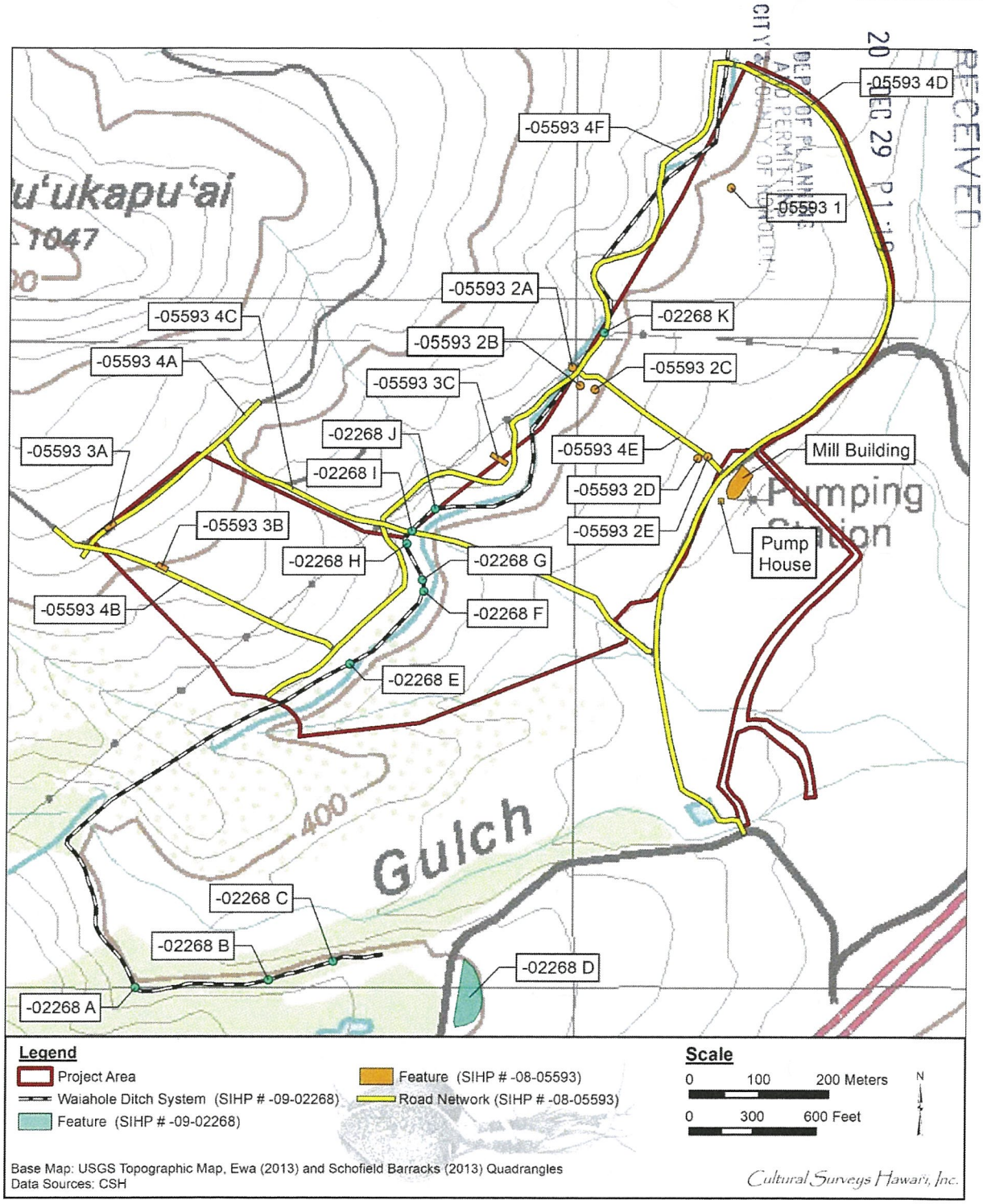

Figure 39. 2013 Ewa and Schofield Barracks USGS topographic quadrangles showing the historic properties identified during the AIS: SIHP # 50-80-08-2268 Feature E through Feature K (shown in green) and SIHP # 50-80-08-5593 Feature 1, Features 2A through 2E, and Features 3A through 3C (shown in orange) and SIHP # 50-80-08-5593 Features 4A through 4F shown in yellow; Features A through D of SIHP # -2268 identified in previous studies nearby the project area were included for reference

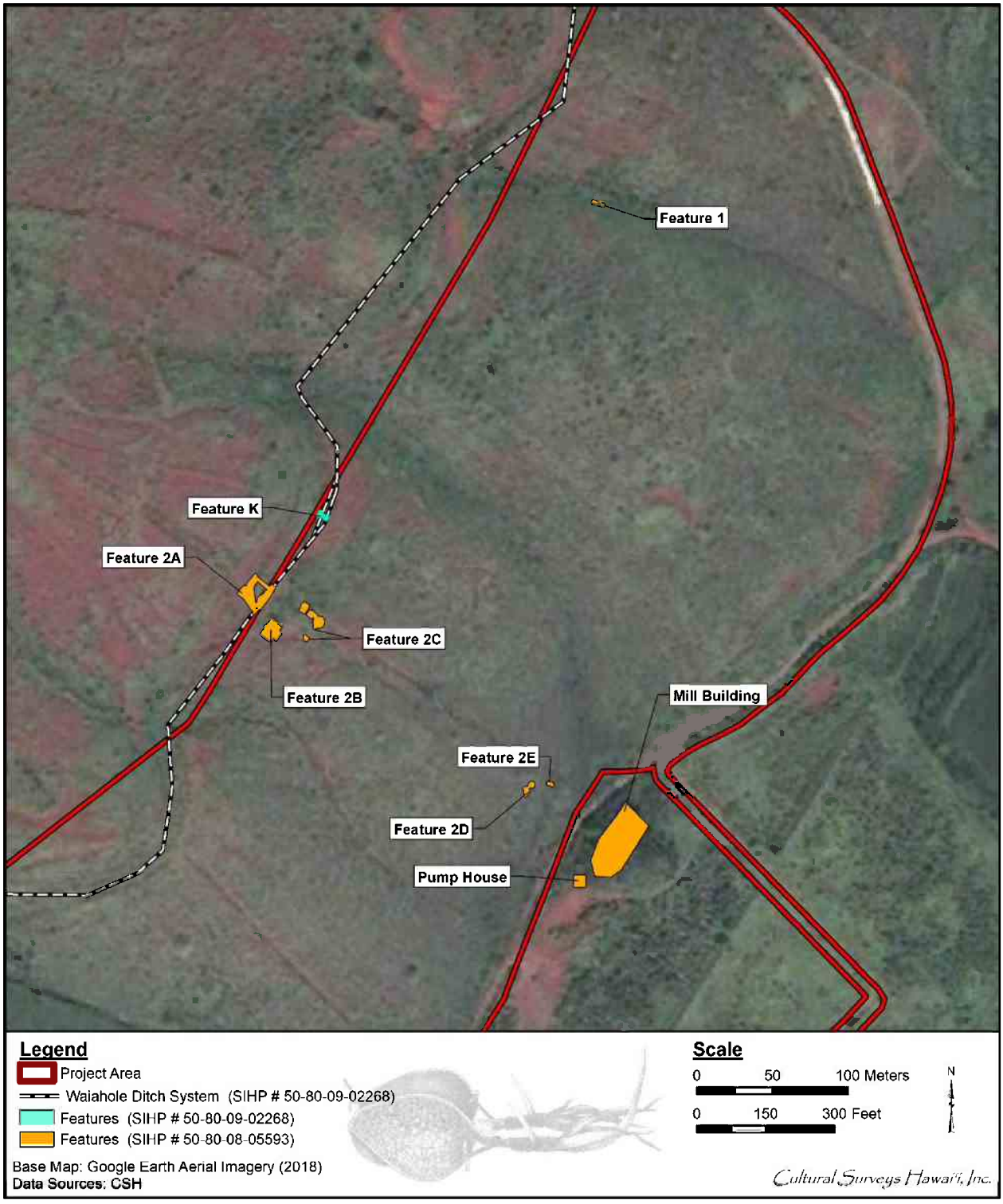

Figure 40. Aerial photograph (Google Earth 2018) depicting the distribution of features of SIHP # 50-80-08-5593 (Feature 1 and Features 2A through 2E) within the project area

Table 3. SIHP # 50-80-08-5593 (Dega et al. 1998 did not designate feature numbers)

Feature #	Brief Description	Reference
—	Mill building containing pumping machinery	Dega et al. 1998:14, 16
—	Pump House 12	Dega et al. 1998:14, 15
—	Water pump feature (concrete, wood, and pumping mechanism)	Dega et al. 1998:15
—	Irrigation system bridge (basalt and mortar, inscribed date of 1928)	Dega et al. 1998:16
—	Stone stack (not described, plotted on figure)	Dega et al. 1998:3
—	Two concrete and metal troughs	Dega et al. 1998:19
—	Four earth-lined water transport ditches	Dega et al. 1998:19
—	Two concrete troughs, 45 cm wide and 45 cm high	Dega et al. 1998:19
1	Concrete and metal drain pipes	Current study
2A–2E	Complex including formal portion of the Waiahole Ditch, water catchment/retention features, flumes, and associated pumping mechanisms	Current study
3A–3C	Complex of three concrete temporary water diversion features	Current study
4A–4F	Complex of graded dirt access roads	Current study

5.1.1 Description of SIHP # -5593 by Dega et al. 1998

A 1998 archaeological inventory survey for the (then proposed) University of Hawai‘i West O‘ahu Campus (Dega et al. 1998) addressed a 991-acre area that encompassed the entire present project area. Dega et al. (1998) documented components of a newly identified historic property, designated SIHP # 50-80-08-5593.

