Bone	Fragment	4	5.1	Saw-cut T Mammal fragments.
26	Trench	3			20	VER	Bone	Fragment	16	13.4	Burned unidentifiable T mammal fragments. No other mods.
27	Trench	3			20	GLS	Glass	Fragment	4	3.8	Colorless bottle shards.
28	Trench	3			20	GLS	Glass	Fragment	5	8.6	Aqua bottle shards.
29	Trench	3			20	CER	Ceramic	Fragment	1	28.7	Brown glazed ceramic sherd. Possible sewage pipe fragment.
30	Trench	3			20	CER	Ceramic	Fragment	1	6.4	Possible slate or monterey stone fragment.
31	Trench	3			20	CER	Ceramic	Fragment	1	0.2	Porcelain, white.
32	Trench	3			20	CER	Ceramic	Fragment	2	1	Two brick fragments.
33	Trench	3			20	CER	Ceramic	Fragment	2	3.3	Two white WIE sherds.
34	Trench	3			20	MET	Metal	Almost Complete	1	14.9	Nearly complete bolt.
35	Trench	3			20	MET	Metal	Complete	18	79	Complete nails.
36	Trench	3			20	MET	Metal	Fragment	32	51.3	Partial nails.
37	Trench	3			20	MET	Metal	Fragment	10	12.3	Misc. undertermined metal fragments covered in slag.
38	Trench	3			20	C14	Charcoal	Fragment	18	5.1	Charcoal fragments.
39	Trench	4			30	MOD	Other	Fragment	1	0	Styrofoam fragment
40	Trench	4			30	MET	Metal	Complete	1	3.2	Complete nail.
41	Trench	4			30	VER	Bone	Fragment	1	1.4	Saw-cut T Mammal fragment.
42	Trench	4			30	GLS	Glass	Fragment	2	5.9	Aqua bottle shards.
43	Trench	4			30	GLS	Glass	Fragment	3	2.7	Colorless bottle shards.
44	Trench	4			30	CER	Ceramic	Fragment	3	28.7	3 White WIE sherds. 1 Has an "R" printed on base. No other MM visible.
45	Trench	3			34	C14	Charcoal	Fragment	7	0.5	Charcoal fragments.

CAT	RTYPE	UNO	FEAT	TOPLEV	BOTLEV	OBJECT	MATERIA	Condition	CT	WT	COMMENTS
46	Trench	2			14	GLS	Glass	Complete	1	251.2	Complete colorless bottle w/flaking patina. Some bubbles and no seams. No MM.
47	Trench	2			14	GLS	Glass	Complete	1	110.1	Complete aqua medicinal bottle. "HEGEMAN & CO//CHEMISTS//NEW YORK//{{mold mark}}". Bubbles also noted.
48	Trench	2			14	GLS	Glass	Almost Complete	1	234.5	Aqua bottle broken at neck. Panneling all around body & shoulders. Bubbles noted, no MM.
49	Trench	2	1			IVR	Shell	Fragment	1	5.8	Mytilus
50	Trench	2	1			IVR	Shell	Fragment	1	24.1	Haliotis
51	Trench	2	1			MET	Metal	Complete	4	31.7	Complete nails.
52	Trench	2	1			MET	Metal	Fragment	2	5.3	Misc. metal slag fragments.
53	Trench	2	1			MET	Metal	Almost Complete	1	0.9	Safety pin missing clasp end.
54	Trench	2	1			GLS	Glass	Almost Complete	2	364.1	Two colorless tumblers with panneling around body. Mold mark on bottom, no MM.
55	Trench	2	1			GLS	Glass	Fragment	2	12.3	Olive bottle shards.
56	Trench	2	1			GLS	Glass	Fragment	3	10.2	Colorless bottle shards.
57	Trench	2	1			GLS	Glass	Fragment	11	141	Aqua bottle in several shards.
58	Trench	2	1			VER	Bone	Fragment	3	26.7	Burned T Mammal fragments, No other mods observed.
59	Trench	2	1			VER	Bone	Almost Complete	2	88.4	Juvenile T mammal, L humerus in 2 pieces (shaft & distal epiphysis).
60	Trench	2	1			VER	Bone	Almost Complete	2	34.8	Juvenile T mammal, R humerus in 2 shaft fragments.
61	Trench	2	1			VER	Bone	Almost Complete	6	9.1	Misc. juvenile T mammal bones, mostly carpals.
62	Trench	2	1			VER	Bone	Fragment	13	128	Misc. juvenile T. mammal bones.
63	Trench	2	1			VER	Bone	Complete	1	0.1	Complete Phalange, T mammal.
64	Trench	2	1			VER	Bone	Complete	1	2.1	Avian R femur
65	Trench	2	1			VER	Bone	Fragment	9	7.7	Misc. Avian fragments
66	Trench	2	1			CER	Ceramic	Fragment	5	188.5	White WIE sherds with ribbed pattern.
67	Trench	2	1			CER	Ceramic	Fragment	4	279.8	White WIE sherds with decorative molding.

