

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property

Historic name: Honouliuli Stream Bridge

Other names/site number: Honouliuli Bridge

Name of related multiple property listings: N/A

2. Location

Street & number: Farrington Highway and Honouliuli Stream

City or Town: Ewa Beach State: HI County: Honolulu

☐ Not For Publication ☐ Vicinity

3. State/Federal Agency Certification

As the designated authority under the National Preservation Act, as amended,

I hereby certify that this ___ nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements in 36 CFR Part 60.

In my opinion, the property ___ meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

☐ national ☒ statewide ☐ local

Applicable National Register Criteria:

☒ A ☐ B ☒ C ☐ D

Signature of certifying official/Title:

Date

State or Federal agency/bureau of Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official:

Date

Title:

State or Federal agency/bureau of Tribal Government

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

4. National Park Service Certification

I hereby certify that this property is:

☐ entered in the National Register determined

☐ eligible for the National Register

☐ removed from the National Register

☐ Other (explain:) _____

Signature of Keeper

Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply)

Private ☐

Public - Local ☐

Public - State ☒

Public - Federal ☐

Category of Property

(Check only one box)

Building(s) ☐

District ☐

Site ☐

Structure ☒

Object ☐

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

Number of resources within Property

(Do not include previously listed sources in this count)

	Contributing	Non-Contributing
Buildings	<u>1</u>	<u> </u>
Sites	<u> </u>	<u> </u>
Structures	<u> </u>	<u> </u>
Objects	<u> </u>	<u> </u>
Total	<u>1</u>	<u> </u>

Number of contributing resources previously listed in the National Register 0

6. Function or Use

Historic Functions

(Enter categories from instructions.)

TRANSPORTATION/road-related (vehicular)

Current Functions

(Enter categories from instructions.)

TRANSPORTATION/road-related (vehicular)

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawaii

County and State

7. Description

Architectural Classification

(Enter categories from instructions.)

MODERN MOVEMENT

Materials: (enter categories from instructions.)

Principal exterior materials of property: Concrete

Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its locations, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

The Honouliuli Bridge is a single-span reinforced-concrete tee-beam bridge carrying the two-lane Farrington Highway (Route 93) over the Honouliuli Stream. The bridge was constructed in 1939 and features thick parapets with "Greek-Cross" voids and thick, curving end stanchions with stepped corner detailing commonly used in concrete bridges throughout Hawaii during the 1930s and 1940s. The Structure of the bride has four longitudinal beams with one transverse beam near the midpoint. The bridge has high integrity as it remains in its original location and is in good condition while also retaining its original design, rural setting, workmanship, feeling, and association.

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

Narrative Description

A. TYPE OR FORM

The 1939 Honouliuli Bridge is a single-span reinforced-concrete tee-beam bridge carrying the two-lane Farrington Highway (now Route 93) over the Honouliuli Stream. The tee-beam construction of Honouliuli Bridge was the most common pre-World War II design in Hawaii.¹

B. SETTING

The bridge is located along a rural section of Farrington Highway one-half mile west of Waipahu's commercial district boundary. The original rural setting of the property is largely retained. Open fields remain to the north and west and are largely obscured by the region's upscale terrain and dense vegetation. Directly south of the bridge is the campus of Kahi Mohala Behavioral Health Center, constructed in 1983 and now screened by a landscaped buffer of large trees. Beyond the campus, out of view to the southeast, a golf course and housing were built in recent decades. The low density of these modern developments and the tree screens maintain an open, rural character around the bridge and allow it to retain integrity of setting. Further to the south, and not visible from the bridge, is the small original plantation-era community of Honouliuli.

C. GENERAL CHARACTERISTICS

The abutments of the bridge are horizontal board-formed concrete with integral wing walls extending about 50' upstream and downstream of each abutment. The top edge of each wing wall angles away from the bridge at a slope of approximately 1:2. The west abutment is 12' high from its top edge to the streambed while the east abutment is about 20' high. The difference in height is due to the greater depth of the streambed at the east side, where water erosion has exposed the toes of the counterforts on top of the abutment footing. On the original drawings, the west abutment is shown with expansion bearing plates between the top of the abutment and the longitudinal beams and the east abutment is the fixed end of the bridge superstructure. On the outboard sides of the bridge deck below each parapet, metal pipe hangers carry a single metal pipe approximately 4" diameter. The original plan shows two gutters of rubble masonry near the wing walls at the east end of the bridge that were not part of the structure and are no longer extant.

The asphalt-surfaced roadway of the Honouliuli Bridge is 32' wide and 54' long featuring 3' wide concrete walkways elevated 6" on each side of the roadway. The bridge's two concrete parapets rise 2'- 10" above the walkway surface and are 47'-5" long between the end stanchions, with narrow expansion joints between the parapets and stanchions. The base of each parapet is 7" high and 10" thick. Below

¹ Bethany Thompson. Historic Bridges Inventory, Island of Oahu. 1983. P, VII-17.

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

the railing is a series of vertical concrete balustrades 6" wide and 6" thick and spaced at 1'-7" from center. The sections of each parapet between the balustrades are slightly thinner (4" wide), and each section is molded with a "Greek-Cross" void that are 1'-3" high and 8" wide.²

Measured from the walkway surface, the concrete end stanchions are 3'-3" high 1'-9" thick at its widest section, and 5' long. The stanchion end facing the parapet abuts it squarely and curves away from the roadway, forming a 45-degree arc to the traffic lanes. Each stanchion has three 1 1/2" stepped corners such that the top surface measures 1'-3" wide top surface. The stanchions on the outside of the arc each measure 5'-5" in length while those on the inside of the curve are 4'-2" in length. A non-contributing wedge of concrete has been added to each stanchion on its outer (road facing) surface that anchors a steel W-beam guardrail extending along the edge of the roadway.

D. SPECIFIC FEATURES

Concrete bridges of this type and period, including the Honouliuli Bridge, typically had date and name inscriptions on the end stanchions. This is true for Honouliuli Bridge as well, however, the concrete wedges largely cover them on the Honouliuli Bridge with the exception of the letters "ULI" from the original inscription that read in full:

"HONOUILIULI BRIDGE 1939" on the northwest and southeast stanchions in block letters that are about 3" high, and flush with the surface of the stanchion. The still-intact parapets with Greek-Cross voids and curved end stanchions are the most visible features to travelers crossing the bridge and still retain sufficient integrity to clearly illustrate the property's historic identity.

E. IMPORTANT DECORATIVE ELEMENTS & MINOR ALTERATIONS

At each end of the two 6" high concrete walkway curbs "bullseye reflectors" were originally placed facing the oncoming traffic; however, they are no longer visible as they are now covered by non-contributing 8" wide phosphor bronze plates and added asphalt paving. Consequently, it is not known if the reflectors are still extant under the plates. Because of the angle at which Farrington Highway crosses Honouliuli Stream, the footprint of the bridge is a parallelogram that is most evident when the structure is viewed from below. The underside of the bridge is board-formed concrete, with four longitudinal beams (each approximately 3' high and 1'-4" wide) across the 47'-6" span. These are joined near mid-span by a single transverse concrete beam that crosses the others at a 90-degree angle.

INTEGRITY ASSESSMENT

The design, materials and workmanship of the property are largely retained. Besides road resurfacing, the only noticeable alteration is the addition of metal guardrails anchored to the stanchions by added concrete wedges covering the bridge's inscriptions. However, the historic character of the stanchions is still reflected by their arc plan design. The design, materials and workmanship of the parapets and the overall supporting structure have not been changed. The "bull's-eye reflectors" shown on the original

² Heritage Center, School of Architecture, University of Hawaii at Manoa. "State of Hawaii, Historic Bridge Inventory and Evaluation. 2006. p. 36.

Honouliuli Stream Bridge

Honolulu, Hawai'i

Name of Property

County and State

drawings have been covered up or removed, however the loss of these minor elements does not reduce the bridge's overall integrity.

The feeling and association of the property are retained. The bridge expresses the historic sense of the time of its construction. The bridge and Farrington Highway are sufficiently intact to convey the important highway improvements of that period over the winding roads and narrower bridge designs used to previously cross the Honouliuli Stream further to the south.

The integrity of setting and location are retained. The area immediately surrounding the bridge remains largely rural due to low building density and topographical features that obstruct the view of recent developments. The location of the bridge has not changes since its original construction date.

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

8. Statement of Significance

Applicable National Register Criteria

(Mark one or more boxes for the criteria qualifying the property for National Register listing.)