The study mentions the mill building and pump station (“Pump Station 12”), “adjacent to the lower agricultural fields” (see Figure 40 through Figure 42). The current study noted the mill building and pump house are presently enclosed by chain-link fencing. The authors of the 1998 study also mention other features including flumes, dikes, dams, and pumps, but do not include documentation of such features. The provided site location map from the 1998 study (Figure 41) calls out a “Stone Stack,” two “Flumes,” a “Water Tunnel Entrance,” and a “Pipe” (or pipes) that appear to have no textual discussion (Table 3 and Figure 42). The study includes a photo that depicts what appears to be a rather elaborate “Irrigation system bridge” dated 1928—understood as relating to at least one of the “Flume” annotations on the plan map (Figure 43) and as outside the present project area.

According to the authors, the study documented various distinct features: two metal and concrete troughs, four small earth-lined water transport ditches, and two concrete ditches or troughs. No feature numbers were designated in the Dega et al. (1998) study. The 1998 study describes the documented components of the historic property as follows:

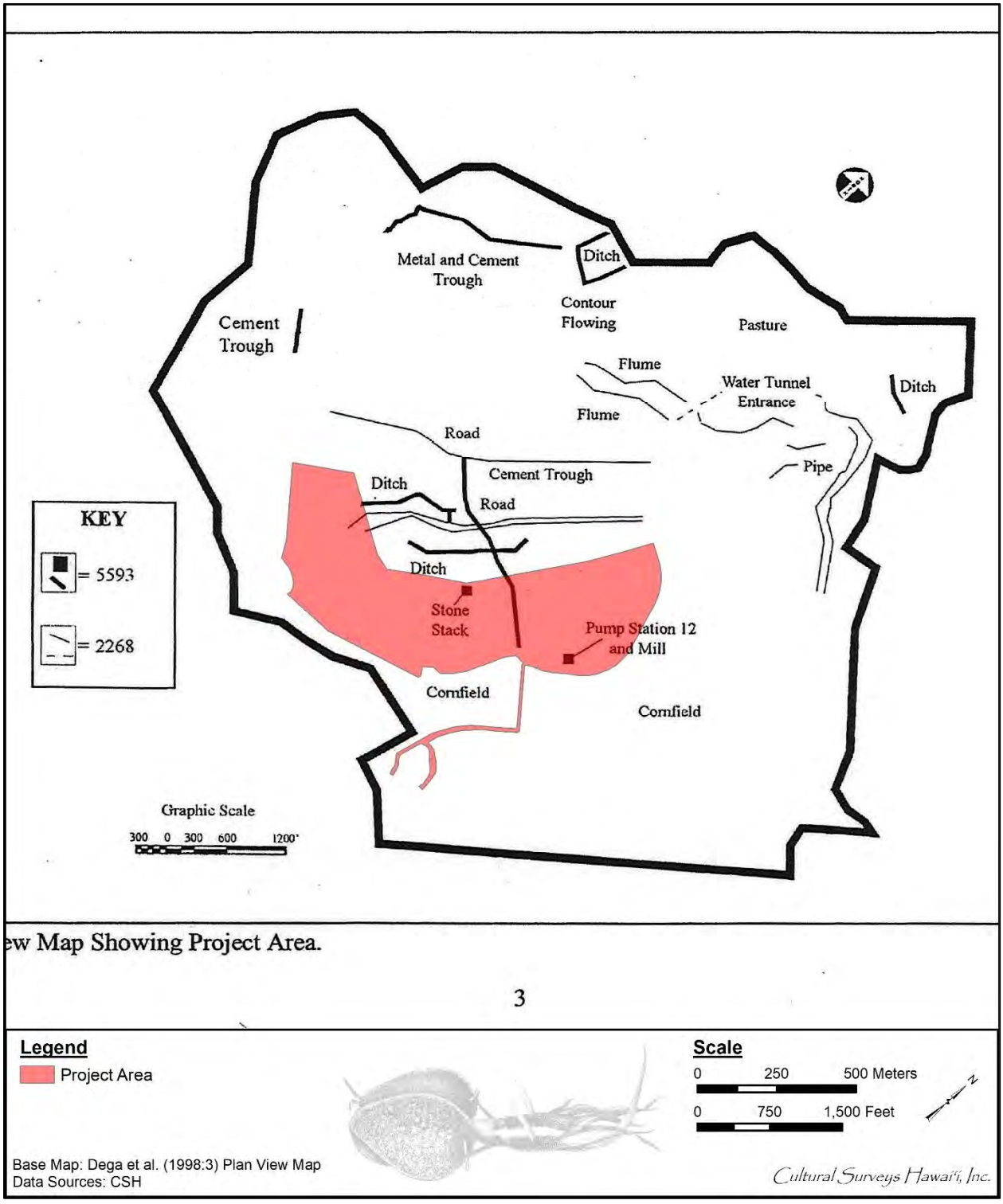

Figure 41. Figure from Dega et al. (1998) showing identified features of two historic properties (Dega et al. 1998:3), with overlay of current project area

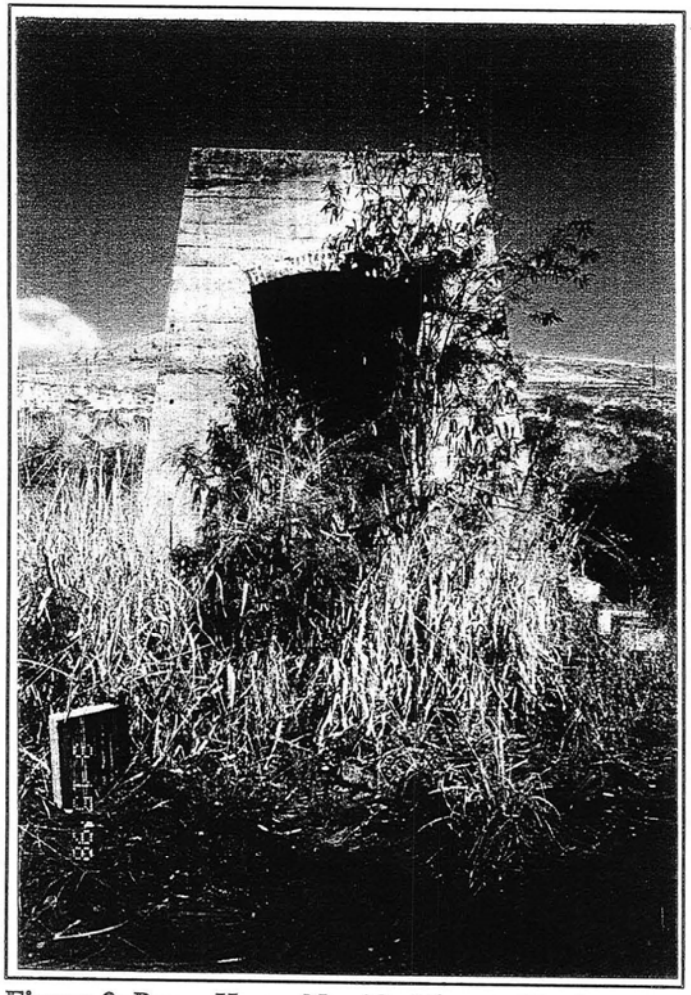

Figure 3: Pump House No. 12. View to Northwest.

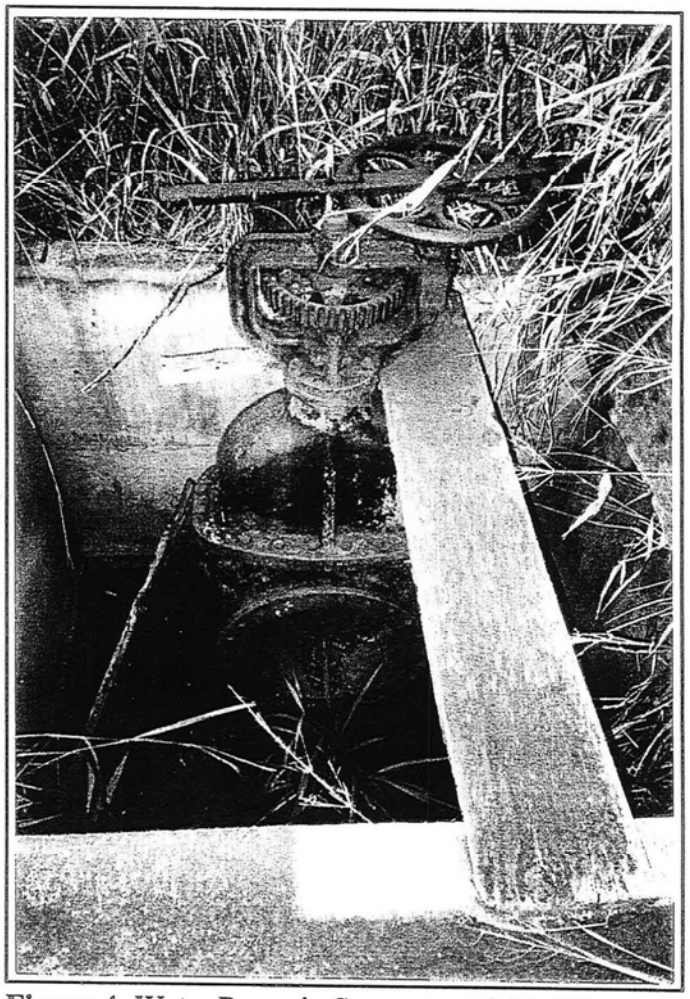

Figure 4: Water Pump in Sugarcane Field. View to West.