CAT	RTYPE	UNO	FEAT	TOPLEV	BOTLEV	OBJECT	MATERIA	Condition	CT	WT	COMMENTS
68	Trench	2	1			CER	Ceramic	Fragment	12	1256.1	White WIE sherds from a single vessel. Lots of crazing present, no MM.
69	Trench	2	1			CER	Ceramic	Fragment	47	2164.9	Misc. white WIE sherds.
70	Trench	2	1			CER	Ceramic	Fragment	1	9.8	White porcelain rim fragment with gold trim.
71	Trench	2	1			CER	Ceramic	Fragment	1	62.9	White WIE base sherd with {partial Coat of Arms. In banner: "PORCELAIN"}/ADAMS.
72	Trench	2	1			CER	Ceramic	Fragment	1	45.5	White WIE base sherd with: {partial Coat of Arms. In banner: "ET MON DROIT"}/[RO]YAL.PATENT./[I]RONSTONE./[BUR]GESS & GODDARD.
73	Trench	2	1			CER	Ceramic	Fragment	1	92.8	White WIE base sherd with: "STCK/BUR" embossed.
74	Trench	2	1			CER	Ceramic	Almost Complete	1	146.5	Half of white WIE bowl with panneling on interior edge. Base printed with: {Royal Coat of Arms}/ROYAL PATENT/IRONSTONE/BURGESS & GODDARD.
75	Trench	2	1			CER	Ceramic	Fragment	2	287.8	White WIE bowl printed with IMPERIAL WHITE GRANITE/{Royal Coat of Arms}/GELSON BROS HANLEY.
76	Trench	2	1			CER	Ceramic	Fragment	3	210.5	White WIE sherds with partial embossed MM. Possibly reads: "MAS HOGH{illegible}/{illegible}".
77	Trench	2	1			CER	Ceramic	Base	1	584.5	Complete base sherd, white WIE, printed with {Crown & Banner/ Inside triangle of design: IRONSTONE/CHINA/In banner: POWELL & BISHOP.}
78	Trench	2				CER	Ceramic	Fragment	6	195.6	White WIE sherds.
79	Trench	2				CER	Ceramic	Fragment	3	98.8	White WIE sherds with decorative molding.
80	Trench	2				CER	Ceramic	Fragment	2	86	White WIE sherds with panneling on interior edge.
81	Trench	2				CER	Ceramic	Fragment	1	5.9	White porcelain sherd with panneling on interior edge.
82	Trench	2				C14	Charcoal	Fragment	1	0.1	Charcoal fragment
83	Trench	2				GLS	Glass	Fragment	2	63.2	Colorless glass tumbler shards.
84	Trench	2				VER	Bone	Fragment	4	38.5	Saw-cut T mammal.
85	Trench	2				VER	Bone	Fragment	1	6.4	Burned T mammal.

