
Section 4 Previous Archaeological Research

This section reviews previous archaeological studies and finds pertinent to the City Center Section by land area. Kalihi and Kapālama are combined, as there have been very few studies and finds to date in these lands. The popular and convenient designation “Kaka‘ako” is used for the lands between urban Honolulu and Kālia of Waikīkī (see Section 3).

4.1 Kalihi and Kapālama

Commercial development in coastal Kalihi and Kapālama primarily occurred prior to the late 1970s, when archaeological investigations became standard during project planning and construction activities. As a result, few archaeological studies have been conducted in Kalihi and Kapālama. Two previous archaeological investigations have been conducted in the vicinity of the study corridor, both proximal to the proposed Middle Street Transit Center station (Figure 72 and Table 7). Other studies in the general vicinity are briefly discussed (generally moving from northwest to southeast).

City and County of Honolulu Bus Repair Shop Facility in Kalihi (Landrum and Klieger 1991, Hammatt and Folk 1992, Folk et al. 1993, Folk and Hammatt 1993)

Several studies were undertaken to fulfill the requirements of an environmental impact assessment for the proposed development of a 4.2-acre City and County of Honolulu Bus Repair Shop Facility at 711 Middle Street in Kalihi, O‘ahu (TMK 1-2-16:17). Beginning in 1991, the studies for this 4.2-acre lot included a historical literature search (Landrum and Klieger 1991); an archaeological inventory survey with subsurface testing (Folk et al. 1993); a burial treatment plan (Hammatt and Folk 1992); and a mitigation plan (Folk and Hammatt 1993). During the historical literature research, it was found that that project area was used extensively for habitation and agriculture from the pre-Contact period through the late 1800s. This was due in part to its proximity to the fishpond Loko Weli. The research did not identify any existing archaeological remains (Landrum and Klieger 1991:35). During the archaeological inventory survey, 19 trenches were excavated by backhoe. Three burials were exposed during testing, including two coffin burials and one burial without a coffin. The burials were situated between 0.6 to 1.1 m below the existing ground surface and were within a reddish-brown silty clay loam buried A horizon (former land surface), which was capped by modern fill. In addition, a cultural layer was identified. The burials and cultural layer were assigned Site # 50-80-14-4525 (Folk et al. 1993:28). Based on recommendations in the AIS, a burial treatment plan was written to address the human remains found, and a mitigation plan was written to address any potential impacts during facilities construction.

Vicinity of the Middle Street Transit Center Station (Bushnell and Hammatt 2002, Hammatt and Shideler 2002, Dega and Davis 2005)

In a locale adjacent to the southwest portion of the 711 Middle Street facility, including the immediate vicinity of the proposed Middle Street Transit Center Station, several studies were undertaken based on sites identified and information collected during the investigations for the Bus Repair Shop Facility. These studies included an archaeological assessment (Hammatt and Shideler 2002), a cultural impact assessment (Bushnell and Hammatt 2002), and a follow-up inventory survey with subsurface testing (Dega and Davis 2005). The Archaeological

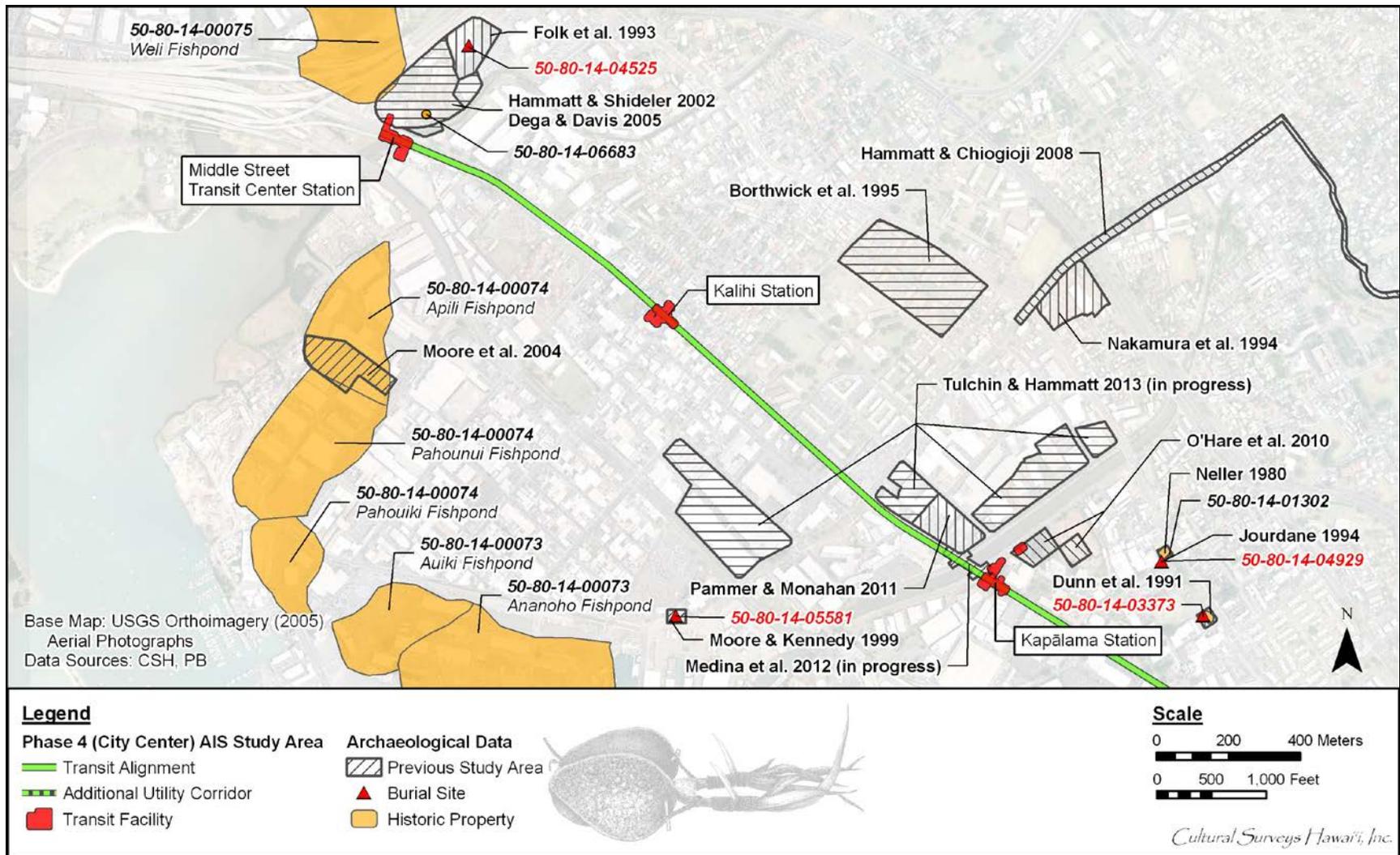


Figure 72. Previous archaeological studies in coastal Kalihi and western Kapālama in the vicinity of the study corridor (Source: U.S. Geological Survey 2005)

Table 7. Previous Archaeological Studies in the Vicinity of the Kalihi-Kapālama Portion of the Study Corridor (arranged chronologically)

| Author | SIHP # 50-80-14 | Report Description and Findings |
|---|-----------------|--|
| Dunn, P. Kalima, L. Kalima, and Goodfellow 1991 | -3373 | During trenching at the Pālama Chevron Station (southwest corner of N. King St. and Robello Lane), very fragmentary skeletal remains believed to be post-Contact were encountered (MNI = 5 ?). Informant indicated area was a former cemetery. |
| *Landrum and Klieger 1991 | NA | This was a historical literature and documents search for the City and County of Honolulu, Department of Transportation Services, Bus Unit Repair Shop Facility |
| *Hammatt and Folk 1992 | -4525 | A burial treatment plan |
| Folk, Crotty, and Hammatt 1993 | -4525 | Inventory survey - One historic property identified: SIHP # 50-80-14-4525, a post-Contact cultural layer containing three human burials, two of which were in coffins. |
| *Folk and Hammatt 1993 | -4525 | A mitigation plan |
| Nakamura, Pantaleo, and Sinoto 1994 | NA | An archaeological assessment of lands in Kapalama on the Corner of North King and Houghtailing Streets, Kapalama; no significant finds |
| Borthwick, Masterson, Creed, and Hammatt 1995 | NA | An archaeological inventory survey of the Kamehameha Homes Project, Kapālama. There were no significant finds. |
| Moore and Kennedy 1999 | -5581 | This report documents the treatment of human remains inadvertently discovered during construction activities at Pier 40; documentation of a single <i>in situ</i> flexed burial (SIHP # 50-80-14-5581) within naturally deposited alluvial sediments. It was determined that the burial was of post-Contact origin (pre-WWI) and most likely Hawaiian. |
| *Bushnell and Hammatt 2002 | NA | Cultural impact assessment of the proposed Middle Street Transit Center (TMK: 1-2-18: 1, 2, 3, 8, 9 and 10) noted that "The project area has been devoted to light industrial purposes for over a century." Concerns over fishing and burials are noted. |
| Hammatt and Shideler 2002 | NA | Archaeological assessment (literature review and field inspection) that recommended inventory survey |

| Author | SIHP # 50-80-14 | Report Description and Findings |
|---|-----------------|--|
| Dega and Davis 2005 | -6683 | Inventory survey at the proposed Middle Street Intermodal Center - one historic property identified: SIHP # 50-80-14-6683, a subsurface historic refuse pit and material remains associated with a slaughterhouse |
| Hammatt and Chiogioji 2008 | NA | Archaeological inventory survey of a proposed Board of Water Supply Kalihi Beretania 24-Inch Water Main Project, Nu‘uanu and Kapalama - no finds but notes the Judd St. and Nu‘uanu Ave. bridges as possible historic properties |
| O’Hare, Shideler, and Hammatt 2010 | NA | An archaeological literature review and field inspection report for the Honolulu Community College Advanced Technology Training Center Project noted exposures of midden and features in the banks of the Kapālāma Canal and the rich cultural landscape once present. |
| Pammer and Monahan 2011 (draft) | | This archaeological literature review and field inspection for a Kapālāma Shopping Center Redevelopment Project included five test excavations. No historic properties were identified. |
| Medina, Lance, and Hammatt 2012 (draft) | NA | This archaeological monitoring report for traffic control signal improvements along Dillingham Boulevard characterized subsurface deposits as various layers of fill sediments on top of a layer of organically enriched pond deposit, on top of coral shelf. No historic properties or undisturbed cultural deposits were observed during monitoring. |
| Tulchin, J. and Hammatt 2013 | | This archaeological inventory survey plan for Kamehameha Schools commercial lands in the <i>makai</i> portion of Kapālāma included 13 preliminary test excavations. Three of these (Trenches 3, 4, and 5) were close to the <i>mauka</i> side of Dillingham Blvd. No historic properties were identified. |

* Not included in Figure 79 – locations of previous research

Assessment uncovered no new data regarding their project area; however, it was recommended that a program of subsurface testing be implemented to provide paleo-environmental information, particularly in regards to Waikulu Fishpond, which historical records indicated was under the southern half of the subject parcel (Hammatt and Shideler 2002). For the cultural impact assessment, concerns were expressed regarding the potential for more burials in that project area (Bushnell and Hammatt 2002:13). Scientific Consultant Services was contracted to perform the archaeological inventory survey with subsurface testing to mitigate the potential impacts to Waikulu Fishpond underlying the subject parcel. Although many sediment samples were taken, it was impossible to distinguish between naturally deposited stream sediments and fishpond sediments in that project area. Evidence of pre-Contact cultural activity was inconclusive. However, evidence of historic era industrial activity was abundant and was designated as SIHP # 50-80-14-6683 (Dega and Davis 2005:42).

Corner of North King and Houghtailing (Nakamura et al. 1994)

The Bernice P. Bishop Museum (Nakamura, Pantaleo, and Sinoto 1994) carried out an archaeological assessment of land in Kapālama on the corner of North King and Houghtailing Streets (see Figure 72). No significant finds were reported.

Kamehameha Homes Project, Kapalama (Borthwick et al. 1995)

Cultural Surveys Hawai'i (Borthwick, Masterson, Creed, and Hammatt 1995) carried out an archaeological inventory survey of the Kamehameha Homes Project in Kapālama (see Figure 72). No significant finds were reported.

