chapter 4

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I. ISLAND OF OAHU

Map of Oahu

(Map taken from Google map)

Oahu History

Oahu: With an area of 607.7 square miles, Oahu (also known as The Gathering Place) is the third largest island. It is formed of two mountain ranges, the Koolau on the east and the Waianae on the west. Lava flows from both have joined to create a central plain, the Leilehua Plateau, and a raised coral reef forms the south shore of the island and parts of the remaining coast. In both mountain ranges are amphitheater-headed valleys and spectacular cliffs. The island has no active volcanoes but many extinct craters, notably Diamond Head, Koko Head, and Punchbowl.

As the seat of state government and business, the island of Oahu led the islands in road and bridge construction due to its greater population and tax base. Post World War I, Oahu became an essential component of the strategic role the United States played in the Pacific. After the 1941 bombing of Pearl Harbor and Hawaii's subsequent entry into World War II, construction of highways and bridges deemed vital for National Defense was accelerated. Today, Oahu is primarily urban and contains some of Hawaii's most expensive and technologically complex road construction projects, including a major highway system around the island and three tunnels (Wilson, Likelike, and the H-3) through the central mountains. Although Oahu had the earliest and greatest number of bridges constructed in the islands, intensive development has led to the destruction and reconstruction of many early examples.

II. BRIDGE MATRIX: OAHU

Bridge Number	Bridge Name	Feature Crossed	Feature Carried	Construction Date	Bridge Type	Parapet/Railing Type	Listed on National/Hawaii Register	Eligibility Status*	Character Defining Feature (Significance)	Page No.
003000830303803	Ahuimanu Stream (Hui Iwa)	Ahuimanu Stream	Kahekili Highway	1963	Concrete Box Culvert	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000780400001	Aiea Interchange No. 2	Kamehameha Highway	Moanalua Freeway	1966	Steel Stringer	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000991202143	Aiea Interchange No. 4	Kamehameha Higway	Aiea Heights Access Road	1965	Steel Stringer	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. The bridge is also associated with the development of H-1 Freeway.	n/a
003000780000049	Aiea Interchange Pedestrian Overpass	Moanalua Freeway (Aiea Interchange Pedestrian Overpass)	Pedestrian	1966	Concrete Girder	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000990402120	Aiea Stream	Aiea Stream	Kamehameha Highway	1938	Concrete Tee Beam	Concrete and Metal	No	Not Eligible	This bridge has lost integrity due to significant alterations in 1965. The bridge does not reflect the typical characteristics of a 1930s bridge and does not fall under Program Comments due to its construction date in 1938.	n/a
003000920400861	Ala Wai Canal	Ala Wai Canal	Ala Moana Boulevard	1939	Concrete Tee Beam	Metal Horizontal	No	Non-Contributing	• Associated with the Ala Wai Canal and development of Waikiki district • Located within the Waikiki special district • See National Register of Historic Places Nomination Form on Ala Wai Canal in appendices for related information	4 - 34
003000930300071	Awawanui Stream	Awawanui Stream	Old Farrington Highway	1927	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1920's reinforced concrete tee beam bridge	4 - 37
003000631100418	Burmeister Overpass	Likelike Highway (Burmeister Overpass)	Private Road	1959	Concrete Girder	Concrete Open Horizontal	No	Eligible	• Built as a result of the Territory refusing to build the mauka entrance to Edward R. Burmeister Kalihi Valley land from the current Likelike Highway	4 - 40
003098001400116	Central Intermediate Pedestrian Overpass	Vineyard Boulevard	Pedestrian	1957	Concrete Tee Beam	Metal Picket	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. This pedestrian overpass was constructed to mitigate the extension of North Vineyard Boulevard to connect with the H-1 Freeway. The extension separated Central Intermediate School from its playground area.	n/a
003000830304369	Double 12 ft. x 10 ft. Concrete Box Culvert	Unnamed Stream	Kamehameha Highway	1933	Concrete Box Culvert	Metal Thrie Beam	No	Not Eligible	This culvert does not have distinctive engineering or architectural features that depart from standard culvert design.	n/a
003090001400038	Double Section Plate Pipe Culvert	Unknown Stream	Farrington Highway	1965	Metal Corrugated Culvert	Concrete and Metal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003000720401801	Double-Cell Box Culvert	Unnamed Stream	Kalanianaole Highway	1958	Concrete Box Culvert	Metal Horizontal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003009301101728	Farrington Highway-Waialua Plantation Road	Farrington Highway	Plantation Road	1940	Steel Stringer	Concrete Open Horizontal	No	High Preservation Value	• Uncommon use of steel material in Hawaii's extreme marine environment • Good example of a 1940's reinforced concrete and steel stringer bridge • Bridge is not publicly accessible	4 - 43
003071001400224	Former Halawa Ridge Road	Former Halawa Ridge Road	Halawa Heights Road	1952	Concrete Tee Beam	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000830303604	Haiamoa Stream-Double 10 ft. x 5 ft. Concrete Box Culvert	Haiamoa Stream	Kamehameha Highway	1922	Concrete Box Culvert	Concrete Solid	No	Not Eligible	This culvert does not have distinctive engineering or architectural features that depart from standard culvert design.	n/a
003000830303252	Hakipuu Stream	Hakipuu Stream	Kamehameha Highway	1922	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1920's concrete tee beam bridge	4 - 46
003000990402211	Halawa Stream (Eastbound)	Halawa Stream	Kamehameha Highway	1934	Concrete Girder	Concrete and Metal	No	Not Eligible	This bridge has lost integrity due to significant alterations. In 2009 the bridge was rehabilitated and widened. The superstructure has been completely replaced however the original piers and pile foundations remain.	n/a

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Program Comments: Common post-war bridges built after 1945 covered by Advisory Council program comments.
Non-Contributing: The bridge/culvert is non-contributing to the historic district.

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003000990402212	Halawa Stream (Westbound)	Halawa Stream	Kamehameha Highway	1945	Concrete Tee Beam	Concrete Open Greek Cross	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1940's reinforced concrete bridge	4 - 49
003000830302169	Hauula Stream	Hauula Stream	Kamehameha Highway	1932	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 52
003000830303972	Heeia Stream Culvert	Heeia Stream	Kahekili Highway	1963	Concrete Box Culvert	Metal Thrie Beam	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003000830301357	Hoolapa Stream-Nanahu	Hoolapa Stream	Kamehameha Highway	1931	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's concrete tee beam bridge	4 - 55
003074001400274	Ihiihilauakea Stream	Ihiihilauakea Stream	Kalanianaole Highway	1931	Open Spandrel Arch	Metal Thrie Beam	No	High Preservation Value	• Arch bridges are an uncommon bridge type • Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's open spandrel concrete arch bridge in Oahu	4 - 58
003000830302903	Kaaawa Stream	Kaaawa Stream	Kamehameha Highway	1927	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1920's reinforced concrete bridge	4 - 61
003000830303575	Kaalaea Stream	Kaalaea Stream	Kamehameha Highway	1923	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1920's reinforced concrete bridge	4 - 64
003000610300877	Kahanaiki Stream	Kahanaiki Stream	Kalanianaole Highway	1951	Concrete Tee Beam	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000720700285	Kahawai Stream (East)	Kahawai Stream	Kalanianaole Highway	1926	Concrete Tee Beam	Concrete and Metal	No	Not Eligible	This bridge has lost integrity due to significant alterations in 1981. The bridge does not reflect the typical characteristics of a 1920s bridge and does not fall under Program Comments due to its construction date in 1926.	
003000830301785	Kahawainui Stream-Laiewai	Kahawainui Sream	Kamehameha Highway	1933	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 67
003009300500221	Kaiahi Stream (Makua) Double Concrete Box Culvert	Kaiahi Stream	Farrington Highway	1964	Concrete Box Culvert	Metal Thrie Beam	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003000830302099	Kaipapau Stream	Kaipapau Stream	Kamehameha Highway	1932	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 70
003074000000432	Kalanianaole Highway-Lunalilo Home Road Pedestrian Overpass	Kalanianaole Highway	Pedestrian	1968	Concrete Tee Beam	Metal Picket	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000990402053	Kalauao Springs (Eastbound)	Kalauao Springs	Kamehameha Highway	1936	Concrete Girder	Concrete Open Greek Cross	No	Eligible	• Associated with post-war developments of the community	4 - 73
003000990402054	Kalauao Springs (Westbound)	Kalauao Springs	Kamehameha Highway	1945	Concrete Girder	Concrete Open Greek Cross	No	Eligible	• Associated with post-war developments of the community	4 - 76
003000990402074	Kalauao Stream (Eastbound)	Kalauao Stream	Kamehameha Highway	1936	Concrete Girder	Concrete Open Greek Cross	No	Eligible	• Associated with post-war developments of the community due to bridge widening in 1966	4 - 79
003000990402075	Kalauao Stream (Westbound)	Kalauao Stream	Kamehameha Highway	1945	Concrete Girder	Concrete Open Greek Cross	No	Eligible	• Associated with post-war developments of the community	4 - 82
003000920400363	Kalihi Stream	Kalihi Stream	Nimitz Highway	1945	Concrete Girder	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a

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003062071400019	Kalihi Stream (Eastbound)	Kalihi Stream	Kamehameha Highway	1926	Concrete Girder	Metal Horizontal	No	Not Eligible	This bridge has lost integrity due to significant alterations. This bridge and Kalihi Stream Bridge (003062071400018) were originally separate bridges but in 1983 both were widened and combined at the median. Consultation is recommended due to long term replacement plans regarding existing view planes.	n/a
003000630400167	Kalihi Stream (Inbound)	Kalihi Stream	Likelike Highway	1957	Concrete Tee Beam	Concrete Solid	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. The bridge is also associated with Likelike Highway. The bridge was also widened in 1986.	n/a
003000630400166	Kalihi Stream (Outbound)	Kalihi Stream	Likelike Highway	1957	Concrete Tee Beam	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003062071400018	Kalihi Stream (Westbound)	Kalihi Stream	Kamehameha Highway	1943	Concrete Girder	Metal Horizontal	No	Not Eligible	This bridge has lost integrity due to significant alterations. This bridge and Kalihi Stream Bridge (003062071400019) were originally separate bridges but in 1983 both were widened and combined at the median. Consultation is recommended due to long term replacement plans regarding existing view planes.	n/a
003000630400557	Kalihi Stream 3-Cell Concrete Box Culvert	Kalihi Stream	Likelike Highway	1954	Concrete Box Culvert	Metal Thrie Beam	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003000630400087	Kalihi Street Overpass No. 1	H-1 (Kalihi Street Overpass No. 1)	Likelike Highway	1959	Concrete Slab	Concrete and Metal	No	Program Comments	This is a typical post-war pedestrian bridge and falls under Program Comments.	n/a
003000630400081	Kalihi Street Overpass No. 2	H-1 (Kalihi Street Overpass No. 2)	Likelike Highway	1960	Concrete Slab	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000630400095	Kalihi Street Overpass No. 3	H-1 (Kalihi Street Overpass No. 3)	Likelike Highway - H-1 On Ramp	1959	Concrete Slab	Concrete and Metal	No	Program Comments	This is a typical post-war pedestrian bridge and falls under Program Comments.	n/a
003000630000087	Kalihi Street Pedestrian Overpass	H-1 (Kalihi Street Pedestrian Overpass)	Pedestrian	1959	Concrete Tee Beam	Metal Horizontal	No	Program Comments	This is a typical post-war pedestrian bridge and falls under Program Comments.	n/a
003000830302282	Kaluanui Stream	Kaluanui Stream	Kamehameha Highway	1926	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1920's reinforced concrete bridge	4 - 85
003000830304273	Kamooalii Stream	Kamooalii Stream	Kamehameha Highway	1968	Concrete Girder	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000830404123	Kamooalii Stream - Triple 12 ft. x 13 ft.	Kamooalii Stream	Likelike Highway	1959	Concrete Box Culvert	Metal Thrie Beam	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003000830004187	Kaneohe Elementary School Pedestrian Overpass	Kamehameha Highway (Kaneohe Elementary School Pedestrian Overpass)	Pedestrian	1968	Concrete Girder	Concrete Solid	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000830404094	Kaneohe Stream-Double 10 ft. x 8 ft. Concrete Box Culvert	Kaneohe Stream	Likelike Highway	1959	Concrete Box Culvert	Metal Thrie Beam	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003090001400136	Kapakahi Stream (West)	Kapakahi Stream	Farrington Highway	1964	Concrete Slab	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003009300501414	Kapalaau Stream	Kapalaau Stream	Farrington Highway	1940	Concrete Slab	Concrete Open Vertical	No	Not Eligible	The bridge has lost integrity due to the replacement of the railings.	n/a
003000920400480	Kapalama Canal (Eastbound)	Kapalama Canal	Nimitz Highway	1949	Concrete Slab	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000920400481	Kapalama Canal (Westbound)	Kapalama Canal	Nimitz Highway	1949	Concrete Slab	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a

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003000800300071	Kaukonahua Bridge-Karsten Thot	Wahaiwa Reservoir	Kamehameha Highway	1932	Steel Truss	Metal Horizontal	No	High Preservation Value	• Excellent example of a late-period steel through-deck Warren truss bridge that was constructed during the depression era • One of three metal truss bridges remaining in the state • Associated with public works efforts by the City and County of Honolulu during the Territorial period in Hawaii • Uncommon use of steel material in Hawaii's extreme marine environment • Contributed to the economic development of central Oahu by providing reliable vehicular access from Honolulu to the north shore of the island • Associated with Karsten Thot	4 - 88
003000990300787	Kaukonahua Stream	Kaukonahua Stream	Wilikina Drive	1944	Concrete Tee Beam	Concrete Open Greek Cross	No	High Preservation Value	• Associated with the post-war Federal Aid program during buildup of National Defense program; connected Schofield Barracks to Dillingham Air Field in Mokuleia • Was constructed to connect Schofield Barracks to the Dillingham Air Field in Mokuleia (via Farrington Hwy) • Surrounding rural environment has remained intact and the bridge continues to provide a vital connection between central Oahu and the North Shore	4 - 91
003009300501748	Kaukonahua Stream	Kaukonahua Stream	Farrington Highway	1940	Concrete Tee Beam	Concrete Open Greek Cross	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1940's reinforced concrete bridge	4 - 94
003000830300939	Kaunala Stream	Kaunala Stream	Kamehameha Highway	1929	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Not Eligible	The bridge has lost integrity due to the addition of the concrete walkway with horizontal railings on one side of the bridge in 1989 and a utility pipe on the other side.	n/a
003000930301128	Kaupuni Stream	Kaupuni Stream	Farrington Highway	1937	Concrete Tee Beam	Metal Horizontal	No	Not Eligible	This bridge has lost integrity due to significant alterations in 1965. The bridge does not reflect the typical characteristics of a 1930s bridge and does not fall under Program Comments due to its construction date in 1937.	n/a
003063001400065	Kawa Stream	Kawa Stream	Kaneohe Bay Drive	1939	Concrete Tee Beam	Masonry Rock	No	High Preservation Value	• Associated with early developments in concrete masonry bridge construction in Hawaii • Good example of a 1930's masonry structure bridge • High artistic value	4 - 97
003074001400256	Kawaiakaiea Stream	Kawaiakaiea Stream	Kalanianaole Highway	1931	Concrete Tee Beam	Metal Thrie Beam	No	Not Eligible	This bridge has lost integrity due to the replacement of the railings with thrie beams in 1998. The abutments are also undistinguishable.	n/a
003009300501254	Kawaihapai Stream	Kawaihapai Stream	Farrington Highway	1941	Concrete Slab	Metal Thrie Beam	No	Not Eligible	The bridge has lost integrity due to the lack of character defining features and removal of the original railings. Along one side of the bridge the original railing remains however, it is obscured by thrie beams.	n/a
003000830300456	Kawailoa Stream	Kawailoa Stream	Kamehameha Highway	1929	Concrete Tee Beam	Concrete Solid	No	Not Eligible	The bridge has lost integrity due to the replacement of the parapets and bridge widening in 1985.	n/a
003000610401061	Kawainui Stream (Inbound)	Kawainui Stream	Kailua Road	1940	Concrete Slab	Concrete Open Greek Cross	No	High Preservation Value	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1940's reinforced concrete bridge • Associated with the Kailua area development	4 - 100
003000610401060	Kawainui Stream (Outbound)	Kawainui Stream	Kailua Road	1940	Concrete Slab	Concrete Open Greek Cross	No	High Preservation Value	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1940's reinforced concrete bridge • Associated with the Kailua area development	4 - 103
003000830301140	Kawela Stream	Kawela Stream	Kamehameha Highway	1931	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 106
003000930300346	Keananoio Stream (Inbound)	Keananoio Stream	Farrington Highway	1967	Concrete Tee Beam	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a

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003000930300345	Keananoio Stream (Outbound)	Keananoio Stream	Farrington Highway	1967	Concrete Tee Beam	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000990301447	Kipapa Stream	Kipapa Stream	Kamehameha Highway	1933	Concrete Tee Beam	Concrete Open Arched	No	High Preservation Value	• Also known as Roosevelt Bridge • Contributes to the fields of engineering and transportation in Hawaii. • Excellent example of reinforced concrete tee beam construction with an open concrete rail typical of 1930s bridges • Associated with important public works project initiated by the territorial government and constructed with Federal work relief programs funds during the Depression era • Associated with William R. Bartels, chief designer for the Territorial Highway Department	4 - 109
003063000000155	Kokokahi Pedestrian Overpass	Kaneohe Bay Drive	Pedestrian	1952	Concrete Tee Beam	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. It is suspected as the first pedestrian overpass on Oahu. It is associated with the Kokokahi YMCA as it connected the waterfront and its camping cabins with the outdoor amphitheater and the residential community.	n/a
003000830301970	Koloa Stream-Laiemaloo	Koloa Stream	Kamehameha Highway	1933	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 112
003000610000045	Kuakini Street Pedestrian Overpass	Pali Highway (Kuakini Street Pedestrian Overpass)	Pedestrian	1962	Concrete Tee Beam	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003074001400545	Kuapa Pond-Maunalua	Kuapa Pond	Kalanianaole Highway	1936	Concrete Slab	Concrete and Metal	No	Not Eligible	This bridge has lost integrity due to significant alterations. In 1994 the bridge was also widened and the railings were replaced.	n/a
003000830301255	Kuilima-Oio Stream	Kuilima-Oio Stream	Kamehameha Highway	1931	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 115
003000630000234	Kula Kolea Pedestrian Overpass	Likelike Highway (Kula Kolea Pedestrian	Pedestrian	1960	Concrete Girder	Metal Horizontal	No	Program Comments	This is a typical post-war pedestrian bridge and falls under Program Comments.	n/a
003000720401307	Kuliouou Stream Bridge	Kuliouou Stream	Kalanianaole Highway	1936	Concrete Girder	Concrete and Metal	No	Not Eligible	This bridge has lost integrity due to significant alterations which included bridge widening in 1994.	n/a
003000830301851	Laieloa Stream	Laieloa Stream	Kamehameha Highway	1932	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 118
003000830300339	Lauhulu Stream	Lauhulu Stream	Kamehameha Highway	1937	Concrete Slab	Concrete Open Greek Cross	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design	4 - 121
003000H11102129	Liliha Access Road Separation	H-1	Liliha Access Road	1965	Concrete Rigid Frame	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. The bridge is also associated with the development of H-1 Freeway.	n/a
003000H11102134	Liliha Street Separation	H-1	Liliha Street	1965	Concrete Rigid Frame	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000830302151	Maakua Stream-Muliwai	Maakua Stream	Kamehameha Highway	1932	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 124
003000830302196	Maheiwi Stream	Maheiwi Stream	Kamehameha Highway	1926	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1920's reinforced concrete bridge	4 - 127
003000930300970	Mailiilii Stream	Mailiilii Stream	Farrington Highway	1949	Concrete Slab	Metal Horizontal	No	Not Eligible	This bridge has lost integrity due to bridge widening in 1976.	n/a

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003000930300832	Maipalaoa Stream	Maipalaoa Stream	Farrington Highway	1967	Concrete Tee Beam	Concrete and Metal	No	Not Eligible	The bridge has lost integrity due to replacement of the railings on one side of the bridge in 1970.	n/a
003009300501436	Makalena Stream	Makalena Stream	Farrington Highway	1940	Concrete Slab	Concrete Open Greek Cross	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1940's reinforced concrete bridge	4 - 130
003000830302791	Makaua Stream	Makaua Stream	Kamehameha Highway	1927	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1920's reinforced concrete bridge	4 - 133
003009300500242	Makua Stream-Triple Concrete Box Culvert	Makua Stream	Farrington Highway	1964	Concrete Box Culvert	Metal Thrie Beam	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003000H11202486	Manoa-Palolo Stream (Old Waialae Road)	Manoa Palolo Stream	Old Waialae Road	1953	Concrete Tee Beam	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. The bridge is also associated with the development of H-1 Freeway.	n/a
003000610400912	Maunawili Stream	Maunawili Stream	Kalanianaole Highway	1951	Concrete Tee Beam	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000H11201934	Middle Street (H-1) Tunnel	H-1 (Middle Street Tunnel)	Middle Street	1964	Concrete Rigid Frame	No Parapet/Railing	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. The bridge is also associated with the development of H-1 Freeway. It was designed by Belt-Collins as a part of an early triple grade separation design.	n/a
003000H11201937	Middle Street (Outbound)	H-1	Middle Street	1964	Concrete Girder	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. The bridge is also associated with the development of H-1 Freeway. It was designed by Belt-Collins as a part of an early triple grade separation design.	n/a
003000930300481	Nanakuli Stream Bridge	Nanakuli Stream	Farrington Highway	1970	Concrete Tee Beam	Concrete and Metal	No	Not Eligible	This bridge has lost integrity due to the complete replacement of the original 1947 bridge in 1970.	n/a
003000720401418	Niu Stream	Niu Stream	Kalanianaole Highway	1934	Concrete Slab	Concrete and Metal	No	Not Eligible	This bridge has lost integrity due to road widening and the replacement of the railings in 1964. The bridge does not reflect the typical characteristics of a 1930s bridge and do not fall under Program Comments due to its construction date in 1934.	n/a
003009300501823	North (Lower) Poamoho Stream	North Poamoho Stream	Kaukonahua Road	1934	Concrete Tee Beam	Concrete Open Greek Cross	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 136
003000830302624	North Kahana Stream	North Kahana Stream	Kamehameha Highway	2011	Concrete Slab	Concrete Open Decorative	No	Not Eligible	This bridge has lost integrity due to the complete replacement of the original 1927 bridge in 2011.	n/a
003000830302412	North Punaluu Stream	North Punaluu Stream	Kamehameha Highway	1926	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1920's reinforced concrete bridge	4 - 139
003000920400587	Nuuanu Stream (Eastbound)	Nuuanu Stream	Nimitz Highway	1952	Concrete Tee Beam	Concrete and Metal Decorative	No	Not Eligible	The bridge has lost integrity due to the replacement of the railings in 2002.	n/a
003000920400588	Nuuanu Stream (Westbound)	Nuuanu Stream	Nimitz Highway	1932	Concrete Tee Beam	Concrete Solid with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 142
003098001400077	Nuuanu Stream Bridge	Nuuanu Stream	Vineyard Boulevard	1959	Concrete Slab	Concrete Open Horizontal	No	Eligible	• Widest concrete bridge built post-war (1945) on the island of Oahu in the historic study period prior to 1969 • A part of the channelization of Nuuanu Stream where all the walls of the channel were built with concrete masonry	4 - 145

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Program Comments: Common post-war bridges built after 1945 covered by Advisory Council program comments.
Non-Contributing: The bridge/culvert is non-contributing to the historic district.

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003000610400112	Nuuanu Stream Kapena Falls	Nuuanu Stream Kapena Falls	Pali Highway	1962	Concrete Rigid Frame	Concrete and Metal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 148
003090001400245	Oahu Sugar Co. Road	Oahu Sugar Company Road	Farrington Highway	1952	Concrete Slab	Concrete Solid	No	Not Eligible	The bridge has lost integrity due to the replacement of the railings in 2006.	n/a
003000830300043	Opaelua-Waialua Twin B	Opaelua Stream	Joseph P. Leong Highway	1928	Concrete Tee Beam	Concrete Solid Panel with Cap	No	High Preservation Value	• Good example of reinforced concrete deck girder construction • Associated with public works efforts by the Territorial government and as important civic structures associated with the development of Haleiwa • Located within the County-designated Haleiwa Special Design District and contribute significantly to the historic character of the town	4 - 151
003000H11100006	Palailai Interchange	H-1	Kalaeloa Boulevard	1966	Concrete Girder	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. The bridge is also associated with the development of H-1 Freeway.	n/a
003000930300083	Palailai Stream	Palailai Stream	Old Farrington Highway	1927	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1920's reinforced concrete bridge	4 - 154
003000610300593	Pali Bridge No. 3 (Inbound)	Mountain (Pali Bridge No. 3)	Pali Highway	1956	Concrete Tee Beam	Concrete Open Horizontal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 157
003000610300616	Pali Bridge No. 4 (Inbound)	Mountain (Pali Bridge No. 4)	Pali Highway	1956	Concrete Girder	Concrete Open Horizontal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 160
003000610300615	Pali Bridge No. 4B (Outbound)	Mountain (Pali Bridge No. 4B)	Pali Highway	1961	Concrete Girder	Concrete Open Horizontal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 163
003000610300621	Pali Bridge No. 5 (Inbound)	Mountain (Pali Bridge No. 5)	Pali Highway	1956	Concrete Girder	Concrete Open Horizontal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 166
003000610300623	Pali Bridge No. 5A (Outbound)	Mountain (Pali Bridge No. 5A)	Pali Highway	1961	Concrete Girder	Concrete Open Horizontal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 169
003000610300629	Pali Bridge No. 6 (Inbound)	Mountain (Pali Bridge No. 6)	Pali Highway	1956	Concrete Girder	Concrete Open Horizontal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 172
003000610300632	Pali Bridge No. 7 (Inbound)	Mountain (Pali Bridge No. 7)	Pali Highway	1956	Concrete Girder	Concrete Open Horizontal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 175

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Non-Contributing: The bridge/culvert is non-contributing to the historic district.

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Bridge Number	Bridge Name	Feature Crossed	Feature Carried	Construction Date	Bridge Type	Parapet/Railing Type	Listed on National/Hawaii Register	Eligibility Status*	Character Defining Feature (Significance)	Page No.
003000610300631	Pali Bridge No. 7A (Outbound)	Mountain (Pali Bridge No. 7A)	Pali Highway	1961	Concrete Girder	Concrete Open Horizontal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 178
003000610300640	Pali Bridge No. 8 (Inbound)	Mountain (Pali Bridge No. 8)	Pali Highway	1956	Concrete Girder	Concrete Open Horizontal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 181
003000610300638	Pali Bridge No. 8A (Outbound)	Mountain (Pali Bridge No. 8A)	Pali Highway	1961	Concrete Girder	Concrete Open Horizontal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 184
003000610400015	Pali Highway Overpass (Inbound)	H-1	Pali Highway	1960	Concrete Rigid Frame	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000610400014	Pali Highway Overpass (Outbound)	H-1	Pali Highway	1960	Concrete Rigid Frame	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000610300591	Pali Partial Bridge No. 1 (Inbound)	Mountain (Pali Partial Bridge No. 1)	Pali Highway	1956	Concrete Tee Beam	Concrete Open Horizontal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 187
003000610300592	Pali Partial Bridge No. 2 (Inbound)	Mountain (Pali Partial Bridge No. 2)	Pali Highway	1956	Concrete Tee Beam	Concrete Open Horizontal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 190
003000610300613	Pali Partial Bridge No. 4A (Outbound)	Mountain (Pali Bridge No. 4A)	Pali Highway	1961	Concrete Tee Beam	Concrete Open Horizontal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 193
003000610300619	Pali Partial Bridge No. 4C (Outbound)	Mountain (Pali Bridge No. 4C)	Pali Highway	1961	Concrete Girder	Concrete Open Horizontal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 196
003000610300569	Pali Tunnel No. 1 (Inbound)	Mountain (Pali Tunnel No. 1)	Pali Highway	1957	Concrete Arch Culvert	No Parapet/Railing	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 199
003000610300568	Pali Tunnel No. 1A (Outbound)	Mountain (Pali Tunnel No. 1A)	Pali Highway	1959	Concrete Arch Culvert	No Parapet/Railing	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 202

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003000610300596	Pali Tunnel No. 2 (Inbound)	Mountain (Pali Tunnel No. 2)	Pali Highway	1957	Concrete Arch Culvert	No Parapet/Railing	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 205
003000610300595	Pali Tunnel No. 2A (Outbound)	Mountain (Pali Tunnel No. 2A)	Pali Highway	1961	Concrete Arch Culvert	No Parapet/Railing	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 208
003000610400019	Pali-Lunalilo Overpass	H-1	Pali Highway - H-1 On Ramp	1960	Concrete Girder	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000830302186	Papau Stream-Waipuhi	Papau Stream	Kamehameha Highway	1932	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 211
003000610400090	Partial Bridge No. 8	Unnamed Gulch	Pali Highway	1962	Concrete Tee Beam	Concrete and Metal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 214
003000830300869	Paumalu Stream	Paumalu Stream	Kamehameha Highway	1930	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 217
003000610400064	Pauoa Road Overpass	Pauoa Road	Pali Highway	1961	Concrete Girder	Concrete and Metal	No	High Preservation Value	• Contributes to Pali Highway Historic Bridge District • See Pali Highway historic context Chapter 2.6 • Significant engineering of tunnels and bridges • Connected Windward side and downtown Honolulu • Associated with Windward side community development	4 - 220
003000610400044	Pauoa Stream Culvert	Pauoa Stream	Pali Highway	1925	Concrete Box Culvert	Concrete and Metal	No	Not Eligible**	This culvert does not have distinctive engineering or architectural features that depart from standard culvert design. However the bridge concrete rubble masonry abutments and adjacent portion of concrete rubble masonry wall channelization project are potentially eligible historic resources.	n/a
003000990401871	Pearl City Stream (Eastbound)	Pearl City Stream	Kamehameha Highway	1936	Concrete Girder	Concrete and Metal	No	Not Eligible	This bridge has lost integrity due to significant alterations in 1962. The bridge does not reflect the typical characteristics of a 1930s bridge and does not fall under Program Comments due to its construction date in 1936.	n/a
003000990401872	Pearl City Stream (Westbound)	Pearl City Stream	Kamehameha Highway	1945	Concrete Girder	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000990300626	Poamoho Stream	Upper Poamoho Stream	Kamehameha Highway	1936	Concrete Tee Beam	Concrete Open Greek Cross	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 223
003009300501315	Polipoli Stream	Polipoli Stream	Farrington Highway	1940	Concrete Slab	Concrete and Metal	No	Not Eligible	This bridge has lost integrity due to the replacement of a railing on one side of the bridge in the 1976.	n/a
003009300500272	Punapohaku Stream-Double Concrete Box Culvert	Punapohaku Stream	Farrington Highway	1964	Concrete Box Culvert	Metal Thrie Beam	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003090001400114	Railroad Crossing (Highway Overpass)	Railroad Crossing	Farrington Highway	1939	Concrete Tee Beam	Concrete Open Greek Cross	No	High Preservation Value	• Associated with plantation industry; last major accommodation built by the FHWA for the railroad before it went out of business • Good example of a 1930's reinforced concrete bridge	4 - 226

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003000640400150	Sand Island Bascule Bridge	Harbor (Bascule Bridge)	Sand Island Parkway	1962	Steel Stringer	Concrete Solid	No	High Preservation Value	• Longest steel bridge with the longest steel span built post-war (1945) on the island of Oahu in the historic study period prior to 1969 • Uncommon use of steel material in Hawaii's extreme marine environment • Good example of a 1960's steel stringer and reinforced concrete bridge	4 - 229
003000920400592	Slip Cover No. 1-Honolulu Harbor	Honolulu Harbor	Nimitz Highway	1952	Concrete Slab	Concrete and Metal Decorative	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000920400603	Slip Cover No. 2-Honolulu Harbor	Honolulu Harbor	Nimitz Highway	1952	Concrete Slab	Concrete and Metal Decorative	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000920400609	Slip Cover No. 3-Honolulu Harbor	Honolulu Harbor	Nimitz Highway	1952	Concrete Slab	Concrete and Metal Decorative	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000920400617	Slip Cover No. 4-Honolulu Harbor	Honolulu Harbor	Nimitz Highway	1952	Concrete Tee Beam	Concrete and Metal Decorative	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000920400580	Slip Cover-Honolulu Harbor	Honolulu Harbor	Nimitz Highway	1952	Concrete Tee Beam	Concrete and Metal Decorative	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000830302637	South Kahana Stream	South Kahana Stream	Kamehameha Highway	1927	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1920's reinforced concrete bridge	4 - 232
003000830302442	South Punaluu Stream	South Punaluu Stream	Kamehameha Highway	2011	Concrete Tee Beam	Concrete Open Decorative	No	Not Eligible	This bridge has lost integrity due to the complete replacement of the original 1926 bridge in 2011.	n/a
003000930400640	Ulehawa Stream	Ulehawa Stream	Farrington Highway	1963	Concrete Tee Beam	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000720000030	Ulupii Pedestrian Overpass	Kalanianaole Highway (Ulupii Pedestrian Overpass)	Pedestrian	1967	Concrete Girder	Concrete Solid Decorative	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. The bridge is also associated with the development of H-1 Freeway.	n/a
003000830303396	Unnamed Stream (North Waiahole)	Unnamed Stream (North Waiahole)	Kamehameha Highway	1928	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1920's reinforced concrete bridge	4 - 235
003000930301279	Unnamed Stream-Makaha No. 2A	Unnamed Stream	Farrington Highway	1937	Concrete Box Culvert	Metal Horizontal	No	Not Eligible	This culvert does not have distinctive engineering or architectural features that depart from standard culvert design.	n/a
003000930301404	Unnamed Stream-Makaha No. 3	Unnamed Stream	Farrington Highway	1937	Timber Stringer	Wood	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete tee beam bridge • The bridge is scheduled for replacement; MOA complete as of Summer 2013	4 - 238
003000930301412	Unnamed Stream-Makaha No. 3A	Unnamed Stream	Farrington Highway	1937	Timber Stringer	Wood	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete tee beam bridge • The bridge is scheduled for replacement; MOA complete as of Summer 2013	4 - 241
003000990300562	Upper Poamoho Stream-Brodie Camp 2 Bridge	Upper Poamoho Stream	Kamehameha Highway	1937	Concrete Slab	Concrete and Metal	No	Not Eligible	The bridge has lost integrity due to the replacement of the railings in 1965.	n/a
003098001400160	Vineyard Blvd.-Lunalilo No. 2 On Ramp (Ramp B1)	Vineyard Boulevard	Vineyard Boulevard - H-1 On Ramp	1968	Concrete Girder	Concrete Solid	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000830303459	Waiahole Stream (County)	Waiahole Stream	Kamehameha Highway	1922	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1920's reinforced concrete bridge	4 - 244
003000H11202503	Waialae Road Separation	H-1	Old Waialae Road	1967	Concrete Girder	Concrete Solid	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. The bridge is also associated with the development of H-1 Freeway.	n/a

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003000H11202476	Waialae Road Separation (Old Waialae Road)	H-1	Old Waialae Road	1953	Concrete Tee Beam	Concrete Solid	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. The bridge is also associated with the development of H-1 Freeway.	n/a
003000830301059	Waialee Stream	Waialee Stream	Kamehameha Highway	1931	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 247
003009300501794	Waialua Plantation Road	Farrington Highway	Plantation Road	1941	Concrete Slab	Metal Thrie Beam	No	High Preservation Value	• Associated with early developments in concrete bridge construction in Hawaii • Associated with plantation industry in Hawaii • Good example of a 1940's reinforced concrete slab bridge	4 - 250
003000830300041	Waialua Twin A (Helemano)	Helemano Stream	Joseph P. Leong Highway	1928	Concrete Tee Beam	Concrete Solid Panel with Cap	No	High Preservation Value	• Good example of reinforced concrete deck girder construction • Associated with public works efforts by the Territorial government and as important civic structures associated with the development of Haleiwa • Located within the County-designated Haleiwa Special Design District and contribute significantly to the historic character of the town	4 - 253
003000990401689	Waiawa Interchange No. 4A	H-1	Kamehameha Highway	1968	Concrete Girder	Concrete Solid	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000990401688	Waiawa Interchange No. 4B	H-1	Kamehameha Highway	1968	Concrete Girder	Concrete Solid	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000990401815	Waiawa Separation (Highway Underpass)	Kamehameha Highway	Kamehameha Highway	1953	Concrete Tee Beam	Concrete Solid	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000990401745	Waiawa Stream (Eastbound)	Waiawa Stream	Kamehameha Highway	1949	Concrete Tee Beam	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000990401804	Waiawa Stream (Eastbound)	Waiawa Stream	Farrington Highway	1952	Concrete Tee Beam	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000990401746	Waiawa Stream (Westbound)	Waiawa Stream	Kamehameha Highway	1953	Concrete Tee Beam	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000990401802	Waiawa Stream (Westbound)	Waiawa Stream	Farrington Highway	1933	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 256
003000990301164	Waikakalaua Stream (Inbound)	Waikakalaua Stream	Kamehameha Highway	1936	Concrete Tee Beam	Concrete Open Greek Cross	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 259
003000990301165	Waikakalaua Stream (Outbound)	Waikakalaua Stream	Kamehameha Highway	1950	Concrete Tee Beam	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000830303377	Waikane Stream	Waikane Stream	Kamehameha Highway	1928	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1920's reinforced concrete bridge	4 - 262
003090001400108	Waikele Canal (Inbound)	Waikele Canal	Farrington Highway	1939	Concrete Tee Beam	Concrete Open Greek Cross	No	High Preservation Value	• Associated with plantation industry; last major reaccommodation built by the FHWA for the railroad before it went out of business • Good example of a 1930's reinforced concrete bridge	4 - 265
003090001400113	Waikele Canal (Outbound)	Waikele Canal	Farrington Highway	1963	Concrete Girder	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000720401504	Wailupe Stream (Inbound)	Wailupe Stream	Kalanianaole Highway	1930	Concrete Tee Beam	Concrete and Metal	No	Not Eligible	This bridge has lost integrity due to the replacement of one parapet and bridge widening in 1991.	n/a
003000720401505	Wailupe Stream (Outbound)	Wailupe Stream	Kalanianaole Highway	1955	Concrete Tee Beam	Concrete and Metal	No	Not Eligible	This bridge has lost integrity due to bridge widening and the replacement of one of the railings in 1991.	n/a
003000990401986	Waimalu Stream (Eastbound)	Waimalu Stream	Kamehameha Highway	1936	Concrete Girder	Concrete Open Greek Cross	No	Eligible	• Associated with post-war developments of the community	4 - 268

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003000990401987	Waimalu Stream (Westbound)	Waimalu Stream	Kamehameha Highway	1945	Concrete Girder	Concrete Open Greek Cross	No	Eligible	• Associated with post-war developments of the community	4 - 271
003000720700329	Waimanalo Stream	Waimanalo Stream	Kalanianaole Highway	1924	Concrete Tee Beam	Concrete and Metal	No	Not eligible	The bridge has lost integrity due to the replacement of the original railings with post-war solid concrete and metal rail parapets.	n/a
003000830302242	Waimanana Stream	Waimanana Stream	Kamehameha Highway	1926	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1920's concrete slab bridge	4 - 274
003000830300573	Waimea Stream	Waimea Stream	Kamehameha Highway	1930	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Contributed to the fields of engineering and transportation in Hawaii • Associated with public works efforts by the Territorial government and as an important link in the island's belt road system • Good representative example of tee beam bridge construction in the late 1920s • Contributes significantly to the historic character of the area	4 - 277
003090001400174	Waipahu Canal	Waipahu Canal	Farrington Highway	1964	Concrete Slab	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000990401679	Waipahu Overpass (Inbound)	Cane Haul Road	Kamehameha Highway	1953	Steel Stringer	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000990401678	Waipahu Overpass (Outbound)	Cane Haul Road	Kamehameha Highway	1953	Steel Stringer	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003000830302112	Waipilopilo Stream	Waipilopilo Stream	Kamehameha Highway	1932	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developments in concrete bridge construction in Hawaii • Good example of a 1930's reinforced concrete bridge	4 - 280
003074001400083	Wawamalu Stream	Wawamalu Stream	Kalanianaole Highway	1947	Concrete Girder	Concrete and Metal	No	Eligible	• Intact example of 1940's concrete tee beam bridge • Representative of the work of a master: William R. Bartels • Original Wawamalu Bridge with concrete parapets and cross voids built in 1931 runs alongside this 1947 Wawamalu Bridge	4 - 283
003000630400576	Wilson Tunnel (Inbound)	Mountain (Wilson Tunnel - Inbound)	Likelike Highway	1958	Concrete Arch Culvert	No Parapet/Railing	No	High Preservation Value	• Associated with transportation and communication between the Windward and Leeward sides of the island • A major engineering feat • Associated with Johnny Wilson, a former mayor • The tunnel relieved traffic on the old Pali Road	4 - 286
003000630400575	Wilson Tunnel (Outbound)	Mountain (Wilson Tunnel - Outbound)	Likelike Highway	1959	Concrete Arch Culvert	No Parapet/Railing	No	High Preservation Value	• Associated with transportation and communication between the Windward and Leeward sides of the island • A major engineering feat • Associated with Johnny Wilson, a former mayor • The tunnel relieved traffic on the old Pali Road	4 - 289
003000611100124	Wyllie Street Overpass	Pali Highway (Wyllie Street Overpass)	Wyllie Street	1961	Concrete Rigid Frame	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a

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003364001200001	10th Avenue Double Box Culvert-Waiomao Stream	Waiomao Stream	10th Avenue	1962	Concrete Box Culvert	Metal Horizontal	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Unique example of a box culvert built in the 1960s	4-293
003382001200001	10th Avenue Place Bridge-Waiomao Stream	Waiomao Stream	10th Avenue Place	1930	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-296
003401001100001	Ahaolelo Road Bridge No. 1-Kahaluu WPP A-1 Channel	Kahaluu WPP A-1 Channel	Ahaolelo Road	1965	Concrete Tee Beam	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003370001200001	Ahe Street Bridge-Pukele Stream	Pukele Stream	Ahe Street	1950	Concrete Slab	Metal Picket	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003430001100001	Ahiki Street 4-Cell Box Culvert No. 1-Drainage Ditch	Drainage Ditch	Ahiki Street	1955	Concrete Box Culvert	No Parapet/Railing	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003431001100001	Ahiki Street 4-Cell Box Culvert No. 2-Drainage Ditch	Drainage Ditch	Ahiki Street	1955	Concrete Box Culvert	No Parapet/Railing	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003495001200001	Ahilama Road Box Culvert-Waihee Stream	Waihee Stream	Ahilama Road	1965	Concrete Box Culvert	Concrete Solid Decorative	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003460001200001	Ahuimanu Place Box Culvert-Drainage Ditch	Drainage Ditch	Ahuimanu Place	1965	Concrete Box Culvert	Concrete and Metal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003455001100001	Akumu Street 4-Cell Box Culvert-Saint John Vianney Ditch	Saint John Vianney Ditch	Akumu Street	1961	Concrete Box Culvert	Concrete Solid Decorative	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003122001200001	Ala Aolani Arch Culvert-Moanalua Stream	Moanalua Stream	Ala Aolani Street	1962	Concrete Arch Culvert	Metal Thrie Beam	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003126001200001	Ala Aolani Street Bridge No. 1-Moanalua Stream	Moanalua Stream	Ala Aolani Street	1965	Concrete Tee Beam	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003127001200001	Ala Aolani Street Bridge No. 2-Moanalua Stream	Moanalua Stream	Ala Aolani Street	1965	Concrete Tee Beam	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003128001200001	Ala Aolani Street Bridge No. 3-Moanalua Stream	Moanalua Stream	Ala Aolani Street	1963	Concrete Tee Beam	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003131001200001	Ala Aoloa Loop Bridge-Moanalua Stream	Moanalua Stream	Ala Aoloa Loop	1965	Concrete Tee Beam	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003371001200001	Aliikoa Street Bridge-Kapakahi Stream	Kapakahi Stream	Aliikoa Street	1954	Concrete Slab	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003300001200001	Ani Street Bridge-Wailupe Stream	Wailupe Stream	Ani Street	1954	Concrete Tee Beam	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003406001100001	Auloa Road Bridge No. 1-Kahanaiki Stream	Kahanaiki Stream	Auloa Road	1921	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1920's reinforced concrete bridge	4-299

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003407001100001	Auloa Road Bridge No. 2-Maunawili Stream	Maunawili Stream	Auloa Road	1921	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1920's reinforced concrete bridge	4-302
003801001100001	Auyong Homestead Road Bridge-Ulehawa Channel U-3	Ulehawa Channel U-3	Auyong Homestead Road	1964	Concrete Slab	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003083041400055	Date Street Bridge-Manoa Palolo Drainage Canal	Manoa-Palolo Stream	Date Street	1937	Concrete Slab	Concrete Solid Decorative	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-305
003083051400001	Diamond Head Road Bridge Upper-Gully	Gully (Diamond Head)	Diamond Head Road	1930	Open Spandrel Arch	Concrete Open Arched	No	High Preservation Value	• Arch bridges are an uncommon bridge type • Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's open spandrel arch bridge	4-308
003062071400140	Dillingham Boulevard Bridge-Kapalama Canal	Kapalama Canal	Dillingham Boulevard	1930	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-311
003083061400076	Dole Street Bridge-Manoa Stream	Manoa Stream	Dole Street	1953	Concrete Slab	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003309001200001	East Hind Drive Bridge-Wailupe Stream	Wailupe Stream	East Hind Drive	1949	Concrete Tee Beam	Concrete and Metal Picket	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003208001200001	East Manoa Road Bridge No. 1-Manoa Stream	Manoa Stream	East Manoa Road	1938	Concrete Tee Beam	Concrete Open Decorative	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-314
003083071400092	East Manoa Road Bridge No. 2-Manoa Stream	Manoa Stream	East Manoa Road	1950	Concrete Slab	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003923001100001	Farrington Highway Bridge No. 1-Kaloi Gulch	Kaloi Gulch	Farrington Highway	1941	Concrete Slab	Concrete Solid	No	Not Eligible	This bridge has lost integrity due to thrie beams that have been bolted in front of the solid concrete parapet such that the concrete is not visible. The bridge does not have distinctive engineering or architectural features that depart from standard bridge design.	n/a
003924001100001	Farrington Highway Bridge No. 2-Hunehune Stream	Hunehune Stream	Farrington Highway	1941	Concrete Slab	Concrete Solid	No	Not Eligible	This bridge has lost integrity due to thrie beams that have been bolted in front of the solid concrete parapet such that the concrete is not visible. The bridge does not have distinctive engineering or architectural features that depart from standard bridge design.	n/a
003902001100001	Farrington Highway Bridge No. 3-Palehua Stream	Palehua Stream	Farrington Highway	1922	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1920's reinforced concrete bridge	4-317
003922001100001	Farrington Highway Bridge-Honouliuli Stream	Honouliuli Stream	Farrington Highway	1939	Concrete Tee Beam	Concrete Open Greek Cross	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-320
003209001100001	Fern Street Bridge-Makiki Stream	Makiki Stream	Fern Street	1931	Concrete Slab	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-323
003062081400252	Fort Street Mall Underpass-South King Street	Fort Street Mall	South King Street	1968	Concrete Slab	Metal Decorative	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. Originally this structure was designed as a pedestrian underpass. It was later filled in with a City and County office and no longer reads as an underpass.	n/a

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003076001400581	Fort Weaver Road Bridge-Honouliuli Stream	Honouliuli Stream	Fort Weaver Road	1927	Closed Spandrel Arch	Concrete Solid Panel with Cap	No	High Preservation Value	• Arch bridges are an uncommon bridge type • Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's closed spandrel arch bridge	4-326
003982001100001	Halawa Correctional Facility Access Road	Stream	Halawa Correctional Facility Access Road	1959	Concrete Tee Beam	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003306001200001	Halemaumau Place Triple Cell Box Culvert-Niu Stream	Niu Stream	Halemaumau Place	1960	Concrete Box Culvert	Metal Horizontal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003514001100001	Hauula Homestead Road Bridge-Maakua Stream	Maakua Stream	Hauula Homestead Road	1930	Concrete Slab	Concrete Solid	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-329
003304001200001	Hawaii Kai Drive Bridge-Kuapa Pond	Kuapa Pond	Hawaii Kai Drive	1967	Concrete Slab	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003303001200001	Hawaii Kai Drive Double Box Culvert-Hahaione Channel	Hahaione Channel	Hawaii Kai Drive	1962	Concrete Box Culvert	Concrete and Metal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003346001200001	Hawaii Kai Drive-Kamiloiki Stream	Kamiloiki Stream	Hawaii Kai Drive	1967	Concrete Girder	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003345001200001	Hiikala Place Bridge-Waialae Nui Stream	Waialae Nui Stream	Hiikala Place	1962	Concrete Tee Beam	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003968001100001	Honowai Street Bridge-Waipahu Stream	Waipahu Stream	Honowai Street	1967	Concrete Girder	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003408001100001	Kaawakea Road 4-Cell Box Culvert-Kawainui Stream	Kawainui Stream	Kaawakea Road	1961	Concrete Box Culvert	Metal Horizontal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003311001200001	Kahala Avenue Bridge No. 1-Muliwai Ditch	Muliwai Ditch	Kahala Avenue	1947	Concrete Rigid Frame	Concrete Solid Decorative	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1940's and 1950's concrete rigid frame bridge	4-332
003312001200001	Kahala Avenue Bridge No. 2-Kapakahi Stream	Kapakahi Stream	Kahala Avenue	1927	Concrete Tee Beam	Concrete and Metal	No	Not Eligible	This bridge has lost integrity due to its rehabilitation in 1952 where metal rails were added to the existing solid concrete parapet. The bridge does not have distinctive engineering or architectural features that depart from standard bridge design.	n/a
003211001200001	Kahaloa Drive Extension Bridge-Manoa Stream	Manoa Stream	Kahaloa Drive	1954	Concrete Rigid Frame	Concrete Solid with Cap	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1950's concrete rigid frame bridge	4-335
003804001100001	Kahau Place Bridge-Ulehawa Channel U-3	Ulehawa Channel U-3	Kahau Place	1964	Concrete Slab	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a

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003083181400074	Kalakaua Avenue Bridge-Ala Wai Canal	Ala Wai Canal	Kalakaua Avenue	1929	Closed Spandrel Arch	Concrete Solid Decorative	Yes	High Preservation Value	• Arch bridges are an uncommon bridge type • Excellent example of reinforced concrete solid-spandrel arch bridge in the Art Deco style • Associated with public works efforts by Territory of Hawaii and the development of Waikiki • Contributed to economic development of Honolulu and Waikiki by providing reliable vehicular access • Only multiple-span marine reinforced concrete arch of its kind in the state • Built in 1929 by Ralph E. Woolley, a prolific builder in Honolulu • See National Register of Historic Places Nomination Form in appendices	4-338
003083211400072	Kalihi Street Bridge No. 1-Kamanaiki Stream	Kamanaiki Stream	Kalihi Street	1938	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-341
003148001200001	Kalihi Street Bridge No. 3-Kalihi Stream	Kalihi Stream	Kalihi Street	1942	Steel Stringer	Wood	No	High Preservation Value	• Uncommon use of steel material in Hawaii's extreme marine environment • Good example of steel stringer bridge that is not associated with railroads	4-344
003314001200001	Kalua Road Bridge-Palolo Stream	Palolo Stream	Kalua Road	1953	Concrete Slab	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
00300C291100137	Kamehameha Highway Bridge-Anahulu Stream	Anahulu Stream	Kamehameha Highway	1921	Rainbow Arch	Concrete Solid Panel with Cap	No	High Preservation Value	• Arch bridges are an uncommon bridge type • Excellent example of 1920's reinforced concrete "rainbow"/marsh arch construction • One of two remaining examples of this bridge type in the state • Associated with public works efforts by the City and County of Honolulu during early Territorial period and with the development of Haleiwa • Representative of work of a master: designer Guy Rothwell • Serves as gateway to historic Haleiwa district and Town	4-347
003008360800242	Kamehameha Highway Bridge-Heeia Stream	Heeia Stream	Kamehameha Highway	1921	Concrete Tee Beam	Concrete Solid Panel with Cap	No	High Preservation Value	• Excellent example of 1920's era reinforced concrete solid-spandrel arch bridge in the Art Deco style • Associated with public works efforts by City and County of Honolulu in Territorial period • Contributions to economic development of Windward Oahu by providing reliable vehicular access to previously isolated communities	4-350
003083601400059	Kamehameha Highway Bridge-Kaneohe Stream	Kaneohe Stream	Kamehameha Highway	1953	Concrete Tee Beam	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003083601400098	Kamehameha Highway Bridge-Keaahala Stream	Keaahala Stream	Kamehameha Highway	1918	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1910's reinforced concrete bridge	4-353
00300C301100152	Kamehameha Highway Double Box Culvert-Lokoea Stream	Lokoea Stream	Kamehameha Highway	1989	Concrete Box Culvert	Concrete and Metal	No	Not Eligible	This culvert has lost integrity due to the complete replacement of the original 1923 culvert in 1989. Reinforced metal and concrete rails were used. The culvert does not have distinctive engineering or architectural features that depart from standard culvert design.	n/a
003083220000049	Kamehameha IV Road Footbridge-Kamehameha IV Road	Kamehameha IV Road	Pedestrian Overpass	1961	Concrete Tee Beam	Metal Decorative	No	Program Comments	This is a typical post-war pedestrian bridge and falls under Program Comments.	n/a
003062021400052	Kapiolani Boulevard Bridge No. 1-Makiki Stream	Makiki Stream	Kapiolani Boulevard	1931	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's concrete tee beam bridge	4-356

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003062021400168	Kapiolani Boulevard Bridge-Manoa-Palolo Channel	Manoa-Palolo Stream	Kapiolani Boulevard	1950	Concrete Tee Beam	Concrete and Metal Decorative	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003253001200001	Kapulei Street Triple Box Culvert-Pauoa Stream	Pauoa Stream	Kapulei Street	1951	Concrete Box Culvert	Concrete Solid	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003411001100001	Kawailoa Road Bridge-Kaelepulu Stream	Kaelepulu Stream	Kawailoa Road	1925	Concrete Tee Beam	Concrete Solid Panel with Cap	No	Not Eligible	This bridge has lost integrity due to extensive reconstruction. It was extended in 1960 and includes metal railings. In 1971 a foot bridge with decorative metal railings was added behind an original solid panel concrete parapet. The bridge does not have distinctive engineering or architectural features that depart from standard bridge design.	n/a
003825001100001	Kawiwi Stream Bridge-Channel K-3	Kaupuni Channel K-3	Unnamed Road	1968	Concrete Tee Beam	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003425001100001	Keolu Drive Bridge No. 1-Kaelepulu Stream	Kaelepulu Stream	Keolu Drive	1961	Concrete Tee Beam	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003427001100001	Keolu Drive Bridge No. 2-Hele Drainage Channel	Hele Drainage Channel	Keolu Drive	1957	Concrete Slab	Metal Decorative	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003928001100001	Kihale Street Bridge-Kalauao Stream	Kalauao Stream	Kihale Street	1956	Concrete Tee Beam	Metal Horizontal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003083261400006	Kikowaena Street Bridge-Moanalua Stream	Moanalua Stream	Kikowaena Street	1961	Concrete Tee Beam	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003260001200001	Kimo Drive Bridge-Nuuanu Stream	Nuuanu Stream	Kimo Drive	1925	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1920's reinforced concrete bridge • Associated with historic Nuuanu residential development	4-359
003343001200001	Kiwila Street Bridge-Palolo Stream	Palolo Stream	Kiwila Street	1961	Concrete Slab	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003918001100001	Komo Mai Drive Bridge-Waimano Stream	Waimano Stream	Komo Mai Drive	1961	Concrete Tee Beam	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003351001200001	Kuliouou Road Bridge-Kuliouou Stream	Kuliouou Stream	Kuliouou Road	1968	Steel Stringer	Wood	No	Eligible	• Uncommon use of steel material in Hawaii's extreme marine environment • Good example of post-war 1960's steel stringer bridge	4-362
003429001100001	Kumuhau Street Bridge-Waimanalo Stream	Waimanalo Stream	Kumuhau Street	1963	Steel Stringer	Metal Horizontal	No	High Preservation Value	• Uncommon use of steel material in Hawaii's extreme marine environment • Good example of post-war 1960's steel stringer bridge • Metal rails made of structural steel tubes and wide flange posts	4-365
003378001200001	Lai Road Bridge No. 1-Pukele Stream	Pukele Stream	Lai Road	1935	Concrete Slab	Metal Thrie Beam	No	Not Eligible	This bridge does not have distinctive engineering or architectural features that depart from standard bridge design. The bridge is on a private road and not publicly accessible but maintained by the City.	n/a
003379001200001	Lai Road Bridge No. 2-Pukele Stream	Pukele Stream	Lai Road	1935	Concrete Slab	Metal Thrie Beam	No	Not Eligible	This bridge does not have distinctive engineering or architectural features that depart from standard bridge design. The bridge is on a private road and not publicly accessible but maintained by the City.	n/a

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Program Comments: Common post-war bridges built after 1945 covered by Advisory Council program comments.
Non-Contributing: The bridge/culvert is non-contributing to the historic district.

** This bridge falls under "Not Eligible" or "Program Comments" and has potentially historic resources adjacent to the structure that requires additional consideration.

Bridge Number	Bridge Name	Feature Crossed	Feature Carried	Construction Date	Bridge Type	Parapet/Railing Type	Listed on National/Hawaii Register	Eligibility Status*	Character Defining Feature (Significance)	Page No.
003380001200001	Lai Road Bridge No. 3-Pukele Stream	Pukele Stream	Lai Road	1935	Concrete Slab	Metal Thrie Beam	No	Not Eligible	This bridge does not have distinctive engineering or architectural features that depart from standard bridge design. The bridge is on a private road and not publicly accessible but maintained by the City.	n/a
003261001200001	Laimi Road Bridge-Nuuanu Stream	Nuuanu Stream	Laimi Road	1920	Concrete Girder	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1920's reinforced concrete bridge • Associated with historic Nuuanu residential development	4-368
003949001100001	Leokane Street Triple Box Culvert-Waipahu Stream	Waipahu Stream	Leokane Street	1965	Concrete Box Culvert	Concrete and Metal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003950001100001	Leonui Street Triple Box Culvert-Waipahu Stream	Waipahu Stream	Leonui Street	1965	Concrete Box Culvert	Concrete and Metal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003262001200001	Liholiho Street Box Culvert-Makiki Stream	Makiki Stream	Liholiho Street	1977	Concrete Box Culvert	Concrete and Metal Decorative	No	Not Eligible	This culvert has lost integrity due to the complete reconstruction of the original 1937 culvert in 1977. It is also scheduled for rehabilitation in fall of 2013. The concrete rubble masonry channel is a potentially eligible historic resource.	n/a
003083371400092	Lowrey Avenue Bridge-Manoa Stream	Manoa Stream	Lowrey Avenue	1953	Concrete Tee Beam	Concrete Open Decorative	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. This bridge replaced an earlier wood bridge and was part of the Manoa Stream Flood Control Project.	n/a
003484001100001	Luluku Road Triple Box Culvert-Kaneohe Stream	Kaneohe Stream	Luluku Road	1962	Concrete Box Culvert	Metal Horizontal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003083381400047	Lusitana Street Bridge-Pauoa Stream	Pauoa Stream	Lusitana Street	1932	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-371
003806001100001	Maaloa Street Bridge-Ulehawa Channel U-3	Ulehawa Channel U-3	Maaloa Street	1964	Concrete Slab	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003402001100001	Makakalo Street 4-Cell Box Culvert-Drainage Ditch	Drainage Ditch	Makakalo Street	1955	Concrete Box Culvert	No Parapet/Railing	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003226001200001	Makiki Street Bridge-Makiki Stream	Makiki Stream	Makiki Street	1912	Closed Spandrel Arch	Metal Horizontal	No	High Preservation Value	• Arch bridges are an uncommon bridge type • Associated with early developements in concrete bridge construction in Hawaii • Good example of 1910's closed spandrel arch bridge	4-374
003340001200001	Malia Street Bridge No. 1-Waialae Nui Stream	Waialae Nui Stream	Malia Street	1961	Concrete Slab	Concrete Solid Decorative	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1960's reinforced concrete bridge	4-377
003807001100001	Maliona Street Box Culvert-Channel M-4	Maili Channel M-4	Maliona Street	1967	Concrete Box Culvert	Concrete and Metal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003444001100001	Maunawili Road Bridge No. 2-Kamakalepo Stream	Kamakalepo Stream	Maunawili Road	1966	Concrete Slab	Metal Thrie Beam	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003437001100001	Maunawili Road Bridge No. 3-Maunawili Stream	Maunawili Stream	Maunawili Road	2009	Concrete Slab	Concrete and Metal	No	Not Eligible**	This bridge has lost integrity due to the complete replacement of the original 1937 bridge in 2009. The concrete rubble masonry abutments are a potentially eligible historic resource.	n/a

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Program Comments: Common post-war bridges built after 1945 covered by Advisory Council program comments.
Non-Contributing: The bridge/culvert is non-contributing to the historic district.

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Bridge Number	Bridge Name	Feature Crossed	Feature Carried	Construction Date	Bridge Type	Parapet/Railing Type	Listed on National/Hawaii Register	Eligibility Status*	Character Defining Feature (Significance)	Page No.
003083401400011	Mccully Street Bridge-Ala Wai Canal	Ala Wai Canal	McCully Street	1959	Concrete Slab	Metal Horizontal	Yes	High Preservation Value	• Contributed to economic development of Honolulu and Waikiki by providing reliable vehicular access • Part of 1954 Bennett-Maier plan (Charles B. Bennett and Eugene Maier) for redevelopment to relieve and control traffic in Waikiki • See National Register of Historic Places Nomination Form in appendices	4-380
003485001100001	Melekula Road Bridge-Kahaluu Stream	Kahaluu Stream	Melekula Road	1956	Concrete Tee Beam	Concrete Solid	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003072001400258	Moanalua Road Box Culvert-Kalauao Stream	Kalauao Stream	Moanalua Road	1992	Concrete Box Culvert	Concrete and Metal	No	Not Eligible	This culvert has lost integrity due to the complete replacement of the original 1935 culvert in 1992. Reinforced metal and concrete rails were also used. The culvert does not have distinctive engineering or architectural features that depart from standard culvert design.	n/a
003072001400318	Moanalua Road Bridge-Aiea Stream	Aiea Stream	Moanalua Road	1951	Concrete Tee Beam	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003072001400235	Moanalua Road Bridge-Kaonohi Stream	Kaonohi Stream	Moanalua Road	1966	Closed Spandrel Arch	Metal Horizontal	No	High Preservation Value	• Good example of 1960's closed arch bridge • Arch bridges are an uncommon bridge type • Only arch bridge built post-war (1945) in the state of Hawaii in the historic study period prior to 1969	4-383
003072001400159	Moanalua Road Bridge-Waimalu Stream	Waimalu Stream	Moanalua Road	1965	Concrete Girder	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003808001100001	Mohihi Street Bridge-Ulehawa Channel U-3	Ulehawa Channel U-3	Mohihi Street	1964	Concrete Slab	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003154001200001	Naio Street Bridge-Nuhelewai Stream	Nuhelewai Stream	Naio Street	1927	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1920's reinforced concrete bridge	4-386
003083451400011	Nalanieha Street Bridge-Kalihi Stream	Kalihi Stream	Nalanieha Street	1955	Concrete Slab	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003083461400067	Nehoa Street Bridge-Makiki Stream	Makiki Stream	Nehoa Street	1920	Concrete Slab	Concrete Solid Panel with Cap	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1920's reinforced concrete bridge	4-389
003062091400213	North Beretania Street Bridge-Nuuanu Stream	Nuuanu Stream	North Beretania Street	1967	Concrete Slab	Metal Horizontal	No	Not Eligible**	This bridge is near the Chinatown Special Design District however, the bridge does not have distinctive engineering or architectural features that depart from standard bridge design. The concrete rubble masonry channel is a potentially eligible historic resource.	n/a
003083981400003	North Hotel Street Bridge-Nuuanu Stream	Nuuanu Stream	North Hotel Street	1936	Concrete Slab	Concrete and Metal Decorative	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-392
003083761400197	North Kalaheo Avenue Bridge-Kawainui Canal	Kawainui Canal	North Kalaheo Avenue	1952	Concrete Tee Beam	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. This bridge was a part of the Kawainui Swamp Flood Control Project.	n/a
003062081400218	North King Street Bridge No. 1-Nuuanu Stream	Nuuanu Stream	North King Street	1922	Concrete Tee Beam	Concrete Solid	No	High Preservation Value	• Excellent example of 1920's era reinforced concrete tee beam construction with solid decorative parapets • Associated with public works efforts by the City and County of Honolulu during Territorial period • Located alongside the Chinatown Historic District which was nominated to the National Register in January 17, 1973	4-395

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003062081400134	North King Street Bridge No. 2-Kapalama Canal	Kapalama Canal	North King Street	1938	Concrete Tee Beam	Concrete and Metal Decorative	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-398
003062081400037	North King Street Bridge-Kalihi Stream	Kalihi Stream	North King Street	1933	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-401
003083321400031	North Kuakini Street Bridge No. 1-Nuuanu Stream	Nuuanu Stream	North Kuakini Street	1934	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-404
003083321400019	North Kuakini Street Bridge No. 2-Waiolani Stream	Waiolani Stream	North Kuakini Street	1934	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-407
003123001200001	North Kukui Street Bridge-Nuuanu Stream	Nuuanu Stream	North Kukui Street	1966	Concrete Slab	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003083631400093	North School Street Bridge-Kalihi Stream	Kalihi Stream	North School Street	1927	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1920's reinforced concrete bridge	4-410
003083631400271	North School Street Bridge-Nuuanu Stream	Nuuanu Stream	North School Street	1932	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-413
003083471400113	Nuuanu Avenue Arch Bridge-Nuuanu Stream	Nuuanu Stream	Nuuanu Avenue	1904	Masonry Arch	Masonry Rock with Cap	No	High Preservation Value	• Arch bridges are an uncommon bridge type • Excellent example of 1900's masonry arch construction and is one of nine of type left in Hawaii • Notable for use of vernacular building materials from the islands: local basalt rock/"lava rock" • Associated with early public works efforts by Territory of Hawaii, and for contributions to commercial and residential development of urban Honolulu • Representative of work of a master: Louis M. Whitehouse, a prolific contractor from that era	4-416
003265001200001	Nuuanu Pali Drive Bridge-Nuuanu Stream	Nuuanu Stream	Nuuanu Pali Drive	1930	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge • Associated with historic Nuuanu residential development	4-419
003083761400001	Oneawa Street Bridge-Kawainui Stream	Kawainui Stream	Oneawa Street	1967	Concrete Tee Beam	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments. This bridge was constructed in conjunction with the Kawainui Swamp Flood Control Project.	n/a
003809001100001	Paakea Road Bridge-Channel M-1	Mailiilii Channel M-1	Paakea Road	1966	Concrete Tee Beam	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003601001100001	Paalaa Road Box Culvert-Unnamed Stream	Unnamed Stream	Paalaa Road	1968	Concrete Box Culvert	Metal Horizontal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003326001200001	Paalea Street Bridge Palolo Stream	Palolo Stream	Paalea Street	1952	Concrete Slab	Metal Picket	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003953001100001	Paiwa Street Triple Box Culvert-Wailani Stream	Wailani Stream	Paiwa Street	1963	Concrete Box Culvert	Concrete and Metal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003083531400155	Palolo Avenue Bridge No. 1-Palolo Stream	Palolo Stream	Palolo Avenue	1949	Concrete Tee Beam	Concrete and Metal Decorative	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a

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003083531400001	Palolo Avenue Bridge No. 2-Pukele Stream	Pukele Stream	Palolo Avenue	1928	Concrete Tee Beam	Concrete and Metal	No	Not Eligible	This bridge has lost integrity due to bridge widening in the 1960s. The original bridge railings appear to have been replaced with post-war concrete and metal railings. The bridge does not have distinctive engineering or architectural features that depart from standard bridge design.	n/a
003232001200001	Pawaina Street Bridge-Manoa Stream	Manoa Stream	Pawaina Street	1961	Concrete Tee Beam	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003267001200001	Pelekane Drive Bridge-Nuuanu Stream	Nuuanu Stream	Pelekane Drive	1930	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1920's reinforced concrete bridge • Associated with historic Nuuanu residential development	4-422
003331001200001	Pepeekeo Street Double Box Culvert-Hahaione Channel	Hahaione Channel	Pepeekeo Street	1962	Concrete Box Culvert	Concrete and Metal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003234001200001	Phillip Street-Makiki Stream	Makiki Stream	Phillip Street	1938	Concrete Slab	Concrete and Metal	No	Not Eligible	This bridge does not have distinctive engineering or architectural features that depart from standard bridge design. In 1995 the bridge was widened. The concrete rubble masonry channel is a potentially eligible historic resource.	n/a
003810001100001	Plantation Road Bridge-Channel K-2	Kaupuni Channel K-2	Plantation Road	1968	Concrete Tee Beam	Metal Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003257001200001	Puiwa Road Triple Box Culvert-Nuuanu Stream	Nuuanu Stream	Puiwa Road	1964	Concrete Box Culvert	Concrete and Metal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments. This culvert is located in the historic Nuuanu residential development.	n/a
003236001200001	Puowaina Drive Bridge-Auwaiolimu Street	Auwaiolimu Street	Puowaina Drive	1936	Concrete Tee Beam	Concrete Open Greek Cross	No	High Preservation Value	• Excellent example of 1930's continuous reinforced concrete T-beam construction with typical open concrete rail • Associated with important public works projects initiated by the county government • Contributed to the economic development of urban Honolulu by providing reliable vehicular access • Associated with engineer W.F. Way from City and County of Honolulu, Department of Public Works and builder James Glover Ltd., a contracting company • At the time of construction it was the only bridge on Oahu to cross a road	4-425
003814001100001	Saint John's Road Bridge-Channel M-4	Maili Channel M-4	Saint John's Road	1967	Concrete Slab	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003083061400136	Saint Louis Drive Bridge-Palolo Stream	Palolo Stream	Saint Louis Drive	1929	Open Spandrel Arch	Concrete Open Horizontal	No	High Preservation Value	• Arch bridges are an uncommon bridge type • Associated with early developements in concrete bridge construction in Hawaii • Good example of 1920's and 1930's open spandrel arch	4-428
003067001400301	Salt Lake Boulevard Bridge-Halawa Stream	Halawa Stream	Salt Lake Boulevard	1968	Concrete Girder	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003933001100001	Ulune Street Double Box Culvert-Aiea Stream	Aiea Stream	Ulune Street	1954	Concrete Box Culvert	Masonry Rock	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003237001200001	Waaloa Way Bridge No. 1-Manoa Stream	Manoa Stream	Waaloa Way	1996	Steel Stringer	Metal Thrie Beam	No	Not Eligible	This bridge has lost integrity due to the complete replacement of the original 1967 bridge in 1996. The bridge is not publicly accessible and is utilized as a Board of Water Supply maintenance bridge.	n/a

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003268001200001	Waaloa Way Bridge No. 2-Manoa Stream	Manoa Stream	Waaloa Way	1965	Steel Stringer	Wood	No	Eligible	• Uncommon use of steel material in Hawaii's extreme marine environment • Good example of distinct structural type of 1960's steel girder bridge • Bridge is maintained by the Board of Water Supply	4-431
003244001200001	Waaloa Way Bridge No. 3-Waiakeakua Stream	Waiakeakua Stream	Waaloa Way	1967	Steel Stringer	Wood	No	Eligible	• Uncommon use of steel material in Hawaii's extreme marine environment • Good example of distinct structural type of 1960's steel girder bridge • Bridge is maintained by the Board of Water Supply	4-434
003245001200001	Waaloa Way Bridge No. 4-Waiakeakua Stream	Waiakeakua Stream	Waaloa Way	1963	Timber Stringer	Wood	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of post-war 1960's timber stringer bridge • Bridge is maintained by the Board of Water Supply	4-437
003605001100001	Waialua Beach Road Bridge-Kiikii Stream	Kiikii Stream	Waialua Beach Road	1950	Concrete Tee Beam	Concrete Open Horizontal	No	Eligible	• Associated with Howard Hisayuki Kurio who worked for Territorial Department of Public Works for 17 years since 1932	4-440
003955001100001	Waihau Street Double Box Culvert-Waipio Lined No.1	Waipio Lined No. 1	Waihau Street	1957	Concrete Box Culvert	Metal Horizontal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003443001100001	Wailele Road Bridge Keaahala Stream	Keaahala Stream	Wailele Road	1967	Concrete Rigid Frame	Concrete Open Horizontal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003349001200001	Wainiha Street Bridge-Kamiloiki Stream	Kamiloiki Stream	Wainiha Street	1967	Concrete Girder	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003967001100001	Wainihi Street Double Box Culvert-Waipio Lined No.1	Waipio Lined No. 1	Wainihi Street	1957	Concrete Box Culvert	Concrete and Metal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003083661400104	Waipahu Street Arch Bridge-Waikele Stream	Waikele Stream	Waipahu Street	1905	Closed Spandrel Arch	Concrete Solid with Cap	No	High Preservation Value	• Arch bridges are an uncommon bridge type • Associated with early developements in concrete bridge construction in Hawaii • Good example of 1900's closed spandrel arch bridge	4-443
003083661400002	Waipahu Street Bridge No. 3-Waipahu Stream	Waipahu Stream	Waipahu Street	1967	Concrete Girder	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003083660000003	Waipahu Street Footbridge-Waipahu Street	Waipahu Street	Pedestrian Overpass	1963	Concrete Tee Beam	Metal Picket	No	Program Comments	This is a typical post-war pedestrian bridge and falls under Program Comments.	n/a
003971001100001	Waipio Point Access Road Bridge No. 2-Wailani Stream	Wailani Stream	Waipio Point Access Road	1967	Concrete Girder	Concrete and Metal	No	Program Comments	This is a typical post-war bridge and falls under Program Comments.	n/a
003903001100001	Waipio Point Access Road Bridge No.1-Railroad Right of Way	Railroad Right of Way	Waipio Point Access Road	1946	Concrete Tee Beam	Concrete Open Greek Cross	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1940's reinforced concrete bridge	4-446
003956001100001	Waipuka Place Double Culvert-Waipio Lined No.1	Waipio Lined No. 1	Waipuka Place	1957	Concrete Box Culvert	Concrete and Metal	No	Program Comments	This is a typical post-war culvert and falls under Program Comments.	n/a
003083681400001	Wyllie Street Bridge-Waolani Stream	Waolani Stream	Wyllie Street	1931	Concrete Tee Beam	Concrete Open Arched	No	Eligible	• Associated with early developements in concrete bridge construction in Hawaii • Good example of 1930's reinforced concrete bridge	4-449

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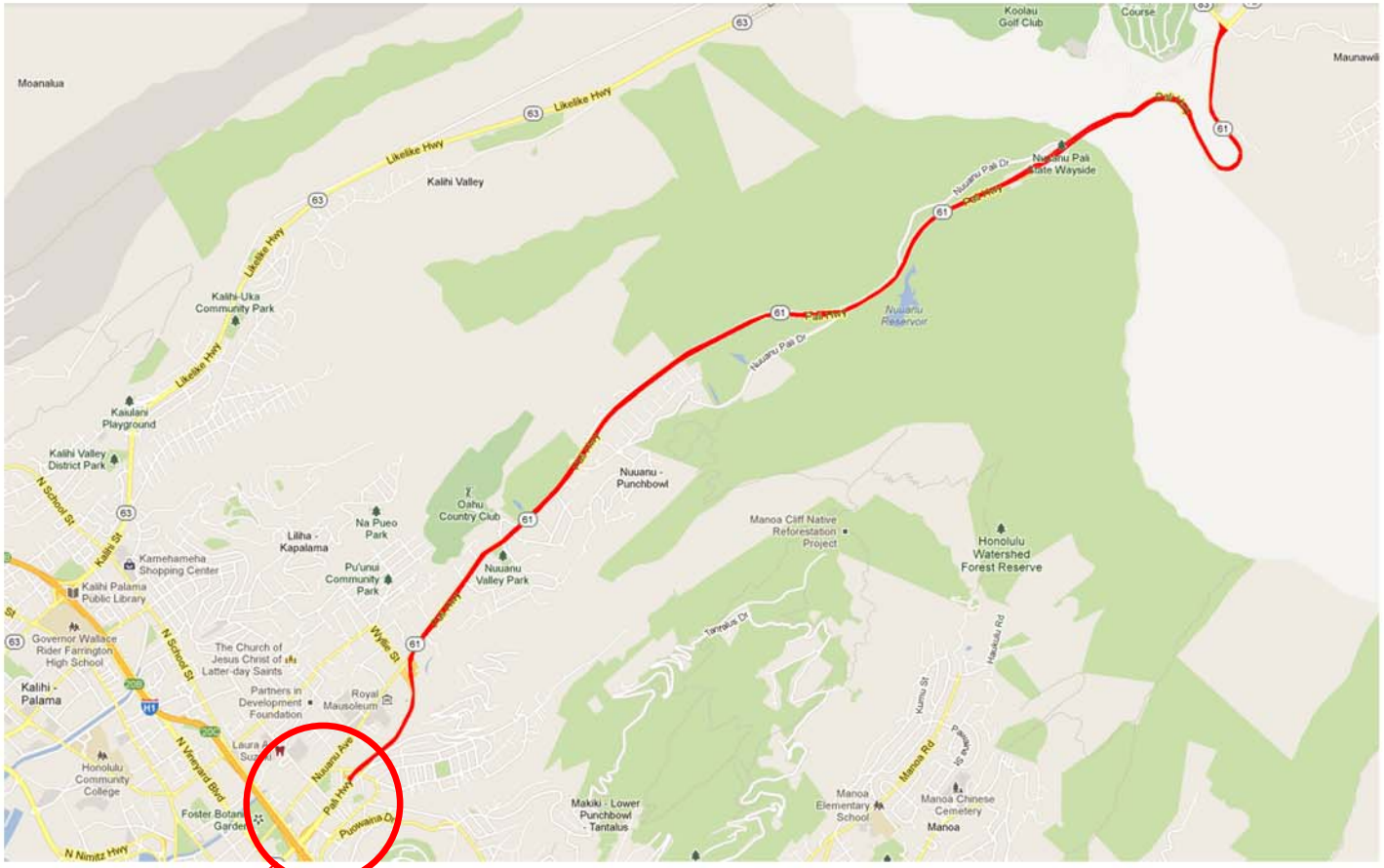
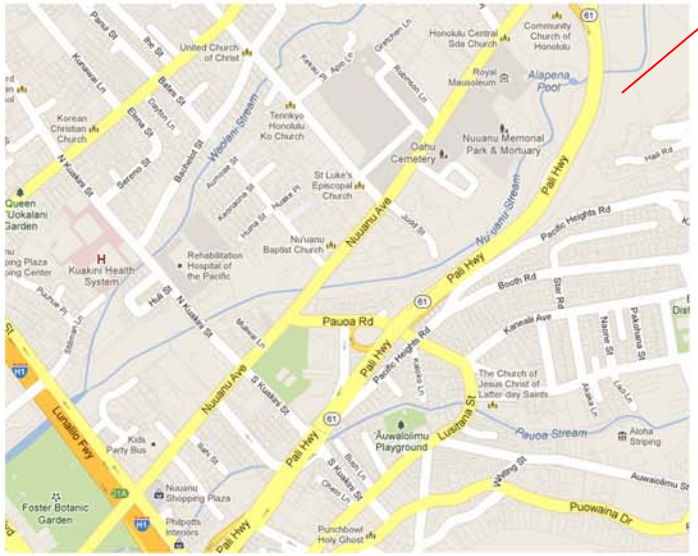
III. HISTORIC BRIDGE DISTRICT: PALI HIGHWAY





Pali Highway District Starts from the intersection of Pacific Heights Road and Pali Highway to the intersection of Kamehameha Highway and Pali Highway

Oahu Historic Bridge District

Oahu has one historic district which is Pali Highway Historic District. It is not on the National Register of Historic Places. See Chapter 2 section VI for the historic context.

Pali Highway District

Bridge Number	Bridge Name	Feature Crossed	Feature Carried	Construction Date	Bridge Type	Parapets/Railing Type	State/County
003000610400112	Nuuanu Stream Kapena Falls	Nuuanu Stream Kapena Falls	Pali Highway	1962	Concrete Rigid Frame	Concrete and Metal	State
003000610300593	Pali Bridge No. 3 (Inbound)	Mountain (Pali Bridge No. 3)	Pali Highway	1956	Concrete Tee Beam	Concrete Open Horizontal	State
003000610300616	Pali Bridge No. 4 (Inbound)	Mountain (Pali Bridge No. 4)	Pali Highway	1956	Concrete Girder	Concrete Open Horizontal	State
003000610300615	Pali Bridge No. 4B (Outbound)	Mountain (Pali Bridge No. 4B)	Pali Highway	1961	Concrete Girder	Concrete Open Horizontal	State
003000610300621	Pali Bridge No. 5 (Inbound)	Mountain (Pali Bridge No. 5)	Pali Highway	1956	Concrete Girder	Concrete Open Horizontal	State
003000610300623	Pali Bridge No. 5A (Outbound)	Mountain (Pali Bridge No. 5A)	Pali Highway	1961	Concrete Girder	Concrete Open Horizontal	State
003000610300629	Pali Bridge No. 6 (Inbound)	Mountain (Pali Bridge No. 6)	Pali Highway	1956	Concrete Girder	Concrete Open Horizontal	State
003000610300632	Pali Bridge No. 7 (Inbound)	Mountain (Pali Bridge No. 7)	Pali Highway	1956	Concrete Girder	Concrete Open Horizontal	State
003000610300631	Pali Bridge No. 7A (Outbound)	Mountain (Pali Bridge No. 7A)	Pali Highway	1961	Concrete Girder	Concrete Open Horizontal	State
003000610300640	Pali Bridge No. 8 (Inbound)	Mountain (Pali Bridge No. 8)	Pali Highway	1956	Concrete Girder	Concrete Open Horizontal	State
003000610300638	Pali Bridge No. 8A (Outbound)	Mountain (Pali Bridge No. 8A)	Pali Highway	1961	Concrete Girder	Concrete Open Horizontal	State
003000610300592	Pali Partial Bridge No. 2 (Inbound)	Mountain (Pali Partial Bridge No. 2)	Pali Highway	1956	Concrete Tee Beam	Concrete Open Horizontal	State
003000610300613	Pali Partial Bridge No. 4A (Outbound)	Mountain (Pali Bridge No. 4A)	Pali Highway	1961	Concrete Tee Beam	Concrete Open Horizontal	State
003000610300619	Pali Partial Bridge No. 4C (Outbound)	Mountain (Pali Bridge No. 4C)	Pali Highway	1961	Concrete Girder	Concrete Open Horizontal	State
003000610300591	Pali Partial Bridge No. 1 (Inbound)	Mountain (Pali Partial Bridge No. 1)	Pali Highway	1956	Concrete Tee Beam	Concrete Open Horizontal	State
003000610300569	Pali Tunnel No. 1 (Inbound)	Mountain (Pali Tunnel No. 1)	Pali Highway	1957	Concrete Arch Culvert	No Parapet/Railing	State

Bridge Number	Bridge Name	Feature Crossed	Feature Carried	Construction Date	Bridge Type	Parapets/Railing Type	State/County
003000610300568	Pali Tunnel No. 1A (Outbound)	Mountain (Pali Tunnel No. 1A)	Pali Highway	1959	Concrete Arch Culvert	No Parapet/Railing	State
003000610300596	Pali Tunnel No. 2 (Inbound)	Mountain (Pali Tunnel No. 2)	Pali Highway	1957	Concrete Arch Culvert	No Parapet/Railing	State
003000610400014	Pali Highway Overpass (Outbound)	H-1	Pali Highway	1960	Concrete Rigid Frame	Concrete and Metal	State
003000610400015	Pali Highway Overpass (Inbound)	H-1	Pali Highway	1960	Concrete Rigid Frame	Concrete and Metal	State
003000610400044	Pauoa Stream Culvert	Pauoa Stream	Pali Highway	1925	Concrete Box Culvert	Concrete and Metal	State
003000610300595	Pali Tunnel No. 2A (Outbound)	Mountain (Pali Tunnel No. 2A)	Pali Highway	1961	Concrete Arch Culvert	No Parapet/Railing	State
003000610400090	Partial Bridge No. 8	Unnamed Gulch	Pali Highway	1962	Concrete Tee Beam	Concrete and Metal	State
003000610400064	Pauoa Road Overpass	Pauoa Road	Pali Highway	1961	Concrete Girder	Concrete and Metal	State

IV. INVENTORY FORMS: OAHU STATE ELIGIBLE BRIDGES

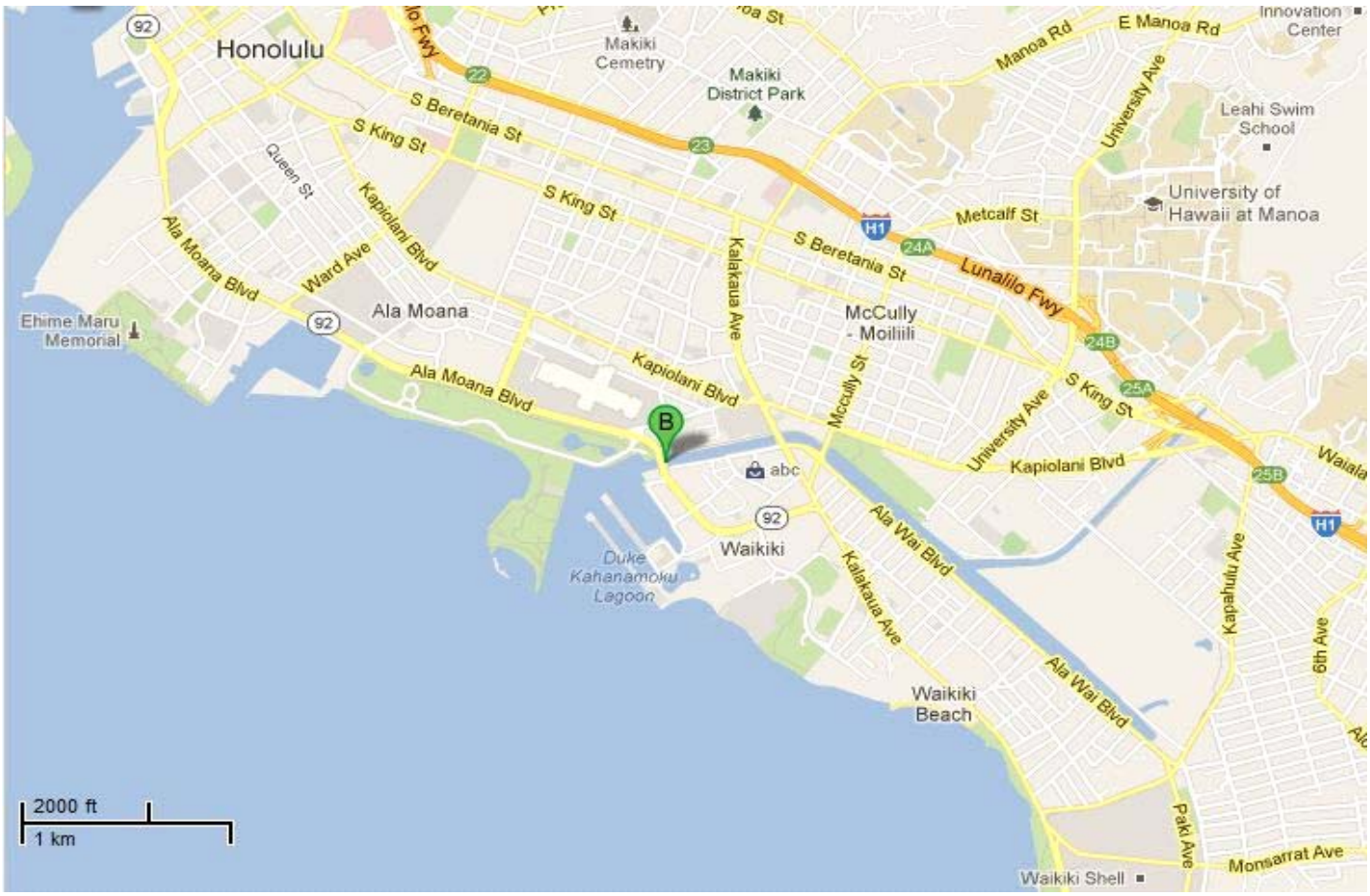
Inventory Form
(State)

General Information

Bridge Number: 003000920400861	**Route No:** 92
Popular Name: Ala Wai Canal	
Feature Crossed: Ala Wai Canal	
Feature Carried: Ala Moana Boulevard	
Milepost: 8.61 mi.	**Island:** Oahu
Longitude: 157d-50m-24.99s	**Latitude:** 21d-17m-16.04s

Location: 0.21 Miles West of Hobron Lane
Historic Name: Ala Wai Canal
Designer/Engineer:
Builder/Contractor:

Location Map:



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: 3	**Max Span:** 67.9 ft.	**Total Length:** 166.0 ft.	**Deck Width:** 100.1 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Metal Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: Non-Contributing	**Criteria:** n/a	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: n/a		

Narrative Description:

The Ala Wai Canal Bridge carries Ala Moana Boulevard across the Ala Wai Canal and is located in the Waikiki Special District. This reinforced concrete bridge is in its original location and is generally in good condition. The bridge has metal open horizontal railings with solid concrete end posts. The open railings create a visual relationship with the ocean and Ala Wai Canal. The concrete deck is supported by concrete abutments. Stairs that connect the bridge to the Ala Wai Canal, Ala Wai Boulevard, and the boat harbor are located near the end posts.

Significance Statement:

The bridge is a noncontributing bridge to the Ala Wai Canal. The bridge is located at the beginning of the canal and connects Waikiki and Ala Moana area. It is heavily used by the tourists who visit the Ala Moana Park, Ala Moana Shopping Center and other nearby tourist area from the Waikiki district. It is also located within the Waikiki Special district. The bridge is identified as one of the locations to have ocean views and maintains a visual relationship with the ocean. (1)

See National Register of Historic Places Nomination Form for the Ala Wai Canal.

(1) Department of Planning and Permitting City and County of Honolulu, Land Use Ordinance (April, 2003): 9-51.