Figure 42. Features of SIHP # 50-80-08-5593 documented by Dega et al. (1998:15)

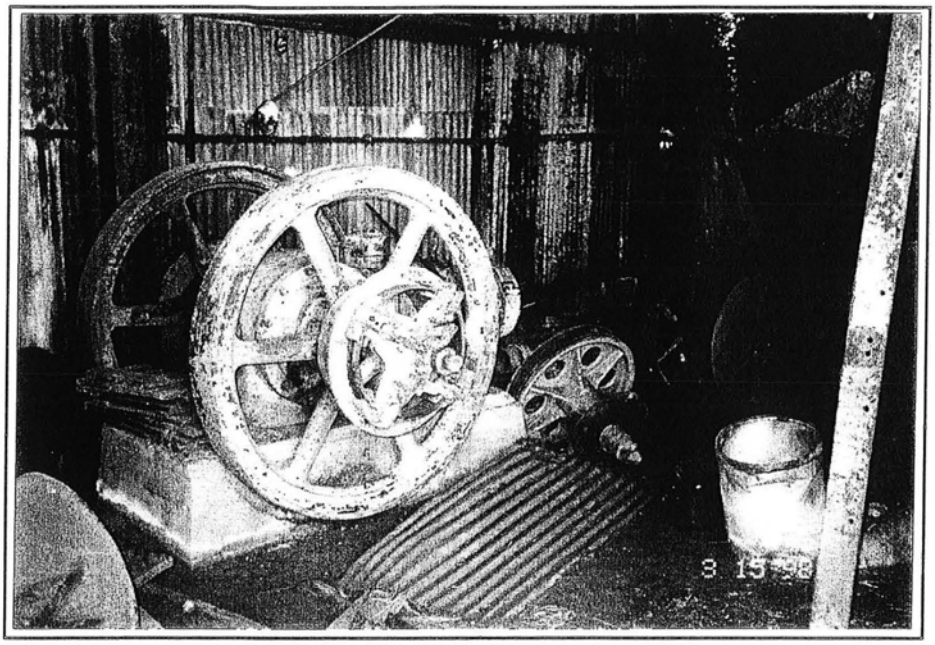

Figure 5: Pumping Machinery at Mill Adjacent to Pump House No. 12. View to North.

Figure 6: Irrigation System Bridge. Note Date of 1928 in Center of Bridge. View to Southeast.

Figure 43. Features of SIHP # 50-80-08-5593 documented by Dega et al. (1998:16)

> Also found on the subject parcel are the remnants of a system which appears to have been designed to gather and transport water for local use. This sites [*sic*] includes a network of small concrete troughs c. 45 cm wide and 45 cm high. These were observed along the summit ridgeline to the northeast of Pu‘u Kapua‘i, from where it entered a ditch system on the lower slopes. Remnant sections of these troughs were also found on the western and southern slopes of Pu‘u Kapua‘i and within the 38 acre parcel which forms the northeastern corner of the project area. Smaller earthen ditches are found throughout the project area, particularly on the east-facing slope at the northern area of the project. Connections of this system with the Waiahole Ditch system were not observed. Water collected and transported through this system was probably used for local ranch operations, extensive sugarcane cultivation, and small-scale agriculture. Because of the leeward location of this parcel, water would flow into this system almost exclusively during Kona or southerly storms. Thus, a total of eight features comprise Site 5593: metal and cement troughs (2), small earth-lined water transport ditches (4), solely cement constructed ditches or troughs (2) and an area containing large clearing mounds adjacent to the lower agricultural fields (1) [The plan view map in their report is referenced].
>
> Of additional interest is a large wooden building (part of Site 5593), presumably constructed in the late 1920’s and utilized through the 1950’s, that occurred on the southern flank of Pu‘u Kapua‘i’s base. This structure and associated pumping system, designated as Pump 12 by Wilcox (1996:106), contained steam engine driven pumps. The preponderance of coal within the building and mechanisms observed through the structure allow for the inference that this indeed was a steam-driven pumping station. These steam pumps were likely needed for transport of water to fields as gravity alone was not enough to propel the water into lower ‘Ewa Plain sugarcane fields. Steam-driven pumps allowed cultivators to propel water into these lower reaches. [Dega et al. 1998:19]

We agree with the Dega et al. 1998 comment above that this was a system which appears to have been designed to gather and transport water for local use, and we follow Dega et al. in designating this local system as SIHP # 50-80-08-5593. This local system used ground water which was pumped (at the large pump house) uphill to the *mauka* fields utilizing in part the Waiahole Ditch distribution system. This was a separate water control system but was integrated with the Waiahole Ditch.

5.1.2 Description of SIHP # -5593 within and adjacent to the Current Project Area

Features documented during the current AIS consist of concrete and metal drain pipes (Feature 1), a complex of water control features (Features 2A through 2E)—associated with the previously documented pump house and mill building (Figure 44 and Figure 45) just southeast (outside) of the present project area—temporary concrete water diversion features (Features 3A through 3C), and plantation-associated dirt access roads (Features 4A through 4F). It is likely that subsurface remnants, such as pipes, are present between Feature 2A and the mill building.

Figure 44. Mill building immediately southeast of the project area boundary (downslope of Feature 2A complex), view to east (Photo L; Figure 27)

Figure 45. Pump House No. 12, southeast of the project area (mill building to the left), view to southeast (Photo M; Figure 27)

SIHP # 50-80-08-5593 Feature 1 consists of plantation-era drain pipes located within a ditch in the northeast portion of the project area (see Figure 40 for location). It is possible this feature was identified during the Dega et al. (1998) study, however, this could not be definitively discerned based on that documentation. The upper/west end of this feature consists of a single observable concrete pipe approximately 35 cm in diameter (the second pipe is likely obscured by collapsed earth) with overlying concrete rubble and stacked basalt, three stones wide and two to three courses high (Figure 46). This upper portion measures 82 cm tall and 90 cm wide.

The east/lower end of Feature 1 consists of two steel pipes (Figure 47 and Figure 48), each approximately 35 cm in diameter, and the exposed portions approximately 40 cm tall. The function of this feature is related to agriculture and water control. Feature 1 is in fair condition, as much of the area is overgrown and heavily eroded.

SIHP # 50-80-08-5593 Feature 2 is a complex encompassing six structures (Features 2A through 2F) associated with the mill building and Pump House 12 (see Figure 40 for location, and Figure 49 through Figure 60). The Feature 2 complex begins at the northern boundary of the project area and extends southeast through the central portion of the project area down the natural slope. The complex is made up of six structures designed to move water from the Waiahole Ditch down the hillside to the pump house and mill building. According to Dega et al. (1998), steam engine pumps would disperse the water to sugarcane fields, likely those situated both above and below the pump house and mill. The entire complex measures approximately 240 m in length.

SIHP # 50-80-08-5593 Feature 2A, the uppermost portion of the complex, consists of various water catchment features attached to a portion of the Waiahole Ditch, related to the mill and pump house at the base of the slope (see Figure 49, Figure 50, and Figure 60). This portion is oriented northeast-southwest, and constructed of basalt, concrete, and metal pipes. The Feature 2A complex is situated on the northwest boundary of the project area. Portions of this upper complex contain modern rubbish (modern bottles and cans), as well as a cow skeleton, likely a livestock animal that fell, died, and decayed in place. The northeast portion of this section of the Waiahole Ditch consists of a concrete-lined ditch 140 cm wide and 163 cm deep. As it extends toward the Feature 2A complex, there is an overlying addition of mortared basalt three courses high, a portion of which bears the date inscription “MAR 1939” (Figure 51). The ditch then feeds into a large catchment basin measuring a maximum of 4.0 m long and 3.2 m wide, with a maximum depth of 180 cm. The basin is flanked by notches in the concrete on both sides, for former sluice gates which are no longer intact. The basin would have fed into the two drain pipes at the base of the southeast wall of the structure (Figure 52). These pipes extend down slope to the pump house and mill. Portions of these pipes are exposed on the slope’s surface, and much of the pipes are likely underground.