Pier 40 (Moore and Kennedy 1999)

In 1999, Archaeological Consultants of the Pacific, Inc. prepared a report documenting the treatment of human remains inadvertently discovered during construction activities at Pier 40, approximately 150 m inland from the pier (Moore and Kennedy 1999) (see Figure 72). The documented remains consisted of a single *in situ* flexed burial (SIHP # 50-80-14-5581) within naturally deposited alluvial sediments at a depth of approximately 70 cmbs (Moore and Kennedy 1999:10). It was determined that the burial was of post-Contact origin (pre-WWI) and most likely Hawaiian (Moore and Kennedy 1999). The remains were disinterred; however a specific re-interment location was not decided upon at the time of the report's publication.

Kapālama Shopping Center Redevelopment Project (Pammer and Monahan 2011) (draft)

This archaeological literature review and field inspection included five test excavations (Trenches 4 and 5 were close to Dillingham Boulevard). In general, the stratigraphy consisted of the asphalt parking lot surface over modern and historic fill, over naturally deposited sediments, over the coral shelf (a very loose cobbly layer with weak cementation).

Kamehameha Schools Commercial Lands in the Makai Portion of Kapālama (Tulchin, J. and Hammatt 2013 - draft)

Cultural Surveys Hawai'i included 13 preliminary test excavations as part of an archaeological inventory survey plan for Kamehameha Schools commercial lands in the *makai* portion of Kapālama. Three of these (Trenches 3, 4, and 5) were close to the *mauka* side of Dillingham Boulevard. Typical stratigraphy was fill over naturally deposited alluvial soils over relatively shallow (110 cmbs) limestone bedrock.

Traffic Control Signal Improvements along Dillingham Boulevard (Medina et al. 2012 - draft)

Cultural Surveys Hawai'i carried out archaeological monitoring for traffic control signal improvements along Dillingham Boulevard on both sides of the Kapālama Canal crossing. Subsurface deposits were characterized by various layers of fill sediments overtop a layer of organically enriched pond deposit, overtop of coral shelf. No historic properties or undisturbed cultural deposits were observed during monitoring.

Board of Water Supply Kalihi Beretania 24-Inch Water Main Project (Hammatt and Chiogioji 2008)

Cultural Surveys Hawai'i (Hammatt and Chiogioji 2008) carried out an Archaeological Inventory Survey of the Proposed Board of Water Supply Kalihi Beretania 24-Inch Water Main Project, Nu'uaniu and Kapalama (see Figure 72). No significant finds were documented (although the study emphasized the need to consider the Judd Street and Nu'uaniu Avenue bridges as historic properties).

Honolulu Community College (O'Hare, Shideler, and Hammatt 2010)

Cultural Surveys Hawai'i (O'Hare, Shideler, and Hammatt 2010) prepared an archaeological literature review and field inspection report for the Honolulu Community College Advanced Technology Training Center Project, located on the northwest side of the HCC campus (quite close to the proposed Kapālama Station Mauka Station Entrance Building) (see Figure 72). It was noted that although that study area has been extensively modified throughout the twentieth century, and no surface archaeological features remain, background research suggests that intact pre-Contact and early post-Contact cultural deposits associated with traditional Hawaiian habitation, agriculture, and burials may lie undisturbed beneath fill layers within the Honolulu Community College Advanced Technology Training Center Project study area(s). Post-Contact cultural deposits associated with western settlement and residential development from the nineteenth and twentieth centuries were also thought to be possibly present.

Field results included observations of both exposed banks of the Kapālama Canal. Notable was the prevalence of edible bivalve mollusk species. The abundance of these species in the east Kapālama Channel bank suggested a pattern of deliberate human predation (i.e. these shells appear to represent archaeological midden). Also observed in the east Kapālama Channel bank were water rounded basalt cobbles that in some places appeared to be grouped, possibly constituting archaeological features.

Pālama Chevron Station (southwest corner of N. King St. and Robello Lane) (Dunn et al. 1991)

The Pālama Chevron Station finds (see Figure 72) were reported in a Dunn, Kalima, and Goodfellow (1991) monitoring report. The human skeletal remains observed were highly fragmented. The Minimum Number of Individuals (MNI) appeared to be five—but this was not altogether clear. Of interest was the comment that:

A parishioner of Kaumakapili Church mentioned to PHRI field personnel that the project area was once a cemetery. Mr. Tom Dye of the DLNR said that older residents of the area had once mentioned that when they were younger they

regarded the area as “spooky,” and that this may be attributable to the fact that they had heard there were burials in the area (Dunn et al. 1991:10).

The Pālama Chevron Station site is approximately 200 m northeast of the transit corridor. Finds were reported at 80 cm below surface, 105 cm below surface, and 120 cm below surface (Dunn et al. 1991:1, 4).

Kūwili Fishpond (McGerty et al. 1997)

In 1993, Scientific Consultant Services Inc. conducted an archaeological inventory survey at the site of the proposed Liliha Civic Center (see Figure 73). The Kūwili Fishpond project area was between Iwilei Road, N. King Street, and Kaaahi Place. Subsurface testing identified soil layers interpreted to be the remains of Kūwili Fishpond (SIHP # 50-80-14-5368). Radiocarbon analysis of pond sediments suggests that Kūwili Fishpond may have been constructed as early as A.D. 1100 (McGerty, Dega, and Spear 1997).

A total of 12 subsurface features were documented, including human skeletal remains, possible *ki'o pua* (fry-pond) walls, a coral platform foundation, and a basalt alignment. The disarticulated human skeletal remains were found in historic sediments that filled in the pond and a portion (Feature 4) of the outer edge of an historic period *ki'o pua* (fry pond):

Feature 1 was a partial human femur uncovered in the eastern end of ST-1 in fill containing historical debris from the nineteenth century. In addition, a probable human femur fragment was identified in the south sidewall of the trench. No burial pit, articulated remains, or definite coffin could be identified in the fill. The remains were interpreted to be a previously disturbed burial and that [*sic*] had somehow been incorporated into the trash fill. The human bones were re-buried when the trench was backfilled (McGerty et al. 1997: 31).

Kūwili Fishpond (Athens and Ward 1997)

IARII's (Athens and Ward 1997) (see Figure 73) investigations at this same Kūwili Fishpond project area located a low energy, gleyed, clay layer that contained little clastic material. A gleyed layer is a mottled or dark gray, sticky, organic-rich layer in the ground that is frequently or continuously saturated, resulting in a reduced condition that preserves the organic matter. Clastic sediments are erosional detritus transported and deposited as solid fragments. This gleyed layer's color, texture, and elevation above sea level were consistent with general observations for fishpond sediments; this type of sediment could only have formed in a still (“quiet water”) and protected environment.

Above this clay layer were massive historic fill deposits. Below were sandy, silty marine sediments that contained clastics of coral and terrigenous basalt. These notably higher energy sediments were interpreted as the natural lagoonal deposits that predated the construction of Kūwili Fishpond (SIHP # 50-80-14-5368). The shallow lagoon layers received enough energy to transport clastics both from coral reefs and Nu'uanu Stream. The combined terrestrial basalt and marine coral clastics were consistent with higher energy marine embayment and/or lagoon that had a significant source of terrigenous sediment, such as the nearby Nu'uanu Stream (Athens and Ward 1997:47).

Two radiocarbon age determinations were undertaken on sediments collected by IARII from a core sample in Stratum III, the fine-grained (clayey) fishpond layer. These two radiocarbon age determinations were calibrated assuming a 40% contribution of marine carbon using the CALIB radiocarbon calibration program. This estimate of the percentage of carbon from a marine source was included in the calibration in an attempt to compensate for the marine reservoir effect, which, because of the apparent age of marine carbon, results in erroneously-old radiocarbon age determinations for marine samples. Assuming the 40% input of marine carbon in the two samples, the dating results were 480-289 and 507-293 cal. B.P. (or A.D. 1470-1661 and A.D. 1443-1657, respectively) (Athens and Ward 1997:47).

Based on the results of pollen analysis of sediment samples and the two radiocarbon dates, Athens and Ward (1997) concluded that fishpond construction occurred rather late in the prehistoric Hawaiian period, after upland forests had been affected by inland expansion of Hawaiian land use.

Kūwili Fishpond (Hammatt et al. 2008)

In 2008, CSH conducted data recovery for SIHP # 50-80-14-5368 (Kūwili Fishpond; see Figure 73) at the site of the proposed Iwilei Senior Housing Project (Hammatt, Hazlett, and Shideler 2008). Data recovery was focused on two research objectives: 1) to determine the date of construction and chronology of use of the fishpond, and 2) to develop data on paleo-environmental change and man-made alterations of the landscape at the fishpond.

Radiocarbon dating samples collected by CSH suggest the earliest pond sediments were deposited circa A.D. 1020 to A.D. 1120, which is consistent with the estimate of A.D. 1100 by McGerty et al. (1997).

Microscopic charcoal particles in soil samples indicated local land-clearing activity both prior to and after construction of Kūwili Fishpond. Unfortunately, the pollen analysis did not provide much information about the effect of Hawaiian settlement, agriculture, or inland expansion upon the local vegetation or upon the inland forest. According to McGerty et al. (1997), their study area had become a marsh by 2000 B.P.; the CSH (Hammatt et al. 2008) pollen analysis indicated that the area had remained marshland for the next thousand years, and the same flora (*Pritchardia*, *Cyperaceae* and *Poaceae*) that had dominated the vicinity before establishment of the fishpond continued to grow in the area afterward.

King Street, between Liliha and River Streets (West et al. 2002)

In 2002, Garcia and Associates completed archaeological monitoring for waterline installation within King Street, between Liliha and River streets (West, Ostroff, and Roberts 2002) (see Figure 73). One previously identified historic property was documented: SIHP # 50-80-14-5942, remnants of the Honolulu Rapid Transit trolley system. This historic property was previously identified by Winieski and Hammatt (2001) at the intersection of Queen Street and Nimitz Highway. West et al. (2002) identified portions of SIHP -5942 near the intersection of Liliha Street and King Street, at the Iwilei Road and King Street intersection, and near the Nu‘uanu/North King Street bridge. Documented Honolulu Rapid Transit trolley system remnants consisted of railroad ties, metal hardware, and brick construction.

Documented stratigraphy consisted primarily of imported fill material overlying limestone bedrock. In some instances, naturally deposited marine clay was observed approximately 1.5 m below the existing ground surface.

Nimitz Highway Water System Improvements between Iwilei Road, N. King Street, River Street, and Kūkahi Street (McDermott and Mann 2001)

In 2001, CSH conducted an archaeological inventory survey for proposed Nimitz Highway Water System Improvements in Downtown Honolulu (McDermott and Mann 2001). Their project area was between Iwilei Road, N. King Street, River Street, and Kūkahi Street. The archaeological fieldwork focused primarily on the investigation of Kawa Fishpond, designated SIHP # 50-80-14-5966. Five boring cores were extracted to determine the boundaries of the pond, and three backhoe trenches were excavated near cores with positive results for fishpond sediments. Radiocarbon dating results of fishpond samples did not provide a clear date of construction for Kawa Fishpond, but, based on the samples, it appears that fishpond sediments were accumulating since at least A.D. 1150-1350.

Archaeological Monitoring Report for the King Street Rehabilitation Project (Mann and Hammatt 2002)

In 2002, CSH conducted an archaeological monitoring program for the King Street Rehabilitation Project, but there were no significant finds north of Nu'uuanu Stream (Mann and Hammatt 2002). Stratigraphic data was presented for North King Street north of Nu'uuanu Stream, but the excavations were typically less than a meter deep and were thus primarily only fill sediments.

4.2 Honolulu

The downtown Honolulu area has had a dense population since circa A.D. 1200. Honolulu has also been the loci of the government of Hawai'i since 1809. There have been several extensive archaeological investigations near the HHCTCP AIS study corridor. The discussion of previous archaeological investigations proceeds from 'Ewa to Diamond Head (i.e., west to east) (Figure 73 and Table 8).