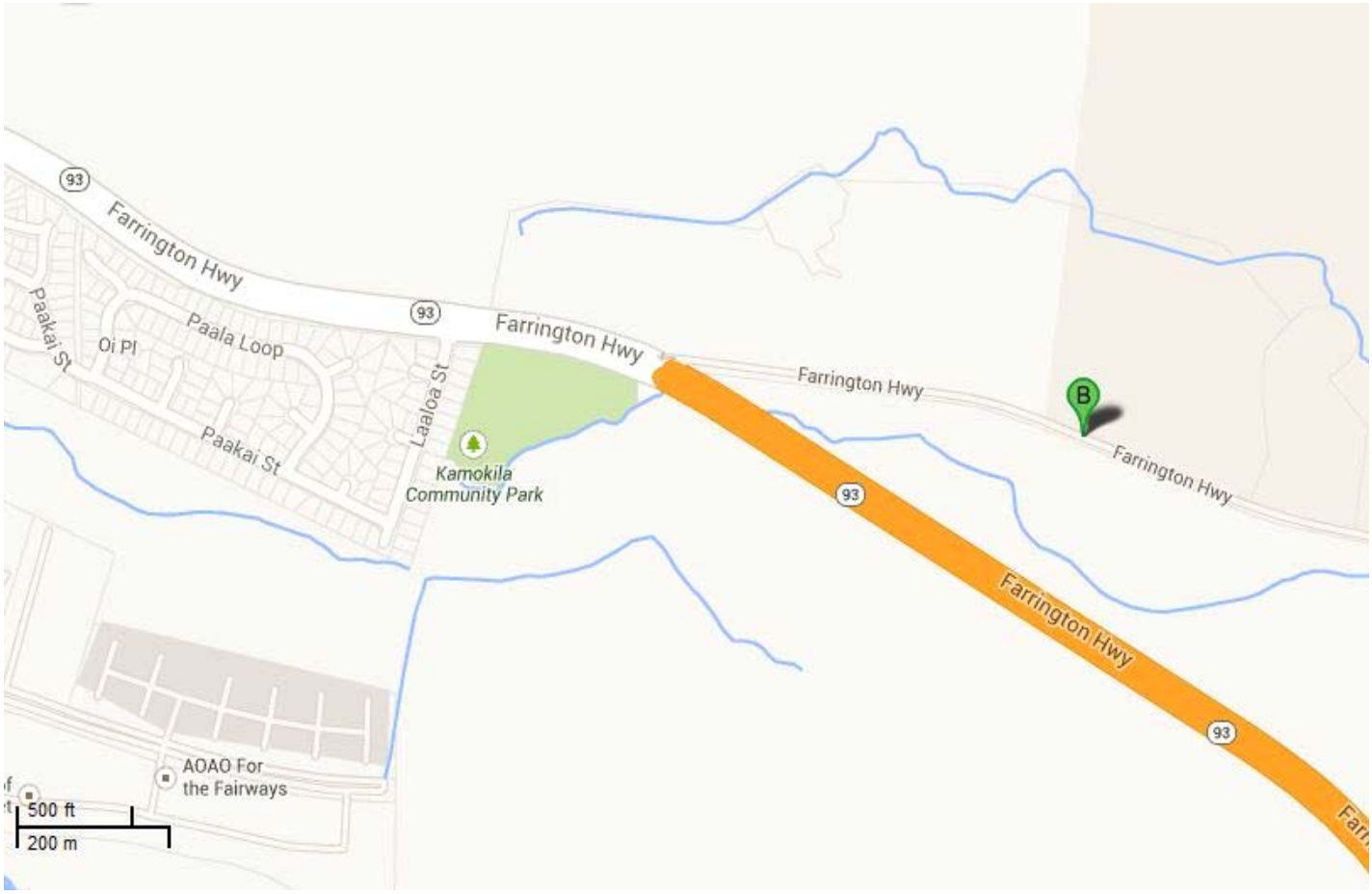
Inventory Form
(State)

General Information

Bridge Number: 003000930300071	**Route No:** 93
Popular Name: Awawanui Stream	
Feature Crossed: Awawanui Stream	
Feature Carried: Old Farrington Highway	
Milepost: 0.71 mi.	**Island:** Oahu
Longitude: 158d-05m-55.93s	**Latitude:** 21d-20m-25.44s

Location: 0.83 Miles West of Kalaeloa Boulevard
Historic Name: Awawanui Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1927	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 28.9 ft.	**Total Length:** 30.8 ft.	**Deck Width:** 26.2 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Awawanui Stream Bridge carries Old Farrington Highway across the Awawanui Stream and is not publicly accessible. This reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete open arched parapets with tapered caps and wide end posts. The bridge name was also engraved on the parapet. The reinforced concrete tee beam deck is supported by the concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs and the simple design of the parapet retains its historic feeling.

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 a 1920's reinforced concrete tee beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

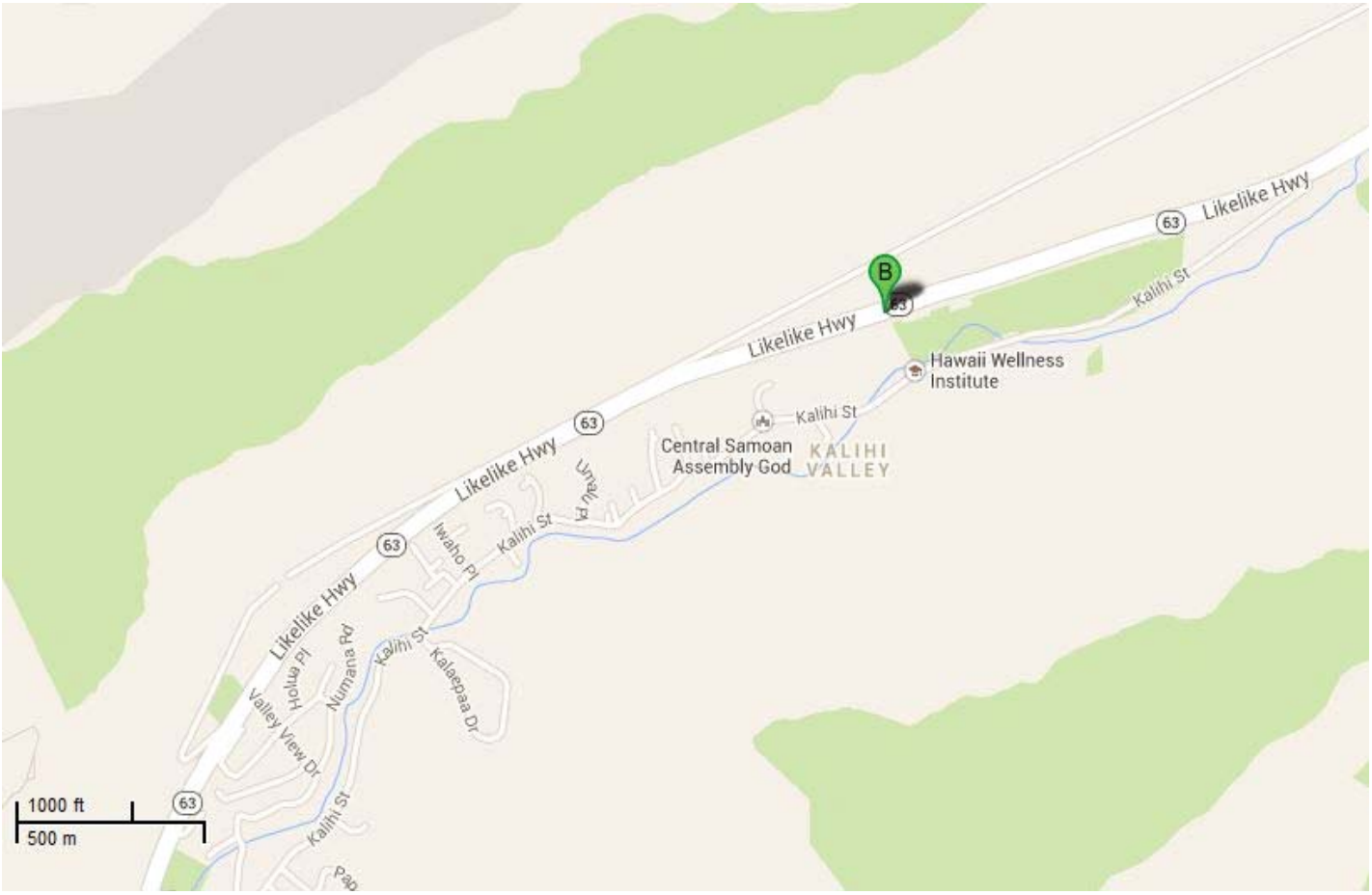
Inventory Form
(State)

General Information

Bridge Number: 003000631100418	**Route No:** 63
Popular Name: Burmeister Overpass	
Feature Crossed: Likelike Highway (Burmeister Overpass)	
Feature Carried: Private Road	
Milepost: 4.18 mi.	**Island:** Oahu
Longitude: 157d-50m-28.29s	**Latitude:** 21d-22m-01.11s

Location: 1.25 Miles Northeast of Valley View Drive
Historic Name: Burmeister Overpass
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1959	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 4	**Max Span:** 49.9 ft.	**Total Length:** 179.1 ft.	**Deck Width:** 16.4 ft.
Superstructure: Prestressed Concrete I-Girder			
Substructure: Concrete Abutment Wall and Concrete T-Shaped Pier			
Floor/Decking: Concrete Deck			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: Eligible	**Criteria:** A	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Other, Bridge History		

Narrative Description:

The Burmeister Overpass carries private road across the Likelike Highway. This reinforced concrete girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete open horizontal parapets, concrete deck, and concrete piers.

Significance Statement:

This overpass was built as a result of the Territory refusing to build the mauka entrance to Edward R. Burmeister's Kalihi Valley land from the proposed Kalihi Tunnel access road (current Likelike Highway). The 1958 newspaper article leads one to believe that Governor Quinn was planning to build the mauka entrance to Burmeister's land with the assumption that the City would build a matching makai entrance on his property. The article goes on to say that the City claimed the makai entrance was never a part of their plan. Without this second entrance, Federal Aid requirements would not be met, thus resulting in the loss of Federal Aid funds. (1)

(1) "City's Disappearing Road Proves Grade-A Mystery," Honolulu Advertiser, March 12, 1958, page A-4, C1-2.

Inventory Form
(State)

General Information

Bridge Number: 003009301101728	**Route No:** 930
Popular Name: Farrington Highway-Waialua Plantation Road	
Feature Crossed: Farrington Highway	
Feature Carried: Plantation Road	
Milepost: 5.95 mi.	**Island:** Oahu
Longitude: 158d-07m-23.81s	**Latitude:** 21d-33m-59.24s

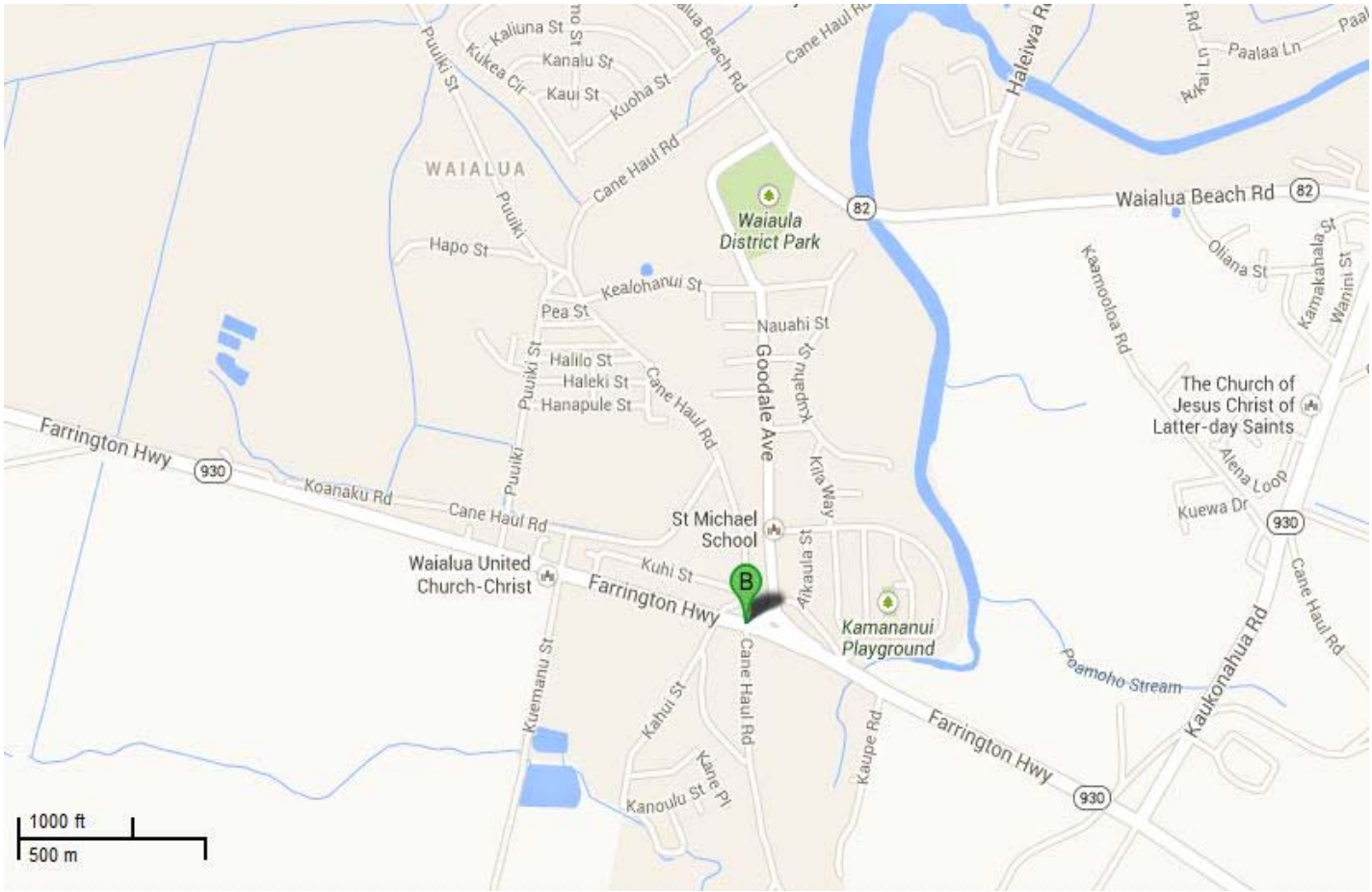
Location: 0.26 Miles East of Kuhi Street

Historic Name: Farrington Highway-Waialua Plantation Road

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Steel Stringer	**Construction Date:** 1940	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 62.0 ft.	**Total Length:** 62.0 ft.	**Deck Width:** 33.1 ft.
Superstructure: Steel Multi-Girder			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering		

Narrative Description:

The Farrington Highway-Waialua Plantation Road Bridge carries Waialua Plantation Road across the Farrington Highway. This reinforced concrete and steel stringer bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete open horizontal parapets, concrete deck with steel girders, and concrete abutments. Chain links and jersey barriers were placed in front of the open parapets. The workmanship of the bridge has not been obscured and the simple design of the parapet retains its historic feeling.

Significance Statement:

This bridge is eligible under Criterion C for its association with early developments in concrete and steel bridge construction in Hawaii. The use of steel was uncommon in Hawaii due to the extreme marine environment. Since very little steel is used for bridge construction in Hawaii, this bridge is also eligible under Criterion C for its distinctive structural type. The bridge is one of the few steel stringer bridges left on Oahu. It is a good example of a 1940's reinforced concrete and steel stringer bridge atypical of its period in its use of materials and design.

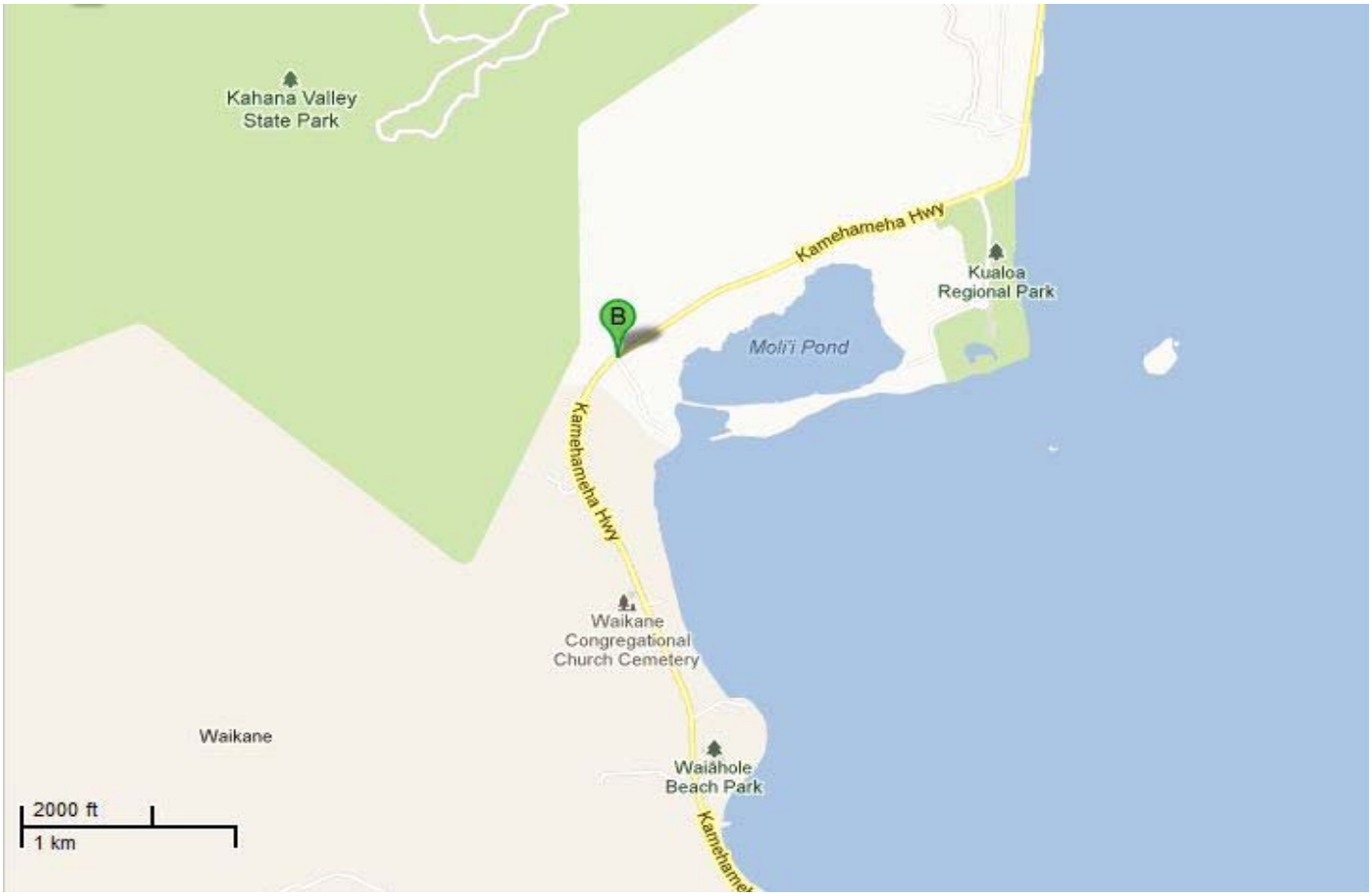
Inventory Form
(State)

General Information

Bridge Number: 003000830303252	**Route No:** 83
Popular Name: Hakipuu Stream	
Feature Crossed: Hakipuu Stream	
Feature Carried: Kamehameha Highway	
Milepost: 32.52 mi.	**Island:** Oahu
Longitude: 157d-51m-18.60s	**Latitude:** 21d-30m-30.28s

Location: 0.10 Miles South of Johnson Road
Historic Name: Hakipuu Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1922	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 29.9 ft.	**Total Length:** 32.2 ft.	**Deck Width:** 26.2 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Hakipuu Stream Bridge carries Kamehameha Highway across the Hakipuu Stream. This reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete solid panel parapets with flat caps and wide end posts which looks to be an addition to the original parapet. The concrete deck is supported by concrete abutments. The parapet cap and end posts have been painted white. Thrie beams were bolted to the end posts however, the workmanship of the bridge has not been obscured. The simple design of the parapet retains its historic feeling.

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 a 1920's concrete tee beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

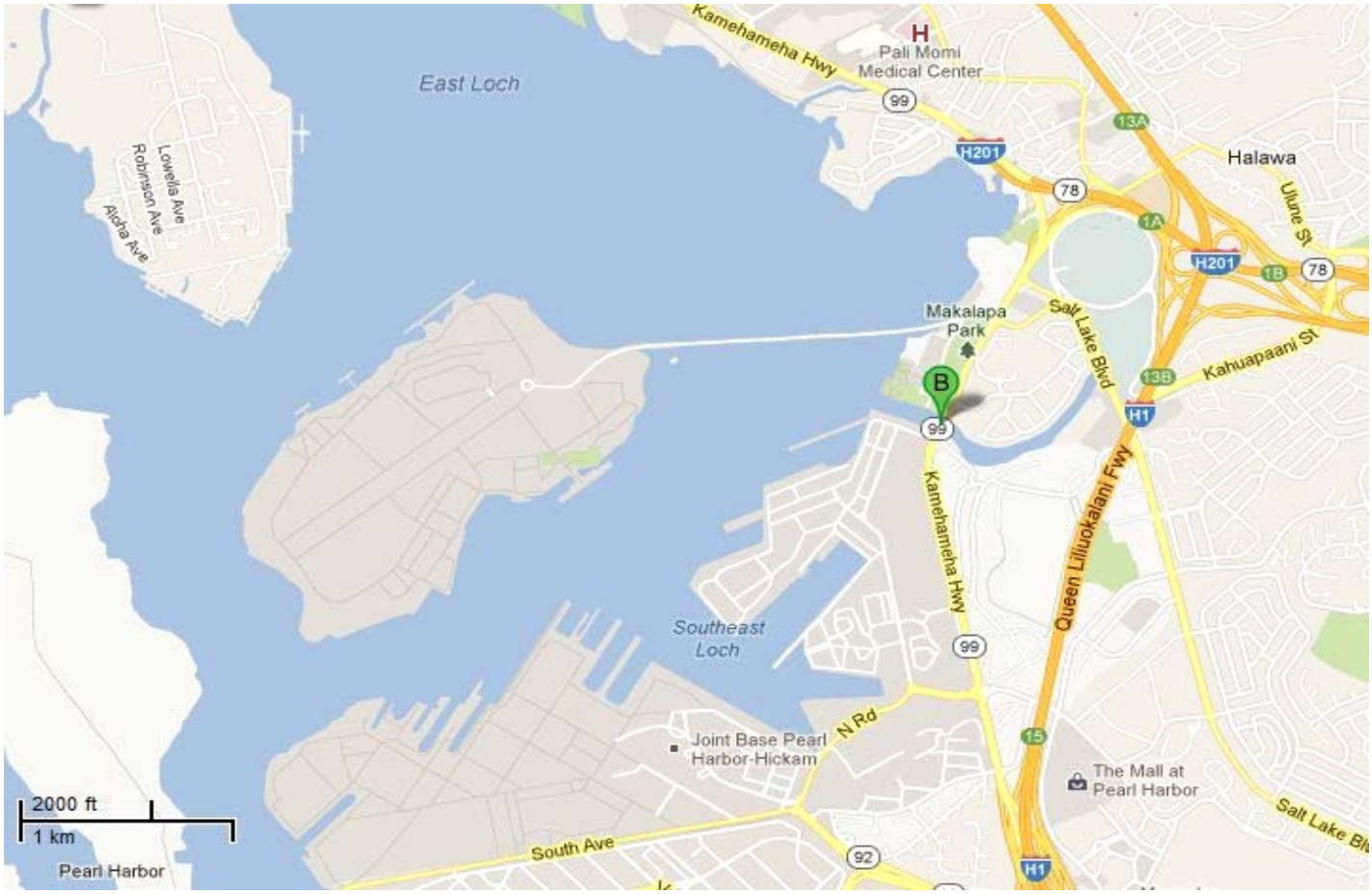
Inventory Form
(State)

General Information

Bridge Number: 003000990402212	**Route No:** 99
Popular Name: Halawa Stream (Westbound)	
Feature Crossed: Halawa Stream	
Feature Carried: Kamehameha Highway	
Milepost: 22.10 mi.	**Island:** Oahu
Longitude: 157d-56m-13.63s	**Latitude:** 21d-21s-54.36s

Location: 0.06 Miles South of Kalaloa Street
Historic Name: Halawa Stream (Westbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1945	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 6	**Max Span:** 40.0 ft.	**Total Length:** 240.2 ft.	**Deck Width:** 35.4 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
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:

The Halawa Stream (Westbound) Bridge carries Kamehameha Highway across the Halawa Stream. This concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete open Greek cross parapets with stepped caps and wide solid stepped profile end posts. Two of the end posts have the bridge name and year of construction engraved. The concrete deck is supported by concrete piers and abutments. Only the stepped caps and end posts have been painted white. Unlike most of the other similar type of the bridges, thrie beams were not bolted to the solid panel parapets therefore the workmanship of the bridge has not been obscured.

Significance Statement:

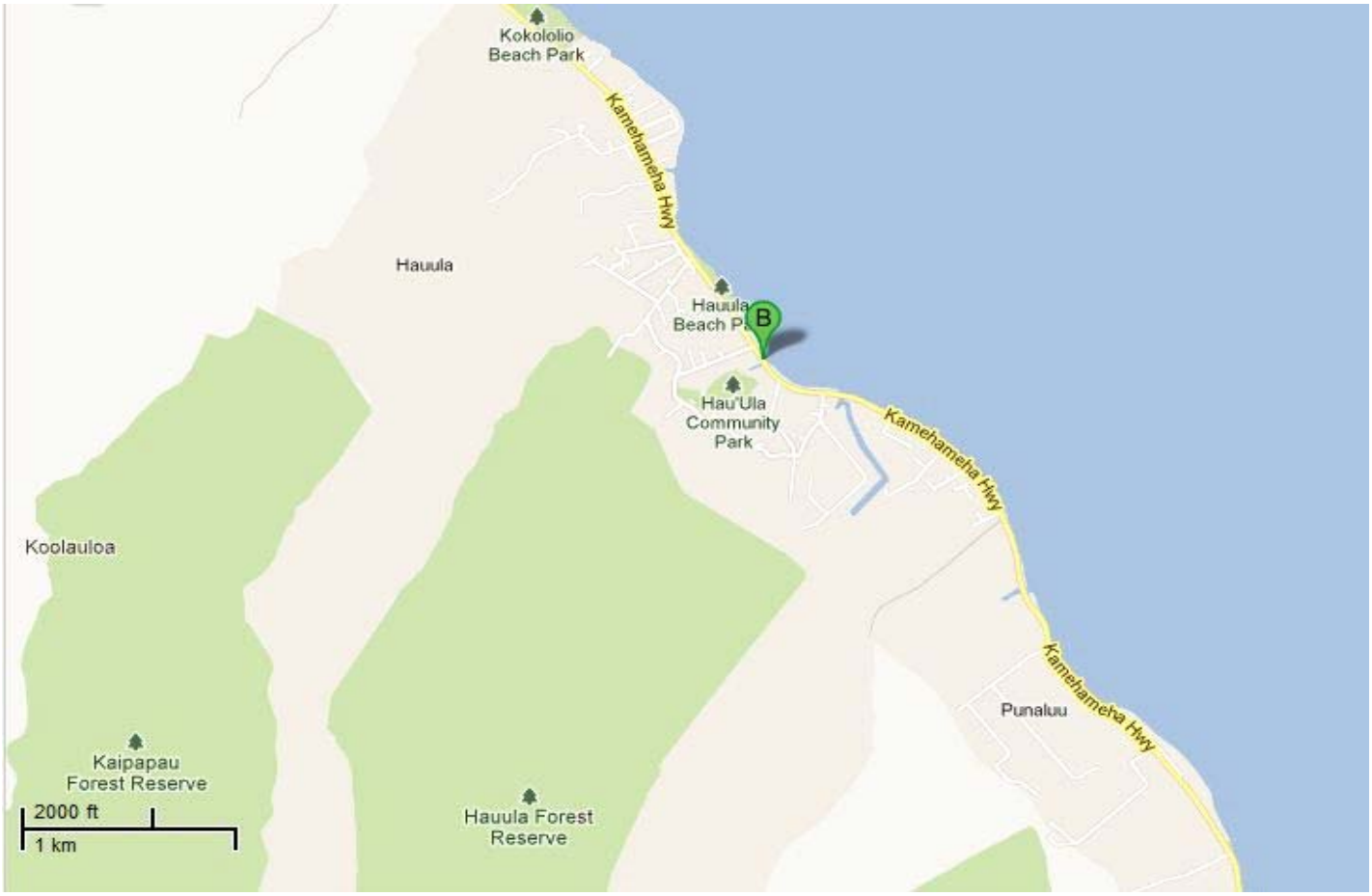
This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of a 1940's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003000830302169	**Route No:** 83
Popular Name: Hauula Stream	
Feature Crossed: Hauula Stream	
Feature Carried: Kamehameha Highway	
Milepost: 21.69 mi.	**Island:** Oahu
Longitude: 157d-54m-31.88s	**Latitude:** 21d-36m-30.13s
Location: 0.06 Miles Southeast of Kukuna Road	
Historic Name: Hauula Stream	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1932	**Replaced?** No
Altered? Yes	**Alteration Date(s):** Unknown	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added.		

Bridge Information

Number of Spans: 1	**Max Span:** 22.0 ft.	**Total Length:** 25.9 ft.	**Deck Width:** 27.6 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Hauula Stream Bridge carries Kamehameha Highway across the Hauula Stream. This concrete tee beam bridge is in its original location but in poor condition. The bridge has concrete solid parapets with flat caps and curved end posts. The concrete deck is supported by concrete abutments. The parapet and end posts caps have been painted white. A wood pedestrian walkway with wood horizontal railings was added to one side of the bridge and thrie beams were bolted to the end posts. The simple design of the parapet retains its historic feeling.

Significance Statement:

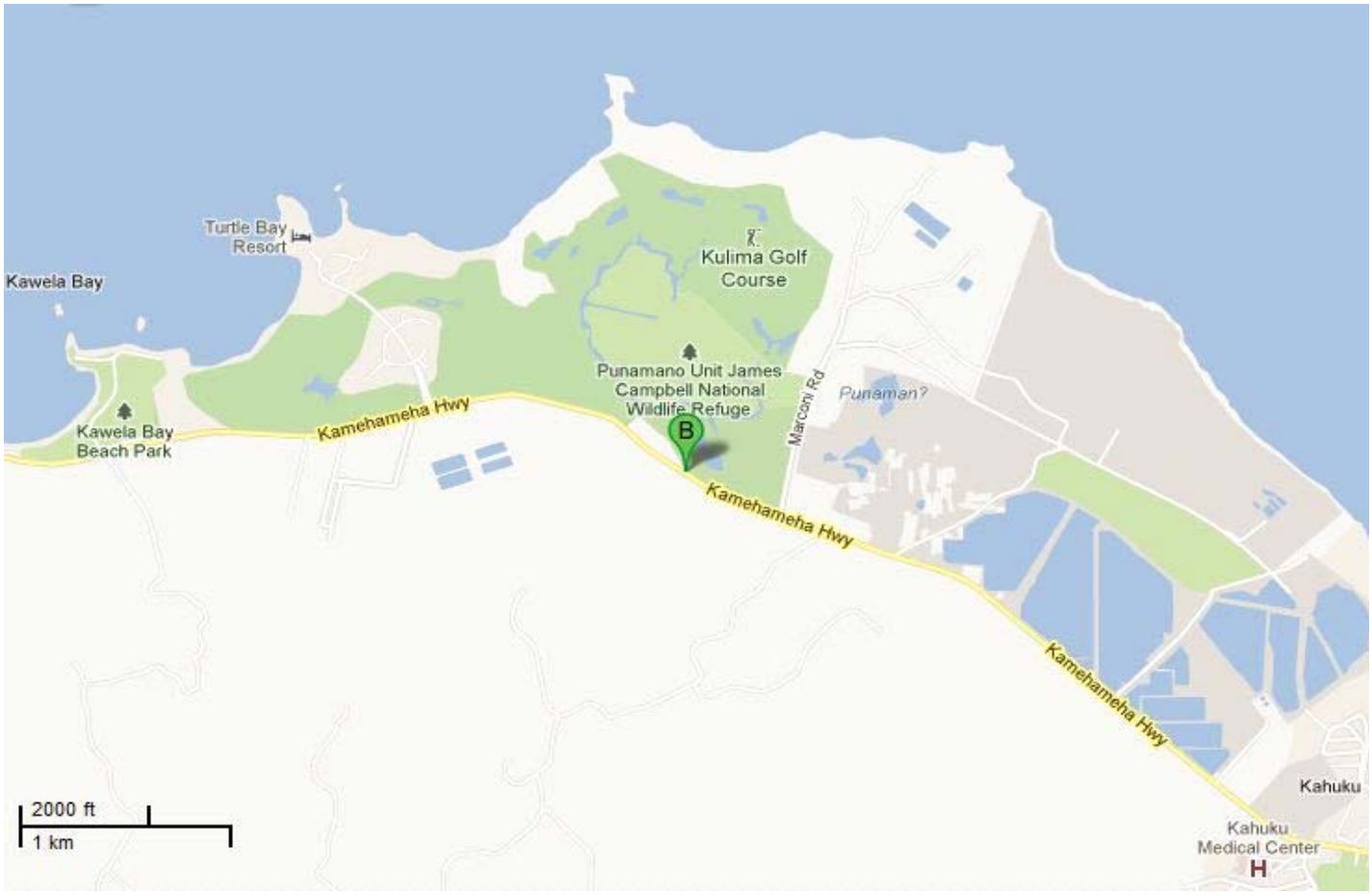
This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003000830301357 **Route No:** 83	
Popular Name: Hoolapa Stream-Nanahu	
Feature Crossed: Hoolapa Stream	
Feature Carried: Kamehameha Highway	
Milepost: 13.57 mi. **Island:** Oahu	
Longitude: 157d-58m-40.51s **Latitude:** 21d-41m-35.38s	
Location: 1.04 Miles East of Kuilima Drive (Turtle Bay Hilton)	
Historic Name: Hoolapa Stream-Nanahu	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1931	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 22.0 ft.	**Total Length:** 25.9 ft.	**Deck Width:** 27.6 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Hoolapa Stream Bridge carries Kamehameha Highway across the Hoolapa Stream. This concrete tee beam bridge is in its original location but in poor condition. The bridge has concrete solid panel parapets with flat caps and end posts with the bridge name and the year of construction engraved. The single span concrete deck is supported by concrete abutments. The parapet cap and end posts have been painted white. Thrie beams were bolted to the end posts and covering the engraving. The simple design of the parapet retains its historic feeling.

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

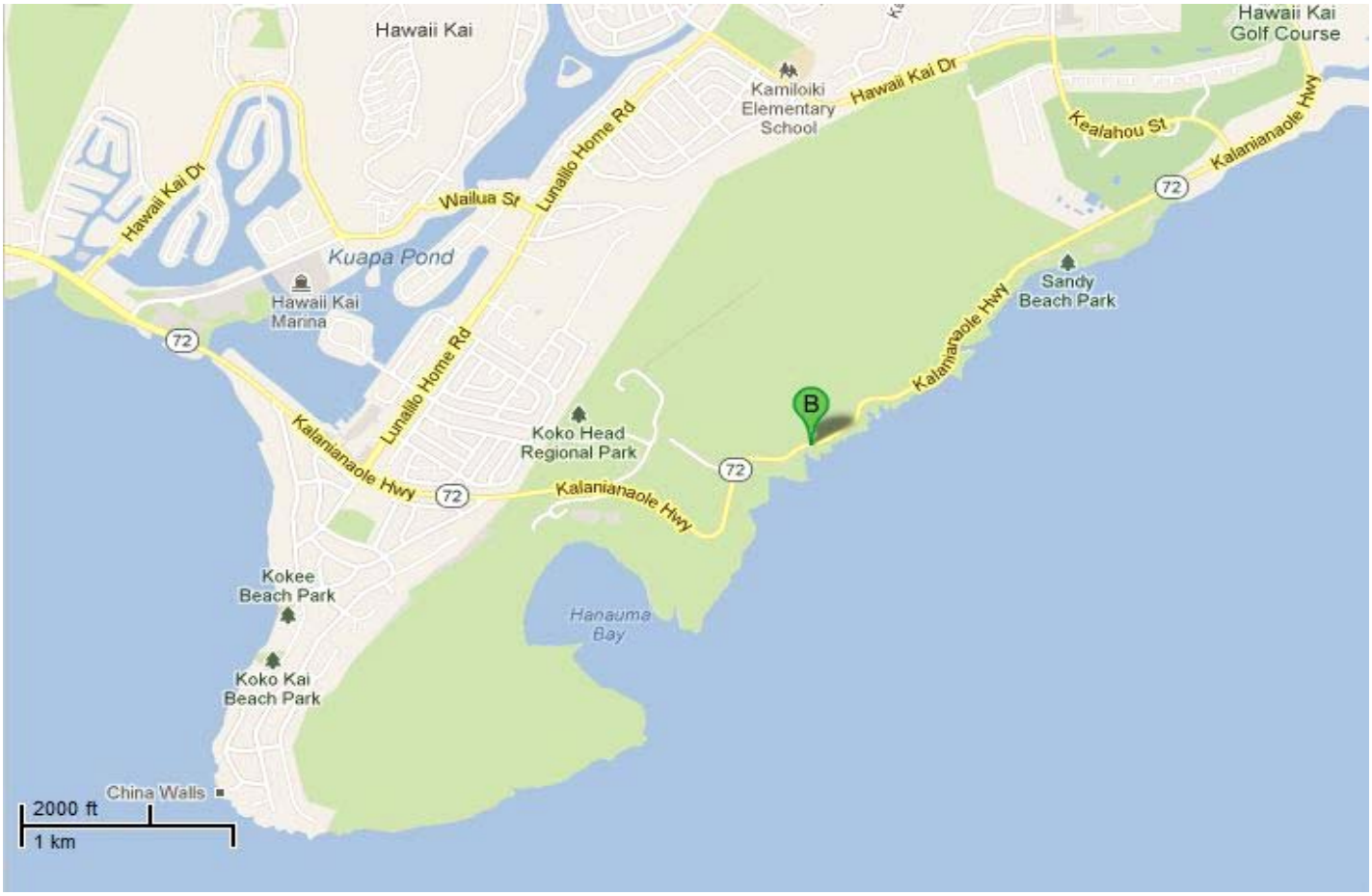
Inventory Form
(State)

General Information

Bridge Number: 003074001400274	**Route No:** 72
Popular Name: Ihiihilauakea Stream	
Feature Crossed: Ihiihilauakea Stream	
Feature Carried: Kalanianaole Highway	
Milepost: 11.66 mi.	**Island:** Oahu
Longitude: 157d-41m-02.53s	**Latitude:** 21d-16m-38.39s

Location: 0.59 Miles Southwest of Blow Hole Lookout
Historic Name: Ihiihilauakea Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Open Spandrel Arch	**Construction Date:** 2013	**Replaced?** Yes
Altered? Yes	**Alteration Date(s):** 2013	
Alteration Type(s):		
Alteration Description(s): The structure was repaired and encapsulated with externally bonded fiber reinforced polymer (FRP).		

Bridge Information

Number of Spans: 1	**Max Span:** 65.0 ft.	**Total Length:** 69.9 ft.	**Deck Width:** 29.9 ft.
Superstructure: Concrete Open Spandrel Arch			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Metal Thrie Beam			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering		

Narrative Description:

The Ihiihilauakea Stream Bridge carries Kalanianaole Highway across the Ihiihilauakea Stream. This open spandrel concrete arch is in its original location, is generally in good condition, and its materials remain intact. The bridge has thrie beam railings, the concrete deck is supported by masonry abutments and the workmanship of the structural arch has not been obscured. In 2013 the structure was repaired and encapsulated with externally bonded fiber reinforced polymer (FRP) for structural integrity.

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 a 1930's open spandrel concrete bridge in Oahu that is typical of its period in its use of materials, method of construction, craftsmanship, and design. Arch bridges are also an uncommon bridge type.

Inventory Form
(State)

General Information

Bridge Number: 003000830302903	**Route No:** 83
Popular Name: Kaaawa Stream	
Feature Crossed: Kaaawa Stream	
Feature Carried: Kamehameha Highway	
Milepost: 29.03 mi.	**Island:** Oahu
Longitude: 157d-50m-44.32s	**Latitude:** 21d-32m-40.17s

Location: 0.10 Miles Southeast of Pohuehue Road
Historic Name: Kaaawa Stream
Designer/Engineer:
Builder/Contractor:

Location Map:

Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1927	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1964	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1964.		

Bridge Information

Number of Spans: 7	**Max Span:** 18.0 ft.	**Total Length:** 126.0 ft.	**Deck Width:** 26.2 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Kaaawa Stream Bridge carries Kamehameha Highway across the Kaaawa Stream. This concrete slab bridge is in its original location, is generally in good condition, and its material remain intact. The bridge has concrete solid panel parapets with flat caps and end posts with the bridge name and the year of construction were engraved. The reinforced concrete slab deck is supported by the concrete abutments. Only the parapet caps and end posts have been painted white. A wood pedestrian walkway with metal horizontal railing was added to one side of the bridge in 1964. The new concrete solid panel parapets were extended to the end posts to secure the thrie beams approaches; therefore the workmanship of the bridge has not been obscured. The simple design of the parapet retains its historic feeling.

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 a 1920's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

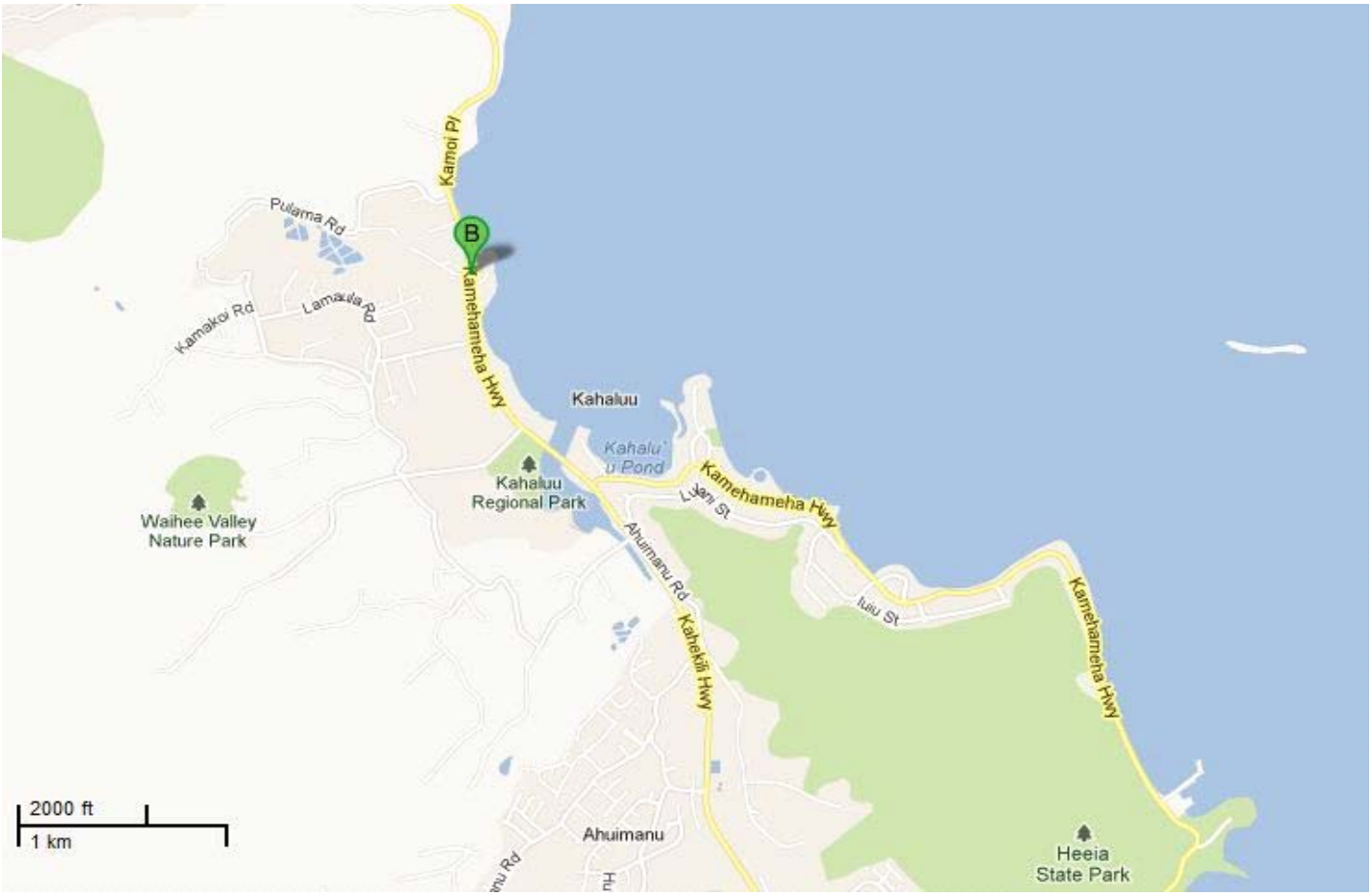
Inventory Form
(State)

General Information

Bridge Number: 003000830303575	**Route No:** 83
Popular Name: Kaalaea Stream	
Feature Crossed: Kaalaea Stream	
Feature Carried: Kamehameha Highway	
Milepost: 35.75 mi.	**Island:** Oahu
Longitude: 157d-50m-36.92s	**Latitude:** 21d-27m-59.34s

Location: 0.01 Miles South of Kaalaea Road
Historic Name: Kaalaea Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1923	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1974, 1992	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1974. Wood pedestrian bridge replaced in 1992.		

Bridge Information

Number of Spans: 2	**Max Span:** 19.0 ft.	**Total Length:** 41.0 ft.	**Deck Width:** 26.2 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Kaalaea Stream Bridge carries Kamehameha Highway across the Kaakaea Stream. This concrete slab bridge is in its original location but in poor condition. The bridge has concrete solid panel parapets with flat caps and end posts with the bridge name engraved. The reinforced concrete deck is supported by the concrete abutments. Wood pedestrian walkways with wood horizontal railings were added both sides of the bridge in 1974 and were replaced in 1992. Thrie beams were bolted to the end posts but the workmanship of the parapet has not been obscured. The simple design of the parapet retains its historic feeling.

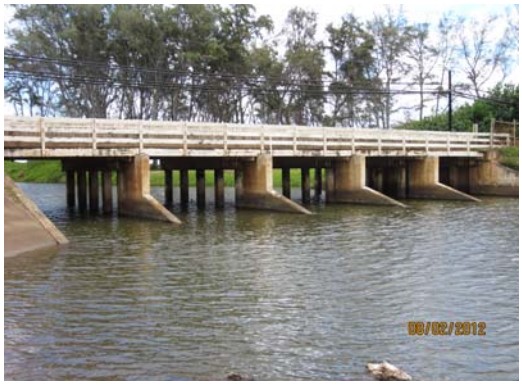
Significance Statement:

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 a 1920's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

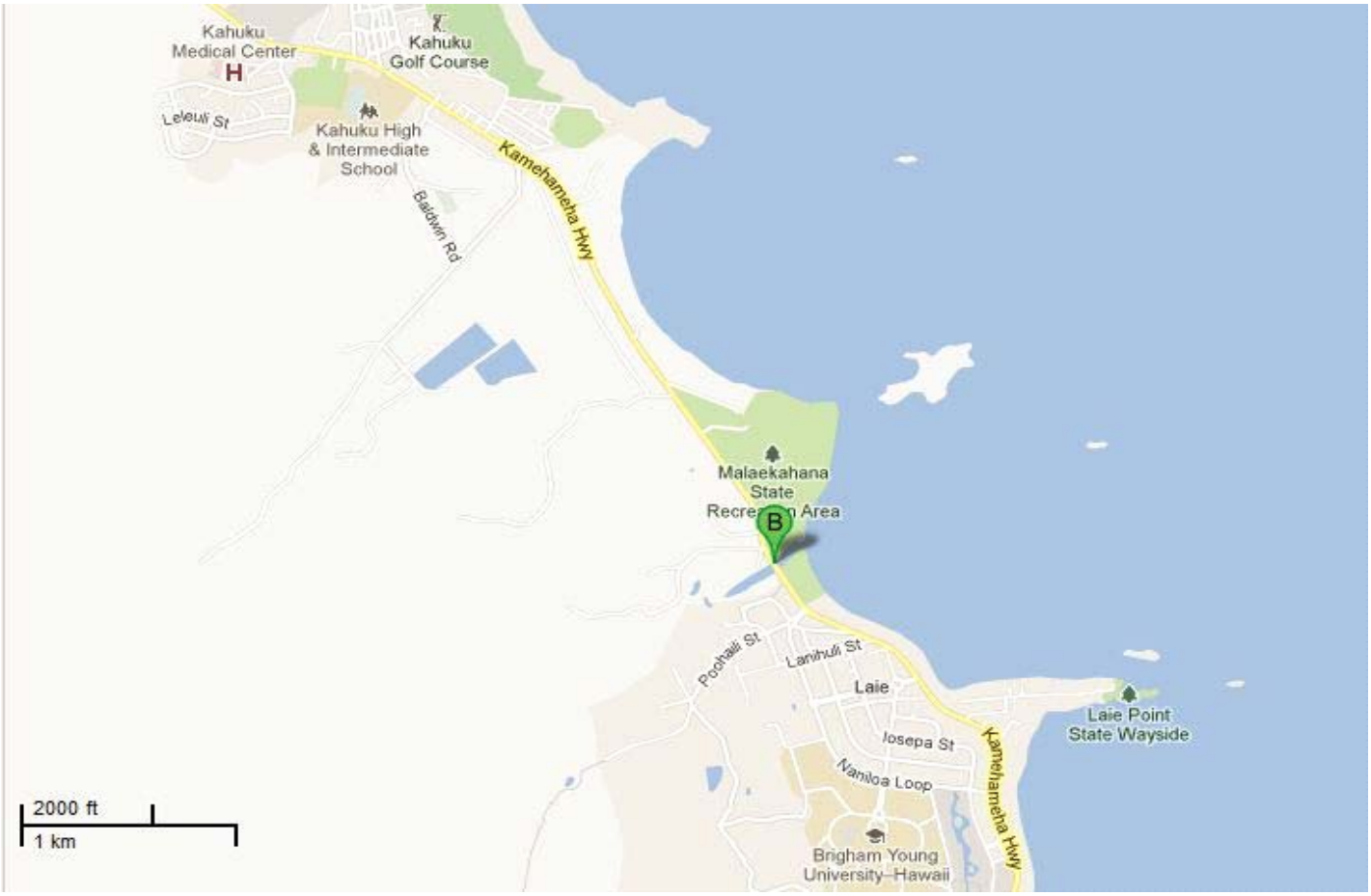
General Information

Bridge Number: 003000830301785	**Route No:** 83
Popular Name: Kahawainui Stream-Laiewai	
Feature Crossed: Kahawainui Sream	
Feature Carried: Kamehameha Highway	
Milepost: 17.85 mi.	**Island:** Oahu
Longitude: 157d-55m-47.68s	**Latitude:** 21d-39m-14.39s



Location: 0.17 Miles Northwest of Naniloa Loop
Historic Name: Kahawainui Stream-Laiewai
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1933	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1991	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1991.		

Bridge Information

Number of Spans: 5	**Max Span:** 18.0 ft.	**Total Length:** 90.9 ft.	**Deck Width:** 27.2 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Kahawainui Stream-Laiewai Bridge carries Kamehameha Highway across the Kahawainui Stream. This concrete slab bridge is in its original location but in poor condition. The bridge has concrete solid panel parapets with flat caps and curved end posts. The concrete deck is supported by concrete abutments. The parapet and end posts caps have been painted white. A wood pedestrian walkway with wood horizontal railings was added to one side of the bridge in 1991. Thrie beams were bolted to the end posts. The simple design of the parapet retains its historic feeling.

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

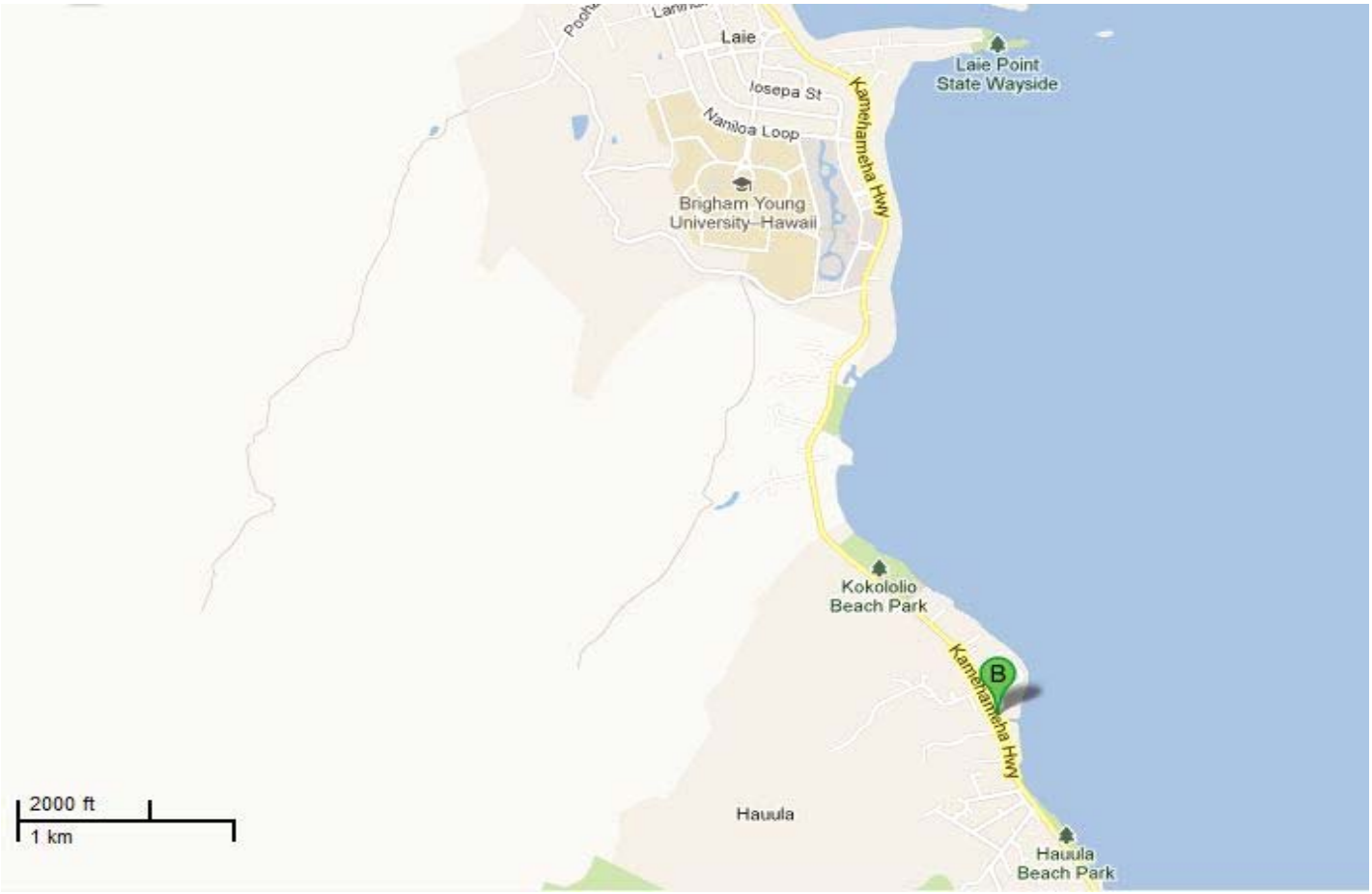
Inventory Form
(State)

General Information

Bridge Number: 003000830302099	**Route No:** 83
Popular Name: Kaipapau Stream	
Feature Crossed: Kaipapau Stream	
Feature Carried: Kamehameha Highway	
Milepost: 20.99 mi.	**Island:** Oahu
Longitude: 157d-54m-49.88s	**Latitude:** 21d-37m-01.72s

Location: 0.01 Miles Southeast of Pipilani Place
Historic Name: Kaipapau Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1932	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1964	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1964.		

Bridge Information

Number of Spans: 2	**Max Span:** 40.0 ft.	**Total Length:** 82.0 ft.	**Deck Width:** 28.5 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Kaipaupau Stream Bridge carries Kamehameha Highway across the Kaipaupau Stream. This long concrete tee beam bridge is in its original location but in poor condition. The bridge has concrete open arch parapets with tapered caps and curved wide end posts. The concrete deck is supported by concrete abutments. The parapet caps and end posts have been painted white. A wood pedestrian walkway with wood horizontal railings was added to one side of the bridge in 1964. Thrie beams were bolted to the end posts but the simple design of the parapet retains its historic feeling.

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

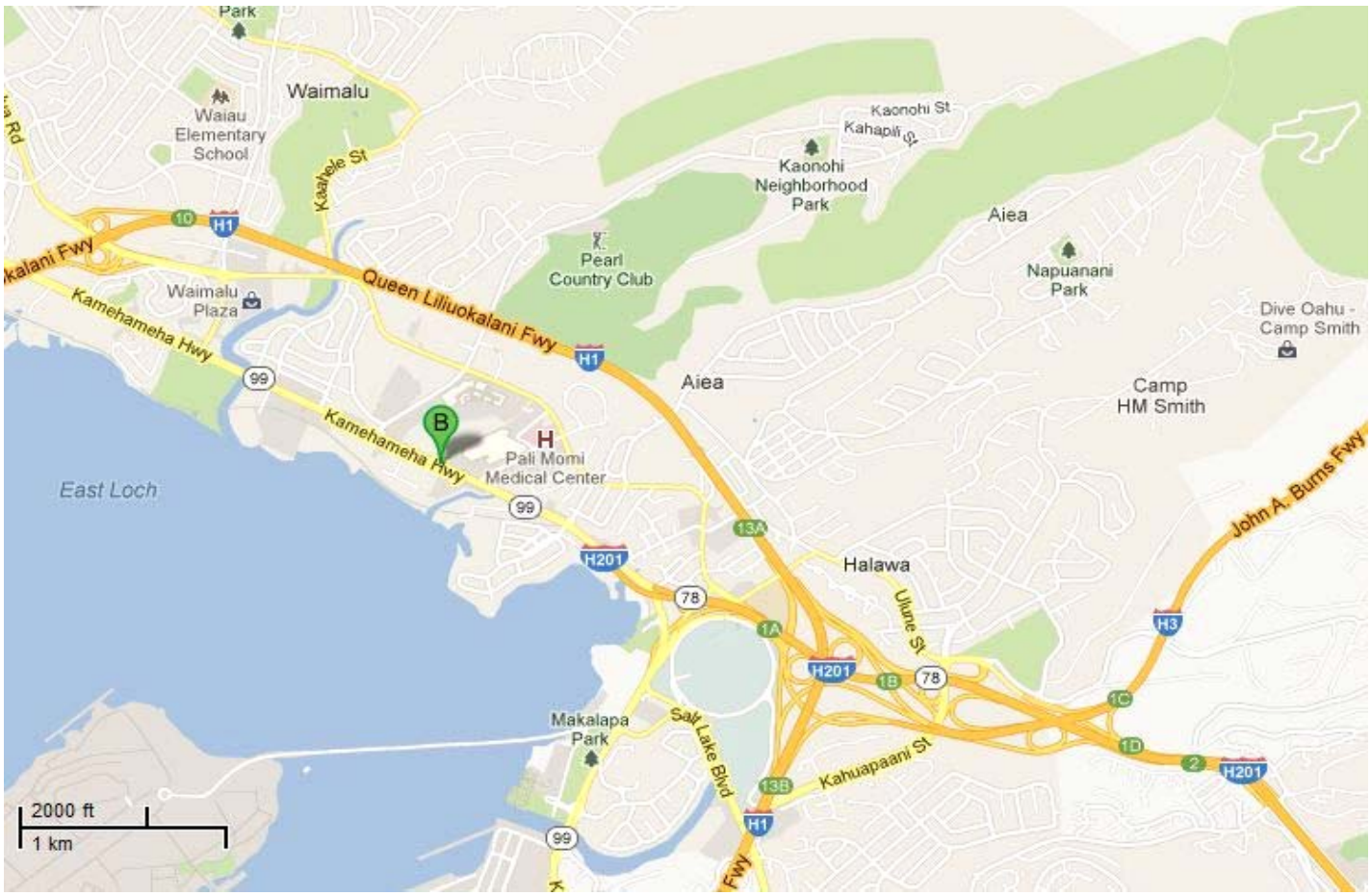
Inventory Form
(State)

General Information

Bridge Number: 003000990402053 **Route No:** 99	
Popular Name: Kalauao Springs (Eastbound)	
Feature Crossed: Kalauao Springs	
Feature Carried: Kamehameha Highway	
Milepost: 20.51 mi. **Island:** Oahu	
Longitude: 157d-56m-35.61s **Latitude:** 21d-22m-55.13s	

Location: 0.11 Miles East of Lipoa Place
Historic Name: Kalauao Springs (Eastbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1936	**Replaced?** No
Altered? Yes **Alteration Date(s):** 1966		
Alteration Type(s):		
Alteration Description(s): Bridge widened		

Bridge Information

Number of Spans: 1	**Max Span:** 43.0 ft.	**Total Length:** 44.9 ft.	**Deck Width:** 47.9 ft.
Superstructure: Prestressed Concrete I-Girder			
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:** A	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Community Development		

Narrative Description:

The Kalauao Spring (Eastbound) Bridge carries Kamehameha Highway across Kalauao Stream. This concrete girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete open Greek cross parapets with stepped caps and curved wide end posts on one side. The original construction year “1936” is engraved on one of the end posts. The other side of the parapet is replaced to the concrete and metal parapet due to the bridge widening in 1966. Bridge name and the widening year of “1966” are engraved on the end solid parapet but thrie beam was bolted over the engravings.

Significance Statement:

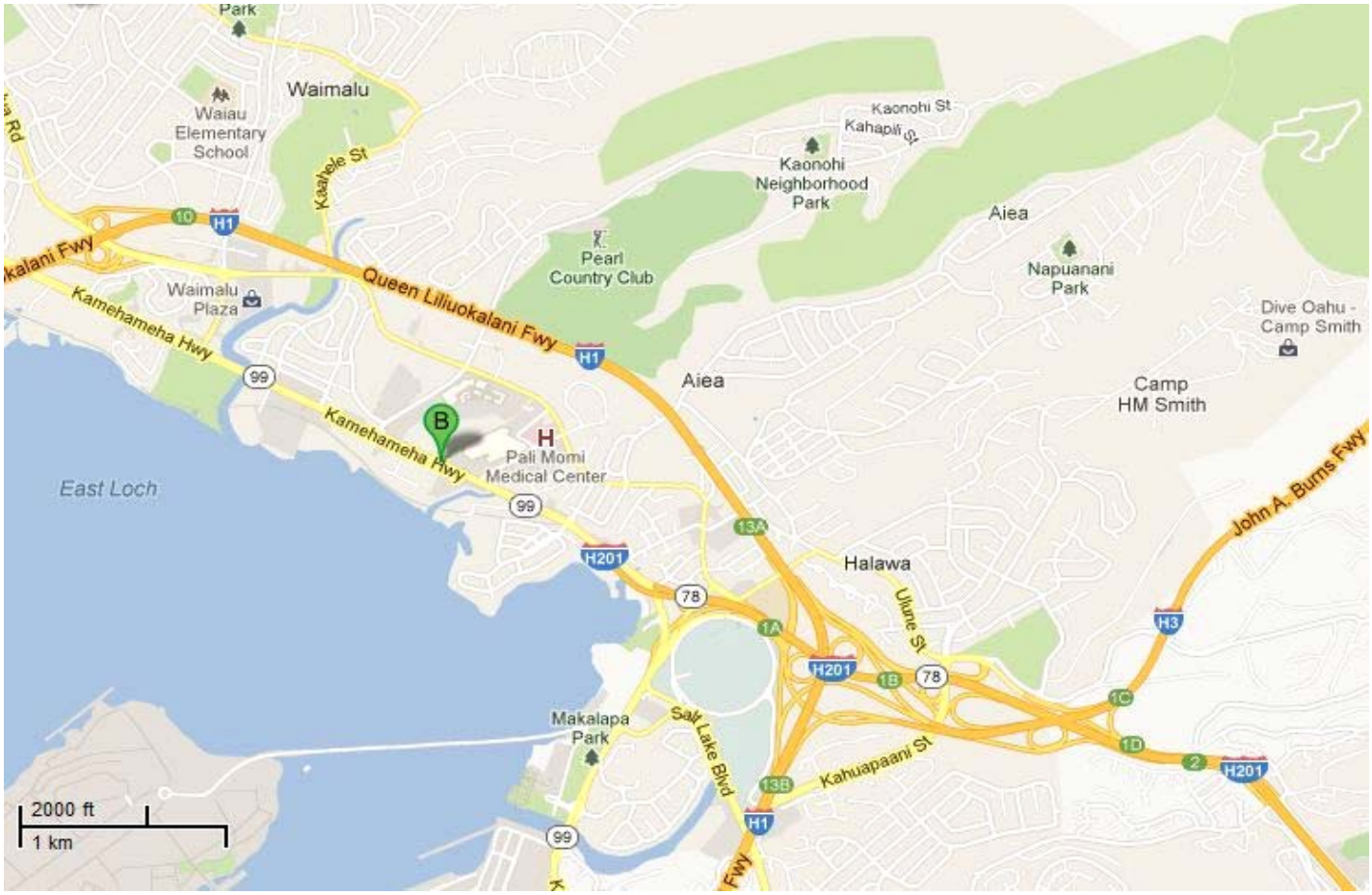
This bridge is eligible under Criterion A for its association with post-war developments of the community.

Inventory Form
(State)

General Information

Bridge Number: 003000990402054 **Route No:** 99	
Popular Name: Kalauao Springs (Westbound)	
Feature Crossed: Kalauao Springs	
Feature Carried: Kamehameha Highway	
Milepost: 20.52 mi. **Island:** Oahu	
Longitude: 157d-56m-35.34s **Latitude:** 21d-22m-55.58s	
Location: 0.11 Miles East of Lipoa Place	
Historic Name: Kalauao Springs (Westbound)	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1945	**Replaced?** No
Altered? Yes **Alteration Date(s):** 1966		
Alteration Type(s):		
Alteration Description(s): Bridge widened		

Bridge Information

Number of Spans: 2	**Max Span:** 26.9 ft.	**Total Length:** 54.1 ft.	**Deck Width:** 46.3 ft.
Superstructure: Prestressed Concrete I-Girder			
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:** A	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Community Development		

Narrative Description:

The Kalauao Spring (Westbound) Bridge carries Kamehameha Highway across Kalauao Stream. This concrete girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete open Greek cross parapets with stepped caps and curved wide end posts on one side. The other side of the parapet is replaced to the concrete and metal parapet due to the bridge widening in 1966. Bridge name and the widening year of “1966” are engraved on the end solid parapet.

Significance Statement:

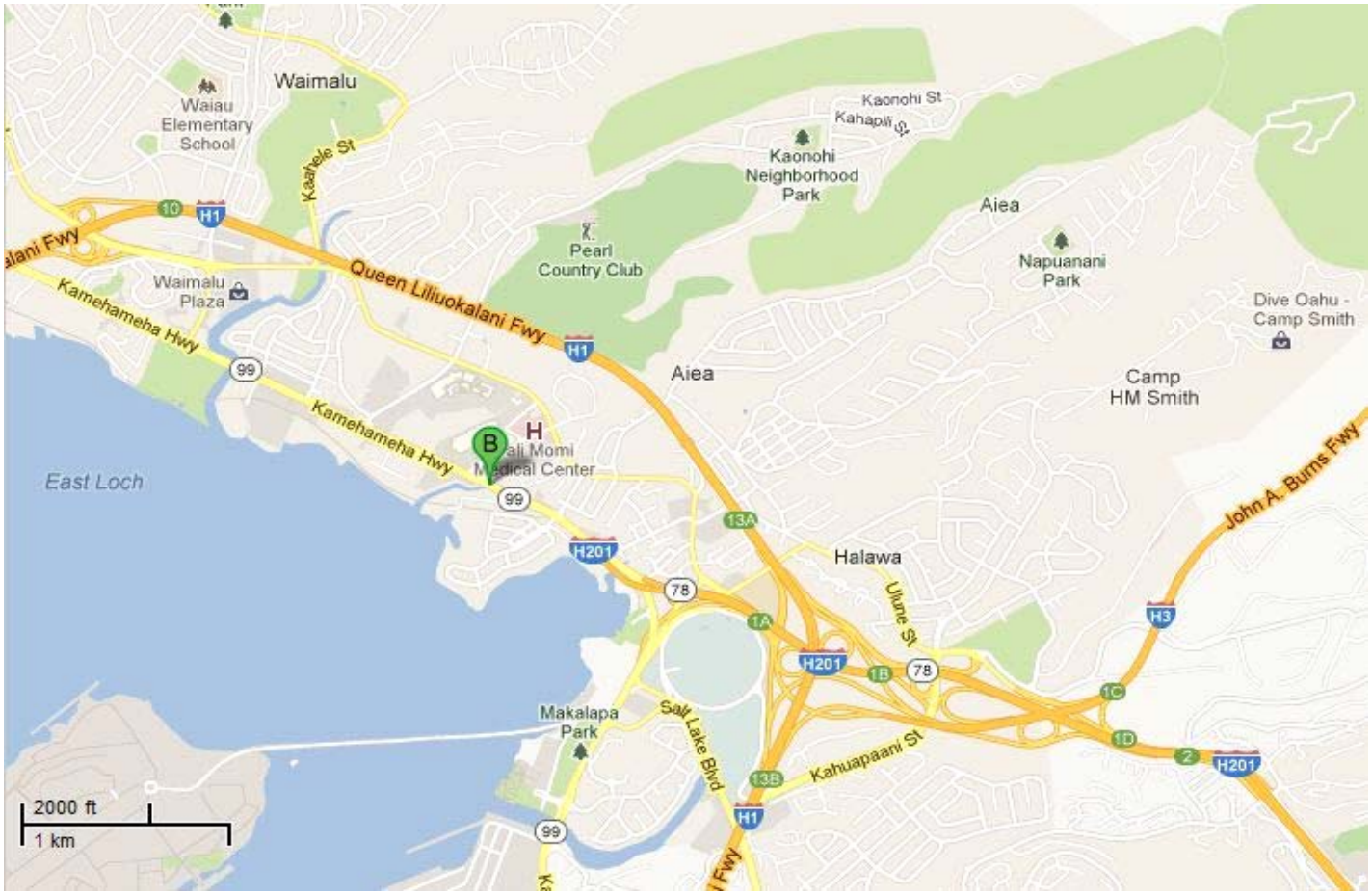
This bridge is eligible under Criterion A for its association with post-war developments of the community.

Inventory Form
(State)

General Information

Bridge Number: 003000990402074 **Route No:** 99	
Popular Name: Kalauao Stream (Eastbound)	
Feature Crossed: Kalauao Stream	
Feature Carried: Kamehameha Highway	
Milepost: 20.72 mi. **Island:** Oahu	
Longitude: 157d-56m-25.43s **Latitude:** 21d-22m-50.50s	
Location: 0.10 Miles West of Kihale Street	
Historic Name: Kalauao Stream (Eastbound)	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1936	**Replaced?** No
Altered? Yes **Alteration Date(s):** 1966		
Alteration Type(s):		
Alteration Description(s): Bridge widened		

Bridge Information

Number of Spans: 1	**Max Span:** 50.0 ft.	**Total Length:** 57.4 ft.	**Deck Width:** 48.1 ft.
Superstructure: Prestressed Concrete I-Girder			
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:** A	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Community Development		

Narrative Description:

The Kalauao Stream (Eastbound) Bridge carries Kamehameha Highway across Kalauao Stream. This concrete girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete open Greek cross parapets with stepped caps and curved wide end posts on one side. The original construction year “1936” is engraved on one of the end posts. The other side of the parapet is replaced to the concrete and metal parapet due to the bridge widening in 1966. Bridge name and the widening year “1966” is engraved on the end solid parapet. The thrie beam approaches were bolted at the end parapets.

Significance Statement:

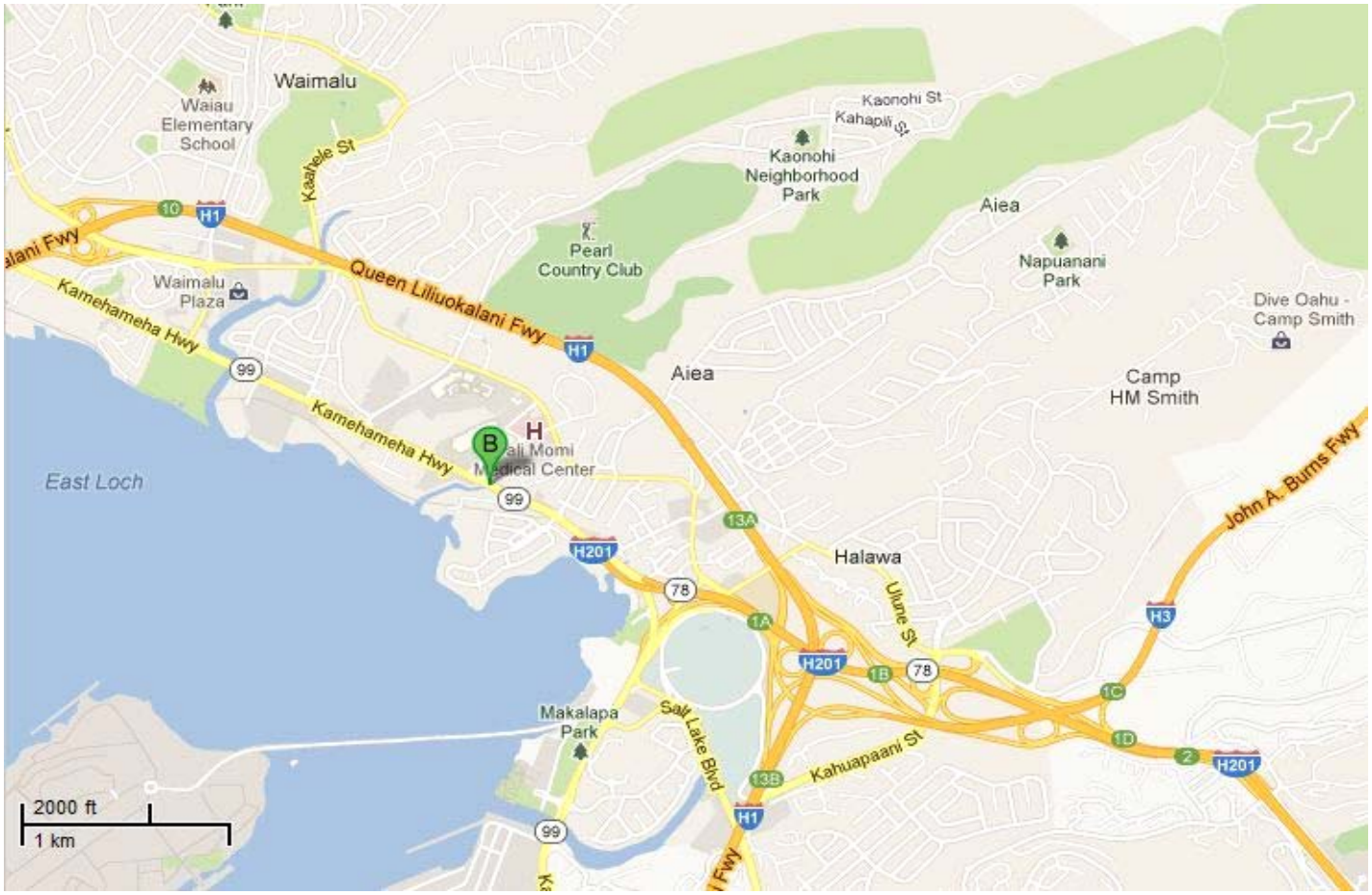
This bridge is eligible under Criterion A for its association with post-war developments of the community due to bridge widening in 1966.

Inventory Form
(State)

General Information

Bridge Number: 003000990402075 **Route No:** 99	
Popular Name: Kalauao Stream (Westbound)	
Feature Crossed: Kalauao Stream	
Feature Carried: Kamehameha Highway	
Milepost: 20.73 mi. **Island:** Oahu	
Longitude: 157d-56m-24.55s **Latitude:** 21d-22m-50.71s	
Location: 0.10 Miles West of Kihale Street	
Historic Name: Kalauao Stream (Westbound)	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1945	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1966	
Alteration Type(s):		
Alteration Description(s): Bridge widened		

Bridge Information

Number of Spans: 2	**Max Span:** 47.9 ft.	**Total Length:** 107.9 ft.	**Deck Width:** 46.3 ft.
Superstructure: Prestressed Concrete I-Girder			
Substructure: Concrete Abutment Wall and Concrete Multi-Column Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Greek Cross			
Setting:			
Other Features:			

Historic Association

Eligibility Status: Eligible	**Criteria:** A	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Community Development		

Narrative Description:

The Kalauao Stream (Westbound) Bridge carries Kamehameha Highway across Kalauao Stream. This concrete girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete open Greek cross parapets with stepped caps and curved wide end posts on one side. The thrie beam approaches were bolted to the end posts. The other side of the parapet is replaced to the concrete and metal parapet due to the bridge widening in 1966. Bridge name and the widening year “1966” is engraved on the end solid parapet.

Significance Statement:

This bridge is eligible under Criterion A for its association with post-war developments of the community.

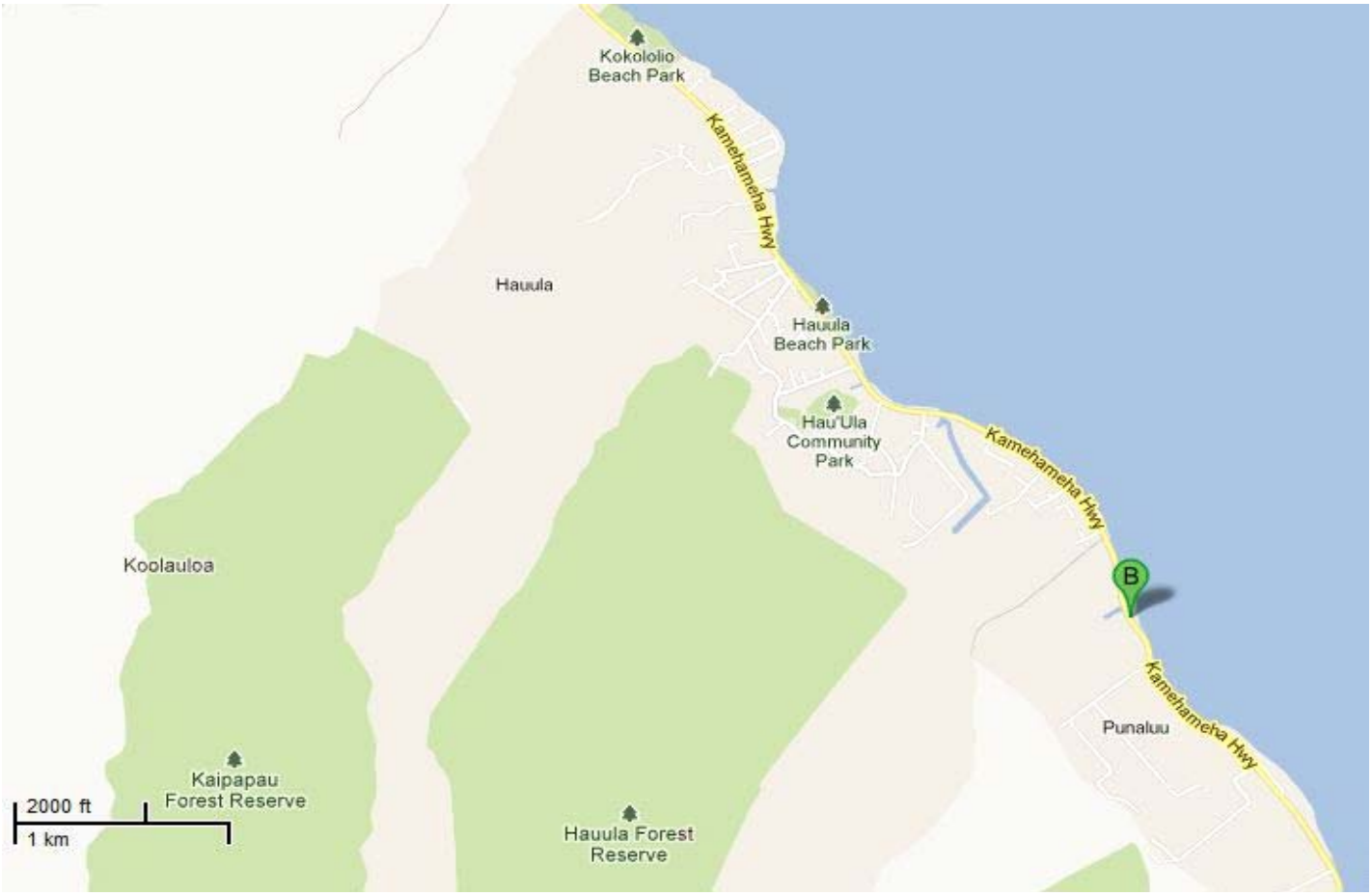
Inventory Form
(State)

General Information

Bridge Number: 003000830302282	**Route No:** 83
Popular Name: Kaluanui Stream	
Feature Crossed: Kaluanui Stream	
Feature Carried: Kamehameha Highway	
Milepost: 22.82 mi.	**Island:** Oahu
Longitude: 157d-53m-49.30s	**Latitude:** 21d-35m-52.74s

Location: 0.25 Miles Southeast of Sacred Falls Road
Historic Name: Kaluanui Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1926	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 7	**Max Span:** 18.0 ft.	**Total Length:** 126.0 ft.	**Deck Width:** 26.2 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Kaluanui Stream Bridge carries Kamehameha Highway across the Kaluanui Stream. This reinforced concrete tee beam is in its original location but in poor condition. The bridge has concrete solid panel parapets with flat caps and end posts. The reinforced concrete deck with gunnite sprayed at the bottom is supported by the concrete abutments. Only the parapet caps have been painted white. The large utility pipe was added on the upstream side of the parapet. Thrie beams were bolted to the end posts but the simple design of the parapet retains its historic feeling.

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 a 1920's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003000800300071 **Route No:** 80

Popular Name: Kaukonahua Bridge-Karsten Thot

Feature Crossed: Wahiawa Reservoir

Feature Carried: Kamehameha Highway

Milepost: 0.67 mi. **Island:** Oahu

Longitude: 158d-01m-46.08s **Latitude:** 21d-30m-03.16s

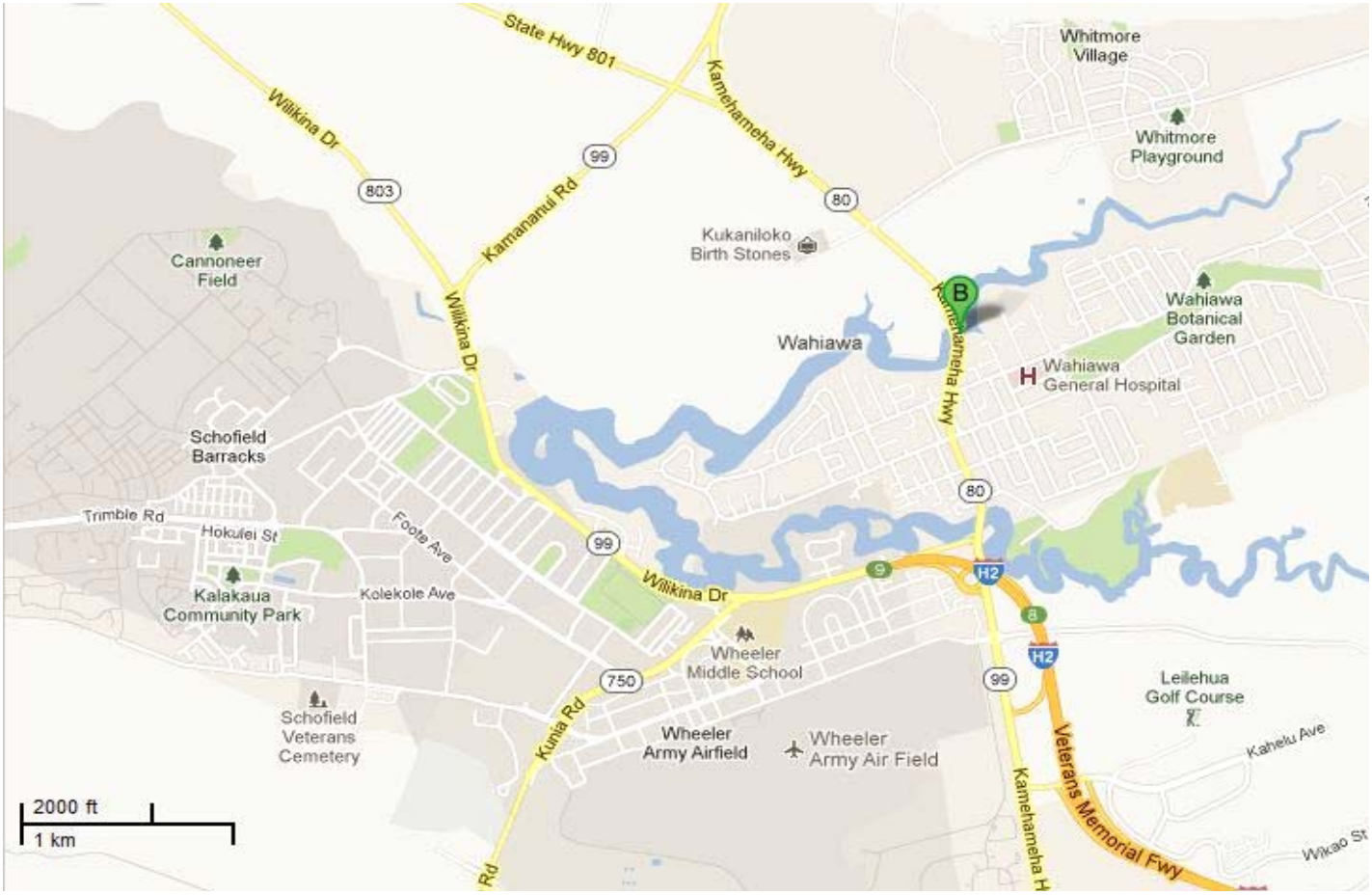
Location: 0.18 Miles North of Kilani Avenue

Historic Name: Kaukonahua Bridge-Karsten Thot

Designer/Engineer: G. K. Dawson

Builder/Contractor: J. L. Young Engineering

Location Map:



Construction Information

Bridge Type: Steel Truss	**Construction Date:** 1932	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 210.0 ft.	**Total Length:** 213.9 ft.	**Deck Width:** 40.0 ft.
Superstructure: Steel Through Truss			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Metal Horizontal			
Setting:			
Other Features: Walkways on both sides; commemorative plaques			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, B, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Transportation,Social, Engineering		

Narrative Description:

The Karsten Thot Bridge, located outside the rural community of Wahiawa on the central Oahu plain, carries Kamehameha Highway across the North Fork of Kaukonahua Stream. The structure is a steel through-deck Warren truss; one of only three metal trusses in the islands and the only bridge of its type on Oahu.

The Karsten Thot Bridge remains in its original location. The bridge's setting has retained its rural character, however, Kamehameha Highway - once the primary circum-island road - was bypassed by the construction of the H-2 Interstate in the 1960s. The bridge's original Warren truss design and riveted steel materials remain intact, with no major alterations. In January 1996, the bridge was cleaned and repainted and some of the steel cross braces were repaired. The bridge's historic associations, as an important civic structure associated with Mr. Karsten Thot and the development of Wahiawa, is readily apparent due to the commemorative plaques located on the bridge. The bridge retains its historic feeling due to its rural location, narrow width, and now uncommon construction type.

Significance Statement:

The Karsten Thot Bridge is significant for its contributions to the areas of engineering and transportation in Hawaii. The 1932 bridge is an excellent example of a late-period steel through-deck Warren truss. The Karsten Thot Bridge is eligible under Criterion A for its associations with public works efforts by the City and County of Honolulu during the Territorial period in Hawaii, and for its contributions to the economic development of central Oahu by providing reliable vehicular access from Honolulu to the north shore of the island. It is eligible under Criterion B for its association with Karsten Thot, a prominent Wahiawa citizen, for whom the bridge was renamed. The bridge is also eligible under Criterion C as a rare remaining example of this once common bridge type. The use of steel was uncommon in Hawaii due to the extreme marine environment. Since very little steel is used for bridge construction in Hawaii, this bridge is eligible under Criterion C for its distinctive structural type. The bridge is one of three metal truss bridges remaining in the state; others include the 1898 Opaekaa Stream Bridge and the 1912 Hanalei Bridge (replaced "in-kind" in 2003), both located on Kauai.

The bridge was an important transportation link for the central Oahu region, and contributed to the growth of Wahiawa. Kamehameha Highway was the major artery between Honolulu and the rural communities on the north shore until the H-2 Interstate was built in the 1960s. The Karsten Thot Bridge was constructed at a major crossing, the North Fork of the Kaukonahua Stream, north of Wahiawa, a sugar plantation town in central Oahu. The bridge is named after Karsten Thot, a supervisor for the Hawaiian Pineapple Company, who was very active in community affairs. Mr. Thot was born in Schleswig-Holstein, Germany on 12 February 1889 and moved to Hawaii in 1904. Upon his death in 1932, the Honolulu Board of Supervisors voted to name the new bridge after him. In 1974, a memorial plaque was finally placed on the bridge by the family.

The Karsten Thot Bridge is the only steel truss erected in Hawaii during the Depression-era. The construction was authorized by the City and County of Honolulu, despite the Territorial Highway Department's policy against the use of metal bridges due to salt water corrosion problems. The Kaukonahua Stream required a relatively long span (210 feet), consequently steel must have been selected over concrete for cost considerations. The bridge was built by the John L. Young Construction and Engineering Company. The company merged with another construction company and upon completion of the bridge called itself the Hawaiian-American Construction Co. The designer was, G. K. Dawson, an engineer with the City and County of Honolulu.

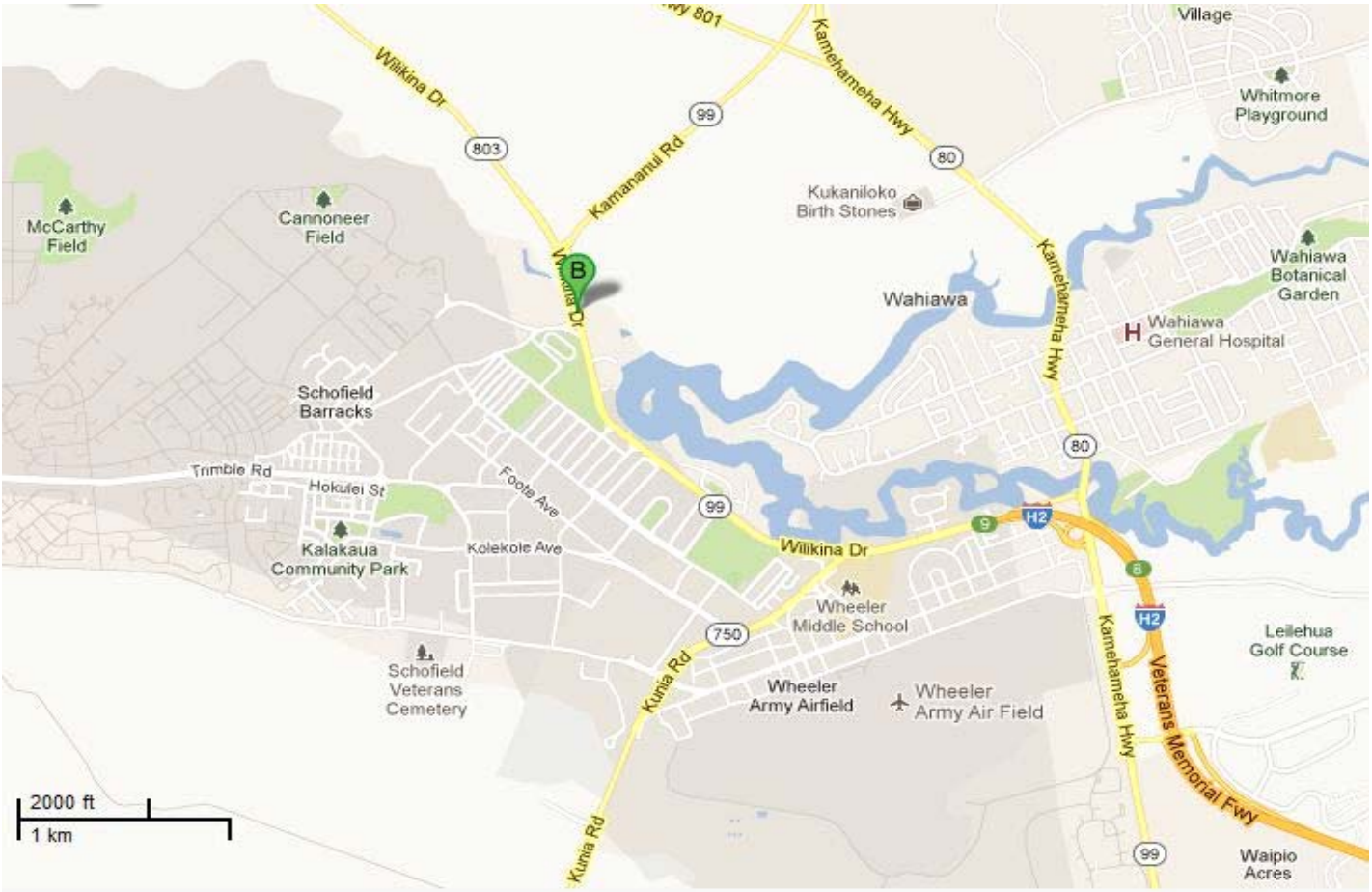
Inventory Form
(State)

General Information

Bridge Number: 003000990300787	**Route No:** 99
Popular Name: Kaukonahua Stream	
Feature Crossed: Kaukonahua Stream	
Feature Carried: Wilikina Drive	
Milepost: 7.87 mi.	**Island:** Oahu
Longitude: 158d-03m-06.83s	**Latitude:** 21d-30m-01.36s

Location: 0.06 Miles North of McNair Gate
Historic Name: Kaukonahua Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1944	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 3	**Max Span:** 89.9 ft.	**Total Length:** 233.9 ft.	**Deck Width:** 34.1 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Multi-Column Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Greek Cross			
Setting:			
Other Features: Walkway each side			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Transportation, Engineering		

Narrative Description:

The Kaukonahua Stream Bridge was built in 1944, to carry Wilikina Drive over the South Fork of Kaukonahua Stream in Wahiawa just past historic Kemoo Farm. The bridge is in its original location near the McNair Gate of Schofield Barracks. The area has retained its original rural setting in a wooded section on the outskirts of Wahiawa Town, adjacent to agricultural land. The bridge's continuous concrete tee-beam construction and reinforced concrete trestles remain intact. The tee beam engineering eliminated the need for expansion joints on the deck. Despite minor damage, and the addition of removable flared guardrails at the end piers, the bridge's original workmanship remains evident. The guard railings are composed of reinforced concrete "Greek-cross" balustrade that was typical of the era. Interpretation of the bridge is aided by the name and date inscribed on the interior of the end piers.