An additional water retention component is positioned directly northwest of this basin. This portion consists of a rectangular mortared basalt catchment area measuring 5.1 m long by 3.8 m wide (Figure 53), feeding into an oval catchment area measuring 6.3 m long and 2.6 m wide (Figure 54), with notches for a sluice gate feature in between (gate not intact). It is possible these catchment areas are gravel traps, which would have served to trap silt and clay (Reeves 1954). This function is suggested based on the complex shape of the structure, which is somewhat similar to a gravel trap from the Iao-Maniania Ditch pictured in a publication on plantation ditches (Figure 55; Wilcox1996). Three flumes feed from the upper catchment areas into the Waiahole Ditch (Figure 56 and Figure 57). The flumes are oriented north-south and northwest-southeast. The eastern flume

Figure 46. Upper portion of SIHP # 50-80-08-5593 Feature 1 showing concrete pipes, view to east (collapse to the southwest, at right, may have covered the second pipe) (Photo N; Figure 27)

Figure 47. Lower portion of SIHP # 50-80-08-5593 Feature 1 showing metal pipes, view to northwest (Photo O; Figure 27)

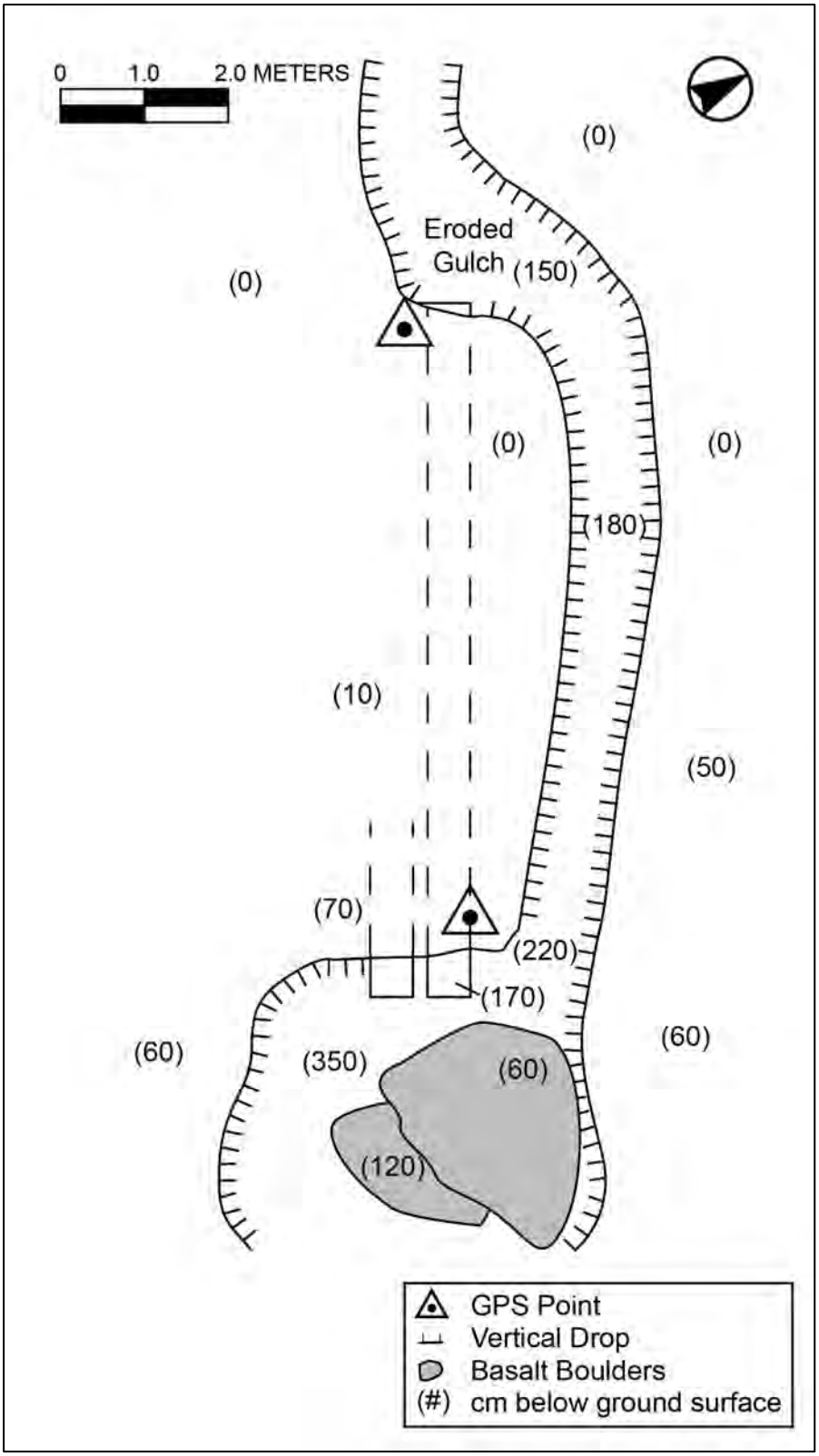

Figure 48. SIHP # 50-80-08-5593 Feature 1 plan map

Figure 49. Overview of SIHP # 50-80-09-2268 Waiahole Ditch portion, and SIHP # 50-80-08-5593 Feature 2A complex, with the pump house and mill building at the base of the slope, view to southeast

Figure 50. Overview of SIHP # 50-80-09-2268 Waiahole Ditch at the intersection with SIHP # 50-80-08-5593 Feature 2A complex, view to north (see Figure 60 plan view)

Figure 51. Plan view showing inscription in SIHP # 50-80-08-5593 Feature 2A complex

Figure 52. Overview of SIHP # 50-80-08-5593 Feature 2A where SIHP # 50-80-09-2268 Waiahole Ditch flows through the feature (see Figure 60 plan map), with catchment basin (foreground) and drain pipes, view to east

Figure 53. Upper water retention area of SIHP # 50-80-08-5593 Feature 2A complex, view to west

Figure 54. Upper water retention areas (eastern portion) of SIHP # 50-80-08-5593 Feature 2A complex, view to northeast

Water is collected in this gravel trap before being sent on its way in the Iao-Maniania Ditch. (Photo: D. Franzen.)

Figure 55. Figure showing an example of a gravel trap on the Iao-Maniania ditch system on Maui (from Wilcox 1996:125)

Figure 56. Center flume of SIHP # 50-80-08-5593 Feature 2A complex extending from upper catchment area into SIHP # 50-80-09-2268 Waiahole Ditch, view to west

Figure 57. Overview of SIHP # 50-80-08-5593 Feature 2A complex with eastern flume (right), extending into SIHP # 50-80-09-2268 Waiahole Ditch, view to northwest

measures 11.0 m long and 0.6 m wide, the center flume measures 12.8 m long and 0.6 m wide, and the western flume measures 7.1 m long and 0.6 m wide.

The final components of the Feature 2A complex are two small rectangular water retention features, each measuring 152 cm long, 90 cm wide, and 118 cm deep, with 16-cm thick walls (Figure 58). The south wall of the southwest retention feature contains a slit in the concrete that has a wood insert with an attached steel measuring rod (Figure 59). The wood and steel elements no longer exist in the northeast retention feature, but the slit in the concrete remains on the south wall of this component. Descending the hillside from Feature 2A are various structures related to moving water down to the mill and pump house, including water retention areas, and concrete pads and boxes that housed pumps and pipes.

SIHP # 50-80-08-5593 Feature 2B is a rectangular water retention structure into which water from the upper Feature 2A complex/Waiahole Ditch would have been channeled (Figure 61 through Figure 64). Feature 2B measures approximately 15.2 m long, 10.6 m wide, extends 1.38 m above surface, and is a maximum depth of 3 m deep from top to bottom (see Figure 61 and Figure 62). The main structure, constructed entirely of concrete, consists of a large rectangular structure divided into two open rectangles by a concrete wall extending through the middle. The walls of the structure measure 25 cm wide, and the three northwest-southeast oriented walls have notches cut out of the surface that are 18 cm deep and range from 30 cm to 150 cm long. Two metal pipes extend out of the earth into the northeast half of the structure, at one time transporting water from the upper portion of the complex into this retention feature. Attached to the larger structure is a small rectangular portion, measuring 4.25 m long and 2.05 m wide, and containing a metal rung ladder descending into the structure and several metal pipes, which presumably continued transporting the water down the hillside (see Figure 63).

SIHP # 50-80-08-5593 Feature 2C consists of water tank remnants and related components (Figure 65 through Figure 69). The water tank was constructed of a concrete foundation with a wooden structure held together with steel cables. The wooden structure is no longer in place, leaving behind the 11 steel cables, concrete foundation, and several metal pipes (see Figure 65). The connected circular cable remnants measure a maximum 6.2 m in diameter, and the entirety of the remnants cover an area measuring 7.8 m long and 7.4 m wide. Two concrete squares measuring 80 cm by 80 cm and containing valves were documented immediately southwest of the water tower remnants (see Figure 66). A smaller related structure is 2.6 m northwest of the water tower remnants, which consists of a rectangular concrete structure measuring 3.0 m long and 2.8 m wide (see Figure 67). The northeast half of the structure is a solid concrete slab, and the southwest half of the structure is an open concrete rectangle containing metal pipes. The solid slab likely contains additional pipes related to the water control complex. Another 2.8 m northwest is an additional structure of concrete slabs and pipes, measuring 5.2 m long and 3.8 m wide. Additionally, approximately 7.4 m southwest of the water tower remnants is a damaged concrete component (see Figure 68). This concrete feature consists of three concrete walls—15 cm thick and a maximum 80 cm tall—that have broken and collapsed into a triangle shape. One metal pipe remains inside the collapsed walls. The tank is not noted on the 1943 Army War Department terrain map but appears on the 1953 Ewa and Schofield Barracks topographic quadrangles as a marked circular feature labeled “Water Tank” in the same location as the documented Feature 2C (see Figure 17 and Figure 19). Structures are visible in this general area as late as 1968, including an apparent circular structure, which is likely the water tank (see Figure 21; UH MAGIS 1968).