Nimitz Highway Reconstructed Sewer Project (Winieski and Hammatt 2001)

In 2001, CSH conducted archaeological monitoring for the Nimitz Highway Reconstructed Sewer Project (Winieski and Hammatt 2001) (Figure 73). The route of the sewer construction began on River Street, at the intersection of River and Hotel Streets, then *makai* to Nimitz Highway, and extended to Bethel Street, where it merged into the 'Ewa western end of Queen Street. The route then extended along Queen Street to South Street, along South Street to Ala Moana Boulevard, and terminated at the Ala Moana Wastewater Pump Station. Only one historic property was encountered: a remnant of a light-gauge rail associated with the historic Honolulu Rapid Transit trolley system (SIHP # 50-80-14-5942) at the intersection of Queen Street and Nimitz Highway. Based on the monitoring findings, as well as previous archaeological research, it was recommended that an archaeological monitor be present for any future ground disturbance in the area to mitigate the impact of subsurface disturbance to significant pre-Contact and historic archaeological resources.

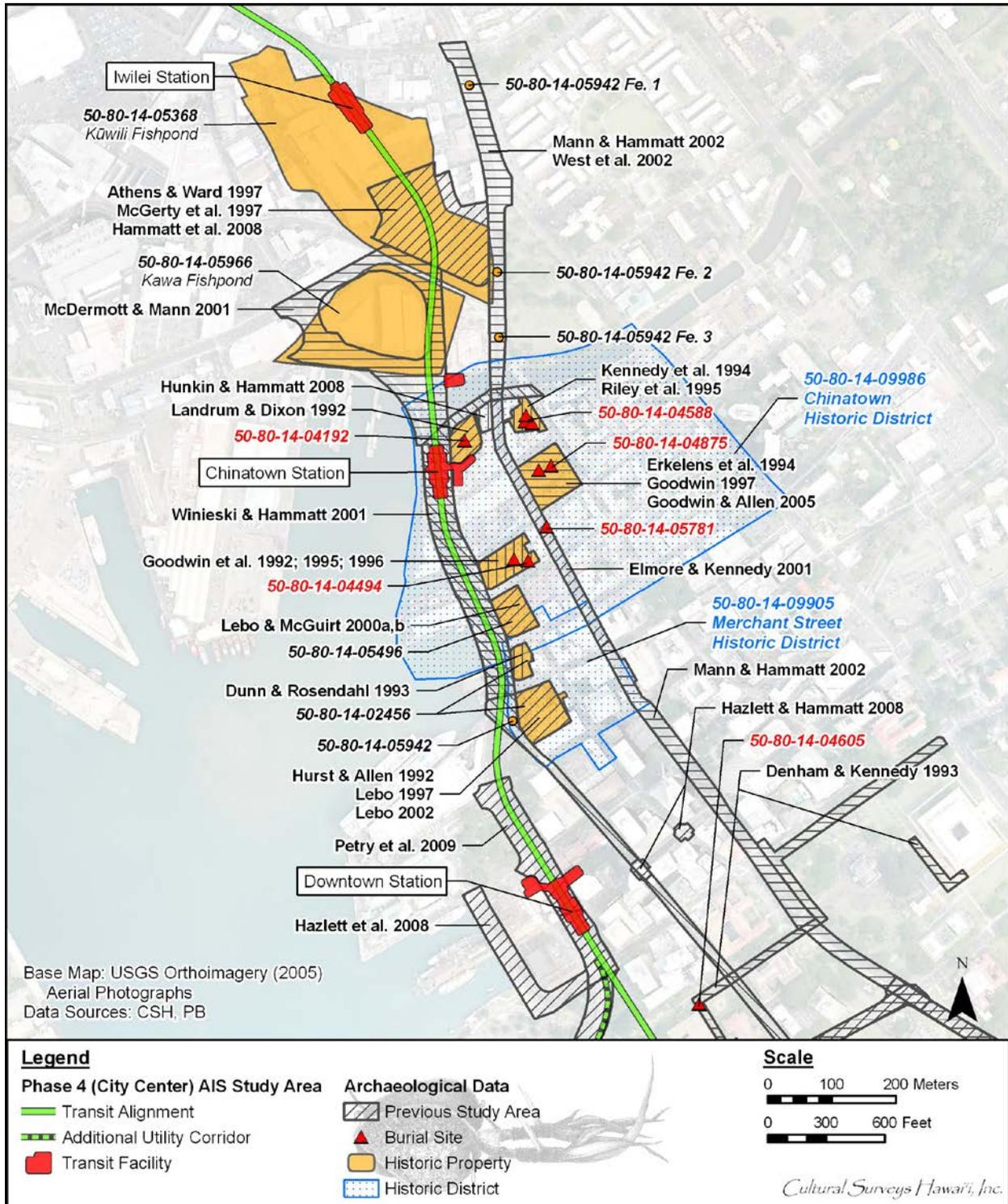


Figure 73. Previous archaeological studies in southeastern Kapālama and coastal Honolulu in the vicinity of the study corridor (Source: U.S. Geological Survey 2005)

Table 8. Previous Archaeological Studies in the Vicinity of the Downtown Honolulu Portion of the Study Corridor (arranged chronologically)

| Author | SIHP # 50-80-14 | Report Description and Findings |
|-------------------------|-----------------|---|
| Dunn et al. 1991 | -3373 | Archaeological monitoring for the Pālama Chevron Station - one historic property identified: SIHP # 50-80-14-3373, a comingled scatter of human skeletal remains determined to be of post-Contact origin due to the presence of associated historic artifacts |
| Goodwin et al. 1992 | -4494 | Inventory survey, data recovery, and monitoring for the Marin Tower property - the entire Marin Tower property was designated SIHP # 50-80-14-4494. SHIP -4494 consists of 28 post-Contact burial features and the remains of several displaced human skeletal remains; pre-Contact fire pits; and early post-Contact structural foundations associated with the residence of the Marin family from about 1810 to 1850. Numerous pre- and post-Contact artifacts were also documented. |
| Hurst and Allen 1992 | -2456 | Archaeological monitoring and an archaeological inventory survey of the Harbor Court Tower site - one historic property documented: SIHP # 50-80-14-2456, a subsurface cultural layer containing both pre- and post-Contact elements. The cultural layer contained primarily post-Contact features (i.e., building foundation ruins) associated with nineteenth-century urban development; however, both pre- and post-Contact artifacts were also observed. Pre-Contact traditional Hawaiian artifacts included basalt and volcanic glass flakes and modified marine shell; post-Contact artifacts included nineteenth century bottles and ceramics. |
| Landrum and Dixon 1992 | -4192 | Data recovery - documented four post-Contact trash pits, a brick and motor building foundation, and a single pre-Contact human burial; all documented archaeological features were designated SIHP # 50-80-14-4192. |
| Dunn and Rosendahl 1993 | -2456 | Inventory survey of the proposed Nu'uanu Court Project - one historic property was documented: SIHP # 50-80-14-2456, a cultural layer containing both pre- and post-Contact features. |

| Author | SIHP # 50-80-14 | Report Description and Findings |
|----------------------------------|-----------------|--|
| Goodwin et al. 1995 | -4494 | Inventory survey, data recovery and monitoring for the Marin Tower property. The entire Marin Tower property was designated SIHP # 50-80-14-4494. SHIP # -4494 consists of 28 post-Contact burial features and the remains of several displaced human skeletal remains, pre-Contact fire pits, and early post-Contact structural foundations associated with the residence of the Marin family from about 1810 to 1850. Numerous pre- and post-Contact artifacts were also documented. |
| Goodwin et al. 1996 | -4494 | Inventory survey, data recovery, and monitoring for the Marin Tower property. The entire Marin Tower property was designated SIHP # 50-80-14-4494. SHIP -4494 consists of 28 post-Contact burial features and the remains of several displaced human skeletal remains, pre-Contact fire pits and early post-Contact structural foundations associated with the residence of the Marin family from about 1810 to 1850. Numerous pre- and post-Contact artifacts also documented. |
| Athens and Ward 1997 | -5368 | Concluded that fishpond construction occurred rather late in the prehistoric Hawaiian period, after upland forests had been affected by inland expansion of Hawaiian land use |
| Lebo 1997 | -2456 | Data recovery excavations identified 35 new features associated with SIHP # -2456 post-Contact deposits. These included: fire pits, pavements, building foundations, post molds, and trash pits. Documented artifacts included: bottles, ceramics, glass beads, buttons (wood, shell, and bone), metal nails, adzes (stone and shell), flakes (basalt, quartz, chert, flint, jasper, and volcanic glass), modified, manufactured glass, fish hook blanks, bone awls, hammer stones, and grinding stones. |
| McGerty, Dega, and Spear 1997 | -5368 | Inventory survey at the site of the proposed Liliha Civic Center - subsurface testing identified soil layers interpreted to be the remains of Kūwili Fishpond (SIHP # 50-80-14-5368). |
| Lebo and McGuirt 2000a | -5496 | Inventory survey at 800 Nu‘uanu Avenue. One historic property documented: SIHP # 50-80-14-5496, subsurface cultural layer containing both pre- and post-Contact archaeological features. |
| Lebo and McGuirt 2000b | -5496 | Data recovery - Additional components of SIHP # 50-80-14-5496, a subsurface cultural layer documented |

| Author | SIHP # 50-80-14 | Report Description and Findings |
|-------------------------------------|-----------------|---|
| McDermott and Mann 2001 | -5966 | Inventory survey for the proposed Nimitz Highway Water System Improvements in Downtown Honolulu - the archaeological fieldwork focused on investigations of Kawa Fishpond (SIHP # 50-80-14-5966). |
| Winieski and Hammatt 2001 | -5942 | Archaeological monitoring for the Nimitz Highway Reconstructed Sewer Project. Only one historic property was encountered: a remnant of a light-gauge rail associated with the historic Honolulu Rapid Transit trolley system (SIHP # 50-80-14-5942) at the intersection of Queen Street and Nimitz Highway. |
| Lebo 2002 | -2456 | Radiocarbon analysis of the SIHP # -2456 pre-Contact deposits indicated that occupation at the site began between A.D. 1000 and A.D. 1200 (Lebo 2002: 14-1). Some 113 features were identified within pre-Contact deposits and include: 86 post molds, 25 in-filled pits, and two firepits. Traditional Hawaiian artifacts collected from the pre-Contact deposits consisted of primarily basalt tools and flakes, and they were recovered from non-feature contexts. |
| Mann and Hammatt 2002 | NA | Archaeological Monitoring Report for the King Street Rehabilitation Project (sections of King St. between Dillingham and South St.) - no significant finds north of Nu'uuanu Stream |
| West, Ostroff, and Roberts 2002 | -5942 | Archaeological monitoring - one previously identified historic property documented: SIHP # 50-80-14-5942, remnants of the Honolulu Rapid Transit trolley system |
| Hammatt, Hazlett, and Shideler 2008 | -5368 | Data recovery for SIHP # 50-80-14-5368 (a.k.a. Kūwili Fishpond) - radiocarbon dating samples collected by CSH suggest the earliest pond sediments were deposited circa A.D. 1020 to A.D. 1120. Microscopic charcoal particles in soil samples indicated local land clearing activity both prior to and after construction of Kūwili Fishpond. Pollen analysis did not provide much information about the effect of Hawaiian settlement, agriculture, or inland expansion upon the local vegetation or upon the inland forest. |

| Author | SIHP # 50-80-14 | Report Description and Findings |
|---------------------------------------|-----------------|---|
| Hazlett, Fehrenbach, and Hammatt 2008 | NA | Archaeological monitoring for water main installation on Aloha Tower Drive - no historic properties were encountered during project construction; observed stratigraphy consisted entirely of fill associated with modern road and utility construction, as well as historic land filling activities, associated with the expansion of Honolulu Harbor. |

River-Nimitz Redevelopment (Landrum and Dixon 1992)

In 1989, the Applied Research Group at the Bishop Museum conducted emergency data recovery in response to the inadvertent discovery of subsurface archaeological features during River-Nimitz Redevelopment work on the corner of River Street and Nimitz Highway (Landrum and Dixon 1992) (see Figure 73). Documented archaeological features consisted of four post-Contact trash pits, a brick and motor building foundation, and a single pre-Contact human burial. The numerous artifacts discovered in the trash pits appeared to be deposited in the early nineteenth century through the early twentieth century. The pre-Contact burial was found within inundated marsh sediments, which preserved some soft-tissue remains, as well as burial goods consisting of braided cordage and matted pandanus. All of the documented archaeological features were designated SIHP # 50-80-14-4192.