Significance Statement:

Because ample equipment held by the U.S. Army and Navy were available in the Territory of Hawaii for several years after World War II, every effort was made to obtain needed materials and equipment for local public works projects. The projects were carefully planned not only to tie in with private employment, but to provide employment to the extent necessary to pick up the slack in unemployment that may exist at any particular time. Each county was tasked with proposing specific public works projects for their county including need for project, sketches, estimated cost and estimated man hours required to complete each project. The proposals were submitted to the Department of Postwar Planning to be compiled into a statewide report and priority list.

The Kaukonahua Stream Bridge is a typical example of a project that benefited from the Postwar Planning Division of the Department of Public Works. As a Federal Aid Project during the buildup of the National Defense program, the first Kaukonahua timber trestle bridge was constructed in 1940 to connect Schofield Barracks to the Dillingham Air Field in Mokuleia (via Farrington Hwy). In 1944, as part of the Post War Planning the obsolete timber bridge was upgraded to the existing concrete tee structure.

The surrounding rural environment has remained intact and the bridge continues to provide a vital connection between central Oahu and the North Shore.

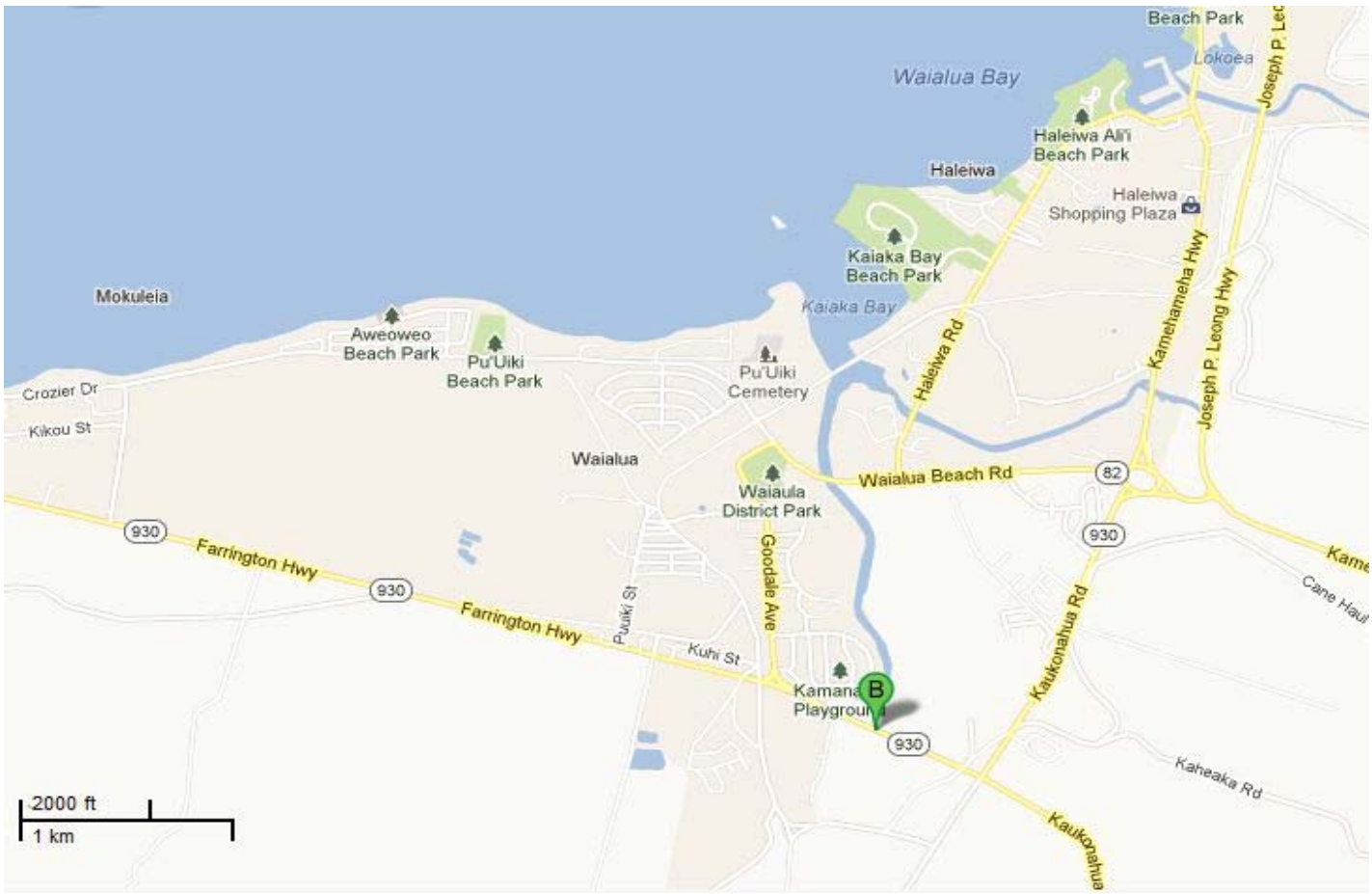
Inventory Form
(State)

General Information

Bridge Number: 003009300501748	**Route No:** 930
Popular Name: Kaukonahua Stream	
Feature Crossed: Kaukonahua Stream	
Feature Carried: Farrington Highway	
Milepost: 6.15 mi.	**Island:** Oahu
Longitude: 158d-07m-13.08s	**Latitude:** 21d-33m-54.98s

Location: 0.02 Miles East of Naluahi Street
Historic Name: Kaukonahua Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



003009300501748 Kaukonahua Stream

Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1940	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 2	**Max Span:** 54.1 ft.	**Total Length:** 148.0 ft.	**Deck Width:** 37.4 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
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:

The Kaukonahua Stream Bridge carries Farrington Highway across the Kaukonahua Stream. This reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete open Greek cross parapets with stepped caps and wide solid stepped profile end posts. Solid concrete parapets and thrie beam additions extend from all of the bridge's end posts as part of Farrington Highway. One of the bridge's end posts has the bridge name engraved upon it. The concrete deck is supported by concrete piers and abutments. Only the stepped caps and end posts have been painted white. The workmanship of the bridge has not been obscured.

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 a 1930's reinforced concrete tee beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003063001400065 **Route No:** 65

Popular Name: Kawa Stream

Feature Crossed: Kawa Stream

Feature Carried: Kaneohe Bay Drive

Milepost: 0.65 mi. **Island:** Oahu

Longitude: 157d-47m-25.50s **Latitude:** 21d-24m-20.92s

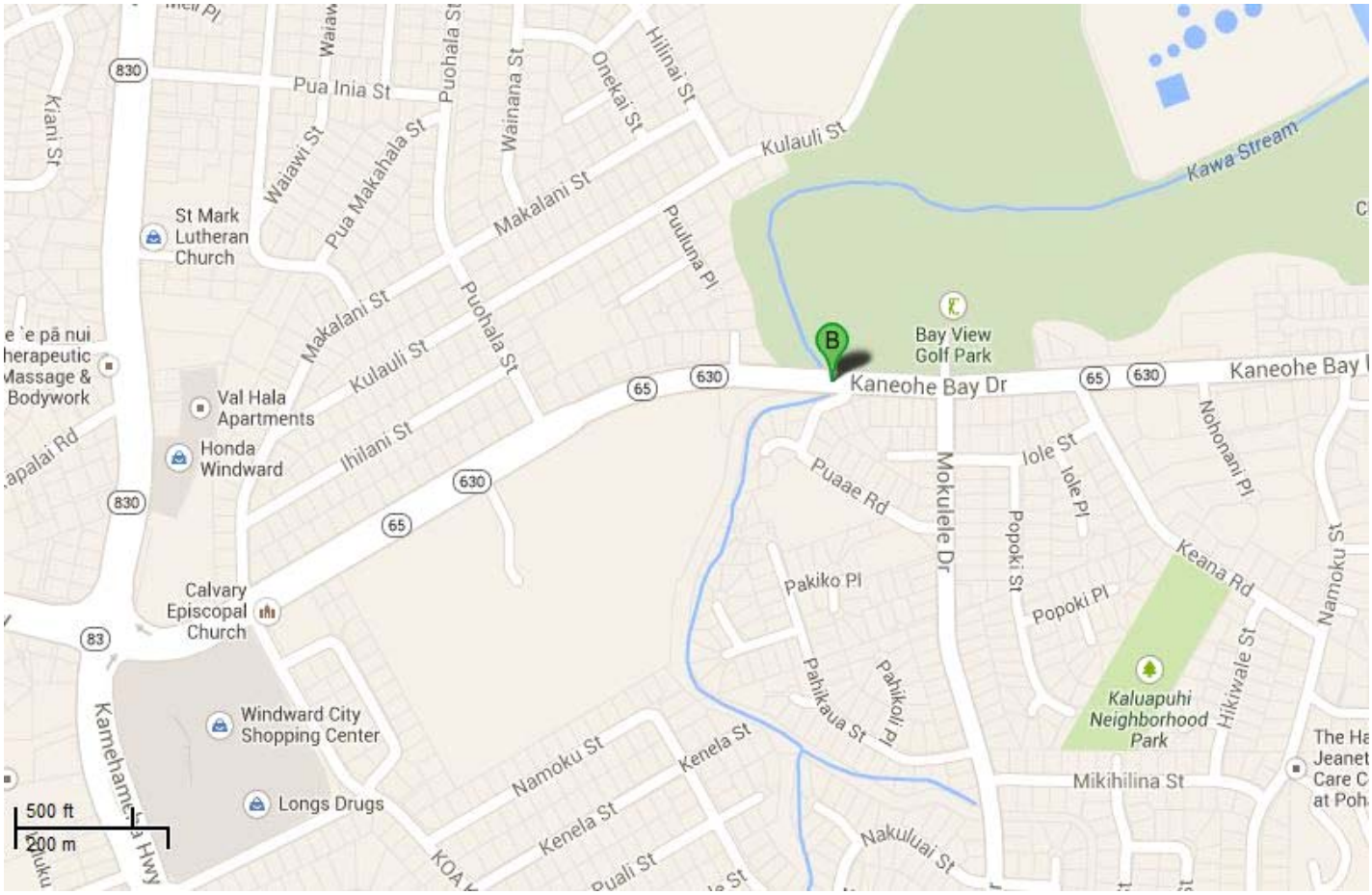
Location: 0.01 Miles West of Puaae Road

Historic Name: Kawa Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



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:** 20.0 ft.	**Total Length:** 23.0 ft.	**Deck Width:** 50.2 ft.
Superstructure: Concrete Tee Beam			
Substructure: Masonry Abutment			
Floor/Decking: AC Pavement			
Parapets/Railings: Masonry Rock			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering		

Narrative Description:

The Kawa Stream Bridge carries Kaneohe Bay Drive across the Kawa Stream. This concrete masonry bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has masonry parapets, concrete deck is supported by masonry abutments. The parapet cap and end posts have been painted white. Thrie beams were placed in front of the masonry parapets. The workmanship of the bridge has not been obscured and the simple design of the parapet retains its historic feeling.

Significance Statement:

The bridge is eligible under Criterion C for its association with early developments in concrete masonry bridge construction in Hawaii. It is a good example of a 1930's masonry structure bridge that is typical of its period in its use of materials, method of construction, and craftsmanship. The design of the bridge has a high artistic value.

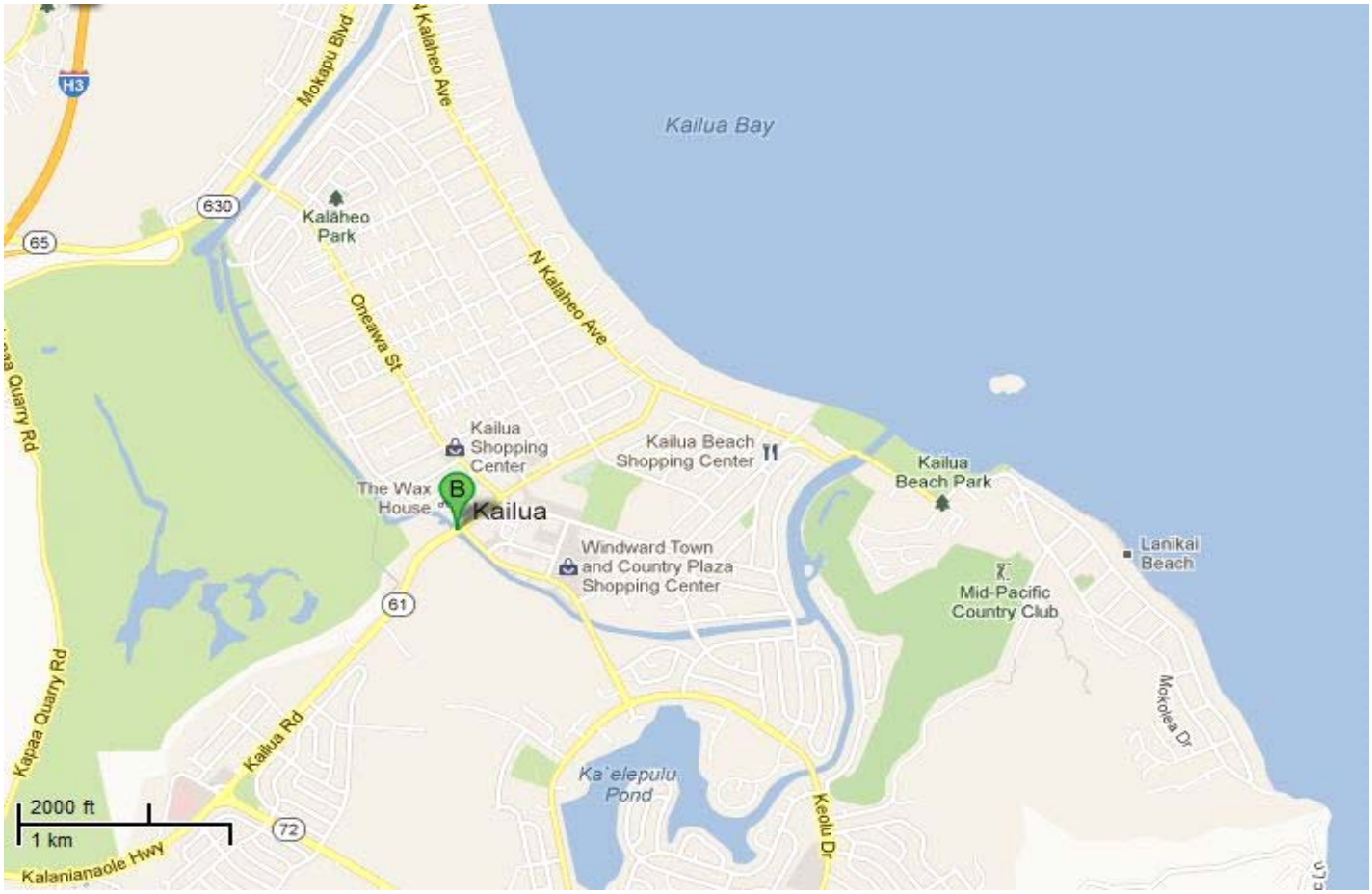
Inventory Form
(State)

General Information

Bridge Number: 003000610401061	**Route No:** 61
Popular Name: Kawainui Stream (Inbound)	
Feature Crossed: Kawainui Stream	
Feature Carried: Kailua Road	
Milepost: 10.61 mi.	**Island:** Oahu
Longitude: 157d-44m-43.80s	**Latitude:** 21d-23m-35.11s

Location: 0.70 Miles East of Ulumanu Drive
Historic Name: Kawainui Stream (Inbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1940	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 3	**Max Span:** 18.0 ft.	**Total Length:** 57.1 ft.	**Deck Width:** 30.2 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Greek Cross			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering, Community Planning and Development		

Narrative Description:

The Kawainui Stream (Inbound) Bridge carries Kailua Road across the Kawainui Stream. This reinforced concrete bridge is in its original location but in poor condition. The bridge has concrete open Greek cross parapets with stepped caps and curved wide solid stepped profile end posts. The concrete deck is supported by concrete piers and masonry abutments. A solid concrete parapet addition extends from one of the bridge's end posts as part of Kailua Road. Unlike many other bridges that have gone through alterations, thrie beams are not attached to the post ends therefore the workmanship of the bridge has not been obscured.

Significance Statement:

The bridge is eligible under Criterion A for its association of the development of Kailua community. It is also eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of a 1940's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003000610401060 **Route No:** 61

Popular Name: Kawainui Stream (Outbound)

Feature Crossed: Kawainui Stream

Feature Carried: Kailua Road

Milepost: 10.60 mi. **Island:** Oahu

Longitude: 157d-44m-43.46s **Latitude:** 21d-23m-34.75s

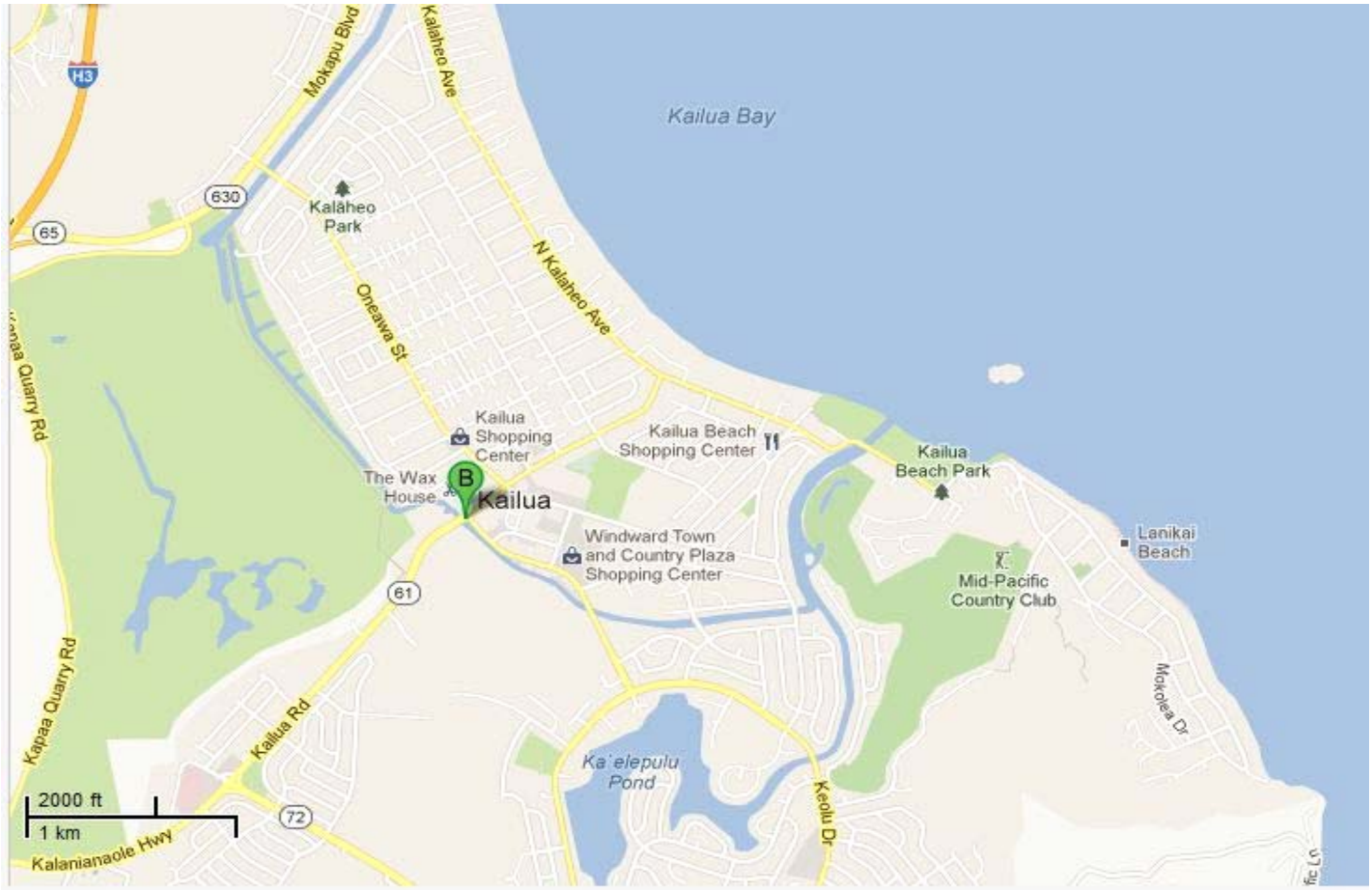
Location: 0.70 Miles East of Ulumanu Drive

Historic Name: Kawainui Stream (Outbound)

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1940	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 3	**Max Span:** 17.1 ft.	**Total Length:** 54.1 ft.	**Deck Width:** 30.8 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Greek Cross			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering, Community Planning and Development		

Narrative Description:

The Kawainui Stream (Outbound) Bridge carries Kailua Road across the Kawainui Stream. This reinforced concrete bridge is in its original location but in poor condition. The bridge has concrete open Greek cross parapets with stepped caps and curved wide solid stepped profile end posts. The concrete deck is supported by concrete piers and masonry abutments. A solid concrete parapet addition extends from one of the bridge's end posts as part of Kailua Road. Unlike many other bridges that have gone through alterations, thrie beams are not attached to the post ends therefore the workmanship of the bridge has not been obscured.

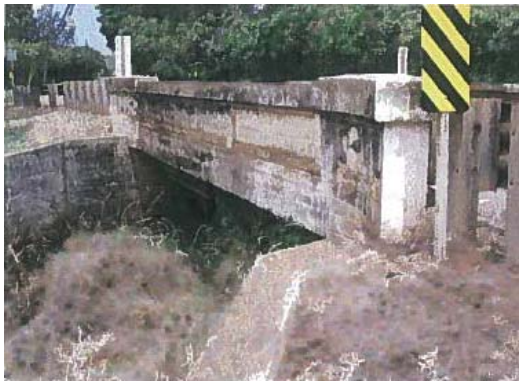
Significance Statement:

The bridge is eligible under Criterion A for its association of the development of Kailua community. It is also eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of a 1940's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

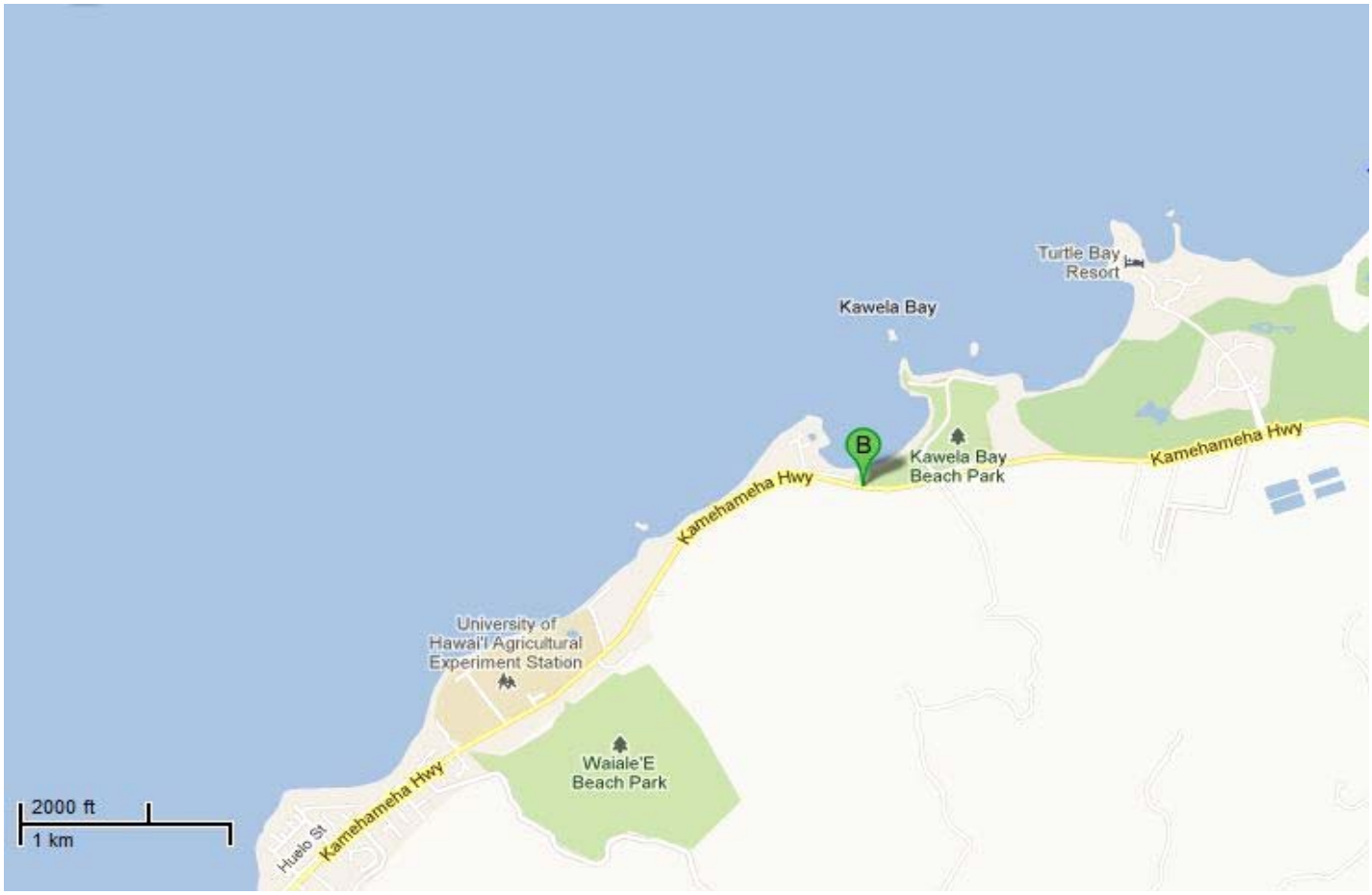
General Information

Bridge Number: 003000830301140	**Route No:** 83
Popular Name: Kawela Stream	
Feature Crossed: Kawela Stream	
Feature Carried: Kamehameha Highway	
Milepost: 11.40 mi.	**Island:** Oahu
Longitude: 158d-00m-34.86s	**Latitude:** 21d-41m-41.92s



Location: 0.13 Miles West of Kawela Camp Road
Historic Name: Kawela Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1931	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 22.0 ft.	**Total Length:** 24.7 ft.	**Deck Width:** 27.5 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Kawela Stream Bridge carries Kamehameha Highway across the Kawela Stream. This concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete solid panel parapets with flat caps and end posts with the bridge name and the year of construction engraved. The single span concrete deck is supported by concrete abutments. The parapet cap and end posts have been painted white. Thrie beams were bolted to the end posts and covering the engraving. The simple design of the parapet retains its historic feeling.

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

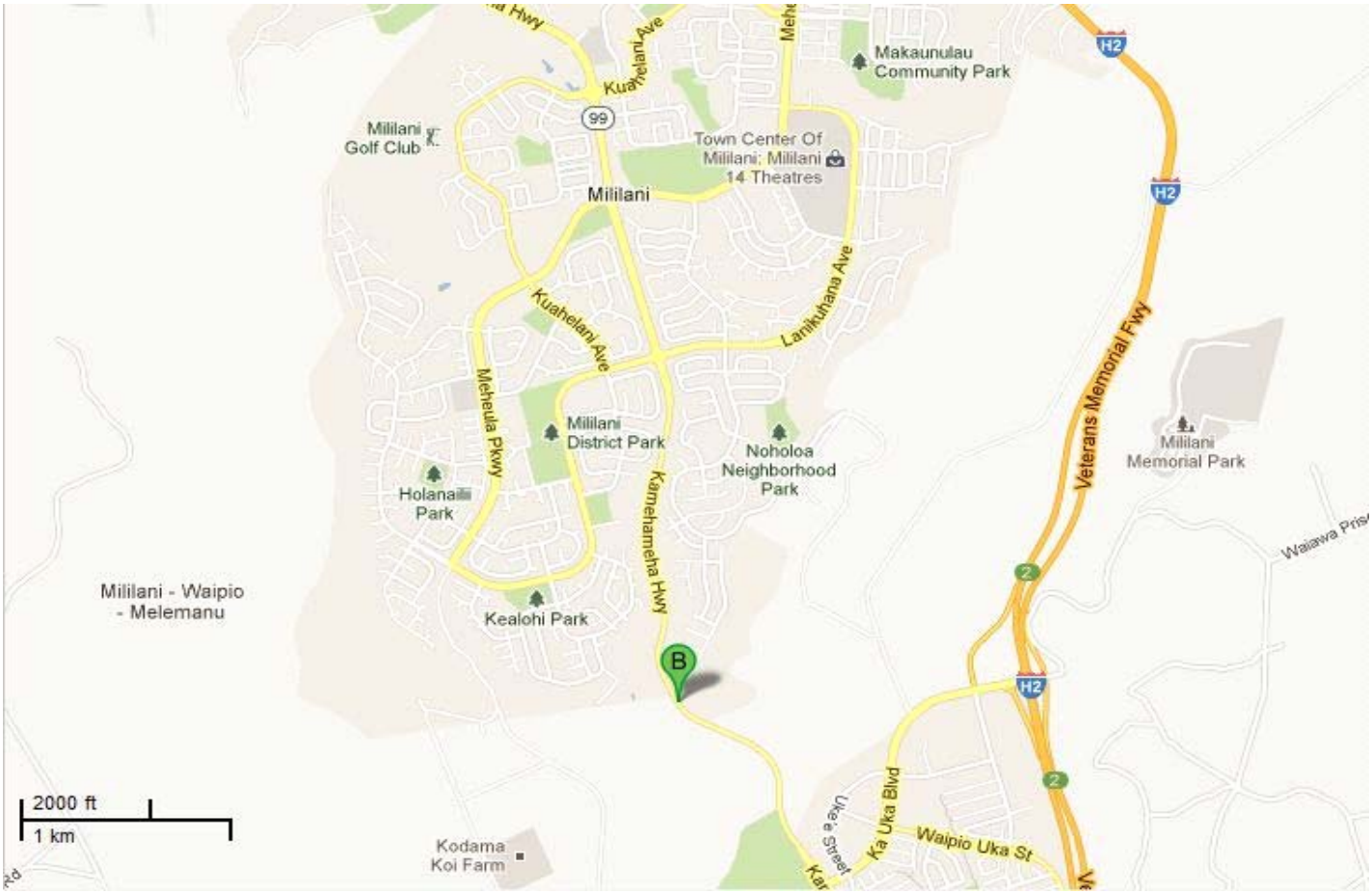
Inventory Form
(State)

General Information

Bridge Number: 003000990301447	**Route No:** 99
Popular Name: Kipapa Stream	
Feature Crossed: Kipapa Stream	
Feature Carried: Kamehameha Highway	
Milepost: 14.46 mi.	**Island:** Oahu
Longitude: 158d-00m-41.20s	**Latitude:** 21d-25m-37.25s

Location: 0.03 Miles South of Ka Uka Boulevard
Historic Name: Kipapa Stream
Designer/Engineer: William R. Bartels
Builder/Contractor: Hawaiian Contracting Co.

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1933	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 16	**Max Span:** 42.0 ft.	**Total Length:** 483.9 ft.	**Deck Width:** 33.1 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Double Column Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
Setting:			
Other Features: Bridge name and date of construction incised on end piers; high stepped end piers.			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Transportation, Engineering		

Narrative Description:

The Kipapa Bridge carries Kamehameha Highway across Kipapa Gulch in central Oahu. The bridge is a reinforced concrete continuous tee beam structure built on reinforced concrete trestles. Although commonly known as the Kipapa Bridge, the 1933 structure was originally named the Franklin Delano Roosevelt (or F.D.R.) Bridge.

The Kipapa Bridge is in its original location and has retained its original rural setting over Kipapa Gulch despite extensive residential development in the area since the 1970s. The bridge's original continuous tee beam design and reinforced concrete material remain intact. The bridge's original workmanship remains evident despite collision damage at the end piers. The engineering of the bridge can be considered complex for its time due to the continuous tee beam design of the structure, which eliminates the need for expansion joints in the deck, and because of its height. The bridge's historic associations as a 1930s Federal Aid bridge is apparent only to informed observers. Interpretation is aided by the inscription of the bridge name and date of construction on the end piers. The bridge retains its historic feeling primarily due to its relatively narrow width and rail type which is typical of bridges of this period in Hawaii.

Significance Statement:

The Kipapa Gulch Bridge is significant for its contributions to the fields of engineering and transportation in Hawaii. The 1933 bridge is an excellent example of reinforced concrete tee beam construction with an open concrete rail typical of 1930s bridges. The Kipapa Gulch Bridge is eligible under Criterion A for its associations with important public works project initiated by the territorial government and constructed with Federal work relief programs funds during the Depression era. Moreover, the bridge contributed to the economic development of central Oahu by providing reliable vehicular access to the area. It is eligible under Criterion C as a representative example of a 1930s-era Federal Aid bridge utilizing an advanced engineering technology: continuous reinforced concrete tee beam construction. Further, the bridge is representative of the work of a master: William R. Bartels, chief designer for the Territorial Highway Department.

The Kipapa Bridge was constructed in 1933 during the general upgrading of Kamehameha Highway, the belt road around Oahu which serviced the sugar lands on the North Shore. The structure is an important transportation link for the central Oahu community. Its construction spanned the wide Kipapa Gulch and spared travelers from the previous long, circuitous route through the ravine. The bridge was associated with many prominent military and civilian men of Honolulu during its construction and was named after our thirty-first president, Franklin Delano Roosevelt.

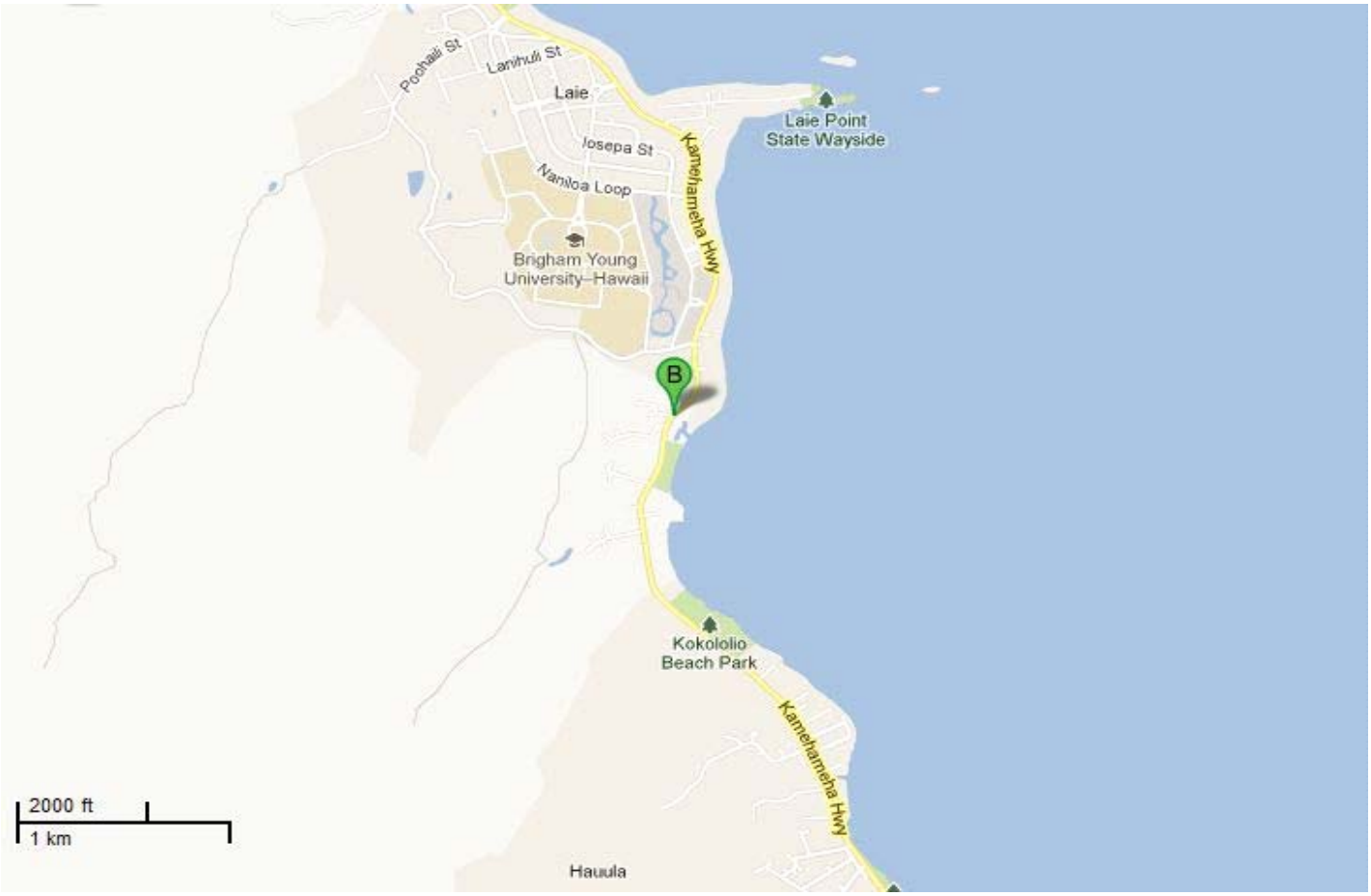
The bridge is a striking example of the Federal Aid bridges constructed by the Territory in the 1930s. The design and height of the bridge are representative of the rapid advances made in engineering technology in the early decades of the twentieth century. Engineer W. R. Bartels was responsible for the design of all major territorial bridge projects from 1932 until his retirement from the department in 1956. His work characteristically utilized the latest technology and involved a high degree of engineering complexity. Nonetheless, his bridges evidence a refined aesthetic sensibility which makes them distinctive from the work of other engineers. The builder was W. F. Dillingham, a prolific Honolulu builder and owner of the Hawaiian Contracting Co.

Inventory Form
(State)

General Information

Bridge Number: 003000830301970 **Route No:** 83	
Popular Name: Koloa Stream-Laiemaloo	
Feature Crossed: Koloa Stream	
Feature Carried: Kamehameha Highway	
Milepost: 19.70 mi. **Island:** Oahu	
Longitude: 157d-55m-16.59s **Latitude:** 21d-37m-57.85s	
Location: 0.46 Miles South of Polynesian Cultural Center	
Historic Name: Koloa Stream-Laiemaloo	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1933	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1986	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1986.		

Bridge Information

Number of Spans: 5	**Max Span:** 18.0 ft.	**Total Length:** 89.9 ft.	**Deck Width:** 27.2 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Koloa Stream-Laiemaloo Bridge carries Kamehameha Highway across the Koloa Stream. This reinforced concrete bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete solid panel parapets with flat caps and curved end posts. The concrete deck is supported by concrete abutments. The parapet and end posts caps have been painted white. A wood pedestrian walkway with wood horizontal railings was added to one side of the bridge in 1986. Thrie beams were bolted to the end posts. The simple design of the parapet retains its historic feeling.

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

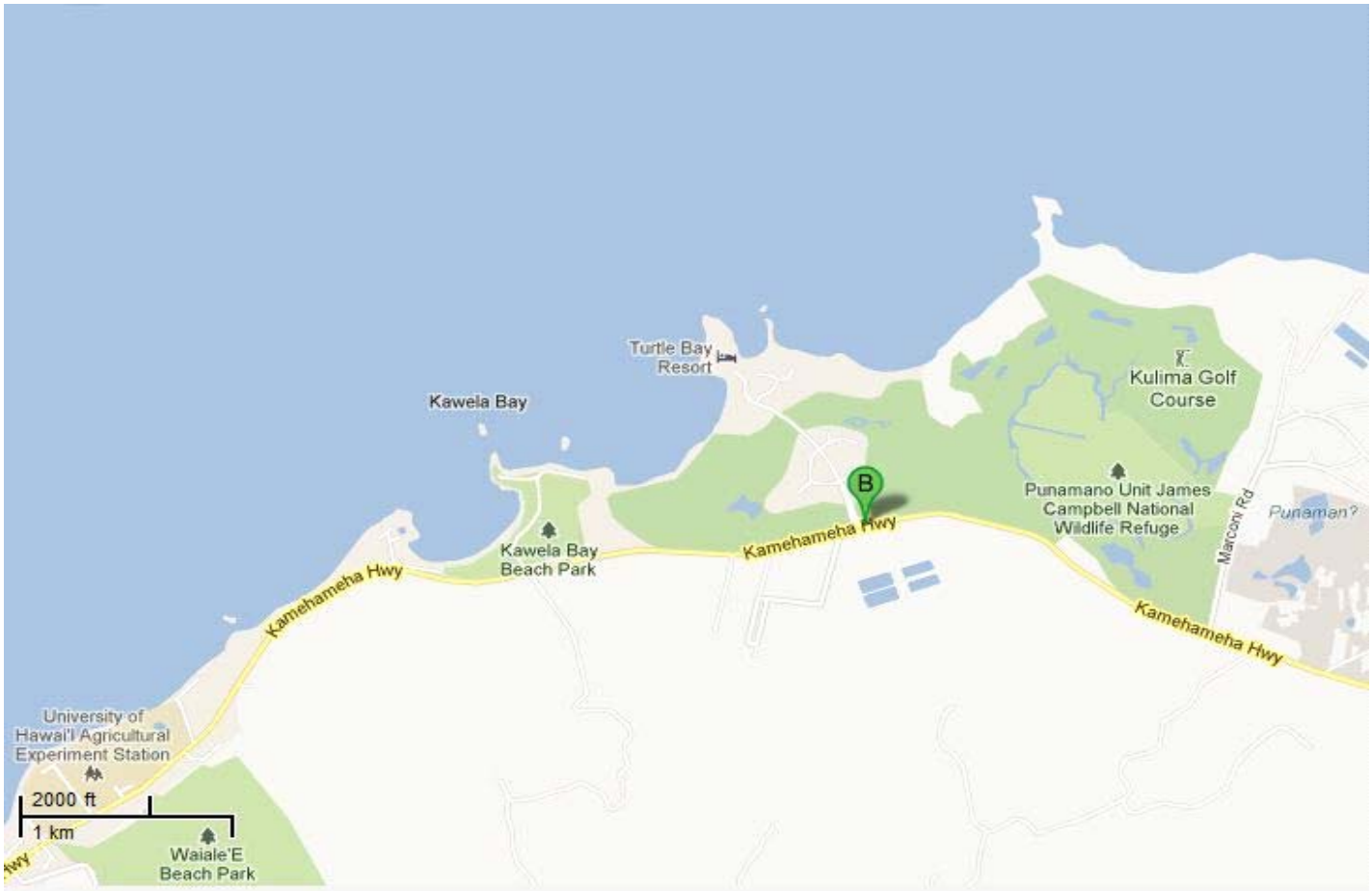
Inventory Form
(State)

General Information

Bridge Number: 003000830301255	**Route No:** 83
Popular Name: Kuilima-Oio Stream	
Feature Crossed: Kuilima-Oio Stream	
Feature Carried: Kamehameha Highway	
Milepost: 12.55 mi.	**Island:** Oahu
Longitude: 157d-59m-31.84s	**Latitude:** 21d-41m-51.35s

Location: 0.04 Miles East of Kuilima Drive (Turtle Bay Hilton)
Historic Name: Kuilima-Oio Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1931	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 21.0 ft.	**Total Length:** 24.9 ft.	**Deck Width:** 27.6 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Kuilima-Oio Stream Bridge carries Kamehameha Highway across the Kuilima-Oio Stream. This concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete solid panel parapets with flat caps and curved end posts with the bridge name and the year of construction engraved. The single span concrete deck is supported by concrete abutments. The parapet cap and end posts have been painted white. Thrie beams were bolted to the end posts and covering the engraving. The simple design of the parapet retains its historic feeling.

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design

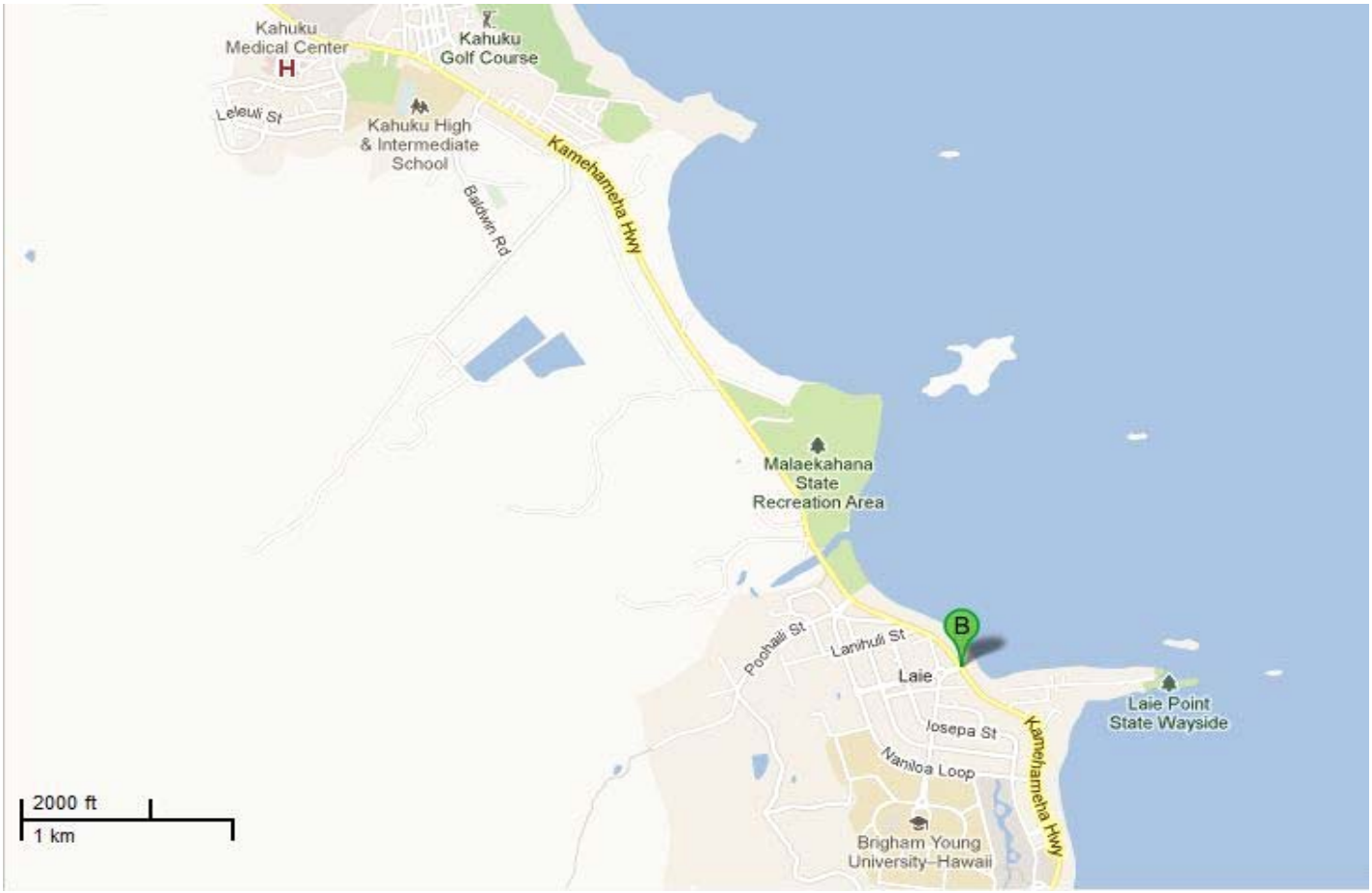
Inventory Form
(State)

General Information

Bridge Number: 003000830301851	**Route No:** 83
Popular Name: Laieloa Stream	
Feature Crossed: Laieloa Stream	
Feature Carried: Kamehameha Highway	
Milepost: 18.51 mi.	**Island:** Oahu
Longitude: 157d-55m-21.80s	**Latitude:** 21d-38m-52.39s

Location: 0.09 Miles Southeast of Halelaa Boulevard
Historic Name: Laieloa Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1932	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1964	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1964.		

Bridge Information

Number of Spans: 1	**Max Span:** 22.0 ft.	**Total Length:** 25.9 ft.	**Deck Width:** 27.6 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Laieloa Stream Bridge carries Kamehameha Highway across the Laieloa Stream. This concrete tee beam bridge is in its original location but in poor condition. The bridge has concrete solid panel parapets with flat caps and curved wide end posts with the bridge name and the year of construction engraved. The single span concrete deck is supported by concrete abutments. The parapet cap and end posts panels have been painted white. A wood pedestrian walkway with wood horizontal railings was added to upstream side of the bridge in 1964. Thrie beams were bolted to the one end of the posts. The simple design of the parapet retains its historic feeling.

Significance Statement:

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

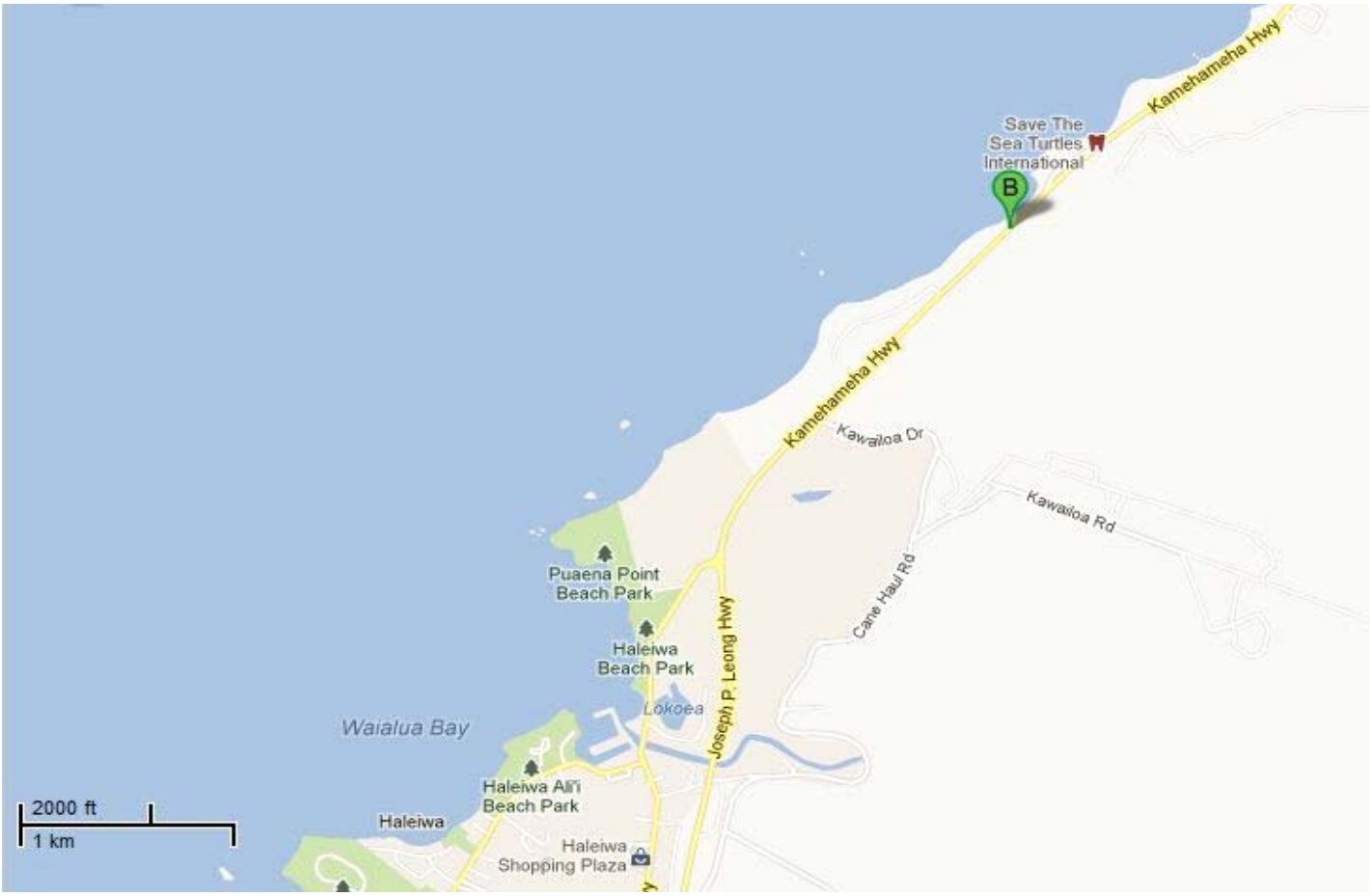
Inventory Form
(State)

General Information

Bridge Number: 003000830300339	**Route No:** 83
Popular Name: Lauhulu Stream	
Feature Crossed: Lauhulu Stream	
Feature Carried: Kamehameha Highway	
Milepost: 3.39 mi.	**Island:** Oahu
Longitude: 158d-05m-12.28s	**Latitude:** 21d-37m-01.66s

Location: 0.15 Miles South of Pohaku Loa Way
Historic Name: Lauhulu Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1937	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 2	**Max Span:** 33.1 ft.	**Total Length:** 69.9 ft.	**Deck Width:** 32.2 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
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:

The Lauhulu Stream Bridge carries Kamehameha Highway across the Lauhulu Stream. This concrete slab bridge is in its original location but in poor condition. The bridge has concrete open Greek cross parapets with stepped caps and curved wide solid end posts. End posts consist of stepped profile and one of the posts has the bridge name engraved. The concrete deck is supported by concrete piers and masonry abutments. Thrie beams were bolted to the end posts and small triangular concrete blocks were attached to the posts to create a flat surface. The thrie beam is covering the bridge name engraving. The simple design of the parapet retains its historic feeling.

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003000830302151	**Route No:** 83
Popular Name: Maakua Stream-Muliwai	
Feature Crossed: Maakua Stream	
Feature Carried: Kamehameha Highway	
Milepost: 21.51 mi.	**Island:** Oahu
Longitude: 157d-54m-37.03s	**Latitude:** 21d-36m-37.93s

Location: 0.21 Miles Southeast of Hauula Homestead Road
Historic Name: Maakua Stream-Muliwai
Designer/Engineer:
Builder/Contractor:

Location Map:

Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1932	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1997	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1997.		

Bridge Information

Number of Spans: 6	**Max Span:** 19.0 ft.	**Total Length:** 109.9 ft.	**Deck Width:** 26.9 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Maakua Stream-Muliwai Bridge carries Kamehameha Highway across the Maakua Stream. This long concrete slab bridge is in its original location but in poor condition. The bridge has concrete solid parapets with flat caps and curved end posts. The concrete deck is supported by concrete abutments. The parapet and end posts caps have been painted white. A wood pedestrian walkway with wood horizontal railings was added to one side of the bridge in 1997. Thrie beams were bolted to the end posts. The simple design of the parapet retains its historic feeling.

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

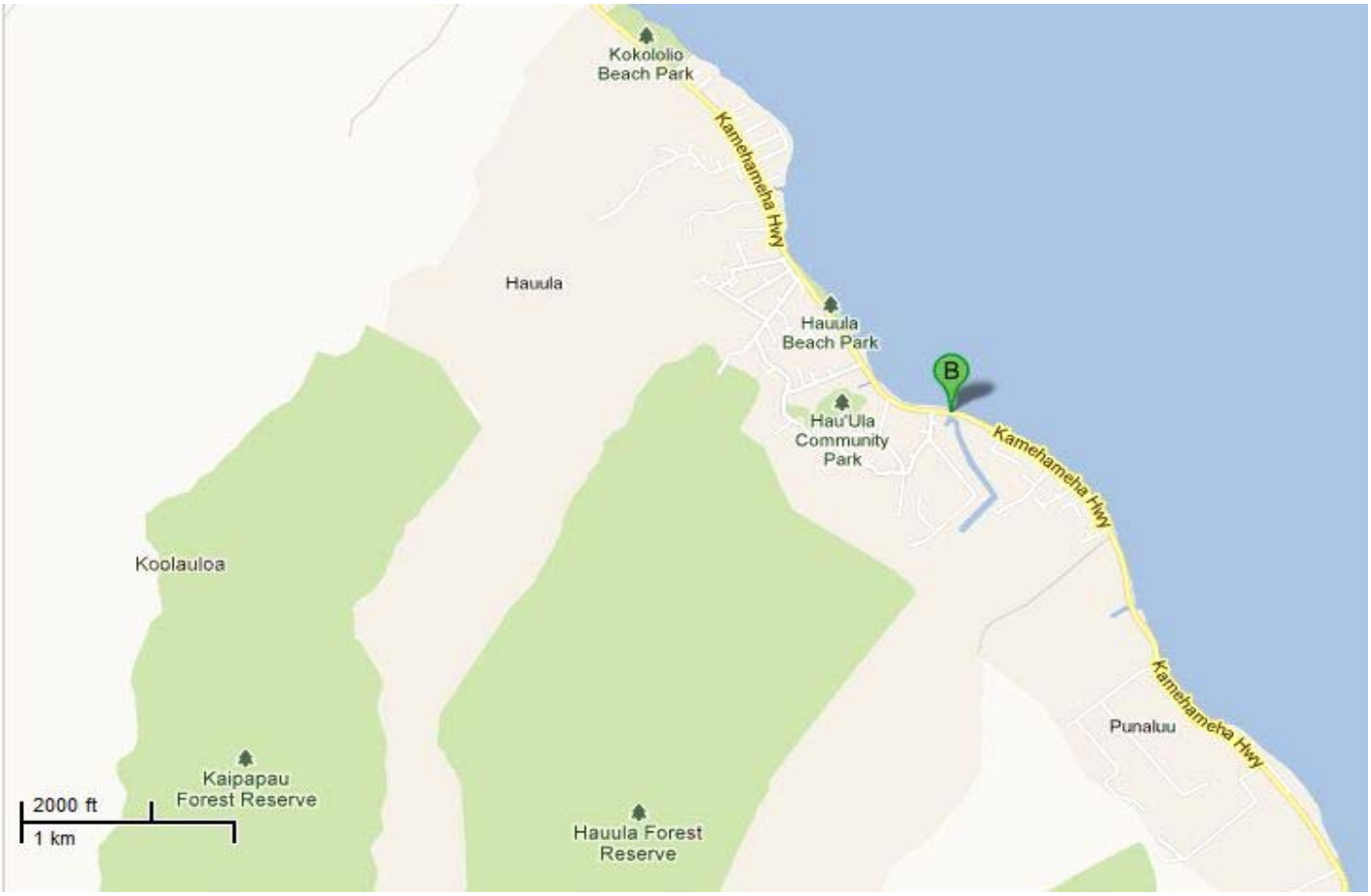
Inventory Form
(State)

General Information

Bridge Number: 003000830302196	**Route No:** 83
Popular Name: Maheiwi Stream	
Feature Crossed: Maheiwi Stream	
Feature Carried: Kamehameha Highway	
Milepost: 21.96 mi.	**Island:** Oahu
Longitude: 157d-54m-19.01s	**Latitude:** 21d-36m-24.78s

Location: 0.06 Miles Southeast of Hauula Homestead Road
Historic Name: Maheiwi Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1926	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1964, 1997	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1964. Wood pedestrian bridge replaced in 1997.		

Bridge Information

Number of Spans: 3	**Max Span:** 18.0 ft.	**Total Length:** 54.1 ft.	**Deck Width:** 26.2 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Maheiwi Stream Bridge carries Kamehameha Highway across the Maheiwi Stream. This reinforced concrete is in its original location but is in poor condition. The bridge has concrete solid panel parapets with flat caps and end posts. The reinforced concrete slab deck is supported by the concrete abutments. A wood pedestrian walkway with wood horizontal railings was added to upstream side of the bridge in 1964 and was replaced in 1997. Thrie beams were bolted to the end of the posts however, the workmanship of the bridge has not been obscured. The simple design of the parapet retains its historic feeling.

003000830302196 Maheiwi Stream

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 a 1920's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

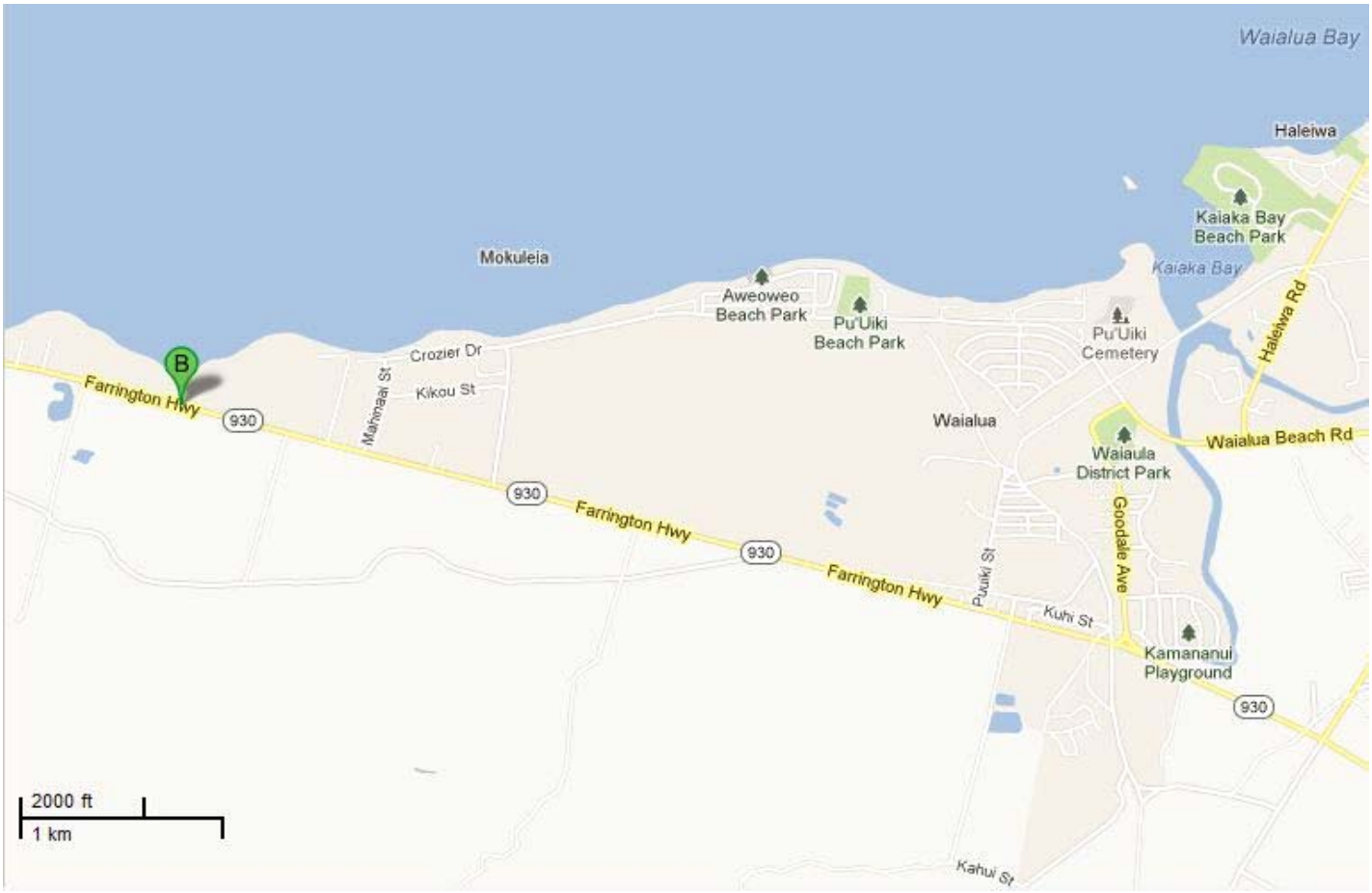
Inventory Form
(State)

General Information

Bridge Number: 003009300501436	**Route No:** 930
Popular Name: Makalena Stream	
Feature Crossed: Makalena Stream	
Feature Carried: Farrington Highway	
Milepost: 3.03 mi.	**Island:** Oahu
Longitude: 158d-10m-01.07s	**Latitude:** 21d-34m-37.65s

Location: 0.73 Miles East of Hoomana Place
Historic Name: Makalena Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1940	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 2	**Max Span:** 24.0 ft.	**Total Length:** 49.9 ft.	**Deck Width:** 31.8 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
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:

The Makalena Stream Bridge carries Farrington Highway across Makalena Stream. This concrete slab bridge is in its original location but in poor condition. The bridge has concrete open Greek cross parapets with stepped caps and curved wide solid end posts. End posts consist of a stepped profile. The concrete deck is supported by concrete piers and masonry abutments and thrie beams were bolted to the end posts. The simple design of the parapet retains its historic feeling.

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 a 1940's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

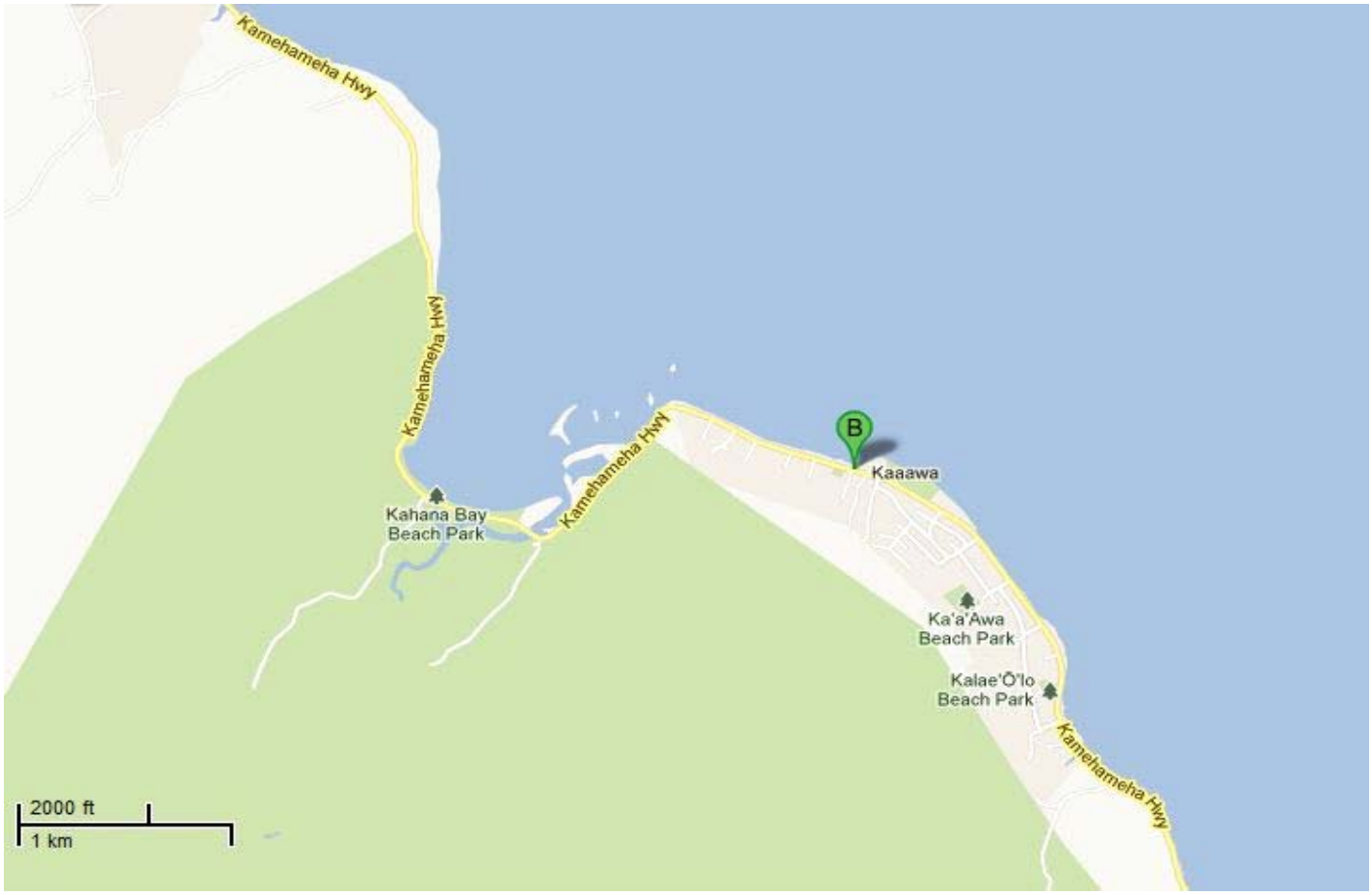
Inventory Form
(State)

General Information

Bridge Number: 003000830302791	**Route No:** 83
Popular Name: Makaua Stream	
Feature Crossed: Makaua Stream	
Feature Carried: Kamehameha Highway	
Milepost: 27.91 mi.	**Island:** Oahu
Longitude: 157d-51m-17.99s	**Latitude:** 21d-33m-25.35s

Location: 0.23 Miles West of Hiaka Road
Historic Name: Makaua Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1927	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1964	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1964.		

Bridge Information

Number of Spans: 1	**Max Span:** 42.0 ft.	**Total Length:** 44.0 ft.	**Deck Width:** 26.6 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Makaua Stream Bridge carries Kamehameha Highway across the Makaua Stream. This reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its material remain intact. The bridge has concrete solid panel parapets with flat caps and end posts with the bridge name and year of construction were engraved. The reinforced concrete tee beam deck is supported by the concrete abutments. A wood pedestrian walkway with metal horizontal railing was added to the upstream side of the bridge in 1964. The parapet cap and end posts have been painted white. The new concrete solid panel parapet were extended to the end posts to secure the thrie beams, therefore the workmanship of the bridge has not been obscured. The simple design of the parapet retains its historic feeling.

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 a 1920's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003009300501823 **Route No:** 930	
Popular Name: North (Lower) Poamoho Stream	
Feature Crossed: North Poamoho Stream	
Feature Carried: Kaukonahua Road	
Milepost: 6.90 mi. **Island:** Oahu	
Longitude: 158d-06m-40.18s **Latitude:** 21d-33m-53.43s	
Location: 0.05 Miles South of Hukilau Loop	
Historic Name: North (Lower) Poamoho Stream	
Designer/Engineer:	
Builder/Contractor:	

Location Map:

Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1934	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 3	**Max Span:** 62.0 ft.	**Total Length:** 164.0 ft.	**Deck Width:** 27.6 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Double Column Pier			
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:

The North Poamoho Stream Bridge carries Kaukonahua Road across the Poamoho Stream. This concrete tee beam bridge is in its original location but in poor condition. The bridge has concrete open Greek cross parapets with flat caps and wide solid panel end posts. The concrete deck is supported by concrete piers and abutments. Thrie beams were bolted to the end posts however, the simple design of the parapet retains its historic feeling.

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003000830302412	**Route No:** 83
Popular Name: North Punaluu Stream	
Feature Crossed: North Punaluu Stream	
Feature Carried: Kamehameha Highway	
Milepost: 24.12 mi.	**Island:** Oahu
Longitude: 157d-53m-12.96s	**Latitude:** 21d-34m-57.10s

Location: 1.53 Miles Southeast of Sacred Falls Road
Historic Name: North Punaluu Stream
Designer/Engineer:
Builder/Contractor:

Location Map:

Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1926	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 2	**Max Span:** 18.0 ft.	**Total Length:** 37.1 ft.	**Deck Width:** 26.2 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The North Punaluu Stream Bridge carries Kamehameha Highway across the Punaluu Stream. This concrete slab bridge is in its original location but in poor condition. The bridge has concrete solid panel parapets with flat caps and wide end posts with the bridge name engraved. The reinforced concrete slab deck is supported by the concrete abutments. Only the parapet and end posts caps have been painted white. The large utility pipe was added on the upstream side of the parapet. Thrie beams were bolted to the end posts and covering the engraving but the simple design of the parapet retains its historic feeling.

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 a 1920's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

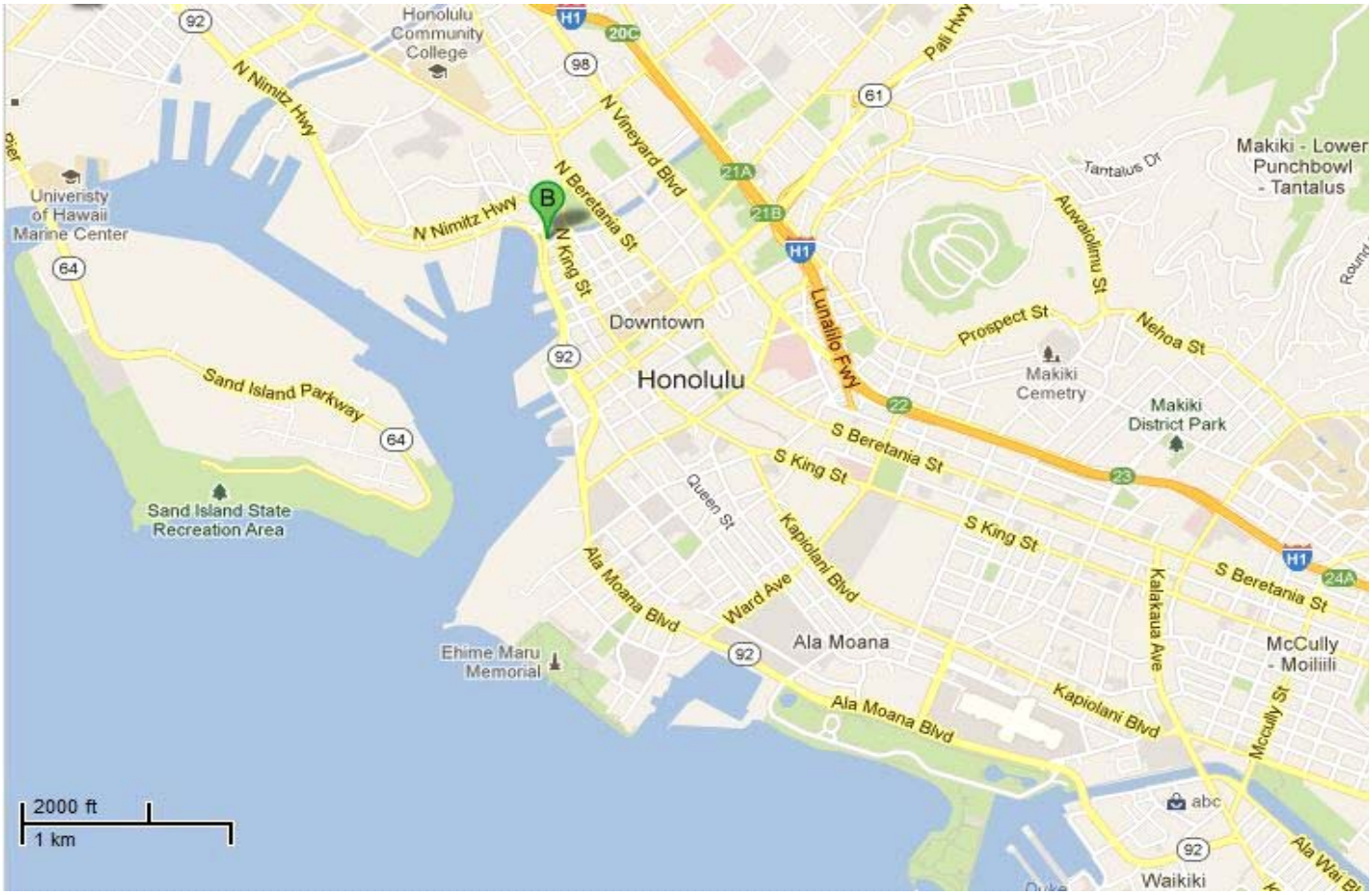
Inventory Form
(State)

General Information

Bridge Number: 003000920400588 **Route No:** 92	
Popular Name: Nuuanu Stream (Westbound)	
Feature Crossed: Nuuanu Stream	
Feature Carried: Nimitz Highway	
Milepost: 5.88 mi. **Island:** Oahu	
Longitude: 157d-51m-54.40s **Latitude:** 21d-18m-48.25s	

Location: 0.06 Miles East of Awa Street
Historic Name: Nuuanu Stream (Westbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1932	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 5	**Max Span:** 32.2 ft.	**Total Length:** 151.9 ft.	**Deck Width:** 69.9 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid with Cap			
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:

The Nuuanu Stream (Westbound) Bridge carries Nimitz Highway across the Nuuanu Stream. The bridge is located near the Chinatown district. This concrete tee beam bridge is in its original location and in fair condition, and its materials remain intact. The bridge has concrete solid parapets with molding decoration at the bottom and top and wide end posts. One of the end posts has bridge name and year of construction engraved. The concrete deck is supported by concrete abutments. The simple design of the parapet retains its historic feeling.

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

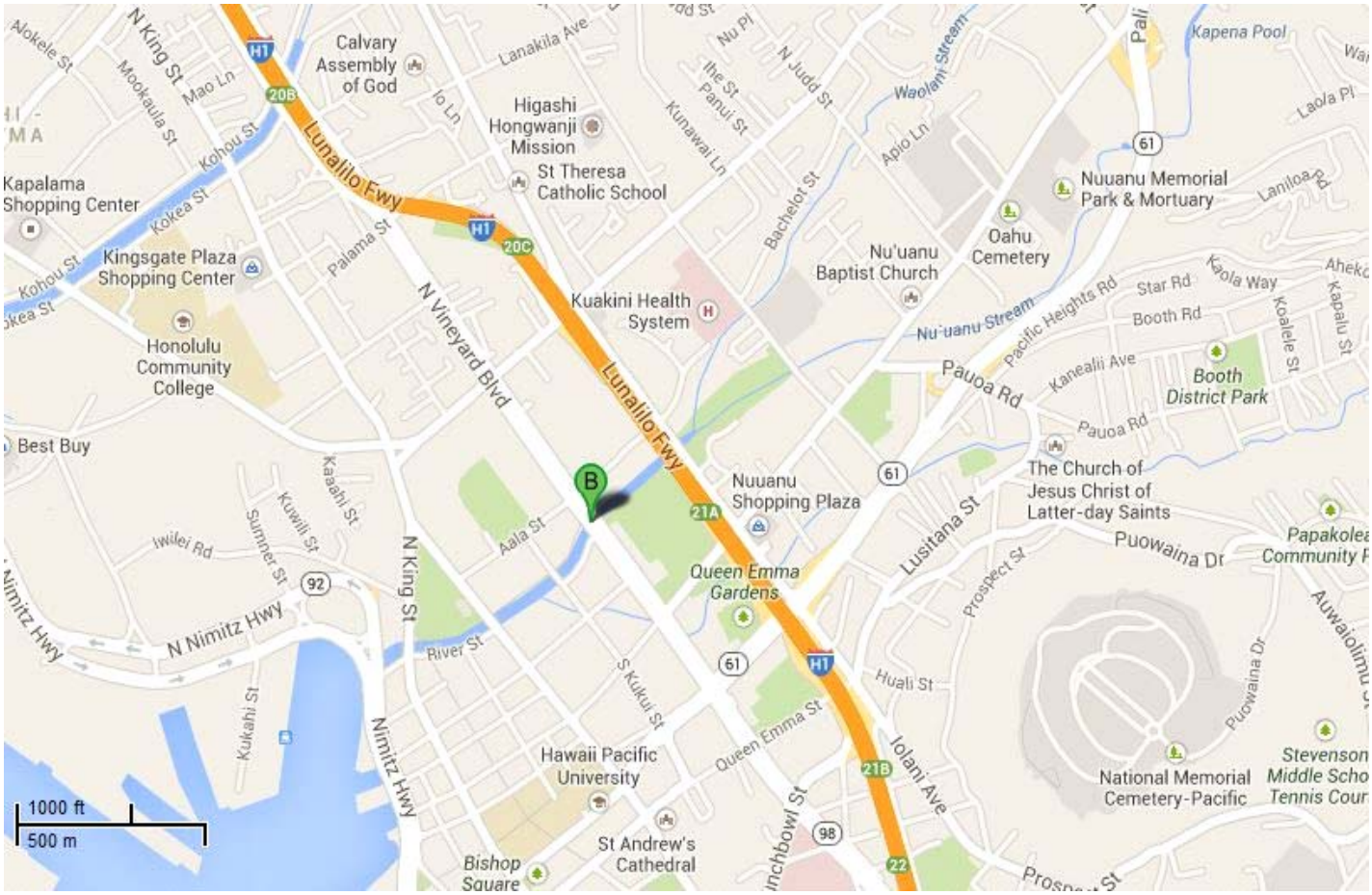
Inventory Form
(State)

General Information

Bridge Number: 003098001400077	**Route No:** 98
Popular Name: Nuuanu Stream Bridge	
Feature Crossed: Nuuanu Stream	
Feature Carried: North Vineyard Boulevard	
Milepost: 0.77 mi.	**Island:** Oahu
Longitude: 157d-51m-34.56s	**Latitude:** 21d-19m-00.11s

Location: 0.03 Miles East of Aala Street
Historic Name: Nuuanu Stream Bridge
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1959	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 3	**Max Span:** 36.1 ft.	**Total Length:** 95.1 ft.	**Deck Width:** 120.1 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
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:

The Nuuanu Stream Bridge carries N Vineyard Boulevard across Nuuanu Stream. This three span concrete slab bridge is in its original location, is in fair condition, and its materials remain intact. The bridge has concrete horizontal parapets with rectangular voids. The reinforced concrete deck is supported by reinforced concrete abutments. Nuuanu Stream channel has concrete masonry walls which the bridge's abutments connect to.

Significance Statement:

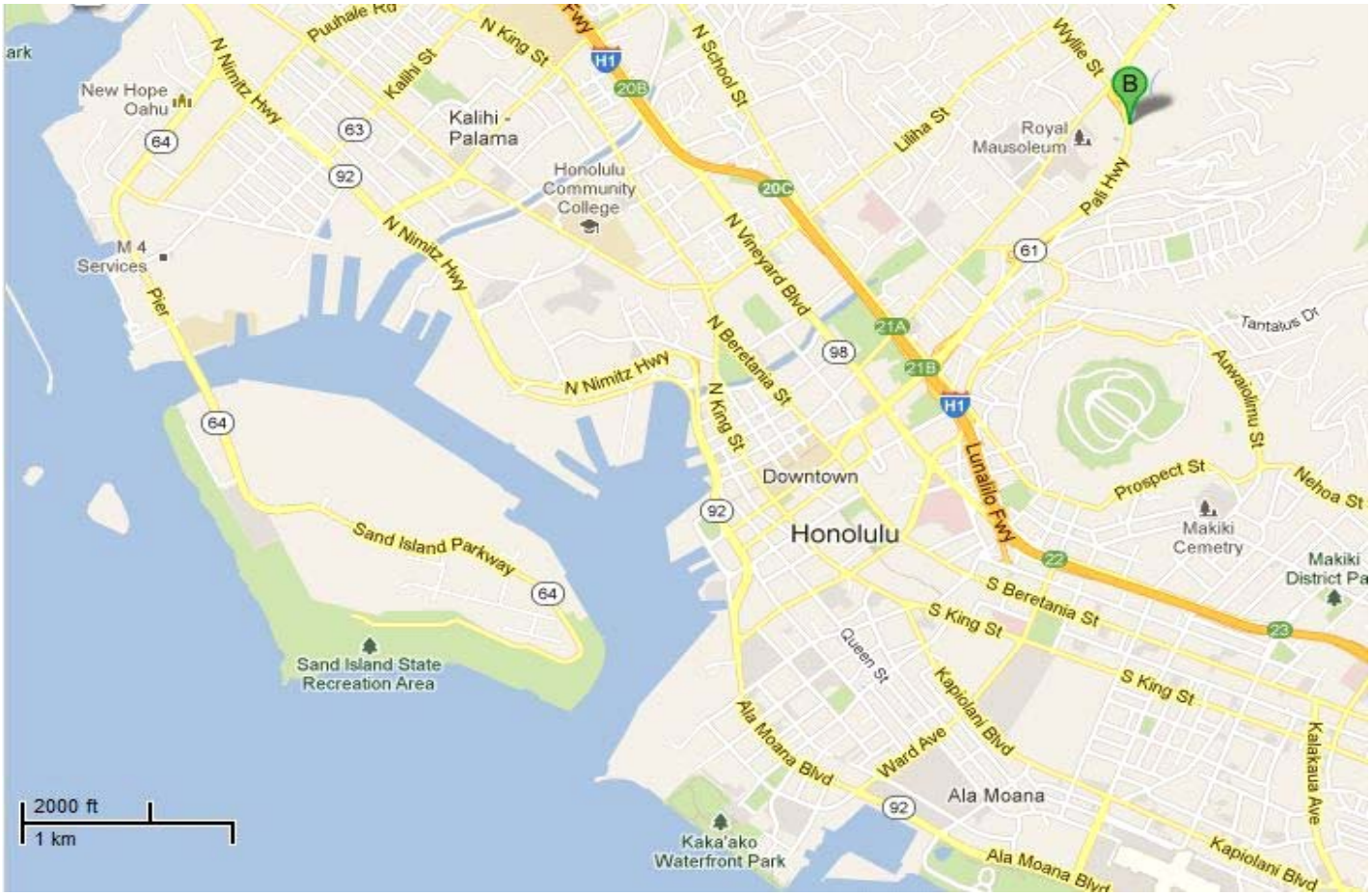
This bridge is eligible under Criterion C for being the widest concrete bridge built post-war (1945) on the island of Oahu in the historic study period prior to 1969. This bridge was also a part of the channelization of Nuuanu Stream where all the walls of the channel were built with concrete masonry.

Inventory Form
(State)

General Information

Bridge Number: 003000610400112 **Route No:** 61	
Popular Name: Nuuanu Stream Kapena Falls	
Feature Crossed: Nuuanu Stream Kapena Falls	
Feature Carried: Pali Highway	
Milepost: 1.12 mi. **Island:** Oahu	
Longitude: 157d-50m-43.09s **Latitude:** 21d-19m-31.63s	
Location: 0.48 Miles Northeast of Pauoa Road	
Historic Name: Nuuanu Stream Kapena Falls	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Rigid Frame	**Construction Date:** 1962	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 84.0 ft.	**Total Length:** 94.2 ft.	**Deck Width:** 72.5 ft.
Superstructure: Concrete Box Girder			
Substructure: Concrete Integral Abutment			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete and Metal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

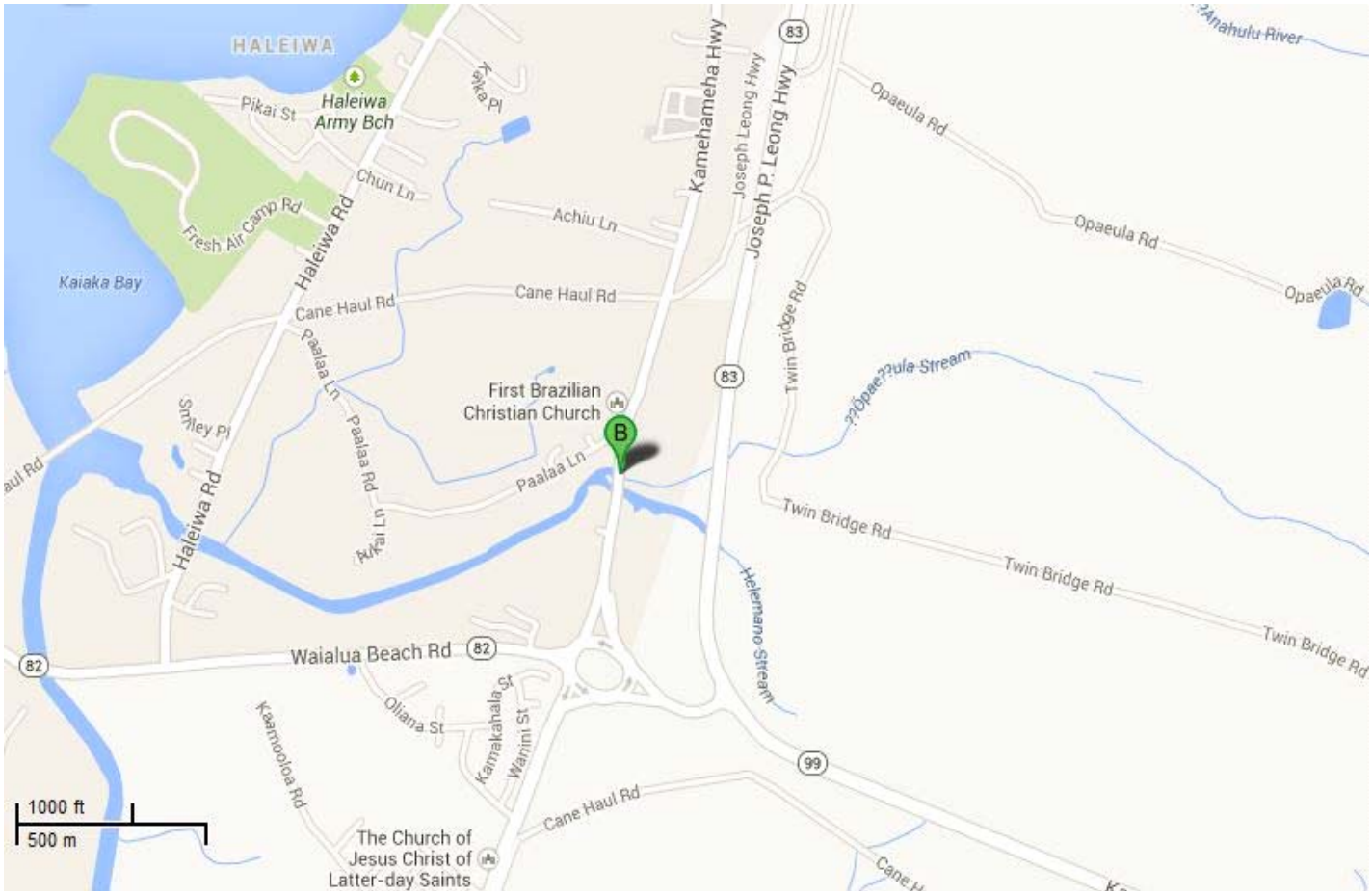
See Pali Historic District description.

Inventory Form
(State)

General Information

Bridge Number: 003000830300043 **Route No:** 83	
Popular Name: Opaelua-Waialua Twin B	
Feature Crossed: Opaelua Stream	
Feature Carried: Kamehameha Highway	
Milepost: 0.43 mi. **Island:** Oahu	
Longitude: 158d-06m-18.64s **Latitude:** 21d-34m-48.66s	
Location: 0.39 Miles North of Waialua Beach Road	
Historic Name: Opaelua-Waialua Twin B	
Designer/Engineer: U. S. Department of Agriculture, Bureau of Public Roads, San Francisco, CA	
Builder/Contractor: John McCandless	

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1928	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 60.0 ft.	**Total Length:** 65.0 ft.	**Deck Width:** 29.9 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck			
Parapets/Railings: Concrete Solid Panel with Cap			
Setting:			
Other Features: Bridge name and date of construction incised on end piers; sidewalks on both sides of roadway			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering, Transportation		

Narrative Description:

The Waialua Twin Bridges were built in 1928 to carry Kamehameha Highway across the adjacent Helemano and Opaeula Streams. The bridges are located in the former plantation town of Haleiwa on the north shore of Oahu. The Waialua Twin Bridges are identical reinforced concrete deck girder structures.

The Waialua Twin Bridges remain in their original location. The bridges' setting has changed slightly due to commercial and residential development within the Haleiwa community, thus placing increased development pressure on the structures. A by-pass highway to accommodate additional traffic was completed by the State Department of Transportation in 1994. The bridges' original deck girder design and reinforced concrete materials remain intact. The workmanship of the bridges is good and has not been obscured by additions or repairs. The bridges' masonry (lava rock) abutments appear to be wider than the present bridge and probably date from an earlier wood truss bridge identified in an historic photograph as "Twin Bridges at Waialua." (1) The bridges' historic associations as important civic structures associated with the development of Haleiwa can be discerned by informed observers. The bridges retain their historic feeling due to their narrow width and solid, paneled reinforced concrete rail typical of 1920s bridges.

(1) Historic photograph: "Twin Bridges at Waialua, Aug. 26, '04," Hawaii State Archives (Honolulu), Album 43, 104.