- ☒ A. Property is associated with events that have made a significant contribution to the broad patterns of our history.
- ☐ B. Property is associated with the lives of persons significant in our past.
- ☒ C. Property embodies the distinctive characteristics of a type, period, or method of constructions or represents the work of master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- ☐ D. Property has yielded, or is likely to yield, information important in pre-history or history.

Criteria Considerations

(Mark all the boxes that apply.)

- ☐ A. Owned by religious institution or used for religious purposes
- ☐ B. Removed from its original location
- ☐ C. A birthplace or grave
- ☐ D. A cemetery
- ☐ E. A reconstructed building, object, or structure
- ☐ F. A commemorative property
- ☐ G. Less than 50 years old or achieving significance within the past 50 years

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

Areas of Significance

(Enter categories from instructions.)

Transportation

Period of Significance

1939-1966 (Construction until partially

bypassed by freeway)

Significant Dates

1939

Significant Person

(Complete only if Criterion B is marked above.)

Cultural Affiliation

Architect/Builder

William R. Bartels (Designer)

E. E. Black (Contractor)

Honouliuli Stream Bridge

Honolulu, Hawaii

Name of Property

County and State

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

The Honouliuli Bridge is significant on a state-wide basis under Criteria A. Prior to the period of this construction, most road and bridge development had followed pre-contact Hawaiian trail routes that followed the contour of the land. The construction of the Honouliuli Bridge was provided by the Bill of Rights passed by the Hawaiian Legislature in 1923, demanding equal benefits with the nation's states and was signed into law by President Calvin Coolidge in March 1924³. The bridge facilitated movement of military personnel between bases at Pearl Harbor, 'Ewa Field and the Lualualei Naval Ammunition Storage Facility as part of the build-up activity leading up to World War II and for the transportation of Korean, Italian and German prisoners of war during World War II travelling for work details in Honolulu and windward O'ahu from the Honouliuli Internment Camp. Additionally, the bridge was an integral component for the movement of Japanese-American and a lesser number of German-American citizens interned following the December 7, 1941 attack on Pearl Harbor from Sand Island Internment Camp in Honolulu Bay, which closed in March 1943, to the Honouliuli Internment Camp located to the northwest. The bridge was also important to the area's plantation industry, namely the Oahu Sugar Company (OSC) plantation in Waipahu and 'Ewa, as it provided an efficient route for the transportation of agricultural products and equipment to or from the west side of the island and Honolulu Bay.

The bridge is also locally significant under Criterion C as an intact example of pre-World War II tee-beam concrete bridge design featuring parapet architecture that provided greater strength than previous concrete slab structures.

³ State of Hawaii Department of Transportation Highways Division. Historic Bridge Inventory & Evaluation. November 2013.

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

Narrative Statement of Significance (Provide at least one paragraph for each area of significance.)

Honouliuli

The ahupua'a of Honouliuli is the largest land division in the 'Ewa district. Pre-contact inhabitant settlements once occupied the makai (seaward) areas along the coast that thrived near the protected bay now known as West Loch in Pearl Harbor that supported abundant marine and estuarine resources. The name Honouliuli is composed of two separate terms: hono and uliuli. Hono is translated as "bay, valley, and gulch" and Uliuli means "dark color including the dark blue sea". Therefore, when combined the terms can be interpreted as "dark bay", "deep blue bay", or "blue harbor". According to a mo'olelo (story, narrative), the ahupua'a was believed to be the name of a pre-contact ali'i (chief) called Honouliuli.

The water running under the Honouliuli Bridge originates from the Honouliuli and Kaaikukui gulches of the ahupua'a and flows into Kaihuopala'ai, one of the sheltered bays of West Loch.⁴ The water once flowed through the lowland terraces of kalo (taro) along the estuaries of Kaihupala'ai. In these lo'i (kalo terraces), native inhabitants of the pre-contact period cultivated four varieties of kalo: kaikea, kaikoi, haokea, and lehua. The connection between Honouliuli inhabitants and kalo is apparent in a well-known narrative referring to the plain in upper Honouliuli called Keahumoa in which a pule (prayer) was composed by the chief Kapa'ahulani who wished that the new leader, Kuali'I, might serve the people well and blessed his army with the phrase:

"Uliuli ka poi e piha nei 'o Honouliuli."

Blue is the poi which appeases [the hunger] at Honouliuli

The term "blue" refers to the waters that feed into Kaihuopala'ai, estuaries, and the lo'i. The term "poi" refers to the kalo—thus emphasizing the importance of water to the culture of the pre-contact people in Honouliuli. The sheltered bay of Kaihuopala'ai is home to the 'anaeholo, or traveling mullet. According to "He Moolelo Kaa no Ka Puhi o Laumeki", the bay was the starting point of the 'anaeholo's journey around the island and provided them with essential nutrients important for the collective ecological balance in Kaihuopala'ai.

Honouliuli had a network of pre-contact pathways or alaloa/alahahele for people to travel within and beyond their ahupua'a. By 1847, King Kamehameha III enacted the Alanui Aupuni (Government Roads) laws that for the development of new roads over ancient trails, as the John Papa I'i, an 18th century chronicler of Native Hawaiian life, noted:

⁴ Lani Nedbalek, Waipahu, A Brief History. (Mililani, HI: Wonder View Press). 1984. p. 91.

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

Only in instances when a more direct route could be developed (say by installing a bridge), or access was developed to clear wet-lands or newly developed property rights, were the early government roads redirected from the original trails. Throughout the 1800s many trails fell from use because of the steady decline in the native population, changes in land use practices [through] the blocking of mauka-makai accesses as large ranching and plantation interests developed, and the consolidation of population centers evolved.⁵

Thus, the access roads associated with the Honouliuli Bridge (including Farrington Highway), generally follow the pre-contact routes utilized by the native populace. One such alaloa/alahahele of the area, described by John Papa I'i, began at the shore of Kaihuopala'ai, then followed the boundary between Honouliuli and Hoae'ae ahupua'a, to the Pōhākea Pass and Kolekole Pass to Wai'anae. The people of Honouliuli traded their favored kalo and 'anaeholo for other food resources along these pathways.

During the early 1790s, cartographer Lt. C.R. Malden drafted a map of a portion of Oahu that included Honouliuli providing the earliest cartographic record of the region. The map depicts several clusters of houses, fish weirs, and fishponds in the area. As the record dates from the early period of western contact, the map is believed to represent the basic pre-contact settlement pattern for Honouliuli and the surrounding vicinity; however, given the rapid decline of the native population just after western contact, it is likely that the pre-contact population would have been higher and settlement more dense than indicated by Malden (See Fig. #2).

A densely populated, fertile area called Honouliuli has existed downstream from Honouliuli Bridge since pre-contact times and retained its extensive agricultural fields and fishponds through the mid-1800s. By the late 1800s, disease and poor grazing practices *mauka* denuded the hillsides, sending large amounts of sediment downstream that choked the wetland agriculture and fisheries. This resulted in a sharp population decline within the area as residents sought alternative employment opportunities in Ewa.⁶ By the early 1900s, only a small contingent of family farms remained in Honouliuli as it transitioned from a major agricultural center to a mere stopping point along Fort Weaver Road for travellers bound to 'Ewa Villages, adjacent to 'Ewa Plantation Mill, that had become the new population center of the 'Ewa plain. Eventually, an assortment of Honouliuli businesses were established that took advantage of the increased traffic along Fort Weaver Road including a general store, feed store, gas station, mechanic shop, and barbershop.⁷ By 1927, a community of about 160 homes and a church had grown on the west side of Fort Weaver Road, about ¾ mile south of the future site of the bridge.⁸ The

⁵ Hoakalei Cultural Foundation/Kepa Maly. Historical Notes on Trails of Honouliuli, 'Ewa District

⁶ Mooney, Kimberly M. and Paul L. Cleghorn, Pacific Legacy, Inc. p. 20-21.

⁷ Ibid., p. 29.

⁸ U.S. Geological Survey, map "Waipahu, Hawaii, 1:20,000". 1927-1928.