Marin Tower (Goodwin et al. 1992, Goodwin et al. 1995, Goodwin et al. 1996)

Marin Tower, surrounded by Smith Street, King Street, Maunakea Street, and Nimitz Highway (see Figure 73), was the subject of intensive archaeological research. The results of the research were presented in three International Archaeological Research Institute, Inc. reports: *The Burials From the Marin Tower Property, Preliminary Report* (Goodwin et al. 1992); *Honoruru to Honolulu: From Village to City, Volume II: The Burials* (Goodwin et al. 1995); and *Honoruru to Honolulu: From Village to City, Volume I: History and Archaeology of a City Block; Archaeological Data Recovery Report, Marin Tower Property, Site No. 50-80-14-4494* (Goodwin et al. 1996).

The results included designating the entire Marin Tower project area as SIHP # 50-80-14-4494. Research for this multi-sectioned project indicated that Don Pablo Francisco Marin and a number of his wives and children were buried on this property in a family cemetery. Fifteen burial features and several isolated, displaced human skeletal remains were found during the data recovery efforts. Coffin remnants of both adult and child coffins were recovered. A large variety of associated grave goods were also recovered, including small glass beads (0.08 inches in diameter), large glass beads, a copper ring, bone discs and buttons, an iron and wood smoking pipe, a glass bead necklace, copper alloy buttons, shell buttons, ceramics, an iron-blade kitchen knife, and a copper cross necklace. A Memorandum of Agreement was drawn up with Marin family relatives, and the skeletal remains were disinterred then re-interred elsewhere on the property on March 3, 1994.

Additionally, documented archaeological features consisted of pre-Contact fire pits and early post-Contact structural foundations associated with the residence of the Marin family from about 1810 to 1850. Also documented were artifacts associated with the use of the *makai* portion of the property as part of the Honolulu Ironworks from 1850 to 1900, as well as the use of the *mauka* portion for shops and families of Chinese merchants during the same period. Additionally, artifacts and structures related to the commercial development of the property as part of Downtown Honolulu from 1900-1950 were also documented.

Corner of Marin and Smith Streets (Lebo and McGuirt 2000a and b)

A subsurface inventory survey was conducted by the Bishop Museum in December 1996 (Lebo and McGuirt 2000a) at 800 Nuʻuanu Avenue (see Figure 73). Six trenches were excavated in the parking lot of a Bank of Hawai'i building at the corner of Marin and Smith Streets. An analysis of the trench stratigraphy and recovered cultural remains allowed the researchers to identify five cultural periods within a cultural deposit designated SIHP # 50-80-14-5496: (1) pre-Contact (pre-1810), when the area was inhabited only by Native Hawaiians; (2) 1810 to 1850, when early foreign residents such as the Spaniard Don Francisco de Paula de Marin and the Englishman Isaac Davis began to build dwellings and storehouses in the area; (3) 1850-1890s, when large industrial structures, such as the Honolulu Flour Mill and the Honolulu Iron Works, were built on the property; (4) 1890s-1925, when many smaller wooden structures for businesses took over the area; and (5) 1925 to present, when most buildings were demolished and their study area was used as a parking lot. A few traditional Hawaiian artifacts and numerous historic artifacts were recovered during the excavations.

Data recovery was conducted by the Bishop Museum (Lebo and McGuirt 2000b) in the 800 Nuʻuanu Block (TMK 1-1-7-002:002) in October 1997. Ten backhoe trenches were excavated within the parking lot on the Diamond Head portion of the block bounded by Nuʻuanu Avenue and Nimitz, Marin, and Smith Streets. A total of 76 features were identified, including building foundations, post molds, coral block floors and walls, fire pits, trash deposits, and cast-iron sewer pipes. All features within their project area were designated as part SIHP # 50-80-14-5496, previously identified by Lebo and McGuirt (2000a). The earliest cultural remains were believed to date to earlier than A.D. 1810. Numerous historic artifacts were recovered dating to the early post-Contact period, when the area was used for storehouses, to the later historic periods when the lot was used for industrial structures, for small businesses, and then as a parking lot.

Introduction to the “Harbor Courts” projects

The “Harbor Courts” projects were another area, similar to Marin Towers projects, of intensive archaeological research. The “Harbor Courts” project resulted in two adjacent tower projects, Queens Court and Harbor Court. Archaeological research was conducted by two different firms, Paul H. Rosendahl Inc. (PHRI) and the Applied Research Group of the Bishop Museum. Studies included: *Archaeological Inventory Survey, Nuʻuanu Court Project, Land of Nuʻuanu, Kona District, Island of Oʻahu (TMK:2-1-02:26)* (Dunn and Rosendahl 1993); *Archaeological Monitoring and Inventory Survey, Harbor Court (Kaʻahumanu Parking Structure) Project, Site 50-80-14-2456, Nuʻuanu, Ahupuaʻa, Kona District, Island of Oʻahu, Hawaiʻi* (Hurst and Allen 1992); *Native Hawaiian and Euro-American Culture Change in Early Honolulu, Archaeological Data Recovery, Harbor Court Property, Site No. 50-80-14-2456, Honolulu, Hawaiʻi* (Lebo 1997); and *Pulaholaho and Charlton's Claim: Archaeological Data Recovery at Harbor Court, Downtown Honolulu (Site 50-80-14-2456)* (Lebo 2002).

The results of the research are described below based on the individual reports listed above.

Nu‘uanu Harbor Court Project (Ka‘ahumanu Parking Garage) (Dunn and Rosendahl 1993)

In 1993, Paul H. Rosendahl, Ph.D., Inc. (PHRI) completed an archaeological inventory survey of the proposed Nu‘uanu Court Project (formerly called the Ka‘ahumanu Parking Garage) (Dunn and Rosendahl 1993) (see Figure 73). One historic property was documented: SIHP # 50-80-14-2456, a subsurface cultural layer containing both pre- and post-Contact features including: Marine-shell midden, charcoal, non-human bone, post-holes, pit features, and a variety of artifacts. Pre-Contact traditional Hawaiian artifacts included basalt flakes and modified shell and bone; post-Contact artifacts included metal, glass, and ceramic fragments.

Harbor Court Tower (Hurst and Allen 1992)

In 1992, the Applied Research Group of the Bishop Museum completed archaeological monitoring and an archaeological inventory survey of the Harbor Court Tower site (formerly called the Ka‘ahumanu Parking Garage) (see Figure 73). One historic property was documented: SIHP # 50-80-14-2456, a subsurface cultural layer containing both pre- and post-Contact elements. The cultural layer contained primarily post-Contact features (i.e., building foundation ruins) associated with nineteenth-century urban development. Pre-Contact traditional Hawaiian artifacts included basalt and volcanic glass flakes and modified marine shell; post-Contact artifacts included nineteenth-century bottles and ceramics.

Harbor Court Tower (Lebo 1997)

In 1997, the Applied Research Group of the Bishop Museum completed data recovery at SIHP # 50-80-14-2456, located at the Harbor Court Tower site (formerly called the Ka‘ahumanu Parking Garage) (see Figure 73). Data recovery involved an analysis of “Native Hawaiian occupations associated with the village of Kou/Honolulu from late eighteenth to mid-nineteenth century” (Lebo 1997:195). Lebo provides the following summary of the findings during the data recovery:

These investigations indicate a dynamic post-Contact Native Hawaiian occupation at the site characterized by a vibrant interchange of traditional and introduced ideas, materials, technology, and cultural lifeways. Rich local marine and terrestrial resources were utilized for food, tools, ornaments, building materials, and clothing. Traditional lithic, bone, and shell tool and ornament production and technology continued as a mainstay of Native Hawaiian daily life. Introduced materials such as ceramics and bottle glass were incorporated into the everyday life of the Native Hawaiian retinue that occupied this site.

At mid-century, the site was transformed into a major commercial area in early Honolulu. Commercial development continued through the nineteenth century. Development in the twentieth century included the demolition of some of these commercial buildings [Skinner’s Auction House, Janion Green building, Hudson’s Bay Co. store and the Theo. Davies building] and the erection of the Kaahumanu parking structure. Today, this site is the location of the Harbor Court Tower. (Lebo 1997:195)

All data recovery excavations were stopped upon encountering the pre-Contact deposits of the site. The pre-Contact deposits were investigated later by PHRI (Lebo 2002). Data recovery excavations identified 35 new features associated with SIHP # -2456. These included: fire pits, pavements, building foundations, post molds, and trash pits. All observed artifacts were of post-Contact origin, but as noted above, represent the influence of Western material culture upon the traditional Hawaiian lifestyle. Documented artifacts included: bottles, ceramics, glass beads, buttons (wood, shell, and bone), metal nails, adzes (stone and shell), flakes (basalt, quartz, chert, flint, jasper, and volcanic glass), modified manufactured glass, fish hook blanks, bone awls, hammer stones, and grinding stones.

Harbor Court Tower (Lebo 2002)

In 2002, PHRI completed data recovery at SIHP # 50-80-14-2456, located at the Harbor Court Tower site (formerly called the Ka'ahumanu Parking Garage) (see Figure 73). The data recovery excavations conducted by PHRI completed the work which was initially begun by the Applied Research Group (Lebo 1997). Radiocarbon analysis of the SIHP # -2456 pre-Contact deposits indicated that occupation at the site began between A.D. 1000 and A.D. 1200 (Lebo 2002: 14-1).

One hundred and thirteen features were identified within pre-Contact deposits and include: 86 post molds, 25 in-filled pits, and two firepits. Traditional Hawaiian artifacts collected from the pre-Contact deposits consisted of primarily basalt tools and flakes and were recovered from non-feature contexts. Observed midden consisted primarily of fish, bird, sea turtle, and marine mollusks. Dog and pig were also documented, but to a lesser extent.

Water Main Installation on Aloha Tower Drive (Hazlett et al. 2008)

In 2007, CSH (Hazlett, Fehrenbach, and Hammatt 2008) completed archaeological monitoring for water main installation on Aloha Tower Drive (see Figure 73). No historic properties were encountered during project construction. Observed stratigraphy consisted entirely of fill associated with modern road and utility construction, as well as historic land filling activities associated with the expansion of Honolulu Harbor. Documented fill sediments consisted of dredge material associated with the construction of Honolulu Harbor, as well as terrestrial sediments imported from other land areas of O'ahu.

4.3 Kaka'ako

The Kaka'ako area contains historic properties of both pre-Contact and post-Contact origin. The area has been subject to intensive reconstruction and growth since the mid-1990s as a consequence of the growth of Honolulu and Waikiki. Several investigations have uncovered subsurface elevated sand ridges, often containing burials and other historic properties, such as post-Contact trash pits. The discussion of previous archaeological investigations proceeds from 'Ewa to Diamond Head (west to east) (Figure 74, Figure 75, and Table 9).