Figure 58. Water retention component of SIHP # 50-80-09-5593 Feature 2A complex, view to west

Figure 59. Plan view of SIHP # 50-80-09-5593 Feature 2A complex, water retention component, view to northwest

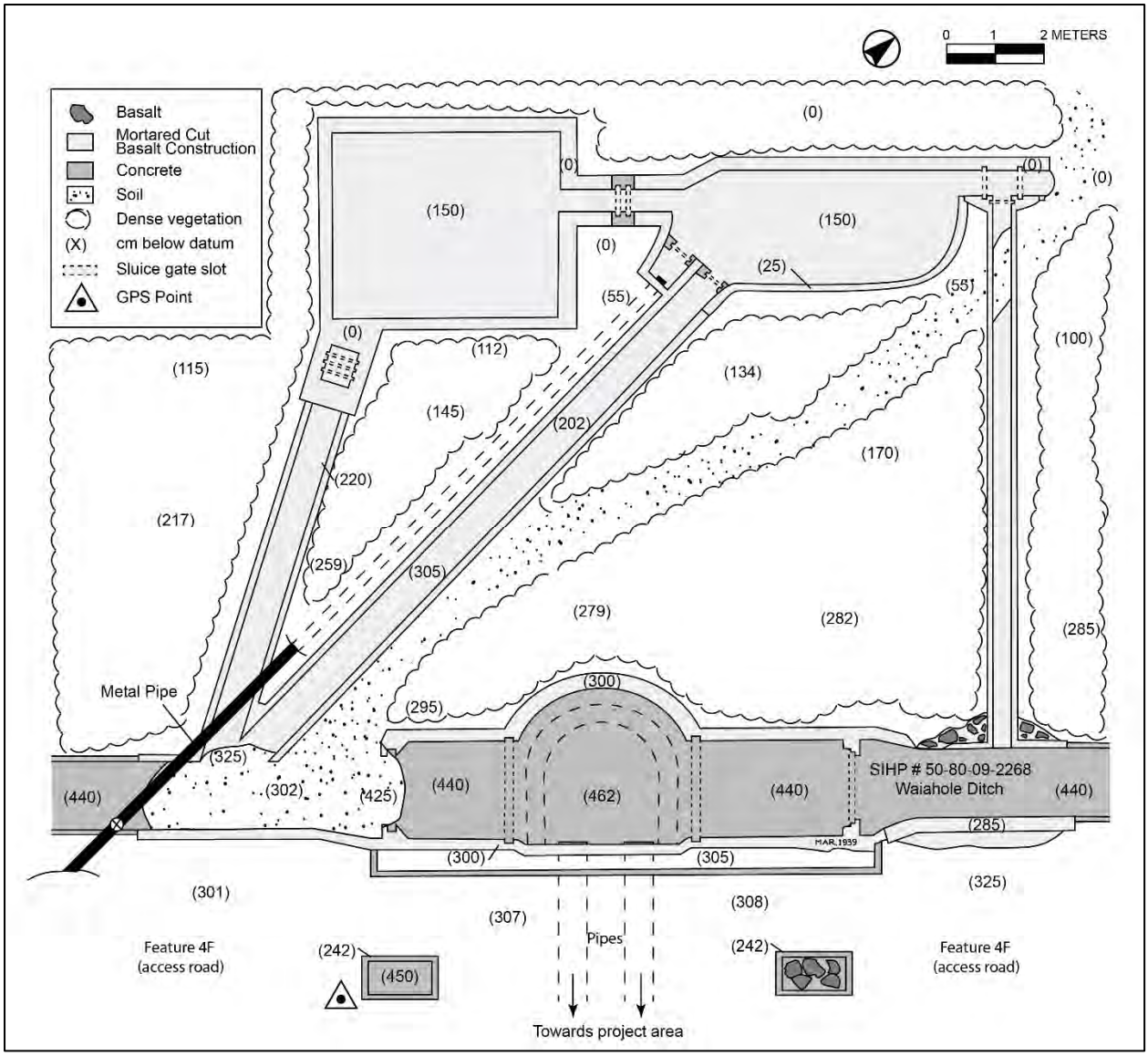

Figure 60. Plan map of SIHP # 50-80-08-5593 Feature 2A water diversion complex (just northwest of project area)

Figure 61. Overview of SIHP # 50-80-08-5593 Feature 2B, showing dividing wall between two large water storage components, view to northeast

Figure 62. Overview of SIHP # 50-80-08-5593 Feature 2B, showing two large water storage compartments (background) and smaller compartment containing pipes and valves (foreground), view to northwest

Figure 63. Overview of SIHP # 50-80-08-5593 Feature 2B, smaller southeast portion, view to northeast

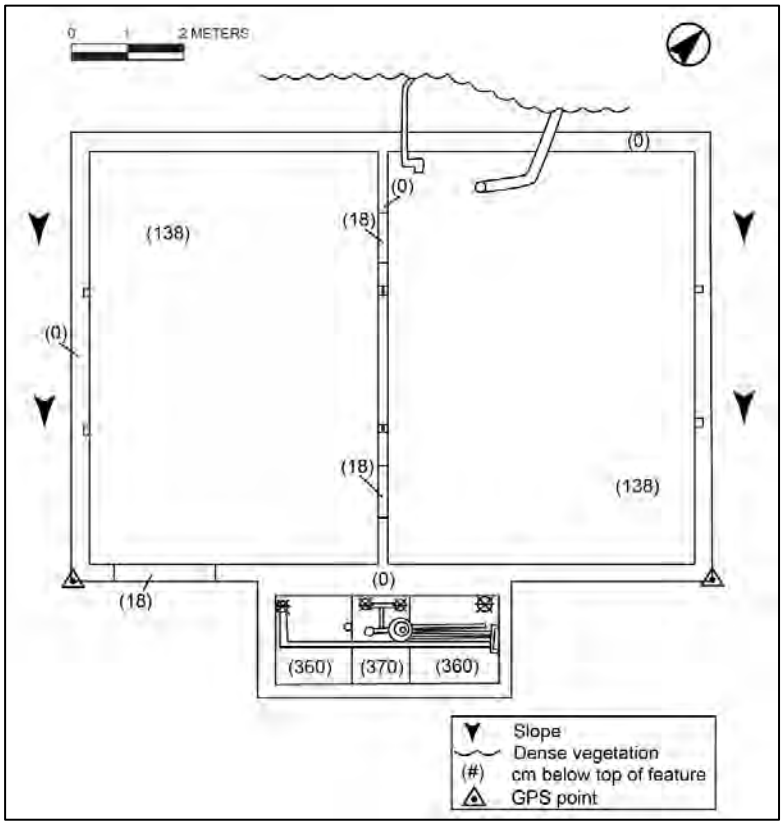

Figure 64. SIHP 3 50-80-08-5593 Feature 2B plan map

Figure 65. SIHP # 50-80-08-5593 Feature 2C, water tank and associated components, view to northeast

Figure 66. Concrete valve components of SIHP # 50-80-08-5593 Feature 2C, view to west

Figure 67. Overview of concrete foundation and pipes component of SIHP # 50-80-08-5593 Feature 2C, view to southeast

Figure 68. Collapsed walls with pipe, component of SIHP # 50-80-08-5593 Feature 2C, view to southeast