Significance Statement:

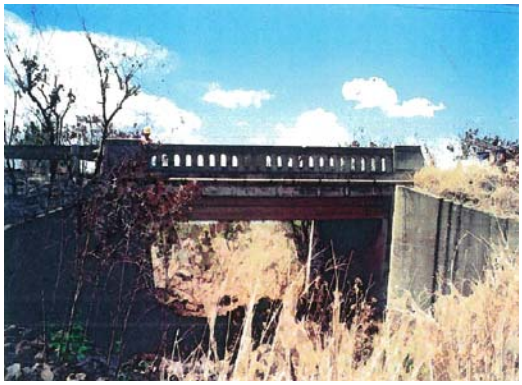
The Waialua Twin Bridges are significant for their contributions to the fields of engineering and transportation in Hawaii. The bridges are a good example of reinforced concrete deck girder construction. The bridges are eligible under Criterion A for their associations with public works efforts by the Territorial government and as important civic structures associated with the development of Haleiwa. They are eligible under Criterion C as good representative examples of deck girder bridge construction in the late 1920s.

The bridges are located within the County-designated Haleiwa Special Design District and contribute significantly to the historic character of the town. The bridges were inadvertently involved in an important preservation battle for the nearby Anahulu Bridge, a rare remaining example of a “rainbow” or Marsh arch (through deck) bridge. The State Department of Transportation planned to replace the structure, however, concerned citizens rallied to preserve the picturesque bridge. The alternative plan preserved the historic bridge by by-passing it with a new highway and moderr four-lane bridge upstream. The Waialua Twin Bridges were also by-passed, thus relieving them from modern traffic pressures.

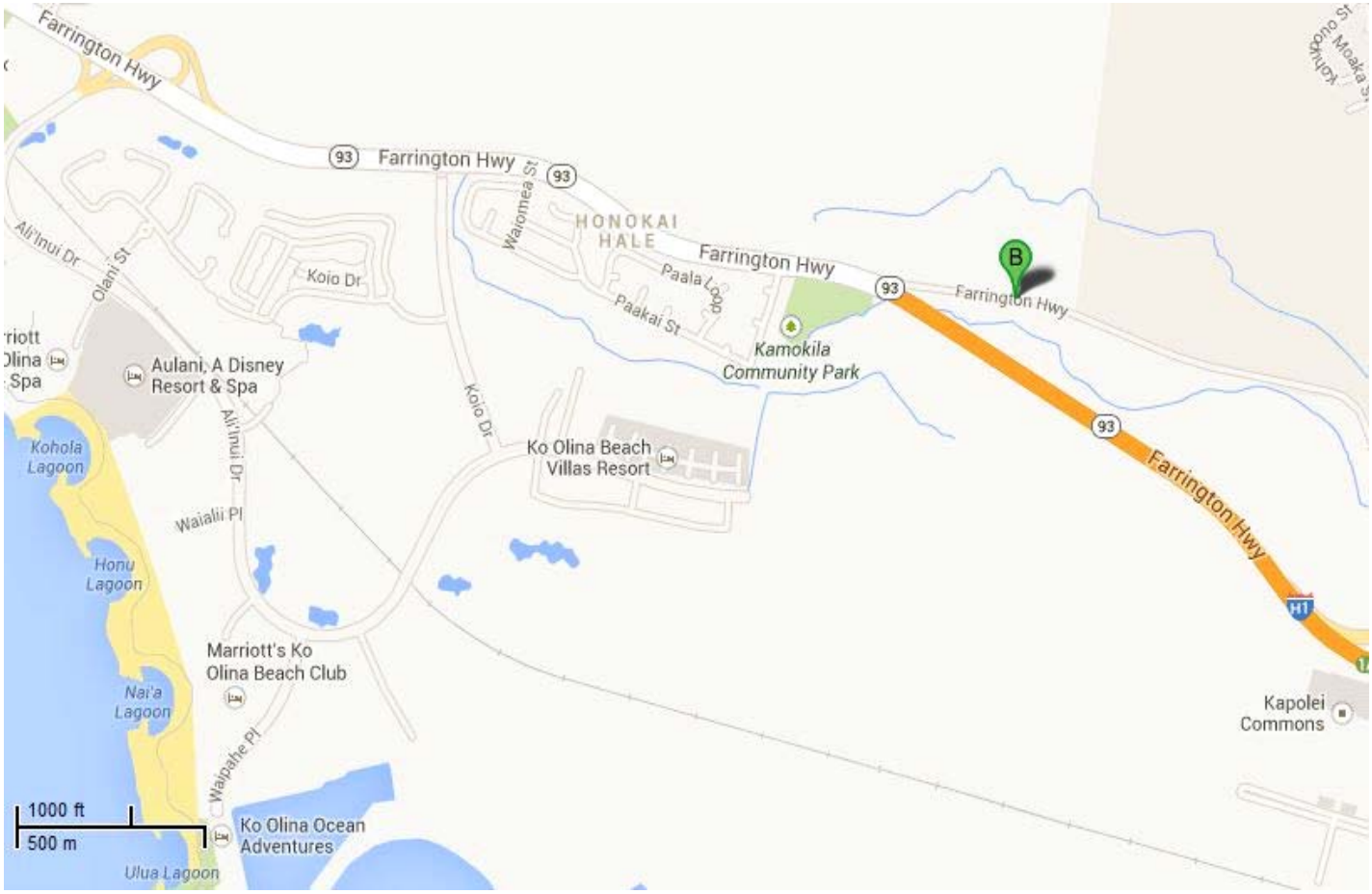
The bridges’ sixty foot clear spans make them good examples of late-period reinforced concrete deck girder technology. Their solid, paneled parapets are characteristic of the period. The plans were prepared by the U.S. Department of Agriculture’s Bureau of Public Roads in San Francisco, California. The bridges were constructed by local builder, John McCandless.

Inventory Form
(State)

General Information

Bridge Number: 003000930300083 **Route No:** 93	
Popular Name: Palailai Stream	
Feature Crossed: Palailai Stream	
Feature Carried: Old Farrington Highway	
Milepost: 0.83 mi. **Island:** Oahu	
Longitude: 158d-06m-03.19s **Latitude:** 21d-20m-27.28s	
Location: 0.95 Miles West of Kalaeloa Boulevard	
Historic Name: Palailai Stream	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1927	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 23.0 ft.	**Total Length:** 25.9 ft.	**Deck Width:** 25.9 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Palailai Stream Bridge carries Old Farrington Highway across the Palailai Stream. This reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its material remain intact. The bridge has concrete open arched parapets with tapered caps and wide end posts. The bridge name was also engraved on the parapet. The reinforced concrete tee beam deck is supported by the concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs and the simple design of the parapet retains its historic feeling.

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 a 1920's reinforced concrete bridge that is typical of its period in its use of materials, method of construction craftsmanship, and design.

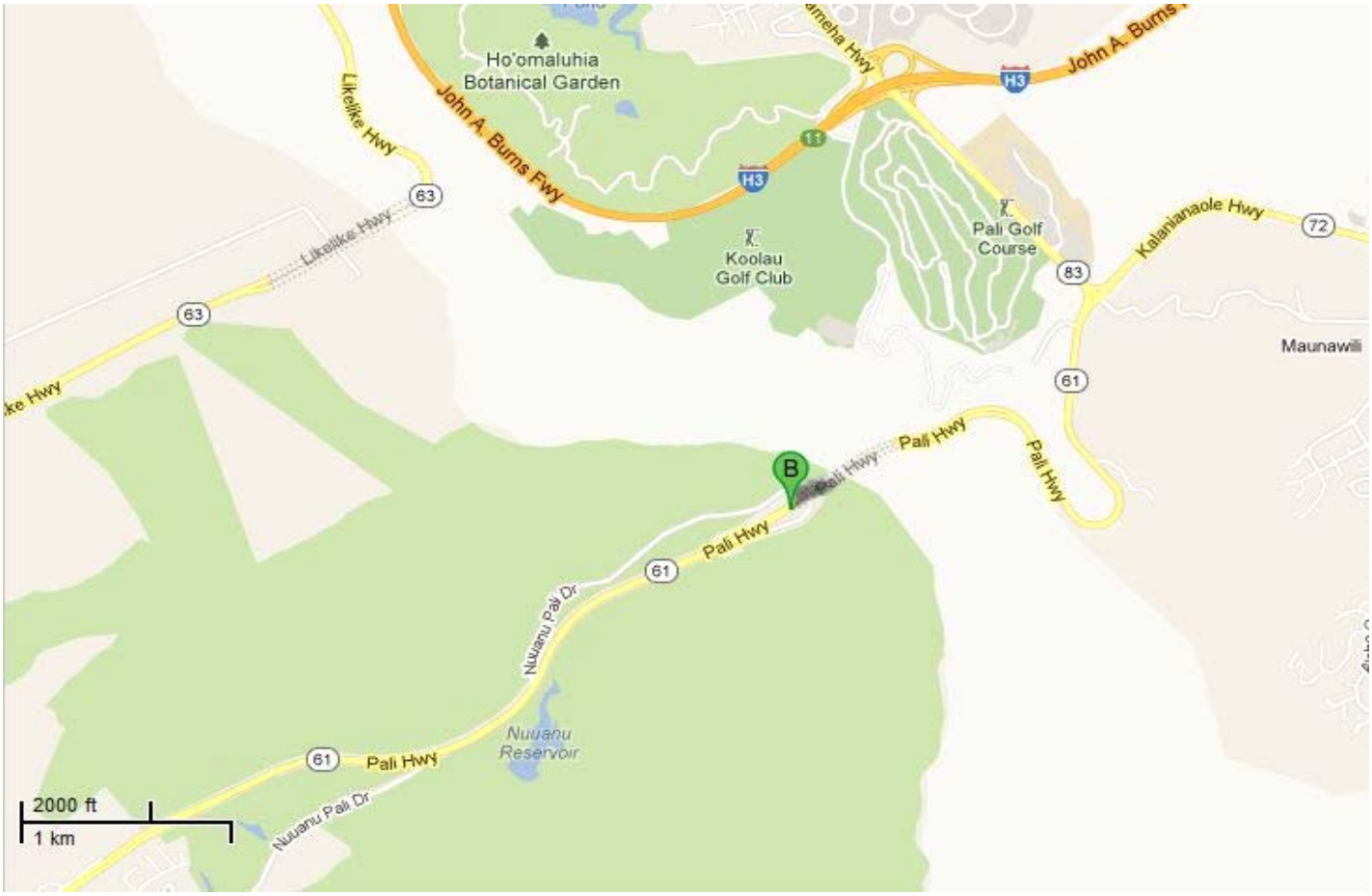
Inventory Form
(State)

General Information

Bridge Number: 003000610300593	**Route No:** 61
Popular Name: Pali Bridge No. 3 (Inbound)	
Feature Crossed: Mountain (Pali Bridge No. 3)	
Feature Carried: Pali Highway	
Milepost: 5.93 mi.	**Island:** Oahu
Longitude: 157d-47m-30.03s	**Latitude:** 21d-22m-03.61s

Location: 0.34 Miles Northeast of Pali Lookout Road
Historic Name: Pali Bridge No. 3 (Inbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1956	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 2	**Max Span:** 57.1 ft.	**Total Length:** 107.9 ft.	**Deck Width:** 31.5 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Double Column Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

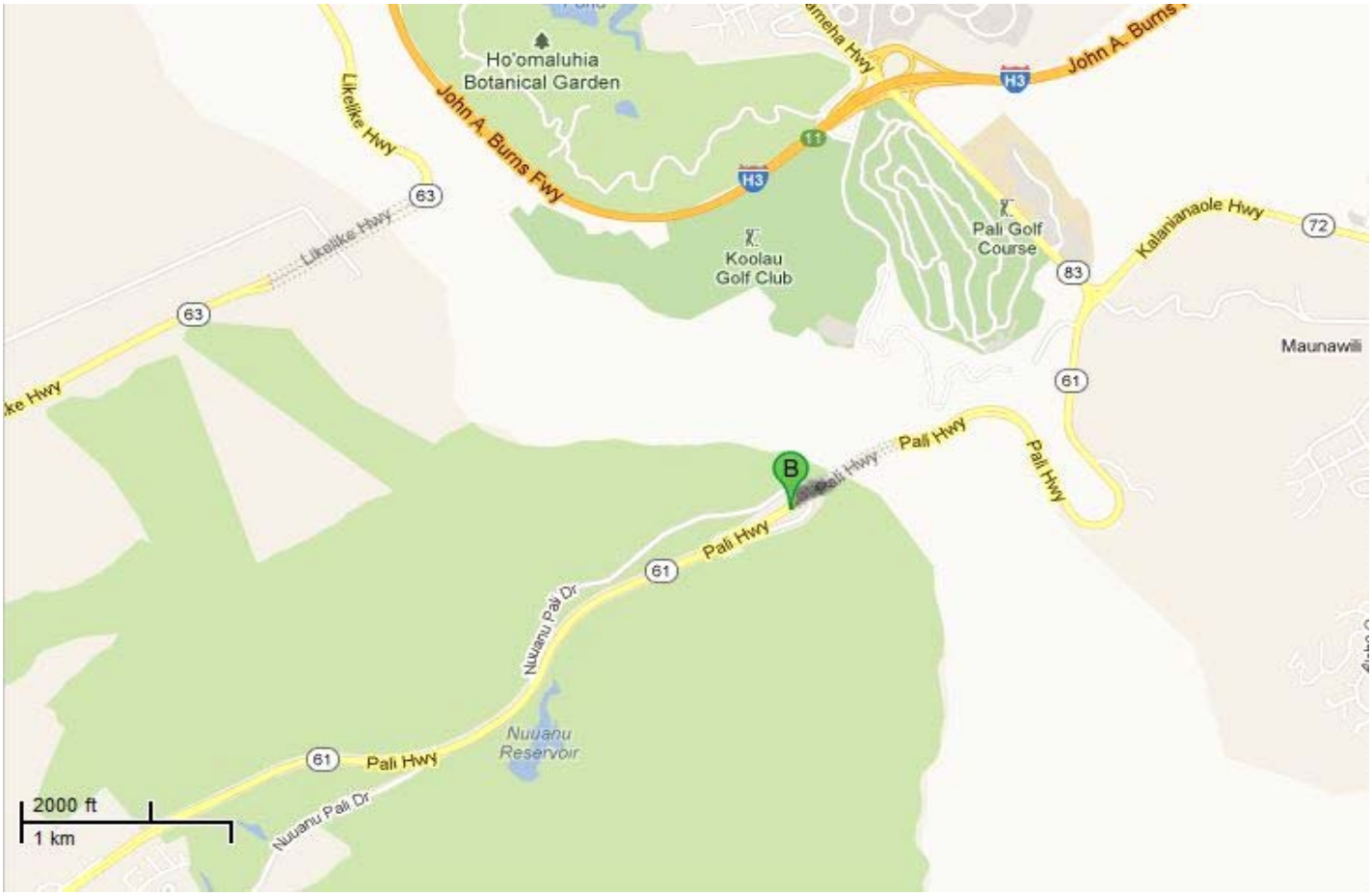
See Pali Historic District description.

Inventory Form
(State)

General Information

Bridge Number: 003000610300616 **Route No:** 61	
Popular Name: Pali Bridge No. 4 (Inbound)	
Feature Crossed: Mountain (Pali Bridge No. 4)	
Feature Carried: Pali Highway	
Milepost: 6.16 mi. **Island:** Oahu	
Longitude: 157d-47m-17.58s **Latitude:** 21d-22m-07.57s	
Location: 0.57 Miles Northeast of Pali Lookout Road	
Historic Name: Pali Bridge No. 4 (Inbound)	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1956	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 4	**Max Span:** 105.0 ft.	**Total Length:** 379.9 ft.	**Deck Width:** 32.5 ft.
Superstructure: Concrete Box Girder			
Substructure: Concrete Abutment Wall and Concrete T-Shaped Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

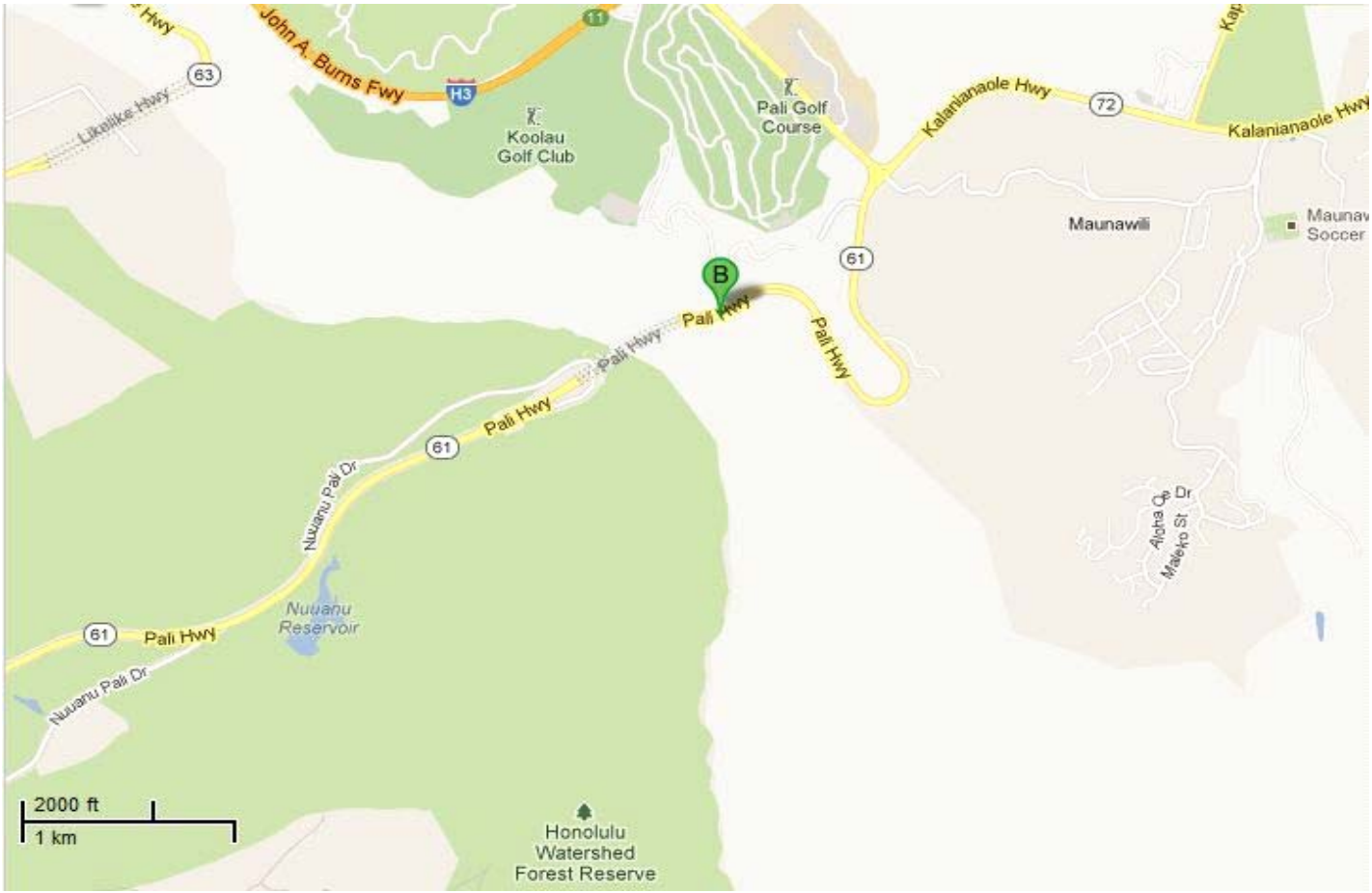
See Pali Historic District description.

Inventory Form
(State)

General Information

Bridge Number: 003000610300615 **Route No:** 61	
Popular Name: Pali Bridge No. 4B (Outbound)	
Feature Crossed: Mountain (Pali Bridge No. 4B)	
Feature Carried: Pali Highway	
Milepost: 6.15 mi. **Island:** Oahu	
Longitude: 157d-47m-17.44s **Latitude:** 21d-22m-06.92s	
Location: 0.56 Miles Northeast of Pali Lookout Road	
Historic Name: Pali Bridge No. 4B (Outbound)	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1961	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 2	**Max Span:** 60.0 ft.	**Total Length:** 125.0 ft.	**Deck Width:** 32.5 ft.
Superstructure: Concrete Box Girder			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

See Pali Historic District description.

Inventory Form
(State)

General Information

Bridge Number: 003000610300621	**Route No:** 61
Popular Name: Pali Bridge No. 5 (Inbound)	
Feature Crossed: Mountain (Pali Bridge No. 5)	
Feature Carried: Pali Highway	
Milepost: 6.21 mi.	**Island:** Oahu
Longitude: 157d-47m-13.77s	**Latitude:** 21d-22m-10.32s

Location: 0.62 Miles Northeast of Pali Lookout Road
Historic Name: Pali Bridge No. 5 (Inbound)
Designer/Engineer:
Builder/Contractor:

Location Map:

Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1956	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 4	**Max Span:** 83.0 ft.	**Total Length:** 299.9 ft.	**Deck Width:** 32.5 ft.
Superstructure: Concrete Box Girder			
Substructure: Concrete Abutment Wall and Concrete T-Shaped Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

See Pali Historic District description.

Inventory Form
(State)

General Information

Bridge Number: 003000610300623 **Route No:** 61	
Popular Name: Pali Bridge No. 5A (Outbound)	
Feature Crossed: Mountain (Pali Bridge No. 5A)	
Feature Carried: Pali Highway	
Milepost: 6.23 mi. **Island:** Oahu	
Longitude: 157d-47m-13.55s **Latitude:** 21d-22m-09.63s	
Location: 0.64 Miles Northeast of Pali Lookout Road	
Historic Name: Pali Bridge No. 5A (Outbound)	
Designer/Engineer:	
Builder/Contractor:	

Location Map:

Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1961	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 2	**Max Span:** 100.1 ft.	**Total Length:** 206.0 ft.	**Deck Width:** 32.5 ft.
Superstructure: Concrete Box Girder			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

See Pali Historic District description.

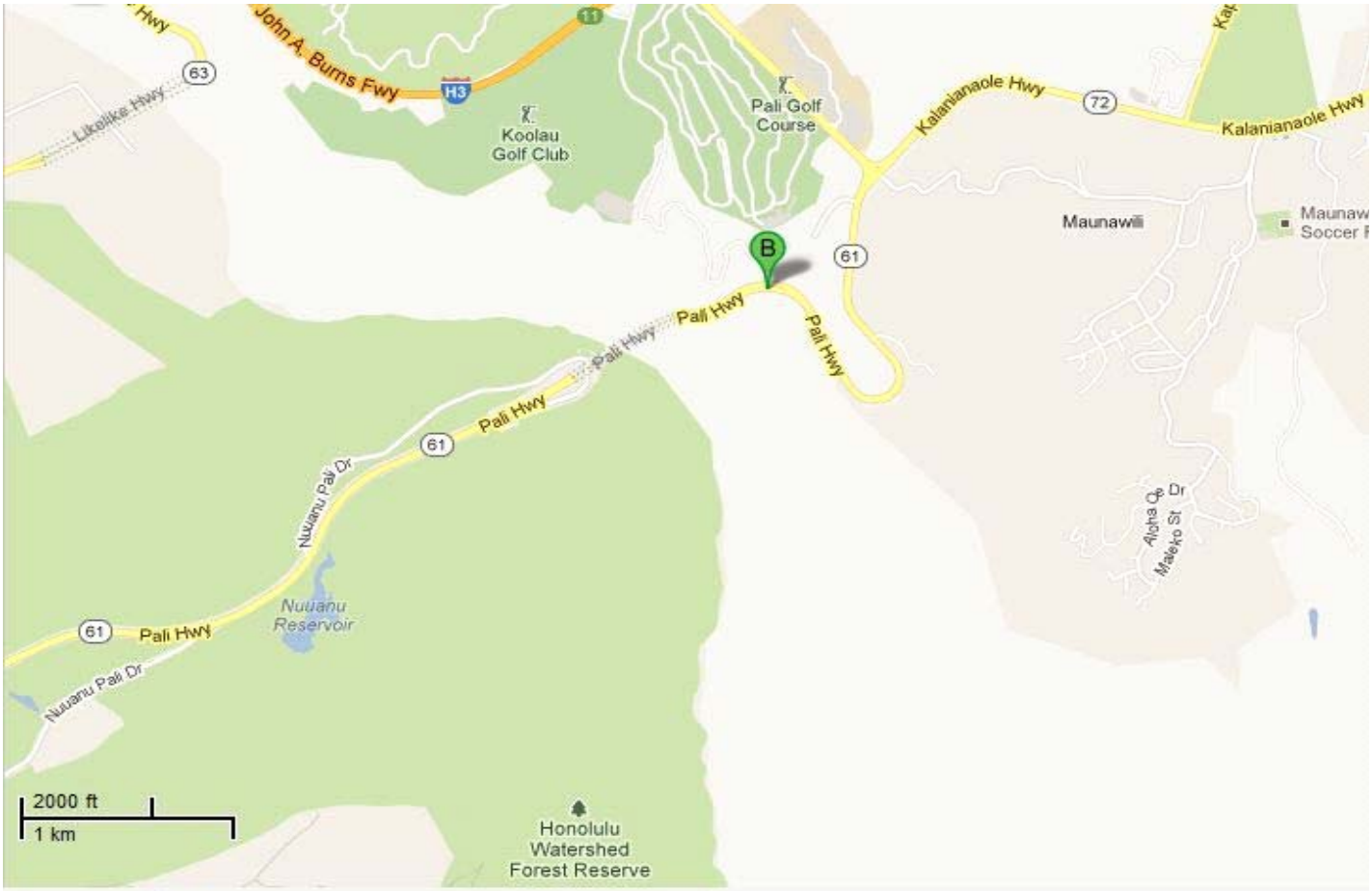
Inventory Form
(State)

General Information

Bridge Number: 003000610300629	**Route No:** 61
Popular Name: Pali Bridge No. 6 (Inbound)	
Feature Crossed: Mountain (Pali Bridge No. 6)	
Feature Carried: Pali Highway	
Milepost: 6.29 mi.	**Island:** Oahu
Longitude: 157d-47m-11.24s	**Latitude:** 21d-22m-11.23s

Location: 0.70 Miles Northeast of Pali Lookout Road
Historic Name: Pali Bridge No. 6 (Inbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1956	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 5	**Max Span:** 45.9 ft.	**Total Length:** 193.9 ft.	**Deck Width:** 32.5 ft.
Superstructure: Concrete Box Girder			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

See Pali Historic District description.

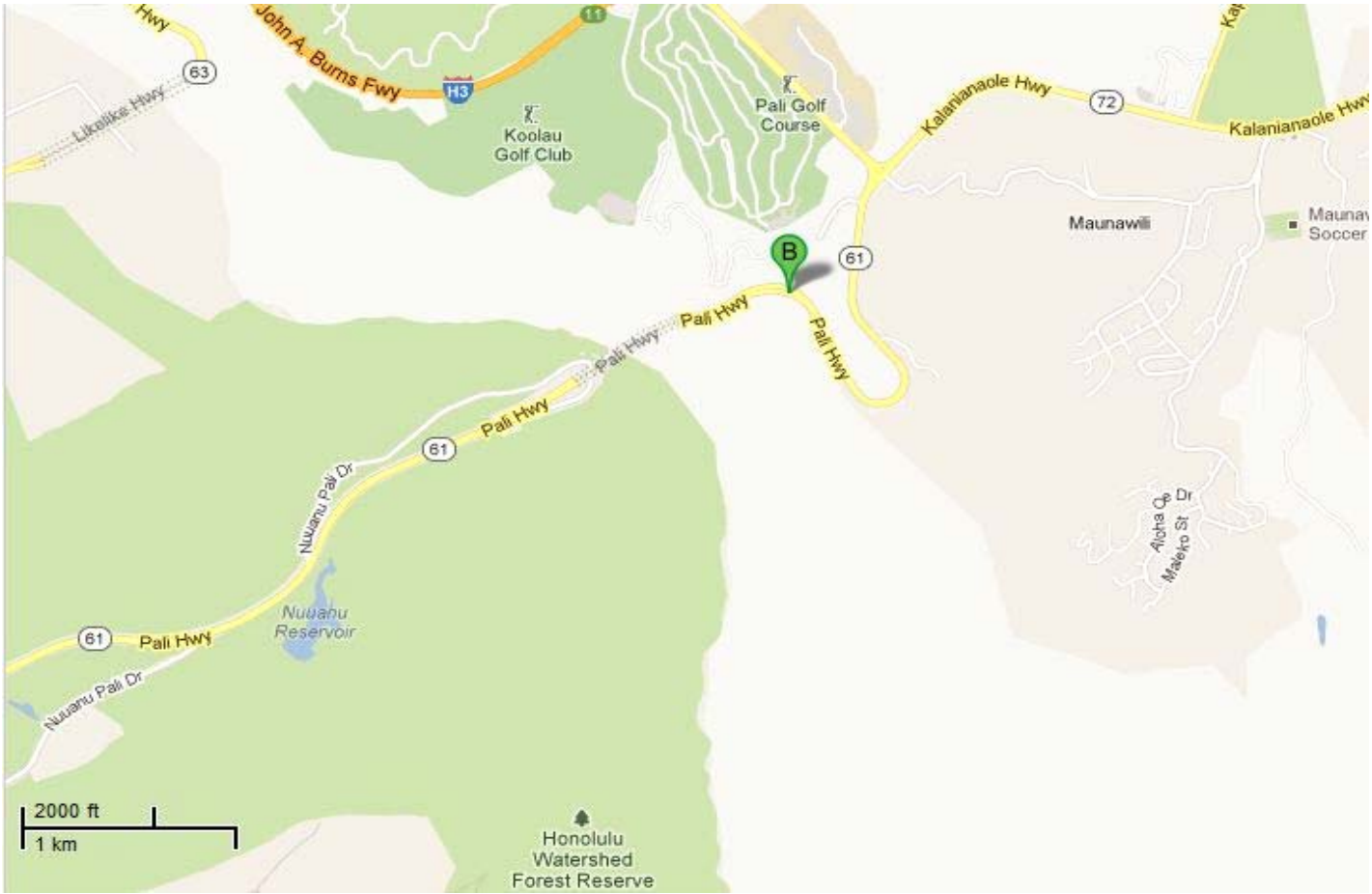
Inventory Form
(State)

General Information

Bridge Number: 003000610300632	**Route No:** 61
Popular Name: Pali Bridge No. 7 (Inbound)	
Feature Crossed: Mountain (Pali Bridge No. 7)	
Feature Carried: Pali Highway	
Milepost: 6.32 mi.	**Island:** Oahu
Longitude: 157d-47m-08.67s	**Latitude:** 21d-22m-11.62s

Location: 0.73 Miles Northeast of Pali Lookout Road
Historic Name: Pali Bridge No. 7 (Inbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1956	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 4	**Max Span:** 78.1 ft.	**Total Length:** 282.2 ft.	**Deck Width:** 32.5 ft.
Superstructure: Concrete Box Girder			
Substructure: Concrete Abutment Wall and Concrete T-Shaped Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

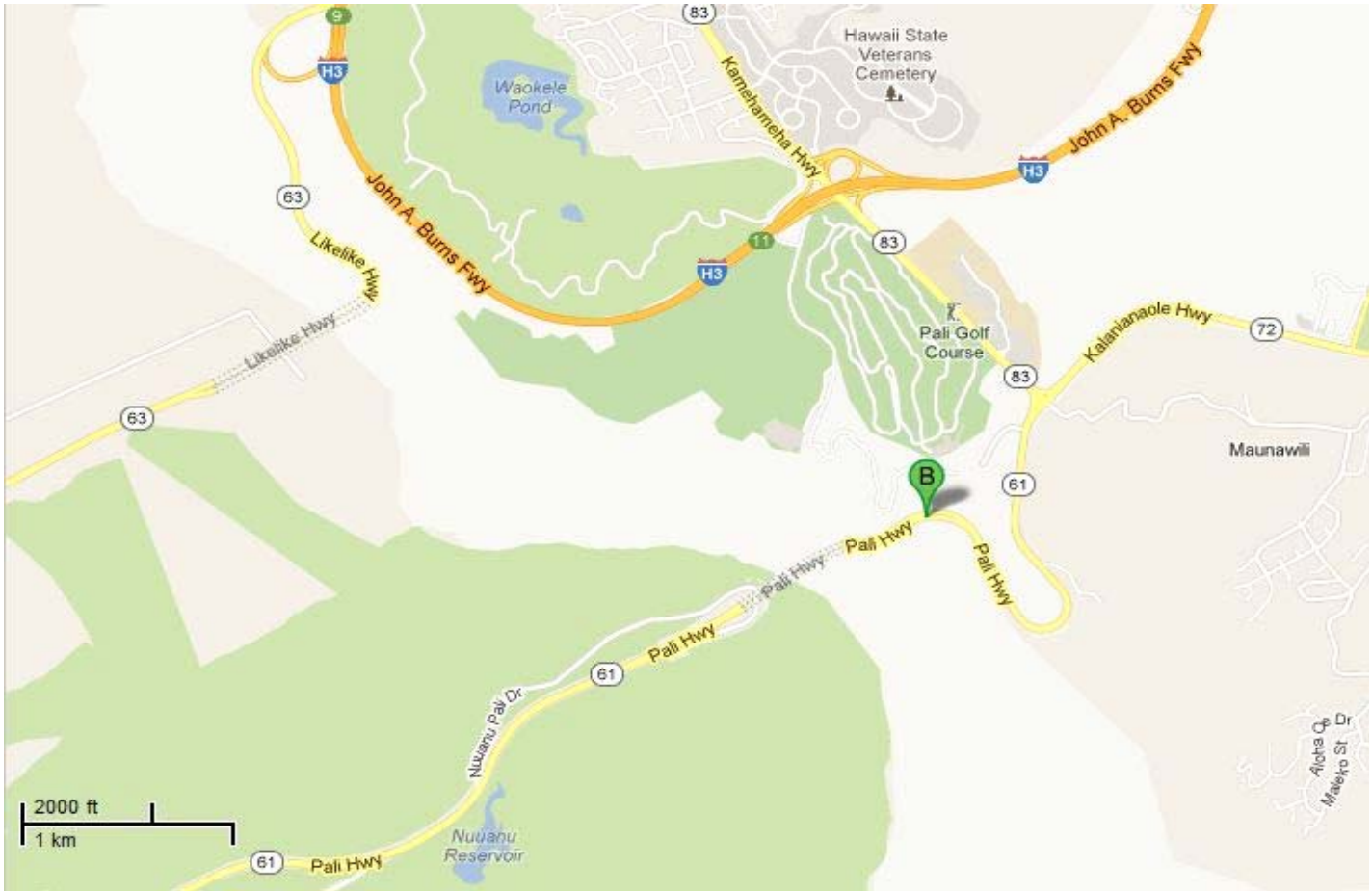
See Pali Historic District description.

Inventory Form
(State)

General Information

Bridge Number: 003000610300631 **Route No:** 61	
Popular Name: Pali Bridge No. 7A (Outbound)	
Feature Crossed: Mountain (Pali Bridge No. 7A)	
Feature Carried: Pali Highway	
Milepost: 6.31 mi. **Island:** Oahu	
Longitude: 157d-47m-08.99s **Latitude:** 21d-22m-10.78s	
Location: 0.72 Miles Northeast of Pali Lookout Road	
Historic Name: Pali Bridge No. 7A (Outbound)	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1961	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 2	**Max Span:** 60.0 ft.	**Total Length:** 128.9 ft.	**Deck Width:** 32.5 ft.
Superstructure: Concrete Box Girder			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

See Pali Historic District description.

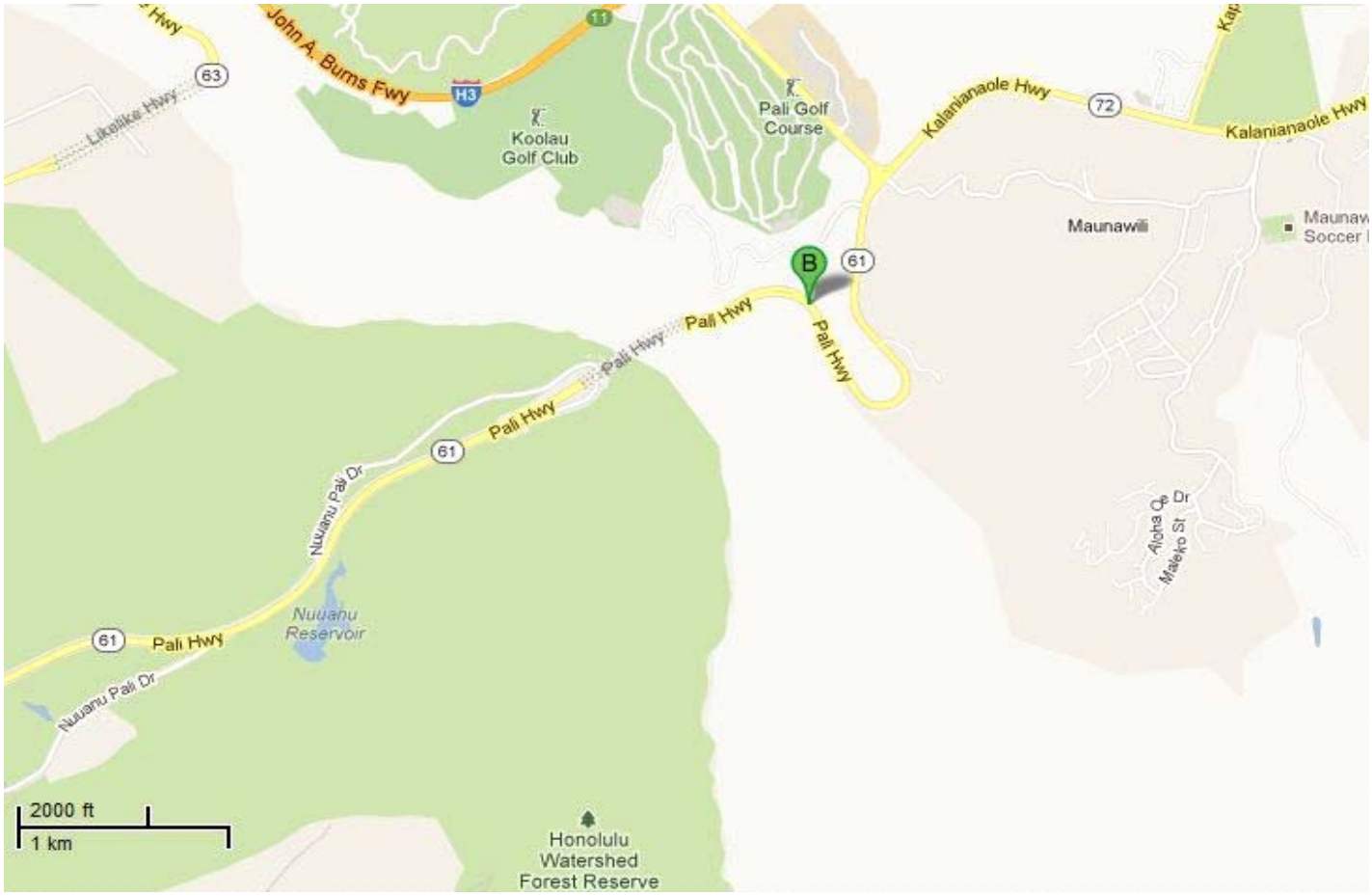
Inventory Form
(State)

General Information

Bridge Number: 003000610300640	**Route No:** 61
Popular Name: Pali Bridge No. 8 (Inbound)	
Feature Crossed: Mountain (Pali Bridge No. 8)	
Feature Carried: Pali Highway	
Milepost: 6.40 mi.	**Island:** Oahu
Longitude: 157d-47m-04.64s	**Latitude:** 21d-22m-10.39s

Location: 0.81 Miles Northeast of Pali Lookout Road
Historic Name: Pali Bridge No. 8 (Inbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1956	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 4	**Max Span:** 94.2 ft.	**Total Length:** 345.1 ft.	**Deck Width:** 32.5 ft.
Superstructure: Concrete Box Girder			
Substructure: Concrete Abutment Wall and Concrete T-Shaped Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

See Pali Historic District description.

Inventory Form
(State)

General Information

Bridge Number: 003000610300638	**Route No:** 61
Popular Name: Pali Bridge No. 8A (Outbound)	
Feature Crossed: Mountain (Pali Bridge No. 8A)	
Feature Carried: Pali Highway	
Milepost: 6.35 mi.	**Island:** Oahu
Longitude: 157d-47m-04.85s	**Latitude:** 21d-22m-09.82s
Location: 0.79 Miles Northeast of Pali Lookout Road	
Historic Name: Pali Bridge No. 8A (Outbound)	
Designer/Engineer:	
Builder/Contractor:	

Location Map:

Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1961	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 2	**Max Span:** 84.0 ft.	**Total Length:** 175.9 ft.	**Deck Width:** 32.5 ft.
Superstructure: Concrete Box Girder			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

003000610300638 Pali Bridge No. 8A (Outbound)

Significance Statement:

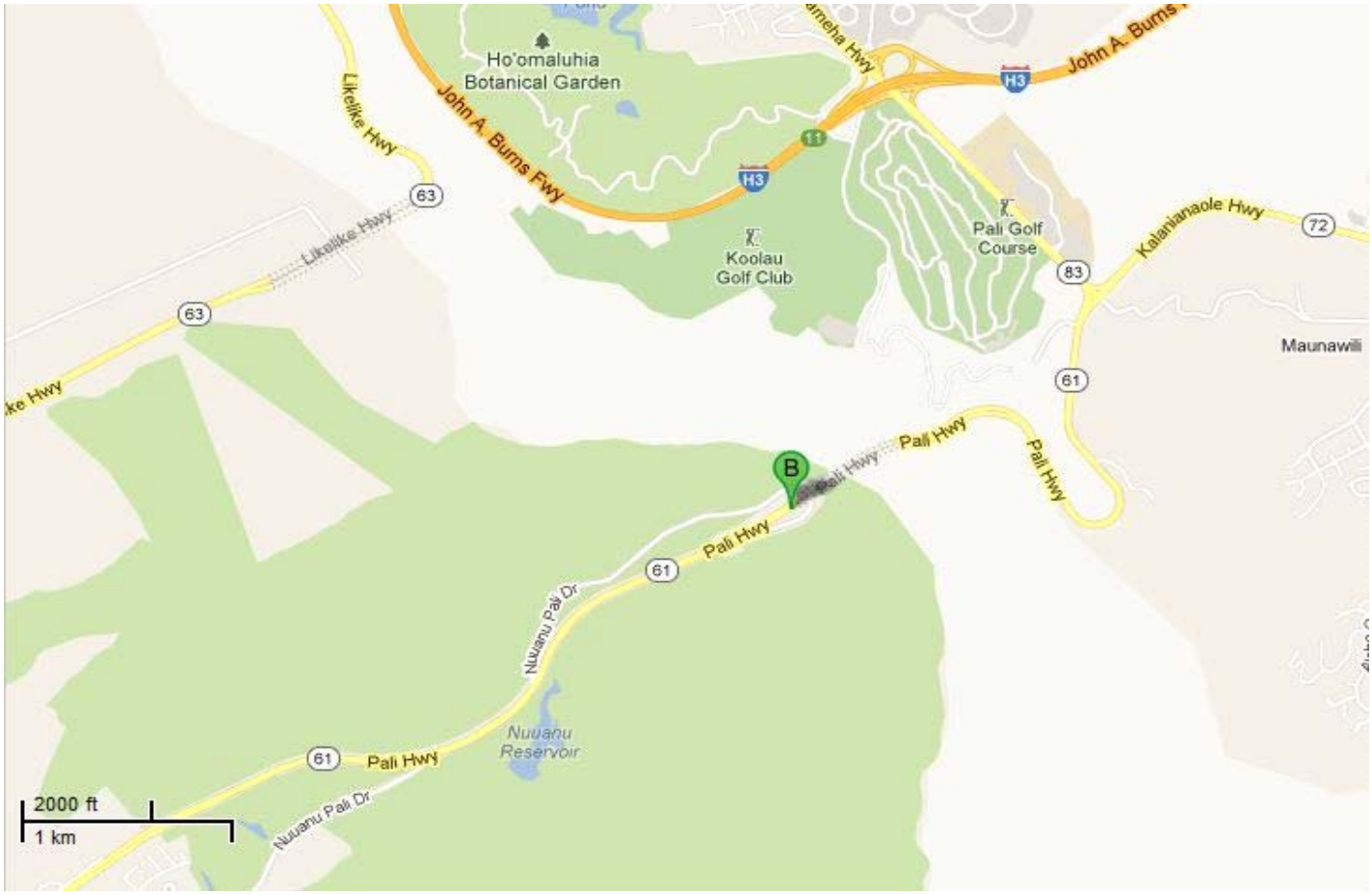
See Pali Historic District description.

Inventory Form
(State)

General Information

Bridge Number: 003000610300591 **Route No:** 61	
Popular Name: Pali Partial Bridge No. 1 (Inbound)	
Feature Crossed: Mountain (Pali Partial Bridge No. 1)	
Feature Carried: Pali Highway	
Milepost: 5.91 mi. **Island:** Oahu	
Longitude: 157d-47m-31.48s **Latitude:** 21d-22m-02.75s	
Location: 0.32 Miles Northeast of Pali Lookout Road	
Historic Name: Pali Partial Bridge No. 1 (Inbound)	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1956	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 38.1 ft.	**Total Length:** 40.0 ft.	**Deck Width:** 32.2 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

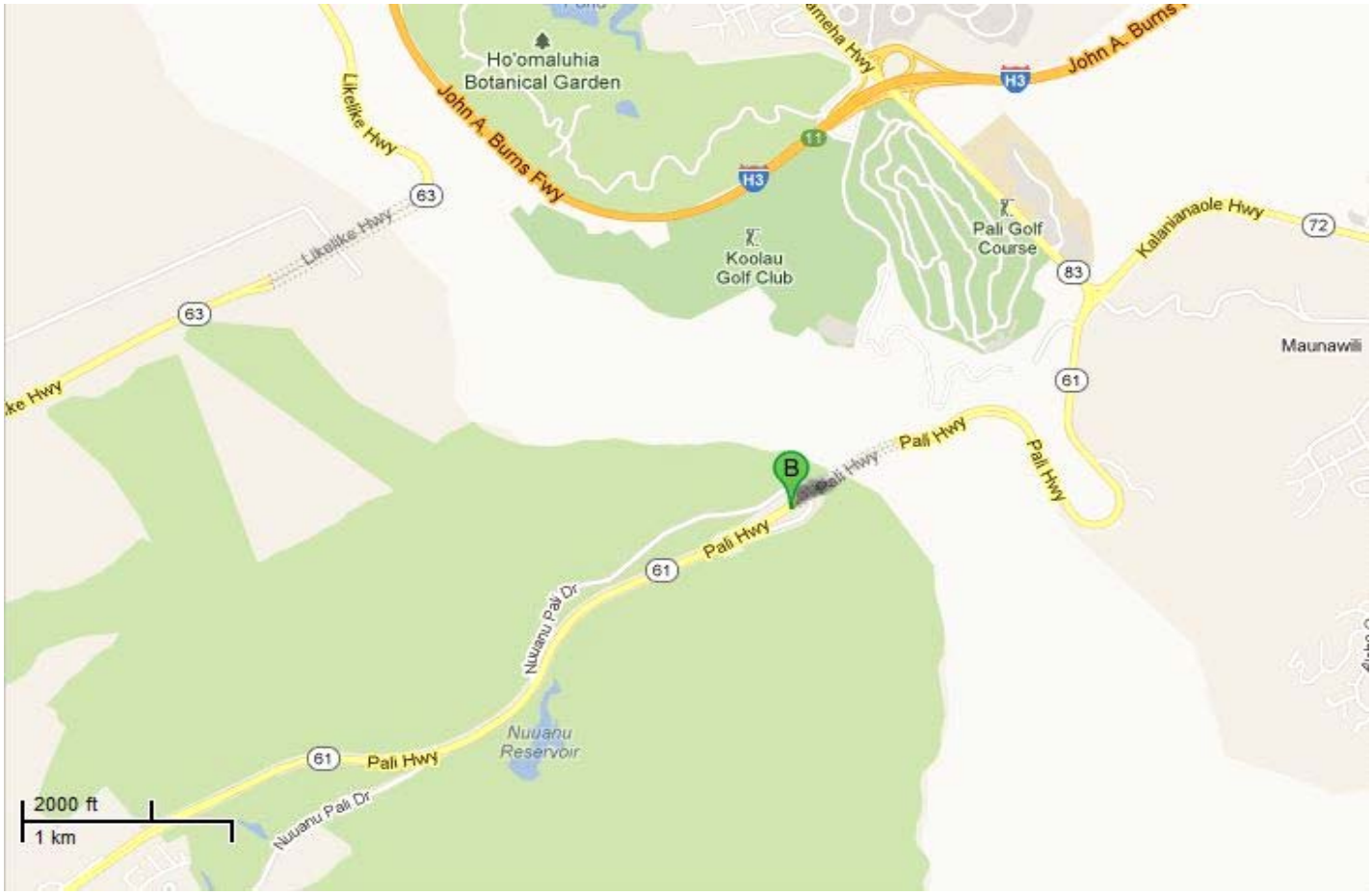
See Pali Historic District description.

Inventory Form
(State)

General Information

Bridge Number: 003000610300592 **Route No:** 61	
Popular Name: Pali Partial Bridge No. 2 (Inbound)	
Feature Crossed: Mountain (Pali Partial Bridge No. 2)	
Feature Carried: Pali Highway	
Milepost: 5.92 mi. **Island:** Oahu	
Longitude: 157d-47m-30.90s **Latitude:** 21d-22m-03.18s	
Location: 0.33 Miles Northeast of Pali Lookout Road	
Historic Name: Pali Partial Bridge No. 2 (Inbound)	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1956	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 59.1 ft.	**Total Length:** 62.0 ft.	**Deck Width:** 32.2 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

See Pali Historic District description.

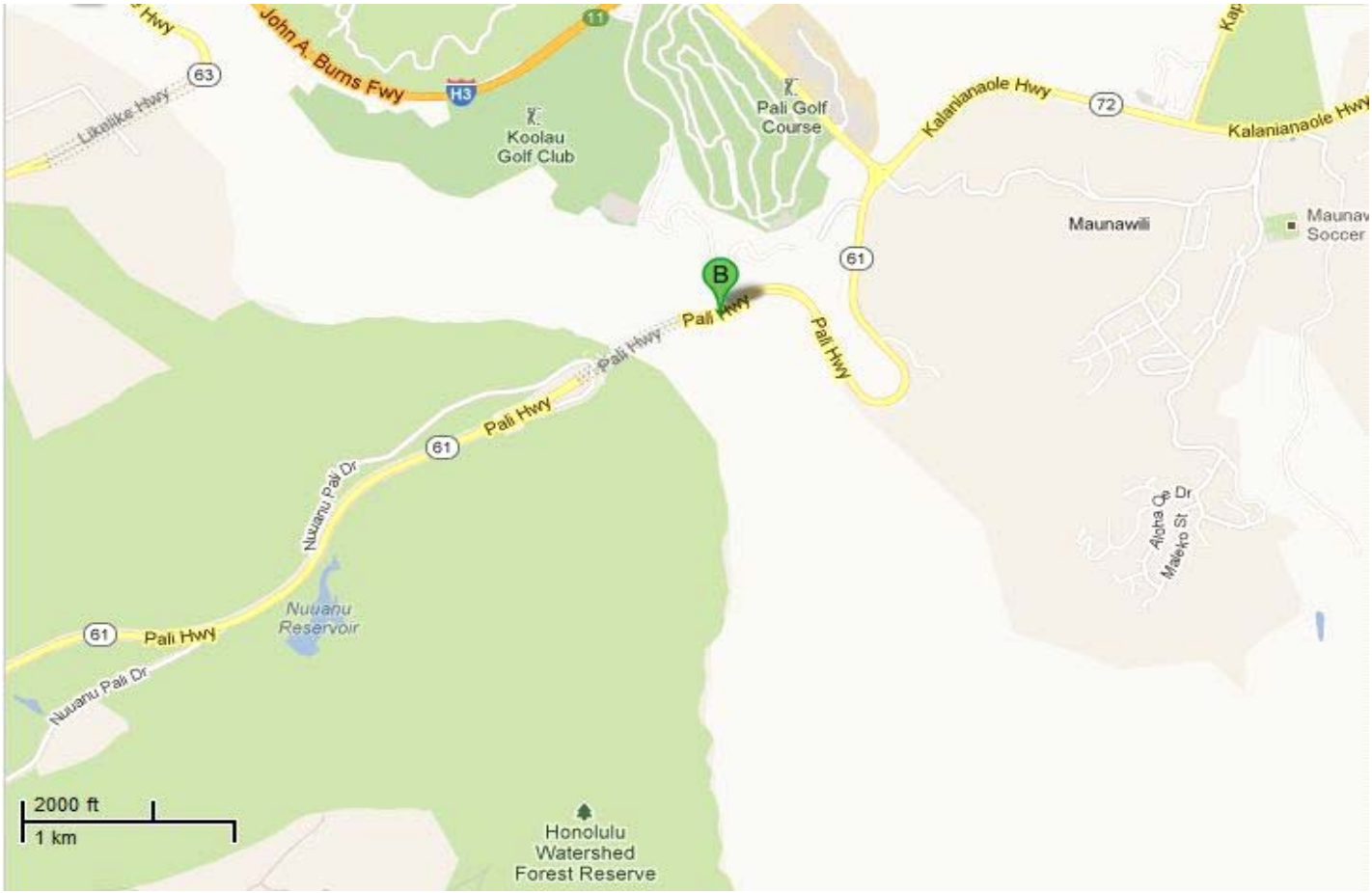
Inventory Form
(State)

General Information

Bridge Number: 003000610300613	**Route No:** 61
Popular Name: Pali Partial Bridge No. 4A (Outbound)	
Feature Crossed: Mountain (Pali Bridge No. 4A)	
Feature Carried: Pali Highway	
Milepost: 6.13 mi.	**Island:** Oahu
Longitude: 157d-47m-18.23s	**Latitude:** 21d-22m-06.64s

Location: 0.54 Miles Northeast of Pali Lookout Road
Historic Name: Pali Partial Bridge No. 4A (Outbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1961	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 4	**Max Span:** 27.9 ft.	**Total Length:** 113.8 ft.	**Deck Width:** 31.5 ft.
Superstructure: Concrete Tee Beam			
Substructure: Masonry Abutment and Concrete Single Column Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

See Pali Historic District description.

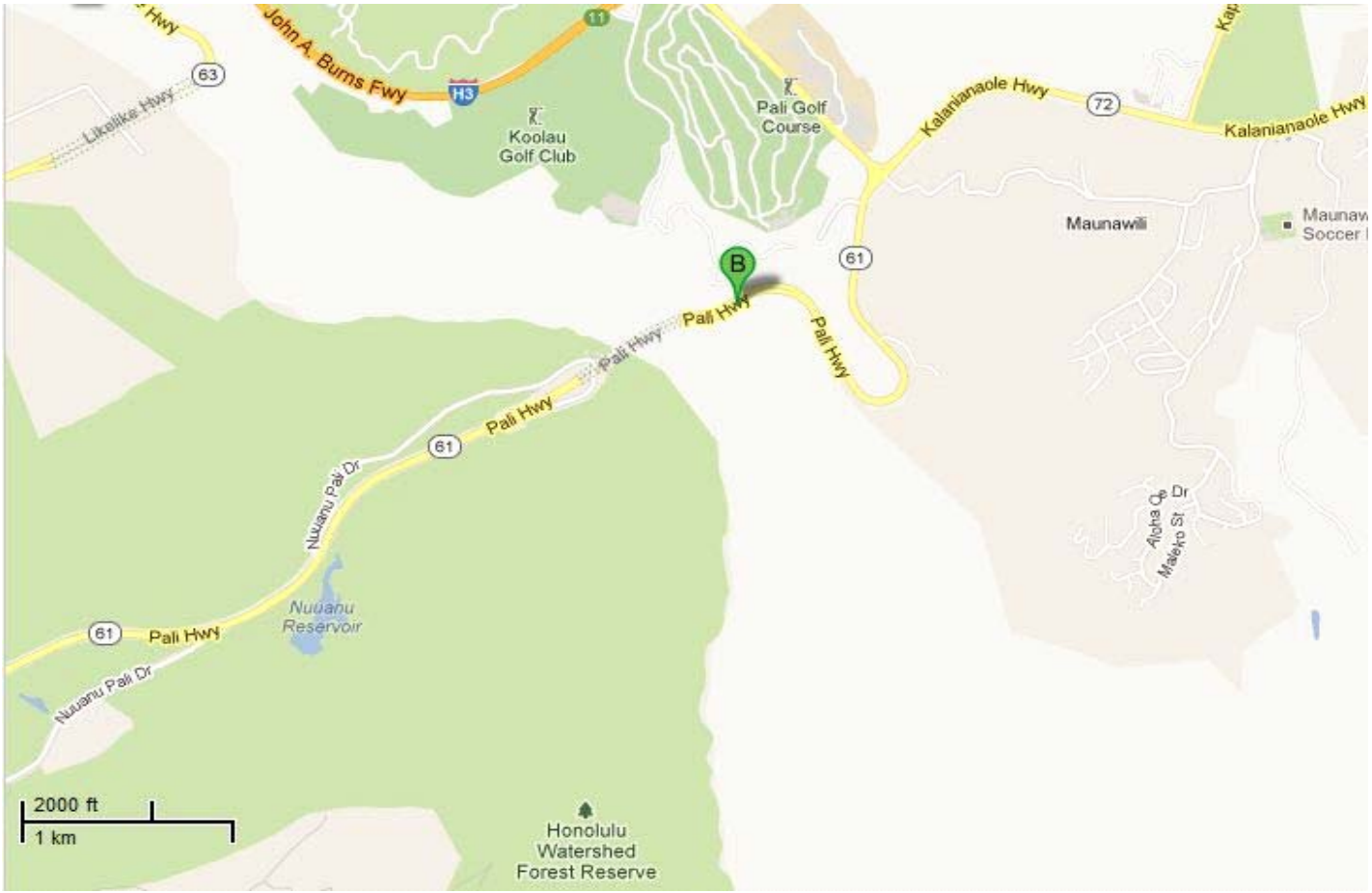
Inventory Form
(State)

General Information

Bridge Number: 003000610300619 **Route No:** 61	
Popular Name: Pali Partial Bridge No. 4C (Outbound)	
Feature Crossed: Mountain (Pali Bridge No. 4C)	
Feature Carried: Pali Highway	
Milepost: 6.19 mi. **Island:** Oahu	
Longitude: 157d-47m-16.63s **Latitude:** 21d-22m-07.53s	

Location: 0.60 Miles Northeast of Pali Lookout Road
Historic Name: Pali Partial Bridge No. 4C (Outbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1961	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 2	**Max Span:** 26.9 ft.	**Total Length:** 74.1 ft.	**Deck Width:** 32.5 ft.
Superstructure: Concrete Box Girder			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

See Pali Historic District description.

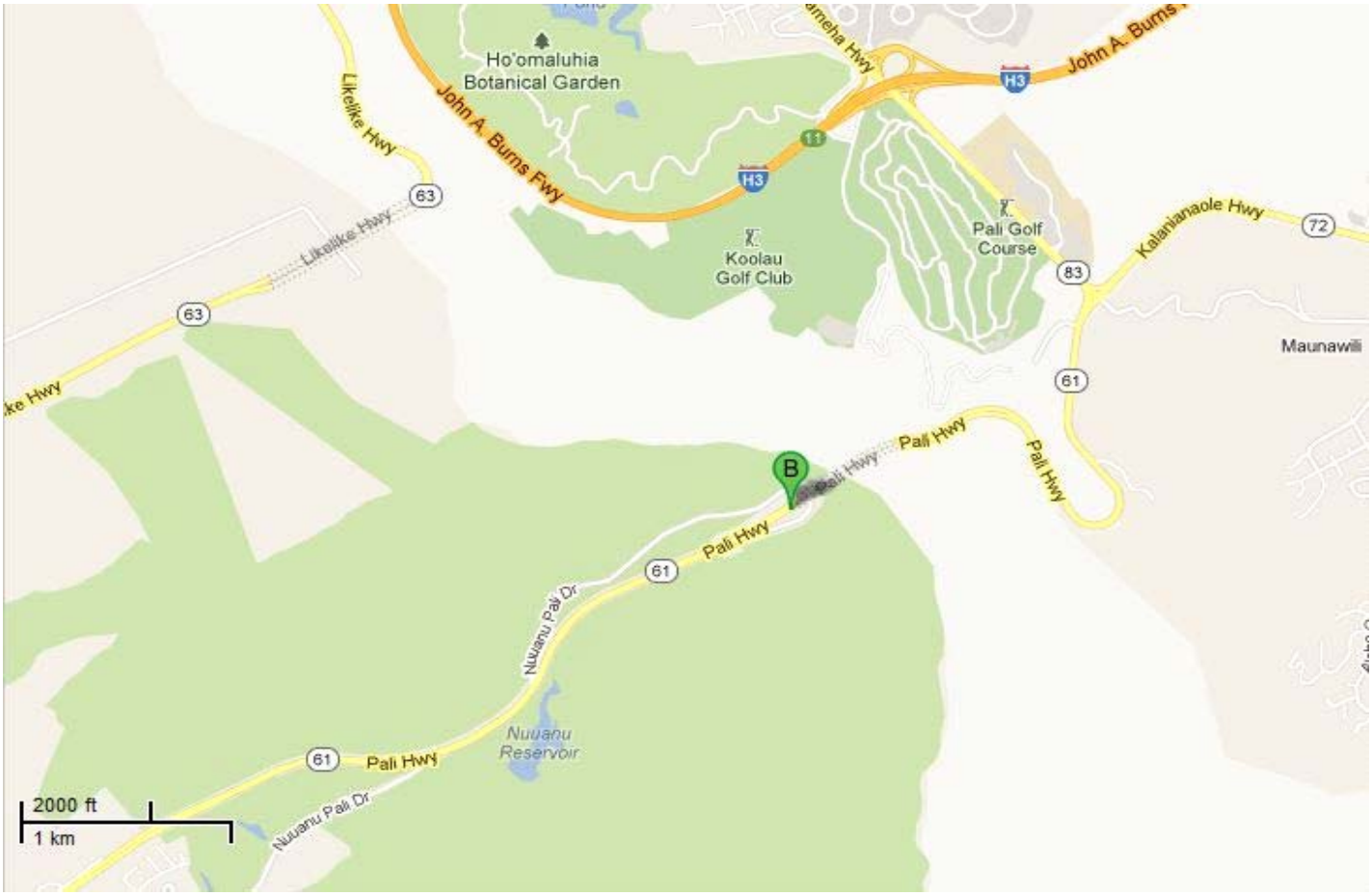
Inventory Form
(State)

General Information

Bridge Number: 003000610300569	**Route No:** 61
Popular Name: Pali Tunnel No. 1 (Inbound)	
Feature Crossed: Mountain (Pali Tunnel No. 1)	
Feature Carried: Pali Highway	
Milepost: 5.69 mi.	**Island:** Oahu
Longitude: 157d-47m-32.01s	**Latitude:** 21d-22m-02.22s

Location: 0.10 Miles Northeast of Pali Lookout Road
Historic Name: Pali Tunnel No. 1 (Inbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Arch Culvert	**Construction Date:** 1957	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 27.9 ft.	**Total Length:** 1000.0 ft.	**Deck Width:** 31.5 ft.
Superstructure:			
Substructure: Concrete Arch Culvert			
Floor/Decking: AC Pavement			
Parapets/Railings: No Parapet/Railing			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

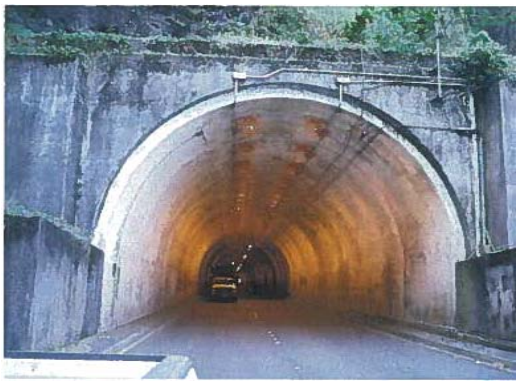
Significance Statement:

See Pali Historic District description.

Inventory Form
(State)

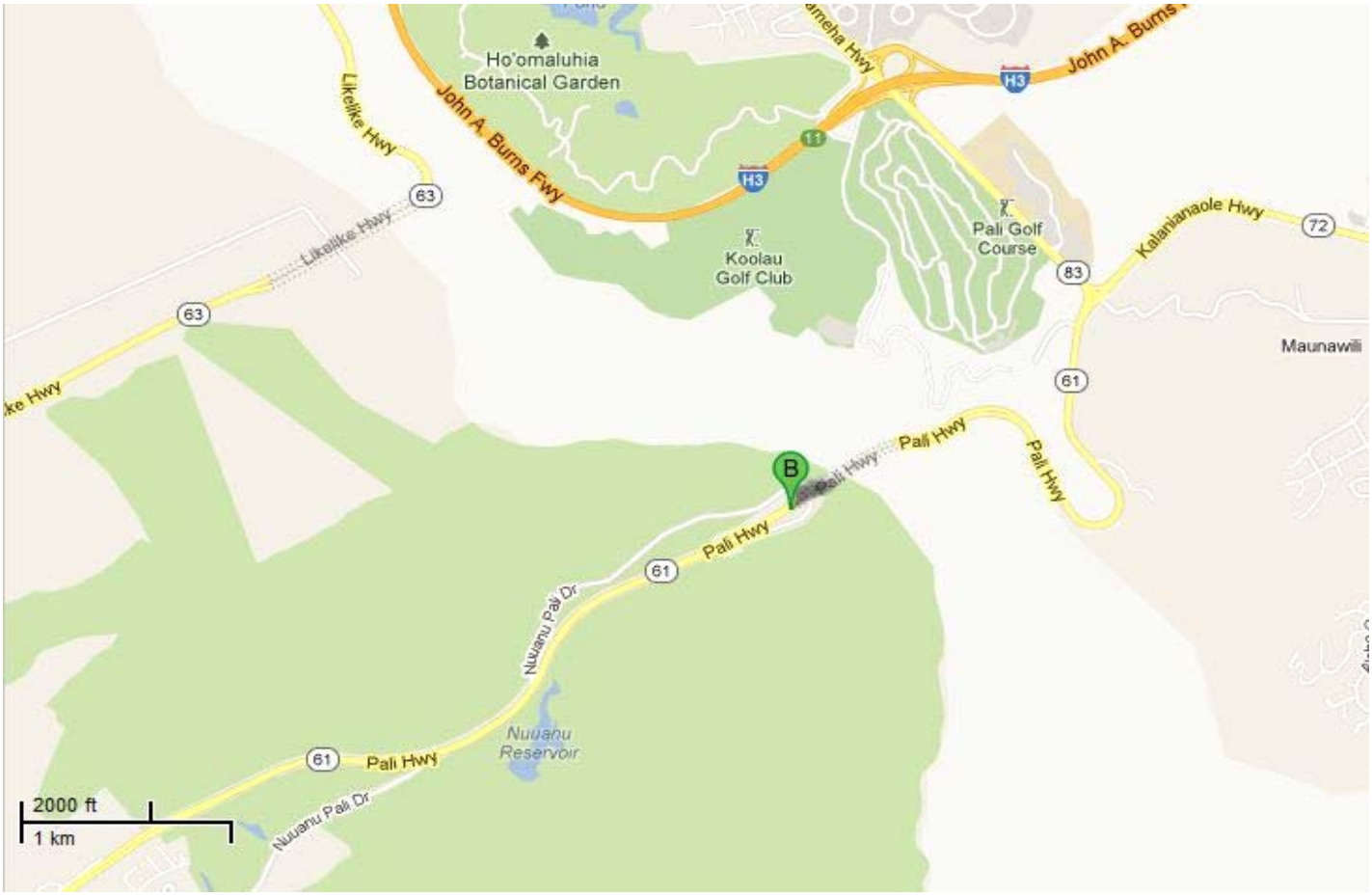
General Information

Bridge Number: 003000610300568	**Route No:** 61
Popular Name: Pali Tunnel No. 1A (Outbound)	
Feature Crossed: Mountain (Pali Tunnel No. 1A)	
Feature Carried: Pali Highway	
Milepost: 5.68 mi.	**Island:** Oahu
Longitude: 157d-47m-40.70s	**Latitude:** 21d-21m-55.58s



Location: 0.10 Miles Northeast of Pali Lookout Road
Historic Name: Pali Tunnel No. 1A (Outbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Arch Culvert	**Construction Date:** 1959	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 27.9 ft.	**Total Length:** 1080.1 ft.	**Deck Width:** 31.5 ft.
Superstructure:			
Substructure: Concrete Arch Culvert			
Floor/Decking: AC Pavement			
Parapets/Railings: No Parapet/Railing			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

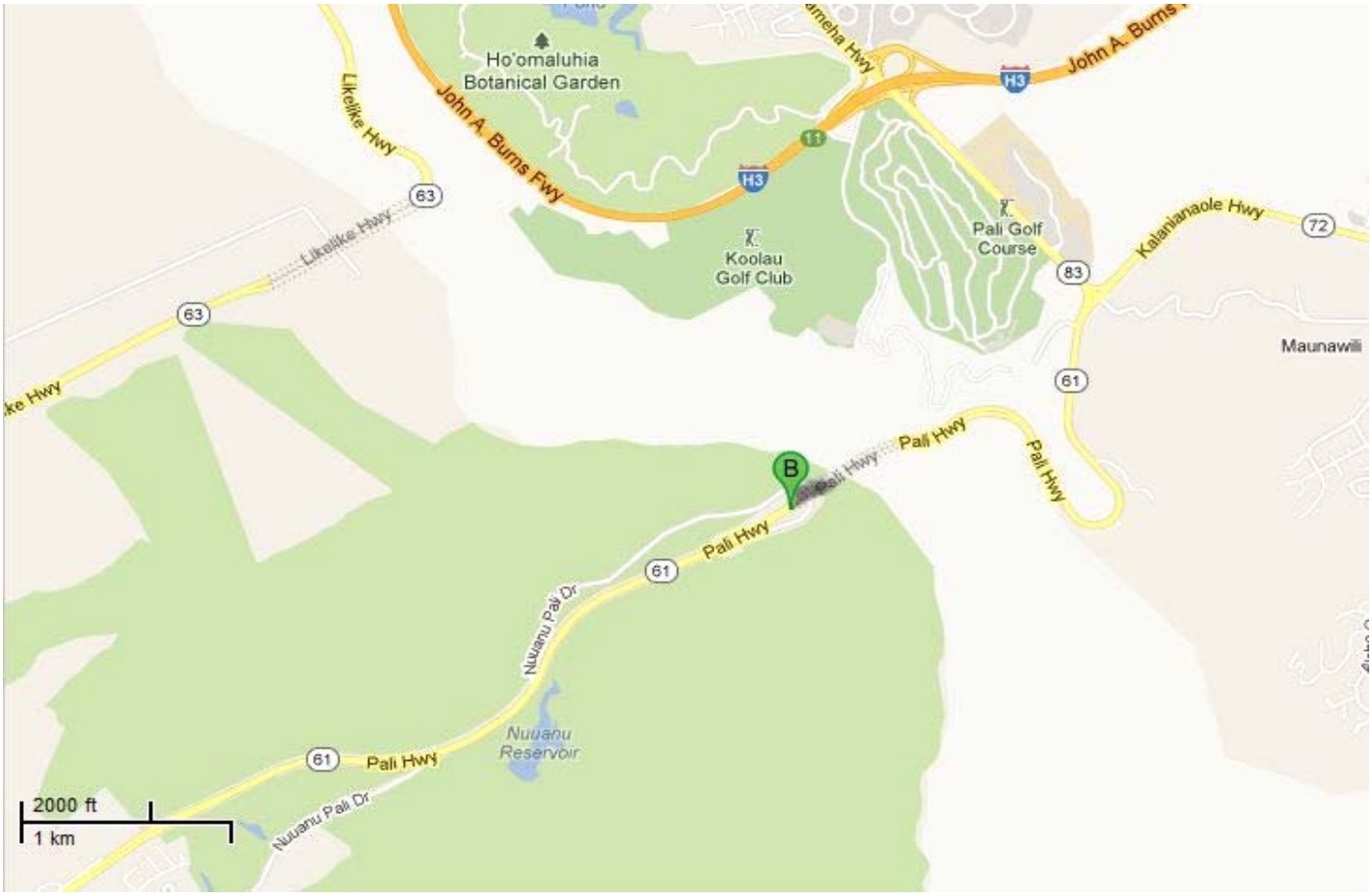
See Pali Historic District description.

Inventory Form
(State)

General Information

Bridge Number: 003000610300596 **Route No:** 61	
Popular Name: Pali Tunnel No. 2 (Inbound)	
Feature Crossed: Mountain (Pali Tunnel No. 2)	
Feature Carried: Pali Highway	
Milepost: 5.96 mi. **Island:** Oahu	
Longitude: 157d-47m-24.05s **Latitude:** 21d-22m-06.23s	
Location: 0.36 Miles Northeast of Pali Lookout Road	
Historic Name: Pali Tunnel No. 2 (Inbound)	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Arch Culvert	**Construction Date:** 1957	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 27.9 ft.	**Total Length:** 500.0 ft.	**Deck Width:** 31.5 ft.
Superstructure:			
Substructure: Concrete Arch Culvert			
Floor/Decking: AC Pavement			
Parapets/Railings: No Parapet/Railing			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

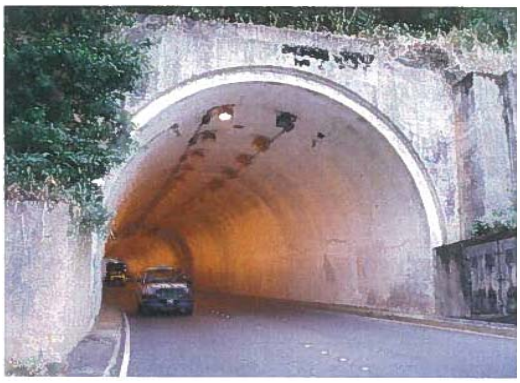
Significance Statement:

See Pali Historic District description.

Inventory Form
(State)

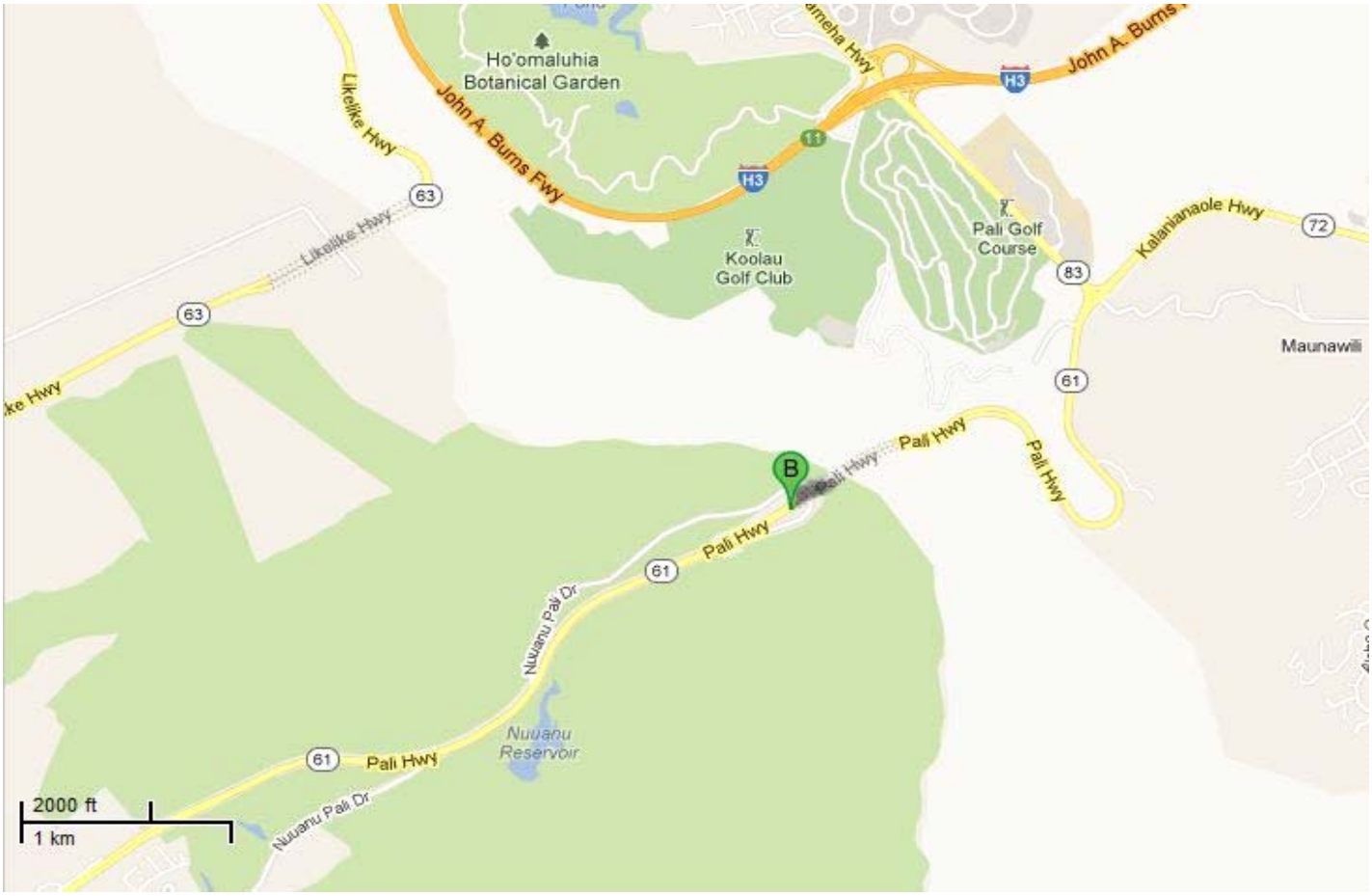
General Information

Bridge Number: 003000610300595	**Route No:** 61
Popular Name: Pali Tunnel No. 2A (Outbound)	
Feature Crossed: Mountain (Pali Tunnel No. 2A)	
Feature Carried: Pali Highway	
Milepost: 5.95 mi.	**Island:** Oahu
Longitude: 157d-47m-28.64s	**Latitude:** 21d-22m-03.54s



Location: 0.36 Miles Northeast of Pali Lookout Road
Historic Name: Pali Tunnel No. 2A (Outbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Arch Culvert	**Construction Date:** 1961	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 27.9 ft.	**Total Length:** 497.0 ft.	**Deck Width:** 31.5 ft.
Superstructure:			
Substructure: Concrete Arch Culvert			
Floor/Decking: AC Pavement			
Parapets/Railings: No Parapet/Railing			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

See Pali Historic District description.

Inventory Form
(State)

General Information

Bridge Number: 003000830302186	**Route No:** 83
Popular Name: Papau Stream-Waipuhi	
Feature Crossed: Papau Stream	
Feature Carried: Kamehameha Highway	
Milepost: 21.86 mi.	**Island:** Oahu
Longitude: 157d-54m-24.76s	**Latitude:** 21d-36m-25.30s

Location: 0.23 Miles Southeast of Kukuna Road
Historic Name: Papau Stream-Waipuhi
Designer/Engineer:
Builder/Contractor:

Location Map:

Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1932	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1997	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1997.		

Bridge Information

Number of Spans: 1	**Max Span:** 22.0 ft.	**Total Length:** 24.0 ft.	**Deck Width:** 27.6 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Papau Stream-Waipuhi Stream Bridge carries Kamehameha Highway across the Papau Stream. This concrete tee beam bridge is in its original location and in fair condition, and its materials remain intact. The bridge has concrete solid panel parapets with flat caps and curved end posts. The concrete deck is supported by concrete abutments. The parapet and end posts caps have been painted white. A wood pedestrian walkway with wood horizontal railings was added to one side of the bridge in 1997. Thrie beams were bolted to the end posts. The simple design of the parapet retains its historic feeling.

Significance Statement:

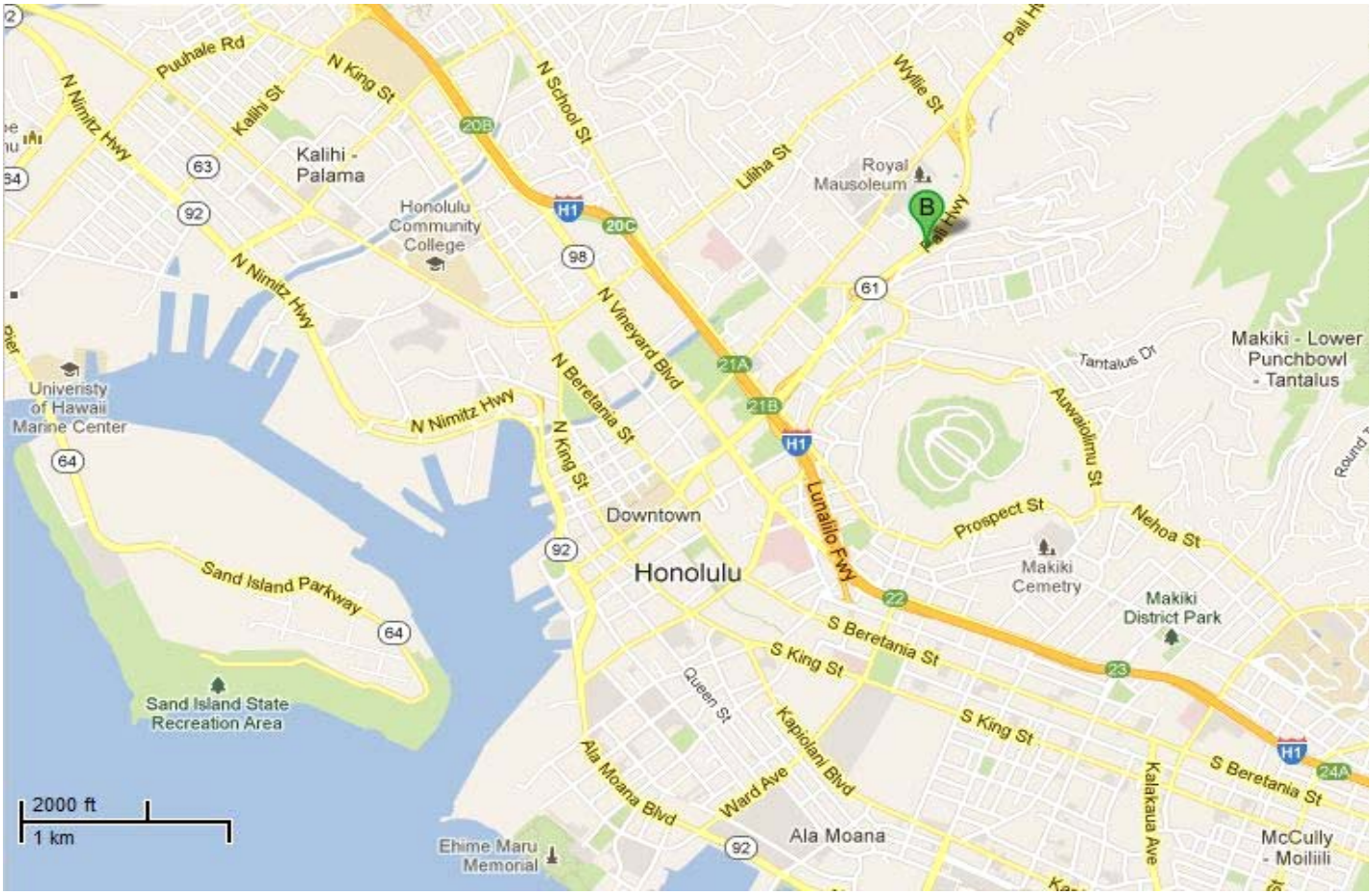
This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003000610400090 **Route No:** 61	
Popular Name: Partial Bridge No. 8	
Feature Crossed: Unnamed Gulch	
Feature Carried: Pali Highway	
Milepost: 0.90 mi. **Island:** Oahu	
Longitude: 157d-50m-48.40s **Latitude:** 21d-19m-21.01s	
Location: 0.26 Miles Northeast of Pauoa Road	
Historic Name: Partial Bridge No. 8	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1962	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 2	**Max Span:** 37.1 ft.	**Total Length:** 76.1 ft.	**Deck Width:** 35.1 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Single Column Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete and Metal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

See Pali Historic District description.

Inventory Form
(State)

General Information

Bridge Number: 003000830300869	**Route No:** 83
Popular Name: Paumalu Stream	
Feature Crossed: Paumalu Stream	
Feature Carried: Kamehameha Highway	
Milepost: 8.69 mi.	**Island:** Oahu
Longitude: 158d-02m-29.72s	**Latitude:** 21d-40m-21.53s

Location: 0.03 Miles Southwest of Paumalu Place
Historic Name: Paumalu Stream
Designer/Engineer:
Builder/Contractor:

Location Map:

Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1930	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1984	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1984.		

Bridge Information

Number of Spans: 5	**Max Span:** 18.0 ft.	**Total Length:** 89.9 ft.	**Deck Width:** 26.9 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Paumalu Stream Bridge carries Kamehameha Highway across the Paumalu Stream. This concrete slab bridge is in its original location, is in fair condition, and its materials remain intact. The bridge has concrete solid panel parapets with flat caps and wide end posts with the bridge name engraved. The concrete deck is supported by the concrete piers and concrete abutments. Only the parapet caps have been painted white. A wood walkway with horizontal metal railing was added to one side of the bridge and utility pipes were attached to the both side of the piers in 1984. Thrie beams were bolted to the end posts which obscures the engraved bridge name. The simple design of the parapet retains its historic feeling.

Significance Statement:

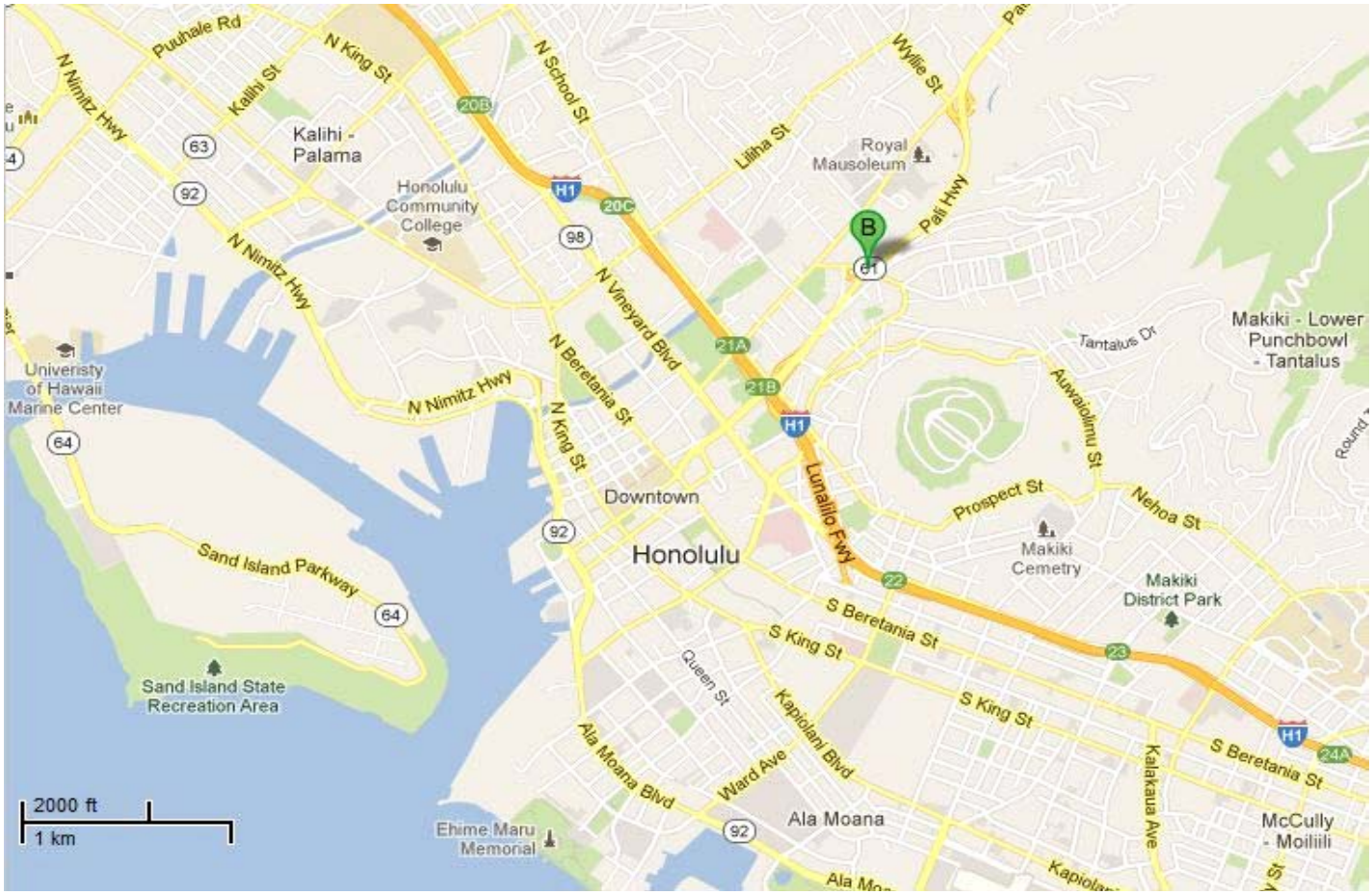
This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003000610400064 **Route No:** 61	
Popular Name: Pauoa Road Overpass	
Feature Crossed: Pauoa Road	
Feature Carried: Pali Highway	
Milepost: 0.61 mi. **Island:** Oahu	
Longitude: 157d-50m-59.64s **Latitude:** 21d-19m-12.13s	
Location: 0.46 Miles Northeast of School Street	
Historic Name: Pauoa Road Overpass	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1961	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 63.0 ft.	**Total Length:** 68.9 ft.	**Deck Width:** 82.3 ft.
Superstructure: Prestressed Concrete I-Girder			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete and Metal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Transportation, Engineering		

Narrative Description:

See Pali Historic District description.

Significance Statement:

See Pali Historic District description.

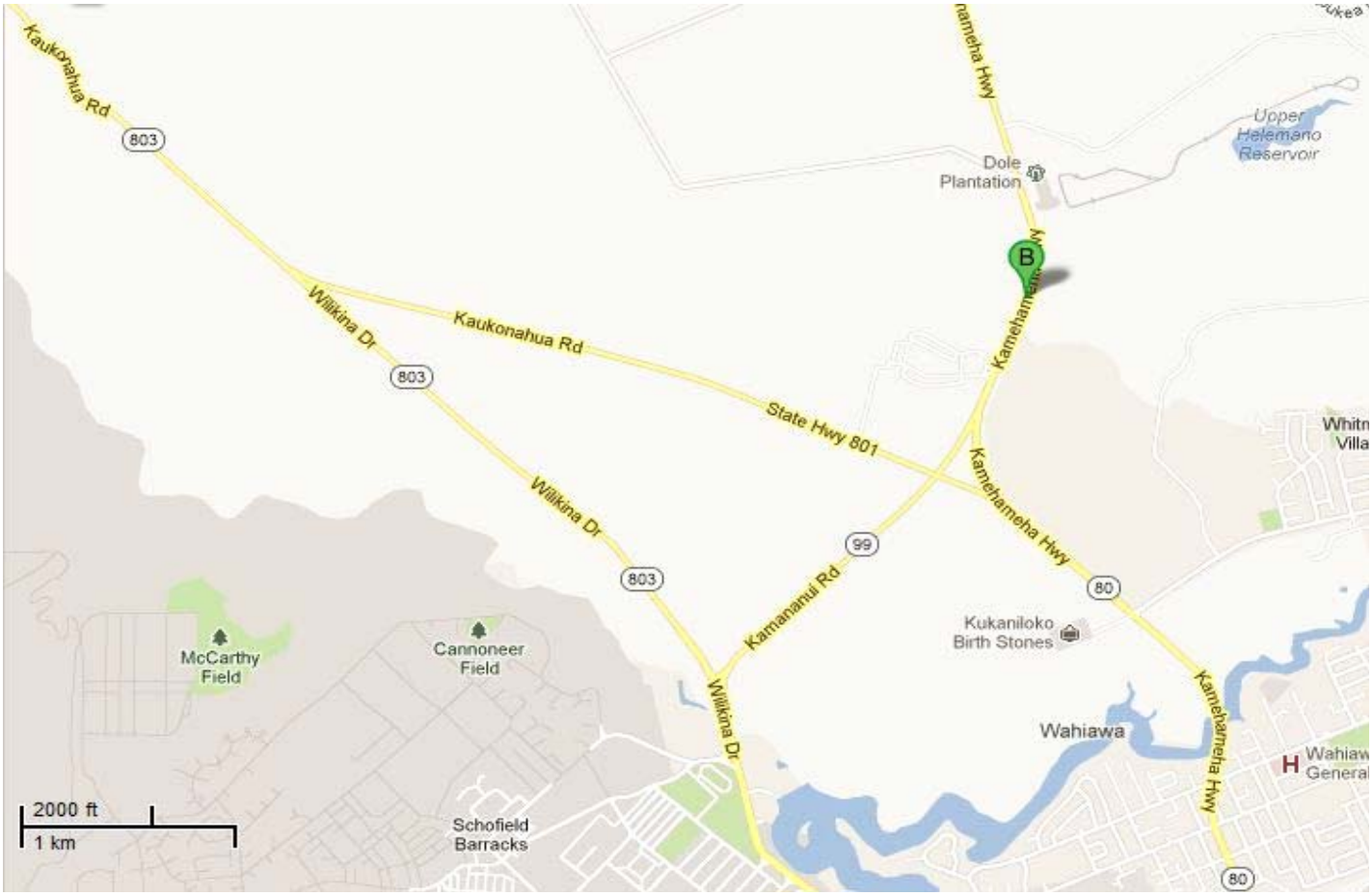
Inventory Form
(State)

General Information

Bridge Number: 003000990300626	**Route No:** 99
Popular Name: Poamoho Stream	
Feature Crossed: Upper Poamoho Stream	
Feature Carried: Kamehameha Highway	
Milepost: 6.26 mi.	**Island:** Oahu
Longitude: 158d-02m-20.59s	**Latitude:** 21d-31m-06.11s

Location: 0.18 Miles North of Nui Avenue
Historic Name: Poamoho Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1936	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 4	**Max Span:** 116.1 ft.	**Total Length:** 404.9 ft.	**Deck Width:** 31.8 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Double Column Pier			
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:

The Poamoho Stream Bridge carries Kamehameha Highway across the Poamoho Stream. This concrete tee beam bridge is in its original location but in poor condition. The bridge has concrete open Greek cross parapets with flat caps and curved wide solid end posts. End posts consist of stepped profile and two of the posts have the bridge name and the year of construction engraved. The concrete deck is supported by concrete piers and abutments. Thrie beams were bolted to the end posts however, the simple design of the parapet retains its historic feeling.