Kaka'ako Improvement District 1 (ID-1) (Pfeffer et al. 1993)

Between 1986 and 1988, CSH (Pfeffer, Borthwick, and Hammatt 1993) conducted archaeological monitoring, data recovery, and burial disinterment in the Hawai'i Community Development Authority's Kaka'ako Improvement District 1 (ID-1), which was bounded by Punchbowl Street (west), South Street (east), King Street (north), and Ala Moana Boulevard

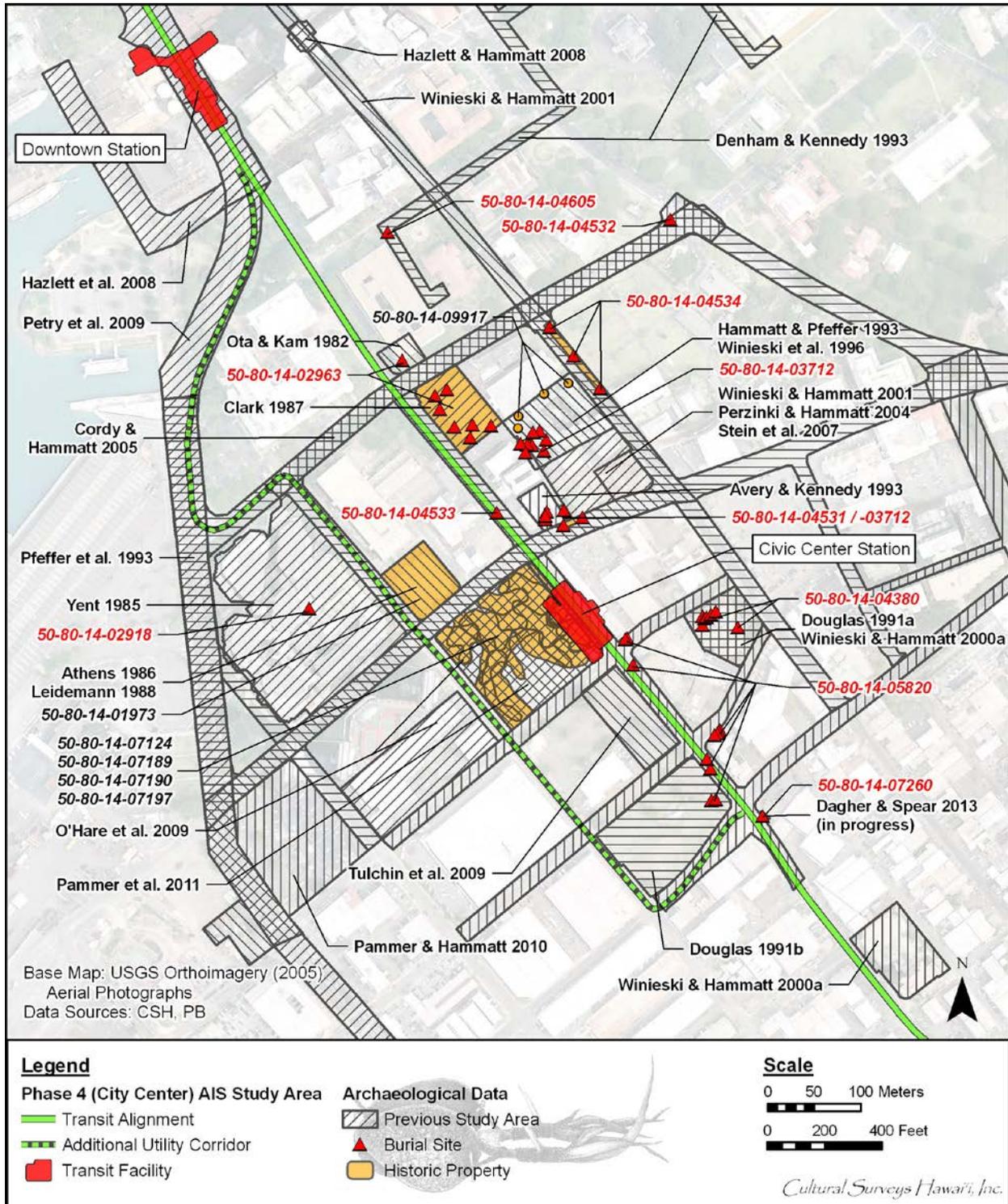


Figure 74. Previous archaeological studies in northwestern Kaka'ako in the vicinity of the study corridor (Source: U.S. Geological Survey 2005)

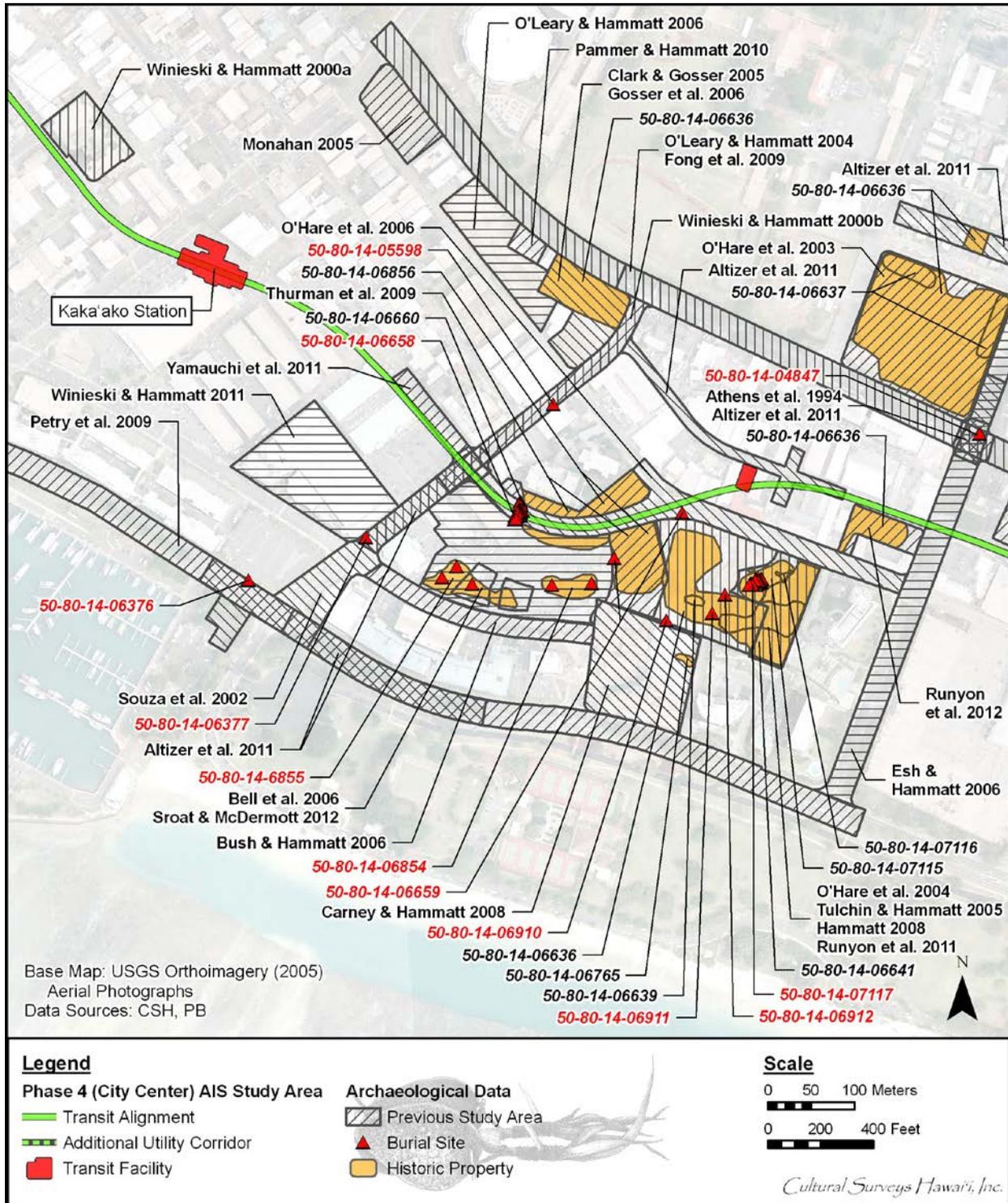


Figure 75. Previous archaeological studies in southeastern Kaka'ako in the vicinity of the study corridor (Source: U.S. Geological Survey 2005)

Table 9. Previous Archaeological Studies in the Vicinity of the Kaka'ako Portion of the study corridor (arranged chronologically)

| Author | SIHP # 50-80-14 | Report Description and Findings |
|--|-------------------------------|--|
| Ota and Kam 1982 | -2963 | Osteological Study, Makai Parking Garage, corner of Punchbowl and Halekauwila Streets (TMK 2-1-31:23) - Six partial burial sets (-2963) found. Tooth evulsion indicates probable pre-Contact to 1850 date. |
| Yent 1985 | -2918 | Ka'ākaukui Cemetery (-2918) at the Honolulu Iron Works project area - Five burials (-2918) recorded |
| Athens 1986 | -3984 | Monitoring of Judiciary Parking Lot - Historic deposits (-3984) with artifacts dating late nineteenth to early twentieth centuries |
| Clark 1987 | -2963 | Archaeological monitoring at Makai Parking Garage, corner of Punchbowl and Halekauwila Streets (TMK 2-1-31:23) - One historic property identified: SIHP # -2963; seven burials probably dating to pre -1850 |
| Leidemann 1988 | -1973 | Monitoring at Federal Building parking lot - Historic deposits (-1973) found |
| Douglas 1991a | -4380 | Coral and Queen Street area - Eight burials (-4380) recorded and five disinterred |
| Douglas 1991b | -4380 | Coral and Queen Street area - One burial recorded (-4380). |
| Avery and Kennedy 1993 | -3712 | Archaeological monitoring 614 South Street - one historic property identified: SIHP # -3712 (Honuakaha Smallpox Cemetery); nine post-Contact burials and an early twentieth-century trash pit |
| Pfeffer, Borthwick, and Hammatt 1993 | -3712; -4532; -4533; -4534 | Monitoring for Kaka'ako ID-1 - 31 burials from 1853-1854 Honuakaha Smallpox Cemetery (-3712) at Quinn Lane; one historic burial from Punchbowl St. (-4532); one possibly pre-Contact burial from Halekauwila St. (-4533); and 116 historic burials from Kawaiaha'o Cemetery (-4534) at Queen St. (used from 1825-1920) |
| Winieski and Hammatt 2000a | -1388; -4380; -5820 | Archaeological monitoring at the Kaka'ako Improvement District 3 area - 20 human burials were encountered. Nine burials were discovered at the Pohulani Elderly Rental Housing (SIHP # 50-80-14-4380), and 11 were in and around Mother Waldron Park (SIHP # 50-80-14-5820). |

| Author | SIHP # 50-80-14 | Report Description and Findings |
|---|-------------------------|--|
| Winieski and Hammatt 2000b | -5598 | Monitoring for Kaka'ako Improvement District 4 construction - Two isolated historic coffin burials (SIHP # 50-80-14-5598) were documented on Kamake'e Street, between the intersections of Kawaiaha'o and Waimanu Streets. |
| Souza, Perzinski, and Hammatt 2002 | -6376; -6377; and -6378 | Kaka'ako Improvement District 7 Monitoring - Three burials encountered: SIHP # 50-80-14-6376, SIHP # 50-80-14-6377, and SIHP # 50-80-14-6378 |
| O'Hare, Bush, Borthwick, and Hammatt 2004 | -6639; -6641; -6636 | Inventory survey Ko'olani Condominium - Three historic properties documented: SIHP # 50-80-14-6639 and SIHP # 50-80-14-6641, historic trash pits dating from the early twentieth century; and SIHP # 50-80-14-6636, the original wetland surface of Kewalo |
| Cordy and Hammatt 2005 | NA | Archaeological monitoring Punchbowl St. - No historic properties identified; observed stratigraphy generally consisted of historic and modern fill material overlying naturally deposited sediment layers (Jaucas sand or black cinder). |
| Tulchin, T. and Hammatt 2005 | -6636; -6641 | Inventory survey Phase II portion of the Ko'olani Condominium parcel - Two historic properties identified: SIHP # 50-80-14-6636, original wetland surface of Kewalo area; and SIHP # 50-80-14-6641, historic garbage layer—both previously identified by O'Hare et al. (2004) |
| Bell, McDermott, and O'Leary 2006 | -6854; 6855; -6856 | Archaeological inventory survey for Victoria Ward Village Shops – Three historic properties identified: SIHP # 50-80-14-6854, subsurface cultural layer containing both historic and prehistoric cultural material and five human burials; SIHP # 50-80-14-6855, pre-Contact traditional Hawaiian cultural layer with six human burials; and SIHP # 50-80-14-6856, historic fishpond remnant |
| Esh and Hammatt 2006 | NA | Monitoring for the Rehabilitation of Streets Unit 5B on Pi'ikoi Street between Ala Moana Boulevard and Matlock Street - No historic properties observed |
| O'Hare, Bush, and Hammatt 2006 | -6658; -6659; -6660 | Monitoring for the Queen Street Extension Project - Three historic properties documented: SIHP # 50-80-14-6658, a cluster of 28 burials; SIHP # 50-80-14-6659, two isolated burials; and SIHP # 50-80-14-6660, a post-Contact trash deposit |