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

1939 construction of the Waipahu Cutoff and the Honouliuli Bridge lead to the decline of this Honouliuli community as east-west traffic bypassed it on the new section of road.⁹

Waipahu

The O'ahu Sugar Company (OSC) plantation and mill began in Waipahu as a development project of Benjamin F. Dillingham, who had leased land from James Campbell, prompting noted historian Muricio Michael's observation: "The town of Waipahu is a child of Oahu Sugar [Company]."¹⁰

Dillingham partnered with J. Hackfeld and Company (Paul Isenberg) and Mark Robinson (who provided land for the mill site) to form the company, which was incorporated in March 1897. OSC was one of several sugar companies that were formed immediately prior to annexation. In late 1897, the first OSC manager, August Ahrens, utilized a land exchange to re-route the original "Government Road" traversing Waipahu, creating the new Waipahu Road (now Waipahu Street) that ran south of the mill to avoid interference with the plantation's rail lines.¹¹ OSC's first harvest was in 1900 and yielded 7,900 tons of raw sugar. The population of Waipahu grew as the plantation increased production and required more field and mill laborers, tradesmen, supervisors, and engineers. By the late 1920s, Waipahu extended southward along Waipahu Road with a business district centered at Waipahu Depot Street, while residential areas were located both north of the mill and to the east along Waipahu Road. By the 1930s, Waipahu "included second and third generations" that "had grown up on the plantation and considered Waipahu their home".¹² In 1940, Waipahu had a population of 6,900.

The 1939 Waipahu Cutoff created an alternate road (Farrington Highway) bypassing Waipahu and provided expanded opportunity for a new business district. Expansion of commercial activities into the space along the road was slow despite the ca. 1939 flood control project initiated by the City that diverted Waikele Stream directly into Pearl Harbor via a dredged canal to eliminate the flooding that occurred during heavy rains near Waipahu Depot Street at the convergence of Waikele and Kapakahi Streams.

The population of Waipahu expanded from 8,353 to 22,798 between 1960 and 1970. This period saw a corresponding increase in building along Farrington Highway. In 1966, the section of the H-1 Freeway between Kunia Road and Makakilo, running north of Waipahu, was opened, providing another bypass around the town. This 1966 date of the construction of the H-1 Freeway represents the end of the period of significance for the Honouliuli Bridge. Waipahu continued to grow and the population in 1980 was over 29,000.

⁹ Hawaii State Archives, Aerial Photo Collection, photo #M-7.38.Ca.1939-41.

¹⁰ Michael, Muricio, *Waipahu, Its People and Heritage* (Waipahu, HI: Waipahu Community Foundation), 1997. p. 59.

¹¹ Spencer Mason Architects, "Waipahu Street Widening Project and Potential Historic Properties". Prepared for Austin, Tsutsumi & Associates, Inc.) 1990. p. 1-3.

¹² Nedbalek, p. 27.

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawaii

County and State

‘Ewa Plantation

At the time of the Honouliuli Bridge’s construction, the area immediately to the south included undeveloped land around the small village of Honouliuli, while the rest of the land surrounding the bridge was a large expanse of sugar cane that extended from the Kunia pineapple lands in the north to the OR&L tracks in the south and west past Pu’u Kapolei. In 1940, the ‘Ewa Plantation Company leased over 9,000 acres of the sugar cane fields to the south and west of the bridge and harvested the remainder of the area to the north.

‘Ewa Plantation was founded ca.1889 by Benjamin F. Dillingham, who leased the land from James Campbell. Dillingham then subleased a portion to William R. Castle, who organized the ‘Ewa Plantation Company. Adequate irrigation, carefully timed crop rotation, and ample fertilization resulted in unprecedentedly large yields on the thin soil of the plantation. The relatively level terrain of the plantation made fluming of cane to the mill impossible. Therefore, it was transported from field to mill via railroad locomotive until 1947 when trucks became available. ‘Ewa Plantation constructed the majority of the workers’ camps and associated facilities near the mill.¹³ Historic maps from the early 20th century indicate that as the number of houses within the residential camps (Verona, Renton, and Tenny) of ‘Ewa Plantation increased, the number of houses in the village of Honouliuli declined accordingly since employees living outside mill camps faced social isolation. During the first decades of the 1900s, “‘Ewa Plantation was gradually transformed [from a working farm staffed by transient labor] into a community of employees.”¹⁴ Thus, by the time Honouliuli Bridge was constructed, only a few primarily Korean and Waimanalo worker’s camps of ‘Ewa Plantation were located outside the mill’s immediate vicinity.

Honouliuli Internment Camp

The Honouliuli Internment Camp, located in a gulch in Central Oahu, opened on March 1, 1943 after the closure of Sand Island Internment Camp in Honolulu Harbor. The camp was one of at least five sites throughout the Hawaiian Islands used to house local Japanese after the December 7, 1941 attack on Pearl Harbor.¹⁵ From 1943-1945, approximately 3,000 U.S. citizens of Japanese ancestry residing in Hawaii were imprisoned at the 160-acre Honouliuli Internment Camp about 2 ½ miles northwest of the Honouliuli Bridge. Most were influential male leaders of the Japanese immigrant community in Hawaii. Although a small number were released after a short imprisonment, the majority were detained for the duration of the war and later transferred to mainland camps. The camp also held Japanese, Italian, Korean, German and other prisoners of war (POWs) who were used as a supplemental labor force to complete construction projects at Schofield, Shafter, Ala Wai and windward Oahu. The Koreans were in the unusual situation of being an official, but unwilling, part of the Japanese Empire; some 2,700 Korean

¹³ Penny Pagliarro, “Ewa Plantation, A Historical Survey, 1890-1940”, (Honolulu: Author). 1987. p. 23-26.

¹⁴ Ibid., p. 19.

¹⁵ Niiya, Brian. *History of the Internment in Hawaii*. June 2010. Japanese Cultural Center of Hawaii.

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

POWs sent to Oahu were initially enlisted by the American Office of Strategic Services (OSS), only to be returned to the internment camp, reclassified as Japanese, and marked for resettlement after the end of the war.¹⁶

Although civilian detainees initially outnumbered POWs, Honouliuli increasingly took on the air of a POW camp as U.S. forces in the Pacific advanced towards Japan. A large number of civilians were released on parole in 1943, provided that they signed waivers absolving the U.S. government and individuals from any liability for their confinement. Many more were either transferred to mainland camps or shipped to the continent as "evacuees" for the purposes of continued confinement, twice in 1943 and again in November 1944. Nevertheless, twenty-one civilians remained confined in Honouliuli as late as September 1945—all Japanese male Issei or Kibei. The reduction in civilian prisoners freed up camp space and resources for Honouliuli's expanding POW population. Early POW arrivals consisted of Koreans conscripted into the Japanese Army, who were taken prisoner following the Americans' November 1943 capture of the Gilbert Islands. Tensions between Korean and Japanese POWs prompted camp authorities to construct a partition separating the two national groups. A much larger influx of POWs—from both the European and Pacific fronts—occurred during the summer of 1944. By war's end, the camp held 3,980 POWs. Repatriation of these prisoners began in December 1945 and continued through the following year.¹⁷

Internees brought to the camp by vehicle from Honolulu following the closure of Sand Island Internment Camp would have likely traveled west on the Waipahu Cutoff (Farrington Highway) and over the Honouliuli Bridge before turning north off the highway about one mile west of the bridge (See Fig. #3).

Honouliuli Bridge

The Honouliuli Bridge is significant at the state level under National Register Criterion A as part of the Territorial Highway Department's extension of Wai'anae Road from 1938 to 1939 when the bridge was completed. Before this project, the only connecting road between 'Ewa Junction in the east and Wai'anae Road in the west was Waipahu Road (previously called "Government Road") that linked Wai'anae Road with Kamehameha Highway (the main belt road) at 'Ewa Junction. Waipahu Road (now Waipahu Street) is a winding road through the former plantation village of the same name, generally running east-west. Its western end extended southwest to join Wai'anae Road and Fort Weaver Road (now Old Fort Weaver Road) at a "Y" intersection. The 1939 construction of the Honouliuli Bridge along Farrington Highway eliminated a looping portion of the former road that connected Honolulu with 'Ewa and the leeward Wa'ianae coast, significantly increasing transportation efficiency. (See Figure "Portion of 1928 topographic map" in Section 8 for a graphic representation of

¹⁶ Yong-ho Choe. Korean Prisoners of War in Hawaii During World War II and the Case of U.S. Navy Abduction of Three Korean Fishermen. University of Hawaii (n.d.)

¹⁷ "U.S. Army Forces Middle Pacific and Predecessor Commands During World War II: Chapter IX: Prisoners of War," JCCH 19, Box 9, Folder 39

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

the importance of the Honouliuli Bridge to the transportation development of the area and of points west.)