CAT	RTYPE	UNO	FEAT	TOPLEV	BOTLEV	OBJECT	MATERIA	Condition	CT	WT	COMMENTS
86	Trench	2				VER	Bone	Fragment	1	0.4	Avian shaft fragment.
87	Trench	2			20	GLS	Glass	Complete	1	200.6	Intact aqua bottle with flaking patina. Embossed with: WORCESTERSHIRE SAUCE/LEA & PERRINS///B/C 0/V.
88	Trench	2	2		20	SSA	Soil	Complete	1	2173.7	Soil sample w/charcoal & burned seeds from under metal object 16.5-20".
89	Trench	2	2		20	BOT	Seed	Complete	10	1.6	Mix of intact and halved burned seeds.
90	Trench	2	2		20	C14	Charcoal	Fragment	21	10	Charcoal fragments in association with burned seeds in CAT 89 and burned faunal in CAT 91.
91	Trench	2	2		20	VER	Bone	Fragment	1	0.3	Burned unidentifiable T mammal fragment, no other mods.
92	Trench	2	2		23	CER	Ceramic	Almost Complete	6	1248.5	Large WIE bowl in 6 sherds, missing few small fragments. Brown ochre glaze on outer edge. No MM.
93	Trench	2	2			CER	Ceramic	Almost Complete	1	901.6	Brown-glazed WIE lid with round handle.
94	Trench	2	2			CER	Ceramic	Almost Complete	1	380.4	White WIE plate sherd with illegible embossed MM on base.
95	Trench	2	2			CER	Ceramic	Fragment	2	96.8	White WIE base sherds with printed MM: {In banner:IMPERIAL}/{Eagle with Coat of Arms}/{In banner:FRENCH PORCELAIN}/ADAMS.
96	Trench	2	2			GLS	Glass	Complete	1	216.7	Intact aqua bottle with panneling on front and sides, bubble, no MM.
97	Trench	2	2			GLS	Glass	Base	1	643.2	Base of olive wine bottle w/flaking patina. No MM.
98	Trench	2	2			GLS	Glass	Almost Complete	1	316.6	Colorless tumbler.
99	Trench	2	2			GLS	Glass	Fragment	10	171.4	Fragments from aqua bottle embossed with: "RIDA/MURRAY & LANMAN/DRUGGISTS/[N]EW-YORK///19".
100	Trench	2	2			GLS	Glass	Fragment	7	107.2	Shards of aqua plane glass, likely from picture frame (very thin).
101	Trench	2	2			GLS	Glass	Fragment	1	10.7	Colorless bottle shard.
102	Trench	2	2			CER	Ceramic	Fragment	1	158.2	Sherd of terra-cotta type ceramic, possibly a teja?
103	Trench	2	2			CER	Ceramic	Fragment	4	172.1	White WIE sherds, no MM.
104	Trench	2	2			CER	Ceramic	Fragment	1	174.6	Possibly same lid as CAT92?