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

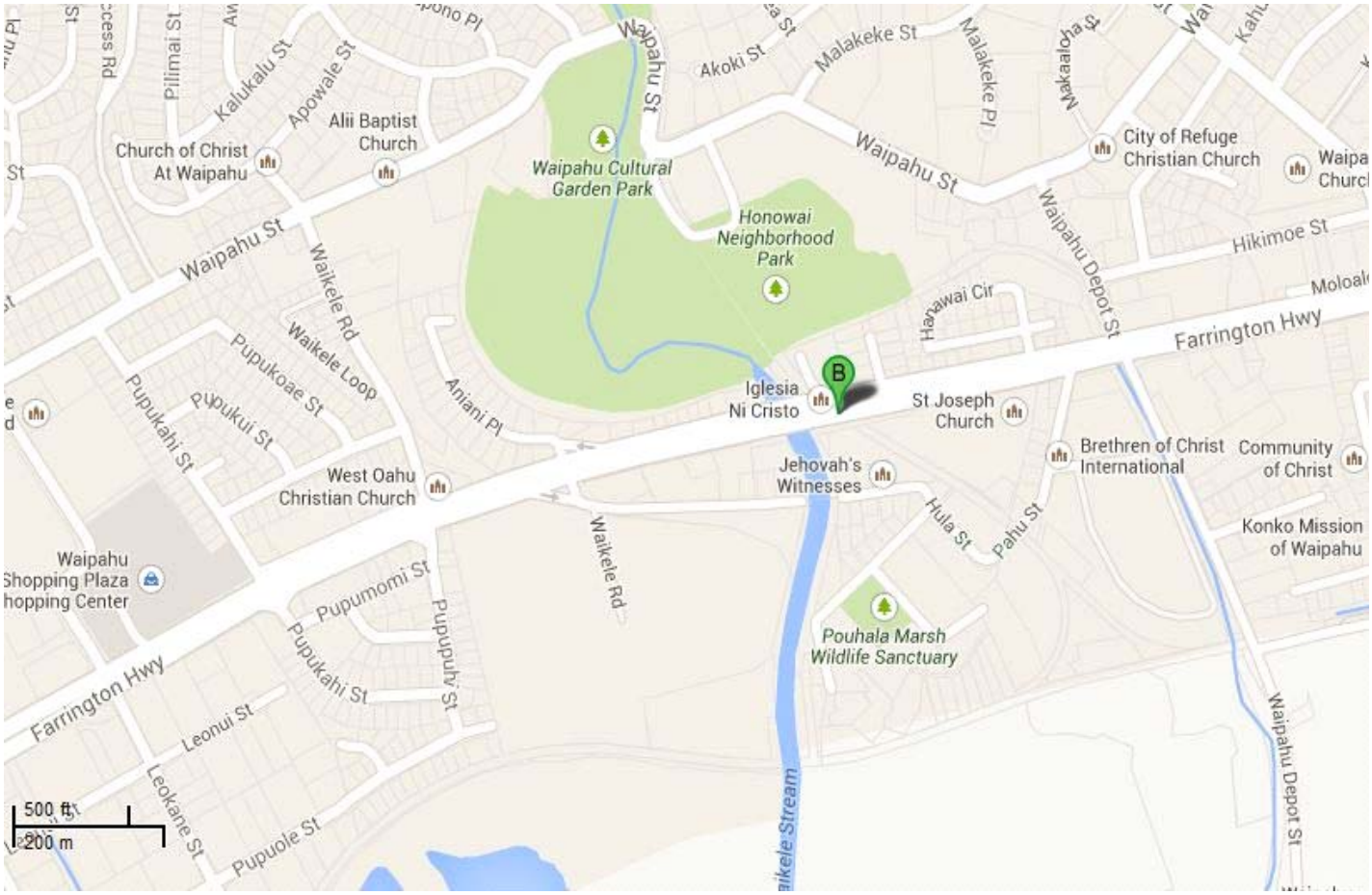
Inventory Form
(State)

General Information

Bridge Number: 003090001400114	**Route No:** 7101
Popular Name: Railroad Crossing (Highway Overpass)	
Feature Crossed: Railroad Crossing	
Feature Carried: Farrington Highway	
Milepost: 1.17 mi.	**Island:** Oahu
Longitude: 158d-00m-36.22s	**Latitude:** 21d-22m-58.28s

Location: 0.28 Miles East of Waikele Road
Historic Name: Railroad Crossing (Highway Overpass)
Designer/Engineer:
Builder/Contractor:

Location Map:



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:** 42.0 ft.	**Total Length:** 48.9 ft.	**Deck Width:** 32.2 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: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Agriculture, Engineering		

Narrative Description:

The Railroad Crossing (Highway Overpass) Bridge carries Farrington Highway across a Railroad right of way. This reinforced concrete bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete open Greek cross parapets with stepped caps and curved wide end posts. The concrete deck is supported by concrete abutments. The posts consist of a stepped profile and one of the posts has the bridge name engraved upon it. The concrete deck is supported by concrete piers and masonry abutments. Thrie beams were bolted to the end posts and small triangular concrete blocks were attached to the posts to create a flat surface. The simple design of the parapet retains its historic feeling.

Significance Statement:

This bridge is eligible under Criterion A for its association with plantation industry that the rail road was running under the bridge. It is also eligible for Criterion C as a good example of a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design. It was the last major accommodation built by the FHWA for the railroad before it went out of business.

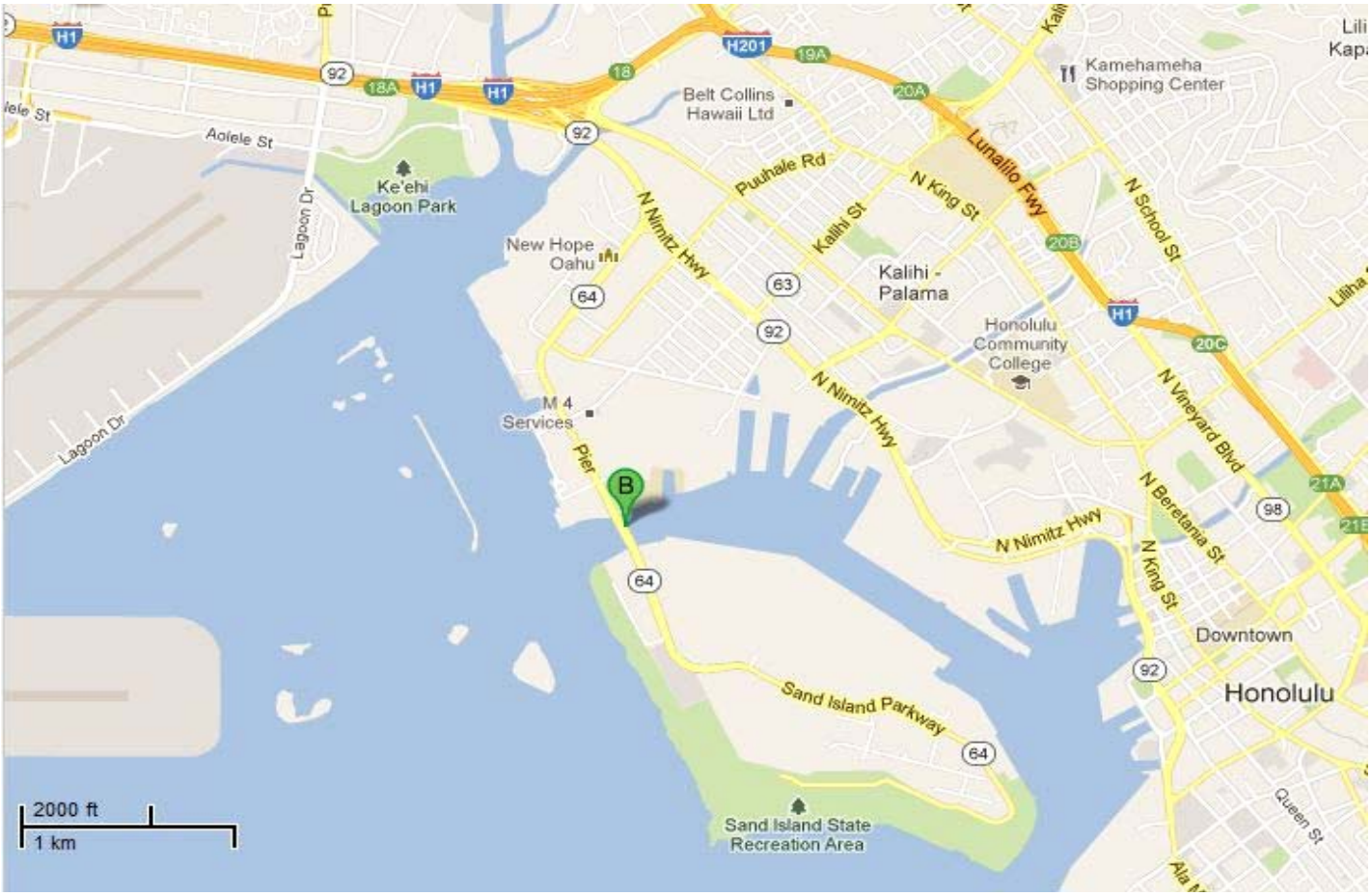
Inventory Form
(State)

General Information

Bridge Number: 003000640400150	**Route No:** 64
Popular Name: Sand Island Bascule Bridge	
Feature Crossed: Harbor (Bascule Bridge)	
Feature Carried: Sand Island Parkway	
Milepost: 1.41 mi.	**Island:** Oahu
Longitude: 157d-53m-16.50s	**Latitude:** 21d-18m-51.80s

Location: 0.22 Miles South of Keehi Boat Harbor Access Road
Historic Name: Sand Island Bascule Bridge
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Steel Stringer	**Construction Date:** 1962	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 5	**Max Span:** 299.9 ft.	**Total Length:** 692.9 ft.	**Deck Width:** 35.4 ft.
Superstructure: Steel Two-Girder			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Steel Deck			
Parapets/Railings: Concrete Solid			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering		

Narrative Description:

The Sand Island Bascule Bridge 1962 carries Sand Island Access Road over a waterway. This 5 span steel stringer bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has solid concrete parapets with horizontal metal rails. Thrie beams are bolted to the approaches of the parapets.

Significance Statement:

This bridge is eligible under Criterion C for being the longest steel bridge with the longest steel span built post-war (1945) on the island of Oahu in the historic study period prior to 1969. The use of steel was uncommon in Hawaii due to the extreme marine environment. Since very little steel is used for bridge construction in Hawaii, this bridge is eligible under Criterion C for its distinctive structural type as well. It is a good example of a 1960's steel stringer and reinforced concrete bridge atypical of its period in its use of materials and design.

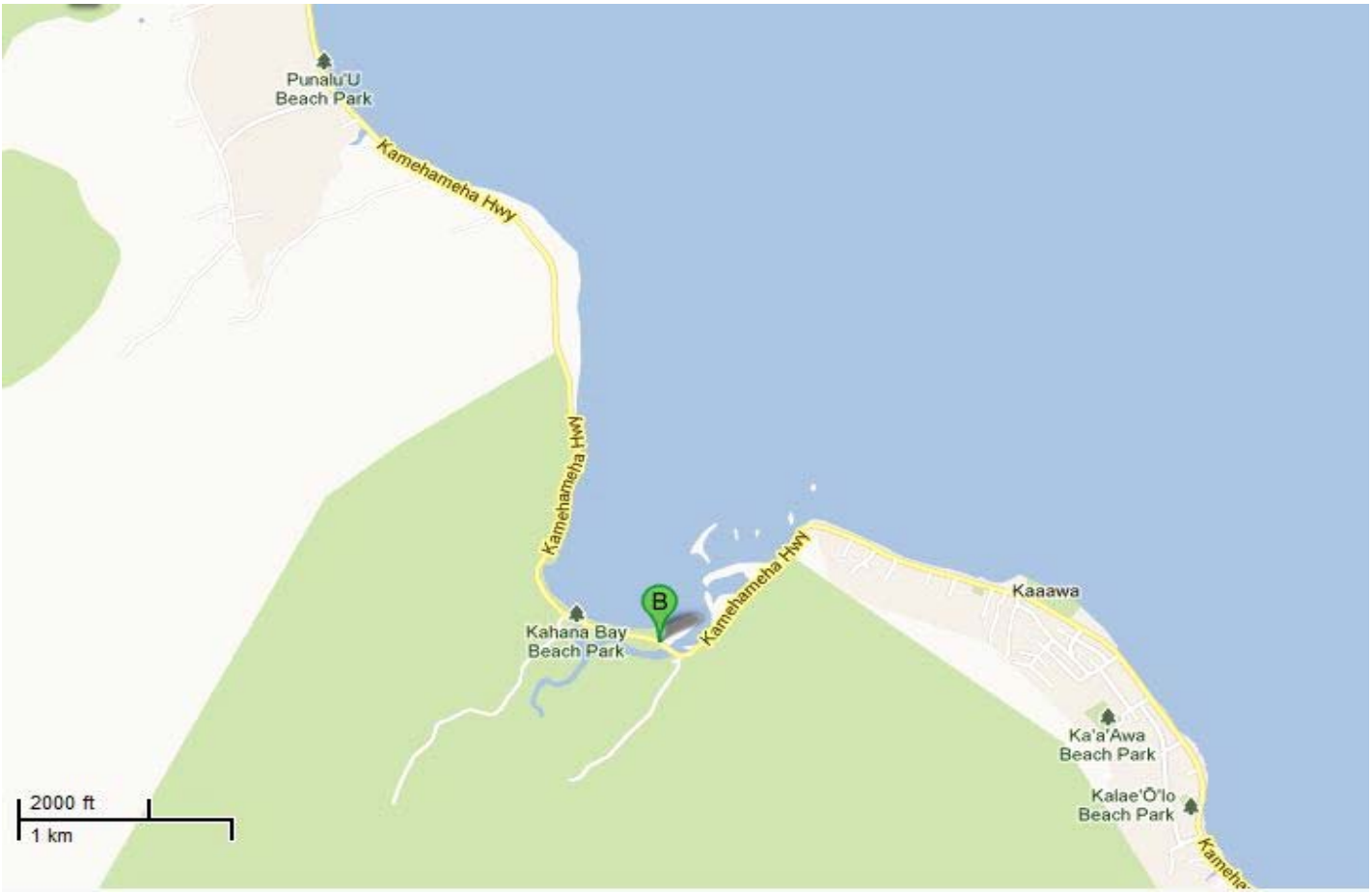
Inventory Form
(State)

General Information

Bridge Number: 003000830302637	**Route No:** 83
Popular Name: South Kahana Stream	
Feature Crossed: South Kahana Stream	
Feature Carried: Kamehameha Highway	
Milepost: 26.65 mi.	**Island:** Oahu
Longitude: 157d-52m-14.63s	**Latitude:** 21d-33m-15.98s

Location: 3.78 Miles Southeast of Sacred Falls Road
Historic Name: South Kahana Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1927	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1972	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1972.		

Bridge Information

Number of Spans: 5	**Max Span:** 18.0 ft.	**Total Length:** 89.9 ft.	**Deck Width:** 26.2 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The South Kahana Stream Bridge carries Kamehameha Highway across the Kahana Stream. This concrete slab bridge is in its original location, is generally in good condition, and its material remain intact. The bridge has concrete solid panel parapets with flat caps and end posts with the bridge name engraved. The reinforced concrete slab deck is supported by the concrete abutments. A wood pedestrian walkway with wood horizontal railing was added to the upstream side of the bridge in 1972. The new concrete parapet were extended to the end posts to secure the thrie beams, therefore the workmanship of the bridge has not been obscured. The simple design of the parapet retains its historic feeling.

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 a 1920's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

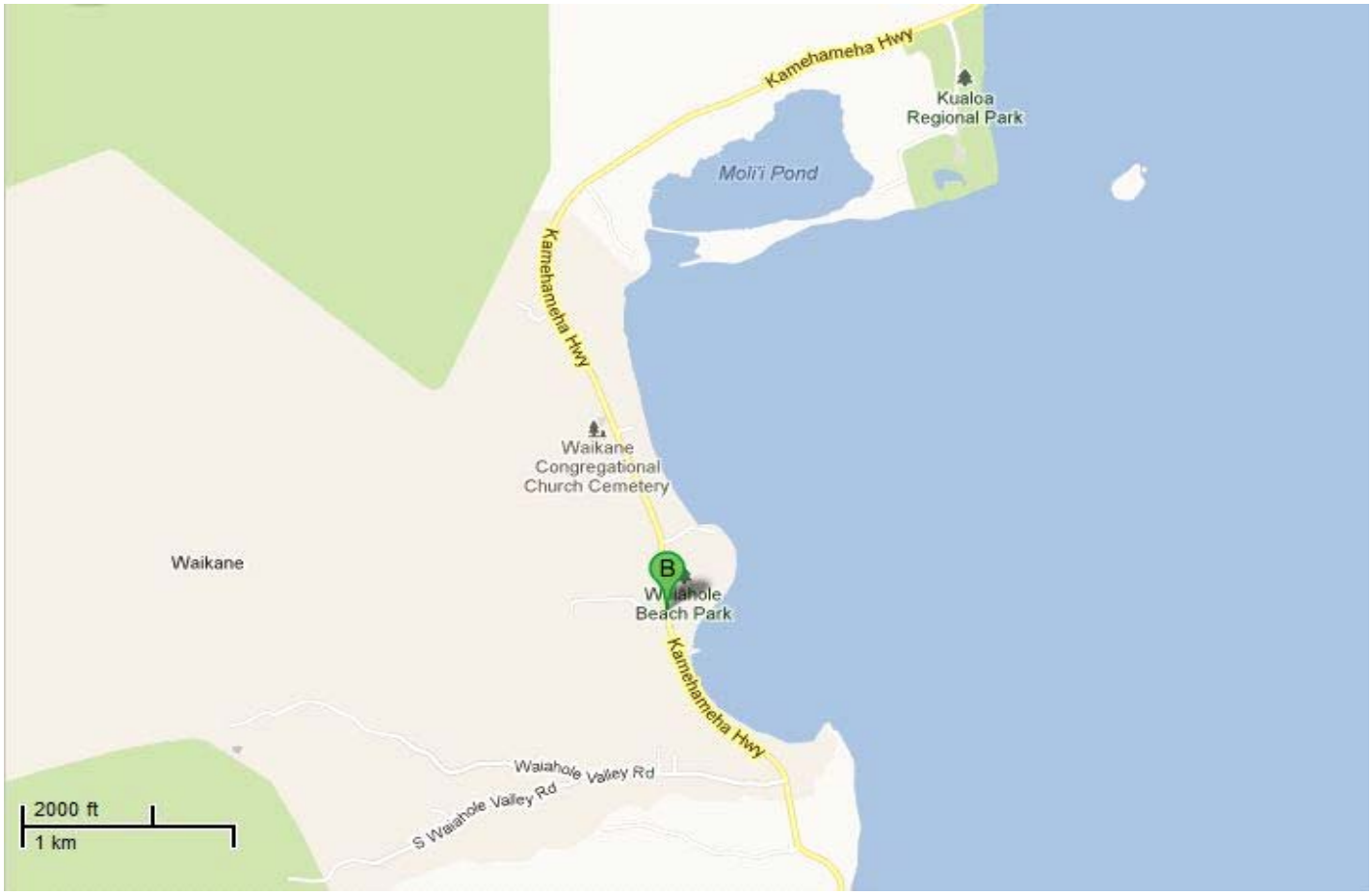
Inventory Form
(State)

General Information

Bridge Number: 003000830303396	**Route No:** 83
Popular Name: Unnamed Stream (North Waiahole)	
Feature Crossed: Unnamed Stream (North Waiahole)	
Feature Carried: Kamehameha Highway	
Milepost: 33.96 mi.	**Island:** Oahu
Longitude: 157d-51m-00.75s	**Latitude:** 21d-29m-19.68s

Location: 0.59 Miles North of Waiahole Valley Road
Historic Name: Unnamed Stream (North Waiahole)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1928	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1972	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1972.		

Bridge Information

Number of Spans: 3	**Max Span:** 18.0 ft.	**Total Length:** 54.1 ft.	**Deck Width:** 26.9 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The North Waiahole Stream Bridge carries Kamehameha Highway across the Waiahole Stream. This concrete slab bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete solid panel parapets with flat caps and end posts. The reinforced concrete deck is supported by concrete abutments. A wood pedestrian walkway with metal horizontal railing was added to one side of the bridge in 1972. The new concrete solid panel parapets were extended to the end posts to bolt the thrie beam approaches however, the workmanship of the bridge has not been obscured. The simple design of the parapet retains its historic feeling.

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 a 1920's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003000930301404 **Route No:** 93

Popular Name: Unnamed Stream-Makaha No. 3

Feature Crossed: Unnamed Stream

Feature Carried: Farrington Highway

Milepost: 14.04 mi. **Island:** Oahu

Longitude: 158d-13m-09.60s **Latitude:** 21d-28m-34.16s

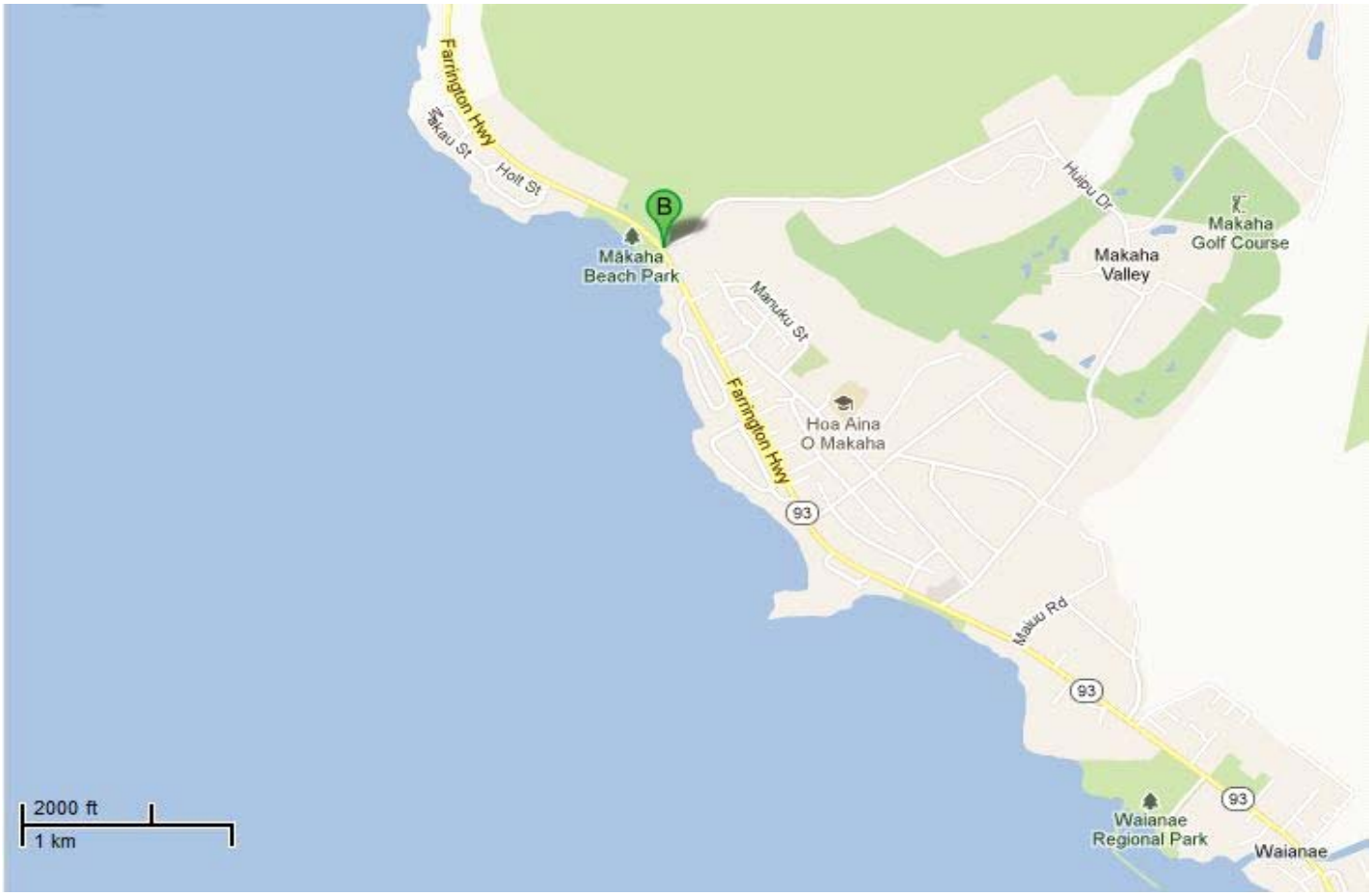
Location: 0.12 Miles West of Upena Street

Historic Name: Unnamed Stream-Makaha No. 3

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Timber Stringer	**Construction Date:** 1937	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 3	**Max Span:** 19.0 ft.	**Total Length:** 60.0 ft.	**Deck Width:** 29.2 ft.
Superstructure: Timber Stringer			
Substructure: Concrete Abutment Wall and Concrete Multi-Column Bent			
Floor/Decking: Timber Deck with AC Overlay			
Parapets/Railings: Wood			
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:

The Unmamed Stream (Makaha No. 3) Bridge carries Farrington Highway across the Unnamed Stream. This reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has timber railing, reinforced concrete tee beam deck, concrete piers and masonry abutments. The workmanship of the bridge has not been obscured and the simple design of the parapet retains its historic feeling.

The bridge is scheduled for replacement; MOA complete as of Summer 2013.

Significance Statement:

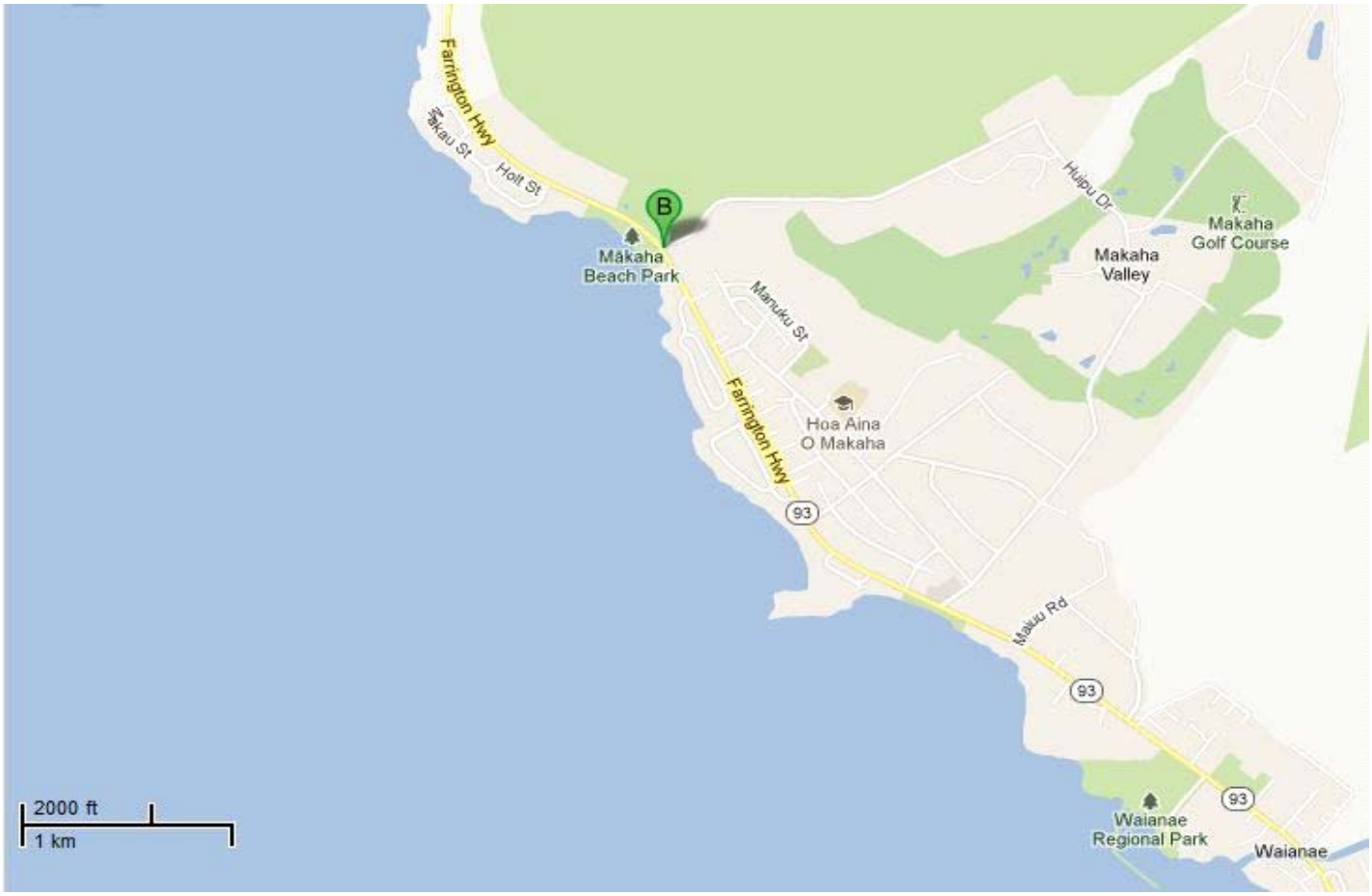
This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of a 1930's reinforced concrete tee beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003000930301412 **Route No:** 93	
Popular Name: Unnamed Stream-Makaha No. 3A	
Feature Crossed: Unnamed Stream	
Feature Carried: Farrington Highway	
Milepost: 14.12 mi. **Island:** Oahu	
Longitude: 158d-13m-12.05s **Latitude:** 21d-28m-37.41s	
Location: 0.20 Miles West of Upena Street	
Historic Name: Unnamed Stream-Makaha No. 3A	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Timber Stringer	**Construction Date:** 1937	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 4	**Max Span:** 19.0 ft.	**Total Length:** 78.1 ft.	**Deck Width:** 29.2 ft.
Superstructure: Timber Stringer			
Substructure: Concrete Abutment Wall and Concrete Multi-Column Bent			
Floor/Decking: Timber Deck with AC Overlay			
Parapets/Railings: Wood			
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:

The Unnamed Stream (Makaha No. 3A) Bridge carries Farrington Highway across the Unnamed Stream. This reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has timber railing, reinforced concrete tee beam deck, concrete piers and masonry abutments. The workmanship of the bridge has not been obscured and the simple design of the parapet retains its historic feeling.

The bridge is scheduled for replacement; MOA complete as of Summer 2013.

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 a 1930's reinforced concrete tee beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

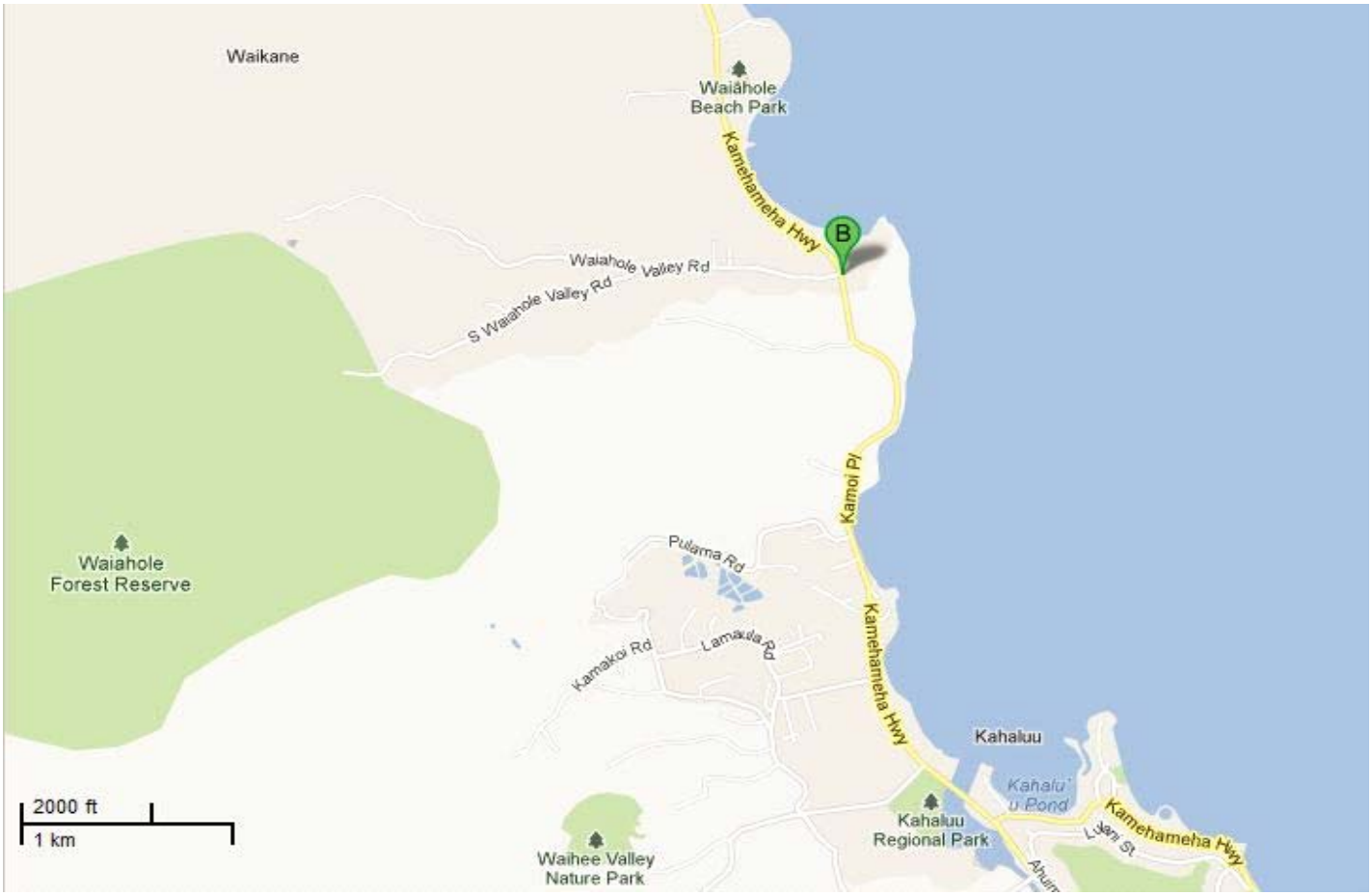
Inventory Form
(State)

General Information

Bridge Number: 003000830303459	**Route No:** 83
Popular Name: Waiahole Stream (County)	
Feature Crossed: Waiahole Stream	
Feature Carried: Kamehameha Highway	
Milepost: 34.59 mi.	**Island:** Oahu
Longitude: 157d-50m-41.63s	**Latitude:** 21d-28m-53.54s

Location: 0.04 Miles South of Waiahole Valley Road
Historic Name: Waiahole Stream (County)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1922	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1968	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1968.		

Bridge Information

Number of Spans: 2	**Max Span:** 32.2 ft.	**Total Length:** 65.9 ft.	**Deck Width:** 26.2 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Multi-Column Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Waiahole Stream (County) Bridge carries Kamehameha Highway across the Waiahole Stream. This reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its material remain intact. The bridge has concrete solid panel parapets with flat casp and wide end posts. The two span reinforced concrete deck is supported by concrete abutments. A wood pedestrian walkway with wood horizontal railing was added to one side of the bridge in 1968. Thrie beams were bolted to the end posts however, the workmanship of the bridge has not been obscured. The simple design of the parapet retains its historic feeling.

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 a 1920's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

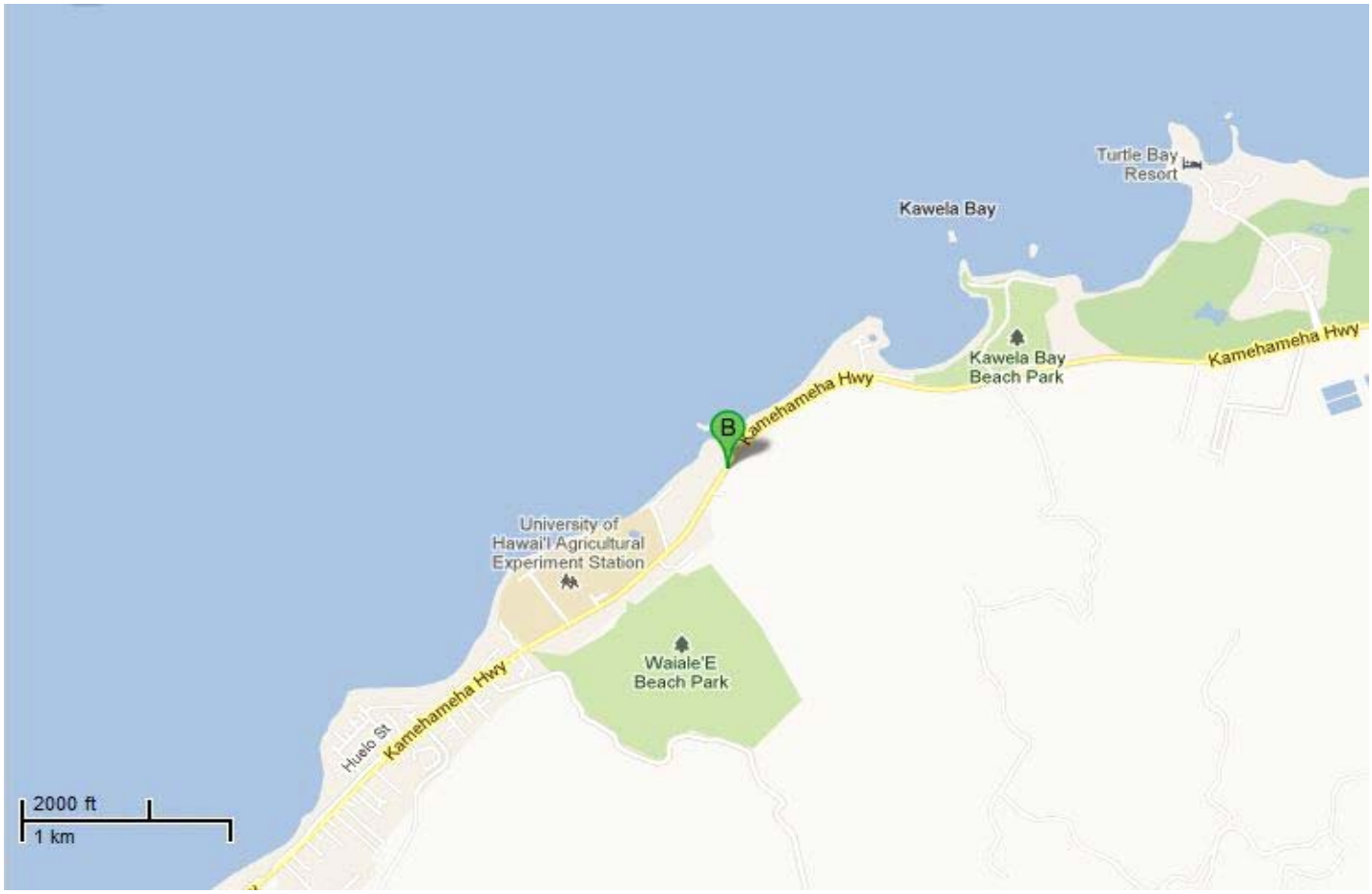
Inventory Form
(State)

General Information

Bridge Number: 003000830301059	**Route No:** 83
Popular Name: Waialee Stream	
Feature Crossed: Waialee Stream	
Feature Carried: Kamehameha Highway	
Milepost: 10.59 mi.	**Island:** Oahu
Longitude: 158d-01m-13.20s	**Latitude:** 21d-41m-28.48s

Location: 1.07 Miles Northeast of Kaunala Street
Historic Name: Waialee Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1931	**Replaced?** No
Altered? No **Alteration Date(s):**		
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 32.2 ft.	**Total Length:** 35.6 ft.	**Deck Width:** 28.0 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Waialee Stream Bridge carries Kamehameha Highway across the Waialee Stream. This concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete open arch parapets with tapered caps and wide end posts with the name of the bridge and the year of construction engraved. The single span concrete deck is supported by concrete abutments. The parapet caps and end posts have been painted white. The new concrete parapets were extended to the end posts to secure the thrie beams, therefore the original workmanship of the bridge has not been obscured. The simple design of the parapet retains its historic feeling.

003000830301059 Waialee Stream

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

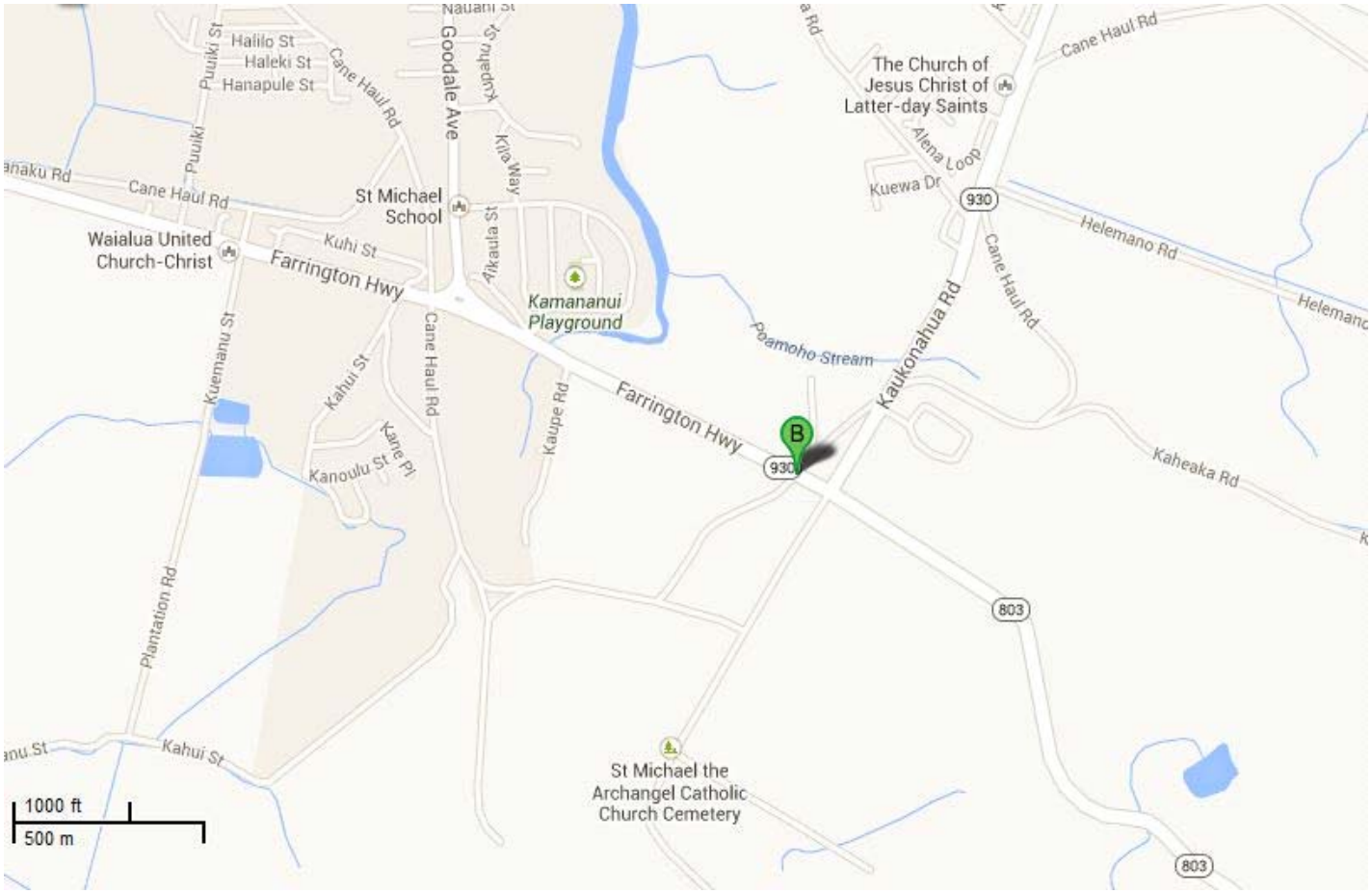
Inventory Form
(State)

General Information

Bridge Number: 003009300501794	**Route No:** 930
Popular Name: Waialua Plantation Road	
Feature Crossed: Farrington Highway	
Feature Carried: Plantation Road	
Milepost: 6.61 mi.	**Island:** Oahu
Longitude: 158d-06m-50.06s	**Latitude:** 21d-33m-44.65s

Location: 0.41 Miles East of Kaupe Road
Historic Name: Waialua Plantation Road
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1941	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 22.0 ft.	**Total Length:** 24.0 ft.	**Deck Width:** 38.1 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Metal Thrie Beam			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering, Agriculture		

Narrative Description:

The Waialua Plantation Road Bridge carries Waialua Plantation Road across Farrington Highway. This reinforced concrete slab bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has solid concrete parapets with thrie beams attached on the road side obscuring workmanship of the parapets. The concrete deck is supported by concrete abutments.

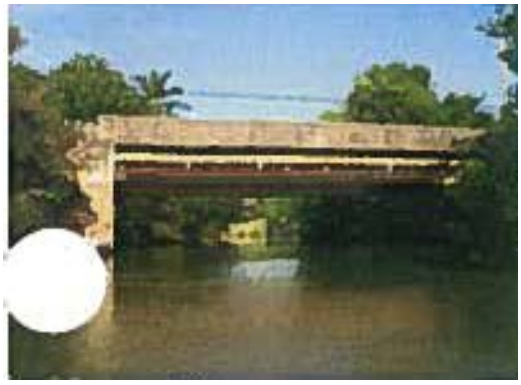
Significance Statement:

This bridge is eligible under Criterion A for its association with plantation industry in Hawaii. It is also eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of a 1940's reinforced concrete slab bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

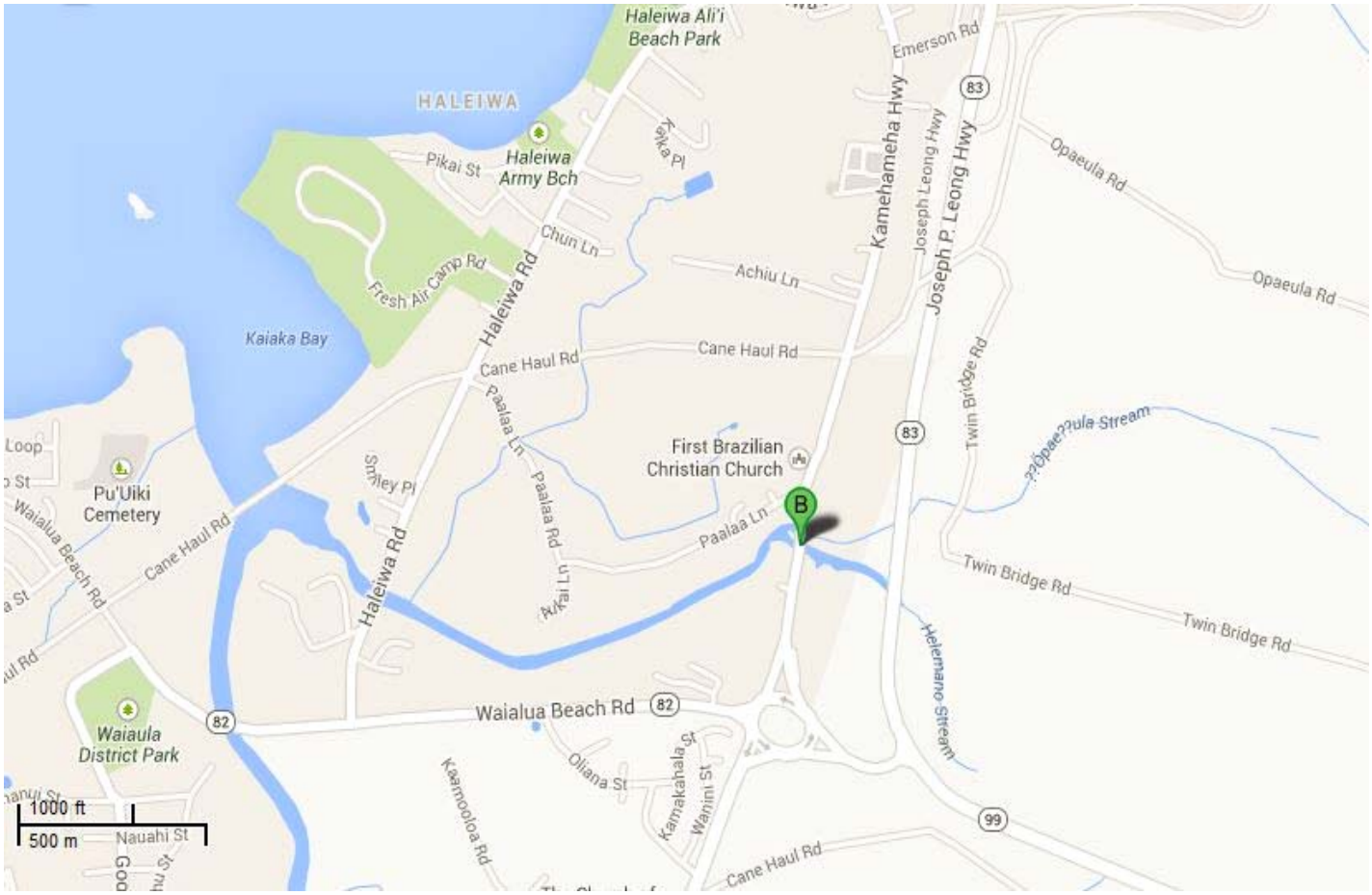
General Information

Bridge Number: 003000830300041	**Route No:** 83
Popular Name: Waialua Twin A (Helemano)	
Feature Crossed: Helemano Stream	
Feature Carried: Kamehameha Highway	
Milepost: 0.41 mi.	**Island:** Oahu
Longitude: 158d-06m-18.86s	**Latitude:** 21d-34m-47.41s



Location: 0.37 Miles North of Waialua Beach Road
Historic Name: Waialua Twin A (Helemano)
Designer/Engineer: U. S. Department of Agriculture, Bureau of Public Roads, San Francisco, CA
Builder/Contractor: John McCandless

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1928	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 60.0 ft.	**Total Length:** 65.0 ft.	**Deck Width:** 30.2 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck			
Parapets/Railings: Concrete Solid Panel with Cap			
Setting:			
Other Features: Bridge name and date of construction incised on end piers; sidewalks on both sides of roadway			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Transportation, Engineering		

Narrative Description:

The Waialua Twin Bridges were built in 1928 to carry Kamehameha Highway across the adjacent Helemano and Opaeula Streams. The bridges are located in the former plantation town of Haleiwa on the north shore of Oahu. The Waialua Twin Bridges are identical reinforced concrete deck girder structures.

The Waialua Twin Bridges remain in their original location. The bridges' setting has changed slightly due to commercial and residential development within the Haleiwa community, thus placing increased development pressure on the structures. A by-pass highway to accommodate additional traffic was completed by the State Department of Transportation in 1994. The bridges' original deck girder design and reinforced concrete materials remain intact. The workmanship of the bridges is good and has not been obscured by additions or repairs. The bridges' masonry (lava rock) abutments appear to be wider than the present bridge and probably date from an earlier wood truss bridge identified in an historic photograph as "Twin Bridges at Waialua." (1) The bridges' historic associations as important civic structures associated with the development of Haleiwa can be discerned by informed observers. The bridges retain their historic feeling due to their narrow width and solid, paneled reinforced concrete rail typical of 1920s bridges.

(1) Historic photograph: "Twin Bridges at Waialua, Aug. 26, '04," Hawaii State Archives (Honolulu), Album 43, 104.

Significance Statement:

The Waialua Twin Bridges are significant for their contributions to the fields of engineering and transportation in Hawaii. The bridges are a good example of reinforced concrete deck girder construction. The bridges are eligible under Criterion A for their associations with public works efforts by the Territorial government and as important civic structures associated with the development of Haleiwa. They are eligible under Criterion C as good representative examples of deck girder bridge construction in the late 1920s.

The bridges are located within the County-designated Haleiwa Special Design District and contribute significantly to the historic character of the town. The bridges were inadvertently involved in an important preservation battle for the nearby Anahulu Bridge, a rare remaining example of a “rainbow” or Marsh arch (through deck) bridge. The State Department of Transportation planned to replace the structure, however, concerned citizens rallied to preserve the picturesque bridge. The alternative plan preserved the historic bridge by by-passing it with a new highway and moderr four-lane bridge upstream. The Waialua Twin Bridges were also by-passed, thus relieving them from modern traffic pressures.

The bridges’ sixty foot clear spans make them good examples of late-period reinforced concrete deck girder technology. Their solid, paneled parapets are characteristic of the period. The plans were prepared by the U.S. Department of Agriculture’s Bureau of Public Roads in San Francisco, California. The bridges were constructed by local builder, John McCandless.

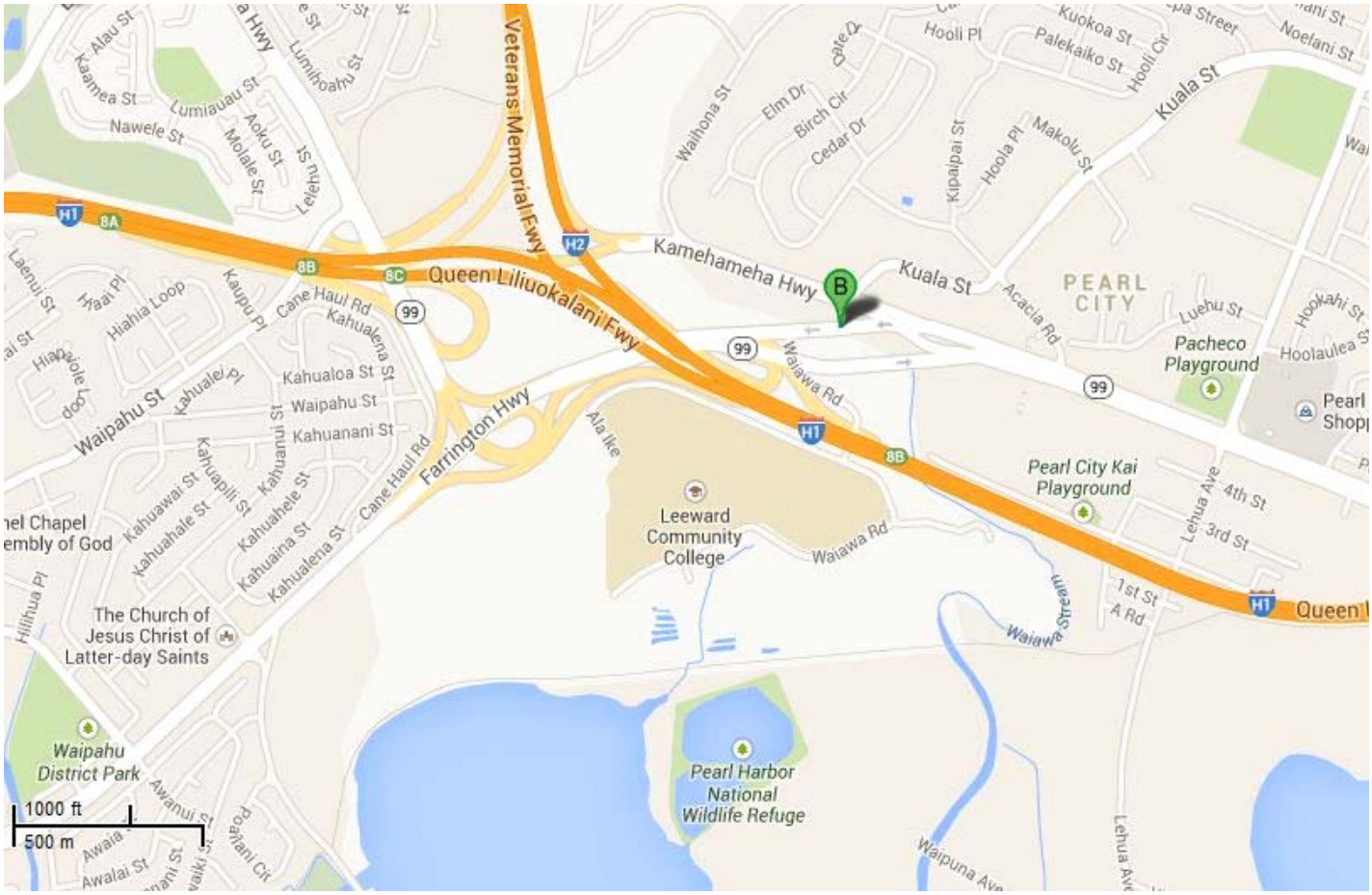
Inventory Form
(State)

General Information

Bridge Number: 003000990401802 **Route No:** 99	
Popular Name: Waiawa Stream (Westbound)	
Feature Crossed: Waiawa Stream	
Feature Carried: Farrington Highway	
Milepost: 18.02 mi. **Island:** Oahu	
Longitude: 157d-58m-48.35s **Latitude:** 21d-23m-47.06s	

Location: 0.12 Miles East of Leeward Community College Access Road
Historic Name: Waiawa Stream (Westbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1933	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 6	**Max Span:** 55.1 ft.	**Total Length:** 332.0 ft.	**Deck Width:** 33.8 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Double Column Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Waiawa Stream (West Bound) Bridge carries Faarington Highway across the Waiawa Stream. This concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete open arch parapets with tapered caps and curved wide end posts. Two end posts have the bridge name and the year of construction engraving. The concrete deck is supported by concrete abutments. The parapet caps and end posts have been painted white. Thrie beams were bolted to the end section of the bridge and some utility pipes were attached to the bottom of the bridge. The simple design of the parapet retains its historic feeling.

Significance Statement:

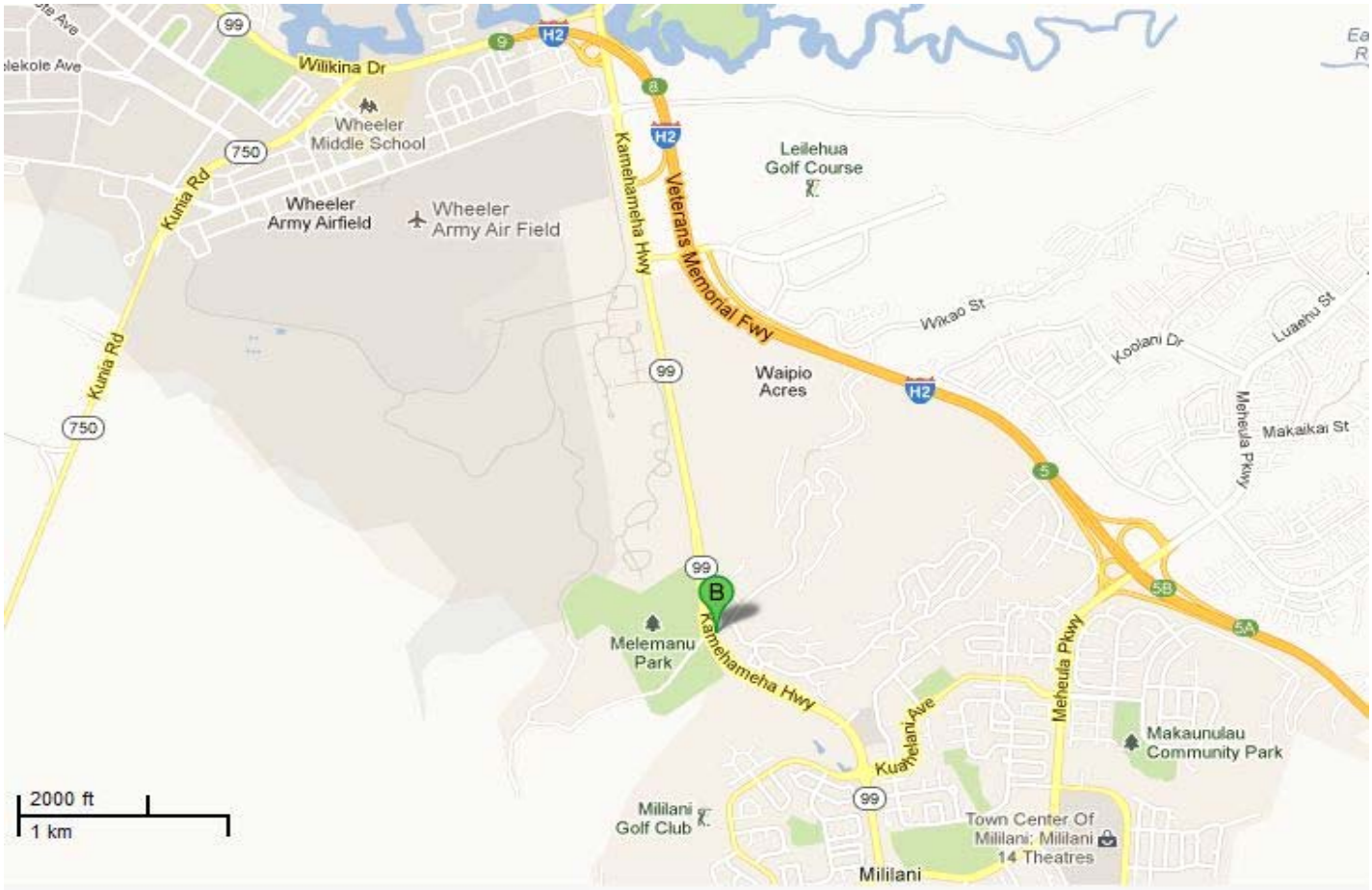
This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003000990301164 **Route No:** 99	
Popular Name: Waikakalaua Stream (Inbound)	
Feature Crossed: Waikakalaua Stream	
Feature Carried: Kamehameha Highway	
Milepost: 11.63 mi. **Island:** Oahu	
Longitude: 158d-01m-26.15s **Latitude:** 21d-27m-49.56s	
Location: 0.67 Miles South of Lehua Road	
Historic Name: Waikakalaua Stream (Inbound)	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1936	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 2007	
Alteration Type(s):		
Alteration Description(s): Thrie beams added to the bridge in 2007.		

Bridge Information

Number of Spans: 3	**Max Span:** 89.9 ft.	**Total Length:** 225.1 ft.	**Deck Width:** 38.1 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Multi-Column Bent			
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:

The Waikakalaua Stream (Inbound) Bridge carries Kamehameha Highway across the Waikakalaua Stream. This concrete tee beam bridge is in its original location and in fair condition, and its materials remain intact. The bridge has concrete open Greek cross parapets with flat caps and curved wide solid end posts. End posts consist of stepped profile. The concrete deck is supported by concrete piers and abutments. A pedestrian walkway with thrie beams was built along the inner side of the bridge in 2007.

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

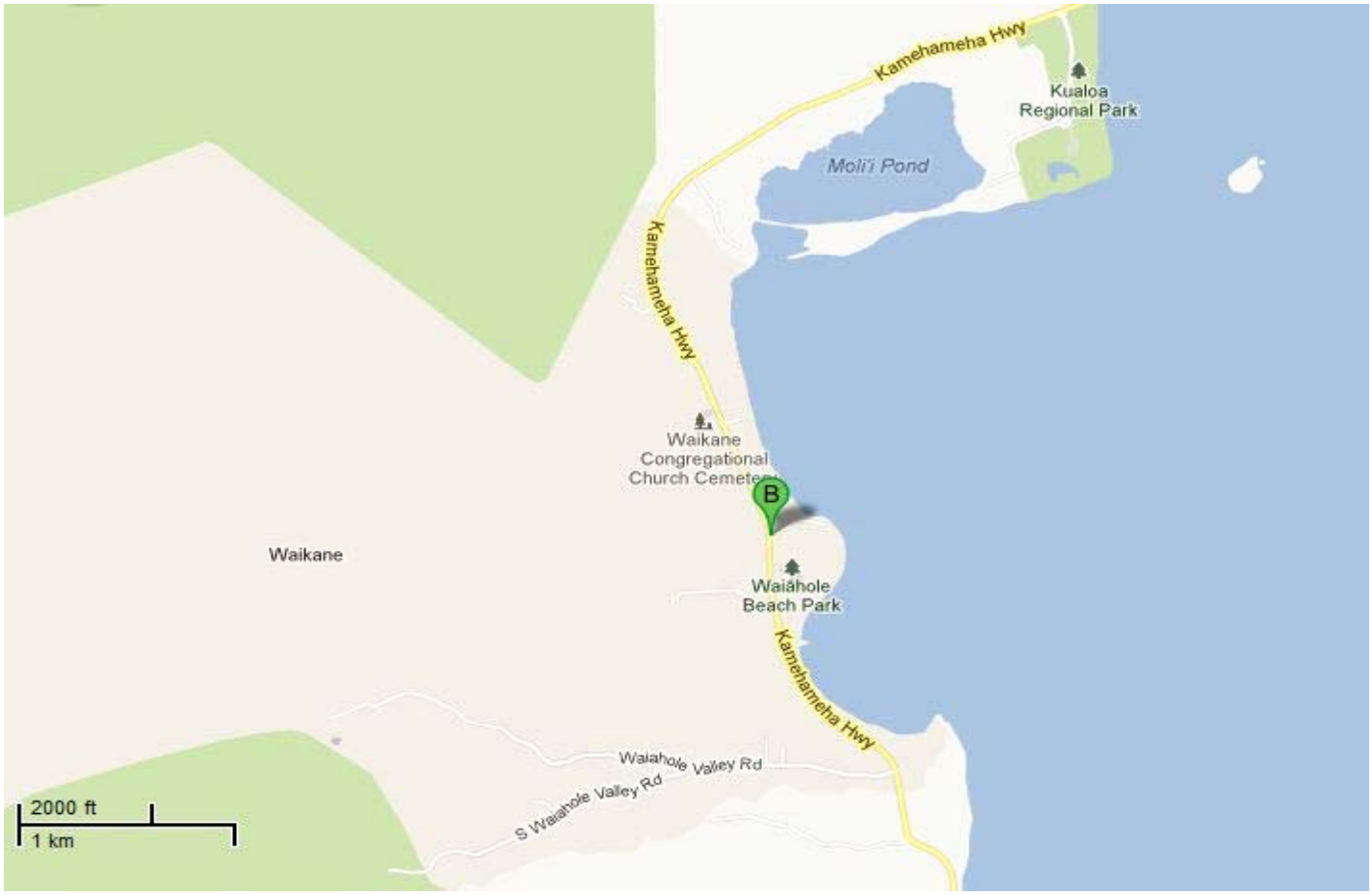
Inventory Form
(State)

General Information

Bridge Number: 003000830303377	**Route No:** 83
Popular Name: Waikane Stream	
Feature Crossed: Waikane Stream	
Feature Carried: Kamehameha Highway	
Milepost: 33.77 mi.	**Island:** Oahu
Longitude: 157d-51m-02.38s	**Latitude:** 21d-29m-30.01s

Location: 1.35 Miles South of Johnson Road
Historic Name: Waikane Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1928	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 42.0 ft.	**Total Length:** 44.0 ft.	**Deck Width:** 26.9 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Waikane Stream Bridge carries Kamehameha Highway across the Waikane Stream. This reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its material remain intact. The bridge has concrete solid panel parapets with flat cap and end posts with the bridge name engraved. The single span reinforced concrete tee beam deck is supported by the concrete abutments. Wood pedestrian walkway with metal horizontal railing was added to one side of the bridge. The new concrete solid panel parapet with panel is extended to the end posts to secure the thrie beams approaches, therefore the workmanship of the bridge has not been obscured. The simple design of the parapet retains its historic feeling.

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 a 1920's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

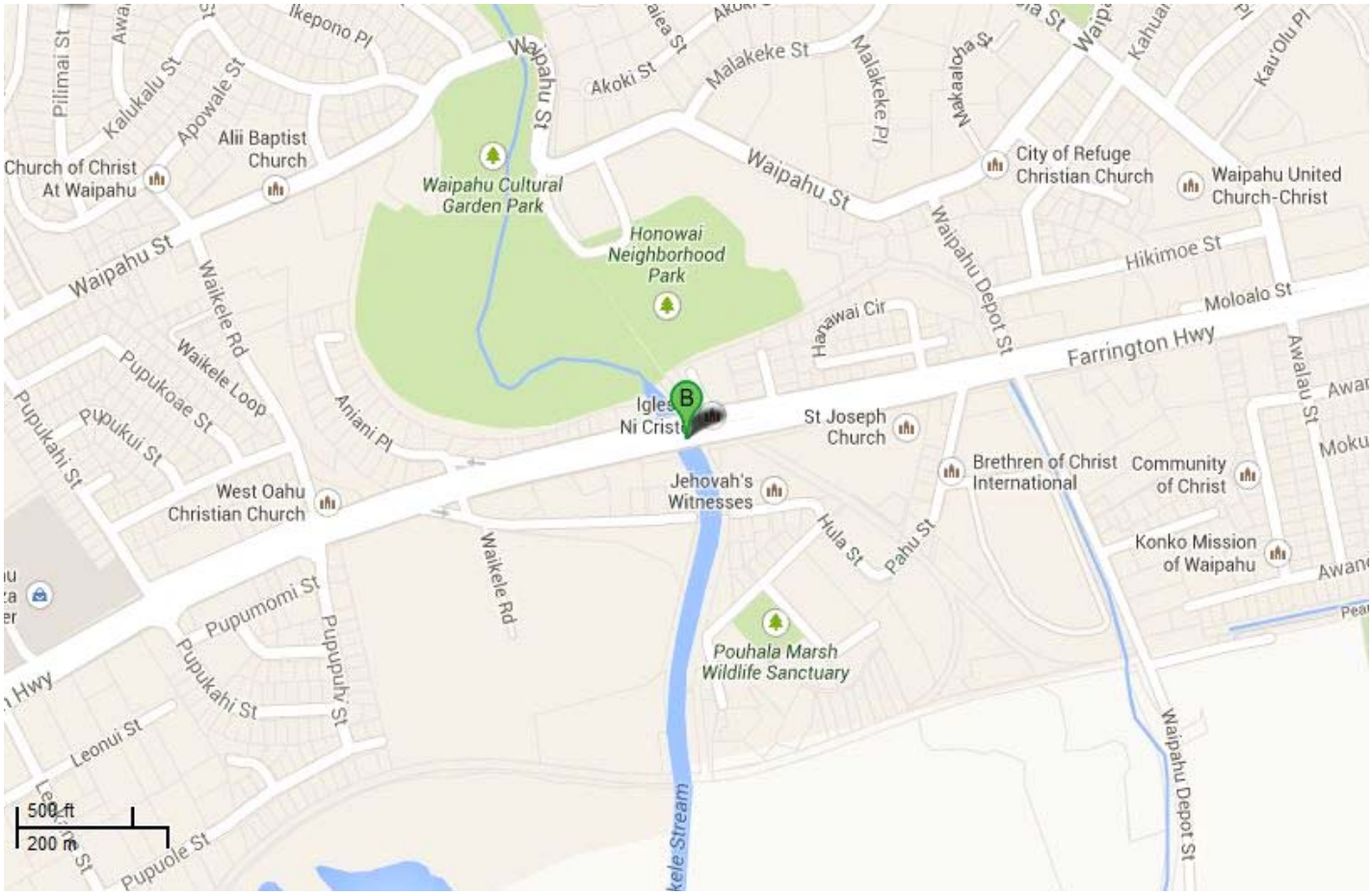
Inventory Form
(State)

General Information

Bridge Number: 003090001400108	**Route No:** 7101
Popular Name: Waikele Canal (Inbound)	
Feature Crossed: Waikele Canal	
Feature Carried: Farrington Highway	
Milepost: 1.12 mi.	**Island:** Oahu
Longitude: 158d-00m-38.21s	**Latitude:** 21d-22m-57.94s

Location: 0.22 Miles East of Waikele Road
Historic Name: Waikele Canal (Inbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



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: 3	**Max Span:** 49.9 ft.	**Total Length:** 129.9 ft.	**Deck Width:** 32.2 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Multi-Column Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Greek Cross			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Social History, Transportation, Commerce, Engineering		

Narrative Description:

The Waikele Canal (Inbound) Bridge carries Farrington Highway across the Waikele Stream. This tall concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete open Greek cross parapets with stepped caps and curved wide solid end posts. The concrete deck is supported by concrete piers and concrete abutments. Thrie beams were bolted to the end posts. The simple design of the parapet retains its historic feeling.

Significance Statement:

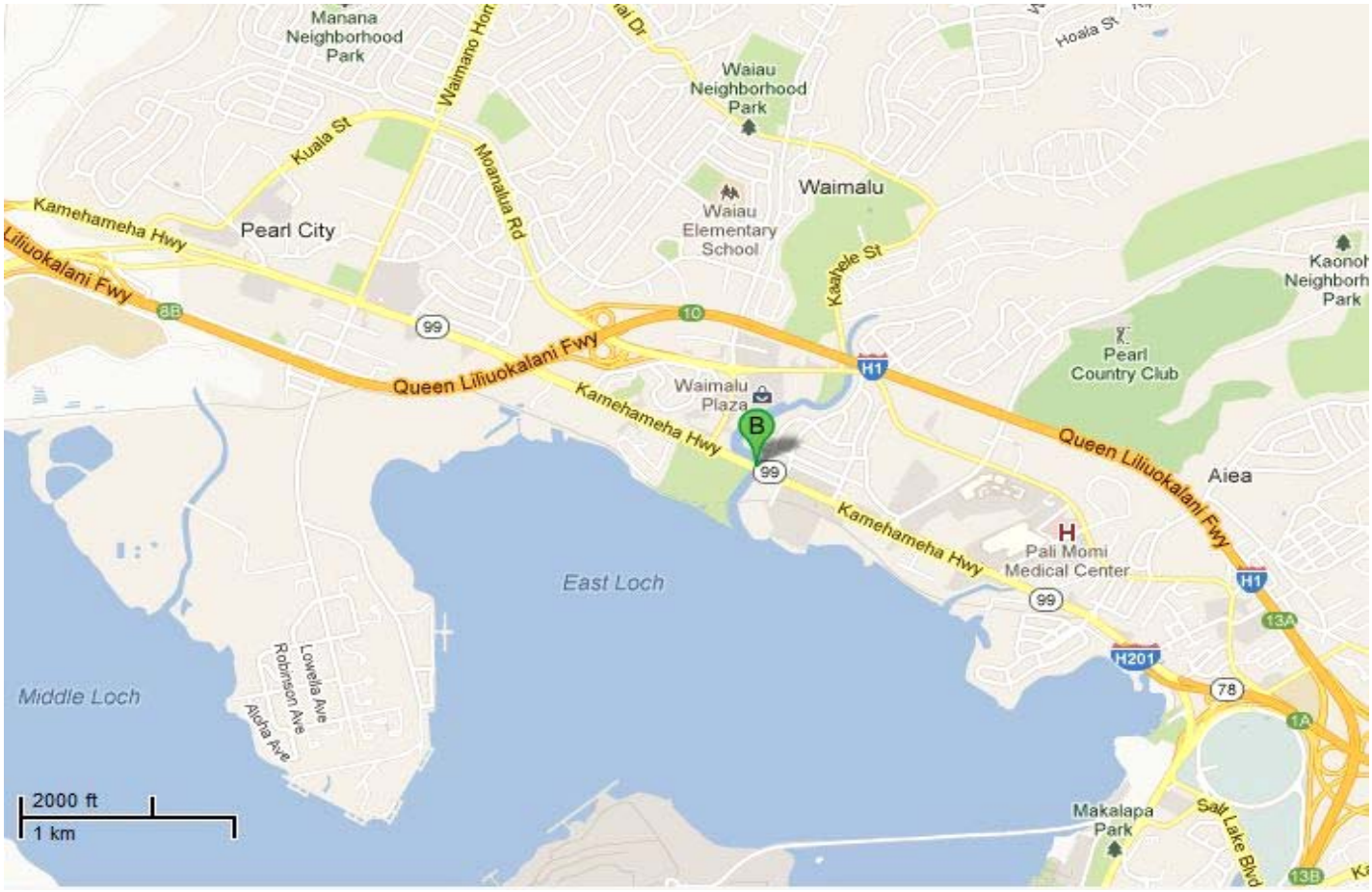
This bridge is eligible under Criterion A for its association with the plantation industry. It is the last major reaccommodation bridge built by the FHWA for the railroad before it went out of business. It is also eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. The bridge is a good example of a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003000990401986 **Route No:** 99	
Popular Name: Waimalu Stream (Eastbound)	
Feature Crossed: Waimalu Stream	
Feature Carried: Kamehameha Highway	
Milepost: 19.86 mi. **Island:** Oahu	
Longitude: 157d-57m-08.44s **Latitude:** 21d-23m-10.03s	
Location: 0.13 Miles East of Kaahumanu Street	
Historic Name: Waimalu Stream (Eastbound)	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1936	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1966	
Alteration Type(s):		
Alteration Description(s): Bridge widened		

Bridge Information

Number of Spans: 3	**Max Span:** 47.9 ft.	**Total Length:** 145.0 ft.	**Deck Width:** 48.2 ft.
Superstructure: Prestressed Concrete I-Girder			
Substructure: Concrete Abutment Wall and Concrete Multi-Column Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Greek Cross			
Setting:			
Other Features:			

Historic Association

Eligibility Status: Eligible	**Criteria:** A	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Community Development		

Narrative Description:

The Waimalu Stream (East Bound) Bridge carries Kamehameha Highway across Waimalu Stream. This concrete girder bridge, in its original location, is in generally good condition, and its materials remain intact. The bridge has a concrete open Greek cross parapet with stepped caps and curved wide end posts on one side. The other side of the parapet has been replaced with a concrete and metal parapet due to bridge widening in 1966.

Significance Statement:

This bridge is eligible under Criterion A for its association with post-war developments of the community.

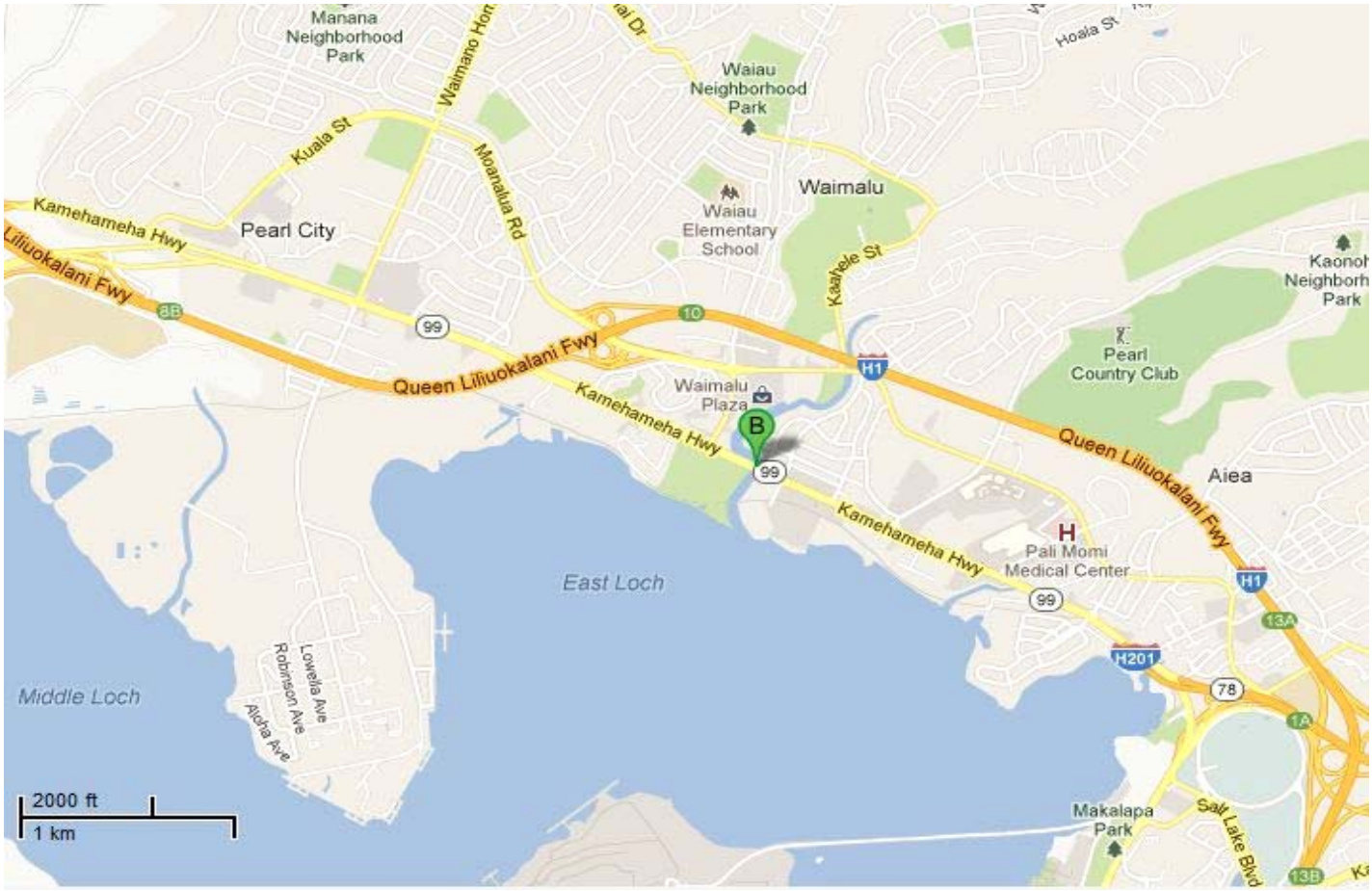
Inventory Form
(State)

General Information

Bridge Number: 003000990401987	**Route No:** 99
Popular Name: Waimalu Stream (Westbound)	
Feature Crossed: Waimalu Stream	
Feature Carried: Kamehameha Highway	
Milepost: 19.87 mi.	**Island:** Oahu
Longitude: 157d-57m-08.19s	**Latitude:** 21d-23m-10.56s

Location: 0.13 Miles East of Kaahumanu Street
Historic Name: Waimalu Stream (Westbound)
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1945	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1966	
Alteration Type(s):		
Alteration Description(s): Bridge widened		

Bridge Information

Number of Spans: 3	**Max Span:** 47.9 ft.	**Total Length:** 143.0 ft.	**Deck Width:** 46.3 ft.
Superstructure: Prestressed Concrete I-Girder			
Substructure: Concrete Abutment Wall and Concrete Multi-Column Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Greek Cross			
Setting:			
Other Features:			

Historic Association

Eligibility Status: Eligible	**Criteria:** A	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Community Development		

Narrative Description:

The Waimalu Stream (West Bound) Bridge carries Kamehameha Highway across Waimalu Stream. This concrete girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has a concrete open Greek cross parapet with stepped caps and curved wide end posts on one side with thrie beams bolted to the end posts. The other parapet was replaced with concrete and metal due to bridge widening in 1966.

Significance Statement:

This bridge is eligible under Criterion A for its association with post-war developments of the community.

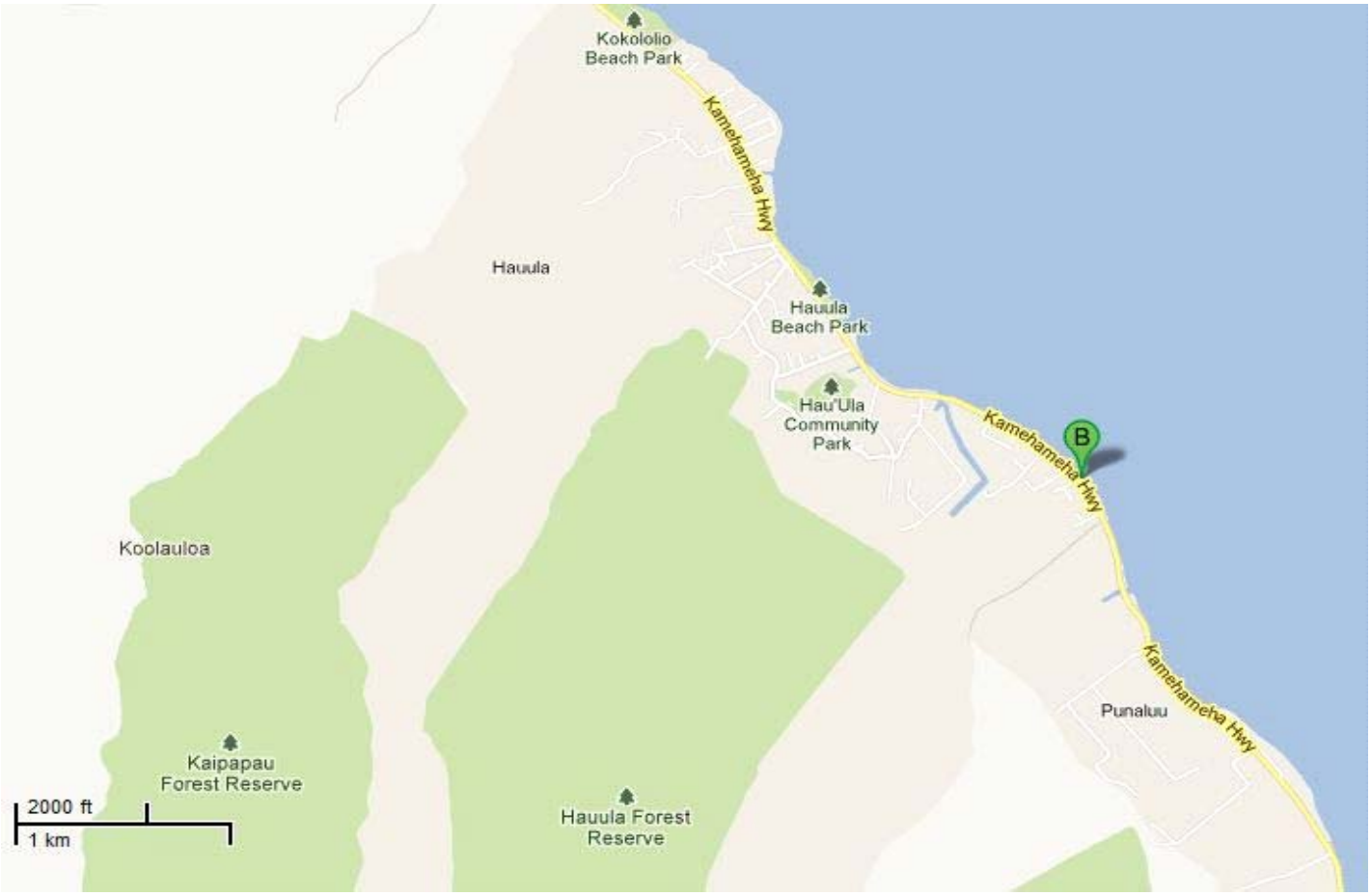
Inventory Form
(State)

General Information

Bridge Number: 003000830302242	**Route No:** 83
Popular Name: Waimanana Stream	
Feature Crossed: Waimanana Stream	
Feature Carried: Kamehameha Highway	
Milepost: 22.42 mi.	**Island:** Oahu
Longitude: 157d-53m-56.94s	**Latitude:** 21d-36m-11.83s

Location: 0.02 Miles Southeast of Pokiwai Place
Historic Name: Waimanana Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1926	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1990	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1990.		

Bridge Information

Number of Spans: 4	**Max Span:** 18.0 ft.	**Total Length:** 71.9 ft.	**Deck Width:** 26.2 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Waimanana Stream Bridge carries Kamehameha Highway across the Waimanana Stream. This concrete slab bridge is in its original location but in poor condition. The bridge has concrete solid panel parapets with flat caps and end posts. The reinforced concrete slab deck is supported by concrete abutments. Only the flat parapet caps have been painted white. A wood pedestrian walkway with wood horizontal railing was added to the upstream side of the bridge in 1990. Thrie beams were bolted to the end posts but the simple design of the parapet retains its historic feeling.

003000830302242 Waimanana Stream

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 a 1920's concrete slab bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(State)

General Information

Bridge Number: 003000830300573	**Route No:** 83
Popular Name: Waimea Stream	
Feature Crossed: Waimea Stream	
Feature Carried: Kamehameha Highway	
Milepost: 5.73 mi.	**Island:** Oahu
Longitude: 158d-03m-38.72s	**Latitude:** 21d-38m-21.35s
Location: 0.04 Miles Northeast of Waimea Beach Park Road	
Historic Name: Waimea Stream	
Designer/Engineer: U. S. Department of Agriculture, Bureau of Public Roads, San Francisco, CA	
Builder/Contractor: John L. Young (National Construction Company)	

Location Map:

Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1930	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 6	**Max Span:** 51.8 ft.	**Total Length:** 268.0 ft.	**Deck Width:** 27.2 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
Setting:			
Other Features: Bridge name and date of construction incised on end piers			

Historic Association

Eligibility Status: Eligible	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Transportation, Engineering		

Narrative Description:

The Waimea Bridge was built in 1930 to carry Kamehameha Highway across the mouth of the Waimea River on the north shore of Oahu. The bridge is a reinforced concrete tee beam structure. It was constructed as part of a larger contract including one large bridge (Waimea), three smaller bridges, two culverts and five miles of roadway.

The Waimea Bridge remains in its original location. The bridge's rural setting has not changed significantly, however the circum-island rail line no longer runs adjacent to the bridge (only the foundations of the wood trestle structure remain). Remnants of the masonry (lava rock) abutments of an earlier multi-span metal truss are evident upstream. The bridge's original tee beam design and reinforced concrete materials remain intact. The workmanship of the bridge is good and has not been obscured by additions or repairs. The bridge's historic associations, as an important transportation link in the island's belt road system, can be discerned by informed observers. The bridge retains its historic feeling due to its narrow width and solid, paneled reinforced concrete rail typical of 1920s bridges.

Significance Statement:

The Waimea Bridge is significant for its contributions to the fields of engineering and transportation in Hawaii. The bridge is eligible under Criterion A for its associations with public works efforts by the Territorial government and as an important link in the island's belt road system. It is eligible under Criterion C as a good representative example of tee beam bridge construction in the late 1920s.

The Waimea Bridge was constructed in the general upgrading of the belt road around Oahu to service the sugar lands on the North Shore. It was part of a larger contract that included including the Waimea bridge, three smaller bridges (perhaps the Paumalu, Kaunala and Kawailoa bridges), two culverts and five miles of roadway. The bridges and roadway contributed to the economic development of the region by providing reliable vehicular access, and an alternative to rail, between the north shore and Honolulu.

The bridge is located over the Waimea River which drains into Waimea Bay and is adjacent to the entrance of the Waimea Falls Park, a Hawaiian historical interpretive center on Oahu's north shore. The bridge contributes significantly to the historic character of the area.