During the Republic of Hawaii (1894-1898), and especially after annexation of Hawaii by the United States in 1898, political and business leaders recognized that the creation of improved belt roads with modern bridges around the perimeter of each island was of great importance to linking each island's communities and sustaining economic growth.¹⁸ In 1924, Congress passed the Hawaii Bill of Rights, granting the Territory of Hawaii federal highway funding beginning in 1925 that made completing and improving the islands' belt roads possible. The Territory built the first concrete bridge over Honouliuli Stream in 1927 to the south of the eventual 1939 bridge.¹⁹ As automobile and truck traffic increased, there was demand for further highway improvements.

Bridges were a special concern of the federal highway system, and Hawaii began a systematic replacement of narrow and hazardous bridges. With ample funds, Hawaii began to straighten out the belt roads and build long, high bridges across the mouths of the valleys. The federal government started funding secondary or feeder roads in the late 1930s. These were required to be outside of municipalities and be farm- to- market roads or other rural roads of community value, which connect with important highways or the Federal Aid primary system. Bridges constructed with Federal Aid dollars have longer spans and were more decorative than county financed bridges. Reinforced- concrete tee beam bridges dominate this period, although a few rare examples of open- spandrel concrete arches remain. Rail design was standardized into a few patterns, such as the "Greek- cross void", enabling easy recognition of Hawaiian bridges. (Note: the Department of Transportation completed the "State Historic Bridge Inventory & Evaluation" in 2013. The relevant pages from this report have been attached to this document as "Appendix A")

There was a significant increase in road construction throughout Hawaii for military use in the build-up to World War II. In 1934, the Navy opened two branches of the ordinance storage facilities at West Loch and Lualualei resulting in increased traffic from Pearl Harbor to the western side of Oahu. Until 1939, this traffic had to use the indirect route of Waipahu Road through Waipahu. E. E. Black, Ltd., the contractor for the 1939 Honouliuli Bridge and F.A.P. 4-C highway realignment, had been the contractor for the Lualualei NRTS.²⁰ Construction of this bridge and the F.A.P. 4-C roadway of Farrington Highway provided a more efficient alternative route to the Waipahu Road.

In 1935, the City and County of Honolulu Board of Supervisors passed a resolution to name the section of belt road that traversed Waipahu, 'Ewa, Wai'anae, Mōkūle'ia, and Waialua to the Haleiwa-Waialua junction as "Farrington Highway". The portion of the belt road around Ka'ena Point, which would have connected the Wai'anae and Mōkūle'ia ends of Farrington Highway, was never built. The name of the road, which included both new and existing segments, honored former Territorial Governor Wallace R.

¹⁸ Heritage Center, School of Architecture, University of Hawaii at Manoa, "State of Hawaii Historic Bridge Inventory and Evaluation. (Honolulu, HI: Hawaii State Department of Transportation). 2006. p. 33-35.

¹⁹ Hawaii Highway Planning Survey. Bridge Inventory for the Island of Oahu. (Honolulu, HI: Territorial Highway Department). 1950. (Bridge No. 103).

²⁰ Helber, Hastert & Fee, Planners. "Oahu Integrated Cultural Resources Management Plan". (Prepared for Commander, Navy Region Hawaii). 2008. p. 5-353.

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

Farrington (in office 1921-1929), who was “instrumental” in developing plans to complete the belt road on Oahu²¹ including the Kamehameha and Kalanianaʻole Highways. At the dedication of the Waipahu Cutoff on October 29, 1939, the local newspaper referred to it as Farrington Highway and recorded the traffic volume was 2,100 vehicles on its first day of operation.²²

Several sources noted different costs for the highway work. Articles from the December 1937 *Honolulu Star-Bulletin* stated the Waipahu Cutoff project was expected to cost \$250,000 and noted:

All curves in the road between [‘Ewa and Wai‘anae Junctions] will be eliminated with motorists miss[ing] Waipahu entirely when using the cutoff and traffic will be speeded up by elimination of travel through the narrow and winding streets of that community.²³

In May 1938, before the bids were due from contractors, another *Hawaiian-Star Bulletin* article stated that the highway project (minus the amount for a flood control canal) was expected to cost \$334,700 and begin in July 1938.²⁴ While the Waipahu Cutoff project that built Honouliuli Bridge and most of Farrington Highway from ‘Ewa Junction to Wai‘anae Road was designated F.A.P. 4-C, the portions of Farrington Highway that included grade crossings were given a different project number: F.A.G.H. 4-C. The Superintendent of Public Works report noted, however, that the total cost of these two projects, plus the related Kunia Road project (F.A.P. 16-B), was \$381,238.18. The amount for the Honouliuli Bridge was not broken out in any cost estimates or final figures for highway and bridge construction in this general area.

Before this project, the road sections near Honouliuli Stream were longer, less direct, and had more elevation changes that lowered traveling speeds and reduced safety, but reduced costs by crossing the gulch at a narrower point with a shorter, less expensive bridge. Wai‘anae Road came from the east and curved southward then westward before it crossed the gulch and joined Wai‘anae Road at the “Y” intersection that still exists about 1/8 mile south of the Farrington Highway Honouliuli Bridge. Fort Weaver Road (now called Old Fort Weaver Road) extended south from this point through the village of Honouliuli. The 1938 Waipahu Cutoff project kept the southernmost segments of the old Wai‘anae and Waipahu Roads (now both segments of Old Fort Weaver Road), but allowed motorists heading east or west across Honouliuli Gulch to bypass the “Y” intersection via the new 1939 Honouliuli Bridge and straight section of road that was constructed between the former curved end segments of Wai‘anae and Waipahu Roads. After the project was completed, any traffic that was bound for Honouliuli Village or points south still had to take one of the road segments bowing south to the “Y” junction, but traffic going to or from the west side of the island had a quicker, more direct route over Honouliuli Bridge.

²¹ “Farrington Highway to be New Belt Road Name”. *Honolulu Star-Bulletin*. October 30, 1939. p. 16.

²² “Three Major Improvements are Dedicated at Waipahu”. *Honolulu Star-Bulletin*. October 30, 1939. p. 16.

²³ “Waipahu Road Job Bids Are Due June 9th”. *Honolulu Star-Bulletin*. May 25, 1938. p. 1.

²⁴ Ibid, p. 1.

Honouliuli Stream Bridge

Honolulu, Hawaii

Name of Property

County and State

The Farrington Highway portion of the Waipahu Cutoff project included the highway construction further east of the Honouliuli Bridge running parallel to Waipahu Road $\frac{1}{4}$ to $\frac{1}{2}$ mile to the south. This provided a more direct route, eliminating the need to travel along Waipahu Road's twisting course through the built-up village of Waipahu. Farrington Highway created a bypass south of Waipahu and greatly improved O'ahu's belt road system in this part of the island. To the east of the Honouliuli Bridge, in conjunction with the F.A.P. 4-C (Waipahu Cutoff) project, another Federal Aid Project (F.A.P. 16-B) extended Kunia Road south from its former end point at Waipahu Road to join the newly constructed road section of Farrington Highway that vacated 0.6 miles of the western end of Waipahu Road. In 1983, Kunia Road was extended south of Farrington Highway and connected to Fort Weaver Road.

The Honouliuli Bridge is also eligible on the state level under Criterion C. Concrete tee-beam bridges are the most common type of remaining pre-World War II bridges in Hawaii and represent the evolution of reinforced-concrete deck bridge technology in Hawaii that began with the first slab bridge in 1908.²⁵ Often county-designed, these early slab bridges frequently consisted of concrete decks that replaced older type superstructures on their original abutments that were usually composed of lava rock and mortar.

The construction of reinforced tee-beam bridges in Hawaii began in 1912 and subsequently became the preferred design choice for the Territorial Highway Department by 1925. The pattern of reinforcing steel within the tee-beam bridge's girders that allowed for a greater load-bearing capacity is the most distinguishable innovation over earlier concrete girder bridges and was widely used up until the 1950s. Tee-beam bridges in Hawaii generally had parapets with voids, below reinforced-concrete rail caps, as noted in the *Historic Bridge Inventory*: "Several standard rail patterns [were] used by the Territorial Highway Department, either 'Greek-Cross', arched, or simple rectangular voids. Earlier masonry (lava rock or concrete) bridges typically had solid railings."²⁶

William R. Bartels was a bridge engineer for the Hawaii Territorial Highway Department and designed the Honouliuli Bridge. He was educated and trained in Germany before immigrating to Hawaii in 1932 as Hitler's Nazi Party rose to power.²⁷ He started working with the Highway Department and continued his career there until his retirement in 1958.²⁸ He was a prolific designer, responsible for several large, sophisticated bridge construction projects including many tee-beam and rigid-frame concrete bridges.