CAT	RTYPE	UNO	FEAT	TOPLEV	BOTLEV	OBJECT	MATERIA	Condition	CT	WT	COMMENTS
105	Trench	2	2			CER	Ceramic	Fragment	1	32.8	White WIE sherd with partial embossed MM, illegible. High degree of crazing, possibly burned?
106	Trench	2	2			CER	Ceramic	Fragment	1	117.4	White WIE sherd with printed MM: {Royal Coat of Arms}/{In banner: DIEU ET MON DROIT}/ STONE CHINA/J.T. CLOSE & CO/STOKE UPON TRENT". Additional embossed MM below.
107	Trench	2	2			IVR	Shell	Fragment	48	34.1	Mytilus
108	Trench	2	2			VER	Bone	Fragment	16	5.9	Burned unidentifiable T Mammal fragments.
109	Trench	2	2			VER	Bone	Fragment	1	51.4	Distal femoral fragment, burned, T mammal.
110	Trench	2	2			OTH	Shell	Complete	2	0	XS shell button in 2 pieces, 4 holes.
111	Trench	2	2			IVR	Shell	Complete	1	4.7	Clam shell
112	Trench	2	2	21	35	GLS	Glass	Base	2	672.2	Olive green wine bottle with flaking patina.
113	Trench	2	2	21	35	GLS	Glass	Base	2	438.5	Olive green wine bottle.
114	Trench	2	2	21	35	GLS	Glass	Fragment	14	93.8	Aqua pane glass shards. Very thin, possibly from photo frames? Patina flaking.
115	Trench	2	2	21	35	GLS	Glass	Fragment	3	7.2	Aqua bottle shards
116	Trench	2	2	21	35	GLS	Glass	Fragment	1	2.3	Canning jar lid shard.
117	Trench	2	2	21	35	GLS	Glass	Fragment	1	1.7	Amber bottle shard.
118	Trench	2	2	21	35	GLS	Glass	Fragment	3	29.1	Olive bottle shards.
119	Trench	2	2	21	35	GLS	Glass	Fragment	14	112.4	Colorless bottle shards.
120	Trench	2	2	21	35	GLS	Glass	Fragment	1	35.7	Colorless handle, possibly to CAT 98?
121	Trench	2	2	21	35	GLS	Glass	Fragment	1	24.9	Colorless decorative knob.
122	Trench	2	2	21	35	GLS	Glass	Base	4	275	Colorless tumbler bases each in 2 pieces. No MM.
123	Trench	2	2	21	35	OTH	Shell	Complete	2	1.2	Two abalone shell buttons, one slightly smaller than the other. Both have 4 holes in a depressed center.
124	Trench	2	2	21	35	OTH	Shell	Complete	1	0.8	Abalone shell button with 2 holes in raised center.
125	Trench	2	2	21	35	OTH	Glass	Complete	1	0.5	White milk glass button with 4 holes in sunken center.

CAT	RTYPE	UNO	FEAT	TOPLEV	BOTLEV	OBJECT	MATERIA	Condition	CT	WT	COMMENTS
126	Trench	2	2	21	35	OTH	Ceramic	Complete	1	0.4	White clay bead.
127	Trench	2	2	21	35	MET	Metal	Fragment	8	59.2	Partial nails.
128	Trench	2	2	21	35	MET	Metal	Complete	2	24	Washers.
129	Trench	2	2	21	35	MET	Metal	Fragment	2	7	Decorative metal dish with floral filagree engraved.
130	Trench	2	2	21	35	MET	Metal	Complete	8	123.2	Complete nails.
131	Trench	2	2	21	35	MET	Metal	Complete	2	50.5	Skeleton key covered in slag. Handle in 2 pieces.
132	Trench	2	2	21	35	MET	Metal	Almost Complete	1	40.5	Pocket knife with woodgrain design etched.
133	Trench	2	2	21	35	MET	Metal	Fragment	3	33.3	Sections of wire.
134	Trench	2	2	21	35	MET	Metal	Complete	1	18.6	Decorative picture frame with filagree etching.
135	Trench	2	2	21	35	MET	Metal	Fragment	21	74.1	Misc. fragments of metal and slag.
136	Trench	2	2	21	35	CER	Ceramic	Complete	2	387.8	White WIE bowl with "EGEWOOD & CLARKE" embossed on base.
137	Trench	2	2	21	35	CER	Ceramic	Fragment	13	661.3	White WIE sherds with no MM.
138	Trench	2	2	21	35	CER	Ceramic	Fragment	3	262.5	White WIE with embossed MM "STOKE..."
139	Trench	2	2	21	35	CER	Ceramic	Fragment	2	138	White WIE with printed MM reading: {Royal Coat of Arms}/ {In banner: EU ET MON DROIT/W&T ADAMS/IRONSTONE CHINA}/ TUNSTALL.
140	Trench	2	2	21	35	CER	Ceramic	Fragment	1	5.7	White porcelain.
141	Trench	2	2	21	35	CER	Ceramic	Fragment	1	13.9	White porcelain handle with gold paint.
142	Trench	2	2	21	35	CER	Ceramic	Fragment	1	21.3	WIE with printed religious scene and partial "X".
143	Trench	2	2	21	35	CER	Ceramic	Almost Complete	2	132.4	Nearly complete white WIE bowl with illegible embossed MM.
144	Trench	2	2	21	35	CER	Ceramic	Fragment	1	62.6	White WIE sherd with partial printed MM reading :{In banner: T. ADAMS/CHI[NA]}/TUNSTALL
145	Trench	2	2	21	35	MET	Metal	Complete	1	14.1	Spoon with filagree design on back. Handle is CAT 146.
146	Trench	2	2	21	35	OTH	Bone	Complete	1	15.4	Bovine or Porcine spoon handle.
147	Trench	2	2		70	OTH	Other	Fragment	50	1.8	Eggshell fragments.
148	Trench	2	2	21	35	IVR	Shell	Fragment	400	487.7	Mytilus