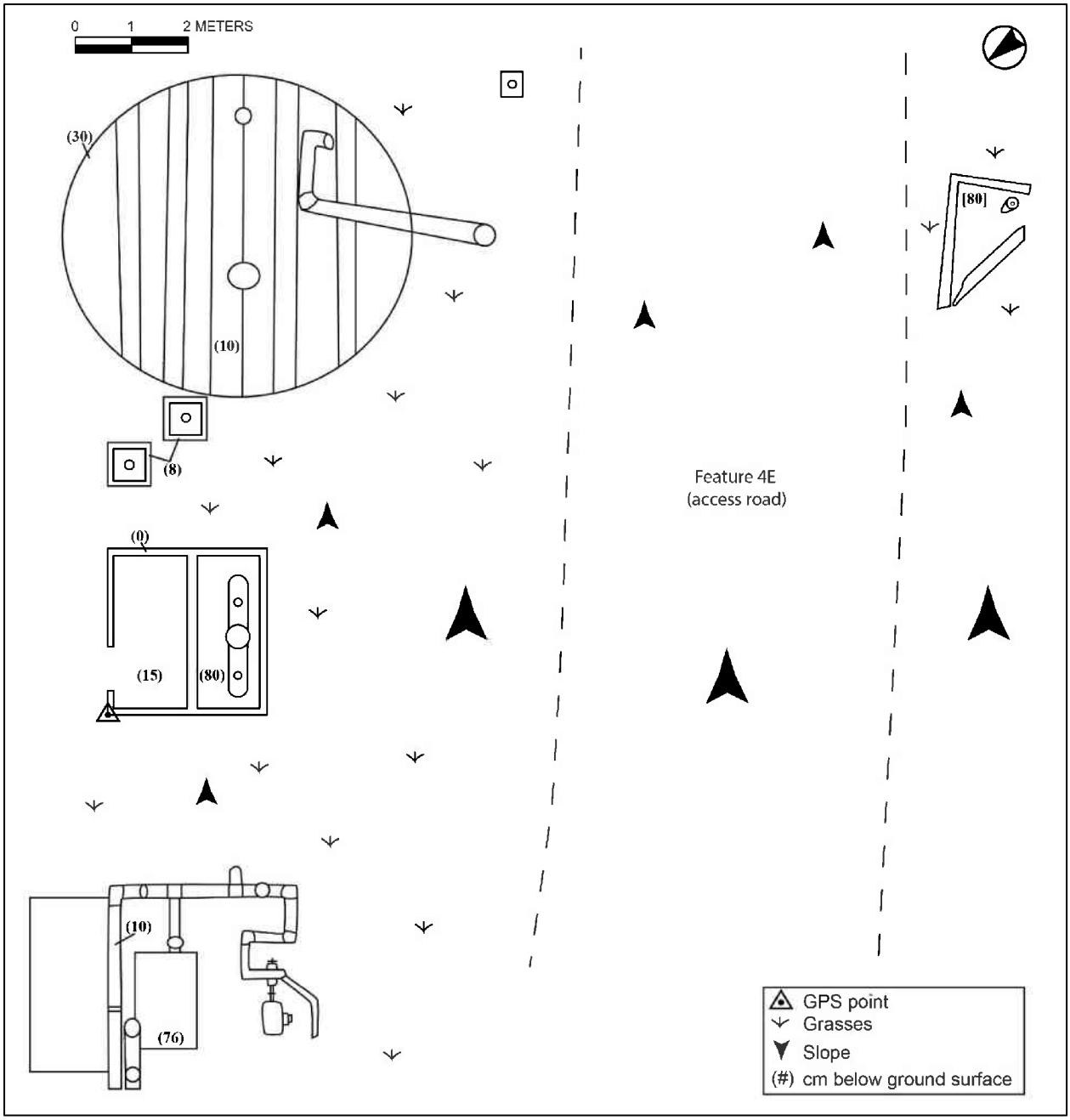

Figure 69. Plan map of SIHP # 50-80-08-5593 Feature 2C, water tank remnants and associated components

SIHP # 50-80-08-5593 Feature 2D, a rectangular-shaped likely water retention feature, is situated near the base of the slope toward the pump house and mill building (Figure 70 through Figure 74). This is constructed of concrete, metal, and wood. The feature has three components: two rectangular shafts and one concrete culvert. The first portion measures 2.4 m long and 2.0 m wide, consisting of a rectangular shaft extending to a maximum depth of 215 cm with an attached small square shaft extending to a maximum depth of 205 cm (see Figure 70). A metal pipe oriented north-south extends from inside the rectangular shaft out above ground for 3.6 m before extending downward into the shaft of the second rectangular component. The second rectangular shaft measures 2.1 m long and 1.2 m wide, extending to a maximum depth of 215 cm (see Figure 71). This second retention shaft includes notches for an intact wooden sluice gate on the east edge, which leads out into a sloped, mortared basalt channel, possibly for overflow runoff (see Figure 72 and Figure 73). The mortared basalt portion measures 3.6 m long by 1.4 m wide and is two courses high (exposed portion is 50 cm tall on average). This feature may be connected to Feature 2E, described below, as a pipe in the squared shaft on the northeast end appears to extend in the direction of Feature 2E (see Figure 73). Apparent infrastructure is observed in the vicinity of this feature in a 1951 aerial photograph (see Figure 18; UH MAGIS 1951).

SIHP # 50-80-08-5593 Feature 2E consists of a remnant concrete culvert (see Figure 74 through Figure 76). Feature 2E is in poor condition and measures 2.4 m long and 0.75 m wide. Feature 2E is in the lower portion of the project area and appears to have been used to help channel water overflow runoff. A pipe was observed in a shaft of Feature 2D extending in the direction of 2E, suggesting water overflow was channeled from the retention feature out of Feature 2E.

SIHP # -5593 Feature 3 is a complex of remnant concrete former temporary water diversion remnants that was identified in the northwest portion of the project area, *mauka* of the Waiahole Ditch. Three features were identified including Feature 3A, Feature 3B, and Feature 3C. While the fields were in production into the 1970s, it is unclear when these ditch sections were placed in their current locations. The nature of these sections is temporary and portable; however, this does not preclude them from being in their place for longer than 50 years. Therefore, these have been included as features of the local plantation field system infrastructure (SIHP # -5593).

Feature 3A consists of a heavily disturbed remnant portable concrete flume along the *makai* side of SIHP # -5593 Feature 4A (see Figure 38, Figure 77 and Figure 78). The feature is disconnected and displaced, with many sections downslope from their original alignment. The documented portion spans approximately 10.6 meters long and is oriented northeast to southwest. The sections are fragmented but those that are intact are U-shaped and measure between 90 cm and 75 cm in length, and are 45 cm in width and 30 cm in height. Many of the sections had a trapezoidal protrusion on the sides with a square hole and steel plate that extended into the hole through a small slit. This is likely designed to allow water to flow out of the portable ditch segments into fields or small field ditches.

Feature 3B consists of the same form and type of concrete U-shaped segments as Feature 3A. Feature 3B is along the north side of SIHP # -5593 Feature 4B on a raised slope at what likely was a field edge (see Figure 38). The feature is approximately 10.5 meters in length and is oriented east to west (Figure 79 and Figure 80). There are 10 somewhat contiguous sections with the east end turning slightly south. One displaced segment is lying just north of the west end near the road (Feature 4B). The downslope side of the feature is eroding.

Figure 70. Overview of SIHP # 50-80-08-5593 Feature 2D, northeast valve box, view to east

Figure 71. Overview of SIHP # 50-80-08-5593 Feature 2D, southwest valve box, view to southwest

Figure 72. SIHP # 50-80-08-5593 Feature 2D sluice gate and possible water overflow channel, view to northeast

Figure 73. Feature 2D plan view of southern retention area with sluice gate and possible overflow channel, view to southwest

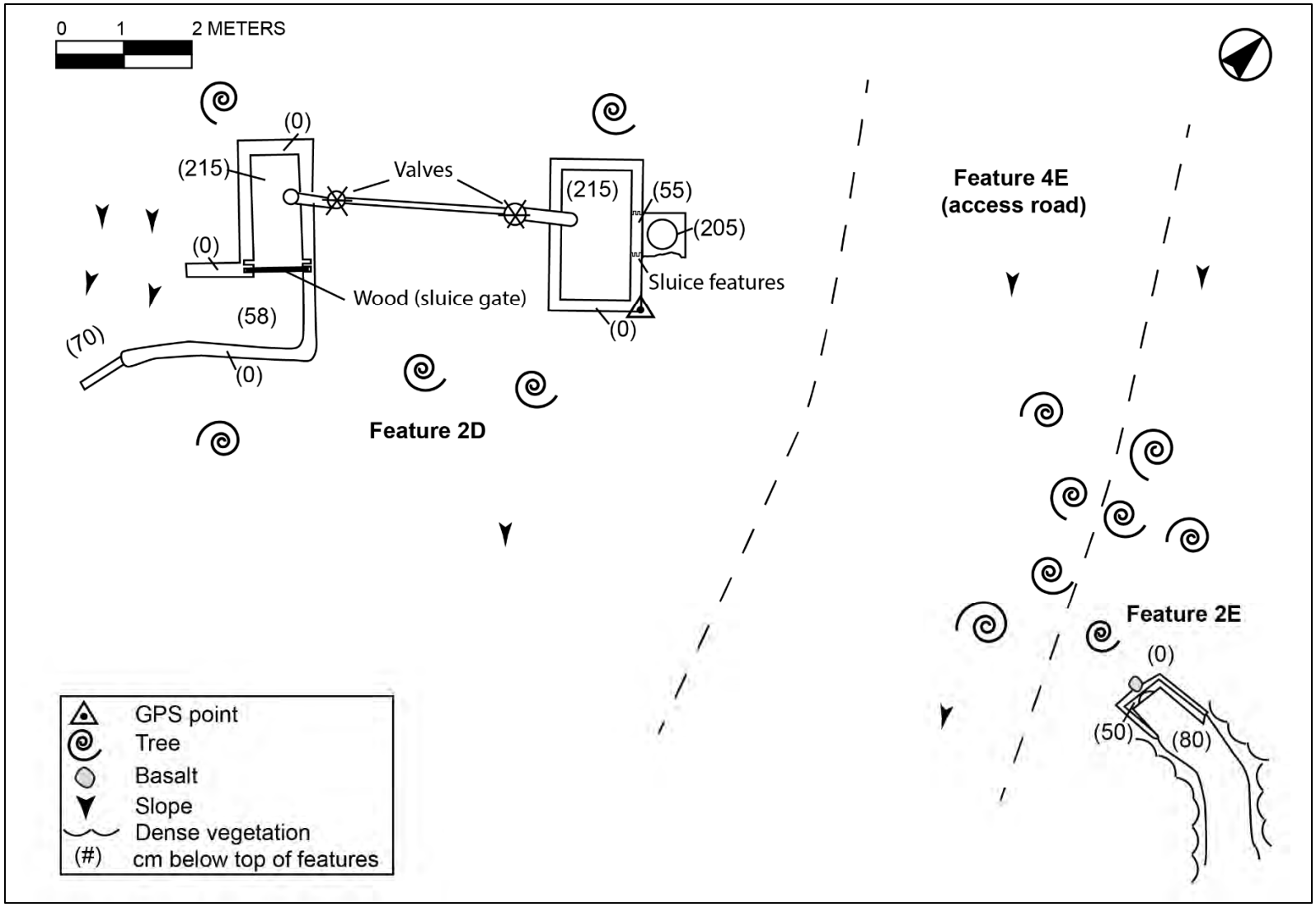

Figure 74. SIHP # 50-80-08-5593 Feature 2D, northeast and southeast valve boxes (top left), and Feature 2E runoff channel (bottom right) plan map