²⁵ Heritage Center. *Historic Bridge Inventory*. 2006. p. 78.

²⁶ Ibid.

²⁷ During the German election of July 31, 1932, the National Socialist German Workers' (Nazi) Party became the largest political organization in the German Parliament, with 230 of 608 seats.

²⁸ TH Honors 4 Veteran Employees". *Honolulu Advertiser*. July 1, 1958. From microfiche titled "Bartels" at the University of Hawaii at Manoa Hamilton Library. Honolulu Newspapers Clippings Morgue.

Honouliuli Stream Bridge

Honolulu, Hawai'i

Name of Property

County and State

Bartels is listed as the designer on the original plans of the Honouliuli Bridge that were drawn by by C.F. Wagner in February 1938 and by Bartels and his associate, Louis S. Cain.

Conclusion

The Honouliuli Bridge is eligible on a state-wide level under Criterion A (Events) as a contributing element to the development of an island-wide road transportation system established in the 1930s as well as its subsequent association with historic events related to World War II—namely the use of the bridge to facilitate the transportation of military and agricultural resources along the highway across the Honouliuli and Waipahu areas and link the Ewa and Waianae areas in the west to the urban center and main port of Honolulu. The bridge was also utilized to transport POW's and Japanese-American citizens to and from the Honouliuli Internment Camp. The bridge is further eligible under Criterion C (Architecture) as an intact example of pre-World War II concrete tee-beam bridges featuring parapets with voids that were an integral element of the evolution of reinforced-concrete deck bridge technology throughout Hawaii that significantly increased load-bearing capacity.

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawaii

County and State

9. Bibliography

Architectural Drawings and Early Views

Original drawings of the Honouliuli Bridge are electronic files (scans) located in the database of the Hawaii State Department of Transportation, Highway Design Section: Project No. 4-C, Waianae Road (Farrington Highway) Waipahu Cutoff. Project ID No. 7101-001, Project File O-10-12, dated 06/09/1938.

Historic maps and aerial photos used in the report are located in the collection of the Hawaii State Archives. Other historic maps were found at the Hawaii State Library, Hawaii and Pacific Collection.

Written Sources

Hawaii Highway Planning Survey. Bridge Inventory for the Island of Oahu. Honolulu, HI: Territorial Highway Department. 1950.

Helber, Hastert & Fee, Planners. Oahu Integrated Cultural Resources Management Plan. Prepared for Commander, Navy Region Hawaii. 2008.

Heritage Center, School of Architecture, University of Hawaii at Manoa. State of Hawaii Historic Bridge Inventory and Evaluation. Honolulu, HI: State Department of Transportation, Highways Division. June 2006.
Honolulu Advertiser:

“TH Honors 4 Veteran Employees”. July 1, 1958. University of Hawaii Newspaper Morgue.
Honolulu Star-Bulletin:

“Farrington Highway to be New Belt Road Name”. February 11, 1935. p. 1.

“Cain Outlines Territory-U.S. Highway Plans”. June 29, 1937. p. 1.

“New Highways will be Built”. December 18, 1937. p. 3.

“Waipahu Road Jobs Bids are Due June 9th”. May 25, 1938. p. 1.

“Three Major Improvements Dedicated at Waipahu”. October 30, 1939. p. 16.

“New 5 ½ Mile Section of H-1 Opens Wednesday”. November 27, 1966. p. A1B.

Honouliuli Stream Bridge

Honolulu, Hawaii

Name of Property

County and State

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Niiya, Brian. *History of the Internment of Hawaii*. June 2010. Japanese Cultural Center of Hawaii. <<http://www.hawaiiinternment.org/history-of-internment>>. Accessed June 18, 2014

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Yamamoto, Michael T., Nina Yuriko (Ota) Sylva, and Karen N. Yamamoto. *Waipahu: Recollections from a Sugar Plantation Community in Hawaii*. Albuquerque, NM: Michael T. Yamamoto. 2005.

Newspaper articles on W. R. Bartels are available on microfiche at the University of Hawaii at Manoa Hamilton Library, Honolulu Newspapers Clippings Morgue. Various Dates.

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

Previous documentation on file (NPS):

- ☐ preliminary determination of individual listings (36 CFR 67) has been
☐ requested previously listed in the National Register
☐ previously determined eligible by the National Register
☐ designated a National Historic Landmark
☐ recorded by:

- ☐ Historic American Buildings Survey # _____
☒ Historic American Engineering Record # HI-99
☐ Historic American Landscape Survey # _____

Primary location of additional data:

- ☒ State Historic Preservation Office
☐ Other State agency
☐ Federal agency
☒ Local government
☐ University
☐ Other (Name of repository): _____

Historic Resources Survey Number (if assigned): _____

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

10. Geographical Data

Acres of Property Less than one acre

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates (decimal degrees)

Datum if other than WGS84: _____

(enter coordinates to 6 decimal places)

- | | | |
|----|-----------------|------------------|
| 1. | Latitude: _____ | Longitude: _____ |
| 2. | Latitude: _____ | Longitude: _____ |
| 3. | Latitude: _____ | Longitude: _____ |
| 4. | Latitude: _____ | Longitude: _____ |

Or

UTM References

Datum (indicated on USGS map):

☐ NAD 1927 ☒ NAD 1983

- | | | |
|--------------------|------------------------|--------------------------|
| 1. Zone: <u>04</u> | Easting: <u>600210</u> | Northing: <u>2363880</u> |
| 2. Zone: _____ | Easting: _____ | Northing: _____ |
| 3. Zone: _____ | Easting: _____ | Northing: _____ |
| 4. Zone: _____ | Easting: _____ | Northing: _____ |

Verbal Boundary Description (Describe the boundaries of the property.)

The boundary of Honouliuli Bridge is a parallelogram that includes the bridge superstructure and abutments, and which measures approximately 105' x 62'.

Boundary Justification (Explain why the boundaries were selected.)

The area occupied by the bridge.

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

11. Form Prepared By

name/title Dee Ruzicka, Architectural Historian

organization Mason Architects, Inc.

street & number 119 merchant St. Suite 501

city or town Honolulu state HI zip code 96813

e-mail dr@masonarch.com

telephone (808) 536-0556

date July 10, 2012

name/title Lorraine Minatoishi, PhD, Historic Architect

organization Minatoishi Architects, Inc.

street & number 1429 Makiki St #2-221

city or town Honolulu state HI zip code 96814

e-mail lm@mahawaii.com

telephone (808) 285-1184

date April 14, 2014 and July 10, 2012

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

Index of Figures:

Name of Property:	Honouliuli Stream Bridge
City or Vicinity:	Ewa Beach
County:	Honolulu
State:	Hawai'i
Location of Original Digital Files:	1429 Makiki St., Honolulu, HI 96814

Figure #: File Name

Description

Figure 1: HI_Honolulu_HonouliuliStreamBridge_Fig0001	USGS Map
Figure 2: HI_Honolulu_HonouliuliStreamBridge_Fig0002	USGS Map with Topography
Figure 3: HI_Honolulu_HonouliuliStreamBridge_Fig0003	USGS Map zoomed in
Figure 4: HI_Honolulu_HonouliuliStreamBridge_Fig0004	USGS Map of Bridge
Figure 5: HI_Honolulu_HonouliuliStreamBridge_Fig0005	1793 Landscape Map
Figure 6: HI_Honolulu_HonouliuliStreamBridge_Fig0006	Map of Internment Camps

Honouliuli Stream Bridge

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Honouliuli Stream Bridge

City or Vicinity:

Ewa Beach

County:

Honolulu

State:

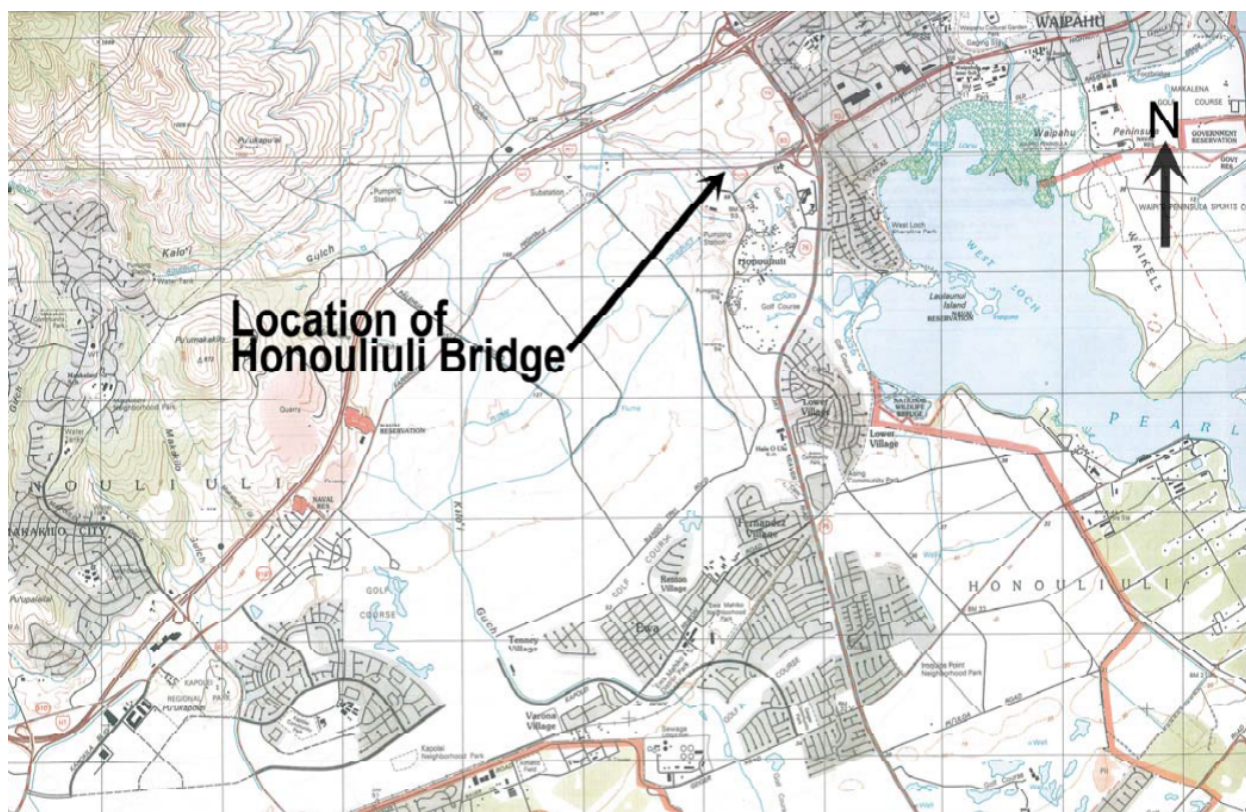
Hawai'i

Location of Original Digital Files:

1429 Makiki St., Honolulu, HI 96814

Figure 1: HI_Honolulu_HonouliuliStreamBridge_Fig0001

USGS Map indicating the property's location



Honouliuli Stream Bridge

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Honouliuli Stream Bridge

City or Vicinity:

Ewa Beach

County:

Honolulu

State:

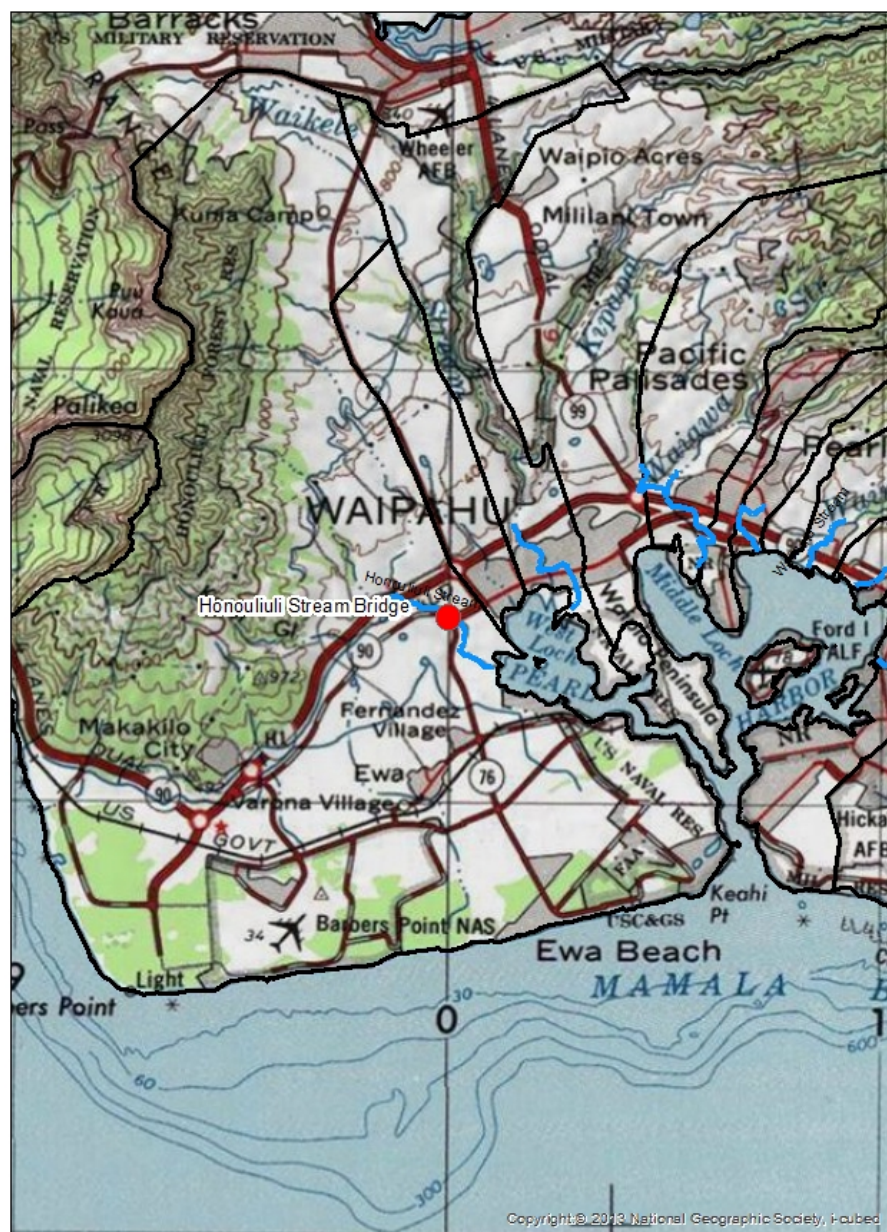
Hawai'i

Location of Original Digital Files:

1429 Makiki St., Honolulu, HI 96814

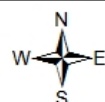
Figure 2: HI_Honolulu_HonouliuliStreamBridge_Fig0002

USGS Map with Topography



0 0.5 1 2 3 4 Miles

NMcMahon MAHAWAII 2014



Honouliuli Stream Bridge

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Honouliuli Stream Bridge

City or Vicinity:

Ewa Beach

County:

Honolulu

State:

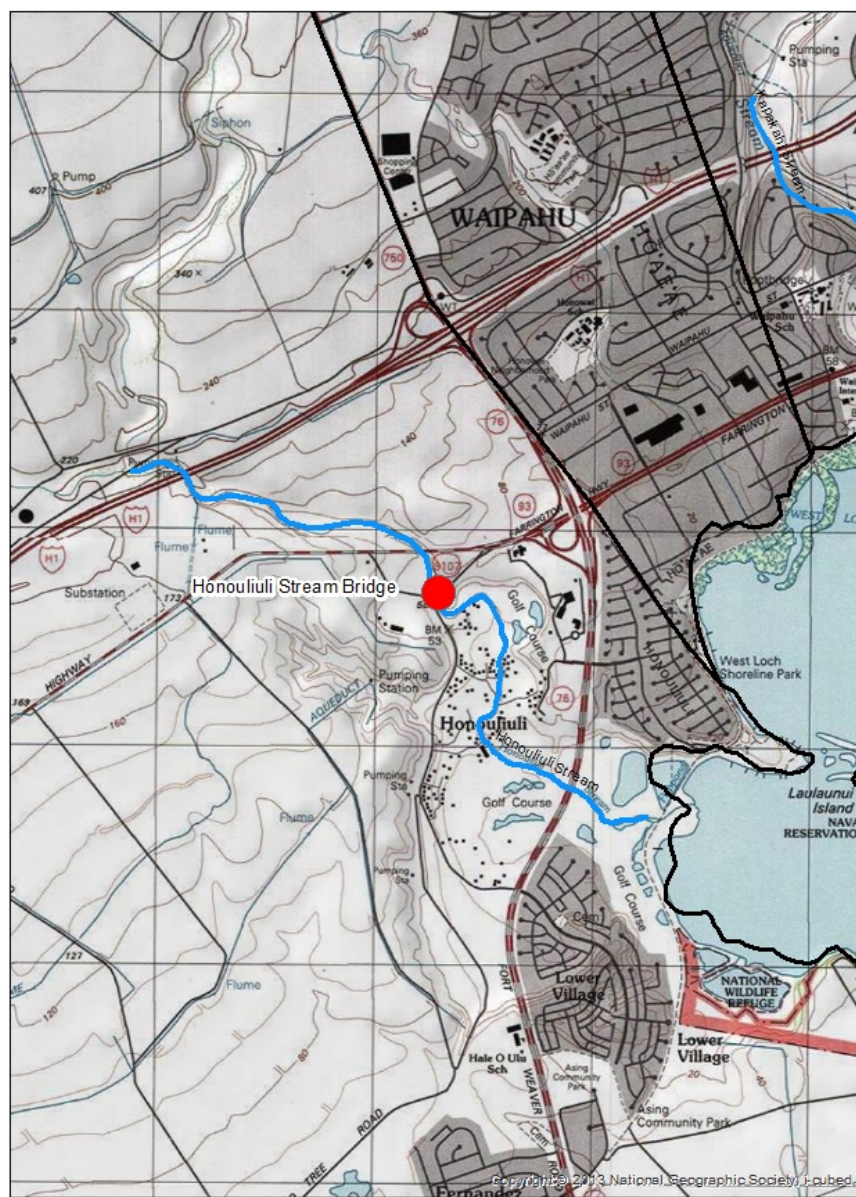
Hawai'i

Location of Original Digital Files:

1429 Makiki St., Honolulu, HI 96814

Figure 3: HI_Honolulu_HonouliuliStreamBridge_Fig0003

USGS Map zoomed in



00.075 0.15 0.3 0.45 0.6 Miles

NMcMahon MAHAWAII 2014



Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

Name of Property:

Honouliuli Stream Bridge

City or Vicinity:

Ewa Beach

County:

Honolulu

State:

Hawai'i

Location of Original Digital Files:

1429 Makiki St., Honolulu, HI 96814

Figure 4: HI_Honolulu_HonouliuliStreamBridge_Fig0004
USGS Map of Bridge



Honouliuli Stream Bridge

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Honouliuli Stream Bridge

City or Vicinity:

Ewa Beach

County:

Honolulu

State:

Hawai'i

Location of Original Digital Files:

1429 Makiki St., Honolulu, HI 96814

Figure 5: HI_Honolulu_HonouliuliStreamBridge_Fig0005

Map of trails and landscape of the Honouliuli region ca. 1793. The red dot indicates the location of Honouliuli Bridge in relation to pre-contact alaloa/alahahele. (Malden, 1825. State Survey Division, Register Map No. 437)



Honouliuli Stream Bridge

Honolulu, Hawai'i

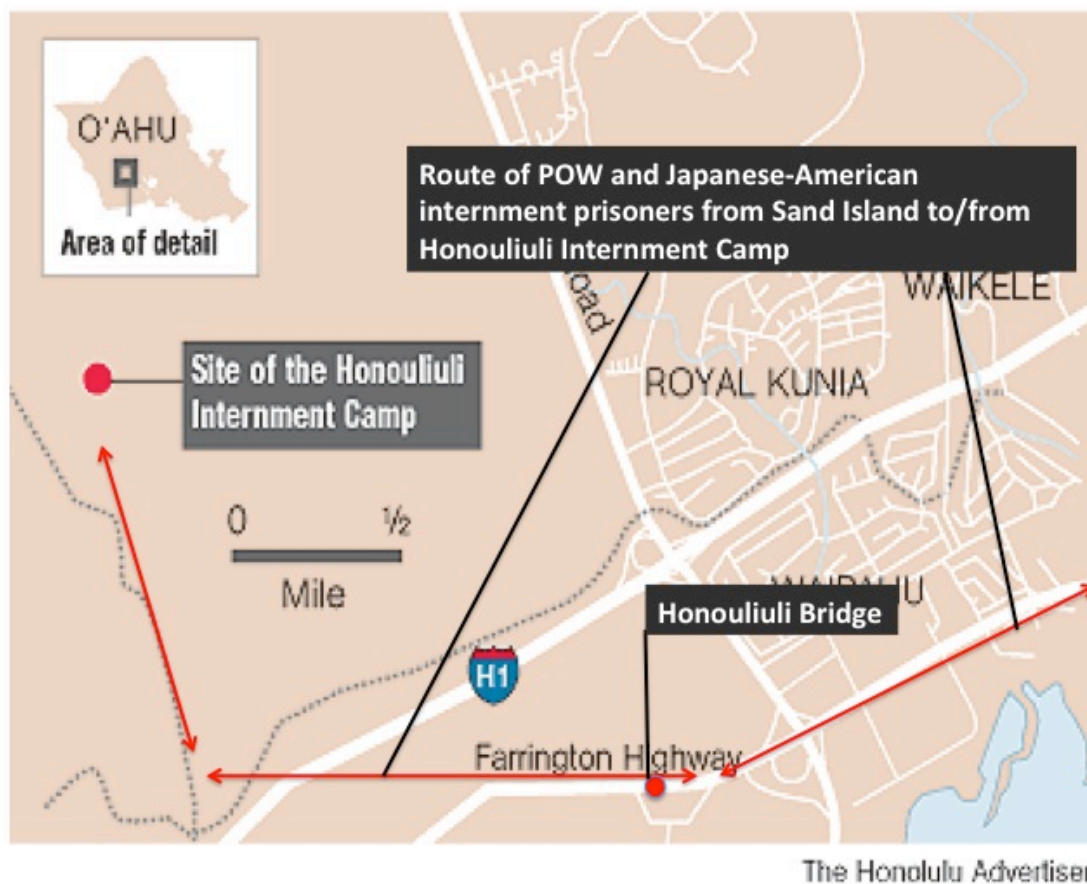
Name of Property

County and State

Name of Property: Honouliuli Stream Bridge
City or Vicinity: Ewa Beach
County: Honolulu
State: Hawai'i
Location of Original Digital Files: 1429 Makiki St., Honolulu, HI 96814

Figure 6: HI_Honolulu_HonouliuliStreamBridge_Fig0006

Area map showing the relative position of the Honouliuli Stream Bridge and Internment Camps located along present-day Farrington Highway facilitating the transport of prisoners between Sand Island and Honouliuli Internment Camps.



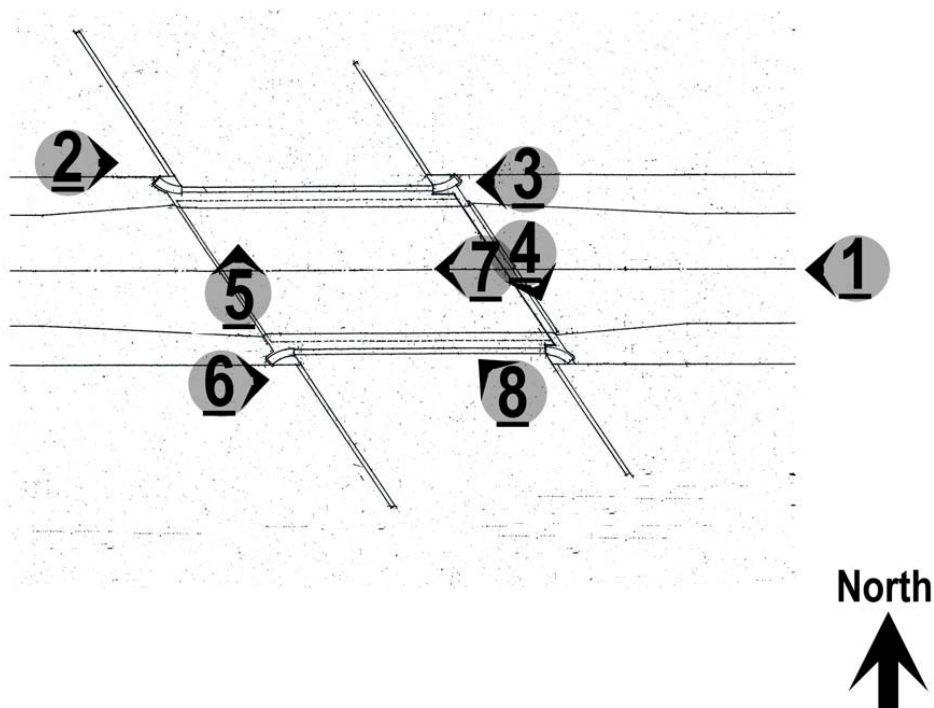
Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

Photo Key for Honouliuli Bridge



Honouliuli Stream Bridge

Honolulu, Hawai'i

Name of Property

County and State

Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

Photo Log

Name of Property: Honouliuli Stream Bridge
City or Vicinity: Ewa Beach
County: Honolulu State: HI
Photographer: Varies; see photographs
Date Photographed: Varies; see photographs

Description of Photograph(s) and number:
8 photographs; HI_HonoluluCounty_HonouliuliStreamBridge_0001 to 008

Photo #1: HI_Honolulu County_HonouliuliStreamBridge_0001
Overview of bridge, camera facing west.