CAT	RTYPE	UNO	FEAT	TOPLEV	BOTLEV	OBJECT	MATERIA	Condition	CT	WT	COMMENTS
149	Trench	2	2	21	35	IVR	Shell	Almost Complete	5	41.2	Clam shell
150	Trench	2	2	21	35	IVR	Shell	Almost Complete	6	22.5	Clam shell
151	Trench	2	2	21	35	IVR	Shell	Fragment	1	13.2	Clam shell
152	Trench	2	2	21	35	IVR	Shell	Complete	1	4.4	Turban snail
153	Trench	2	2	21	35	BOT	Seed	Complete	2	1.9	Burned seeds.
154	Trench	2	2	21	35	OTH	Shell	Almost Complete	1	0.7	Abalone shell button with 4 holes in a depressed center.
155	Trench	2	2	21	35	CER	Ceramic	Fragment	1	4.7	White porcelain.
156	Trench	2	2	21	35	VER	Bone	Fragment	26	36.3	Incomplete Avian.
157	Trench	2	2	21	35	VER	Bone	Complete	4	26.5	Complete Avian.
158	Trench	2	2	21	35	VER	Bone	Complete	10	4.4	Fish
159	Trench	2	2	21	35	VER	Bone	Fragment	10	5.8	Fish
160	Trench	2	2	21	35	VER	Bone	Fragment	11	23.3	Incomplete T mammal fragments, burned. No other mods.
161	Trench	2	2	21	35	VER	Bone	Complete	20	18.3	Complete T mammal.
162	Trench	2	2	21	35	VER	Bone	Fragment	38	91.8	Incomplete T Mammal.
163	Trench	2	2	21	35	VER	Bone	Fragment	28	611.1	Incomplete, saw-cut T Mammal.
164	Trench	2	2	16		VER	Bone	Fragment	10	13.2	Burned T Mammal, no other mods.

Faunal Analysis Report

sub cat	taxon	common name	element	Ct	wt	side	portion	epiphyseal fusion	burned?	comments
22	T Mammal		Indeterminate	1	0.3	INT	Fragment		yes	
2	T Mammal		Indeterminate	18	9	INT	fragment		no	
3	T Mammal		Indeterminate	2	2.1	INT	fragment		no	cut marks present but not counted
4	T Mammal	Ground squirrel	Tibia	1	0.3	L	PXFR		no	
5	T Mammal		Long bone	4	5.1	INT	fragment		no	saw cut
6	T Mammal		Indeterminate	16	13.4	INT	fragment		yes	
7	T Mammal		Long bone	1	1.4	INT	fragment		no	saw cut
8	T Mammal		Indeterminate	3	26.7	INT	fragment		yes	
9	T Mammal	sheep	Femur	2	88.4	R	Shaft and dista	Incomplete	no	cut marks
10	T Mammal	sheep	Femur	2	34.8	L	shaft	Incomplete	no	cut marks
13	T Mammal	sheep	VRT	1	4.3	A	Fragment	Incomplete	no	Incomplete T vert
12	T Mammal	sheep	PHX	1	0.3	INT	CO	Incomplete	no	1 PHX1
11	T Mammal	sheep	MC	4	4.5	INT	shaft	Incomplete	no	3 MCs with an epiphyseal cap
17	T Mammal		Indeterminate	10	57.3	INT	Fragment		no	
15	T Mammal	cow	Rib	1	13.2	INT	SHFR		no	saw cut
16	T Mammal	cow	VRT	1	27.1	A	Fragment	complete	no	saw cut with cut marks
14	T Mammal	sheep	Tibia	1	29.8	L	PXFR	Incomplete	no	cut marks
18	T Mammal		Phalanx	1	0.1	INT	CO		no	
19	Avian		Femur	1	2.1	R	CO		no	
20	Avian		Tarsometatarsus	5	4.2	R	Fragment		no	Quail-sized
48	Avian		Indeterminate	9	7.7	INT	Indeterminate		no	
21	Avian		Indeterminate	3	3.5	INT	Fragment		no	Quail-sized