Figure 75. SIHP # 50-80-08-5593 Feature 2E, culvert remnants, view to northwest

Figure 76. SIHP # 50-80-08-5593 Feature 2E, close-up of culvert remnants, view to west

Figure 77. SIHP # 50-80-08-5593 Feature 3A, view to northwest

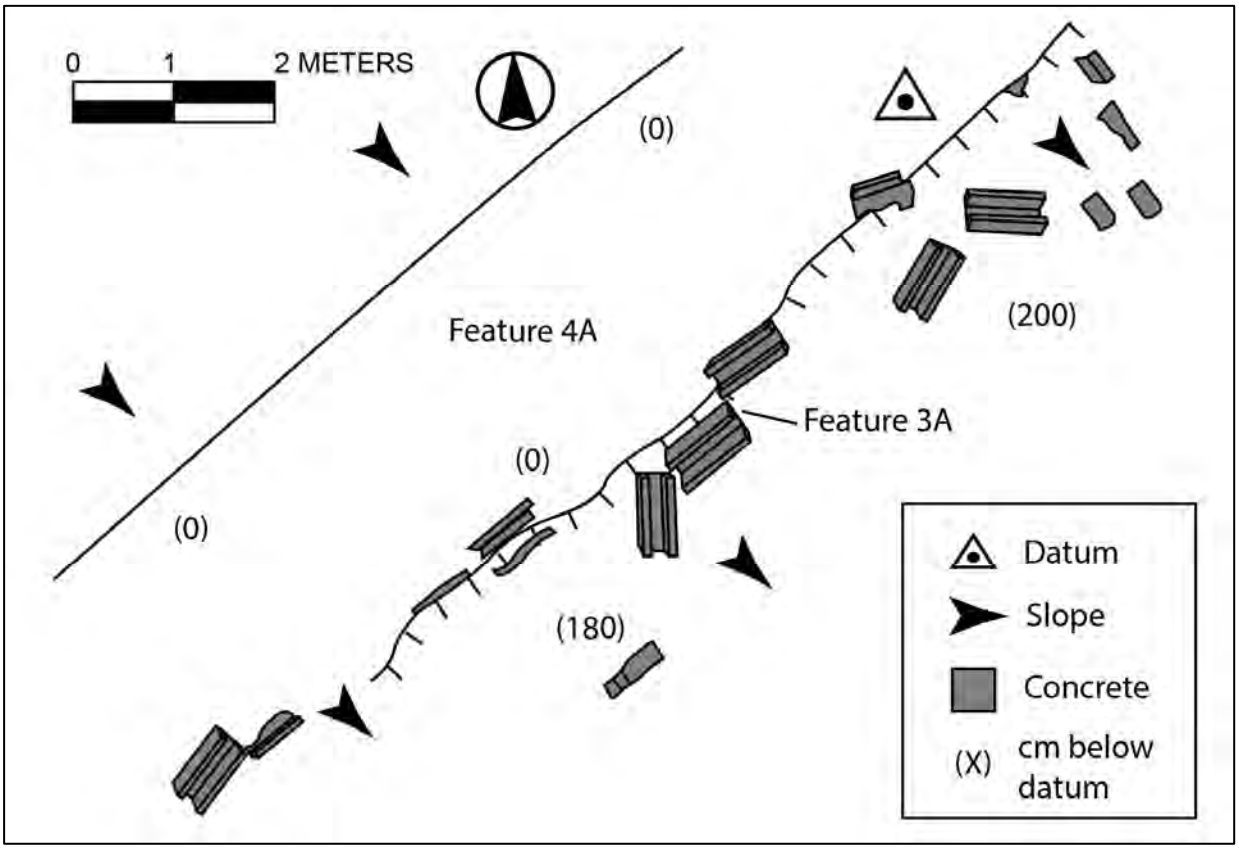

Figure 78. Plan map SIHP # 50-80-08-5593 Feature 3A, with Feature 4A (access road)

Figure 79. SIHP # 50-80-08-5593 Feature 3B, view to north

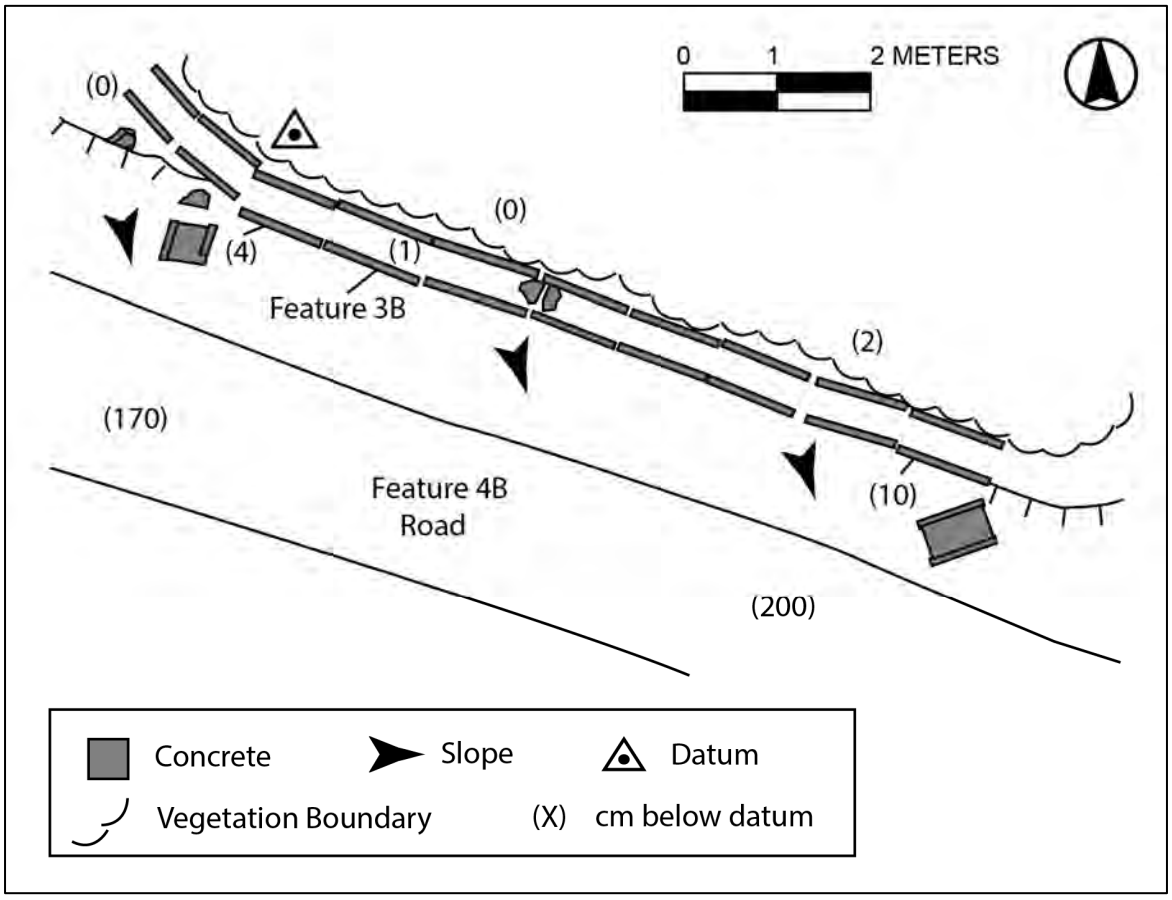

Figure 80. Plan map SIHP # 50-80-08-5593 Feature 3B, with Feature 4B (access road)

Feature 3C consists of another section of concrete U-shaped segments within a former field northeast of SIHP # -2268 Feature J (see Figure 38, Figure 81 and Figure 82). Unlike Feature 3A and 3B, a road was not visible near the feature; However, a possible road, ditch or field boundary is located in the general vicinity on a 1977 aerial photograph (see Figure 22). The feature consists of mostly intact and congruous sections that measure 21 m in length, with each segment measuring between 75 and 90 cm in length, and 45 cm in width and 30 cm in height.

SIHP # 50-80-08-5593 Feature 4 is a complex encompassing six graded dirt roads (Features 4A through 4F) associated former plantation activity (see Figure 38for location, and Figure 85 through Figure 88). The roads are spread across the project area, four crossing through the project area and two extending along the edges. The six documented roads cover 4,453.5 sq m. of land within and immediately surrounding the project area. All of the roads are visible on historic maps or photographs. Features 4E and 4B appear to be marked on a 1936 U.S. Army War Department terrain map, Feature 4E in the area of the pipeline and Feature 4D around the south edge of the project area (see Figure 16 and Figure 82). Features 4D through 4F are clearly visible on a 1951 aerial photograph (see Figure 18), and faint traces of what may be Features 4A through 4C are visible as well. As of 1968, Features 4A through 4C are distinct roads, as seen on a 1968 aerial photograph (see Figure 21 and Figure 84).

SIHP # 50-80-08-5593 Feature 4A extends along the northwest boundary within the southwest portion of the project area (see Figure 38and Figure 85). The documented portion of Feature 4A extends for 334.9 m in length and measures on average 5.0 m wide. The road is oriented northeast-southwest and intersects Feature 4B at its southwest end and Feature 4C at its northeast end. Feature 4A is immediately adjacent to Feature 3A, the remnants of which are parallel to the road orientation (see Figure 78).