The bridge's fifty-two foot clear span makes it a good example of reinforced concrete tee beam technology. The solid, paneled parapets are characteristic of the period. The plans were prepared by the U.S. Department of Agriculture's Bureau of Public Roads in San Francisco, California. The contract for the bridge was awarded to John L. Young, owner of the National Construction Company, who filed for bankruptcy during its construction. The Territory of Hawaii hired a construction superintendent to complete the bridge.

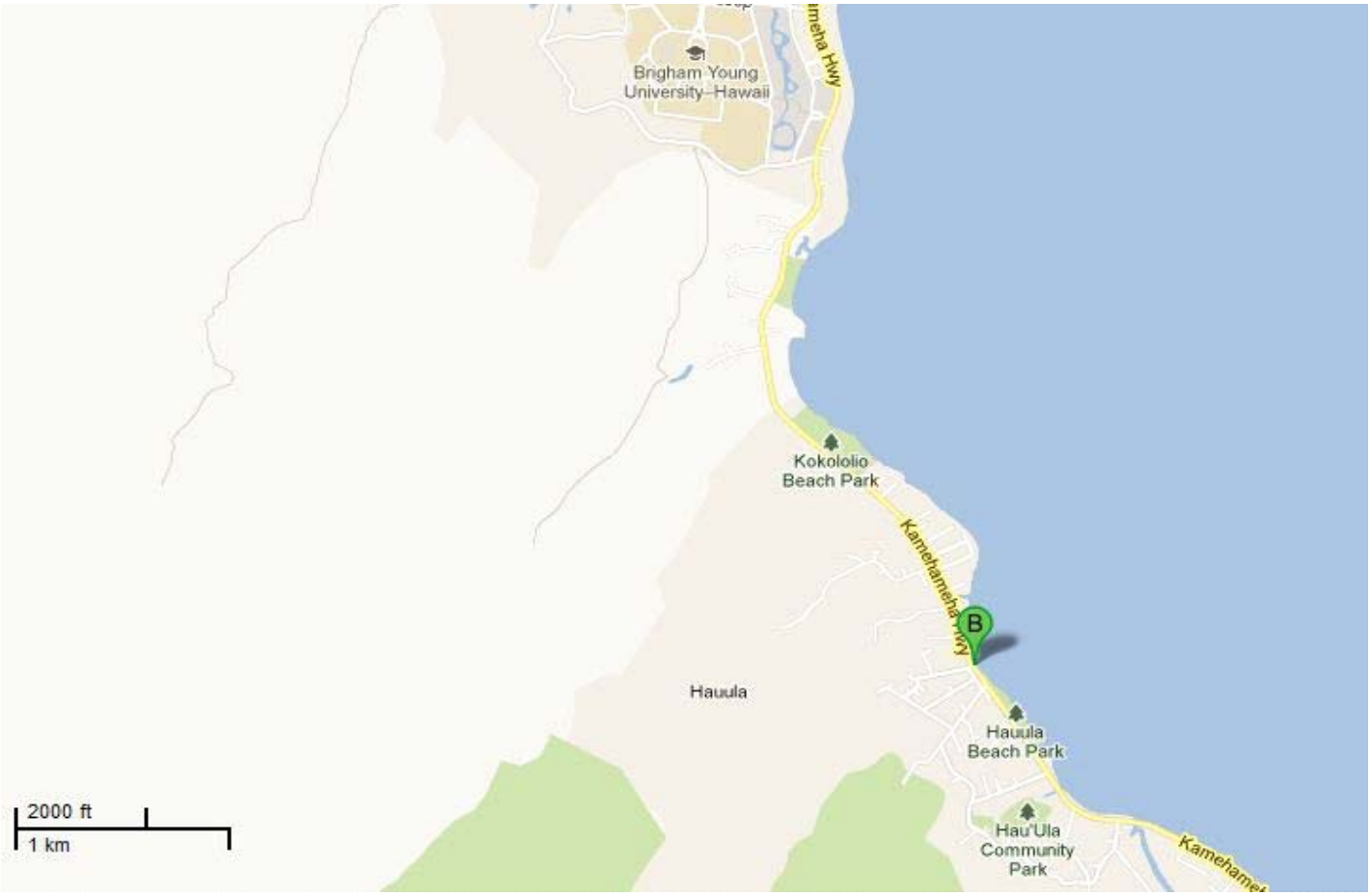
Inventory Form
(State)

General Information

Bridge Number: 003000830302112	**Route No:** 83
Popular Name: Waipilopilo Stream	
Feature Crossed: Waipilopilo Stream	
Feature Carried: Kamehameha Highway	
Milepost: 21.12 mi.	**Island:** Oahu
Longitude: 157d-54m-47.51s	**Latitude:** 21d-36m-53.74s

Location: 0.03 Miles Southeast of Imua Place
Historic Name: Waipilopilo Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1932	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1964	
Alteration Type(s):		
Alteration Description(s): Wood pedestrian bridge added in 1964.		

Bridge Information

Number of Spans: 1	**Max Span:** 22.0 ft.	**Total Length:** 24.9 ft.	**Deck Width:** 27.2 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Waipilopilo Stream Bridge carries Kamehameha Highway across the Waipilopilo Stream. This concrete tee beam bridge is in its original location and in fair condition, and its materials remain intact. The bridge has concrete solid panel parapets with flat caps and curved wide end posts. The single span concrete deck is supported by concrete abutments. The parapet cap and end posts panels have been painted white. A wood pedestrian walkway with wood horizontal railings was added to one side of the bridge in 1964. Thrie beams were bolted to the end posts. The simple design of the parapet retains its historic feeling.

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

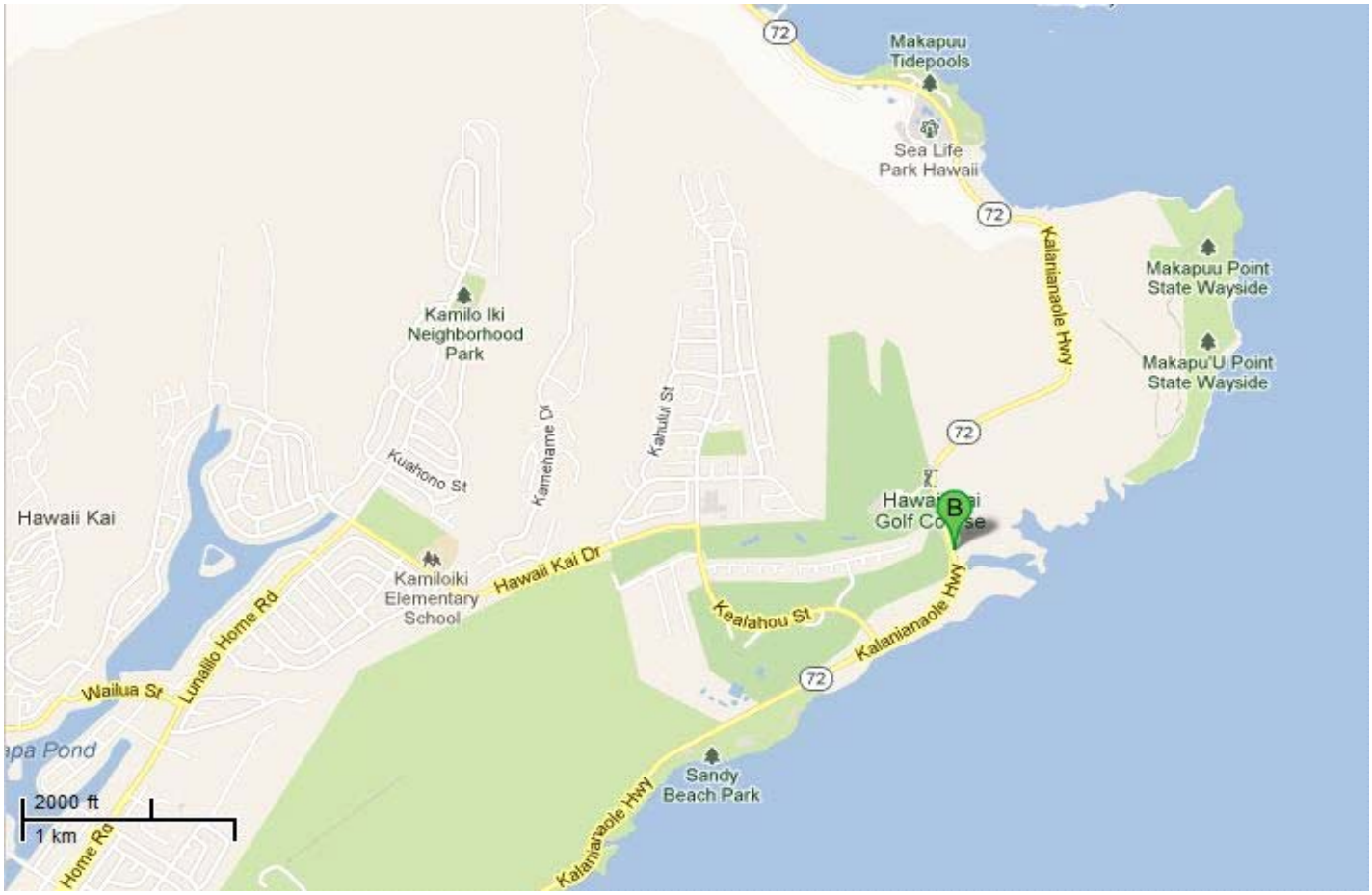
Inventory Form
(State)

General Information

Bridge Number: 003074001400083	**Route No:** 72
Popular Name: Wawamalu Stream	
Feature Crossed: Wawamalu Stream	
Feature Carried: Kalanianaole Highway	
Milepost: 9.75 mi.	**Island:** Oahu
Longitude: 157d-39m-41.96s	**Latitude:** 21d-17m-37.36s

Location: 0.96 Miles South of Makapuu Lighthouse Road
Historic Name: Wawamalu Stream
Designer/Engineer: William R. Bartels
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1947	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 60.0 ft.	**Total Length:** 69.9 ft.	**Deck Width:** 44.0 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete and Metal			
Setting:			
Other Features: Name and date incised			

Historic Association

Eligibility Status: Eligible	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering		

Narrative Description:

The Wawamalu Stream Bridge was constructed in 1947 to carry a re-aligned Kalanianaole Highway over Wawamalu Canal on the East Shore of Oahu. It is a single-span continuous concrete tee beam structure that runs parallel to the original Wawamalu Bridge built in 1931. The guard railings are composed of three horizontal steel rails with vertical steel posts. The bridge remains in its original, undeveloped setting near the Hawaii Kai Golf Course on the East Oahu coastline. The workmanship of the bridge is good, and has not been obscured by additions or repairs. The original concrete tee beam design and materials remain intact. The bridge's historic association as the work of a master is not easily discernible, but the date of construction is incised on the end pier. This bridge has little historic feeling, because it runs parallel to the older, unused, bridge which is obviously historic.

Significance Statement:

The Wawamalu Stream Bridge is eligible under criterion C- because it was the work of a master. It is the work of a person of significance - William R. Bartels, Chief Engineer for the Territorial Highways Department, who was responsible for all major territorial bridge projects from 1932- 1956. Bartels was considered a “cracker-jack” engineer who enjoyed the challenge of difficult assignments and his work characteristically utilized the latest technology and involved a high degree of engineering complexity. Nonetheless, his bridges show refined aesthetic sensibility which makes them distinctive from work of other engineers. Bartels was a German born engineer who worked briefly for a sugar plantation on Maui before being hired by the Territorial Highway Department in 1932. He designed most Territorial bridges from then until 1957. Bartels was responsible for the largest and most sophisticated bridge construction projects in Hawaii during this time and there was a marked shift to large deck girder and rigid frame bridges. (1) (2) He ended his tenure as Chief of the Bridge Division at age 70. This was well past the standard retirement age but he was kept on by special permission and out of necessity because his abilities were so great. Bridges designed by Bartels have often been hailed for their accomplishment of engineering as well as aesthetics.

The Wawamalu Stream Bridge is a typical example of the work by Bartels and is similar to the other stream bridges of the era.

(1) 1996 Report by Spencer Mason Architects, V-6.

(2) 1996 Report by Spencer Mason Architects, V-13.

(3) www.hookele.com/crc/bridge1.html

Inventory Form
(State)

General Information

Bridge Number: 003000630400576 **Route No:** 63	
Popular Name: Wilson Tunnel (Inbound)	
Feature Crossed: Mountain (Wilson Tunnel - Inbound)	
Feature Carried: Likelike Highway	
Milepost: 5.76 mi. **Island:** Oahu	
Longitude: 157d-48m-43.24s **Latitude:** 21d-22m-46.91s	

Location: 2.82 Miles Northeast of Valley View Drive
Historic Name: Wilson Tunnel (Inbound)
Designer/Engineer:
Builder/Contractor:

Location Map:

Construction Information

Bridge Type: Concrete Arch Culvert	**Construction Date:** 1958	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 28.9 ft.	**Total Length:** 2774.9 ft.	**Deck Width:** 27.9 ft.
Superstructure:			
Substructure: Concrete Arch Culvert			
Floor/Decking: Concrete Deck			
Parapets/Railings: No Parapet/Railing			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Persons, Engineering		

Narrative Description:

The Wilson Tunnel (Inbound) carries Likelike Highway through the Koolau Mountain Range. This 42 module tunnel is in its original location, is generally in good condition, and its materials remain intact. The tunnel has tile on the interior walls.

Significance Statement:

The Wilson Tunnel is eligible under Criterion C for its association with providing convenient transportation and communication between the Windward and Leeward sides of the island through the Koolau Mountain Range, and for being a major engineering feat. It was officially named “John H. Wilson Tunnel” in 1953 after Johnny Wilson, the 1964 mayor of Honolulu who was an advocate for the tunnel to be located on the Kalihi Valley route. The Wilson Tunnel is also eligible under Criterion A for its association with Johnny Wilson. The project for the Wilson Tunnel began in 1952. Tunnel construction halted in 1954 to 1955 after a cave-in that caused the death of five people. The project continued in 1956 and was completed by 1957. The completion of the John H. Wilson Tunnel (and the Pali Tunnel) relieved traffic on the old Pali Road.

Inventory Form
(State)

General Information

Bridge Number: 003000630400575 **Route No:** 63	
Popular Name: Wilson Tunnel (Outbound)	
Feature Crossed: Mountain (Wilson Tunnel - Outbound)	
Feature Carried: Likelike Highway	
Milepost: 5.75 mi. **Island:** Oahu	
Longitude: 157d-49m-07.03s **Latitude:** 21d-22m-31.91s	
Location: 2.82 Miles Northeast of Valley View Drive	
Historic Name: Wilson Tunnel (Outbound)	
Designer/Engineer:	
Builder/Contractor:	

Location Map:

Construction Information

Bridge Type: Concrete Arch Culvert	**Construction Date:** 1959	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 27.9 ft.	**Total Length:** 2813.0 ft.	**Deck Width:** 27.9 ft.
Superstructure:			
Substructure: Concrete Arch Culvert			
Floor/Decking: Concrete Deck			
Parapets/Railings: No Parapet/Railing			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Tunnel	**Historic Function:** Tunnel	
Area of Significance: Persons, Engineering		

Narrative Description:

The Wilson Tunnel (Outbound) carries Likelike Highway through the Koolau Mountain Range. This 42 module tunnel is in its original location, is generally in good condition, and its materials remain intact. The tunnel has tile on the interior walls.

Significance Statement:

The Wilson Tunnel is eligible under Criterion C for its association with providing convenient transportation and communication between the Windward and Leeward sides of the island through the Koolau Mountain Range, and for being a major engineering feat. It was officially named “John H. Wilson Tunnel” in 1953 after Johnny Wilson, the 1964 mayor of Honolulu who was an advocate for the tunnel to be located on the Kalihi Valley route. The Wilson Tunnel is also eligible under Criterion A for its association with Johnny Wilson. The project for the Wilson Tunnel began in 1952. Tunnel construction halted in 1954 to 1955 after a cave-in that caused the death of five people. The project continued in 1956 and was completed by 1957. The completion of the John H. Wilson Tunnel (and the Pali Tunnel) relieved traffic on the old Pali Road.

V. INVENTORY FORMS:
OAHU COUNTY ELIGIBLE BRIDGES

Inventory Form
(County/Private)

General Information

Bridge Number: 003364001200001

Popular Name: 10th Avenue Double Box Culvert-Waiomao Stream

Feature Crossed: Waiomao Stream

Feature Carried: 10th Avenue

Milepost: **County Private:** Honolulu

Longitude: 157d-47m-24.61s **Latitude:** 21d-18m-04.64s

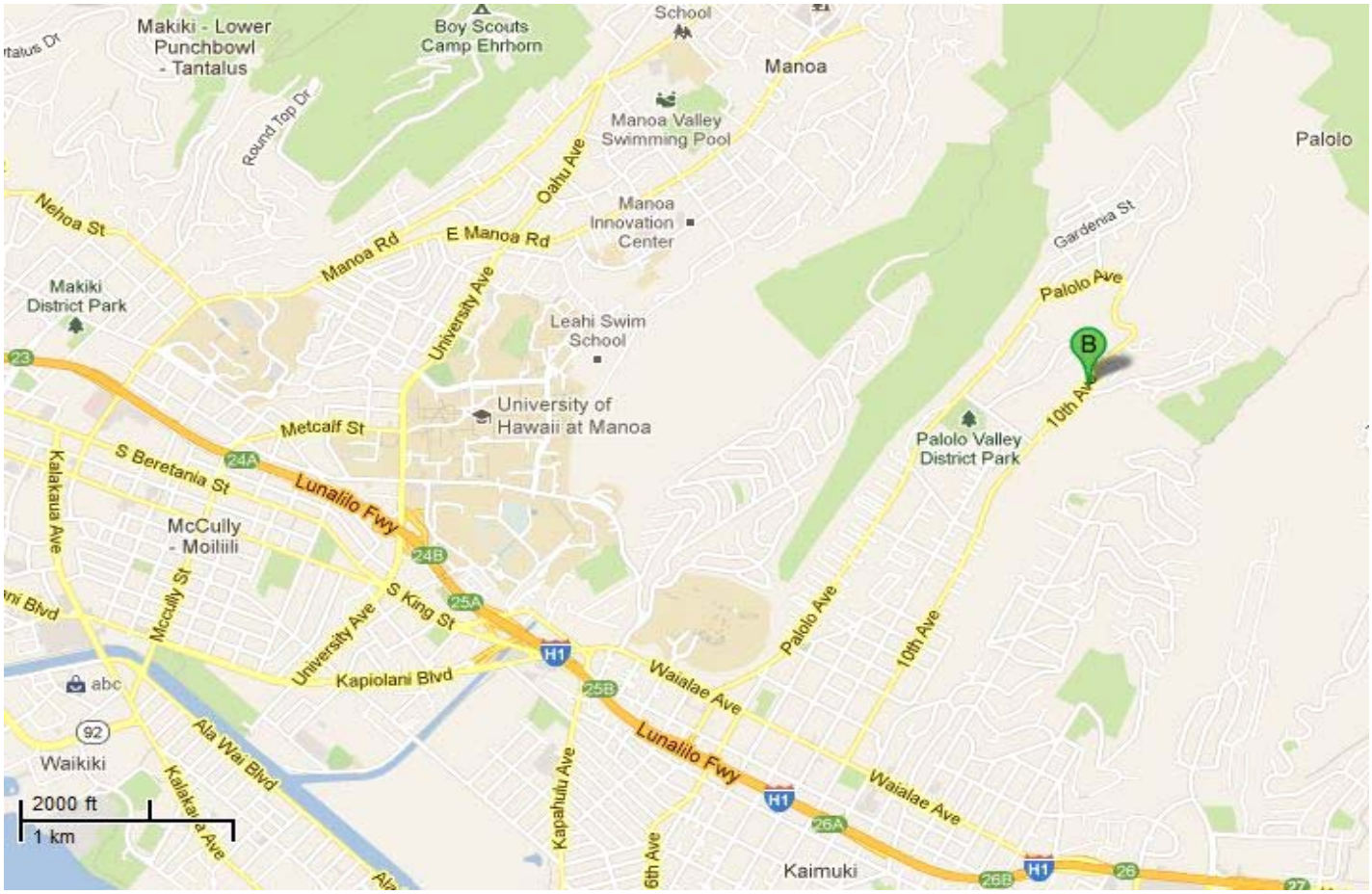
Location: TMK: 3-4-03

Historic Name: 10th Avenue Double Box Culvert-Waiomao Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Box Culvert	**Construction Date:** 1962	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 2	**Max Span:** 10.0 ft.	**Total Length:** 23.0 ft.	**Deck Width:** 48.3 ft.
Superstructure:			
Substructure: Concrete Box Culvert			
Floor/Decking: AC Pavement			
Parapets/Railings: Metal Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: Eligible	**Criteria:** C	**State/National Registered?** No
Current Function: Culvert	**Historic Function:** Culvert	
Area of Significance: Engineering		

Narrative Description:

The 10th Avenue/Waioamo Stream Culvert carries 10th Avenue across Waiomao Stream. This double 10’ x 10’ box culvert is in its original location, is generally in good condition, and its materials remain intact. The culvert has metal round pipe railings with chain link fencing. The deck is earth fill on reinforced concrete box culvert. Concrete abutments support the box culvert above a channeled stream with concrete rock masonry walls. Concrete rock masonry detailing is shown on the side of the bridge. The workmanship of the bridge has not been obscured by additions or repairs.

Significance Statement:

This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a unique example of a box culvert in the 1960s in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003382001200001

Popular Name: 10th Avenue Place Bridge-Waiomao Stream

Feature Crossed: Waiomao Stream

Feature Carried: 10th Avenue Place

Milepost: **County Private:** Honolulu

Longitude: 157d-47m-19.31s **Latitude:** 21d-18m-07.87s

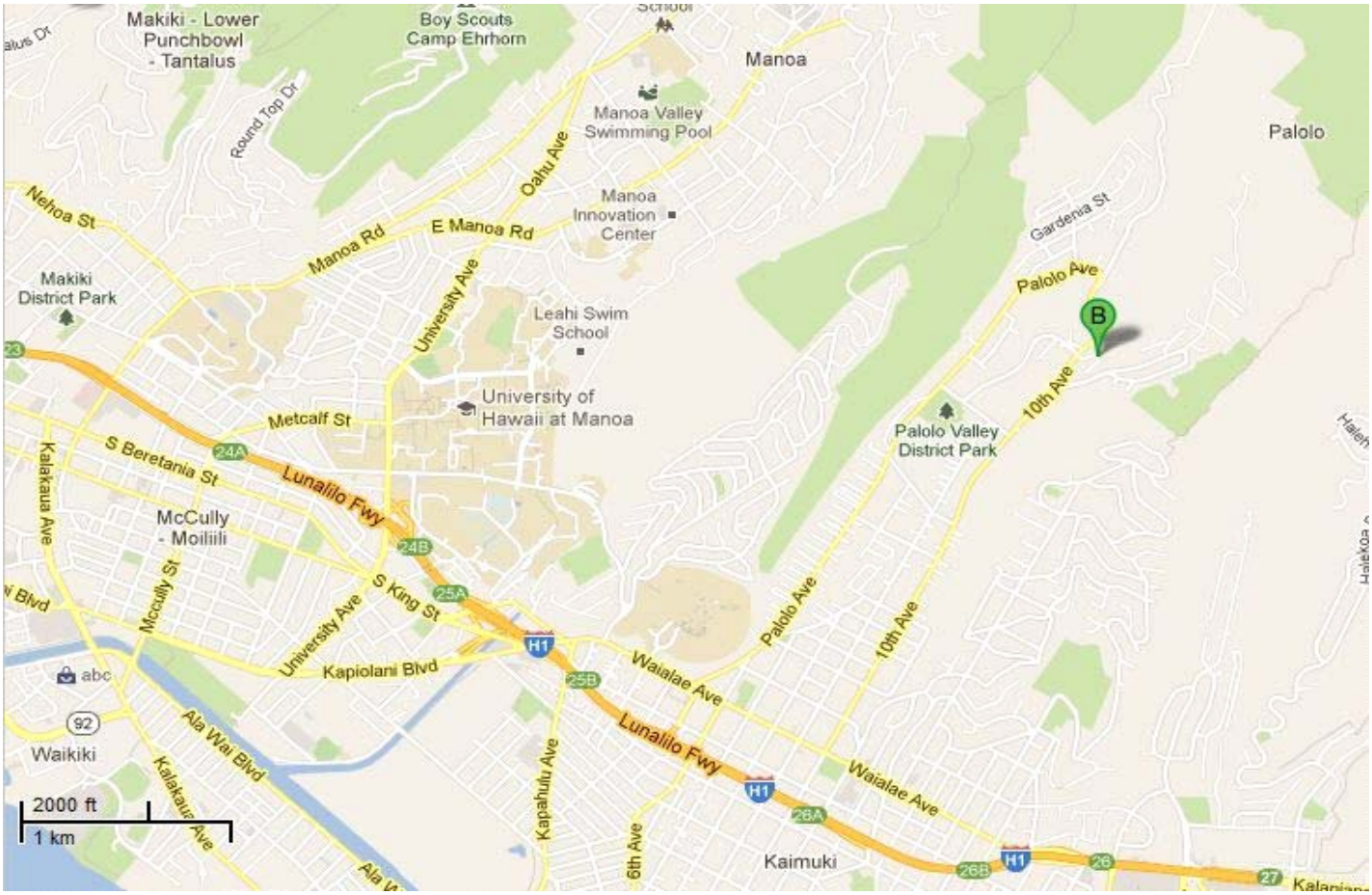
Location: TMK: 3-4-03

Historic Name: 10th Avenue Place Bridge-Waiomao Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1930	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 21.0 ft.	**Total Length:** 25.0 ft.	**Deck Width:** 27.3 ft.
Superstructure: Concrete Tee Beam			
Substructure: Masonry Abutment			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The 10th Avenue Place Bridge carries 10th Avenue across Waiomao Stream. This single-span reinforced concrete bridge is in its original location, is in fair condition, and its materials remain intact. The bridge has concrete parapets with arched voids and caps. Paneled concrete end posts with caps flank the approaches of the parapet. The concrete deck is supported by rock masonry abutments. The workmanship of the bridge has not been obscured by additions or repairs.

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 reinforced concrete bridge that is typical of its materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003406001100001

Popular Name: Auloa Road Bridge No. 1-Kahanaiki Stream

Feature Crossed: Kahanaiki Stream

Feature Carried: Auloa Road

Milepost: 0.80 mi. **County Private:** Honolulu

Longitude: 157d-46m-02.41s **Latitude:** 21d-22m-25.42s

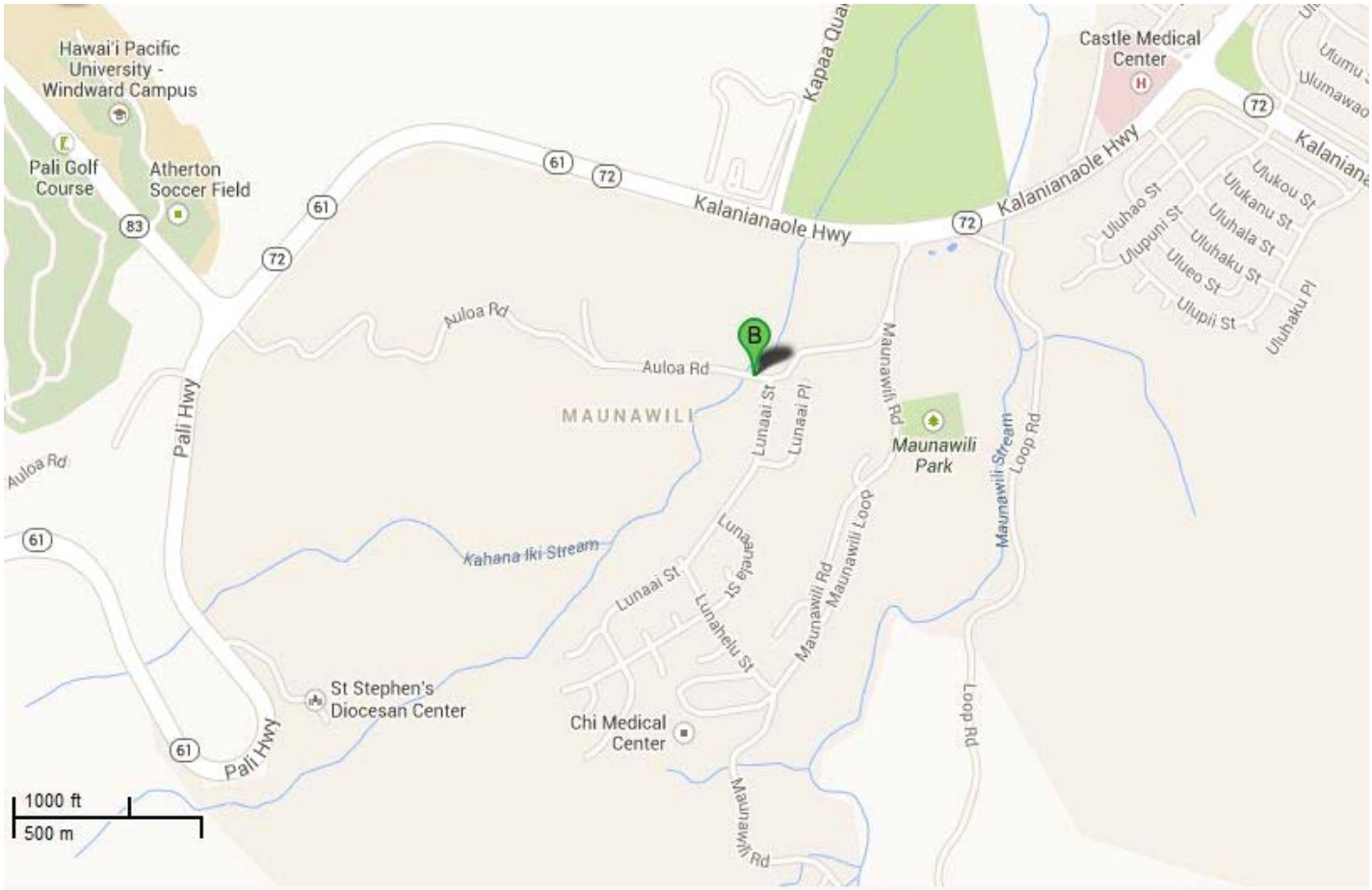
Location: TMK: 4-2-07

Historic Name: Auloa Road Bridge No. 1-Kahanaiki Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1921	**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:** 44.0 ft.	**Deck Width:** 26.3 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Auloa Road/Kahanaiki Stream Bridge carries Auloa Road across Kahanaiki Stream. This single-span reinforced concrete bridge is in its original location, is in fair condition, and its materials remain intact. The bridge has solid panel concrete parapets with intermittent posts and caps. Concrete end posts with caps flank the approaches of the parapet. The concrete deck is supported by reinforced concrete abutments. Thrie beams were bolted to the end posts however, the workmanship of the bridge has not been obscured by additions or repairs.

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 1920's reinforced concrete bridge that is typical of its materials, method of construction, craftsmanship, and design.

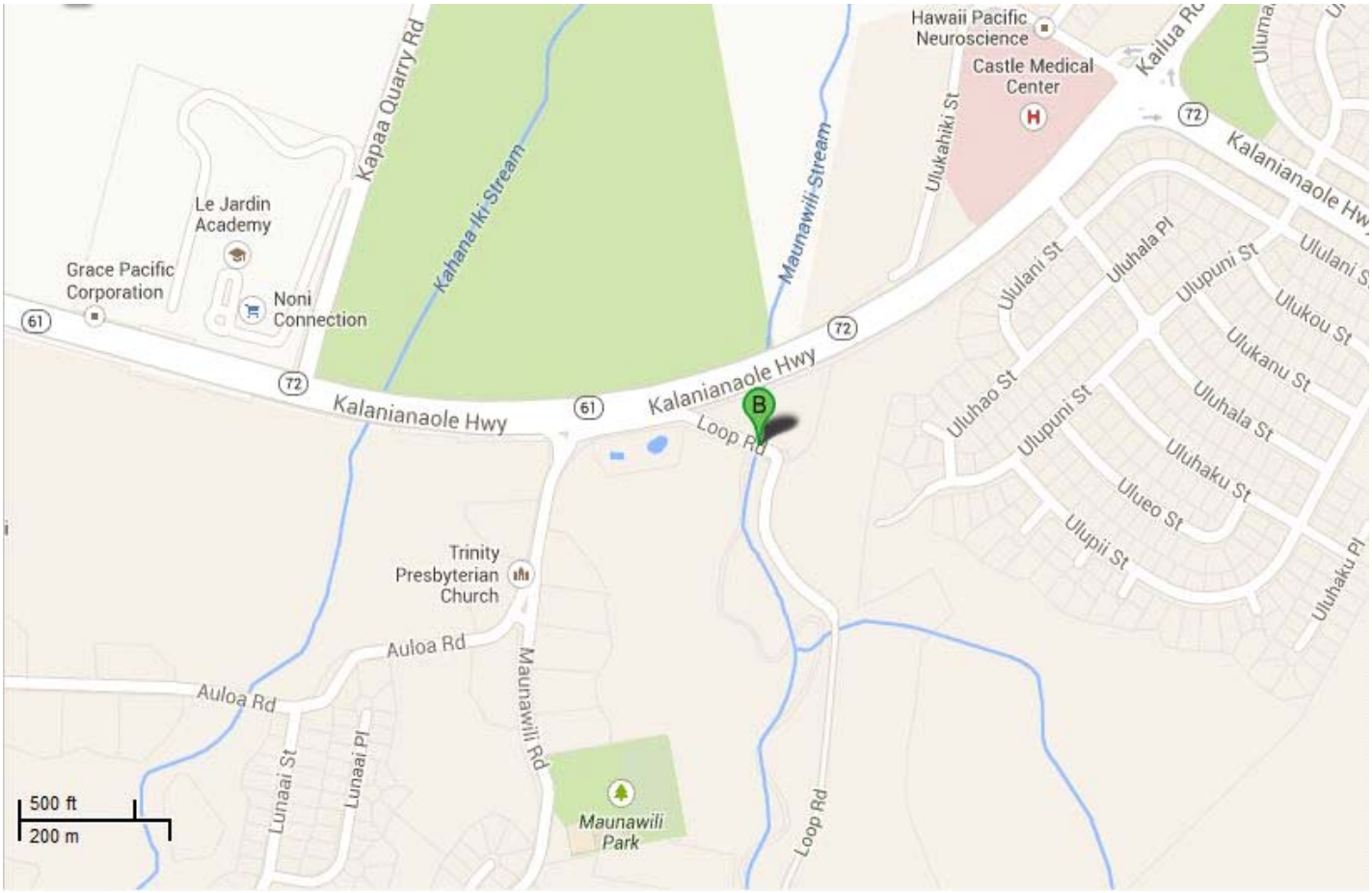
Inventory Form
(County/Private)

General Information

Bridge Number: 003407001100001	
Popular Name: Auloa Road Bridge No. 2-Maunawili Stream	
Feature Crossed: Maunawili Stream	
Feature Carried: Auloa Road	
Milepost:	**County Private:** Honolulu
Longitude: 157d-45m-39.49s	**Latitude:** 21d-22m-35.96s

Location: TMK: 4-2-07
Historic Name: Auloa Road Bridge No. 2-Maunawili Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1921	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 6	**Max Span:** 18.0 ft.	**Total Length:** 108.0 ft.	**Deck Width:** 26.4 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Multi-Column Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Auloa Road/Maunawili Stream Bridge carries Auloa Road across Maunawili Stream. This single-span reinforced concrete bridge is in its original location, is in fair condition, and its materials remain intact. The bridge has solid panel concrete parapets with caps and slight intermittent posts. Small concrete end posts with caps flank the approaches of the parapet. The concrete deck is supported by reinforced concrete abutments. Thrie beams were bolted to the end posts however, the workmanship of the bridge has not been obscured by additions or repairs.

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 1920's reinforced concrete bridge that is typical of its materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003083041400055

Popular Name: Date Street Bridge-Manoa Palolo Drainage Canal

Feature Crossed: Manoa-Palolo Stream

Feature Carried: Date Street

Milepost: 0.55 mi. **County Private:** Honolulu

Longitude: 157d-49m-13.80s **Latitude:** 21d-17m-05.29s

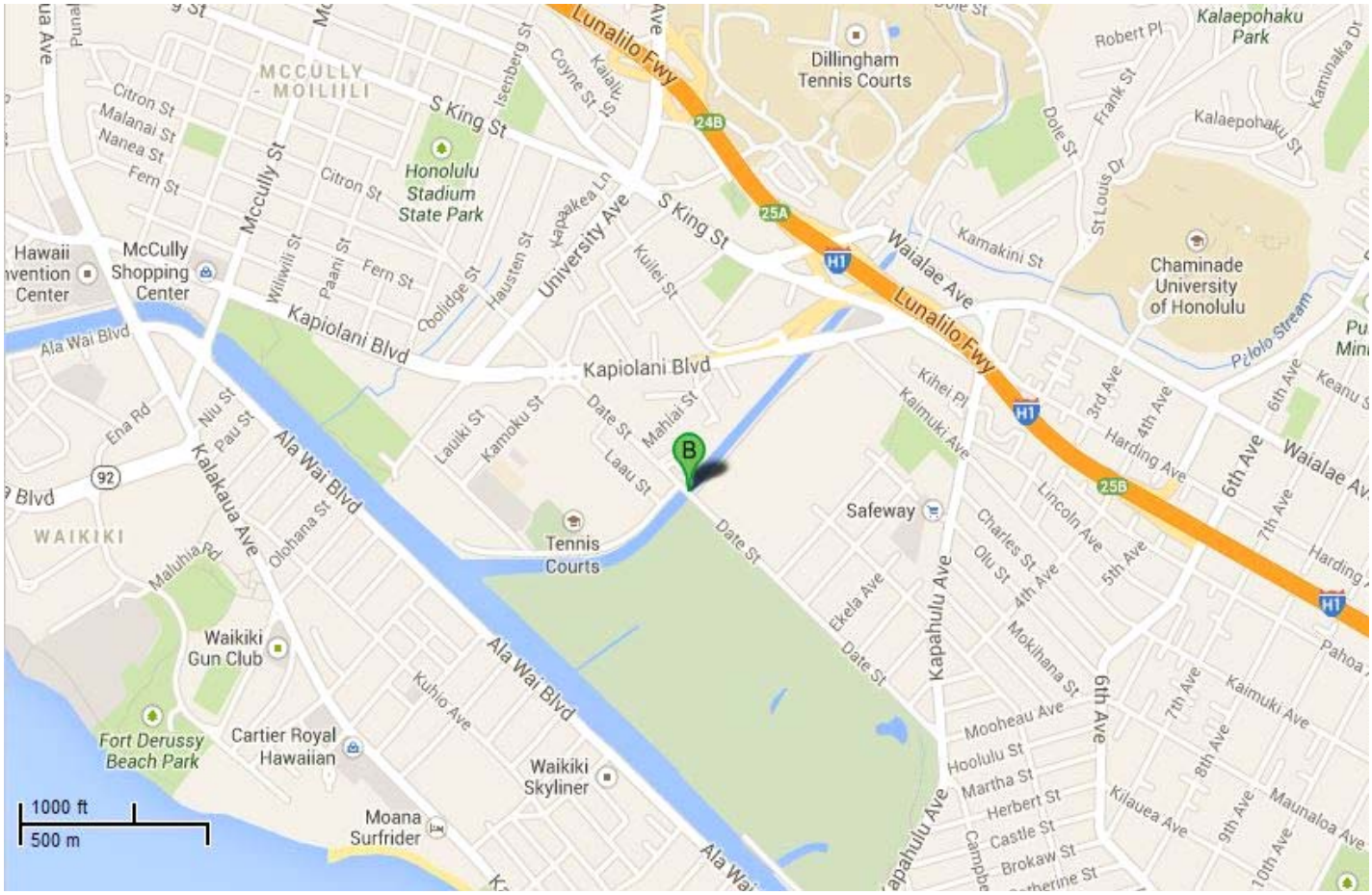
Location: East of Laau Street

Historic Name: Date Street Bridge-Manoa Palolo Drainage Canal

Designer/Engineer: Clarence T. Loo

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1937	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 3	**Max Span:** 56.1 ft.	**Total Length:** 113.8 ft.	**Deck Width:** 57.1 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Decorative			
Setting:			
Other Features: Walkways along two sides; "WPA" and date of construction incised on parapets			

Historic Association

Eligibility Status: Eligible	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering		

Narrative Description:

The Manoa Palolo Stream Bridge carries Date Street across the Manoa-Palolo Drainage Canal. This 3-span reinforced concrete slab bridge is in its original location, is generally in good condition, and its materials remain intact. Solid concrete parapets with horizontal caps, intermittent posts at the piers, and decorative Art Moderne end posts are unique features of the bridge. The concrete deck is supported by concrete piers and concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs.

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 a 1930's concrete slab bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

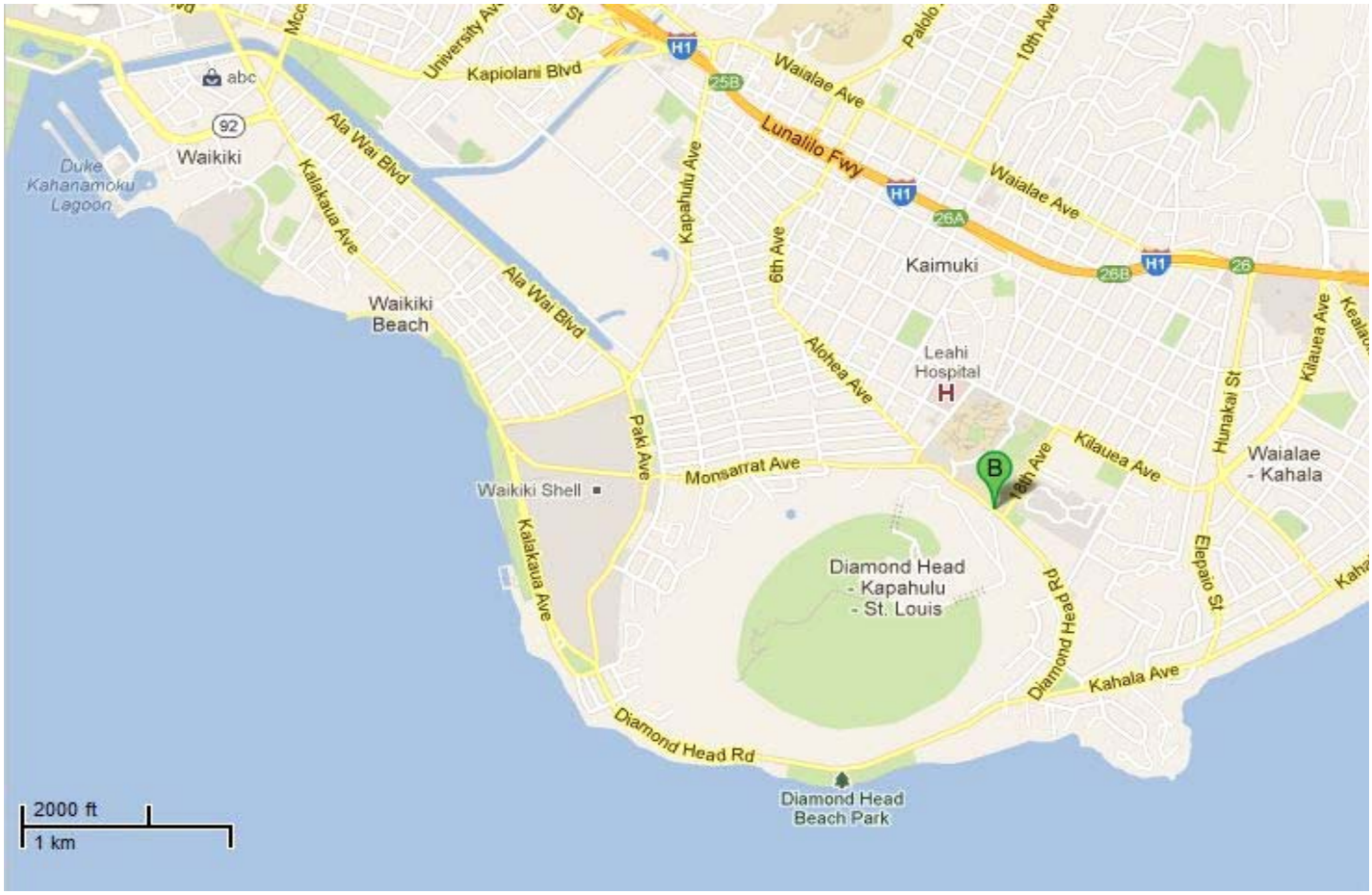
Inventory Form
(County/Private)

General Information

Bridge Number: 003083051400001	
Popular Name: Diamond Head Road Bridge Upper-Gully	
Feature Crossed: Gully (Diamond Head)	
Feature Carried: Diamond Head Road	
Milepost:	**County Private:** Honolulu
Longitude: 157d-48m-16.65s	**Latitude:** 21d-15m-22.75s

Location: 0.38 Miles West of Poka Street
Historic Name: Diamond Head Road Bridge Upper-Gully
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Open Spandrel Arch	**Construction Date:** 1930	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 2013	
Alteration Type(s):		
Alteration Description(s): Structural repair, raised the railing height to meet code		

Bridge Information

Number of Spans: 1	**Max Span:** 49.9 ft.	**Total Length:** 65.9 ft.	**Deck Width:** 14.6 ft.
Superstructure: Concrete Open Spandrel Arch			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering		

Narrative Description:

The Diamond Head Road Bridge carries Diamond Head Road across a gully. This single-span, round arch girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has one concrete parapet with arch voids and a horizontal cap. Concrete end posts with caps flank the approaches of the parapets. The concrete deck is supported by reinforced concrete abutments which rest on soil and rock. The workmanship of the bridge has not been obscured by additions or repairs. The simple design of the parapets retains the bridge's historic feeling. The parapets have been repaired/altered in 2013.

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 a 1930's open spandrel arch bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design. Arch bridges are also an uncommon bridge type.

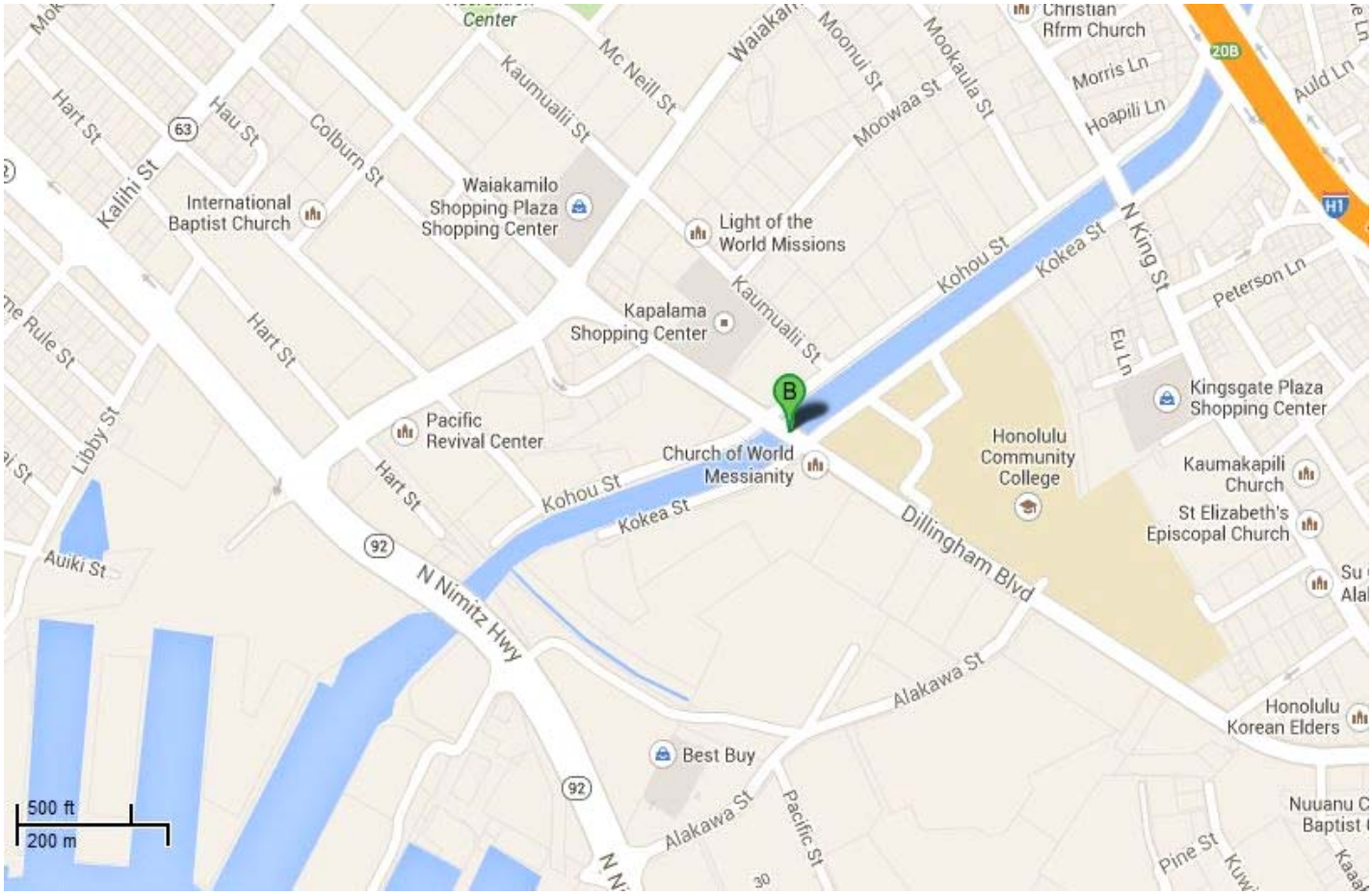
Inventory Form
(County/Private)

General Information

Bridge Number: 003062071400140	
Popular Name: Dillingham Boulevard Bridge-Kapalama Canal	
Feature Crossed: Kapalama Canal	
Feature Carried: Dillingham Boulevard	
Milepost:	**County Private:** Honolulu
Longitude: 157d-52m-23.22s	**Latitude:** 21d-19m-19.42s

Location: Between Kohou Street and Kokea Street
Historic Name: Dillingham Boulevard Bridge-Kapalama Canal
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1930	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 5	**Max Span:** 23.0 ft.	**Total Length:** 109.9 ft.	**Deck Width:** 78.1 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Kapalama Canal Bridge carries Dillingham Boulevard across the Kapalama Canal. This 5-span reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has parapets with arched voids, intermittent posts, and end posts with caps. The concrete deck is supported by concrete piers and concrete masonry abutments. The workmanship of the bridge has not been obscured by additions or repairs. The bridge has retained its historic feeling due to the design of the railings which are typical of 1930s bridges.

Significance Statement:

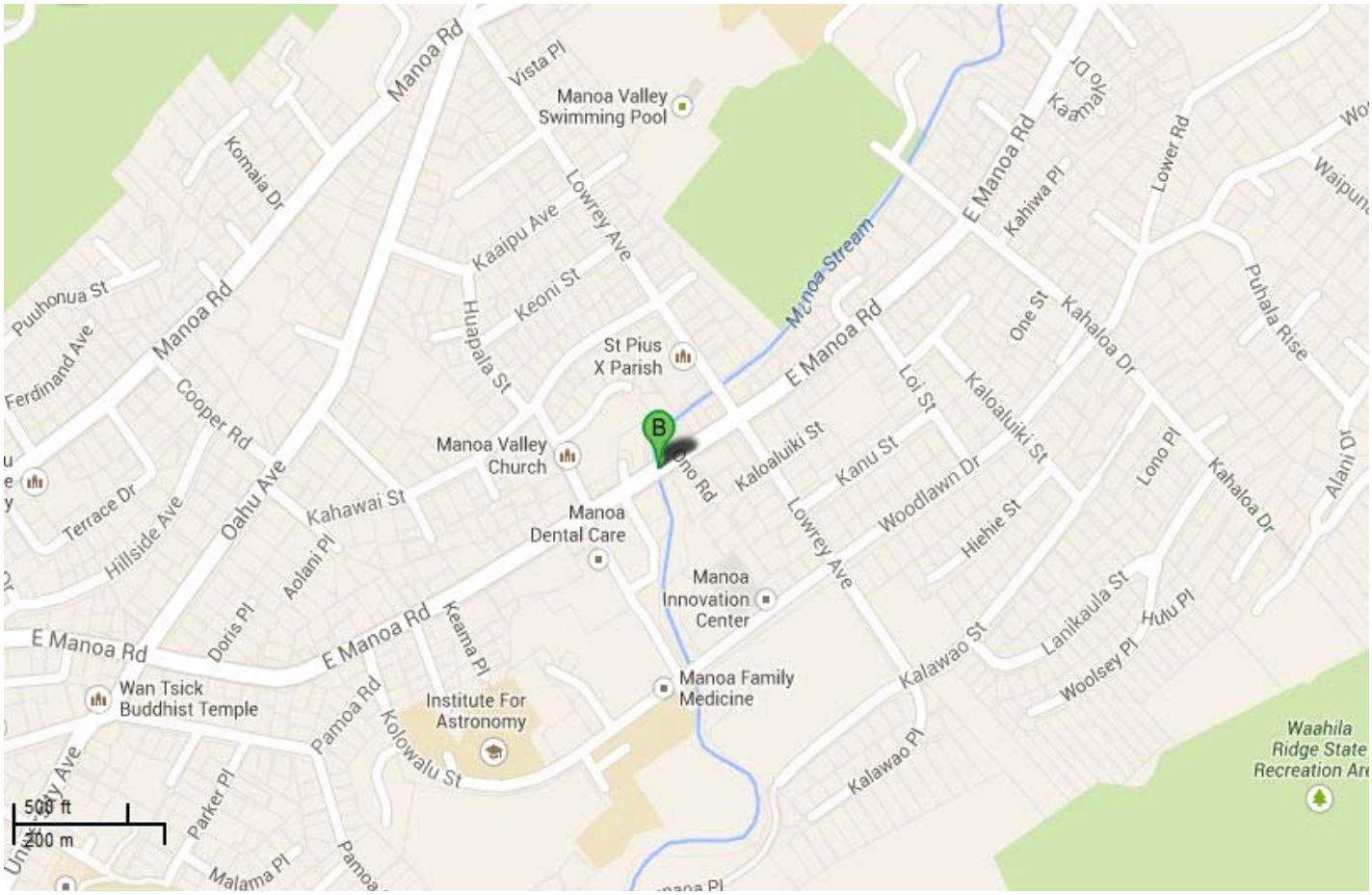
This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of a 1930's reinforced concrete tee beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003208001200001	
Popular Name: East Manoa Road Bridge No. 1-Manoa Stream	
Feature Crossed: Manoa Stream	
Feature Carried: East Manoa Road	
Milepost:	**County Private:** Honolulu
Longitude: 157d-48m-34.37s	**Latitude:** 21d-18m-36.75s
Location: TMK: 2-9-06	
Historic Name: East Manoa Road Bridge No. 1-Manoa Stream	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1938	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 30.0 ft.	**Total Length:** 33.0 ft.	**Deck Width:** 46.0 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Decorative			
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:

The East Manoa Road Bridge carries East Manoa Road across Manoa PK Ditch. This single-span reinforced concrete girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has solid concrete parapets and decorative concrete end posts. The concrete deck is supported by reinforced concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs.

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 reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003902001100001

Popular Name: Farrington Highway Bridge No. 3-Palehua Stream

Feature Crossed: Palehua Stream

Feature Carried: Farrington Highway

Milepost: **County Private:** Honolulu

Longitude: 158d-03m-47.40s **Latitude:** 21d-21m-07.33s

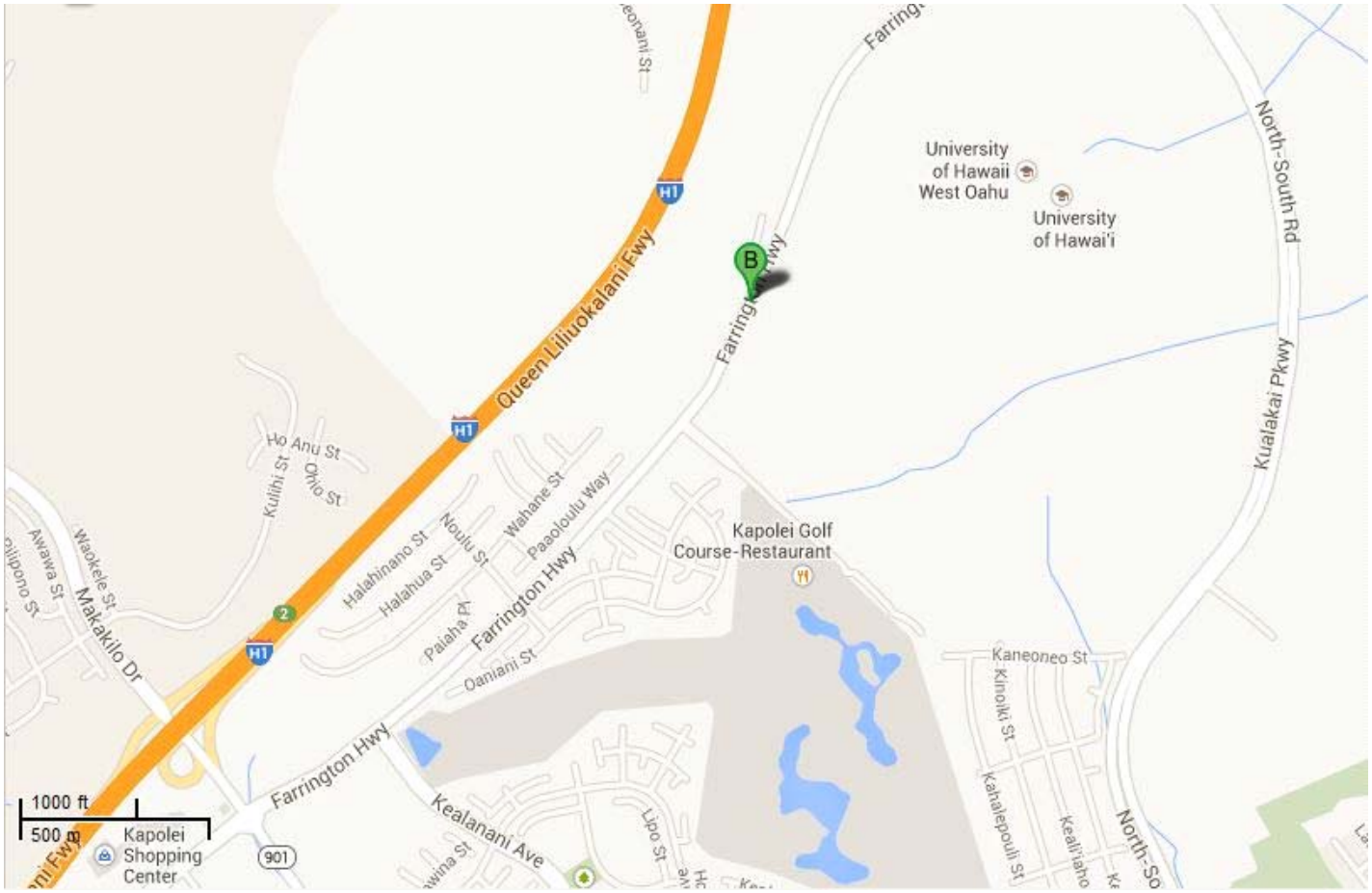
Location: TMK: 9-1-16

Historic Name: Farrington Highway Bridge No. 3-Palehua Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1922	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 20.0 ft.	**Total Length:** 22.0 ft.	**Deck Width:** 27.0 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Farrington Highway Bridge No. 3 carries Farrington Highway across Palehua Stream. This single-span reinforced cast-in-place concrete bridge is in its original location, is in poor condition, and its materials remain intact. The bridge has solid panel reinforced concrete parapets with caps and small end posts with caps. Thrie beams flank the approaches of the parapets but are not attached to the parapet itself. The concrete deck is supported by reinforced concrete abutments and spread footings. The workmanship of the bridge has not been obscured by additions or repairs.

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 1920's concrete slab bridge that is typical of its materials, method of construction, craftsmanship, and design.

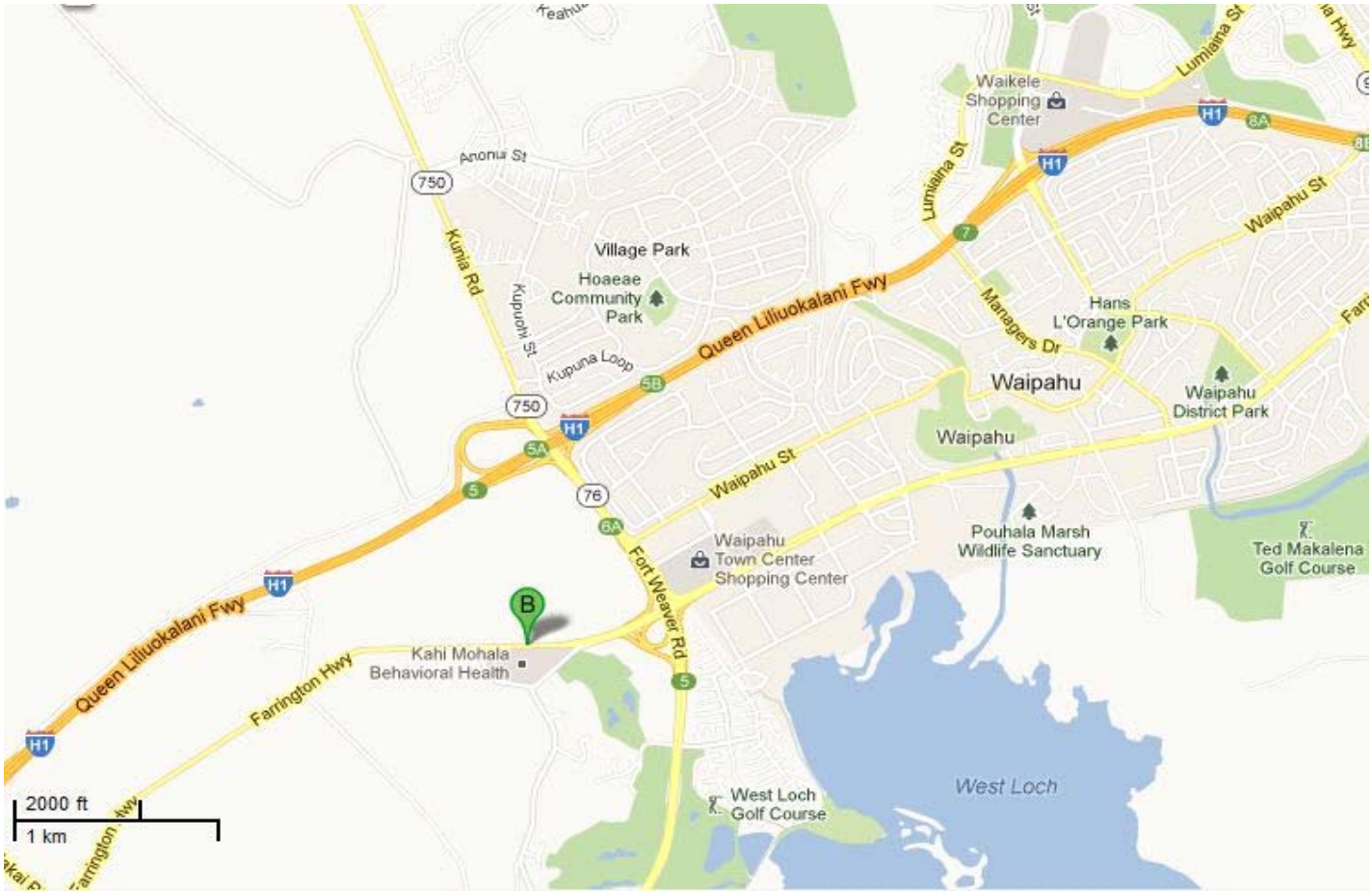
Inventory Form
(County/Private)

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:



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:

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.

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.

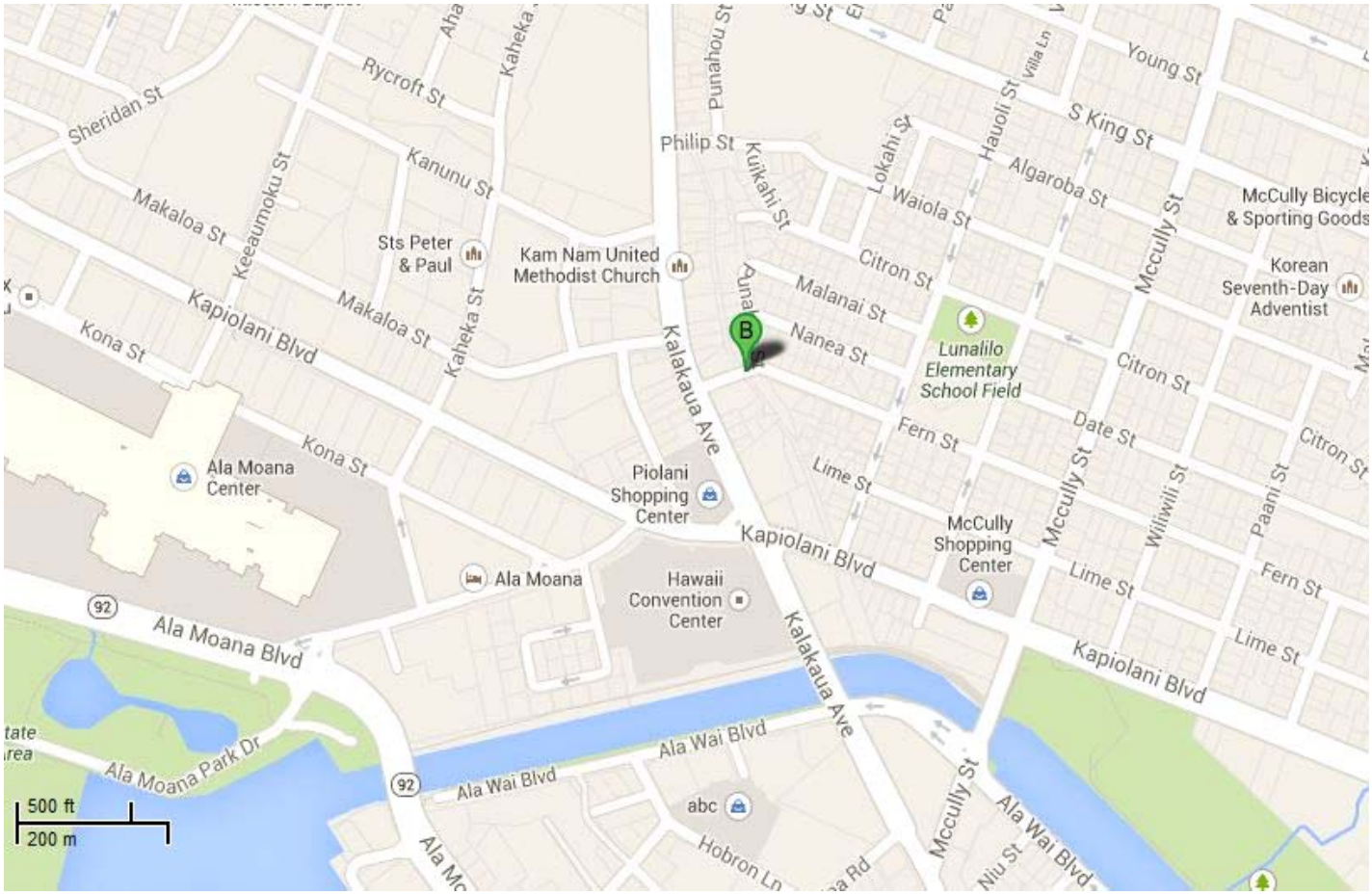
Inventory Form
(County/Private)

General Information

Bridge Number: 003209001100001	
Popular Name: Fern Street Bridge-Makiki Stream	
Feature Crossed: Makiki Stream	
Feature Carried: Fern Street	
Milepost:	**County Private:** Honolulu
Longitude: 157d-50m-09.07s	**Latitude:** 21d-17m-32.74s

Location: TMK: 2-3-23
Historic Name: Fern Street Bridge-Makiki Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1931	**Replaced?** No
Altered? Yes **Alteration Date(s):** 2013		
Alteration Type(s):		
Alteration Description(s): Structural repair, raised the railing height to meet code		

Bridge Information

Number of Spans: 1	**Max Span:** 22.0 ft.	**Total Length:** 23.0 ft.	**Deck Width:** 55.3 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Fern Street Bridge carries Fern Street across Makiki Stream. This single-span reinforced concrete slab bridge with fascia girders is in its original location, is generally in good condition, and its materials remain intact. The bridge has a concrete parapet with arch voids and a horizontal cap. Paneled concrete end posts with caps flank the approaches of the parapet. The concrete deck is supported by reinforced concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs. In 2013 rehabilitation of the bridge included spall repair and an increase to the parapet height to meet code.

Significance Statement:

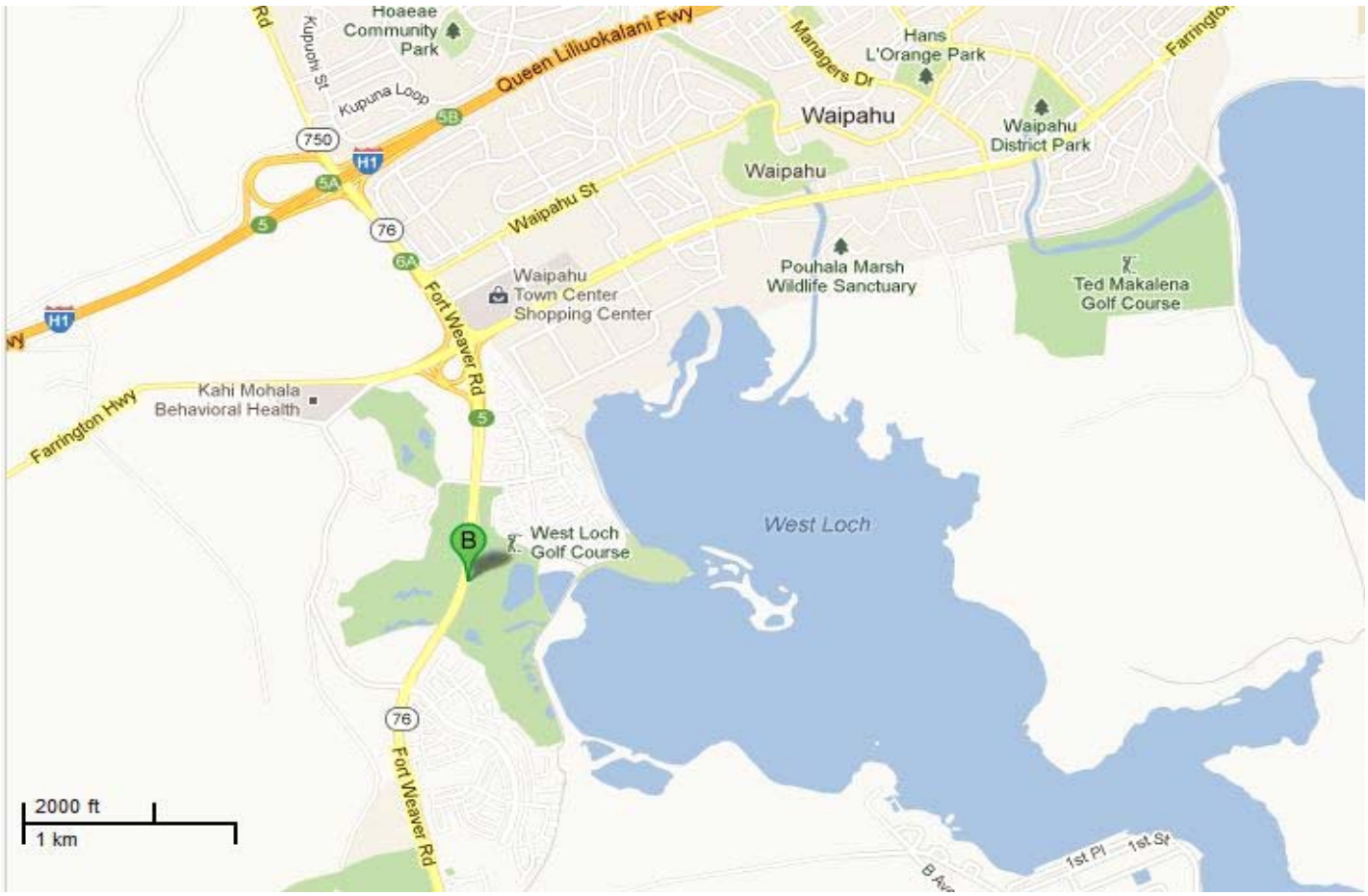
This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of the 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003076001400581	
Popular Name: Fort Weaver Road Bridge-Honouliuli Stream	
Feature Crossed: Honouliuli Stream	
Feature Carried: Fort Weaver Road	
Milepost: 5.81 mi. **County Private:** Honolulu	
Longitude: 158d-01m-58.30s **Latitude:** 21d-22m-21.06s	
Location: TMK: 9-1-17	
Historic Name: Fort Weaver Road Bridge-Honouliuli Stream	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Closed Spandrel Arch	**Construction Date:** 1927	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 32.0 ft.	**Total Length:** 42.0 ft.	**Deck Width:** 32.9 ft.
Superstructure: Concrete Closed Spandrel Arch			
Substructure: Concrete Abutment Wall			
Floor/Decking: AC Pavement			
Parapets/Railings: Concrete Solid Panel with Cap			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering		

Narrative Description:

The Honouliuli Stream Bridge carries Fort Weaver Road across the Honouliuli Stream. This single span closed arch bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has solid panel concrete parapets with concrete panel end posts. The concrete deck is supported by concrete abutments. Thrie beams were bolted to the end posts however, the workmanship of the bridge has not been obscured. The simple design of the parapets retains the bridge's historic feeling.

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 a 1930's closed spandrel arch bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design. Arch bridges are also an uncommon bridge type.

Inventory Form
(County/Private)

General Information

Bridge Number: 003514001100001

Popular Name: Hauula Homestead Road Bridge-Maakua Stream

Feature Crossed: Maakua Stream

Feature Carried: Hauula Homestead Road

Milepost: **County Private:** Honolulu

Longitude: 157d-54m-49.54s **Latitude:** 21d-36m-33.47s

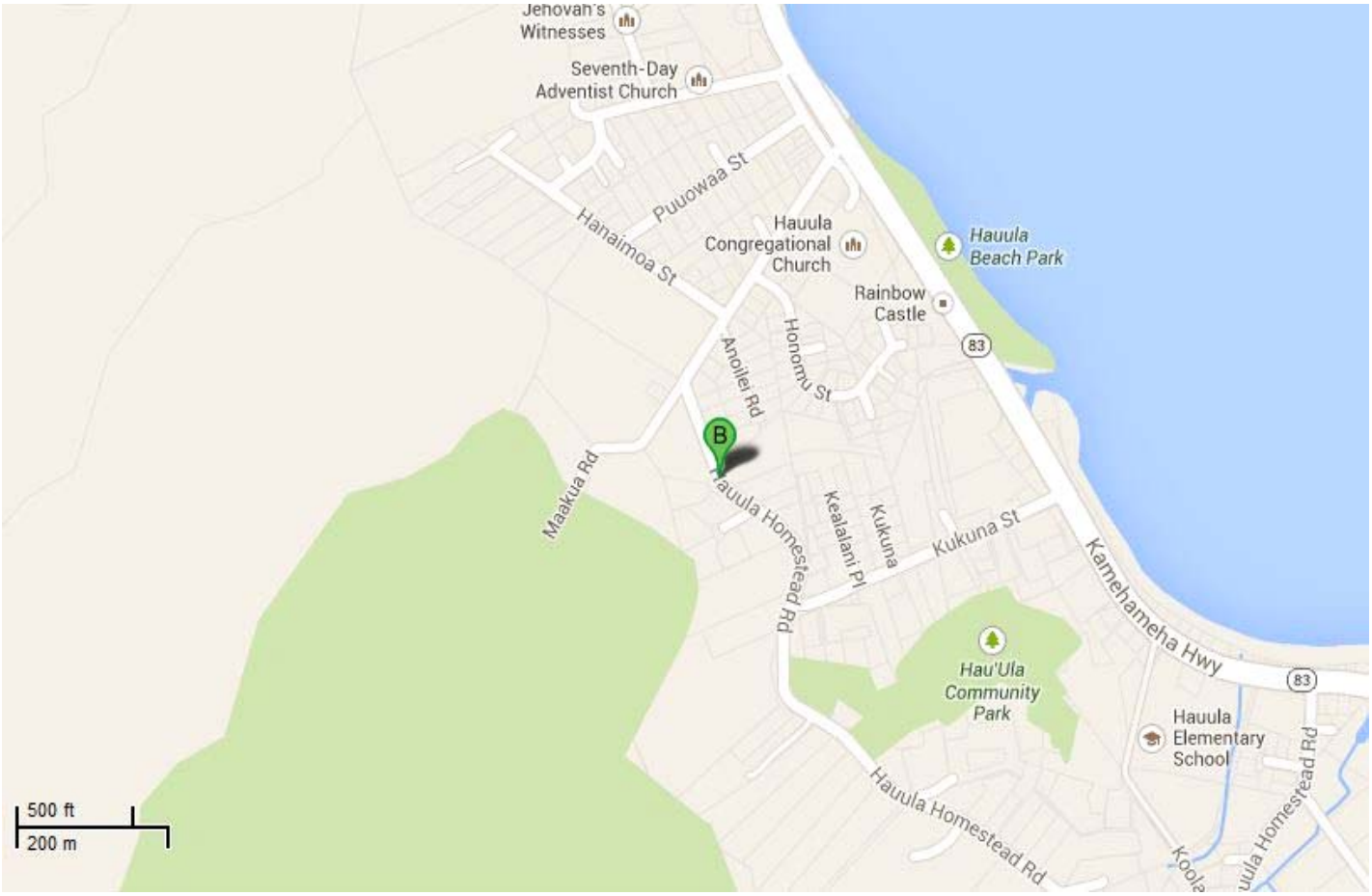
Location: TMK: 5-4-13

Historic Name: Hauula Homestead Road Bridge-Maakua Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:**	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 2	**Max Span:** 11.0 ft.	**Total Length:** 36.0 ft.	**Deck Width:** 33.0 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid			
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:

The Hauula Homestead Road Stream Bridge carries Hauula Homestead Road across Maakua Stream. This two-span reinforced concrete bridge is in its original location, is in fair condition, and its materials remain intact. The bridge has solid panel concrete parapets and metal guardrails flank the approaches of the parapets but are not attached to the parapets. The concrete deck is supported by reinforced concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs.

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 slab bridge that is typical of its materials, method of construction, craftsmanship, and design.

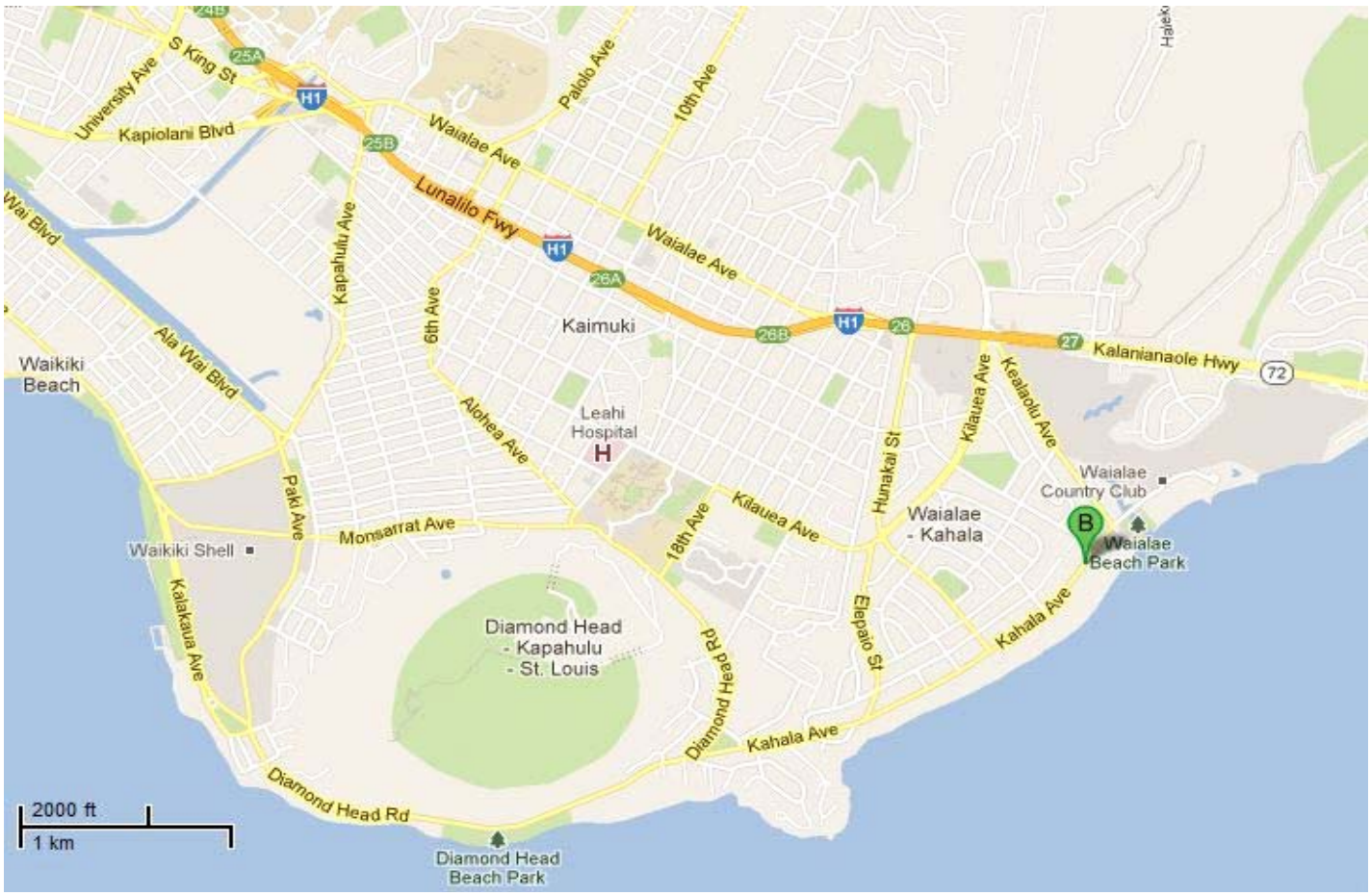
Inventory Form
(County/Private)

General Information

Bridge Number: 003311001200001	
Popular Name: Kahala Avenue Bridge No. 1-Muliwai Ditch	
Feature Crossed: Muliwai Ditch	
Feature Carried: Kahala Avenue	
Milepost:	**County Private:** Honolulu
Longitude: 157d-46m-48.27s	**Latitude:** 21d-16m-04.09s

Location: TMK: 3-5-07
Historic Name: Kahala Avenue Bridge No. 1-Muliwai Ditch
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Rigid Frame	**Construction Date:** 1947	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 26.0 ft.	**Total Length:** 29.0 ft.	**Deck Width:** 60.0 ft.
Superstructure: Concrete Rigid Frame			
Substructure: Concrete Integral Abutment			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Decorative			
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:

The Kahala Avenue Bridge carries Kahala Avenue across Muliwai Ditch. This single-span reinforced concrete frame bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has solid parapets with decorative Art Moderne ends which are a unique feature. The deck is supported by concrete abutments. The workmanship of the bridge parapet has been obscured by vine vegetation on one side of the bridge.

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 a 1940's and 1950's reinforced concrete frame bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

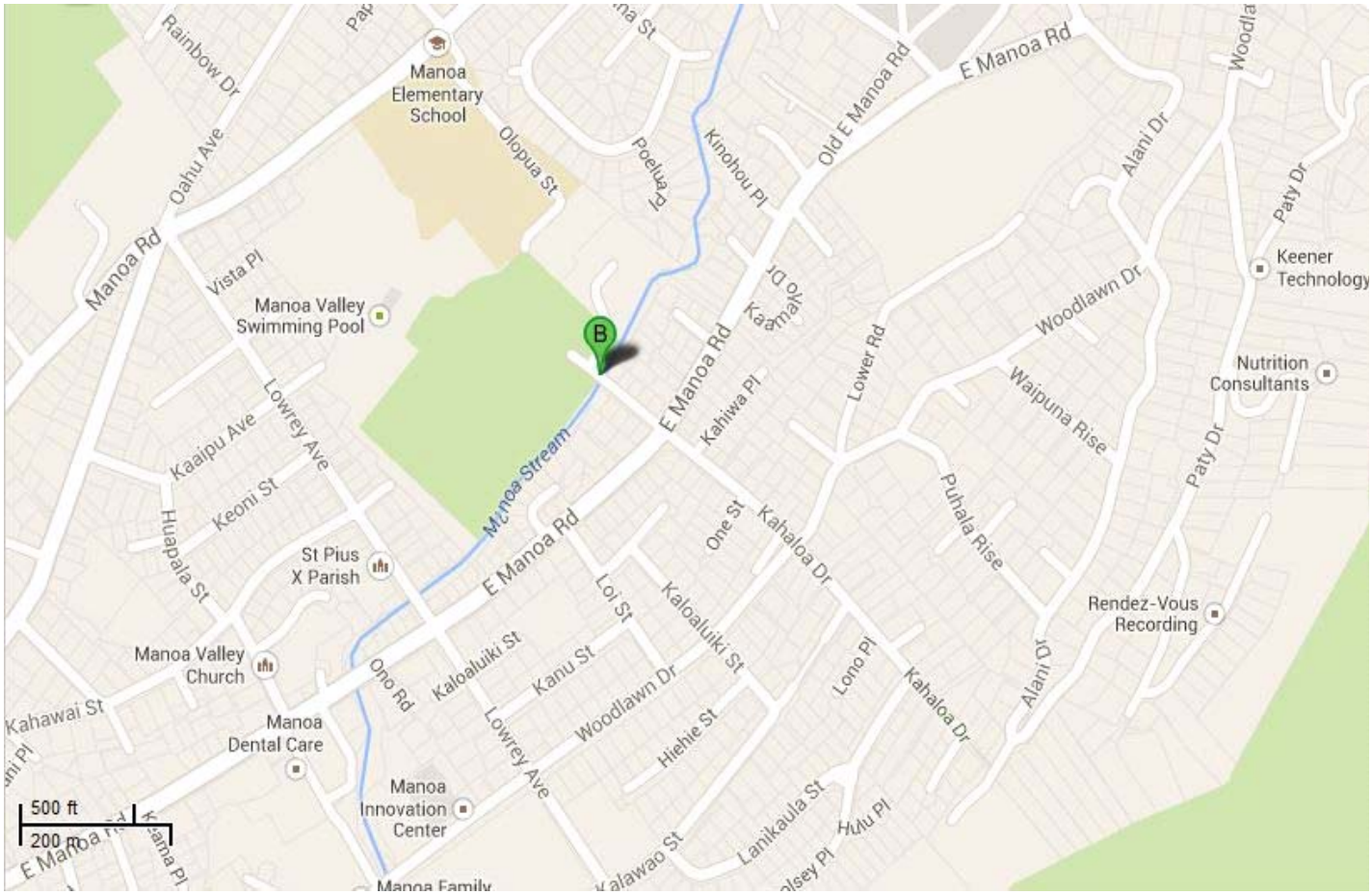
Inventory Form
(County/Private)

General Information

Bridge Number: 003211001200001	
Popular Name: Kahaloa Drive Extension Bridge-Manoa Stream	
Feature Crossed: Manoa Stream	
Feature Carried: Kahaloa Drive	
Milepost:	**County Private:** Honolulu
Longitude: 157d-48m-23.18s	**Latitude:** 21d-18m-49.30s

Location: TMK: 2-9-36 & 2-9-37
Historic Name: Kahaloa Drive Extension Bridge-Manoa Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Rigid Frame	**Construction Date:** 1954	**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:** 45.0 ft.	**Deck Width:** 40.0 ft.
Superstructure: Concrete Rigid Frame			
Substructure: Concrete Integral Abutment			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid with Cap			
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:

The Kahaloa Drive Bridge carries Kahaloa Drive across Manoa Stream. This single-span reinforced concrete frame bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has solid concrete parapets with caps and small concrete end posts. The concrete deck is supported by reinforced concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs.

Significance Statement:

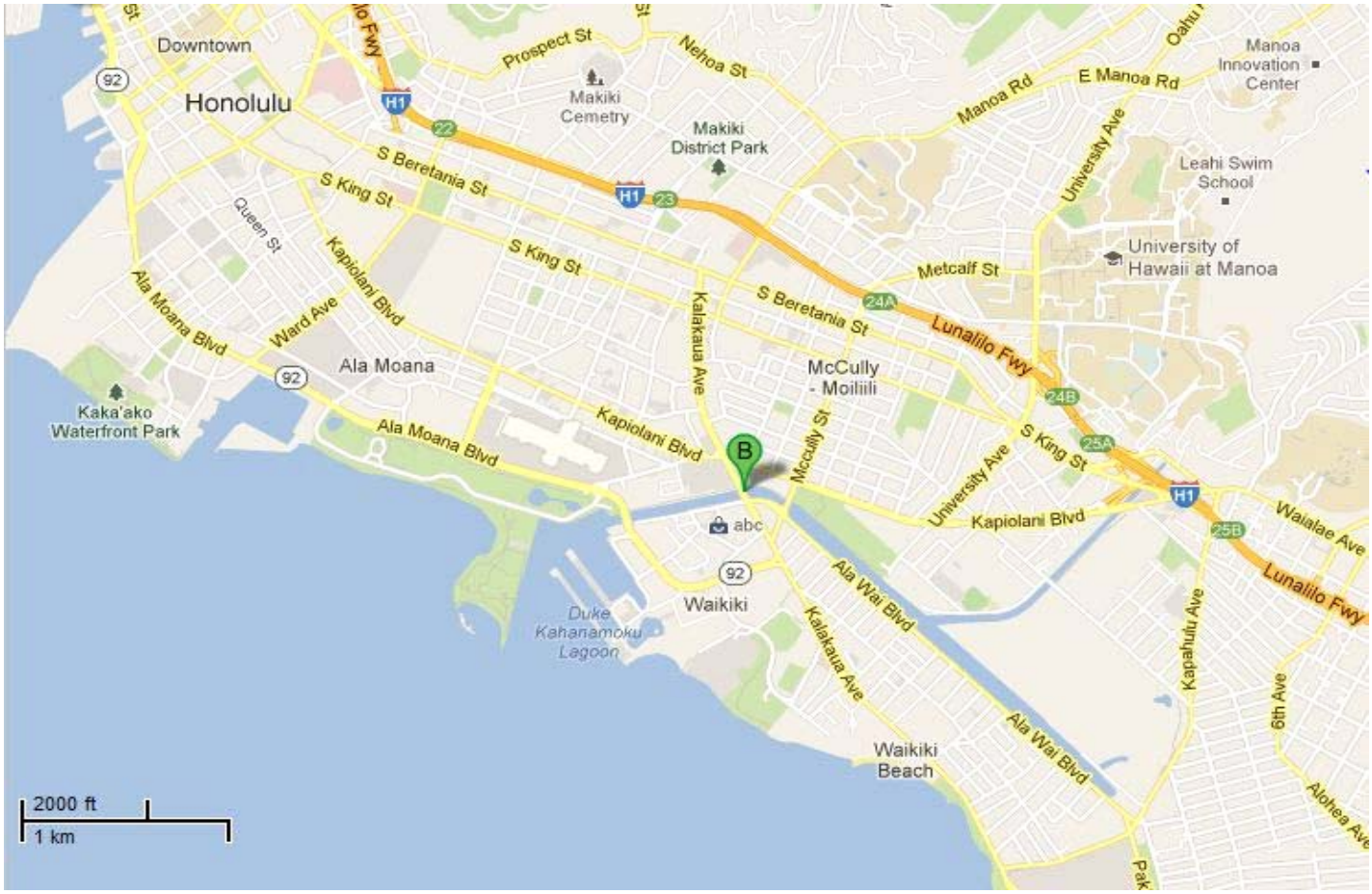
This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of a 1950's reinforced concrete frame bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003083181400074	
Popular Name: Kalakaua Avenue Bridge-Ala Wai Canal	
Feature Crossed: Ala Wai Canal	
Feature Carried: Kalakaua Avenue	
Milepost: 0.74 mi.	**County Private:** Honolulu
Longitude: 157d-50m-05.26s	**Latitude:** 21d-17m-19.82s
Location: North of Ala Wai Boulevard	
Historic Name: Kalakaua Avenue Bridge-Ala Wai Canal	
Designer/Engineer: James O. Yapp	
Builder/Contractor: R. E. Woolley	

Location Map:



Construction Information

Bridge Type: Closed Spandrel Arch	**Construction Date:** 1929	**Replaced?** No
Altered? Yes	**Alteration Date(s):** Before 1990	
Alteration Type(s):		
Alteration Description(s): Original lamp posts removed		

Bridge Information

Number of Spans: 3	**Max Span:** 49.9 ft.	**Total Length:** 141.1 ft.	**Deck Width:** 75.8 ft.
Superstructure: Concrete Closed Spandrel Arch			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Decorative			
Setting:			
Other Features: Walkways on two sides; incised name and date of construction on parapets			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** Yes
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering, Transportation		

Narrative Description:

The Kalakaua Avenue Bridge is located on the major vehicular access to Waikiki. It spans the Ala Wai Canal, a drainage channel which made the construction of Waikiki Beach resort area possible. The bridge is representative of late period reinforced concrete solid-spandrel arch construction. The neo-classical influenced Art Deco styling and graceful concrete arches of the Kalakaua Avenue Bridge make it one of the most decorative bridges in the state.