Photo #2: HI_HonoluluCounty_HonouliuliBridge_0002
Oblique view of north parapet, camera facing east.

Photo #3: HI_HonoluluCounty_HonouliuliBridge_0003
Detail view of northeast stanchion showing stepped treatment of edges and corners, camera facing west.

Photo #4: HI_HonoluluCounty_HonouliuliBridge_0004
Detail of southeast stanchion showing infilled lettering at right of metal guardrail, camera facing south.

Photo #5: HI_HonoluluCounty_HonouliuliBridge_0005
Detail of north parapet showing typical configuration of concrete rail, camera facing north.

Photo #6: HI_HonoluluCounty_HonouliuliBridge_0006
Southeast wing wall showing exposed footing toes of the counterforts at the streambed, camera facing east.

Photo #7: HI_HonoluluCounty_HonouliuliBridge_0007
West abutment and underside of bridge deck showing longitudinal beams, camera facing west.

Photo #8: HI_HonoluluCounty_HonouliuliBridge_0008
North wing walls showing the stream bed under the bridge, camera facing northwest.

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

Photo #9: HI_HonoluluCounty_HonouliuliBridge_0009
Original architectural renderings for Honouliuli Bridge c. 1935

Photo #10: HI_HonoluluCounty_HonouliuliBridge_0010
Historic photos of Honouliuli Internment Camp, c. 1944, as photographed by R.H. "Harry" Lodge, an employee of Oahu Sugar Company.

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

HI_Honolulu County_HonouliuliStreamBridge_0001



Photographer: Dee Ruzicka
Date Photographed: December 20, 2011

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

HI_Honolulu County_HonouliuliStreamBridge_0002



Photographer: Dee Ruzicka
Date Photographed: December 20, 2011

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

HI_Honolulu County_HonouliuliStreamBridge_0003



Photographer: Dee Ruzicka
Date Photographed: December 20, 2011

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

HI_Honolulu County_HonouliuliStreamBridge_0004



Photographer: Dee Ruzicka
Date Photographed: December 20, 2011

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

HI_Honolulu County_HonouliuliStreamBridge_0005



Photographer: Dee Ruzicka
Date Photographed: December 20, 2011

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

HI_Honolulu County_HonouliuliStreamBridge_0006



Photographer: Dee Ruzicka
Date Photographed: December 20, 2011

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawaii

County and State

HI_Honolulu County_HonouliuliStreamBridge_0007



Photographer: Dee Ruzicka
Date Photographed: December 20, 2011

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

HI_Honolulu County_HonouliuliStreamBridge_0008



Photographer: Dee Ruzicka
Date Photographed: December 20, 2011

Honouliuli Stream Bridge

Name of Property

Honolulu, Hawai'i

County and State

Photo #10: HI_HonoluluCounty_HonouliuliBridge_0010



Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management, U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

APPENDIX A:

State of Hawaii Department of Transportation-Highways Division. *State Historic Bridge Inventory & Evaluation*. Prepared for State of Hawaii Department of Transportation Highways Division. MKE Associates LLC. November 2013.



1



2



3

hawaii

STATE HISTORIC BRIDGE INVENTORY & EVALUATION



4

2013



5



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Honouliuli Stream Bridge


Name of Property

Honolulu, Hawai'i

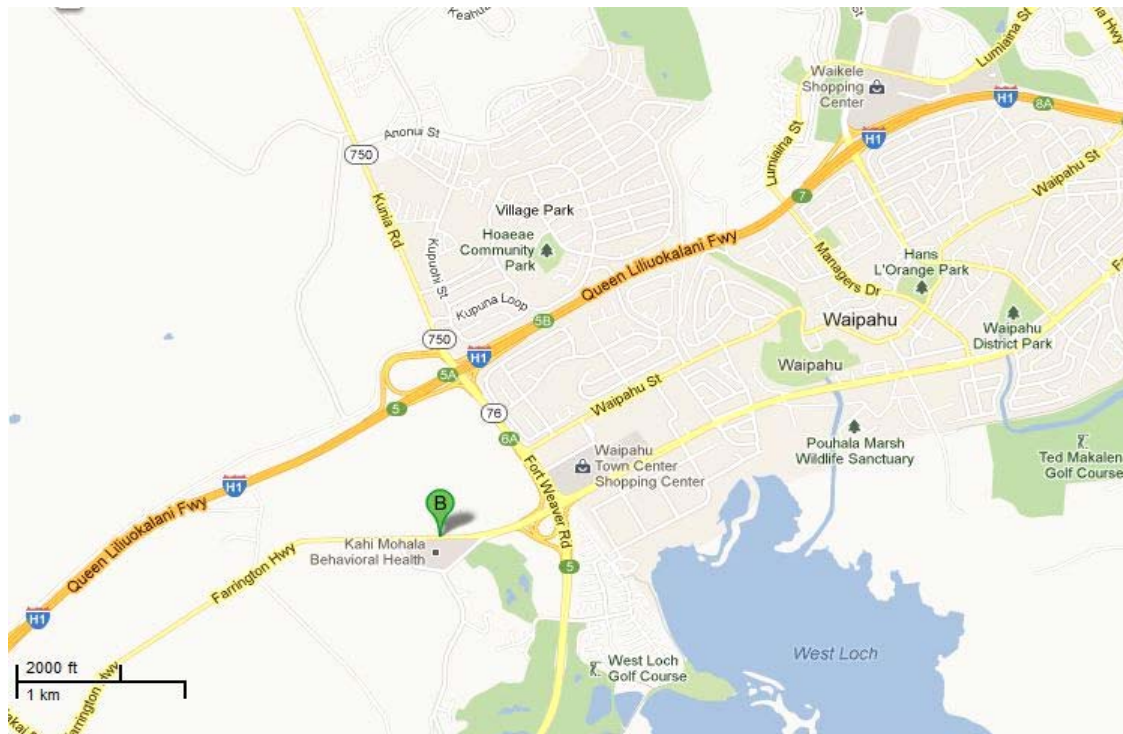
County and State

Inventory Form
(County/Private)

General Information

Bridge Number: 003922001100001		
Popular Name: Farrington Highway Bridge-Honouliuli Stream		
Feature Crossed: Honouliuli Stream		
Feature Carried: Farrington Highway		
Milepost: County Private: Honolulu		
Longitude: 158d-02m-00.83s Latitude: 21d-22m-27.82s		
Location: TMK: 9-1-17		
Historic Name: Farrington Highway Bridge-Honouliuli Stream		
Designer/Engineer:		
Builder/Contractor:		

Location Map:



003922001100001 Farrington Highway Bridge-Honouliuli Str

Construction Information

Bridge Type: Concrete Tee Beam	Construction Date: 1939	Replaced? No
Altered? No Alteration Date(s):		
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	Max Span: 40.0 ft.	Total Length: 54.0 ft.	Deck Width: 32.0 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Greek Cross			
Setting:			
Other Features:			

Historic Association

Eligibility Status: Eligible	Criteria: C	State/National Registered? No
Current Function: Bridge		Historic Function: Bridge
Area of Significance: Engineering		
Narrative Description: <p>The Farrington Highway Bridge carries Farrington Highway across the Honouliuli Stream. This single-span reinforced cast-in-place concrete bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete parapets with cross shaped voids and caps. Wide end posts flank the ends of the parapets. The concrete deck is supported by concrete abutments, two piers, and spread footings. Thrie beams were bolted to the end posts however, the workmanship of the bridge has not been obscured.</p>		

Significance Statement:

This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of the 1930's concrete tee beam bridge that is typical of its materials, method of construction, craftsmanship, and design.