| Author | SIHP # 50-80-14 | Report Description and Findings |
|--|---------------------------|--|
| Hammatt 2008 | -6910; -6911; -6912 | Monitoring associated with the development of the Ko'olani Towers Phase I - Three historic properties identified: SIHP # 50-80-14-6910, a single pre-Contact burial; SIHP # 50-80-14-6911, a cluster of 16 historic coffin burials; and SIHP # 50-80-14-6912, a single burial |
| Fong, Borthwick, and Hammatt 2009 | NA | Monitoring of Kapi'olani Boulevard Drainage, Water, and Sewer Systems Improvements - No historic properties observed |
| O'Hare, Tulchin, T., Borthwick, and Hammatt 2009 | NA | Archaeological inventory survey plan for three Kamehameha Schools Kaka'ako Mauka parcels including Civic Center Transit Center location - Preliminary testing identified extensive fill layers overlying naturally deposited sandy clay and marsh/pond sediments. No historic properties identified |
| Thurman, Altizer, O'Hare, Shideler, and Hammatt 2009 | -6856 | Archaeological inventory survey for Queen Street parks project - One previously identified historic property: SIHP # 50-80-14-6856, a historic fishpond remnant, originally identified by Bell et al. (2006) |
| Tulchin, T. Altizer, Borthwick, and Hammatt 2009 | NA | Archaeological assessment of the proposed Halekauwila Place Project - No historic properties identified. The stratigraphy observed within the subject parcel generally consisted of three to five layers of historic and modern fill material overlying naturally deposited sediment layers (sandy clay and gleyed clay sediments typical of a wet, marsh-type environment). |
| Pammer and Hammatt 2010a | NA | Archaeological assessment - No historic properties were identified within the 4.7-acre project area. The project area was observed to have undergone extensive land modification by the filling of the low lying areas of Kaka'ako. |
| Pammer and Hammatt 2010b | NA | Archaeological assessment for an approximately 0.26-acre Moana Vista project on Kapi'olani Boulevard - No historic properties identified |
| Altizer et al. 2011 | -6636 (a kilometer north) | This archaeological monitoring report for the Kapi'olani area revised sewer system documented SIHP # 50-30-14-6636, a wetland deposit, in Sewer Line G, near Kamaile Street, far from the present project area. |

| Author | SIHP # 50-80-14 | Report Description and Findings |
|--|-----------------------------------|--|
| Pammer, Fong, and Hammatt 2011 | -7124; -7189; -7190; -7197 | A total of four historic properties were identified within the project area: SIHP # 50-80-14-7124, -7189, -7190 and -7197. SIHP # 50-80-14-7124 consists of 31 historic building remnants features (Features A – EE), generally located just beneath the modern layers of fill. SIHP # 50-80-14-7189 consists of a layer of burnt historic debris, suspected to be from the open air burning of urban refuse during the early 1900s. SIHP # 50-80-14-7190 consists of old salt pan remnants, presenting as an approximately 5 cm thick layer of alternating peat and clay striations. SIHP # 50-80-14-7197 consists of a sandy cultural layer containing one late pre-Contact/early post-Contact fire pit feature. |
| Runyon, Thurman, O'Hare, Borthwick, and Hammatt 2011 | -6636; -6641; -7115; -7116; -7117 | Five historic properties are significant based on Hawai'i Register* criteria: SIHP # 50-80-14-6641, a burnt historic trash layer, was previously evaluated and determined significant under criteria A and D; SIHP # 50-80-14-6636, Kewalo wetland sediment, was previously evaluated and determined significant under criteria A and D; SIHP # 50-80-14-7115, a subsurface cultural layer containing intact pit features and artifacts is significant based on criteria A, D, and E; SIHP # 50-80-14-7116, a buried low-energy alluvial layer, is significant based on criteria A and D; SIHP # 50-80-14-7117, based on available archaeological information, is a concentration of post-Contact human burials, the majority of which are in an extended burial posture and located in coffins. All 27 burials were documented in pits extending down from the overlying buried, culturally-enriched A-horizon (SIHP # -7115). |
| Yamauchi et al. 2011 (draft) | | This archaeological monitoring report for the Queen and Kamake'e traffic signal project identified no historic properties. |
| Runyon, Borthwick, and Hammatt 2012 | -6636 | Archaeological Inventory Survey Report for the Senior Residence at Pi'ikoi. SIHP # 50-80-14-6636 consists of buried Kewalo wetland sediments, found in all test trenches in the project area. The site has been previously documented in nearby areas in Kaka'ako (O'Hare et al. 2003, O'Hare et al. 2004, Tulchin, T. and Hammatt 2005, and Runyon et al. 2011). |

| Author | SIHP # 50-80-14 | Report Description and Findings |
|---------------------------------|-----------------|---|
| Sroat and McDermott 2012 | -6855 | This supplemental archaeological inventory survey report for the Ward Village Shops Phase 2 project identified no new historic properties. Further documentation of SIHP -6855 was conducted. |
| Dagher and Spear 2013(draft) | -7260 | This burial site component of a data recovery plan for State Site 50-890-14-7260 addresses the inadvertent find of a partial set of displaced human skeletal remains at the east corner of Halekauwila Street and Cooke Street. |

(south), including extensions east for Kawaiaha'o Lane, Queen Street, and Auahi Street. Portions of Pohukaina Street, Quinn Lane, and Reed Lane are also within this district (see Figure 74). The observed stratigraphy generally consisted of imported construction fill material overlying naturally deposited Jaucas sand or black cinder deposits. In many cases, these Jaucas sand or black cinder deposits were culturally enriched with pre- and post-Contact deposits including: human burials, building foundations, trash pits, midden concentrations, and various pre- and post-Contact artifacts.

During the course of archaeological monitoring and data recovery activities, 149 human burials were identified and disinterred: 31 burials from the 1853-1854 Honuakaha Smallpox Cemetery (SIHP # 50-80-14-3712 / -4531) at Quinn Lane, one historic burial from Punchbowl Street (SIHP # 50-80-14-4532), one possibly pre-Contact burial from Halekauwila St. (SIHP # 50-80-14-4533), and 116 historic burials from Kawaiaha'o Cemetery (SIHP # 50-80-14-4534) at Queen Street (used from 1825-1920).

Archaeological Monitoring along Punchbowl Street (Cordy and Hammatt 2005)

In 2005, CSH completed archaeological monitoring along Punchbowl Street for the installation of planters, improved sidewalk access, and the establishment of a north-bound contra flow lane (see Figure 74). No historic properties were identified. Observed stratigraphy generally consisted of historic and modern fill material overlying naturally deposited sediment layers (Jaucas sand or black cinder).

Kaka'ako Improvement District 3 (Winieski and Hammatt 2000a)

Between November 1990 and September 1992, CSH conducted archaeological monitoring at the Kaka'ako Improvement District 3 area (see Figure 74). The monitoring of sub-surface excavations revealed that although the area had been previously disturbed to a great extent, undisturbed beach sand and volcanic cinder deposits were still intact below fill layers. Twenty human burials were encountered; nine burials were discovered at the Pohulani Elderly Rental Housing (SIHP # 50-80-14-4380), and 11 were in and around Mother Waldron Park (SIHP # 50-80-14-5820). Seventeen of the burials were discovered *in situ*; three were too fragmented and disturbed for an *in situ* location to be established. Four burials were in extended supine position; seven were in fully flexed positions. Burial positions for the remaining nine burials could not be established. Seventeen of the burials were recovered and reinterred in Mother Waldron Park.

Three were left in place beneath the Pohulani Elderly Rental Housing Facility (Winieski and Hammatt 2000a).

State Office Building #2 at the Corner of Punchbowl and Halekauwila Streets (Ota and Kam 1982; Clark 1987)

In 1982, six partial sets of human remains were documented during the construction of State Office Building #2 at the corner of Punchbowl and Halekauwila Streets (see Figure 74). The remains were in poor condition, and ethnicity could not be determined for four of the six sets of remains. Two of the burials showed evidence of incisor evulsion (forcible pulling out or extraction), which was practiced by late pre-Contact Hawaiians (Ota and Kam 1982). These burials were designated SIHP # 50-80-14-2963.

In 1987, seven sets of human remains were discovered during the construction of a parking garage on the corner of Punchbowl and Halekauwila Streets (Clark 1987). Four of the burials were intact with well-defined burial pits, and these were assumed to be of Hawaiian ancestry. Only one of the individuals was believed to be pre-Contact in age. These burials were incorporated into SIHP # 50-80-14-2963, previously identified by Ota and Kam (1982). Additional cultural material recovered at the site included basalt tools, glass bottles, ceramic fragments, and metal objects. The Ft 10 burial was reported from a depth of 75 cmbs, but other burial depths were reported "below graded surface" (Clark 1987:63-75).

614 South Street (Avery and Kennedy 1993)

In 1993, Archaeological Consultants of Hawaii, Inc. (ACH) conducted archaeological monitoring of subsurface excavations at 614 South Street (see Figure 74). Monitoring was required following the inadvertent disturbance of three *in situ* burials. The subject property was located over a portion of the historic Honuakaha Smallpox Cemetery (SIHP # 50-80-14-3712). The excavation of trenches across the property and on Quinn Lane identified the presence of six additional *in situ* human burials. A historic trash pit dated to the early twentieth century was also identified.

All nine burials and the trash pit were included as features of the Honuakaha Smallpox Cemetery (SIHP # 50-80-14-3712). All of the burials were situated in the known bounds of the cemetery and were probably interred during the smallpox epidemic of 1853 (Avery and Kennedy 1993: 19). Two of the burials contained grave goods consisting of: a drilled dog's tooth pendent, a gold earring, and glass and shell beads. All of the identified burials were situated within Jaucas sand deposits.

Judiciary Parking Garage (Athens 1986)

In December of 1985, monitoring was conducted for the proposed Judiciary Parking Garage, at the northwest corner of Pohukaina and South Streets (Athens 1986). In the nineteenth century, this project area would have been in the *'ili* of 'Auwaiolimu, south of three fishponds. No undisturbed sand layers were noted in the excavations, and much of the area appeared to have been disturbed prior to the excavation. It is likely that the area was under water, or was intertidal in pre-Contact times, and therefore, little in the way of pre-Contact Hawaiian deposits would be found. No pre-Contact cultural deposits or artifacts were recorded, but historic artifacts were common in concentrations and scattered throughout the several fill layers exposed in the construction trenches. Soda bottles of three O'ahu bottlers were found, including the Sunrise

Soda Water Works, Pacific Soda Works, and Arctic Soda Works. These blob-top bottles date between 1880 and 1915. The deposit was designated SIHP # 50-80-14-3984.

Federal Judiciary Building Parking Complex (Leidemann 1988)

In 1988, the Bernice Pauahi Bishop Museum conducted archaeological monitoring for the Federal Judiciary Building parking complex (Leidemann 1988). The project area was described as on the northwest corner of Pohukaina and South Streets in the text (Leidemann 1988:1), which would make this project area the same as Athens' 1986 study area (described above). However, on their Figure 1 (Leidemann 1988:2), the project area was drawn on the northwest corner of Reed Lane and South Street, which would make this project area immediately north of the Athens' study area. Leidemann made no mention of the Athens study in her report. Clark (1987:22) stated that the project areas were the same. As in the Athens study, no undisturbed sand deposits were recorded and no pre-Contact artifacts were found. Analysis of the post-Contact artifactual material encountered determined that the most likely time frame for the manufacture and disposal of the historic artifacts found was for the years between 1880 and 1930. The deposit was designated SIHP # 50-80-14-1973.

Honolulu Ironworks Burials (Yent 1985)

In 1985, five burials were uncovered at the former Honolulu Ironworks lot (Yent 1985), which is the block at the corner of Punchbowl and Pohukaina Street. The burials were found in burial pits in the sand deposit that lies under at least a meter of the ironworks fill. Two of the individuals were in an extended position. A crew from the Division of State Parks disinterred the five burials, which were later designated SIHP # 50-80-14-2918. Yent's report does not contain a map, so the locations of the burials disinterred by the Division of State Parks are unknown.

Former Comp USA Parcel (Pammer and Hammatt 2010a)

No historic properties were identified within the 4.7-acre project area. The project area was observed to have undergone extensive land modification by the filling of the low lying areas of Kaka'ako.