sub cat	taxon	common name	element	Ct	wt	side	portion	epiphyseal fusion	burned?	comments
52	T Mammal	cow	Rib	1	17.5	INT	Fragment		no	cut marks and saw cut
53	T Mammal	cow	Indeterminate	3	20.9	INT	Fragment		no	saw cut
1	T Mammal		Indeterminate	1	6.4	INT	fragment		yes	
58	Avian		Indeterminate	1	0.4	INT	SHFR		no	Quail-sized
54	Avian		Indeterminate	1	0.4	INT	SHFR		no	
57	T Mammal		Indeterminate	1	0.3	INT	Indeterminate		yes	
56	T Mammal		Indeterminate	16	5.9	INT	Indeterminate		yes	
55	T Mammal		Femur	1	50.9	R	DSFR		yes	
24	Avian		Indeterminate	1	1.2	INT	Fragment		yes	Quail-sized
23	Avian		Indeterminate	25	34.1	INT	Fragment		no	Quail-sized
51	Avian		tibiotarsus	1	3.4	INT	CO	Complete	no	Quail-sized
49	Avian		Tarsometatarsus	2	4.8	L	CO	Complete	no	Quail-sized
50	Avian	turkey	humerus	2	17.1	L	CO	Complete	no	cut marks
64	Fish	Sebastes/Rockfis	Maxilla	1	0.8	R	CO		yes	
63	Fish	Sebastes/Rockfis	Opercular	1	0.8	R	CO		yes	
62	Fish	Sebastes/Rockfis	Articular	1	0.4	L	CO		yes	
66	Avian		sternal rostrum	1	0.6	INT	Fragment		no	
61	Fish	Sebastes/Rockfis	Tooth	1	0.2	INT	CO		yes	
60	Fish	Sebastes/Rockfis	Vertebrae	4	1.2	A	Fragment		yes	
65	Fish	Sebastes/Rockfis	supracleithrum	1	0.1	R	CO		yes	
42	Fish	Sebastes/Rockfis	Vomer	1	0.2	INT	Fragment		no	
43	Fish	Sebastes/Rockfis	Postcleithrum	1	0.1	INT	Fragment		no	
41	Fish	Sebastes/Rockfis	angular	2	0.9	INT	Fragment		no	
47	T Mammal		Sacrum	1	0.3	A	Fragment		no	