The Kalakaua Avenue Bridge remains in its original location over the Ala Wai Canal. The bridge's setting has urbanized as a result of the extensive development of Waikiki area in the 1960s-80s. The original Art Deco-style arch design and reinforced concrete materials remain intact, with the exception of the removal of the glass globe street lamps on the end piers. The quality of workmanship is high with no evidence of significant additions or repairs however, the original lamp posts were removed sometime before 1990. The bridge's historic association, as an important civic structure associated with the development of Waikiki, is readily apparent to traffic traveling along Kalakaua Avenue and the Ala Wai Canal. Interpretation is aided by the inscription of the bridge name and date of construction on the end piers. The bridge retains its historic feeling due to its decorative design and now uncommon construction type.

Significance Statement:

The Kalakaua Avenue Bridge is significant for its contributions to the areas of engineering and transportation in Hawaii. The 1929 bridge is an excellent example of reinforced concrete solid-spandrel arch construction in the then popular Art Deco style. The Kalakaua Avenue Bridge is eligible under Criterion A for its associations with public works efforts by the Territory of Hawaii, and as an important civic structure associated with the development of Waikiki, the internationally renowned beach resort on the Island of Oahu. Moreover, the bridge contributed to the economic development of Honolulu and Waikiki by providing reliable vehicular access to the recently established resort area. It is eligible under Criterion C as a rare remaining example of this once common bridge type, as well as for its aesthetic merit. The Kalakaua Avenue Bridge and Ala Wai Canal were determined eligible for the National Register of Historic Places in October 1985. This bridge is an arch bridge which is an uncommon bridge type.

The Waikiki Reclamation Project began in concept as early as 1904, when Lucius E. Pinkham, head of the Board of Health, saw the odiferous duck-ponds and swamps of coastal Waikiki as a health hazard. Once he was appointed Governor of the Territory he pursued the Waikiki Reclamation Project with zeal. However actual work on the Ala Wai Canal did not begin until 1922, when Hawaiian Dredging Company, owned by Walter F. Dillingham, was given the contract to dredge a canal 150 feet wide, twenty-five feet deep and about two miles in length. The original concept included a canal from Kapiolani Park to the Pacific Ocean in the vicinity of Kuhio Beach but this section was never completed.(1) The construction of the canal and the bridge led to the development of the Waikiki resort area and an era of expanded tourism in the islands.

The Kalakaua Avenue Bridge was constructed along the major transportation artery to Waikiki. This was the first permanent bridge in this location after the dredging of the Canal in 1921-24. It is the only multiple-span marine reinforced concrete arch of its kind in the state.(2) The bridge's elaborate neo-classically influenced Art Deco styling makes it one of the most decorative bridges in the island. The Kalakaua Avenue Bridge was built in 1929 by Ralph E. Woolley, who was a prolific builder in Honolulu. Woolley built the Mormon Temple at Laie, Oahu, which was "declared by competent critics to be one of the most beautiful edifices in the world."(3)

See National Register of Historic Places Nomination Form for the Ala Wai Canal Nomination.

(1) Thomas Thrum, "The Waikiki Reclamation Project," Hawaiian Annual (Honolulu, 1923).
(2) Bethany Thomas, Historic Bridge Inventory: Island of Oahu, prepared for the State of Hawaii Department of Transportation Highways Division in cooperation with the U.S. Department of Transportation Federal Highway Administration (Honolulu, 1983), IV-13.
(3) George Nellist, ed., The Story of Hawaii and its Buildings, with which is Incorporated Vol. III, Men of Hawaii (Honolulu: Honolulu Star Bulletin Ltd., 1925), 903-904.

Inventory Form
(County/Private)

General Information

Bridge Number: 003083211400072

Popular Name: Kalihi Street Bridge No. 1-Kamanaiki Stream

Feature Crossed: Kamanaiki Stream

Feature Carried: Kalihi Street

Milepost: 0.72 mi. **County Private:** Honolulu

Longitude: 157d-51m-39.96s **Latitude:** 21d-20m-48.89s

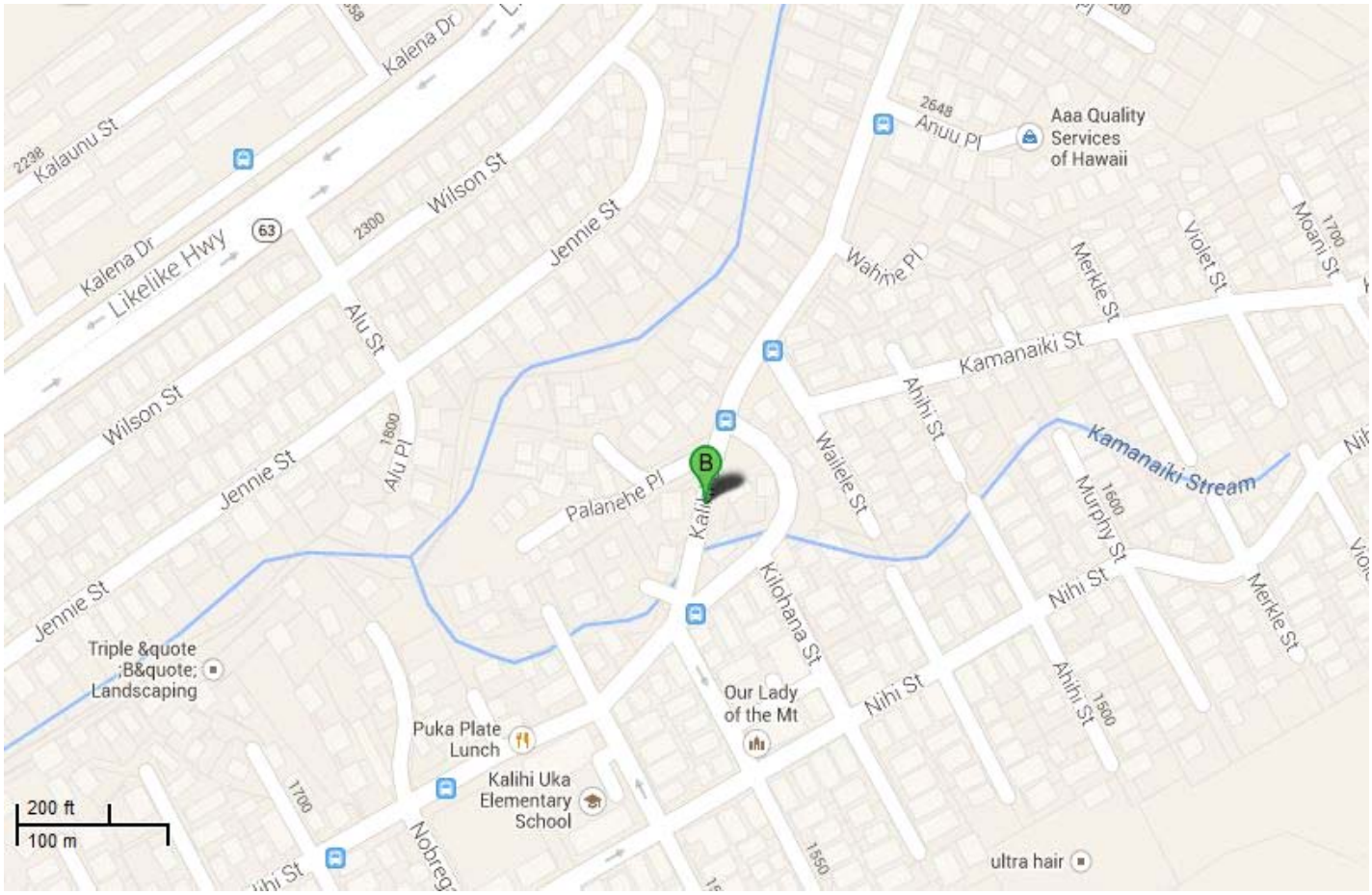
Location: TMK: 1-3-37

Historic Name: Kalihi Street Bridge No. 1-Kamanaiki Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1938	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 24.0 ft.	**Total Length:** 29.0 ft.	**Deck Width:** 49.2 ft.
Superstructure: Concrete Slab			
Substructure: Masonry Abutment			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Kamanaiki Bridge carries Kalihi Street across Kamanaiki Stream. This single-span concrete slab bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has solid concrete parapets with caps. The end posts are rounded and without caps however, thrie beam approaches have been placed in front of both ends of the parapets. The concrete deck is supported by lava rock masonry abutments. The workmanship of the bridge has not been obscured by additions or repairs.

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 a 1930's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003148001200001

Popular Name: Kalihi Street Bridge No. 3-Kalihi Stream

Feature Crossed: Kalihi Stream

Feature Carried: Kalihi Street

Milepost: **County Private:** Honolulu

Longitude: 157d-50m-30.94s **Latitude:** 21d-21m-52.76s

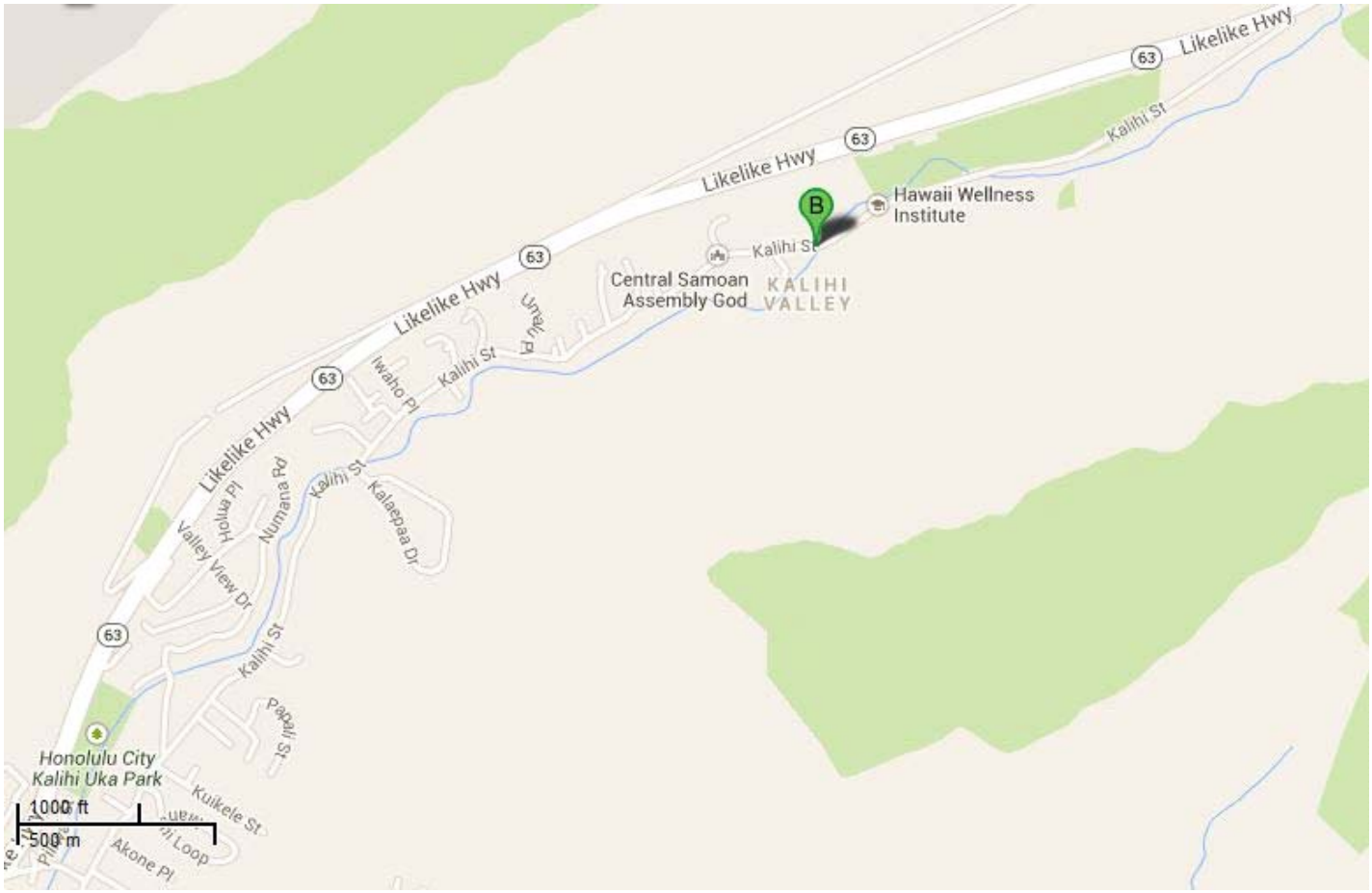
Location: TMK: 1-4-20

Historic Name: Kalihi Street Bridge No. 3-Kalihi Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Steel Stringer	**Construction Date:** 1942	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 2009, 2012	
Alteration Type(s):		
Alteration Description(s): Replaced Wood Decking		

Bridge Information

Number of Spans: 3	**Max Span:** 23.0 ft.	**Total Length:** 64.0 ft.	**Deck Width:** 17.7 ft.
Superstructure: Steel Multi-girder			
Substructure: Masonry Abutment and Concrete Wall Pier			
Floor/Decking: Timber Deck			
Parapets/Railings: Wood			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Construction		

Narrative Description:

The Kalihi Stream Bridge #3 is a steel stinger/multi-beam structure, constructed in 1942, to carry Kalihi Street over Kalihi Stream near the Kalihi Orphanage (now St. Anthony's Retreat). The Hawaiian Electric Company mainly uses the bridge and there are only six residential properties beyond the bridge. The bridge is in its original location in the back of Kalihi Valley. The rural setting is fully intact and surrounded by the lush vegetation of the rainy valley. The engineering of the bridge is neither complex nor typical for the era, but the workmanship of the bridge is good, and not obscured by repairs or additions. The superstructure consists of 4x12 steel stringers laid on the diagonal. The guard railings are painted wood and the decking is 4x12 timber. The timber decking was replaced in 2009 and 2012, but both replacements were consistent with the original design and materials. The rustic setting along with the painted wood railing, unfinished wood decking and narrow breadth contribute greatly to the overall historic feeling of the bridge

Significance Statement:

The Kalihi Stream Bridge #3 is eligible under criterion C – due to its distinct structural type for the area. Steel stringers were constructed in Hawaii primarily for industrial and railroad bridges. Ornamentation, if any, was usually limited to the pattern of the railings. The use of steel was uncommon in Hawaii due to the extreme marine environment. Since very little steel is used for bridge construction in Hawaii, this bridge is eligible under criterion C for its distinctive structural type. The Kalihi Stream Bridge may be the only extant bridge of this type. Other bridges of this type noted in earlier surveys are all associated with the railroad, and specific Federal funding of the U.S. Works Program Grade Crossing Program.

Inventory Form
(County/Private)

General Information

Bridge Number: 00300C291100137

Popular Name: Kamehameha Highway Bridge-Anahulu Stream

Feature Crossed: Anahulu Stream

Feature Carried: Kamehameha Highway

Milepost: 1.37 mi. **County Private:** Honolulu

Longitude: 158d-06m-12.17s **Latitude:** 21d-35m-36.85s

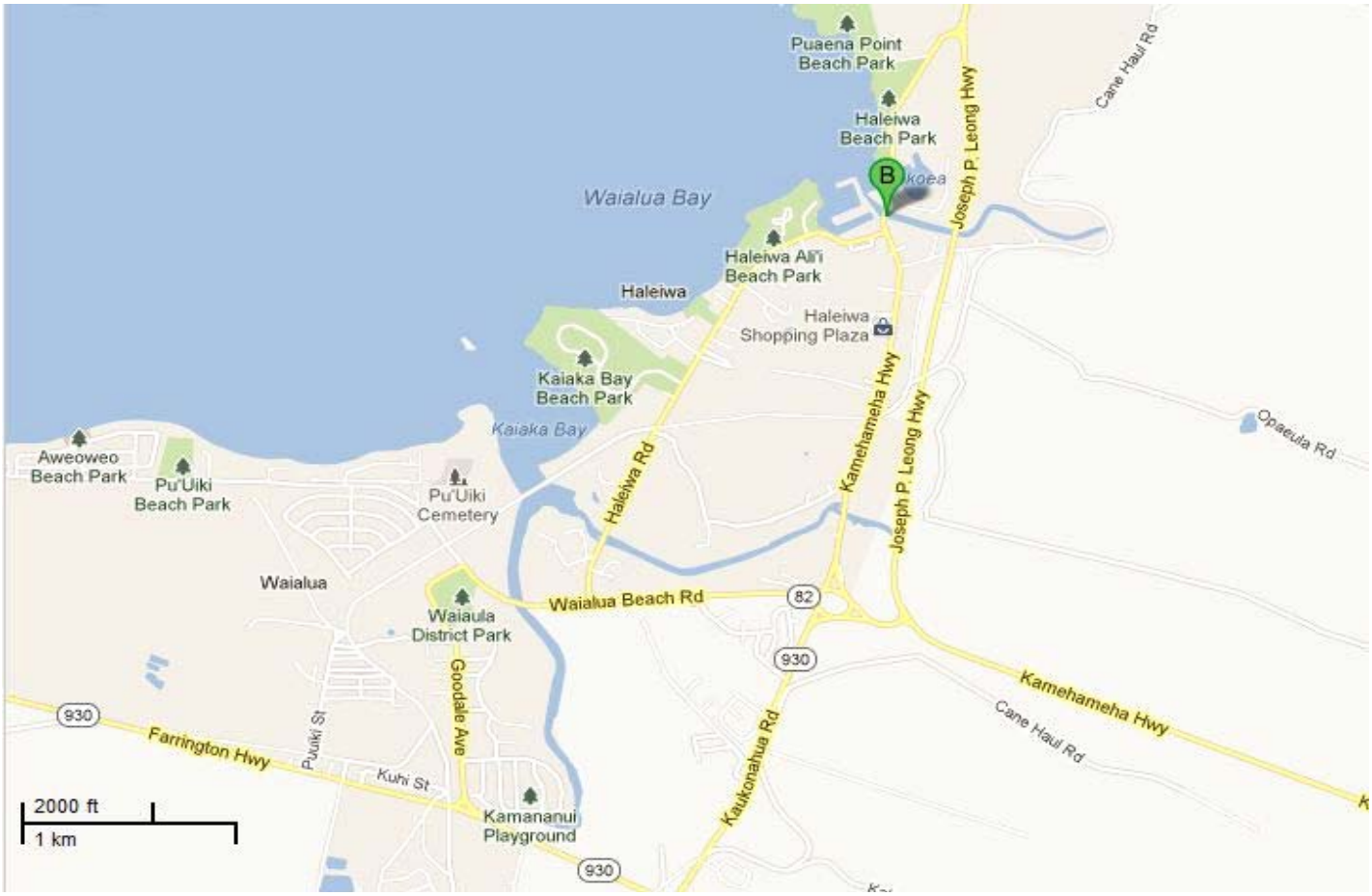
Location: TMK: 6-2-03:012

Historic Name: Kamehameha Highway Bridge-Anahulu Stream

Designer/Engineer: Guy Rothwell and Fred Ohrt

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Rainbow Arch	**Construction Date:** 1921	**Replaced?** No
Altered? Yes	**Alteration Date(s):** Before 1989	
Alteration Type(s):		
Alteration Description(s): Lamp standards at four end piers and at center span of arch removed		

Bridge Information

Number of Spans: 2	**Max Span:** 80.0 ft.	**Total Length:** 161.0 ft.	**Deck Width:** 31.8 ft.
Superstructure: Concrete Through Arch			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
Setting:			
Other Features: Bridge name and date of construction incised on end piers; two 3.5 feet "outrigger" sidewalks suspended from both sides of roadway			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering, Construction		

Narrative Description:

The Anahulu Stream Bridge was built in 1921 to carry the Kamehameha Highway across the Anahulu Stream. The bridge is located in the former town of Haleiwa on the north shore of Oahu. The Anahulu Stream Bridge is a double “rainbow” or Marsh through-deck arch bridge constructed of reinforced concrete.

The Anahulu Stream Bridge has been listed on the National Historic Register since 1985 and remains in its original location. The bridge’s setting has changed slightly due to commercial and residential development within the Haleiwa community, thus placing increased pressure on the structure. The lamp standards were removed sometime before 1989 and a by-pass highway to accommodate additional traffic was completed by the state Department of Transportation in 1994. The bridge's original double-rainbow arch design and reinforced concrete materials remain intact, with the exception of the removal of the street lamps on the end piers. The bridge is obviously the work of skilled workmen and the quality of workmanship is extremely high, particularly the bush-hammered finish of the paneled parapets. The bridge's historic association as an important civic structure associated with the development of Haleiwa can be readily discerned by pedestrian and automobile traffic along Kamehameha Avenue. The bridge retains its historic feeling due to its prominent location, narrow width, high-profile design and now uncommon construction type.

Significance Statement:

The Anahulu Stream Bridge is significant for its contributions to the fields of engineering and transportation in Hawaii. The bridge is an excellent example of reinforced concrete “rainbow” or Marsh arch construction. The Anahulu Stream Bridge is eligible under Criterion A for its associations with public works efforts by the City and County of Honolulu during the early Territorial period and as an important civic structure associated with the development of Haleiwa. It is eligible under Criterion C as a rare remaining example of this bridge type. Moreover, it is representative of the work of a master: Guy Rothwell, the designer of the Palama Settlement and the Harris Memorial Church.

The Anahulu “Haleiwa” Bridge has been identified as the most well-known man-made feature in Haleiwa Town.(1) The bridge serves as the “gateway” to historic Haleiwa and is located within the County-designated Haleiwa Special Design District. The bridge survived an important preservation battle between the community and the local governmental transportation agency. In the 1960s, the Anahulu Bridge was determined to be too narrow for two-way traffic and the Waialua Community Association urged the City Council to replace it with a new structure.(2) However by 1970, concerned citizens rallied to preserve the picturesque bridge, yet recognize the present-day transportation needs of the north shore community. The alternative plan preserved the historic bridge by creating a bypass with a new highway and modern four-lane bridge upstream.

This bridge is one of two remaining “Rainbow” or Marsh arch bridges in the state; the other being the Keawe Street-Wailuku River Bridge near downtown Hilo. Arch bridges are also an uncommon bridge type.

(1) Honolulu (City and County), Department of Land Utilization, Haleiwa, Historic, Cultural, and Scenic District No. 6 (Honolulu: Printing by city and County Printing Services, Office of Information and Complaint, 1983), 11.
(2) “Anahulu Bridge,” Honolulu Advertiser, April 12, 1968; “Anahulu Bridge,” Star Bulletin, January 3, 1970.

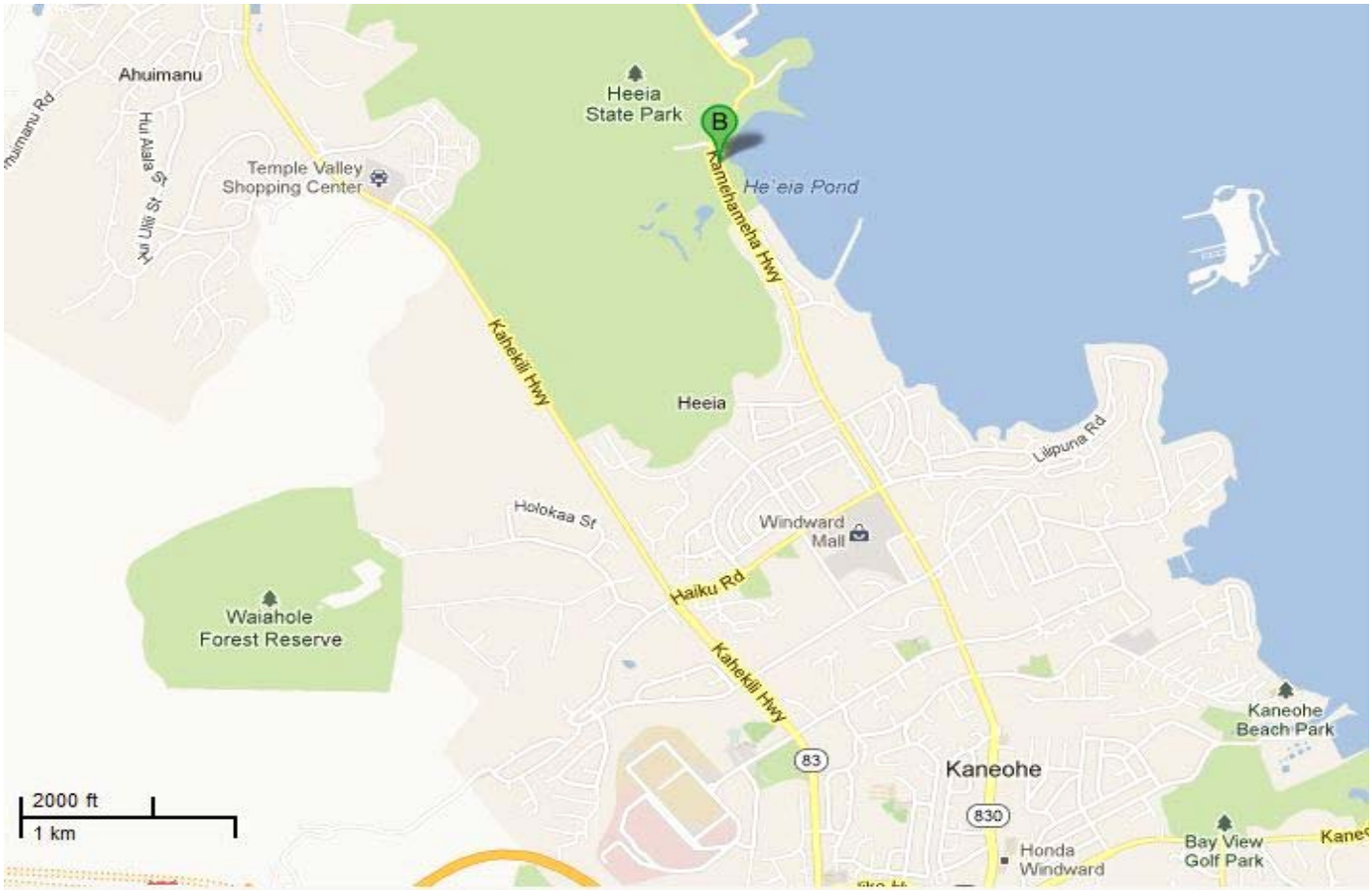
Inventory Form
(County/Private)

General Information

Bridge Number: 003008360800242	
Popular Name: Kamehameha Highway Bridge-Heeia Stream	
Feature Crossed: Heeia Stream	
Feature Carried: Kamehameha Highway	
Milepost: 2.42 mi.	**County Private:** Honolulu
Longitude: 157d-48m-41.20s	**Latitude:** 21d-26m-11.68s

Location: 0.39 Miles South of Heeia State Park
Historic Name: Kamehameha Highway Bridge-Heeia Stream
Designer/Engineer: H. A. R. Austin
Builder/Contractor: E. J. Lord

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1921	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1948 and 1989	
Alteration Type(s):		
Alteration Description(s): Wood framed walkway added to outside of one parapet (1948); reconstructed with corrugated steel decking and concrete (1989)		

Bridge Information

Number of Spans: 52	**Max Span:** 17.1 ft.	**Total Length:** 892.1 ft.	**Deck Width:** 24.9 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Design, Construction		

Narrative Description:

The Heeia Viaduct carries Kamehameha Highway over Heeia Stream which drains into Heeia Fishpond, a native Hawaiian site listed on the National Register of Historic Places. The bridge is a multi-span reinforced concrete tee-beam bridge with fifty-two spans.

The Heeia Viaduct remains in its original location. The bridge's setting over Heeia Stream has retained its rural character, although intensive vegetation growth has obscured the once highly visible bridge. Nonetheless, the bridge's original design and materials remain intact. A wood-framed footbridge was added to the outside of one parapet in 1948; this footbridge has since been reconstructed in 1989 with corrugated steel decking and concrete. The 1922 bridge was technologically innovative for its time, since tee beam construction was relatively uncommon in the islands until the mid-1930s. The original bridge was the work of skilled builders, who constructed its fifty-two concrete spans over the salt water fishpond. The quality of the workmanship remains evident despite alterations to the footbridge and the addition of metal guardrails at the end piers. The bridge's historic associations, as a representative example of an early concrete tee beam bridge and an essential element in Oahu's belt road system, are apparent to an informed observer. The bridge's historic feeling is primarily evident due to its narrow width and solid paneled parapets, typical of 1920s era bridges.

Significance Statement:

The Heeia Viaduct is significant in the areas of engineering and transportation in Hawaii. The 1922 bridge is an excellent example of reinforced concrete tee beam construction with solid paneled parapets typical of 1920s bridges. The Heeia Viaduct is eligible under Criterion A for its associations with public works efforts by the City and County of Honolulu during the territorial period and for its contributions to the economic development of Windward (east) Oahu by providing reliable vehicular access to the area. It is eligible under Criterion C as representative example of a 1920s era bridge utilizing a relatively new engineering technology, continuous reinforced concrete tee beam construction.

The Heeia Viaduct was constructed as part of the upgrading of Oahu's belt road. Begun in 1917, this segment of the belt road connected previously isolated communities with a new paved highway. The bridge is important transportation link for Windward communities. Its construction saved travelers from the long inland journey around the Heeia fishpond, a significant natural and cultural feature of the Windward side of the island.

The Heeia Viaduct is the longest concrete tee-beam bridge on Oahu and one of the first large reinforced concrete tee-beam bridges built in the state.(1) The bridge utilizes technology typical of later concrete bridges and demonstrates the rapid advances in engineering technology in the early decades of the twentieth century. The Heeia Viaduct was built in 1922 by E. J. Lord, a Honolulu contractor. Lord was responsible for "more than one-half of the public work in the Territory," including the Waimanalo road and the belt road, contracts amounting to $1,500,000.(2) H.A.R. Austin, whose name appears on the plans for the bridge, was the chief engineer for the City and County of Honolulu, Department of Public Works.

(1) Bethany Thompson, Historic Bridge Inventory: Island of Oahu, prepared for the State of Hawaii Department of Transportation Highways Division in cooperation with the U.S. Department of Transportation Federal Highway Administration (Honolulu, 1983), VII-25.
(2) George Nellist, ed., The Story of Hawaii and its Builders, with which is Incorporated Vol. III, Men of Hawaii (Honolulu: Star Bulletin, 1925), 603.

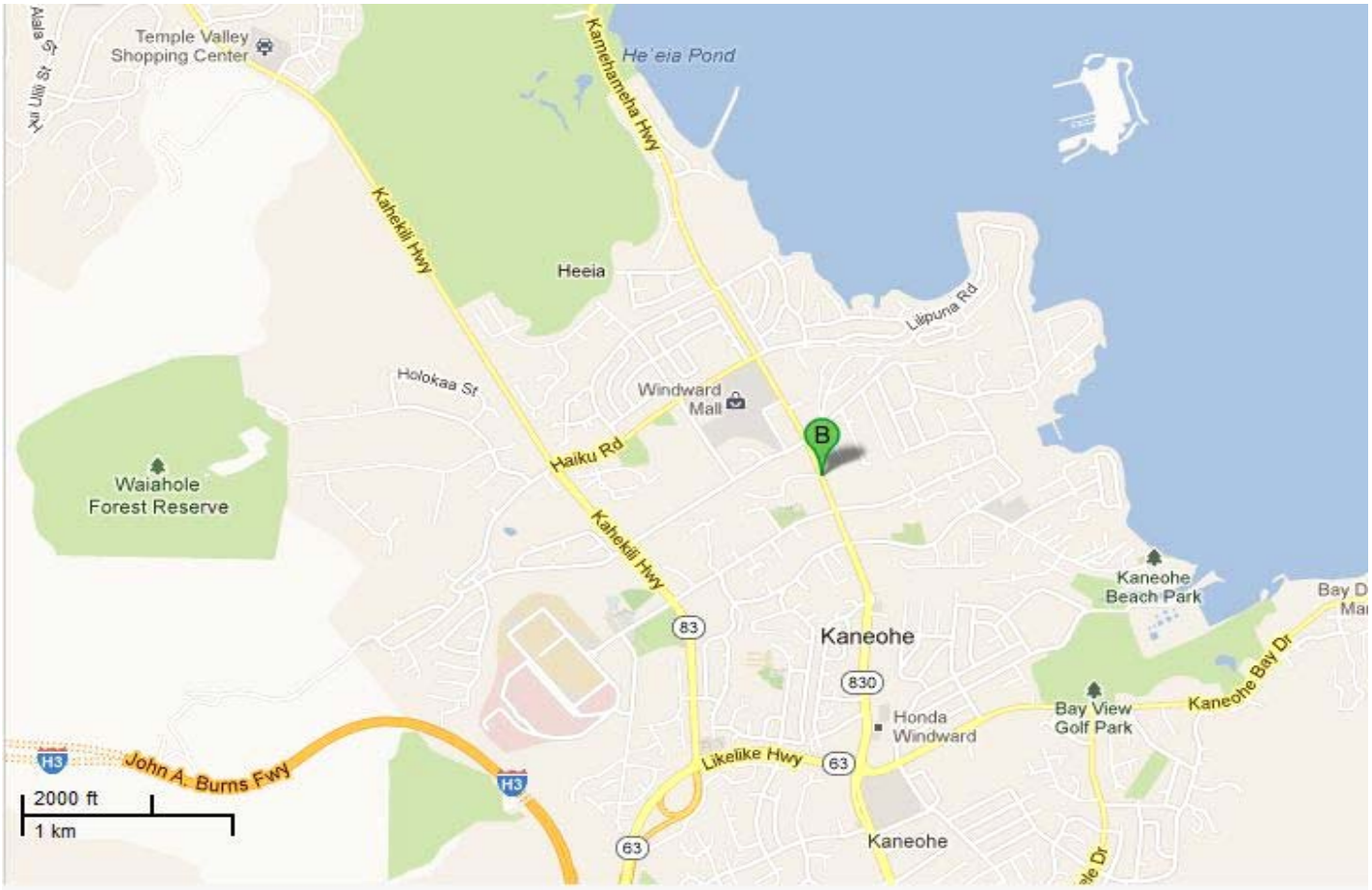
Inventory Form
(County/Private)

General Information

Bridge Number: 003083601400098	
Popular Name: Kamehameha Highway Bridge-Keaahala Stream	
Feature Crossed: Keaahala Stream	
Feature Carried: Kamehameha Highway	
Milepost: 0.98 mi.	**County Private:** Honolulu
Longitude: 157d-48m-05.14s	**Latitude:** 21d-25m-00.78s

Location: TMK: 4-5-19
Historic Name: Kamehameha Highway Bridge-Keaahala Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1918	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 20.0 ft.	**Total Length:** 25.0 ft.	**Deck Width:** 70.3 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

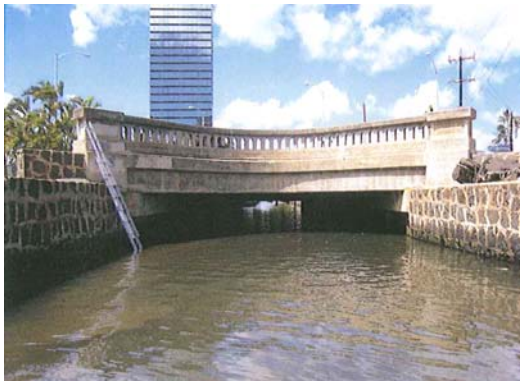
The Keaahala Stream Bridge carries Kamehameha Highway across Keaahala Stream. This single-span reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has solid panel concrete parapets with horizontal caps. The concrete deck is supported by concrete abutments over a channeled stream. The workmanship of the bridge has not been obscured by additions or repairs.

Significance Statement:

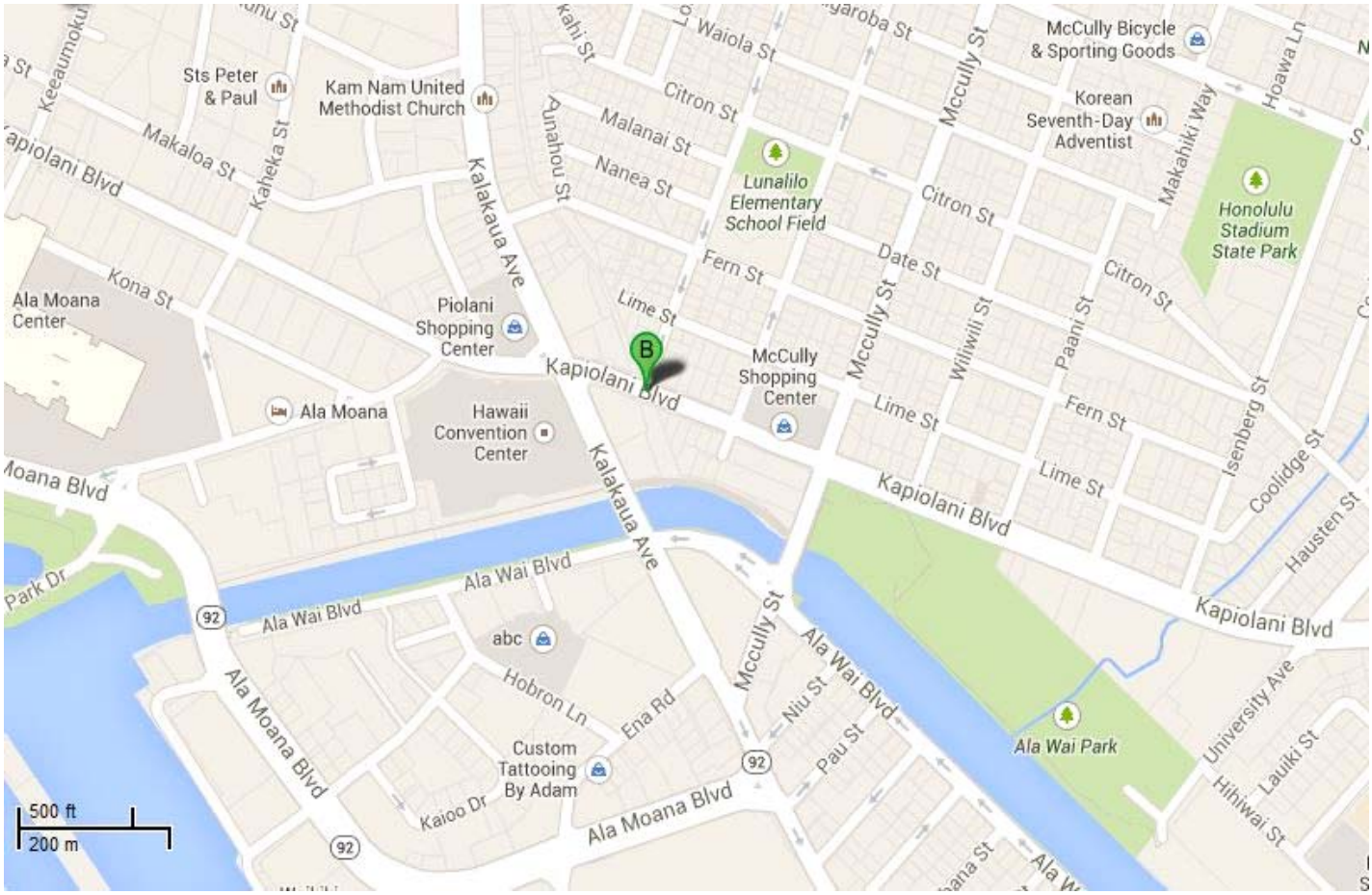
This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of an early 1910's concrete tee beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003062021400052	
Popular Name: Kapiolani Boulevard Bridge No. 1-Makiki Stream	
Feature Crossed: Makiki Stream	
Feature Carried: Kapiolani Boulevard	
Milepost: **County Private:** Honolulu	
Longitude: 157d-50m-04.62s **Latitude:** 21d-17m-25.04s	
Location: 320 Feet East of Kalakaua Avenue	
Historic Name: Kapiolani Boulevard Bridge No. 1-Makiki Stream	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1931	**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:** 42.0 ft.	**Deck Width:** 100.1 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Makiki Ditch Bridge carries Kapiolani Boulevard across Makiki Stream. This reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has open concrete parapets with arched voids and wide end posts with flat caps. The structure of the bridge is diagonal along Kapiolani Boulevard and is curved along one parapet. The workmanship of the bridge has not been obscured by additions or repairs. The bridge has retained its historic feeling due to the design of the railings which are typical of 1930s bridges.

Significance Statement:

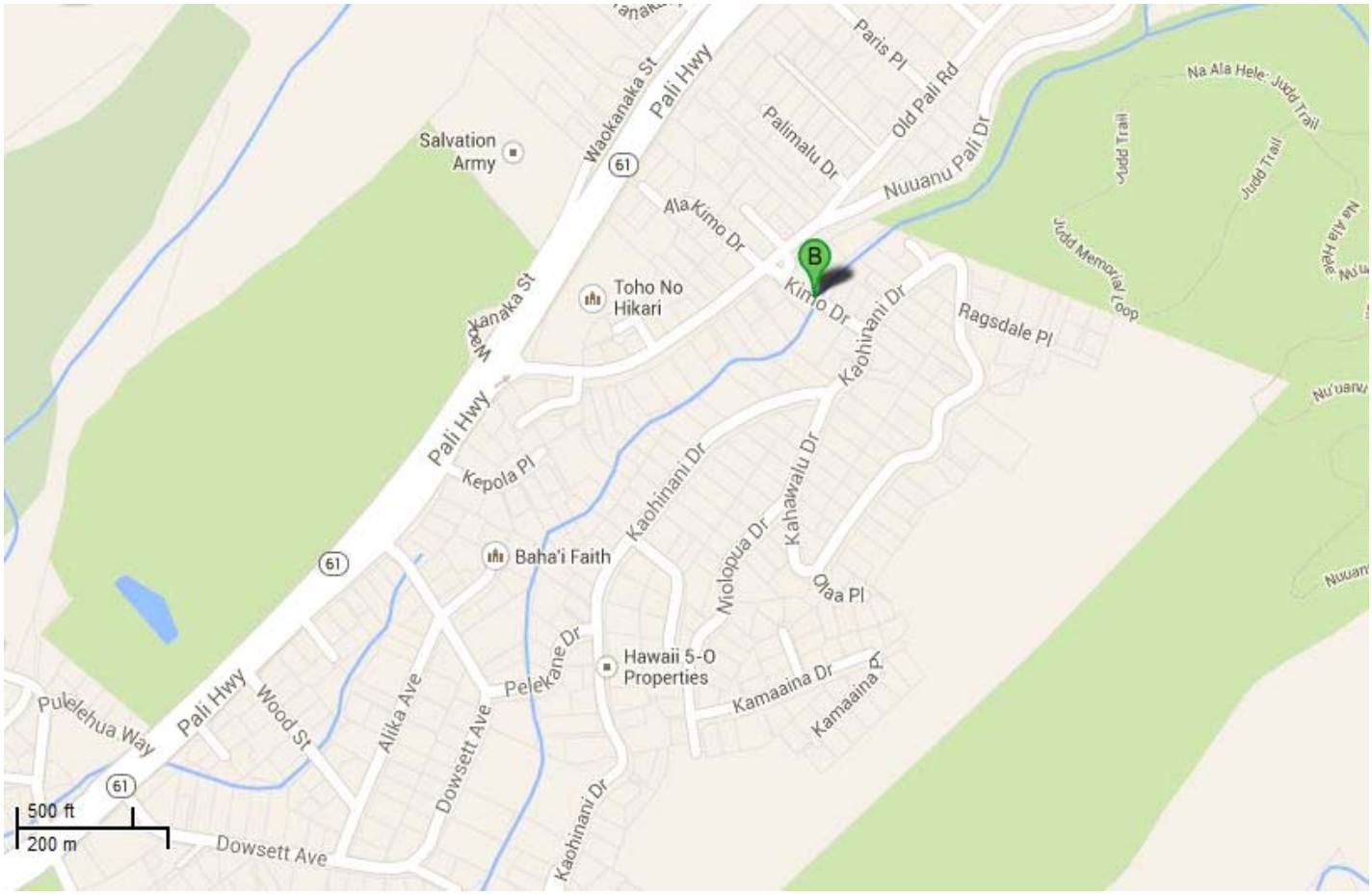
This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of a 1930's reinforced concrete tee-beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003260001200001	
Popular Name: Kimo Drive Bridge-Nuuanu Stream	
Feature Crossed: Nuuanu Stream	
Feature Carried: Kimo Drive	
Milepost:	**County Private:** Honolulu
Longitude: 157d-49m-42.76s	**Latitude:** 21d-20m-35.82s
Location: TMK: 2-2-50	
Historic Name: Kimo Drive Bridge-Nuuanu Stream	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1925	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 3	**Max Span:** 44.0 ft.	**Total Length:** 125.0 ft.	**Deck Width:** 40.0 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Multi-Column Bent			
Floor/Decking: Concrete Deck			
Parapets/Railings: Concrete Open Arched			
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:

The Kimo Drive Bridge carries Kimo Drive across Nuuanu Stream. This three-span reinforced concrete multi-girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete parapets with arched voids and caps. Paneled concrete end posts with caps flank the approaches of the parapet. The concrete deck is supported by concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs.

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 1920's reinforced concrete bridge that is typical of its materials, method of construction, craftsmanship, and design. It is also associated with historic Nuuanu residential development.

Inventory Form
(County/Private)

General Information

Bridge Number: 003351001200001

Popular Name: Kuliouou Road Bridge-Kuliouou Stream

Feature Crossed: Kuliouou Stream

Feature Carried: Kuliouou Road

Milepost: **County Private:** Honolulu

Longitude: 157d-43m-26.05s **Latitude:** 21d-17m-40.99s

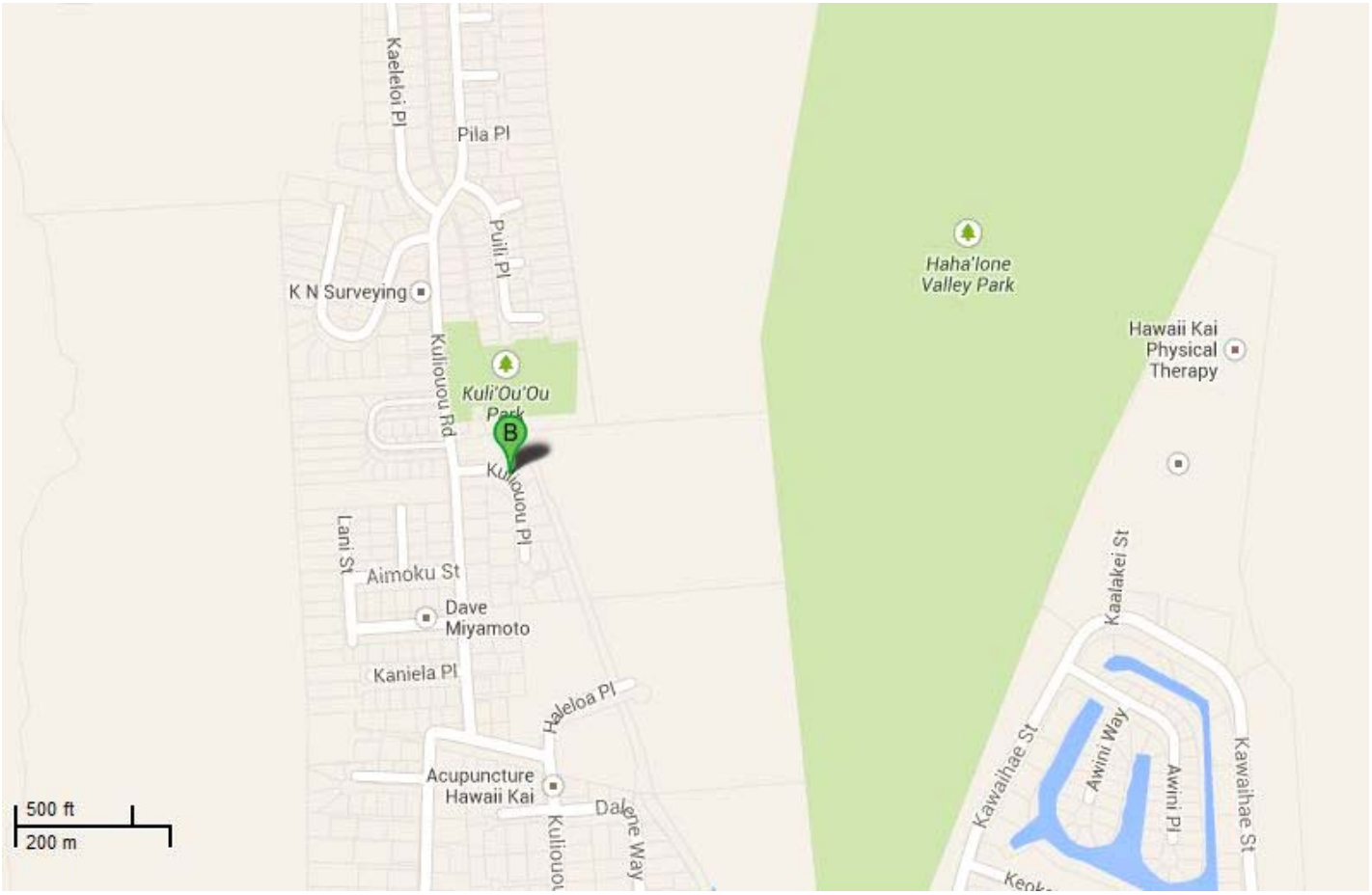
Location: TMK: 3-8-06

Historic Name: Kuliouou Road Bridge-Kuliouou Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Steel Stringer	**Construction Date:** 1968	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 42.0 ft.	**Total Length:** 42.0 ft.	**Deck Width:** 12.0 ft.
Superstructure: Steel Multi-Girder			
Substructure: Concrete Abutment Wall			
Floor/Decking: Timber Deck			
Parapets/Railings: Wood			
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:

The Kuliouou Road Bridge carries Kuliouou Road across Kuliouou Stream. This double-span steel stringer bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has metal and wood rails and a 4x12 wood timber deck. The bridge deck is supported by concrete abutments over a channeled stream. The workmanship of the bridge has not been obscured by additions or repairs. Currently it is a city-owned bridge but it is undergoing process of conveyance to private property ownership in 2013.

Significance Statement:

The use of steel was uncommon in Hawaii due to the extreme marine environment. Since very little steel is used for bridge construction in Hawaii, this bridge is eligible under Criterion C for its distinctive structural type. It is a good example of a 1960's steel stringer bridge atypical of its period in its use of materials and design.

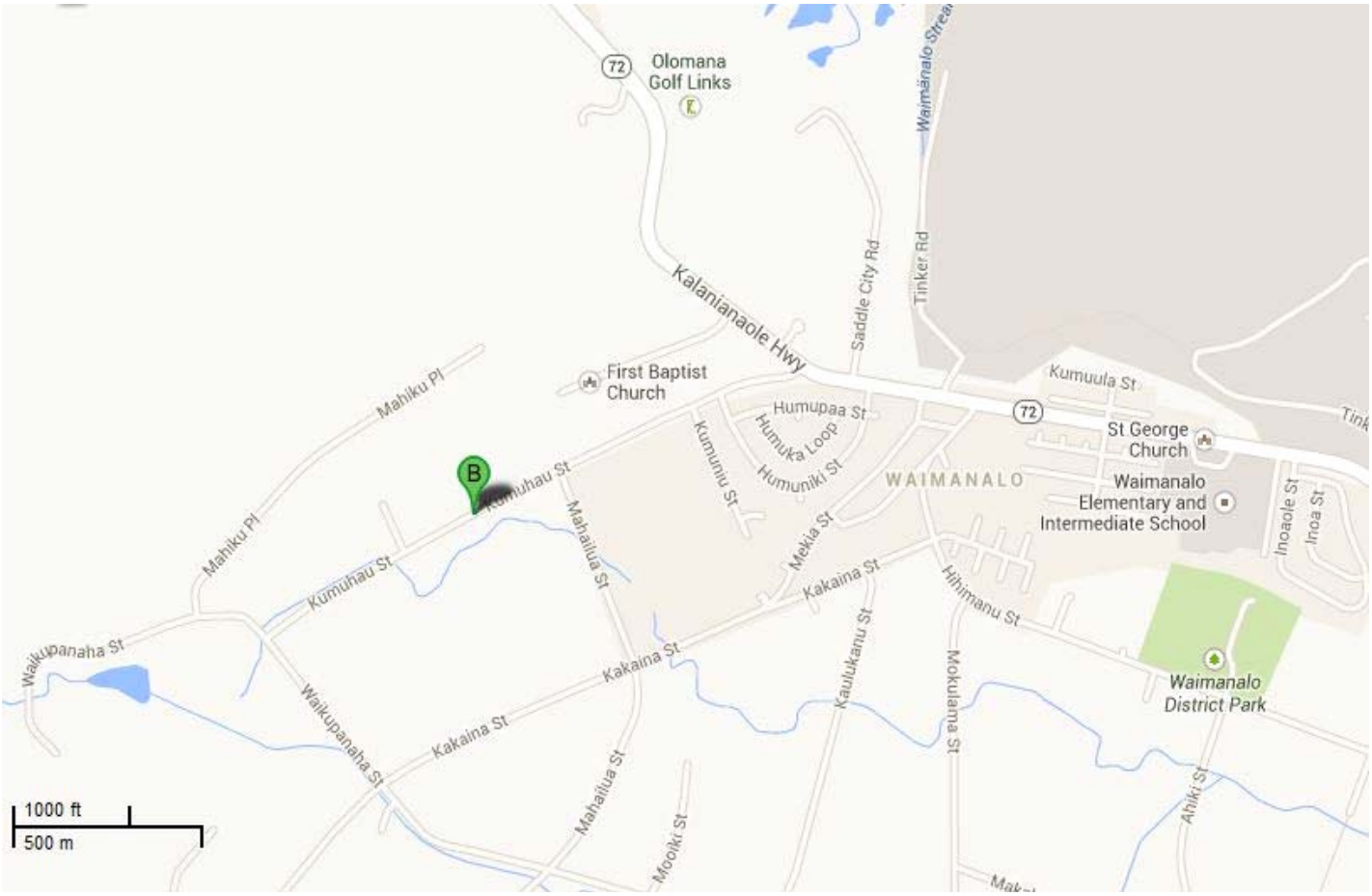
Inventory Form
(County/Private)

General Information

Bridge Number: 003429001100001	
Popular Name: Kumuhau Street Bridge-Waimanalo Stream	
Feature Crossed: Waimanalo Stream	
Feature Carried: Kumuhau Street	
Milepost:	**County Private:** Honolulu
Longitude: 157d-44m-04.55s	**Latitude:** 21d-20m-45.39s

Location: TMK: 4-1-18
Historic Name: Kumuhau Street Bridge-Waimanalo Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Steel Stringer	**Construction Date:** 1963	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 30.0 ft.	**Total Length:** 31.0 ft.	**Deck Width:** 15.9 ft.
Superstructure: Steel Multi-Girder			
Substructure: Concrete Abutment Wall			
Floor/Decking: Metal Corrugated Deck with AC Overlay			
Parapets/Railings: Metal Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering, Construction		

Narrative Description:

The Kumuhau Street Bridge carries Kumuhau Street across Waimanalo Stream. This single-span steel bridge is in its original location, is in fair condition, and its materials remain intact. The bridge has metal railings made of structural steel tubes and wide flange posts. A metal deck and an asphalt overlay are supported by concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs.

Significance Statement:

The use of steel was uncommon in Hawaii due to the extreme marine environment. Since very little steel is used for bridge construction in Hawaii, this bridge is eligible under Criterion C for its distinctive structural type. It is a good example of a 1960's steel stringer bridge atypical of its period in its use of materials and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003261001200001

Popular Name: Laimi Road Bridge-Nuuanu Stream

Feature Crossed: Nuuanu Stream

Feature Carried: Laimi Road

Milepost: **County Private:** Honolulu

Longitude: 157d-50m-20.24s **Latitude:** 21d-19m-58.95s

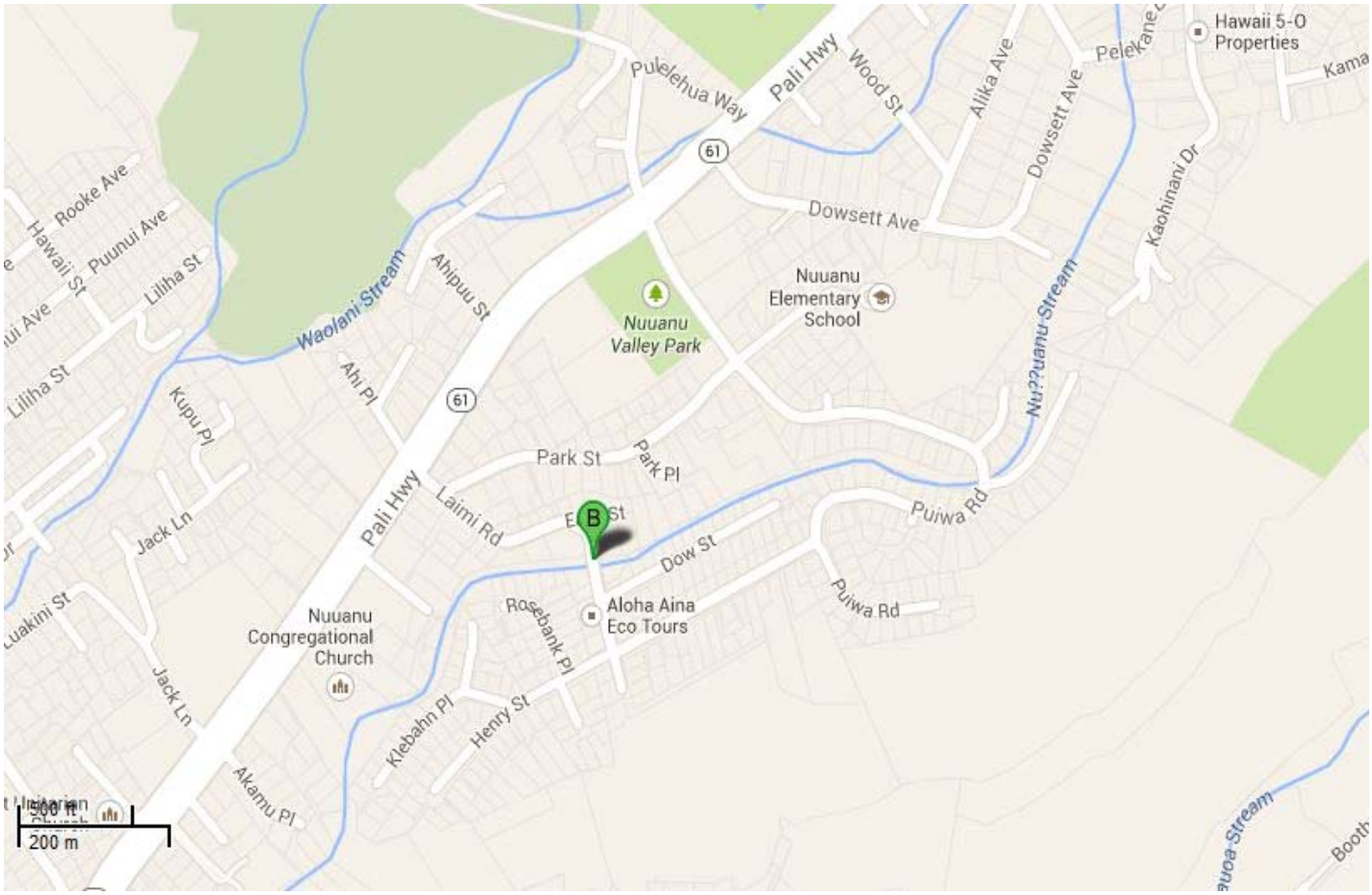
Location: TMK: 2-2-35

Historic Name: Laimi Road Bridge-Nuuanu Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Girder	**Construction Date:** 1920	**Replaced?** No
Altered? Yes **Alteration Date(s):** 1976		
Alteration Type(s):		
Alteration Description(s): Pedestrian footbridge added		

Bridge Information

Number of Spans: 1	**Max Span:** 50.0 ft.	**Total Length:** 53.0 ft.	**Deck Width:** 22.0 ft.
Superstructure: Concrete Through Girder			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Laimi Road Bridge carries Laimi Road across Nuuanu Stream. This single-span reinforced concrete two-girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete panel parapets with caps and panel detail concrete end posts with caps flank the approaches of the parapet. The concrete deck is supported by concrete abutments over a channeled stream. The workmanship of the bridge has not been obscured by additions or repairs however, a pre-stressed tee-beam pedestrian footbridge was added in 1976 to one side of the bridge.

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 1920's reinforced concrete bridge that is typical of its materials, method of construction, craftsmanship, and design. It is also associated with historic Nuuanu residential development.

Inventory Form
(County/Private)

General Information

Bridge Number: 003083381400047

Popular Name: Lusitana Street Bridge-Pauoa Stream

Feature Crossed: Pauoa Stream

Feature Carried: Lusitana Street

Milepost: 0.47 mi. **County Private:** Honolulu

Longitude: 157d-50m-53.64s **Latitude:** 21d-19m-06.19s

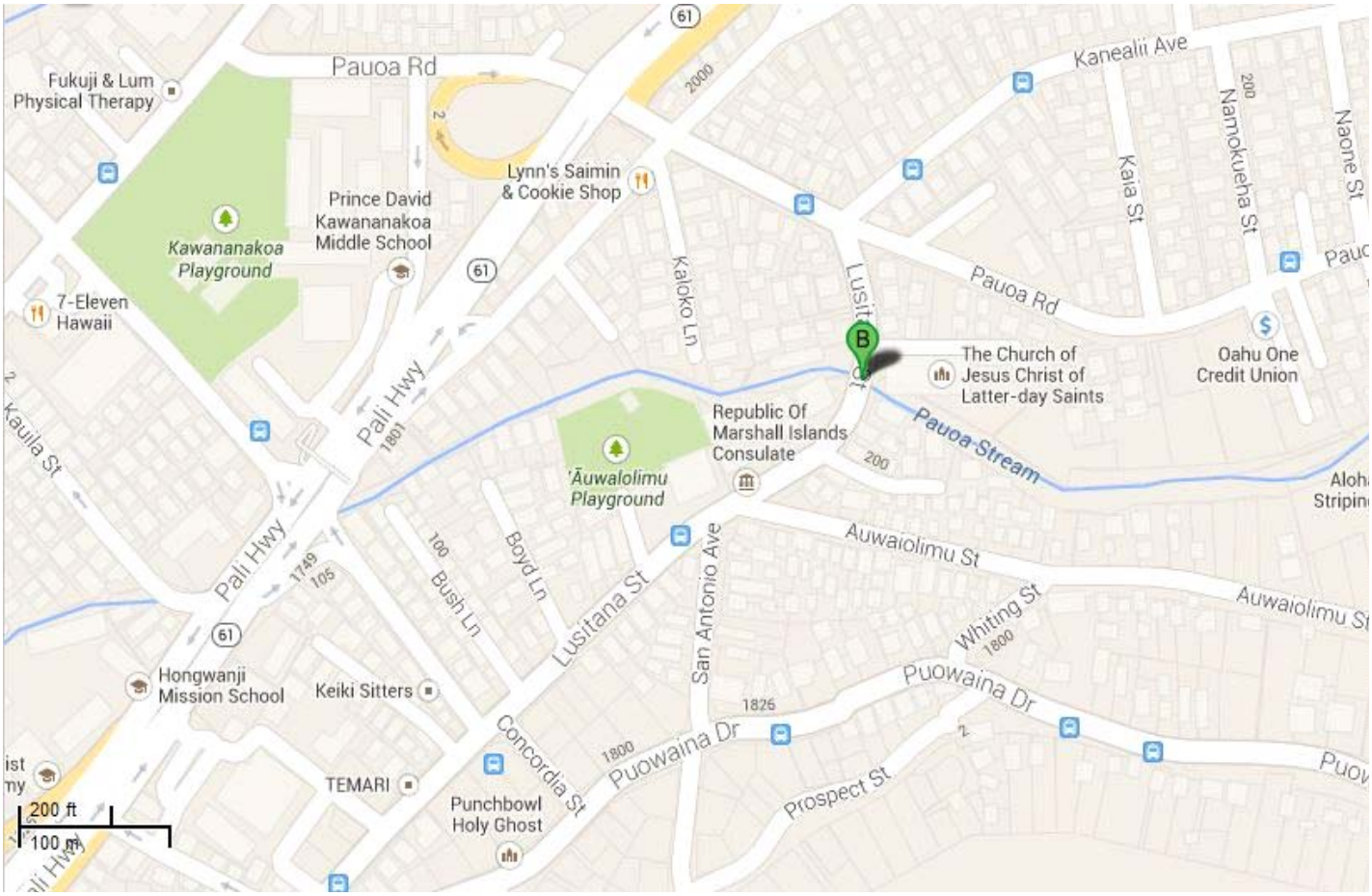
Location: 350 Feet North of Auwaiolimu Street

Historic Name: Lusitana Street Bridge-Pauoa Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1932	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 2013	
Alteration Type(s):		
Alteration Description(s): Concrete repair of spalls and cracks		

Bridge Information

Number of Spans: 1	**Max Span:** 34.1 ft.	**Total Length:** 38.1 ft.	**Deck Width:** 15.8 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Pauoa Stream Bridge carries Lusitania Street across Pauoa Stream. This single-span reinforced concrete bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete parapets with arch voids and horizontal caps. Concrete end posts with caps flank the approaches of the parapets. The concrete deck is supported by concrete and masonry abutments over a channeled stream. The workmanship of the bridge has not been obscured by additions or repairs.

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 a 1930's concrete tee beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

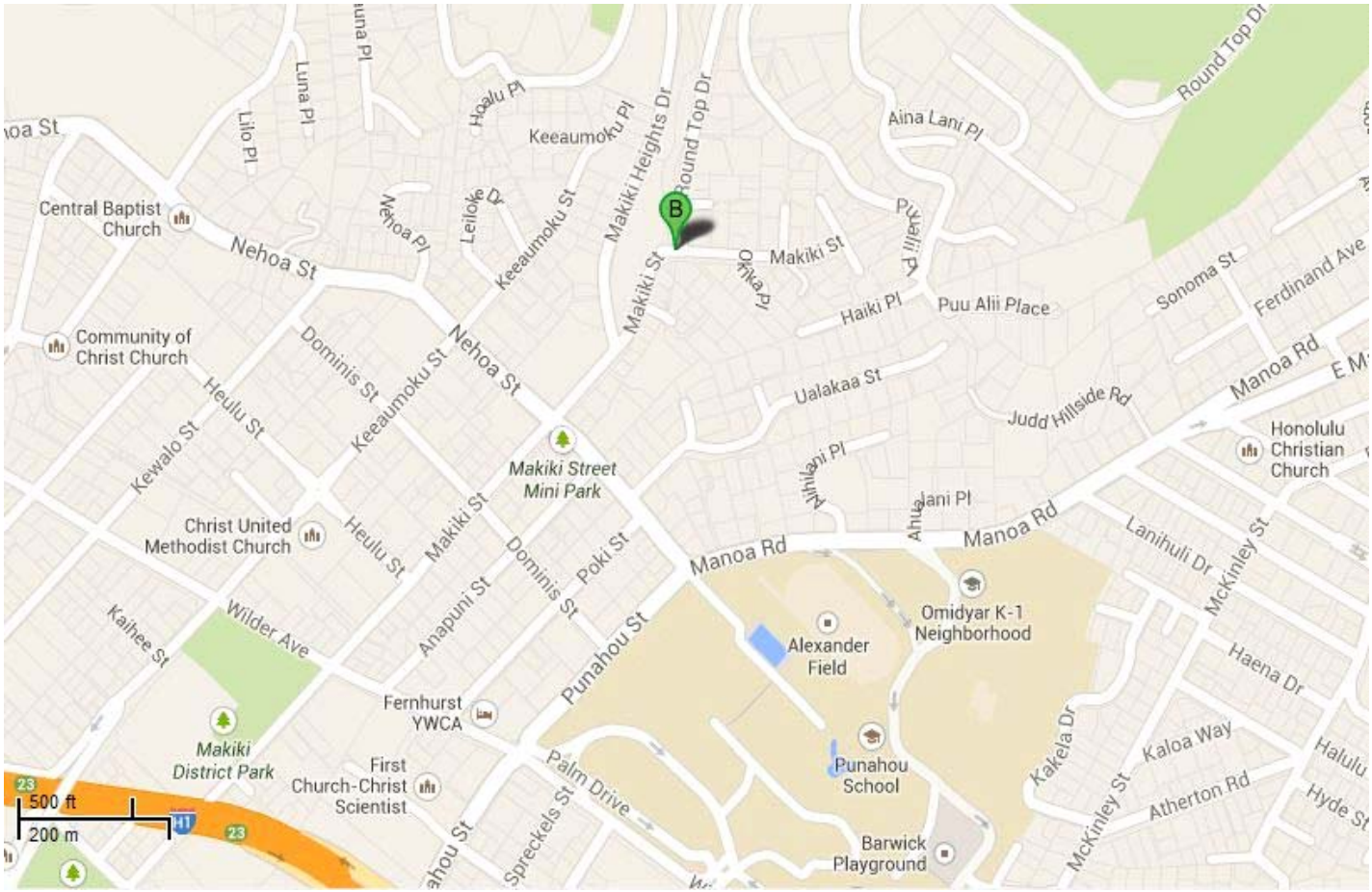
Inventory Form
(County/Private)

General Information

Bridge Number: 003226001200001	
Popular Name: Makiki Street Bridge-Makiki Stream	
Feature Crossed: Makiki Stream	
Feature Carried: Makiki Street	
Milepost:	**County Private:** Honolulu
Longitude: 157d-49m-49.64s	**Latitude:** 21d-18m-31.19s

Location: TMK: 2-4-23
Historic Name: Makiki Street Bridge-Makiki Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Closed Spandrel Arch	**Construction Date:** 1912	**Replaced?** No
Altered? Yes **Alteration Date(s):** 1953		
Alteration Type(s):		
Alteration Description(s): Bridge widened		

Bridge Information

Number of Spans: 1	**Max Span:** 20.0 ft.	**Total Length:** 22.0 ft.	**Deck Width:** 44.0 ft.
Superstructure: Concrete Closed Spandrel Arch			
Substructure: Concrete Abutment Wall			
Floor/Decking: AC Pavement			
Parapets/Railings: Metal Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering		

Narrative Description:

The Makiki Street Bridge carries Makiki Street across Makiki Stream. This widened arched bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge was widened in 1953 using reinforced concrete girders with a concrete deck on both sides of the elevation. It has round metal pipe rails and a chain-link fence. Although the 1953 work on the bridge widened it, the workmanship of the bridge has not been obscured by the additions or repairs, and the work did does not detract from the original design.

Significance Statement:

This bridge is eligible under Criterion C for its association with early developments in concrete arch bridge construction in Hawaii. It is a good example of a 1910's concrete arch bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design. Arch bridges are also an uncommon bridge type.

Inventory Form
(County/Private)

General Information

Bridge Number: 003340001200001

Popular Name: Malia Street Bridge No. 1-Waialae Nui Stream

Feature Crossed: Waialae Nui Stream

Feature Carried: Malia Street

Milepost: **County Private:** Honolulu

Longitude: 157d-46m-59.91s **Latitude:** 21d-16m-49.68s

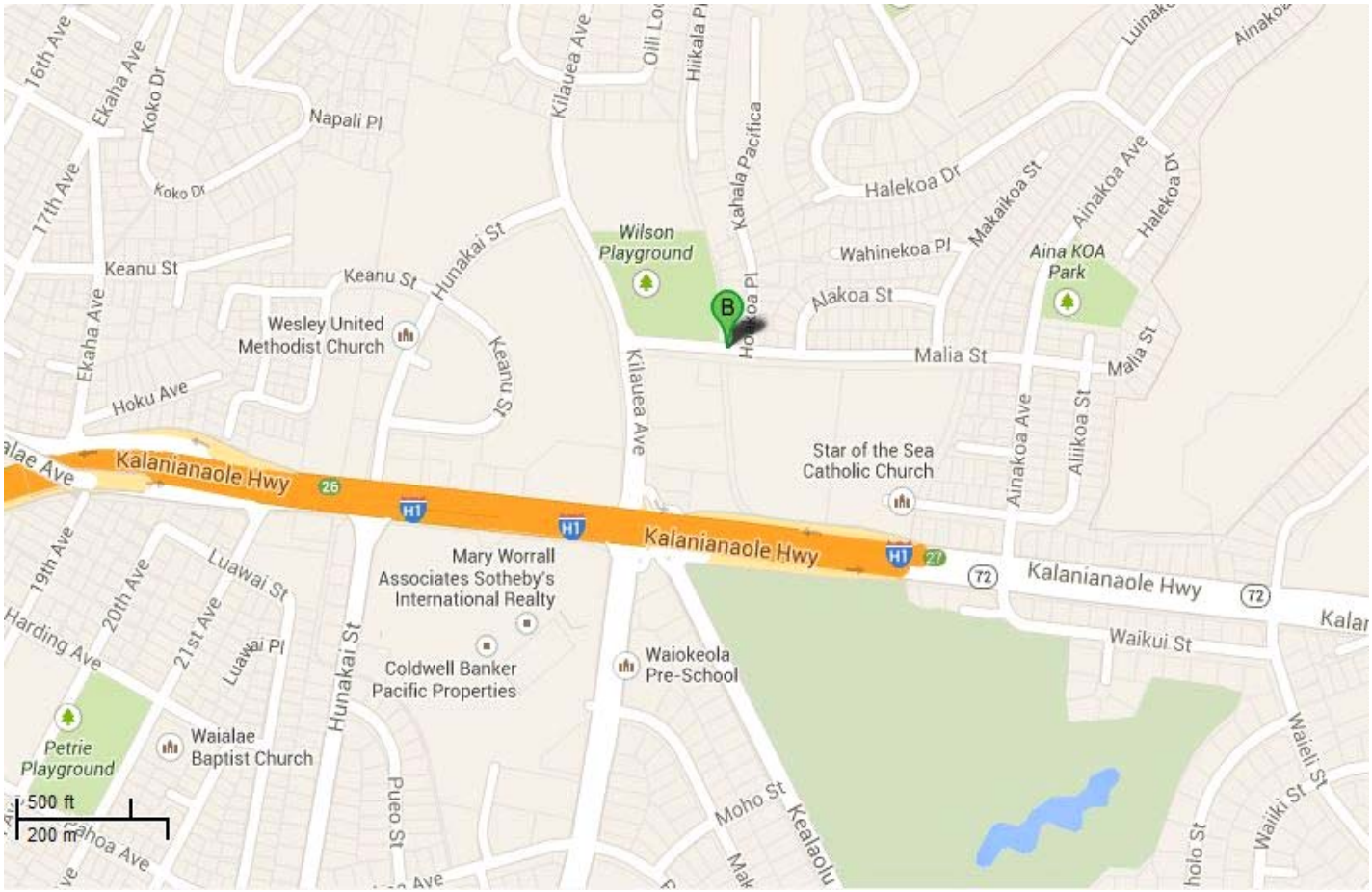
Location: TMK: 3-5-17

Historic Name: Malia Street Bridge No. 1-Waialae Nui Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1961	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 21.0 ft.	**Total Length:** 23.0 ft.	**Deck Width:** 54.0 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Decorative			
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:

The Malia Street Bridge carries Malia Street across Waialae Nui Stream. This single-span reinforced concrete slab bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has solid parapets with horizontal detailing and decorative curved ends which are a unique feature but the parapets have been modified. The deck is supported by concrete abutments over a channeled ditch. The workmanship of the bridge parapet has been obscured by vine vegetation on one side of the bridge.

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 a 1960's reinforced concrete slab bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

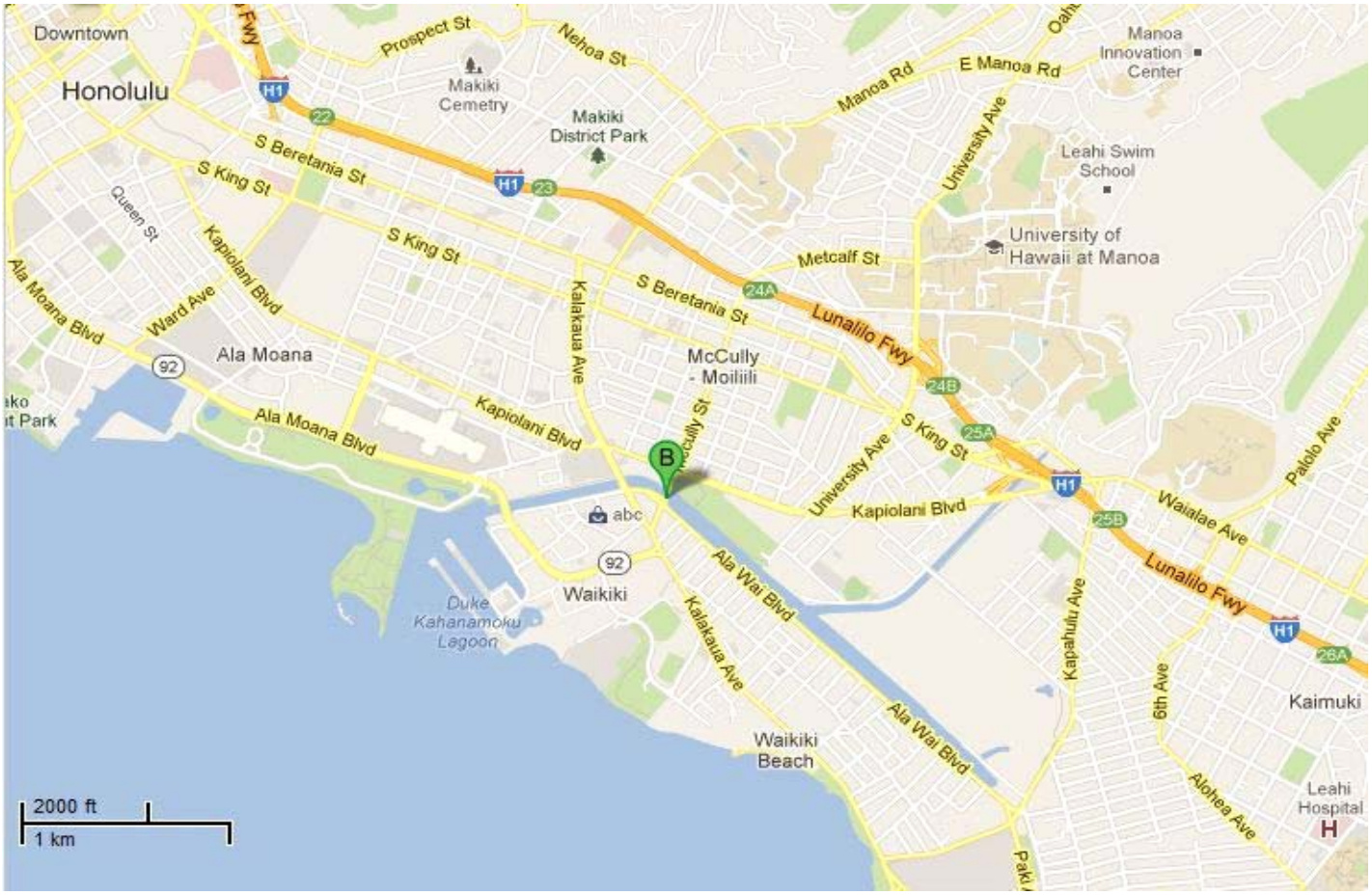
Inventory Form
(County/Private)

General Information

Bridge Number: 003083401400011	
Popular Name: Mccully Street Bridge-Ala Wai Canal	
Feature Crossed: Ala Wai Canal	
Feature Carried: McCully Street	
Milepost: 0.11 mi.	**County Private:** Honolulu
Longitude: 157d-49m-57.96s	**Latitude:** 21d-17m-17.86s

Location: North of Ala Wai Boulevard
Historic Name: Mccully Street Bridge-Ala Wai Canal
Designer/Engineer: W.R. Bartels, M. Katak and R. Shima
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1959	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 2004	
Alteration Type(s):		
Alteration Description(s): Replaced missing part, patch and repair		

Bridge Information

Number of Spans: 7	**Max Span:** 34.1 ft.	**Total Length:** 166.0 ft.	**Deck Width:** 86.6 ft.
Superstructure: Concrete Slab			
Substructure: Masonry Abutment and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Metal Horizontal			
Setting:			
Other Features: Walkways both sides, built on existing piles and piers			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering, Community Development		

Narrative Description:

The Ala Wai Canal Bridge was constructed in 1959 to cope with heavy traffic over McCully Street and was rehabilitated in 2004. The bridge is located on McCully Street between Kapiolani Boulevard and Ala Wai Boulevard as a seven span reinforced concrete slab bridge. It is built on existing piers of the old McCully St. Bridge which was no longer meeting the increasing motor vehicles' needs. The south end of the bridge is flared to accommodate merging traffic and the ends spans are not supported by abutments. The decking is a reinforced flat concrete slab. This bridge is still in relatively good condition, except for some missing parts of the parapet, spalls and cracks on concrete support brackets, and exposed/corroded reinforcing bars. The parapets and the MOA are scheduled to be modified and completed during the summer of 2013. Each pier consists of pre-stressed concrete piles with a reinforced concrete pile cap. The materials and workmanship have not been obscured by additions or alterations. The engineering complexity can be considered standard for the era. However, the urbanized surroundings and width of the bridge distract moderately from the historic feeling of this structure.

Significance Statement:

William R. Bartels, Chief Engineer for the Territorial Highway Department, was responsible for many major territorial bridge projects from 1932-1956. His work characteristically utilized the latest technology and involved a high degree of engineering complexity. Nonetheless, his bridges evidence a refined aesthetic sensibility, which makes them distinctive from work of other engineers.

William R. Bartels was a German born engineer who worked briefly for a sugar plantation on Maui before being hired by the Territorial Highway Department in 1932. Bartels designed most territorial bridges from then until 1957. He was responsible for the largest and most sophisticated bridge construction projects in Hawaii during this time and there was a marked shift to large deck girder and rigid frame bridges. Bartels ended his tenure as Chief of the Bridge Division at age 70. This was well past the standard retirement age but he was kept on by special permission and out of necessity because his abilities were so great. Bridges designed by Bartels have often been hailed for their accomplishment of engineering as well as aesthetics.

The Bennett-Maier Plan for Waikiki Re-development
This new McCully St. Bridge is a part of the Bennett-Maier plan in 1954 for Waikiki redevelopment to relieve and control the increasing traffic problem in the Waikiki area. The plan proposed this bridge as a way to improve traffic movement into Waikiki from all sections of the island, as well as correct the serious traffic conditions on Kalakaua at the Ala Moana and Ala Wai Boulevard intersections. Studied by Charles B. Bennett, a planning consultant from Los Angeles, and Eugene Maier, a traffic consultant from Houston,(1) the development plan for Waikiki in 1954 suggested the construction of a new bridge at McCully Street, with six traffic lanes over the Ala Wai.(2) The construction of the bridge alleviated the most dangerous intersection, in terms of traffic accidents, in the City & County of Honolulu.

Eugene Maier
Eugene Maier was the director of public works and engineering in Houston and was awarded by the American Public Work Association of National Public Works Week as one of the Top Ten Public Works Leaders for the year 1961.(3)

The Ala Wai Canal
The Ala Wai Canal is a picturesque waterway at the western entrance to Waikiki. Constructed in 1922, the canal drains marshlands and diverts storm water runoff away from Waikiki and into the Pacific Ocean. The canal is about 2 miles long, 75 yards wide at the mouth and 100 yards wide in the upper reaches. The drainage area or watershed comprises about 16.3 square miles.(4) The Ala Wai Canal is a man-made estuary that separates the tourist destination of Waikiki from the rest of the island. The watershed encompasses a variety of land uses including urban areas, residential neighborhoods, preservation lands, agriculture, and three stream systems.(5)

Prior to the completion of the canal, the southeastern coast of Oahu was a swampland of fish and duck ponds. Today, the Ala Wai Canal marks the entrance to one of the most famous tourist and beach areas in the world - Waikiki.

The Canal has been designated as both a State Historic Site in 1992, and a National Historic Site in 1985. It is important as a visual feature of Waikiki, in a state which generates about 70 percent of its income from the tourist industry. The canal is important as a place for practice by many kayak and outrigger canoe clubs.(6)

(1) Charles B. Bennett and Eugene Maier, Studies and Recommendations for the Development of Waikiki, 1954, 1.
(2) Charles B. Bennett and Eugene Maier, Studies and Recommendations for the Development of Waikiki, 1954, 1.
(3) APWA. Top Ten Public Works Leaders of the Year: 1960 to Present, www.apwa.net/About/Awards.asp?Display=top10list (accessed March 9, 2005).
(4) Eugene P. Dashiell, Ala Wai Canal Watershed Water Quality Improvement Project, Honolulu, Mayors' Asia Pacific Environmental Summit, www.csis.org/e4e/Mayor32Dshiell.html (accessed September 3, 2003).
(5) Ala Wai Canal, Inventory of Current EPA Efforts to Protect Ecosystem, www.epa.gov/ecoplaces/part2/region9/site1.html (accessed September 3, 2003).
(6) Eugene P. Dashiell, Ala Wai Canal Watershed Water Quality Improvement Project, Honolulu, Mayors' Asia Pacific Environmental Summit, www.csis.org/e4e/Mayor32Dshiell.html (accessed September 3, 2003).

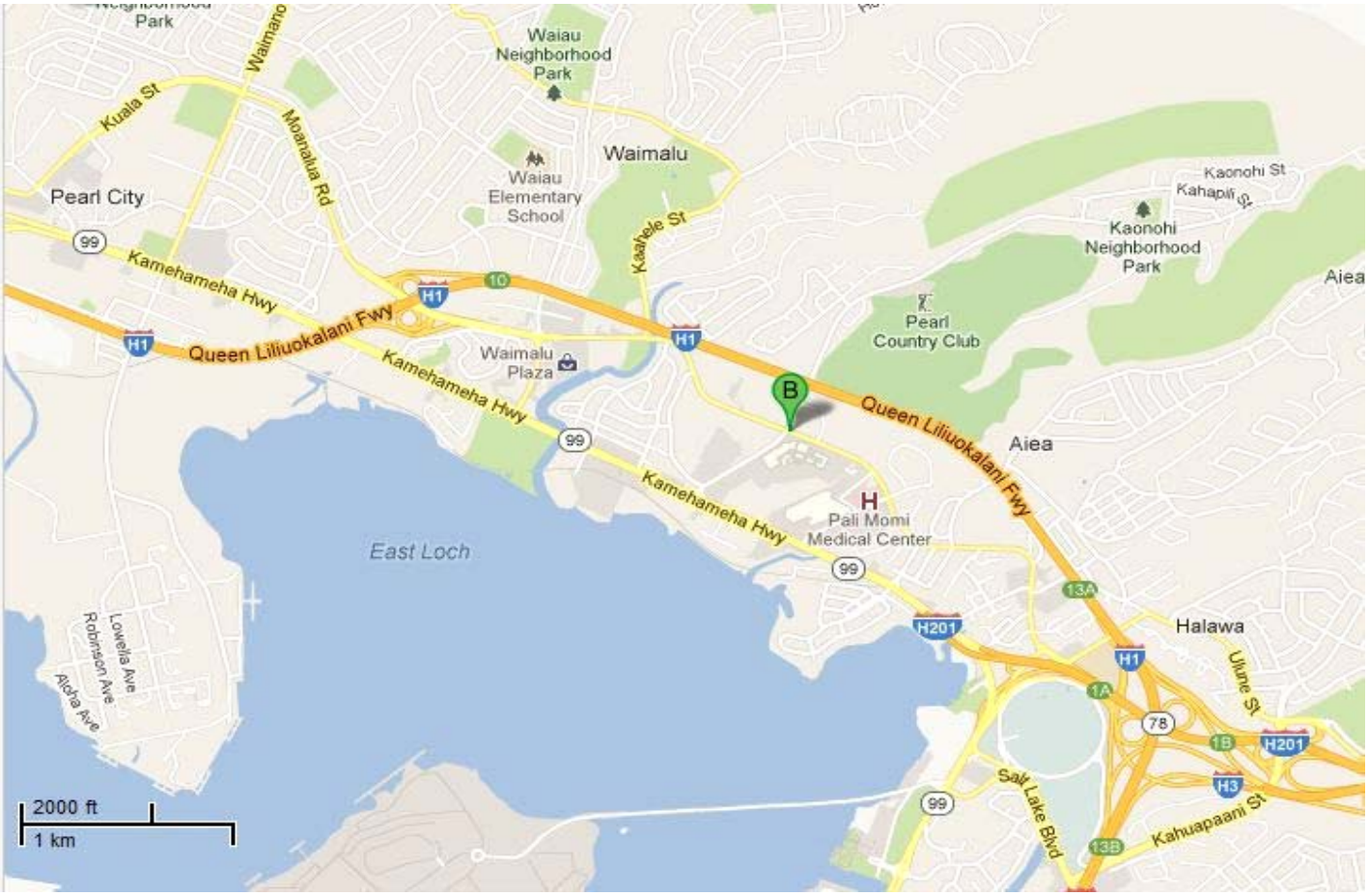
Inventory Form
(County/Private)

General Information

Bridge Number: 003072001400235	
Popular Name: Moanalua Road Bridge-Kaonohi Stream	
Feature Crossed: Kaonohi Stream	
Feature Carried: Moanalua Road	
Milepost: 2.35 mi.	**County Private:** Honolulu
Longitude: 157d-56m-19.62s	**Latitude:** 21d-23m-06.37s

Location: 0.23 Miles East of Kaonohi Street
Historic Name: Moanalua Road Bridge-Kaonohi Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Closed Spandrel Arch	**Construction Date:** 1966	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 46.9 ft.	**Total Length:** 88.9 ft.	**Deck Width:** 80.1 ft.
Superstructure: Concrete Closed Spandrel Arch			
Substructure: Concrete Abutment Wall			
Floor/Decking: AC Pavement			
Parapets/Railings: Metal Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering		

Narrative Description:

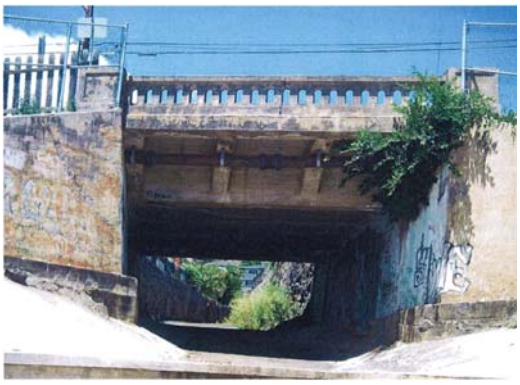
The Kaonohi Stream Bridge carries Moanalua Road across the Kaonohi Stream. This single span closed arch bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has metal horizontal railings with horizontally detailed concrete end posts. The concrete deck is a reinforced concrete slab with asphalt overlay and is supported by concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs however, portions of the bridge has graffiti.

Significance Statement:

This bridge is eligible under Criterion C for being a good example of a 1960's closed arch bridge that is atypical of its period in methods of construction, craftsmanship, and design. This bridge is the only arch bridge built post-war (1945) in the state of Hawaii in the historic study period prior to 1969. Arch bridges are an uncommon bridge type.