Kamehameha Schools Block 2 Parking Lot (Pammer et al. 2011)

In 2011 CSH (Pammer, Fong, and Hammatt 2011) completed an archaeological inventory survey for a Kamehameha Schools Block 2 parking lot parcel bounded by South Street to the northwest, Halekauwila Street to the northeast, Keawe Street to the southeast, and Pohukaina Street to the southwest. A total of four historic properties were identified within the project area: SIHP # 50-80-14-7124, -7189, -7190 and -7197. SIHP # 50-80-14-7124 consists of 31 historic building remnants features (Features A – EE), generally located just beneath the modern layers of fill. These include brick and mortar clusters, slabs of concrete/basalt, concrete footings with metal supports, large slabs of very hard, corroded, melted metal, and pit features containing demolition debris. SIHP # 50-80-14-7189 consists of a layer of burnt historic debris, suspected to be from the open-air burning of urban refuse during the early 1900s. The charred remains were then utilized to fill in the unwanted wetlands around the project area. The observed cultural materials include glass bottles, ceramics, and other domestic waste. SIHP # 50-80-14-7190 consists of old salt pan remnants, presenting as an approximately 5 cm thick layer of alternating peat and clay striations. SIHP # 50-80-14-7197 consists of a sandy cultural layer containing one late pre-Contact/early post-Contact fire pit feature.

Proposed Civic Center Transit Station Area (O'Hare et al. 2009)

In 2009, CSH (O'Hare, Tulchin, T., Borthwick, and Hammatt 2009) prepared an archaeological inventory survey plan for three Kamehameha Schools Kaka'ako *mauka* parcels (see Figure 74). One of the *mauka* parcels encompasses the *makai* half of the proposed Civic Center transit station. To formulate a strategy for testing, preliminary archaeological work, in the form of subsurface testing, was conducted. Preliminary testing identified the following stratigraphic sequence: 1) fill layers consisting of mixed marine/terrigenous soil strata; layers of incinerated and un-burnt garbage with metal, glass, and ceramic fragments; crushed coral layers; volcanic cinders; and pumped/dredged marine clay layers; 2) a naturally deposited sandy clay or sandy loam; and 3) a very dark gray sandy clay with organic material representing former marsh/pond sediments of the pre-Contact and pre-Hawaiian occupation of the islands.

Halekauwila Place Project (Tulchin et al. 2009)

In 2009, CSH (Tulchin, T., Altizer, Borthwick, and Hammatt 2009) completed an archaeological assessment of the proposed Halekauwila Place project, located just *makai* of the study area, in between the proposed Civic Center and Kaka'ako transit stations (see Figure 74). As the subject parcel was an asphalt parking lot, the assessment consisted of subsurface testing; this involved the excavation of 18 backhoe trenches. No historic properties were identified.

The stratigraphy observed within the subject parcel generally consisted of three to five layers of historic and modern fill material beneath the modern asphalt pavement and gravel base course. Naturally-deposited sediment layers (sandy clay and gleyed clay sediments typical of a wet, marsh-type environment) were generally encountered at depths approximately 0.9-1.3 m below the current land surface, within approximately 0.5-1.0 m of the water table.

Coral and Queen Streets (Douglas 1991a; Douglas 1991b)

These two osteological reports analyze burial finds from a site documented as part of Kaka'ako Improvement District 3 (Winieski and Hammatt 2000a).

In November of 1990, during construction of an elderly housing project at the southwest corner of Coral and Queen Streets (see Figure 74), human bones were uncovered and reported to the State Historic Preservation Division (Douglas 1991a). Disinterment of the burials was recommended, and CSH then conducted excavations in November of 1990. Eight separate burials were identified on the east side of the property, with only five removed. A glass bead was found with one burial, suggesting a post-Contact date. One burial also exhibited a pre-mortem loss of the mandibular incisors, which suggests deliberate tooth evulsion. This procedure was known to have been practiced by Hawaiians in the pre-Contact and early post-Contact period. The author concluded that the burials were probably of Hawaiian ethnicity, perhaps representing a nuclear family. This burial area was later designated SIHP # 50-80-14-4380. This project area is within the boundary of LCA 2045 to Kauwahi, who received the parcel in the time of Kamehameha I, indicating that this was a Hawaiian habitation area as early as the beginning of the nineteenth century.

In March of 1991, during excavation of a waterline trench between Coral and Queen Streets across Mother Waldron Park, human skeletal remains were discovered and disinterred (Douglas 1991b). The remains were determined to be of Hawaiian ancestry, with a pig burial possibly associated with the burial. These burials were considered part of SIHP # 50-80-14-4380.

Kaka'ako Improvement District 7 (Souza et al. 2002)

In 2000, excavation associated with the Kaka'ako Improvement District 7 construction was undertaken by CSH (see Figure 75). Three human burials were encountered, which were severely disturbed by excavation activity (Souza, Perzinski, and Hammatt 2002). The burials' age and ethnicity are unknown, though the lack of grave goods may indicate they are pre-Contact or early post-Contact. Burial 1 (SIHP # 50-80-14-6376) was inadvertently discovered by Delta Construction Company personnel on October 13, 2000 in the base yard back dirt pile. Burial 2 (SIHP # 50-80-14-6377) was encountered by a CSH archaeologist during backhoe excavations for a box drain. The burial was within an undisturbed beach sand deposit. Burial 3 (SIHP # 50-80-14-6378) was recovered in the Delta Co. base yard on Pensacola Avenue and Kapi'olani Boulevard.

Kapi'olani Boulevard Drainage, Water, and Sewer Systems (Fong et al. 2009)

In 2009, CSH (Fong, Borthwick, and Hammatt 2009) completed archaeological monitoring of construction associated with the upgrading of existing drainage, water, and sewer systems within Kapi'olani Boulevard, from Kalākaua Avenue to Ward Avenue; within Kamake'e Street, from Kapi'olani Boulevard to Auahi Street; and within Atkinson Drive, from Kapi'olani Boulevard to Ala Moana Boulevard (see Figure 75). No historic properties were observed.

Observed stratigraphy consisted primarily of imported fill material associated with utility and road construction. In some instances, pockets of naturally deposited sediment (Jaucas sand and wetland clays) were observed beneath fill deposits.

Kaka'ako Improvement District 4 (Winieski and Hammatt 2000b)

In 2000, archaeological monitoring by CSH for the Kaka'ako Improvement District 4 construction (see Figure 75) documented two isolated historic coffin burials (SIHP # 50-80-14-5598) on Kamake'e Street, between the intersections of Kawaiaha'o and Waimanu Streets (Winieski and Hammatt 2000b). The two adjacent burials were found in undisturbed beach sand with an associated A horizon that was capped by modern fill. Well-defined burial pits were present, as well as staining from the deteriorated coffin wood. No associated artifacts, other than the coffins, were discovered during disinterment.

Victoria Ward Village Shops (Bell et al. 2006 and Sroat and McDermott 2011)

In 2006, CSH (Bell, McDermott, and O'Leary 2006) completed an archaeological inventory survey for the Victoria Ward Village Shops (see Figure 75). Three historic properties were identified: SIHP # 50-80-14-6854, a subsurface cultural layer/activity area remnant consisting of an immature pig skeleton, remnants of a historic privy, remnants of a culturally enriched A horizon (containing both historic and prehistoric cultural material), and five human burials; SIHP # 50-80-14-6855, an activity area remnant, comprised of a pronounced subsurface traditional Hawaiian cultural layer that includes scallop-shaped pit features and six human burials; and SIHP # 50-80-14-6856, a historic fishpond remnant, part of Land Commission Grant 3194, "Kolowalu," awarded to Kalae and Kaaua.

The supplemental archaeological inventory survey report for the Ward Village Shops Phase 2 project (Sroat and McDermott 2011) identified no new historic properties; however, further documentation of SIHP -6855 was conducted.

Queen Street Extension Project (O'Hare et al. 2006)

In 2004, CSH completed archaeological monitoring for the Queen Street Extension Project (see Figure 75). Three historic properties were documented: SIHP # 50-80-14-6658, SIHP # 50-80-14-6659, and SIHP # 50-80-14-6660. SIHP # 50-80-14-6658 is a cluster of 28 burials within the Queen Street extension. Seventeen of the 28 burials were determined to be of Hawaiian ethnicity, based on the types of grave goods, the presence of tooth ablation, and a traditional burial position (flexed vs. extended). The ethnicity of the remaining 11 could not be definitively determined, but it is assumed that most of these were also Hawaiian since this area of Kaka'ako was not inhabited by other ethnic groups until the twentieth century. All grave goods were historic; most were dated to the mid-to-late nineteenth century. It is possible that many of these individuals were victims of the 1853 smallpox epidemic or one of the other epidemics that decimated the Hawaiian population in the last half of the nineteenth century. SIHP # 50-80-14-6659 consists of two isolated burials in a previously disturbed stratigraphic context. The age or ethnicity of these burials could not be determined. SIHP # 50-80-14-6660 is a discrete historic dump area containing bottles dated to the early twentieth century (O'Hare, Bush, and Hammatt 2006). The burials were typically encountered at depths of 88-118 cmbs (inference from reported stratigraphy—see O'Hare, Bush, and Hammatt 2006:73 and 76). The burials were reinterred in a reburial vault in the immediate vicinity on the *mauka* side of Queen Street.

Queen Street Parks Project (Thurman et al. 2009)

In 2009, CSH (Thurman, Borthwick, Altizer, O'Hare, Shideler, and Hammatt 2009) completed an archaeological inventory survey for the Queen Street Parks project (see Figure 75). Fieldwork involved the excavation of 29 backhoe trenches. One previously identified historic property was recorded: SIHP 50-80-14-6856, a historic fishpond remnant, originally identified by Bell et al. (2006).

Documented stratigraphy consisted of varying layers of fill overlying various naturally deposited sediments atop the coral shelf. The fill consisted of imported terrigenous sediment, incinerator material containing burnt and un-burnt historic refuse, crushed coral, and hydraulic pump dredge. Natural sediments consisted primarily of backshore marsh or pond sediments associated with SIHP -6856 ("Kolowalu" fish pond). Naturally deposited Jaucas sand deposits were also observed.

Moana Vista Project (Pammer and Hammatt 2010b)

This archaeological assessment for an approximately 0.26-acre Moana Vista project on the *makai* side of Kapi'olani Boulevard, northwest of Kamake'e Street, identified no historic properties.

Ko'olani Condominium (O'Hare et al. 2004 and Hammatt 2008)

In 2003, CSH (O'Hare, Borthwick, and Hammatt 2004) conducted an archaeological inventory survey for the Ko'olani Condominium parcel in the Kewalo area, Honolulu (see Figure 75). Two previously unrecorded historic properties were found. SIHP # 50-80-14-6639 and SIHP # 50-80-14-6641 are historic trash pits dating from the early twentieth century. In addition, one previously recorded historic property, the original wetland surface of Kewalo (SIHP # 50-80-14-6636), was documented (O'Hare, Borthwick, and Hammatt 2004).

In 2008, CSH (Hammatt 2008) completed archaeological monitoring associated with the development of the Ko'olani Towers Phase I, located in Kaka'ako, west of Waimanu Street and mid-block between Kamake'e Street and Pi'ikoi Street (see Figure 75). Three historic properties were identified: SIHP # 50-80-14-6910, a single pre-Contact burial; SIHP # 50-80-14-6911, a cluster of 16 historic coffin burials believed to comprise a discrete cemetery; and SIHP # 50-80-14-6912, a single burial (the total number of burials encountered was 18). In addition, various historic trash deposits were observed throughout their study area but were not considered eligible for the Hawai'i Register of Historic Places (Hammatt 2008). Burials were reported at depths of 60 cmbs, 78 cmbs, and 100 cm below surface, but no depths are reported for most burials (owing to removal of the former ground surface in the vicinity prior to burial discovery). Eight of the burials were left in their original place of interment, with most of the rest relocated closer to the burials left in place.

Phase II Portion of the Ko'olani Condominium (Tulchin and Hammatt 2005)

In 2005, an inventory survey was conducted by CSH (Tulchin, T. and Hammatt 2005) for the Phase II portion of the Ko'olani Condominium parcel in the Kewalo area of Honolulu (see Figure 75). Two historic properties were identified: SIHP # 50-80-14-6636, original wetland surface of Kewalo area, and SIHP # 50-80-14-6641, historic garbage layer. Both were previously identified by O'Hare et al. (2004).