sub cat	taxon	common name	element	Ct	wt	side	portion	epiphyseal fusion	burned?	comments
45	Fish	Salmonidae	Angular	1	1.5	INT	Fragment		no	
46	Fish	Sebastes/Rockfis	Indeterminate	1	0.1	INT	Fragment		no	
44	Fish	Salmonidae	Dentary	1	1	L	Fragment		no	
40	Fish	Sebastes/Rockfis	Dentary	3	1.1	L	Fragment		no	
39	T Mammal		Indeterminate	11	23.3	INT	Indeterminate		no	
38	T Mammal	sheep	Rib	1	2.4	INT	SHFR		no	
37	T Mammal		VRT	1	0.5	A	Fragment	Incomplete	yes	Epiphyseal cap from centrum
36	T Mammal	sheep	Tibia	1	9	L	PXFR	Incomplete	no	
35	T Mammal		Phalanx	17	5.5	INT	CO	Complete	yes	
34	T Mammal	sheep	humerus	1	12.7	R	DSFR		no	
29	T Mammal	sheep	Rib	13	24.9	INT	fragment		no	saw cut
30	T Mammal		Indeterminate	15	19.1	INT	fragment		no	
31	T Mammal		Indeterminate	5	1.7	INT	fragment		yes	
33	T Mammal	sheep	Tibia	1	29.7	L	PXFR		no	saw cut
32	T Mammal		Phalanx	1	0.2	INT	DSFR		yes	
28	T Mammal		VRT	4	14.3	INT	Fragment		no	saw cut
27	T Mammal	cow	VRT	19	119.9	INT	Fragment		no	saw cut
26	T Mammal	cow	Innominate	2	113.1	INT	Fragment		yes	
25	T Mammal	cow	Femur	2	345.9	R	Fragement	Incomplete	yes	
59	T Mammal		Indeterminate	10	13.2	INT	Indeterminate		yes	

Appendix C

Project Photographs



Photo 1. Cat # 47 is an intact medicinal bottle recovered from TT 2 above Features 1 and 2. The bottle was produced by Hegeman & Co. between 1859–1878.



Photo 2. Cat # 99 is a fragmented perfume bottle recovered from TT 2 Feature 2 (4 out of 10 sherds pictured). The bottle was produced by Murray & Lanham between 1835–1853.



Photo 3. Cat # 95 consists of two WIE base sherds with a complete printed maker's mark from TT 2 Feature 2. The eagle and shield in this printed mark represents the Great Seal of the United States, used to authenticate certain federal documents, and dates between 1804 and 1840.



Photo 4. Cat # 75 is a WIE complete base with a printed Crown seal maker's mark from TT 2 Feature 1. This WIE was produced by Powell & Bishop and dates between 1867–1878.



Photo 5. Cat # 123 consists of two degraded shell beads with 4 holes in the center recovered from TT 2 Feature 2. Buttons such as these were typical of men’s shirts and were produced by hand and mechanically throughout the 19th century.

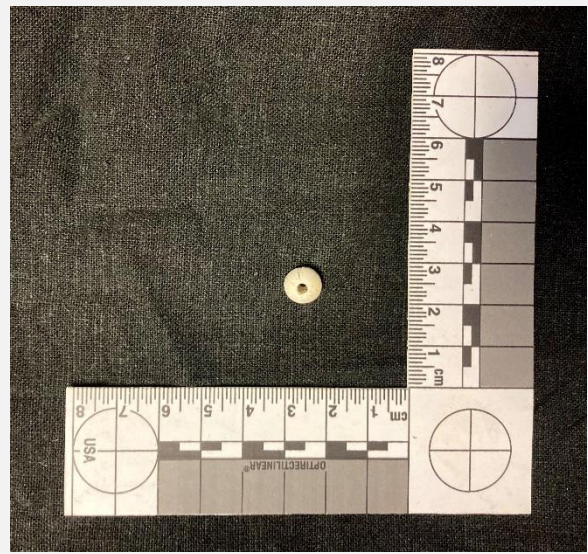


Photo 6. Cat # 126 is a white clay bead with mold seams recovered from TT 2 Feature 2. Beads, like most items in the 19th century, began being mass produced in factories by machines rather than by hand.



Photo 7. Cat # 131 is a barrel key with the bow broken off recovered from TT2 Feature 2. Barrel keys were similar to skeleton keys but lighter and hollow. This key was likely used in a door lock between the early to mid-1800s.



Photo 8. Cat # 131 is a pocketknife with the blade broken off recovered from TT2 Feature 2. This knife has faux-bone engraving on at least one side and was a common style between the 1850s through the early 1900s.