SIHP # 50-80-08-5593 Feature 4B originates northwest of the western-most corner of the project area, extending through the southern project area (see Figure 38 and Figure 85). The documented portion of Feature 4B extends for 433.7 m in length and measures on average 8 m wide. The road is oriented northwest-southeast and intersects Feature 4A at its northwest end. Feature 4B is immediately adjacent to Feature 3B, the remnants of which are parallel to the road orientation (see Figure 80).

SIHP # 50-80-08-5593 Feature 4C originates near the north corner within the southwest portion of the project area and extends through the southern portion of the project area (see Figure 38). The documented portion of Feature 4C extends for 701.8 m in length and measures on average 4.0 m wide (Figure 85). The road is oriented northwest-southeast and intersects Feature 4A at its northwest end. The lower portion of Feature 4C has eroded significantly and is currently a gulch.

SIHP # 50-80-08-5593 Feature 4D originates north of the northern-most corner of the project area and extends along the southern boundary of the project area, crossing inside the project area only slightly (see Figure 38 and Figure 86). The documented portion of Feature 4D extends for 1393.3 m in length and measures on average 4 m wide. To the north, the road is oriented northeast-southwest, but then bends to a northwest-southeast orientation, eventually traveling away from the project area. The central portion of Feature 4D is paved with asphalt, while the southern portion and northern end are still dirt road (see Figure 32, Figure 33, and Figure 86). Feature 4D intersects with Feature 4F at its northern end.

Figure 81. Overview of SIHP # 50-80-08-5593 Feature 3C, view to southeast

Figure 82. Plan view of SIHP # 50-80-08-5593 Feature 3C

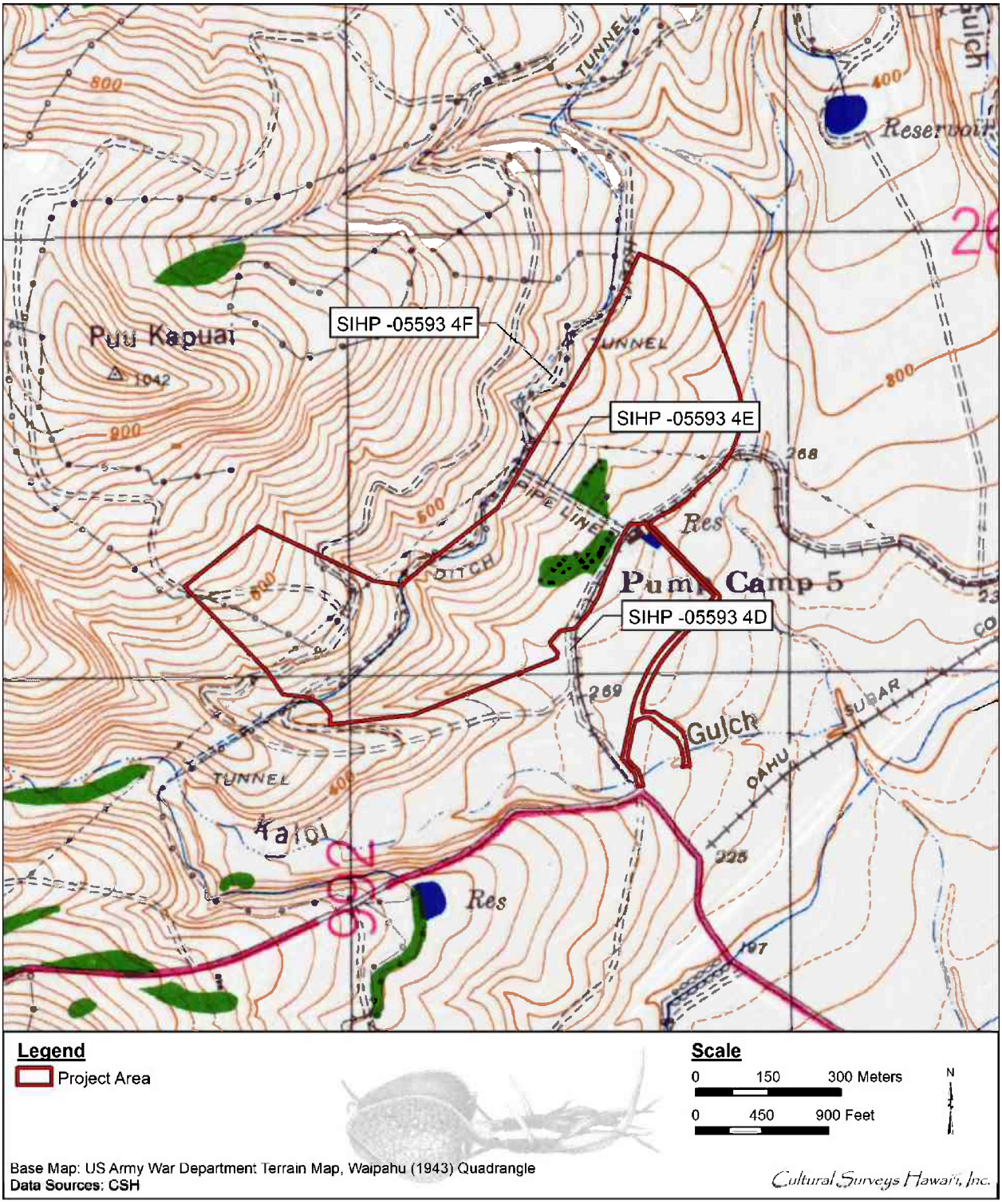

Figure 83. Portion of 1943 U.S. Army War Department terrain map, Waipahu quadrangle, with SIHP # 50-80-08-5593 Features 4D and 4E indicated

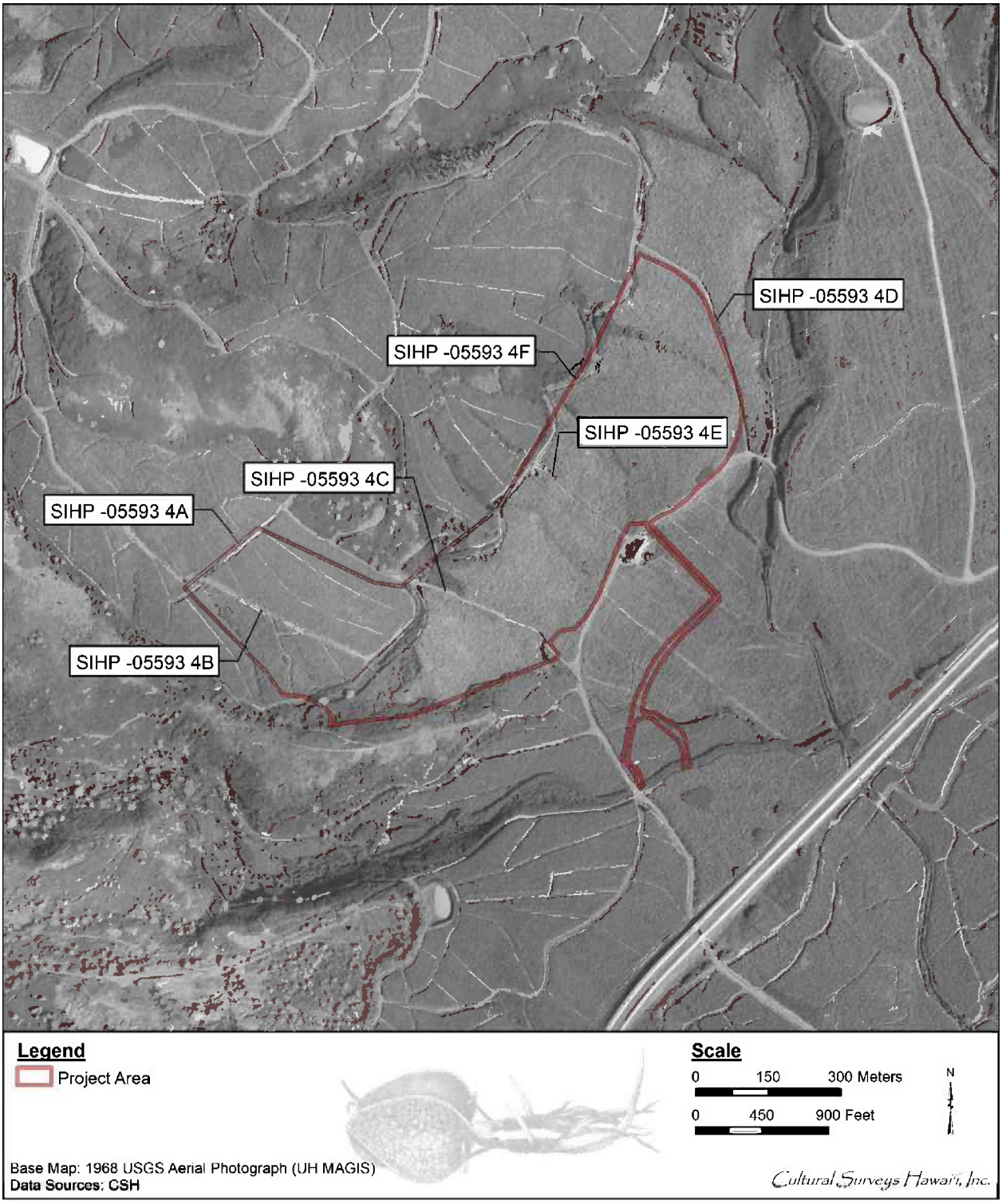

Figure 84. 1968 USGS aerial photograph with SIHP # 50-80-08-5593 Features 4A through 4C (access roads) indicated