Waihonua (Runyon et al. 2011)

In 2011, CSH (Runyon, Thurman, O'Hare, Borthwick, and Hammatt 2011) completed an archaeological inventory survey for the Ko'olani Phase II (re-named Waihonua) project (located just *mauka* of the Tulchin, T. and Hammatt 2005 project area). Five historic properties—two previously documented and three newly identified—are documented within the project area. During a prior archeological inventory survey investigation (Tulchin, T. and Hammatt 2005), eight trenches were excavated within the southern portion of that project area. The investigation documented a layer of burnt trash, which dated from the 1880s to 1920s and was designated SIHP (State Inventory of Historic Properties) # 50-80-14-6641, located in the southern portion of that project area. Additionally, buried Kewalo wetland sediment was documented in the southern portion of the Waihonua project area and was designated SIHP # 50-80-14-6636.

Based on the current investigation, the boundary of SIHP # -6641 was expanded. The three newly documented historic properties included:

SIHP # 50-80-14-7115, a buried culturally enriched sand A-horizon (cultural layer) containing multiple pit features and pre- and post-Contact artifacts located throughout the west half of the Waihonua project area;

SIHP # 50-80-14-7116, a buried low-energy alluvial layer (gleyed sediment) corresponding geographically to a documented historic pond, located in the northern portion of the project area; and

SIHP # 50-80-14-7117, a concentration of 27 post-Contact human burials, located in the western portion of the Waihonua project area.

Senior Residence at Pi'ikoi (Runyon et al. 2012)

In 2012, CSH (Runyon, Borthwick, and Hammatt 2012) completed an archaeological inventory survey for the Senior Residence at Pi'ikoi. One historic property was identified: SIHP # 50-80-14-6636, consisting of buried Kewalo wetland sediments found in all test trenches in that project area. The site has been previously documented in nearby areas in Kaka'ako (O'Hare et al. 2003, O'Hare et al. 2004, Tulchin, T. and Hammatt 2005, and Runyon et al. 2011).

Rehabilitation of Streets Unit 5B on Pi'ikoi Street (Esh and Hammatt 2006)

In August 2004, CSH conducted archaeological monitoring for the Rehabilitation of Streets Unit 5B on Pi'ikoi Street between Ala Moana Boulevard and Matlock Street (Esh and Hammatt 2006) (see Figure 75). No historic properties were observed.

4.4 Kālia

Previous archaeological studies in the immediate vicinity of the Kālia portion of the project corridor are summarized in Table 10 and studies in the general vicinity are depicted in Figure 76. The most germane archaeological studies in the Kālia area are summarized below.

Kona Street Iwi (Smith 1989)

In 1989, four bone fragments were found by construction workers in a property (TMK 2-3-39:19) just *mauka* (approximately 20 m) of Kona Street (toward Kapi'olani Boulevard) and just east (80 m?) of Pi'ikoi Street (toward Kona Iki Street) (see Figure 76). The precise location and depth of the find are unclear, as the bone fragments had been disinterred prior to the visit of the State archaeologist. The find was reported to Marc Smith (1989) of SHPD. Smith examined the bones and determined that only one was human; the others were pig bones. The human bone was a right tibia shaft fragment. The human bone was temporarily taken to the Honolulu SHPD office, and the location was given the designation of SIHP # 50-80-14-4243. The project supervisor "expressed an interest in the later return of the bone to be reburied on site at the end of the project" (Smith 1989:1). The final resting place of the bone is unclear.

1391 Kapi'olani Boulevard Parcel (Burke and Hammatt 2012)

CSH carried out an archaeological inventory survey for a 1391 Kapi'olani Boulevard parcel involving 22 test excavations. SIHP # 50-80-14-7193, a historic trash layer dating from the 1930s to the 1950s was documented.

Walmart/Sams Club (Sinoto 2000 and McElroy 2010)

Aki Sinoto Consulting conducted an archaeological assessment (Sinoto 2000) and prepared an archaeological monitoring plan (Sinoto and Pantaleo 2002) for Makaloa-Sheridan Sam's Club/Wal-Mart Project. Archaeological monitoring of the project was conducted from 2002 to 2004 (McElroy 2010). Human remains (MNI = 64) (SIHP # 50-80-14-6516, -6661, and -6662) were observed in six areas throughout the project parcel. The burials appear to represent both pre-Contact and post-Contact burials.

Table 10. Previous Archaeological Studies in the Immediate Vicinity of the Kālia Portion of the Study Corridor (arranged chronologically)

| Author | SIHP # 50-80-14 | Report Description and Findings |
|-------------------------------------|-------------------------|---|
| Smith 1989 | -4243 | Inadvertent burial find - SIHP # 50-80-14-4243 (bone fragment) <i>makai</i> of Kapi'olani Blvd., southeast of Pi'ikoi St. |
| Sinoto 2000 | NA | This archaeological assessment of a "Superblock" (present St. Sam's Club/Wal-Mart) noted that some remains may still be present. |
| O'Leary and Hammatt 2004 | NA | This archaeological monitoring report addressed Kapi'olani Blvd. from Kalākaua Ave. to Kamake'e St. but reported no significant finds. |
| Hammatt 2006 | -6847 | Inventory survey for Ala Moana <i>mauka</i> expansion - One historic property observed: SIHP # 50-80-14-6847, post-Contact trash deposit |
| Hazlett, Loynaz, and McDermott 2008 | NA | Monitoring of the Ala Moana expansion project - No historic properties encountered |
| Fong, Borthwick, and Hammatt 2009 | NA | This archaeological monitoring report addressed Kapi'olani Blvd. from Atkinson Dr. to Kamake'e St. but reported no significant finds. |
| McElroy 2010 | -6516; -6661; and -6662 | This after-the-fact archaeological monitoring report documents human remains (MNI = 64) found in six areas, assigned SIHP #s -6516, -6661, and -6662. Both pre-Contact and post-Contact burials |
| Burke and Hammatt 2012 | 7193 | 1391 Kapi'olani Boulevard Parcel - archaeological inventory survey for a 1391 Kapi'olani Boulevard parcel involving 22 test excavations. SIHP # 50-80-14-7193, a historic trash layer dating from the 1930s to the 1950s, was documented. |

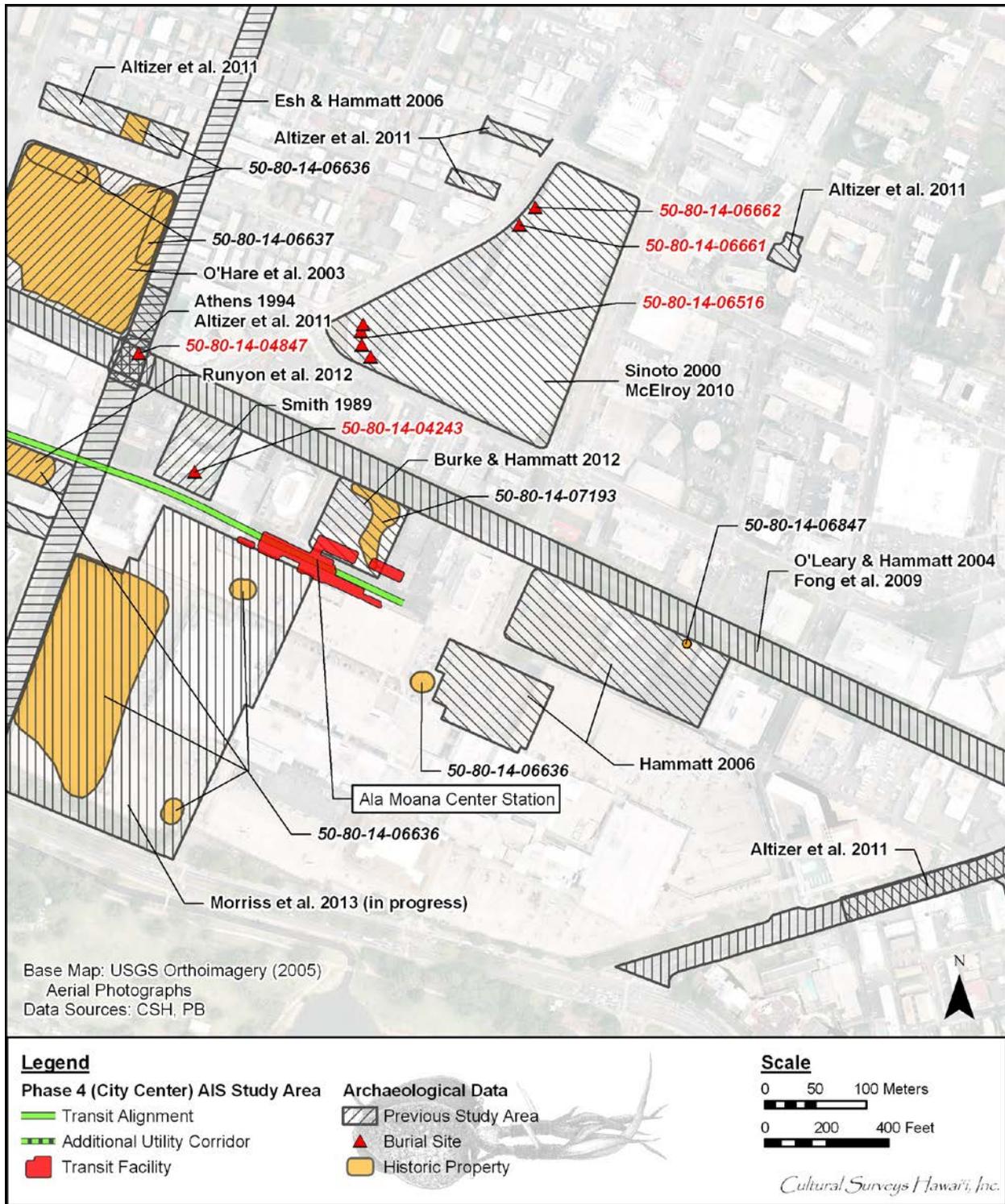


Figure 76. Previous archaeological studies in the general vicinity of the Kālia end of the project corridor (Source: U.S. Geological Survey 2005)

Kapi'olani Boulevard Monitoring (O'Leary and Hammatt 2004 and Fong et al. 2009)

O'Leary and Hammatt (2004) and Fong, Borthwick, and Hammatt (2009) report archaeological monitoring along Kapi'olani Boulevard, but the subsurface impacts of the two projects were relatively light, and no historic properties are reported.

Ala Moana *Mauka* Expansion (Hammatt 2006 and Hazlett et al. 2008)

In late 2005 and early 2006, an archaeological inventory survey of the Ala Moana Expansion property (TMK: 1 2-3-38: 001 and 2-3-40: 005, 007, 009, 011, 014, 016, and 018) was conducted by CSH (Hammatt 2006) (see Figure 76). The investigation's 30 backhoe trenches revealed no Jaucas sand deposits within the property. The natural land surface, prior to historic/modern fill episodes, was either sandy clay or a highly organically enriched peaty layer. The natural "pre-fill" land surface had been completely removed by prior construction-related disturbances within large portions of the parcel. One historic resource (SIHP # 50-80-14-6847) was found, consisting only of a wooden box placed in a pit cut down into the sandy-clay former land surface. The box contained a mix of historic artifacts, including, among other things, printed material, wooden chopsticks, pig bone, and a horse brush. It was dated to the late nineteenth or early twentieth century.

Between 2006 and 2007, CSH (Hazlett, Loynaz, and McDermott 2008) conducted archaeological monitoring for the Ala Moana expansion project (TMK: 1 2-3-38: 001 and 2-3-40: 005, 007, 009, 011, 014, 016, and 018). Within the *mauka* parcel of the project area (adjacent to Kapi'olani Boulevard), natural stratigraphy was observed beneath imported construction fill, consisting of a discontinuous sandy loam A horizon overlying varying layers of naturally deposited sediments, consisting of loams and clays, indicative of the marsh environment that preceded the land reclamation and subsequent development of the area. Within the *makai* parcel of that project area, imported fill extended to an undetermined depth below the water table. No historic properties were observed.