Inventory Form
(County/Private)

General Information



Bridge Number: 003154001200001

Popular Name: Naio Street Bridge-Nuhelewai Stream

Feature Crossed: Nuhelewai Stream

Feature Carried: Naio Street

Milepost: **County Private:** Honolulu

Longitude: 157d-51m-37.73s **Latitude:** 21d-20m-02.72s

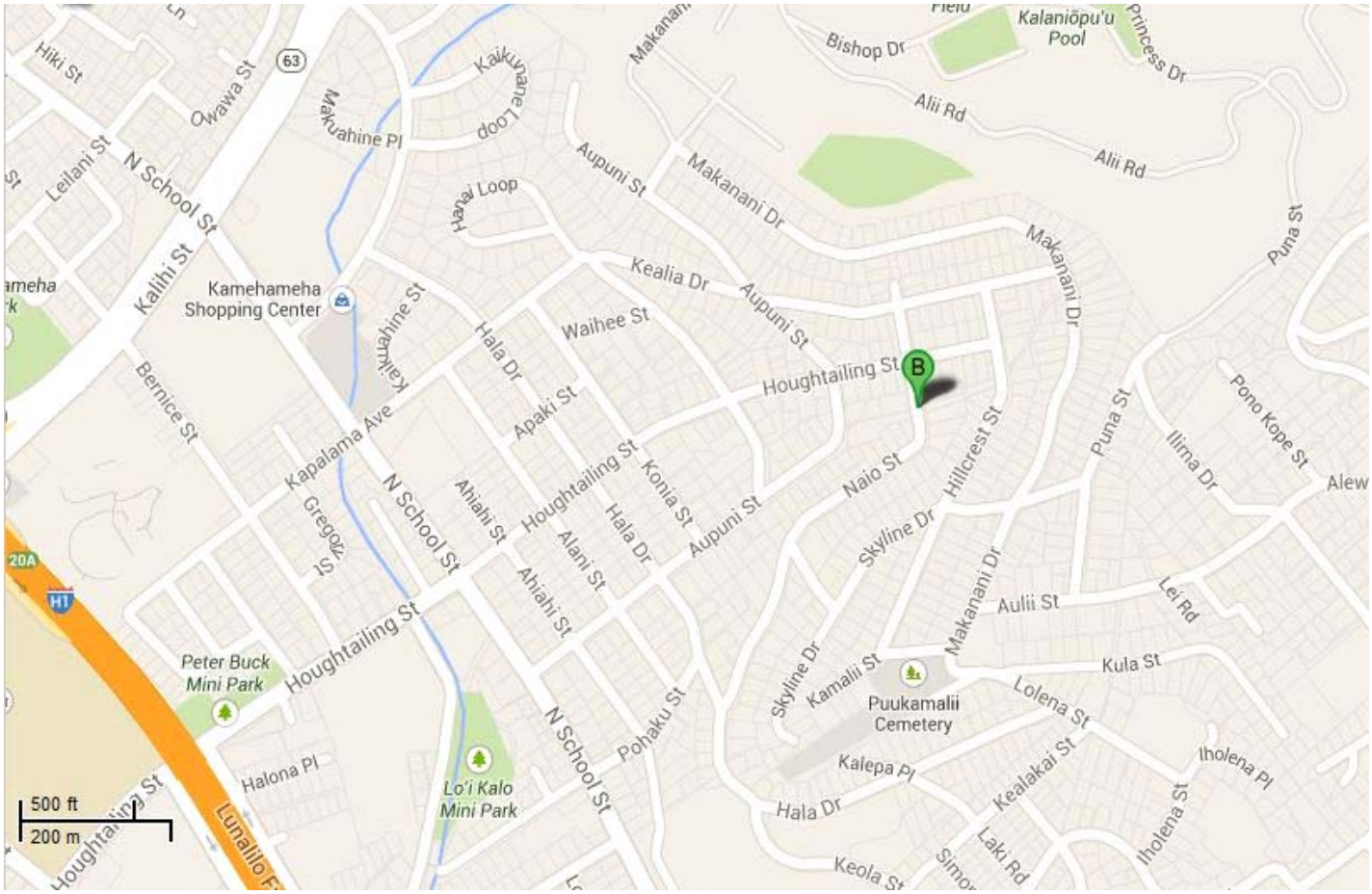
Location: TMK: 1-6-17

Historic Name: Naio Street Bridge-Nuhelewai Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1927	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 19.0 ft.	**Total Length:** 23.0 ft.	**Deck Width:** 40.4 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Naio Avenue Bridge carries Naio Street across Nuhelewai Stream. This single-span reinforced concrete girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete parapets with arch voids and horizontal caps. Concrete panel detailed end posts with caps flank the approaches of the parapets. The concrete deck is supported by reinforced concrete abutments over a channeled stream. The workmanship of the bridge has not been obscured by additions or repairs.

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 1920's reinforced concrete bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

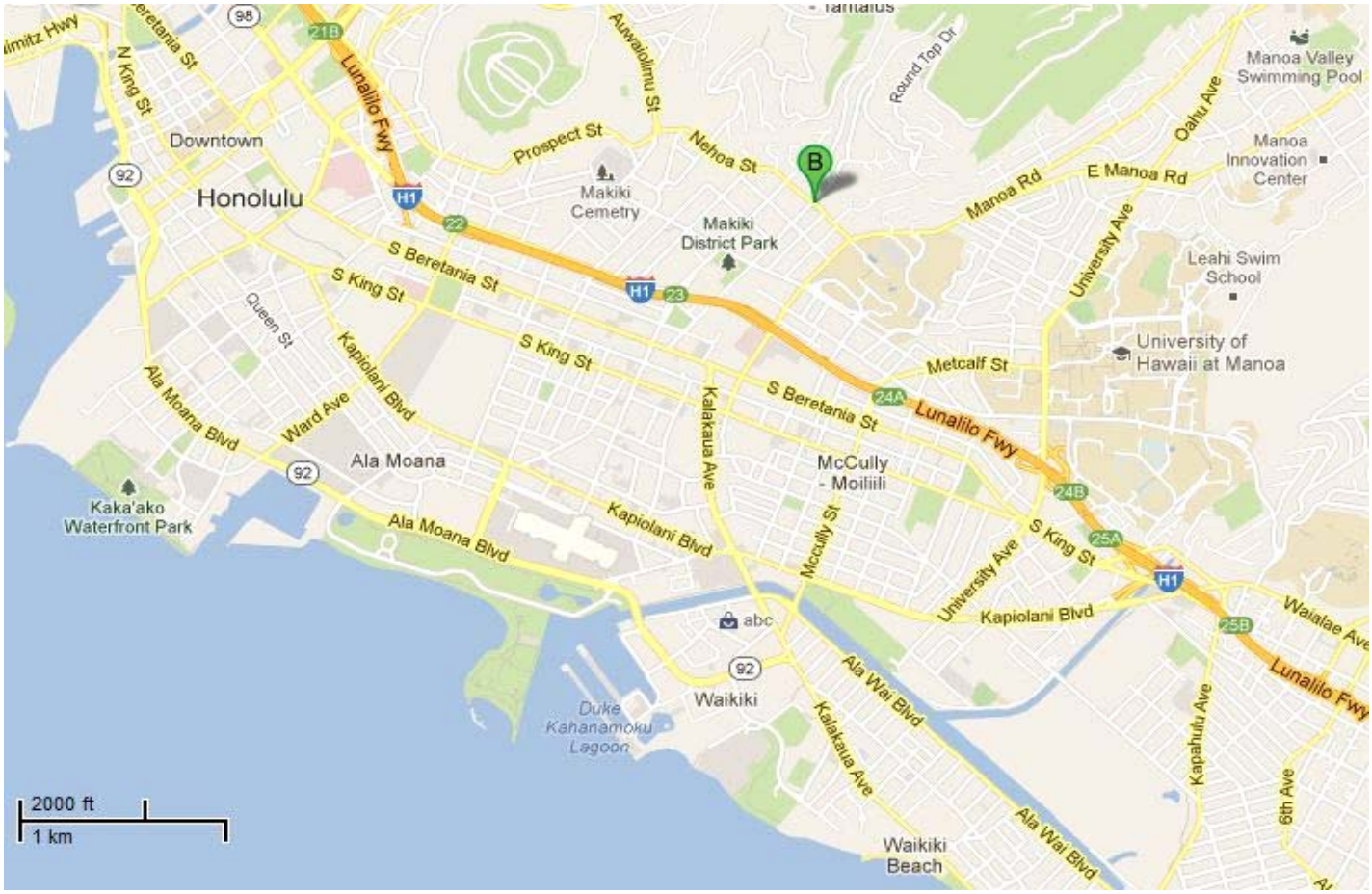
Inventory Form
(County/Private)

General Information

Bridge Number: 003083461400067	
Popular Name: Nehoa Street Bridge-Makiki Stream	
Feature Crossed: Makiki Stream	
Feature Carried: Nehoa Street	
Milepost:	**County Private:** Honolulu
Longitude: 157d-49m-54.02s	**Latitude:** 21d-18m-23.38s

Location: 100 Feet East of Makiki Street
Historic Name: Nehoa Street Bridge-Makiki Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1920	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 24.0 ft.	**Total Length:** 24.0 ft.	**Deck Width:** 48.6 ft.
Superstructure: Concrete Slab			
Substructure: Masonry Abutment			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid Panel with Cap			
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:

The Makiki Stream Bridge carries Nehoa Street across Makiki Stream. This single-span concrete slab bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has solid concrete parapets with horizontal caps and panel detailed end posts with horizontal caps. The concrete deck is supported by concrete and masonry abutments over a channeled stream. The workmanship of the bridge has not been obscured by additions or repairs.

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 a 1920's concrete slab bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

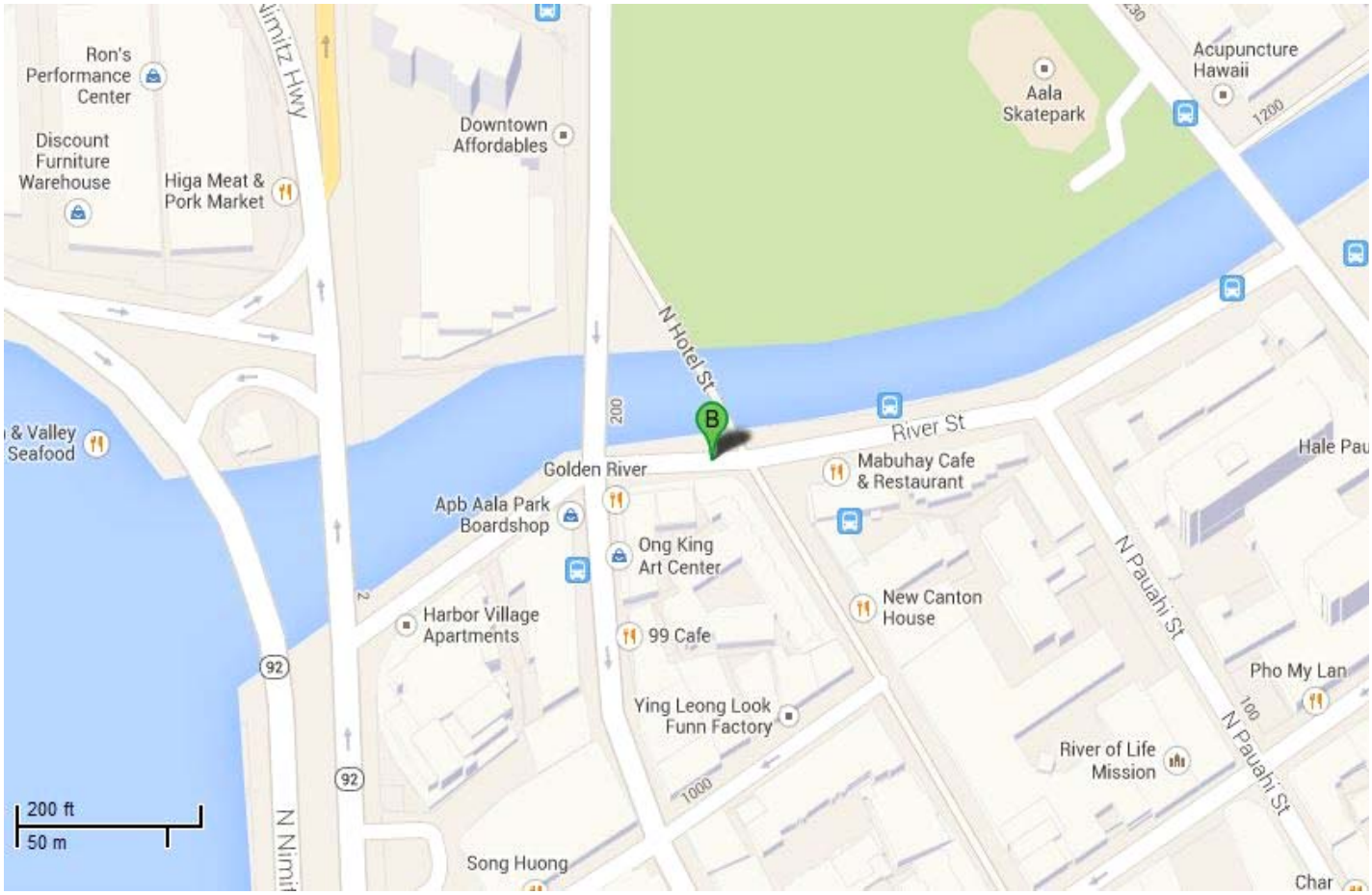
Inventory Form
(County/Private)

General Information

Bridge Number: 003083981400003	
Popular Name: North Hotel Street Bridge-Nuuanu Stream	
Feature Crossed: Nuuanu Stream	
Feature Carried: North Hotel Street	
Milepost: 0.03 mi.	**County Private:** Honolulu
Longitude: 157d-51m-49.98s	**Latitude:** 21d-18m-49.82s

Location: TMK: 1-7-27
Historic Name: North Hotel Street Bridge-Nuuanu Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Slab	**Construction Date:** 1936	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 3	**Max Span:** 41.0 ft.	**Total Length:** 101.0 ft.	**Deck Width:** 46.0 ft.
Superstructure: Concrete Slab			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck			
Parapets/Railings: Concrete and Metal Decorative			
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:

The Nuuanu Stream Bridge carries North Hotel Street across Nuuanu Stream. This single-span reinforced concrete girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has solid concrete capped parapets with arched voids and decorative end posts. The concrete deck is supported by concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs.

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 a 1930's concrete slab bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

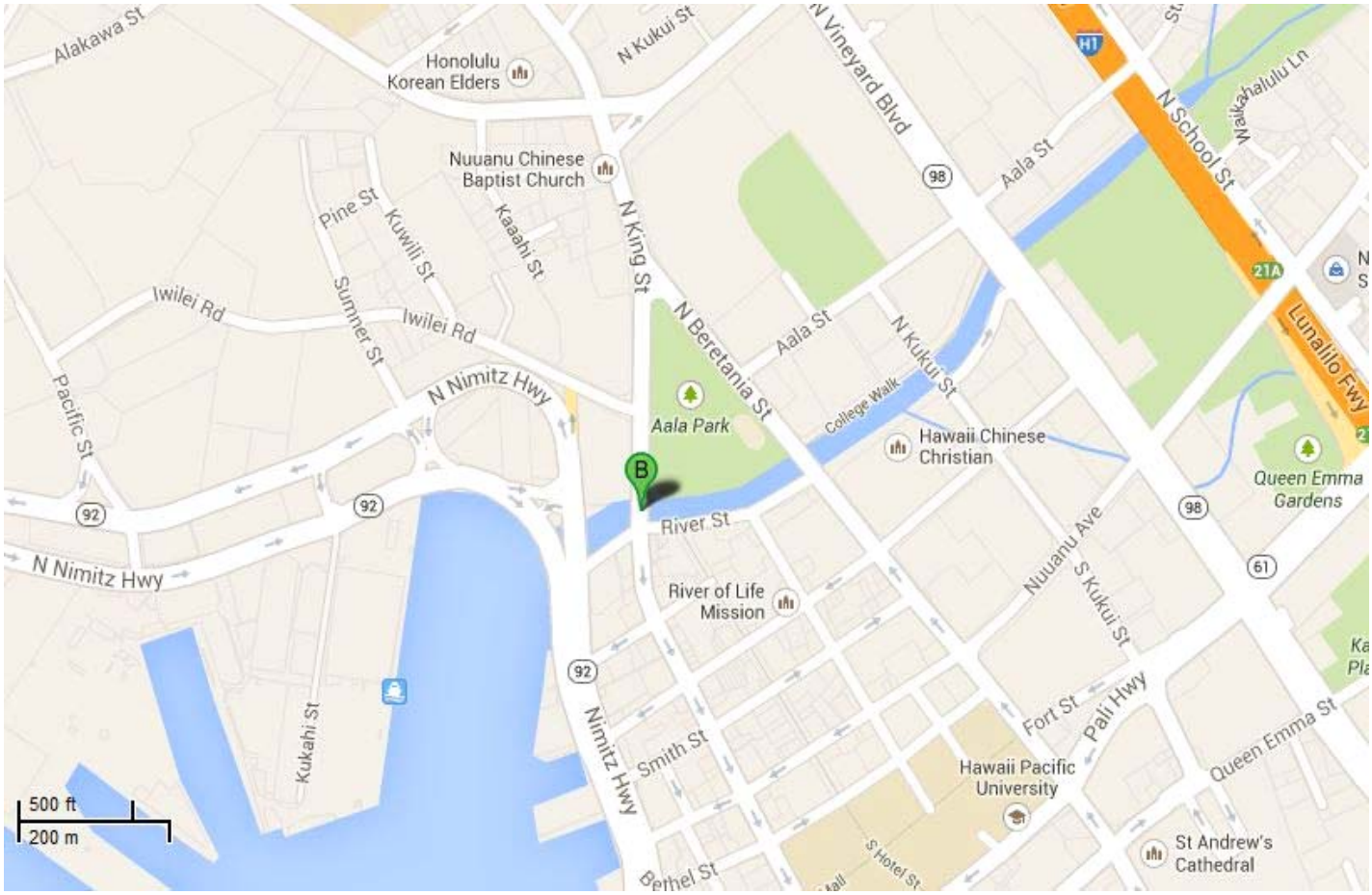
Inventory Form
(County/Private)

General Information

Bridge Number: 003062081400218	
Popular Name: North King Street Bridge No. 1-Nuuanu Stream	
Feature Crossed: Nuuanu Stream	
Feature Carried: North King Street	
Milepost: 2.18 mi.	**County Private:** Honolulu
Longitude: 157d-51m-51.25s	**Latitude:** 21d-18m-49.65s

Location: East of River Street
Historic Name: North King Street Bridge No. 1-Nuuanu Stream
Designer/Engineer: H. A. R. Austin / Fred Ohrt
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1922	**Replaced?** No
Altered? Yes	**Alteration Date(s):** Unknown	
Alteration Type(s):		
Alteration Description(s): Replaced original light fixtures		

Bridge Information

Number of Spans: 4	**Max Span:** 24.9 ft.	**Total Length:** 91.9 ft.	**Deck Width:** 80.1 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Solid			
Setting:			
Other Features: Reinforced concrete lamp standards			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering		

Narrative Description:

The North King Street-Nuuanu River Bridge, also known as the North King Street Bridge No. 1, carries King Street over the Nuuanu River which drains into Honolulu Harbor. The bridge is a three-span reinforced concrete continuous tee beam bridge.

The North King Street Bridge remains in its original location over the Nuuanu River. The bridge's setting alongside the Chinatown Historic District has retained its historic character. The bridge's original tee beam design and reinforced concrete materials remain intact. The bridge was technologically innovative for its time, since tee beam construction was relatively uncommon in the islands until the mid-1930s. The original bridge was the work of skilled builders, who constructed its three concrete spans over the river. The quality of the workmanship remains evident despite minor spalling concrete and the replacement of the original light fixtures from the cast concrete lamp standards. The bridge's historic associations, as a representative example of an early concrete tee beam bridge and an essential element in Honolulu's urban road system, as well as a potentially contributing resource within the Chinatown Historic District, are readily apparent to visitors. The bridge is easily viewed from River Street which runs parallel to the Nuuanu River. The bridge's historic feeling is primarily evident due to its decorative stepped parapets and the slight rise of the deck as it spans the river.

Significance Statement:

The North King Street-Nuuanu River Bridge is significant in the areas of engineering and transportation in Hawaii. The bridge is an excellent example of reinforced concrete tee beam construction with solid decorative parapets. The bridge is eligible under Criterion A for its associations with public works efforts by the City and County of Honolulu during the Territorial period, and as an important civic structure associated with the development of urban Honolulu and Chinatown. It is eligible under Criterion C as excellent example of a 1920s-era bridge utilizing a relatively new engineering technology, continuous reinforced concrete tee-beam construction, as well as for its aesthetic merit. The bridge is located alongside the Chinatown Historic District which was nominated to the National Register on January 17, 1973 (State Site Number 80-14-9986).

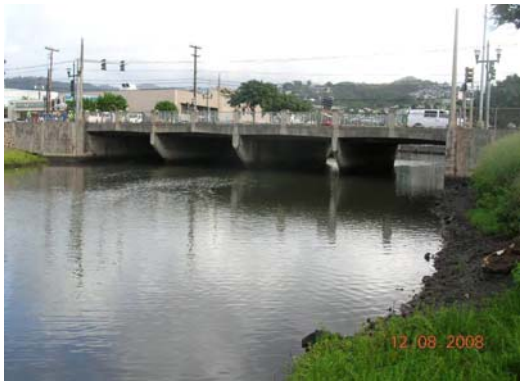
The North King Street-Nuuanu River Bridge was constructed as part of the upgrading of Honolulu's road system. The bridge is a significant contributing historic resource alongside the Chinatown Historic District. The bridge contributed to the economic development of Chinatown by providing reliable vehicular access at an important river crossing.

The North King Street- Nuuanu River Bridge is one of the first large reinforced concrete tee-beam bridges built in the state.(1) The bridge utilizes technology typical of later concrete bridges and demonstrates the rapid advances in engineering technology in the early decades of the twentieth century. H.A.R. Austin, whose name appears on the plans for the bridge, was the chief engineer for the City and County of Honolulu, Department of Public Works.

(1) Bethany Thompson, Historic Bridge Inventory: Island of Oahu, prepared for the State of Hawaii Department of Transportation Highways Division in cooperation with the U.S. Department of Transportation, Federal Highway Administration (Honolulu, 1983), VII-25.

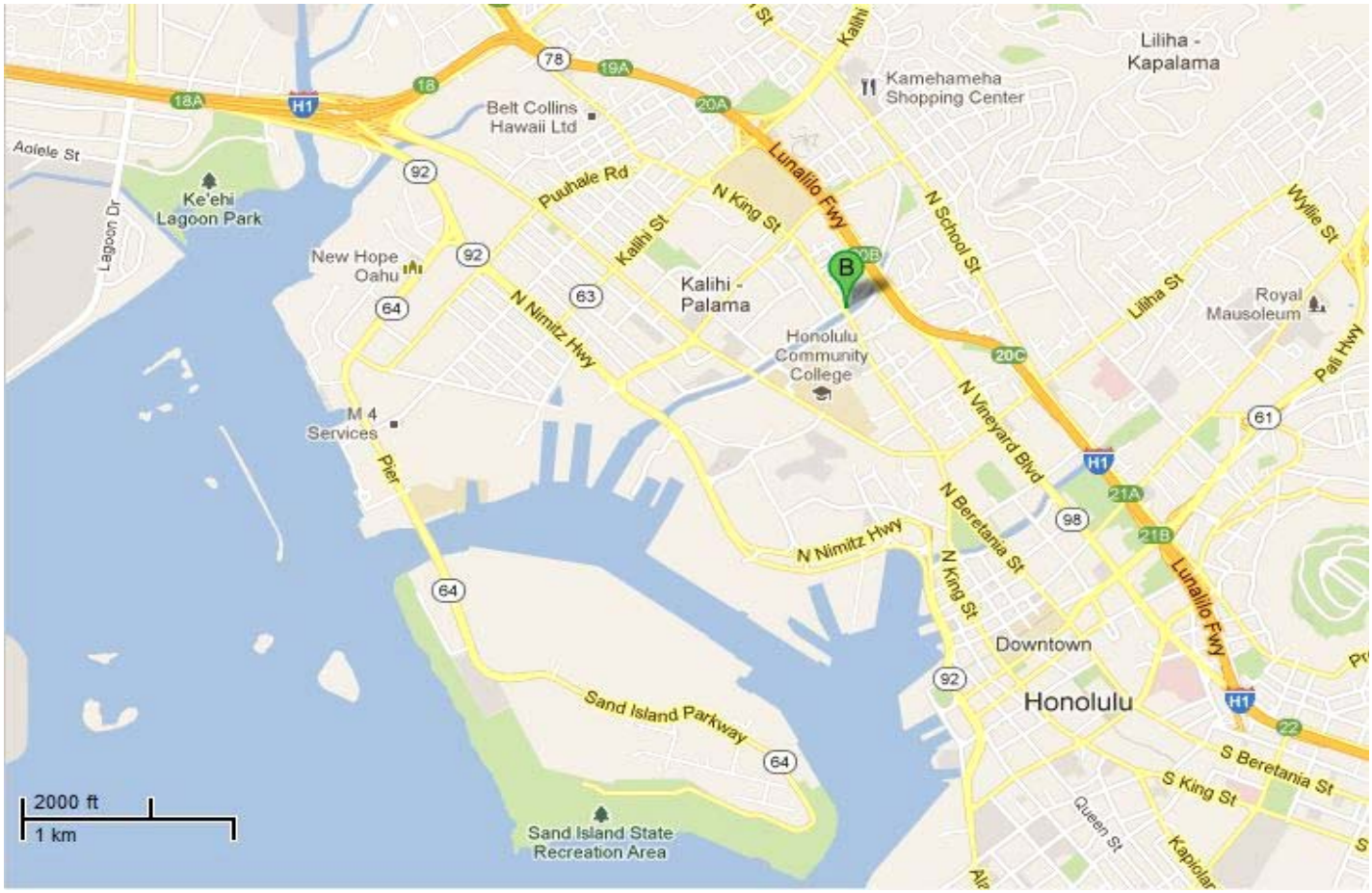
Inventory Form
(County/Private)

General Information

Bridge Number: 003062081400134	
Popular Name: North King Street Bridge No. 2-Kapalama Canal	
Feature Crossed: Kapalama Canal	
Feature Carried: North King Street	
Milepost: 1.34 mi. **County Private:** Honolulu	
Longitude: 157d-52m-07.93s **Latitude:** 21d-19m-29.66s	

Location: TMK: 1-6-02
Historic Name: North King Street Bridge No. 2-Kapalama Canal
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1938	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 4	**Max Span:** 23.0 ft.	**Total Length:** 101.0 ft.	**Deck Width:** 86.7 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete and Metal Decorative			
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:

The Kapalama Canal Bridge carries North King Street across the Kapalama Canal. This four-span reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has decorative metal railings with concrete intermittent posts and concrete end posts. The concrete deck is supported by concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs however, portions of the metal railings show signs of corrosion.

Significance Statement:

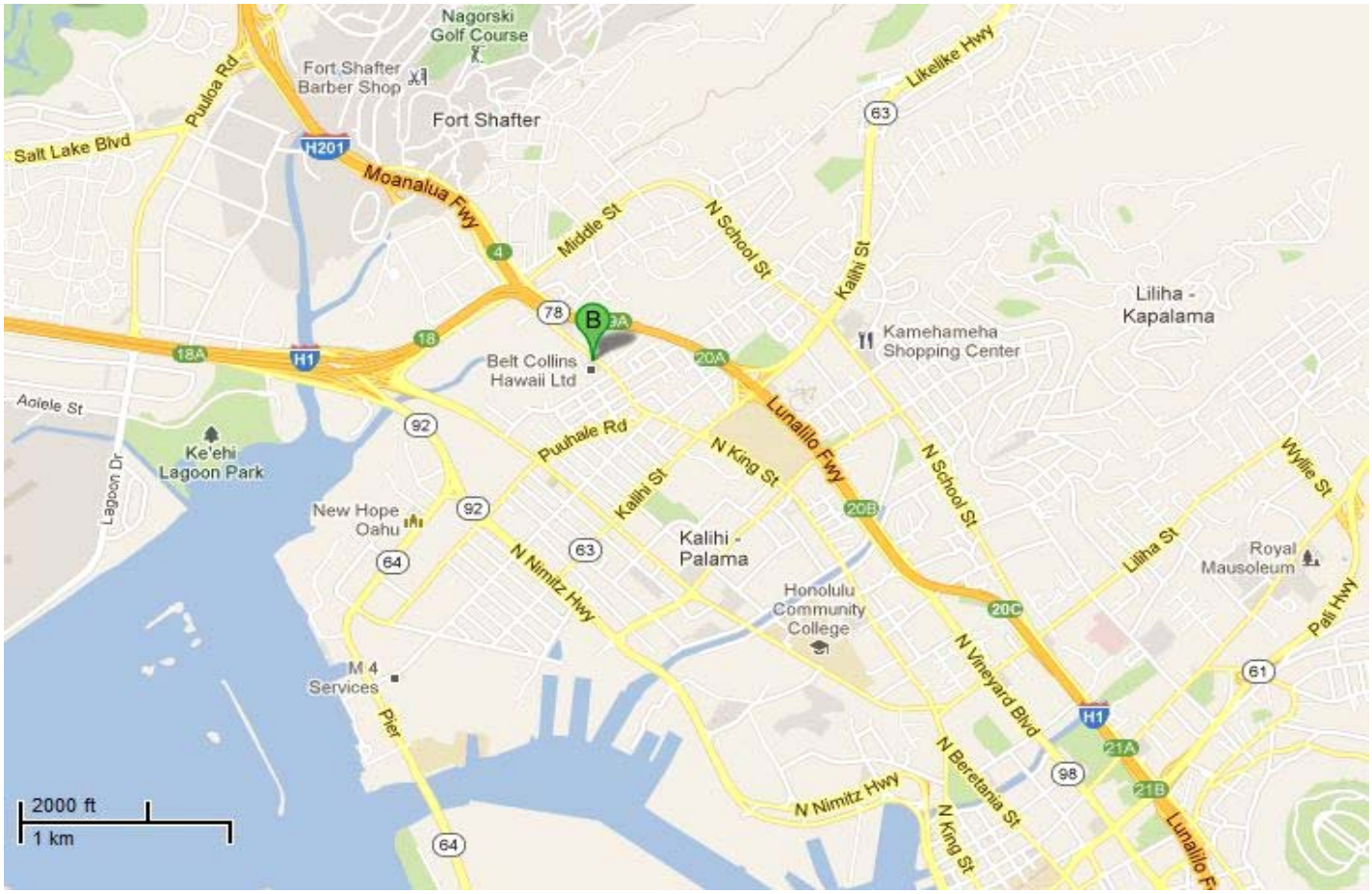
This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. It is a good example of a 1930's reinforced concrete tee-beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003062081400037	
Popular Name: North King Street Bridge-Kalihi Stream	
Feature Crossed: Kalihi Stream	
Feature Carried: North King Street	
Milepost: 0.37 mi. **County Private:** Honolulu	
Longitude: 157d-52m-46.86s **Latitude:** 21d-20m-02.61s	
Location: 300 Feet West of Gulick Avenue	
Historic Name: North King Street Bridge-Kalihi Stream	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1933	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 62.0 ft.	**Total Length:** 65.0 ft.	**Deck Width:** 86.0 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

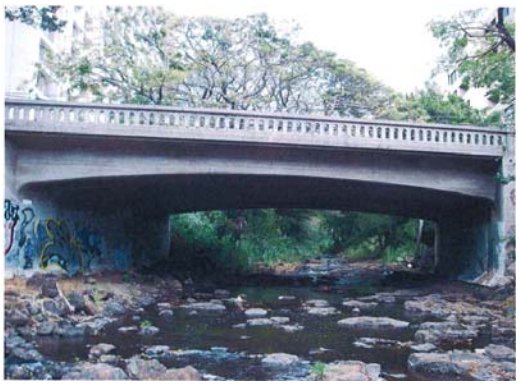
The Kalihi Stream Bridge carries North King Street across the Kalihi Stream. This reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has parapets with arched voids and end posts with caps. The concrete deck is supported by concrete masonry abutments. The workmanship of the bridge has not been obscured by additions or repairs. The bridge has retained its historic feeling due to the design of the railings which are typical of 1930s bridges.

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 a 1930's reinforced concrete tee-beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information



Bridge Number: 003083321400031

Popular Name: North Kuakini Street Bridge No. 1-Nuuanu Stream

Feature Crossed: Nuuanu Stream

Feature Carried: North Kuakini Street

Milepost: **County Private:** Honolulu

Longitude: 157d-51m-15.55s **Latitude:** 21d-19m-12.33s

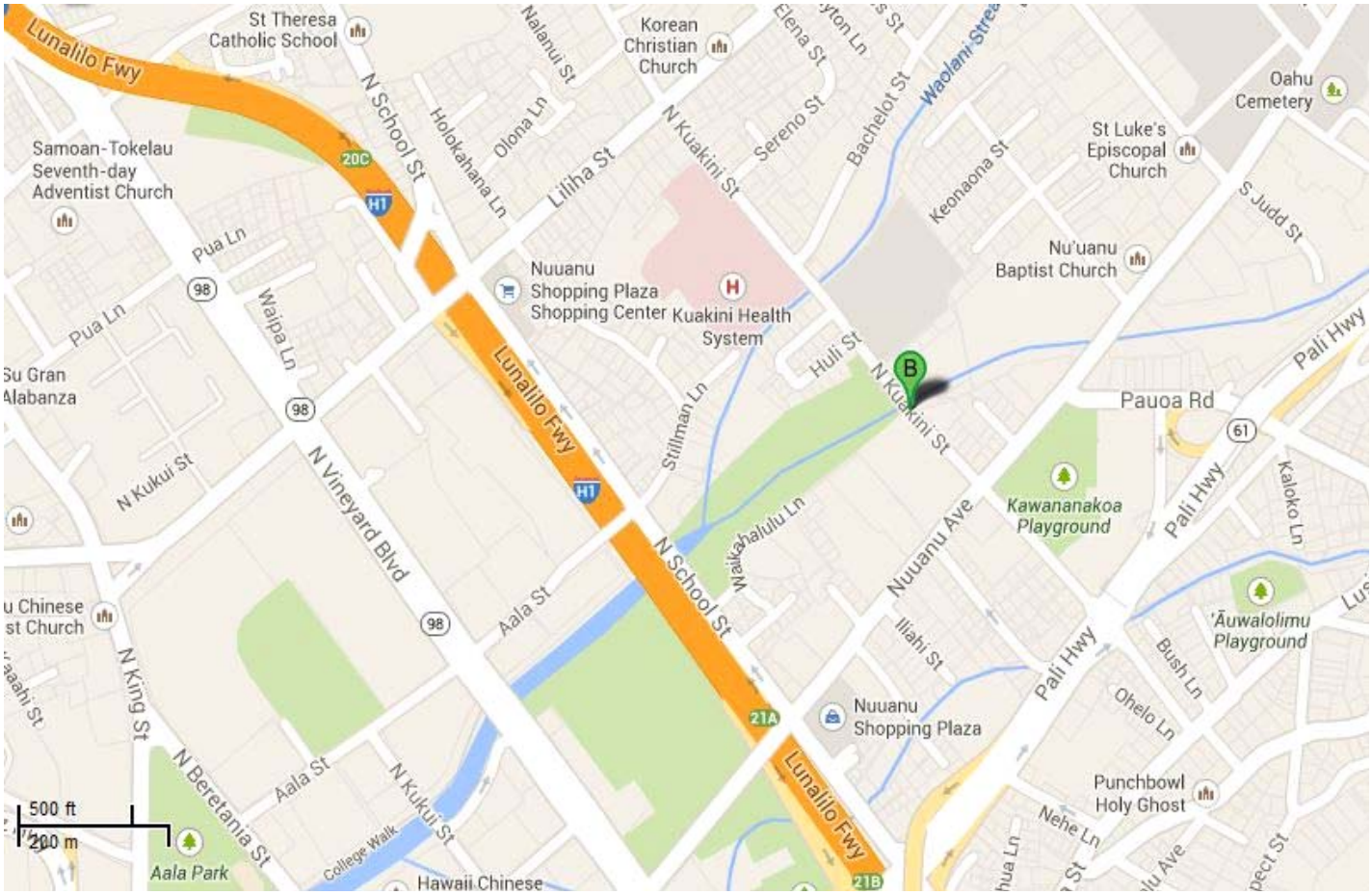
Location: 450 Feet Northwest of Nuuanua Avenue

Historic Name: North Kuakini Street Bridge No. 1-Nuuanu Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1934	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 55.1 ft.	**Total Length:** 64.0 ft.	**Deck Width:** 52.8 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Nuuanu Stream Bridge carries North Kuakini Street across Nuuanu Stream. This single-span arch girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete parapets with arch voids and horizontal caps. Concrete end posts with caps flank the approaches of the parapets. The concrete deck is supported by reinforced concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs.

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 a 1930's concrete tee beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003083321400019

Popular Name: North Kuakini Street Bridge No. 2-Waiolani Stream

Feature Crossed: Waiolani Stream

Feature Carried: North Kuakini Street

Milepost: **County Private:** Honolulu

Longitude: 157d-51m-19.82s **Latitude:** 21d-19m-17.33s

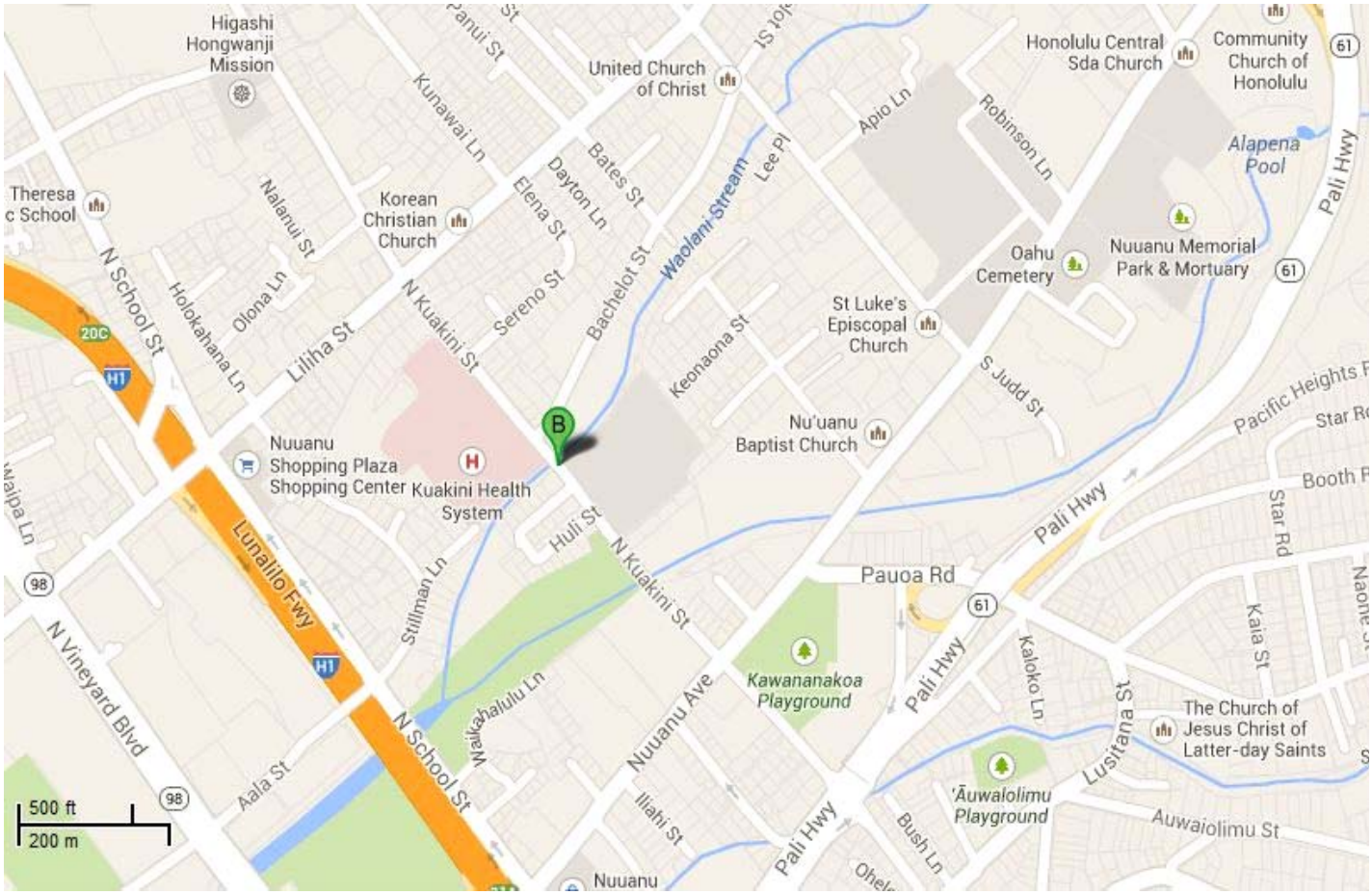
Location: 100 Feet Northwest of Huna Street

Historic Name: North Kuakini Street Bridge No. 2-Waiolani Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1934	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 37.1 ft.	**Total Length:** 44.0 ft.	**Deck Width:** 52.8 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

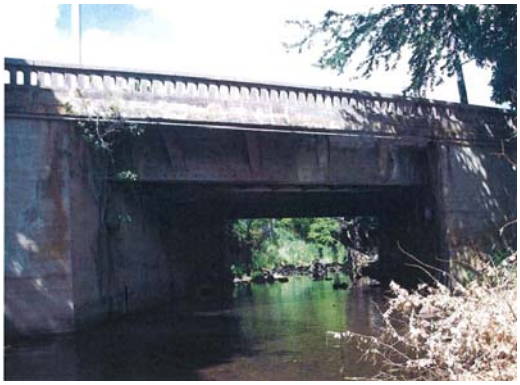
The Waiolani Stream Bridge carries North Kuakini Street across Waolani Stream. This single-span reinforced concrete girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete parapets with arch voids and horizontal caps, and concrete end posts with caps. The workmanship of the bridge has not been obscured by additions or repairs. The simple design of the parapets retains its historic feeling.

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 a 1930's concrete tee-beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information



Bridge Number: 003083631400093

Popular Name: North School Street Bridge-Kalihi Stream

Feature Crossed: Kalihi Stream

Feature Carried: North School Street

Milepost: **County Private:** Honolulu

Longitude: 157d-52m-23.31s **Latitude:** 21d-20m-21.55s

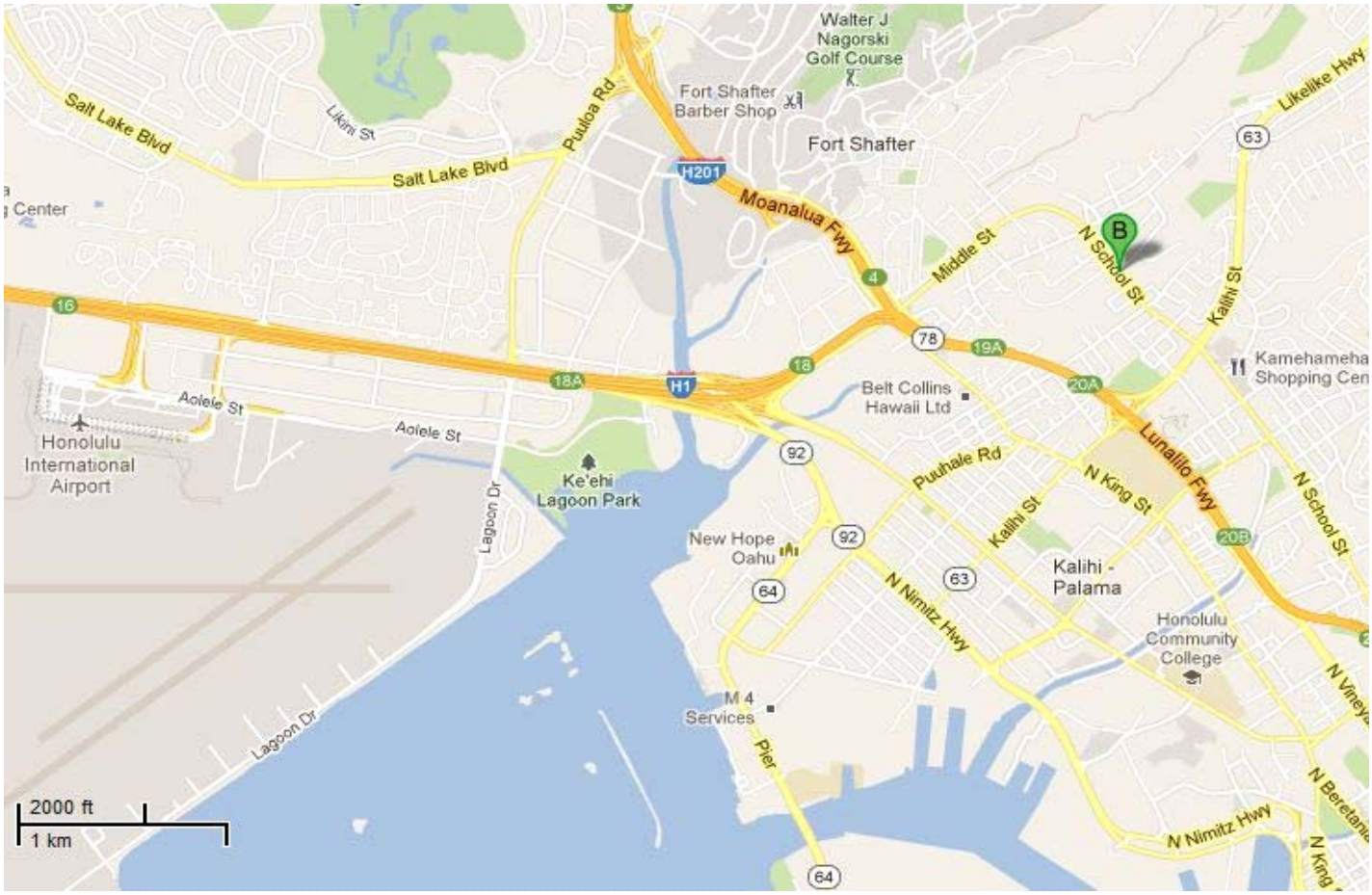
Location: 600 Feet Northwest of Gulick Avenue

Historic Name: North School Street Bridge-Kalihi Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1927	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 38.1 ft.	**Total Length:** 41.0 ft.	**Deck Width:** 60.0 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Kalihi Stream Bridge carries North School Street across Kalihi Stream. This single-span reinforced concrete tee beam bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete parapets with arched voids and horizontal caps, and panel detailed end posts with horizontal caps. The concrete deck is supported by concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs.

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 a 1920's concrete tee beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

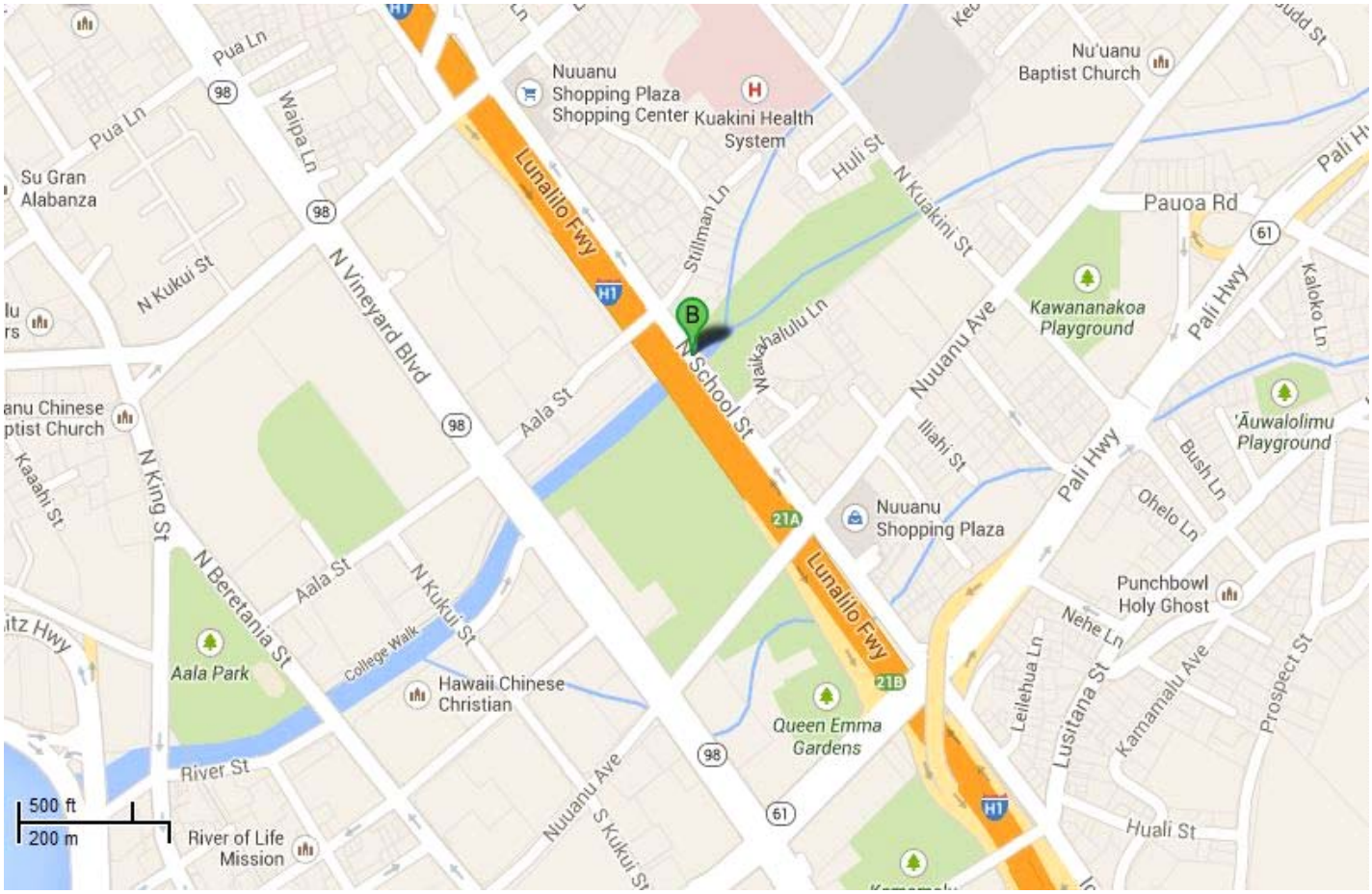
Inventory Form
(County/Private)

General Information

Bridge Number: 003083631400271	
Popular Name: North School Street Bridge-Nuuanu Stream	
Feature Crossed: Nuuanu Stream	
Feature Carried: North School Street	
Milepost:	**County Private:** Honolulu
Longitude: 157d-51m-26.63s	**Latitude:** 21d-19m-06.39s

Location: 250 Feet South of Stillman Lane
Historic Name: North School Street Bridge-Nuuanu Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1932	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 3	**Max Span:** 48.9 ft.	**Total Length:** 128.9 ft.	**Deck Width:** 60.0 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Wall Pier			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Nuuanu Stream Bridge carries North School Street across Nuuanu Stream. This three-span reinforced concrete T-girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete capped parapets with arched voids, intermittent posts, and end posts. The concrete deck is supported by concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs.

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 a 1930's concrete tee beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.

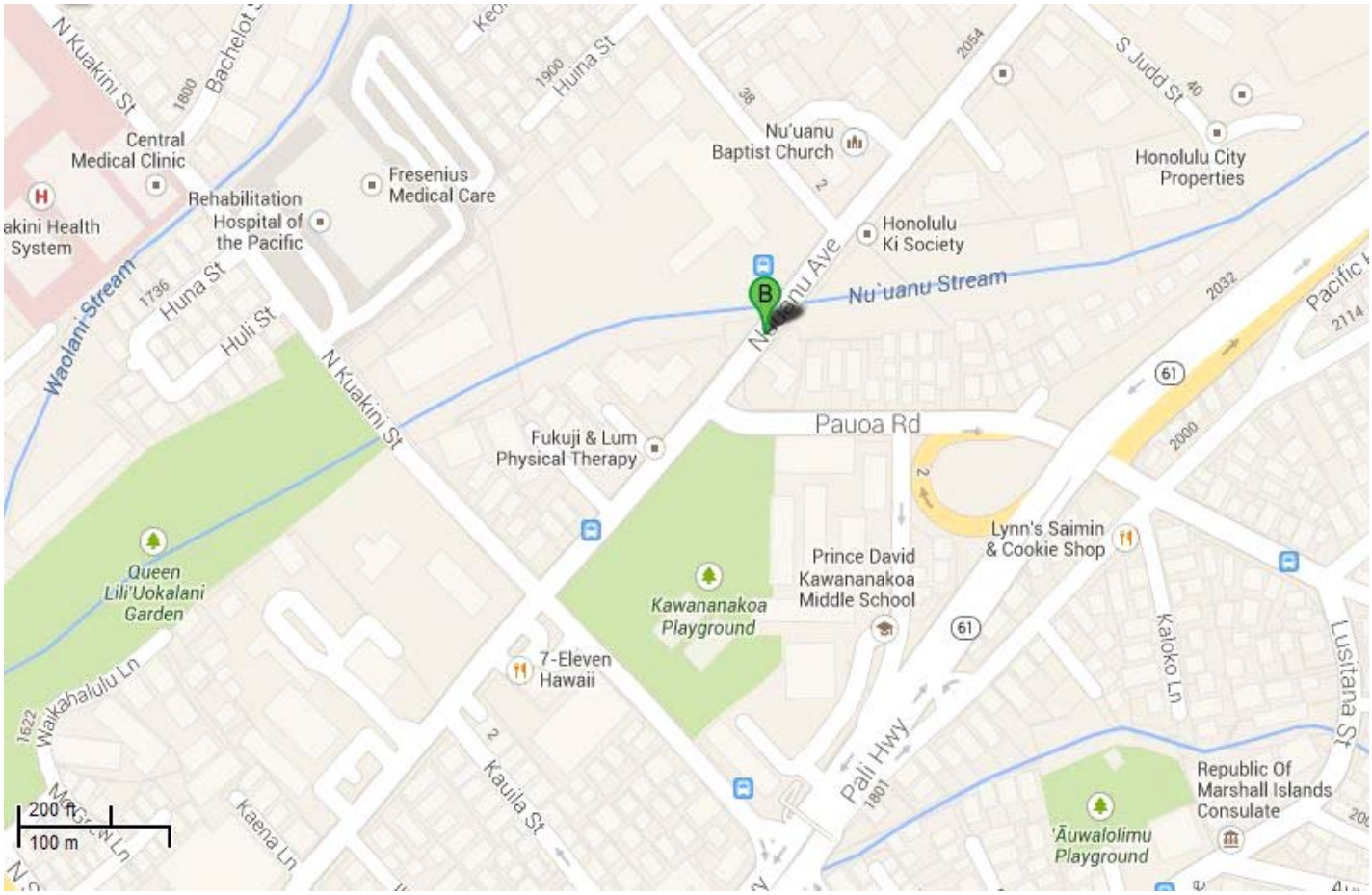
Inventory Form
(County/Private)

General Information

Bridge Number: 003083471400113	
Popular Name: Nuuanu Avenue Arch Bridge-Nuuanu Stream	
Feature Crossed: Nuuanu Stream	
Feature Carried: Nuuanu Avenue	
Milepost:	**County Private:** Honolulu
Longitude: 157d-51m-07.08s	**Latitude:** 21d-19m-14.51s

Location: 200 Feet North of Pauoa Road
Historic Name: Nuuanu Avenue Arch Bridge-Nuuanu Stream
Designer/Engineer:
Builder/Contractor: L. M. Whitehouse

Location Map:



Construction Information

Bridge Type: Masonry Arch	**Construction Date:** 1904	**Replaced?** No
Altered? Yes **Alteration Date(s):** 1937		
Alteration Type(s):		
Alteration Description(s): Inverts reconstructed		

Bridge Information

Number of Spans: 1	**Max Span:** 32.2 ft.	**Total Length:** 32.2 ft.	**Deck Width:** 62.0 ft.
Superstructure: Masonry Closed Spandrel Arch			
Substructure: Masonry Abutment			
Floor/Decking: AC Pavement			
Parapets/Railings: Masonry Rock with Cap			
Setting:			
Other Features: Sidewalks along two sides			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering, Transportation		

Narrative Description:

The Nuuanu Avenue Bridge carries Nuuanu Avenue over the Nuuanu Stream. The bridge, located in one of Honolulu's oldest residential neighborhoods, is a rare remaining example of a masonry arch built from local basalt, known as "lava rock". The Nuuanu Avenue Bridge's original residential setting has been altered by the intensive development of nearby Honolulu in the 1960s-80s. Commercial development and high-rise construction have replaced the older single family homes that once flourished in this area. The bridge's original design, a single-span masonry arch with a concrete-finished vault, remains intact. The bridge's parapets are continuous along this section of Nuuanu Avenue, due to the skew of the stream in relation to the roadway, and are difficult to discern from the roadway due to their low height. The original basalt has not received any major repairs, although one of the cap blocks was replaced in-kind. The inverts were reconstructed in concrete in 1937. The quality of workmanship on the bridge, particularly the massive basalt blocks with dressed margins, is extremely high. The bridge's association with the residential development of urban Honolulu is apparent to the informed observer. The bridge's historic feeling is evident due to the large size and skillful detailing of the basalt ("lava rock") blocks, a once common vernacular building material. In 2013, the bridge will undergo rehabilitation to increase the railing height via cap alteration to meet code.

Significance Statement:

The Nuuanu Avenue Bridge is significant in the areas of engineering and transportation in Hawaii. The bridge is an excellent example of masonry arch construction in Hawaii. Arch bridges are also an uncommon bridge type. The Nuuanu Avenue Bridge is eligible under Criterion A for its associations with early public works efforts by the Territory of Hawaii and for its contributions to the development of urban Honolulu. It is eligible under Criterion C as a rare remaining example of a once common bridge type constructed with vernacular materials (cut basalt or “lava rock”). Moreover, it is representative of the work of a master: Louis M. Whitehouse, the prolific contractor who built many other roads and bridges in this era.

At the time of its initial construction in 1904, the bridge served as a vital transportation link to downtown Honolulu, aiding in the commercial and residential development of Honolulu. Nuuanu was one of the earliest residential developments on the outskirts of urban Honolulu. After annexation by the United States in 1898, the Territory of Hawaii made road building in urban areas a high priority. The road to Nuuanu would have been among the first to be paved.

The Nuuanu Avenue Bridge is an excellent example of a masonry arch bridge, displaying the skill and artistry of Hawaii's stone masons. It is one of nine remaining masonry-arch bridges in the state and one of the last masonry arch bridges built in Hawaii. The bridge is notable for its use of vernacular building materials. The local basalts which compose the lava-rock used in the bridge’s construction are unique to Hawaii and the islands of the Pacific;(1) thus these masonry arch bridges may be the only examples of this type in the United States.

The county estimates the construction date of this bridge to be 1937, however a photograph of the bridge, dated “June 1904”, was found in the Hawaii State Archives. The 1902 SPW annual report makes a reference to funding for the “Nuuanu Avenue Bridge” and the establishment of a basalt quarry in Nuuanu. The builder was previously identified as “D. W. Whitehouse”,(2) however, it was most likely built by Louis M. Whitehouse. A search through the city directories for the years 1902 through 1934 reveal only a “Whitehouse, L. M.”(3) Further, Whitehouse’s obituary states that “in 1903, he . . . built Nuuanu dam and reservoir” and may have been responsible for this bridge as well.(4)

(1) Dr. Jane Tribble, personal conversation, School of Ocean and Earth Sciences, University of Hawaii, Honolulu, HI, June 30, 1994.
(2) Bethany Thompson, Historic Bridge Inventory: Island of Oahu, prepared for the State of Hawaii Department of Transportation Highways Division in cooperation with the U.S. Department of Transportation Federal Highway Administration (Honolulu: 1983), IV-23.
(3) Husted’s Directory of Honolulu and the Territory of Hawaii, (Honolulu: 1902), 545; Polk-Husted City Directory (Honolulu, 1931/1932), 505; Polk-Husted City Directory (Honolulu: 1933/1934), 497.
(4) “Whitehouse, Head of Land Office Dies,” Honolulu Star Bulletin (November 25, 1942).

Inventory Form
(County/Private)

General Information

Bridge Number: 003265001200001

Popular Name: Nuuanu Pali Drive Bridge-Nuuanu Stream

Feature Crossed: Nuuanu Stream

Feature Carried: Nuuanu Pali Drive

Milepost: **County Private:** Honolulu

Longitude: 157d-49m-14.80s **Latitude:** 21d-20m-49.47s

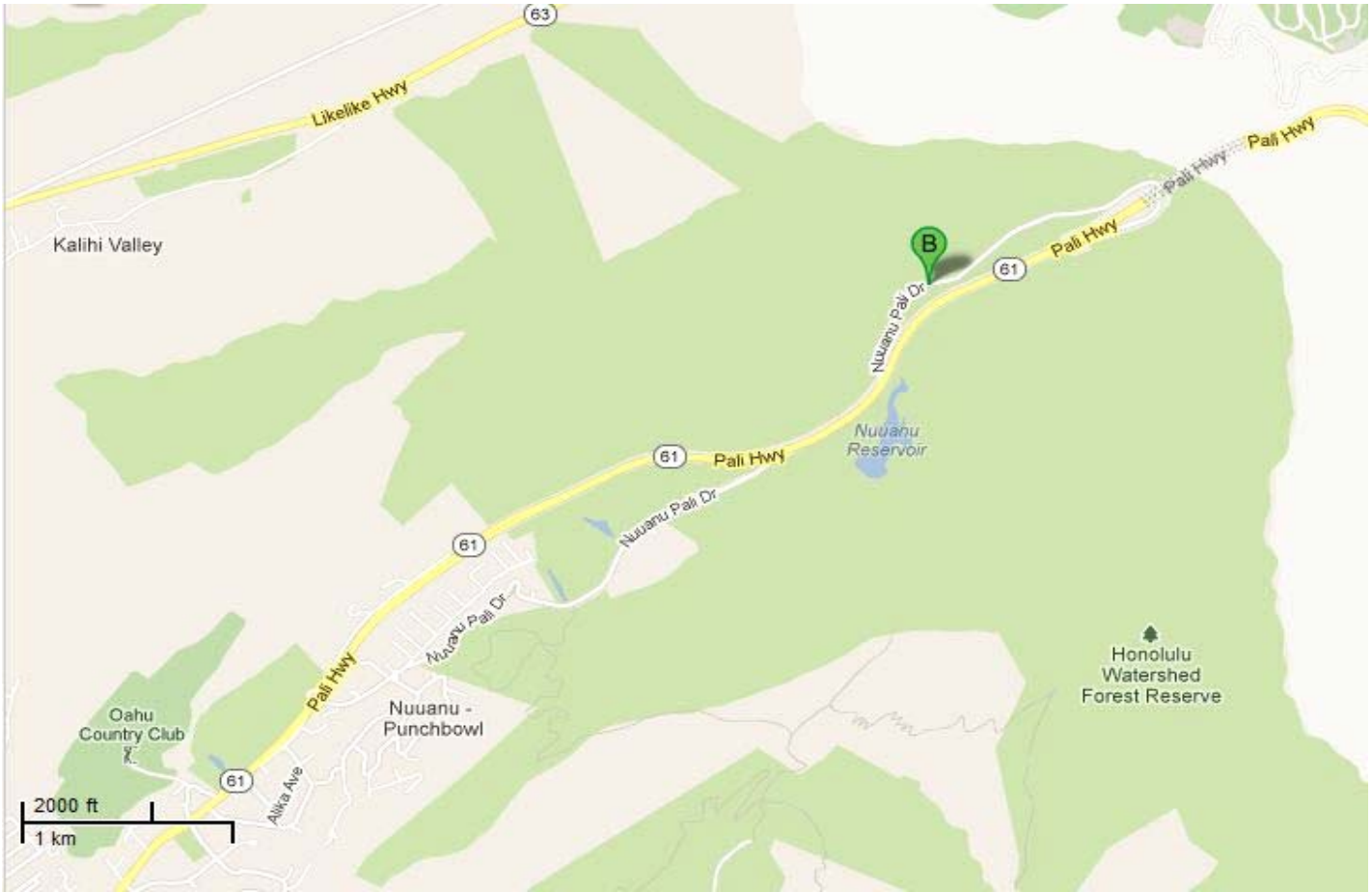
Location: TMK: 2-2-54

Historic Name: Nuuanu Pali Drive Bridge-Nuuanu Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1931	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 24.0 ft.	**Total Length:** 26.0 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 Arched			
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:

The Nuuanu Pali Drive Bridge carries Nuuanu Pali Drive across Nuuanu Stream. This single-span reinforced concrete girder bridge is in its original location, is in fair condition, and its materials remain intact. The bridge has concrete parapets with arched voids and caps. Panel detail concrete end posts with caps flank the approaches of the parapet. The concrete deck is supported by concrete abutments over a channeled stream. The workmanship of the bridge has not been obscured by additions or repairs.

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 reinforced concrete bridge that is typical of its materials, method of construction, craftsmanship, and design. It is also associated with historic Nuuanu residential development.

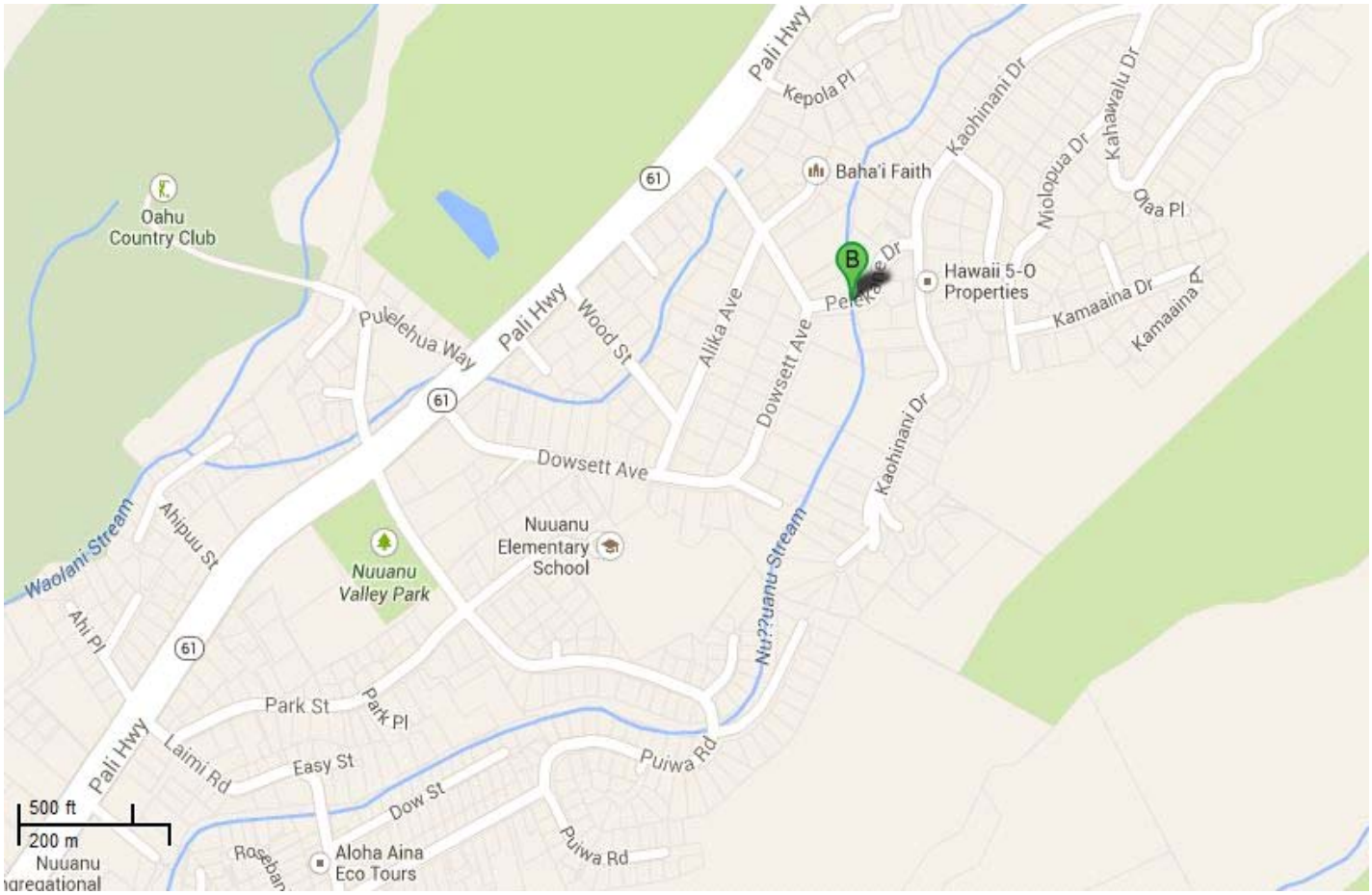
Inventory Form
(County/Private)

General Information

Bridge Number: 003267001200001	
Popular Name: Pelekane Drive Bridge-Nuuanu Stream	
Feature Crossed: Nuuanu Stream	
Feature Carried: Pelekane Drive	
Milepost:	**County Private:** Honolulu
Longitude: 157d-49m-55.87s	**Latitude:** 21d-20m-19.71s

Location: TMK: 2-2-46
Historic Name: Pelekane Drive Bridge-Nuuanu Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1930	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 38.0 ft.	**Total Length:** 43.0 ft.	**Deck Width:** 40.0 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Pelekane Drive Bridge carries Pelekane Drive across Nuuanu Stream. This single-span reinforced concrete multi-girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has concrete panel parapets with caps and panel detail concrete end posts with caps flank the approaches of the parapet. The concrete deck is supported by concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs.

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 reinforced concrete bridge that is typical of its materials, method of construction, craftsmanship, and design. It is also associated with historic Nuuanu residential development.

Inventory Form
(County/Private)

General Information

Bridge Number: 003236001200001

Popular Name: Puowaina Drive Bridge-Auwaiolimu Street

Feature Crossed: Auwaiolimu Street

Feature Carried: Puowaina Drive

Milepost: **County Private:** Honolulu

Longitude: 157d-50m-30.80s **Latitude:** 21d-18m-57.86s

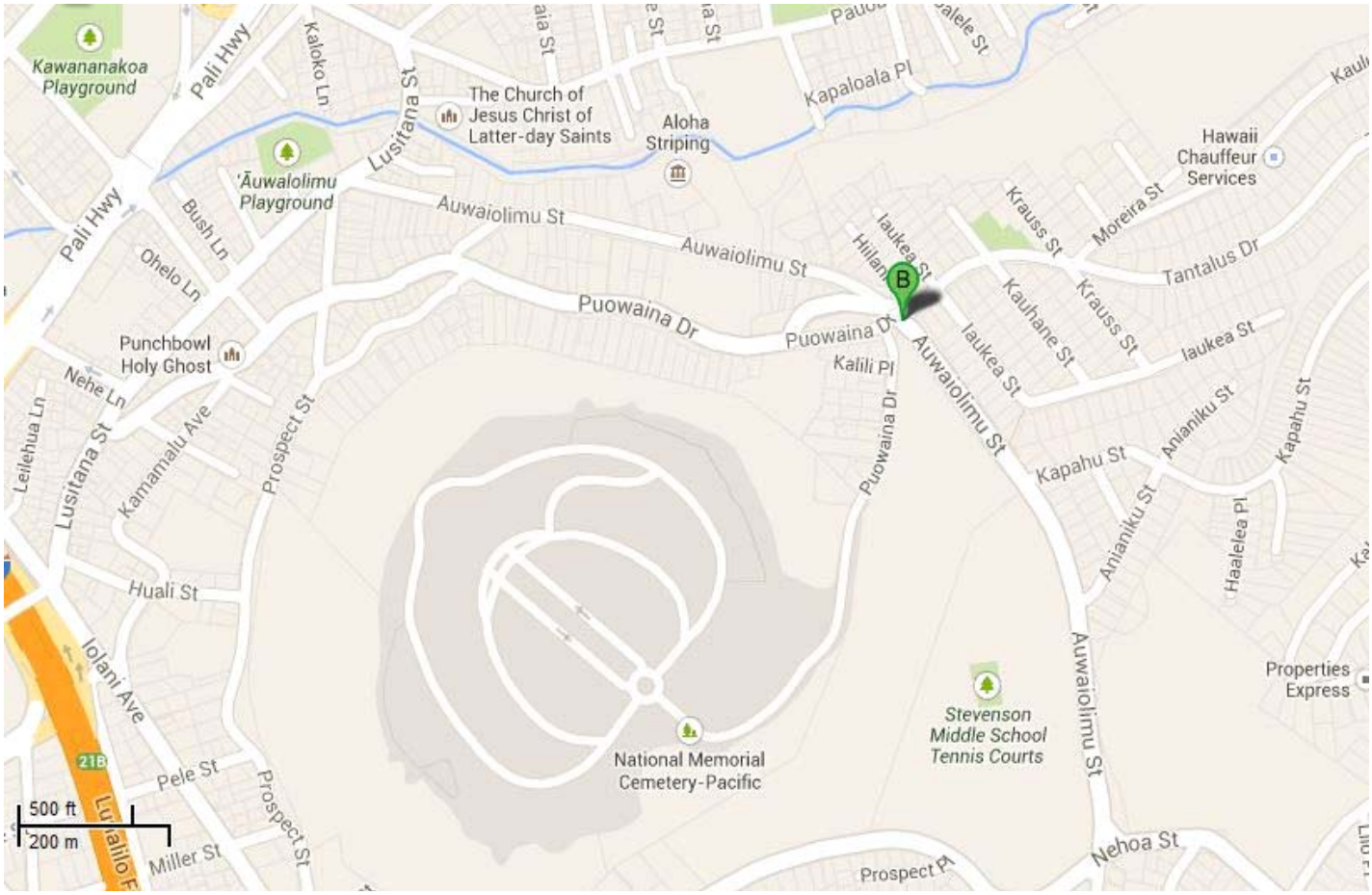
Location: TMK: 2-2-15

Historic Name: Puowaina Drive Bridge-Auwaiolimu Street

Designer/Engineer: W. F. Way

Builder/Contractor: James Glover Ltd.

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1936	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 2013	
Alteration Type(s):		
Alteration Description(s): Raised the railing height to meet code		

Bridge Information

Number of Spans: 3	**Max Span:** 61.0 ft.	**Total Length:** 122.0 ft.	**Deck Width:** 44.0 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Multi-Column Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Greek Cross			
Setting:			
Other Features: Bridge name and date of construction incised on end piers; high stepped end piers			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** A, C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering, Transportation		

Narrative Description:

The Puowaina Bridge carries Puowaina Drive across Auwaiolimu Street in urban Honolulu. The bridge is a reinforced concrete continuous tee beam structure built on reinforced concrete trestles. The Puowaina Bridge remains in its original location adjacent to Punchbowl Crater. The Pauoa area, in which the bridge is located, has retained its residential character despite extensive development in urban Honolulu since the 1960s. The bridge's original continuous tee beam design and reinforced concrete material remain intact. The fine workmanship of the bridge is apparent with no evidence of additions or major repairs. The engineering of the bridge was complex for its time due to the continuous tee beam design of the structure, which eliminates the need for expansion joints in the deck, and because of its exceptional height. The bridge's historic associations as a 1930s-era county bridge are apparent only to informed observers. However, interpretation is aided by the inscription of the bridge name and date of construction on the end piers. The bridge retains its historic feeling primarily due to its relatively narrow width which is typical of bridges of this period in Hawaii. The parapet was modified/raised to meet current safety codes, but are re-constructed in a similar historic style.

Significance Statement:

The Puowaina Bridge is significant for its contributions to the fields of engineering and transportation in Hawaii. The 1936 bridge is an excellent example of reinforced concrete tee beam construction with an open concrete rail typical of 1930s bridges. The Puowaina Bridge is eligible under Criterion A for its associations with important public works projects initiated by the county government. The bridge contributed to the economic development of urban Honolulu by providing reliable vehicular access to the area. It is eligible under Criterion C as a representative example of a 1930s-era bridge utilizing an advanced engineering technology: continuous reinforced concrete tee-beam constructior

The Puowaina Bridge was constructed in 1936 during the general upgrading of Honolulu's roadways utilizing Federal Depression-relief (Work Progress Administration) funds. The bridge is located in Pauoa, a residential area near the volcanic Punchbowl Crater in downtown Honolulu. The structure is an important transportation link for the community; its construction spanned Auwaiolimu Street, identified on the construction drawings as the "Pensacola Street Extension".

The bridge is the most ambitious and striking example of the bridges constructed by the county in the 1930s. The design and height of the bridge are representative of the rapid advances made in engineering technology in the early decades of the twentieth century. The engineer W.F. Way was with the City and County of Honolulu, Department of Public Works. The builder is James Glover Ltd., the Hawaii Island contracting company that built many of the roads and bridges on that island, as well as the Punchbowl National Memorial Cemetery, the Ala Wai Yacht Harbor and sections of the H-1 Freeway.(1) James Glover was a well-known entrepreneur who owned Kahuku Ranch near South Point on Hawaii Island.

At the time of its construction it was the only bridge on Oahu to cross a road.

(1) "Jas. W. Glover Celebrates 60th Anniversary," Building Industry (September 1995), 69-71.

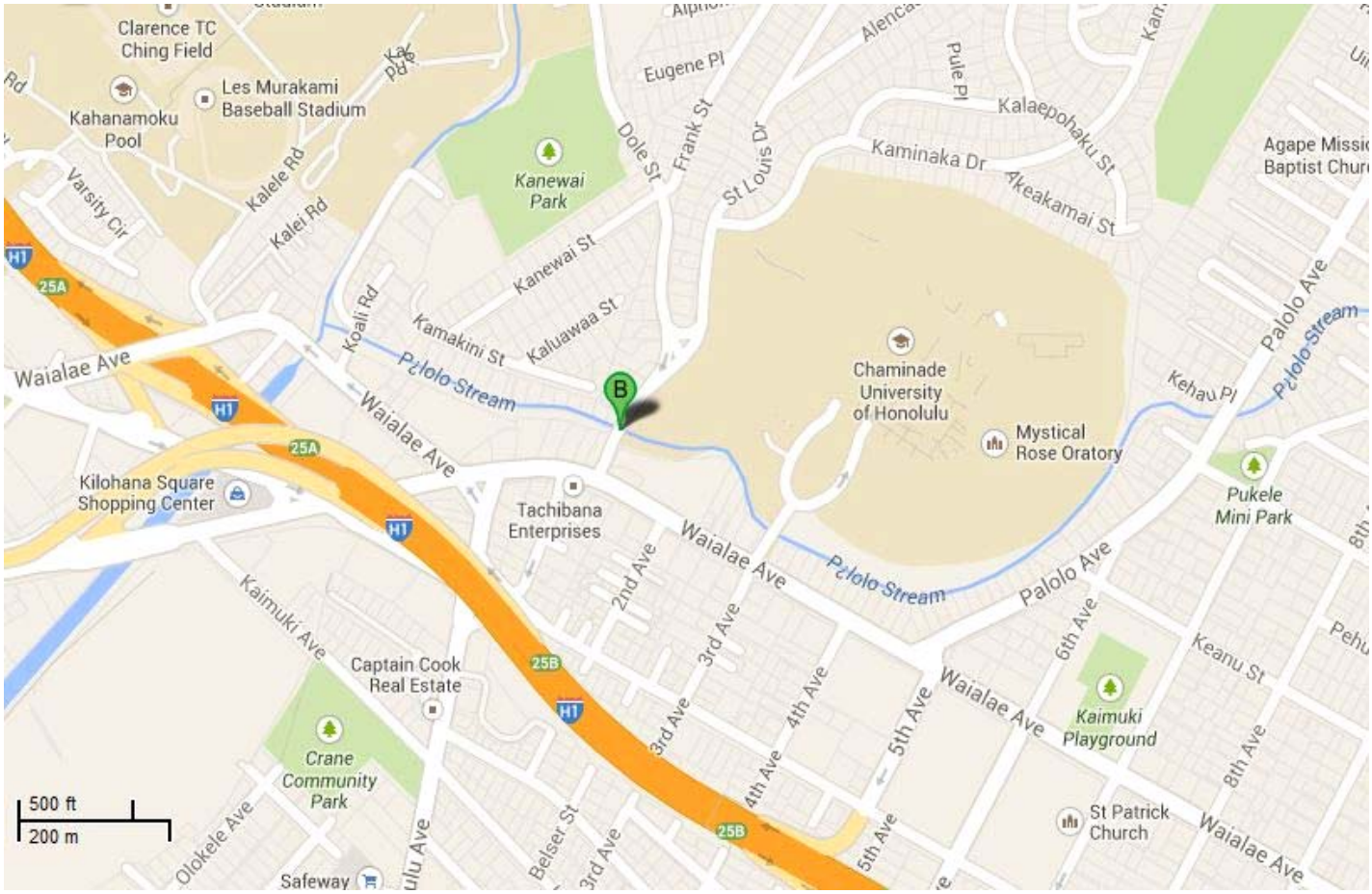
Inventory Form
(County/Private)

General Information

Bridge Number: 003083061400136	
Popular Name: Saint Louis Drive Bridge-Palolo Stream	
Feature Crossed: Palolo Stream	
Feature Carried: Saint Louis Drive	
Milepost:	**County Private:** Honolulu
Longitude: 157d-48m-39.64s	**Latitude:** 21d-17m-22.32s

Location: 200 Feet North of Waialae Avenue
Historic Name: Saint Louis Drive Bridge-Palolo Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Open Spandrel Arch	**Construction Date:** 1929	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 2013, 2014	
Alteration Type(s):		
Alteration Description(s): Metal horizontal railings will be added in between the existing concrete horizontal railings		

Bridge Information

Number of Spans: 1	**Max Span:** 60.0 ft.	**Total Length:** 122.0 ft.	**Deck Width:** 60.0 ft.
Superstructure: Concrete Open Spandrel Arch			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering		

Narrative Description:

The Palolo Stream Bridge carries Saint Louis Drive across Palolo Stream. This single-span arch girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has reinforced concrete parapets each with two rows of rectangular horizontal voids and concrete caps. Wide horizontal end posts with horizontal detailing flank the ends of the parapets. The concrete deck is supported by reinforced concrete abutments over a channeled stream. The workmanship of the bridge has not been obscured by additions or repairs however, in 1958 the bridge was widened and the parapets were added to in 2013. Metal horizontal rails will be added in between the existing concrete horizontal parapets.

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 a 1920's and 1930's reinforced concrete arch bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design. Arch bridges are also an uncommon bridge type.

Inventory Form
(County/Private)

General Information

Bridge Number: 003268001200001

Popular Name: Waaloa Way Bridge No.2-Manoa Stream

Feature Crossed: Manoa Stream

Feature Carried: Waaloa Way

Milepost: **County Private:** Honolulu

Longitude: 157d-47m-58.00s **Latitude:** 21d-19m-42.00s

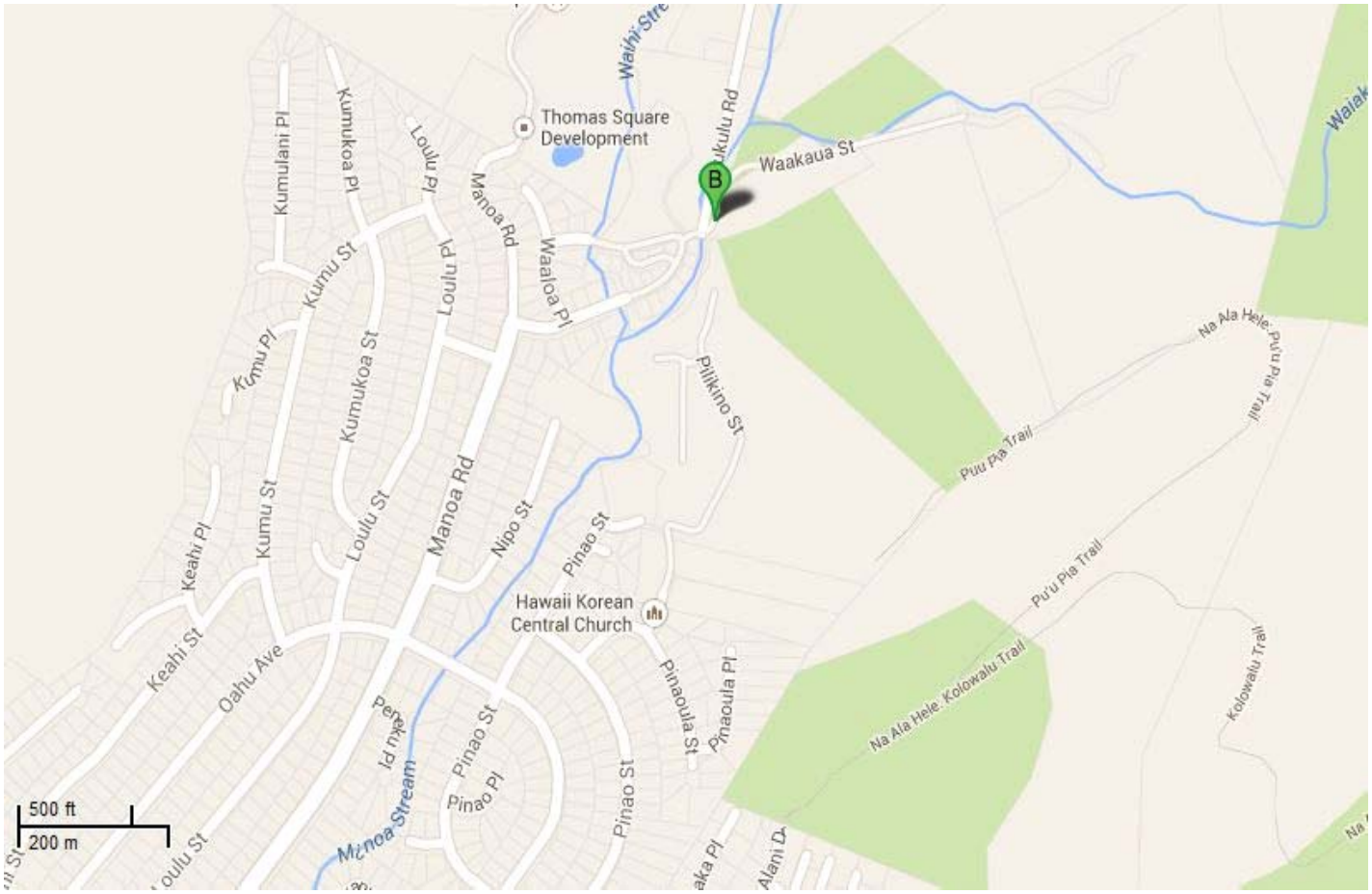
Location: TMK: 2-9-54

Historic Name: Waaloa Way Bridge No.2-Manoa Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Steel Stringer	**Construction Date:** 1965	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 28.0 ft.	**Total Length:** 28.0 ft.	**Deck Width:** 14.1 ft.
Superstructure: Steel Multi-Girder			
Substructure: Masonry Abutment			
Floor/Decking: Timber Deck			
Parapets/Railings: Wood			
Setting:			
Other Features:			

Historic Association

Eligibility Status: Eligible	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering, Construction		

Narrative Description:

The Waaloa Bridge No. 2 carries Waaloa Way across Waiakeakua Stream. This single-span steel stringer bridge is in its original location, is in fair condition, and its materials remain intact. The bridge has painted 2-2x6 timber rails attached to W6x posts which are attached to exterior steel beams below. The deck is supported by concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs. The bridge is not publicly accessible and is utilized as a Board of Water Supply maintenance bridge.

Significance Statement:

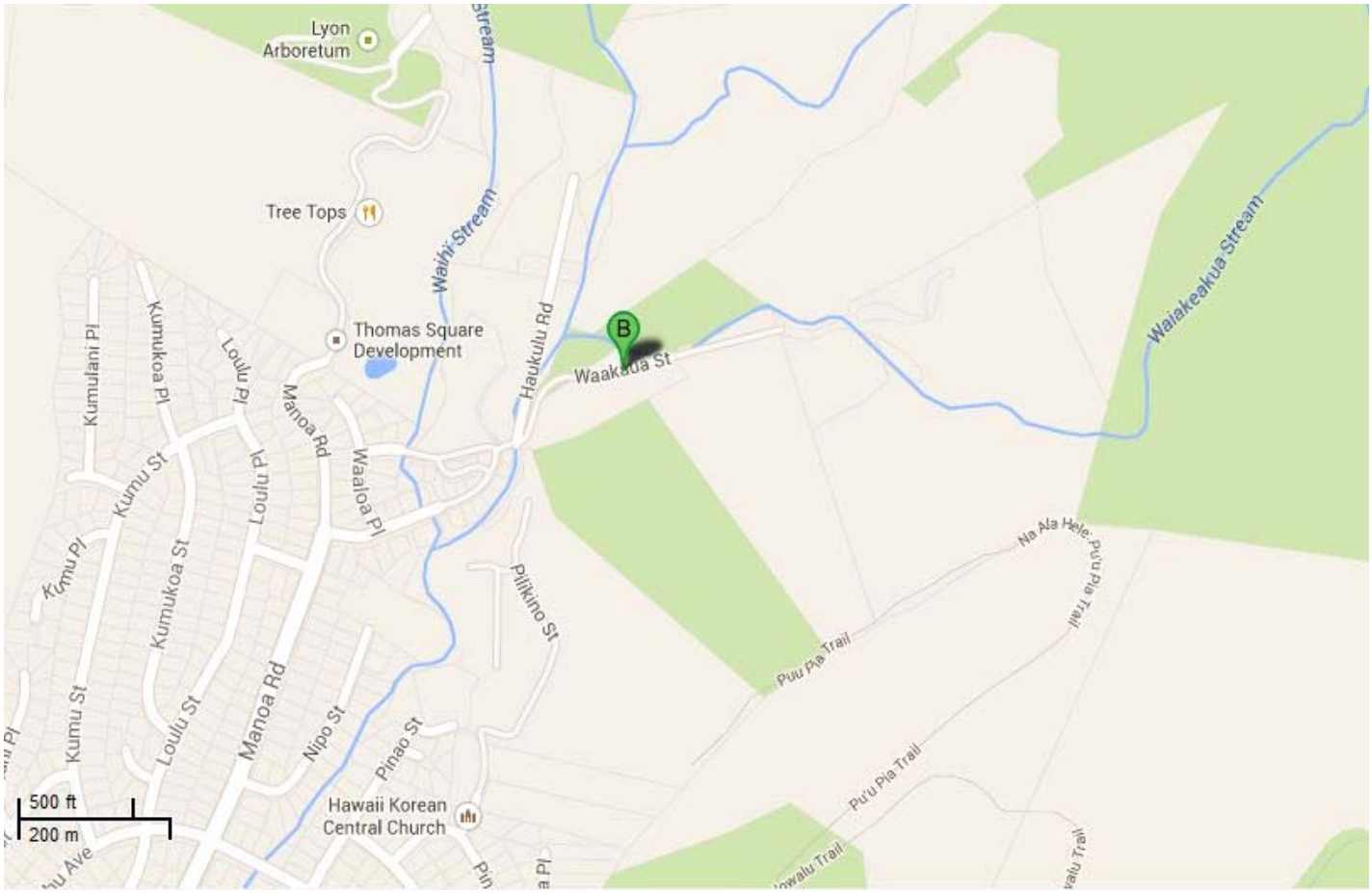
The use of steel was uncommon in Hawaii due to the extreme marine environment. Since very little steel is used for bridge construction in Hawaii, this bridge is eligible under criterion C for its distinctive structural type. It is a good example of a 1960's steel girder bridge atypical of its period in its use of materials and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003244001200001	
Popular Name: Waaloa Way Bridge No. 3-Waiakeakua Stream	
Feature Crossed: Waiakeakua Stream	
Feature Carried: Waaloa Way	
Milepost:	**County Private:** Honolulu
Longitude: 157d-47m-54.00s	**Latitude:** 21d-19m-45.00s
Location: TMK: 2-9-54	
Historic Name: Waaloa Way Bridge No. 3-Waiakeakua Stream	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Steel Stringer	**Construction Date:** 1967	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 21.0 ft.	**Total Length:** 21.0 ft.	**Deck Width:** 13.0 ft.
Superstructure: Steel Multi-Girder			
Substructure: Masonry Abutment			
Floor/Decking: Timber Deck			
Parapets/Railings: Wood			
Setting:			
Other Features:			

Historic Association

Eligibility Status: Eligible	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering, Construction		

Narrative Description:

The Waaloa Bridge No. 3 carries Waaloa Way across Waiakeakua Stream. This single-span steel stringer bridge is in its original location, is in fair condition, and its materials remain intact. The bridge has wood rails and a 4x12 wood timber deck. The deck is supported by concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs. The bridge is not publicly accessible and is utilized as a Board of Water Supply maintenance bridge.

Significance Statement:

The use of steel was uncommon in Hawaii due to the extreme marine environment. Since very little steel is used for bridge construction in Hawaii, this bridge is eligible under criterion C for its distinctive structural type. It is a good example of a 1960's steel girder bridge atypical of its period in its use of materials and design.

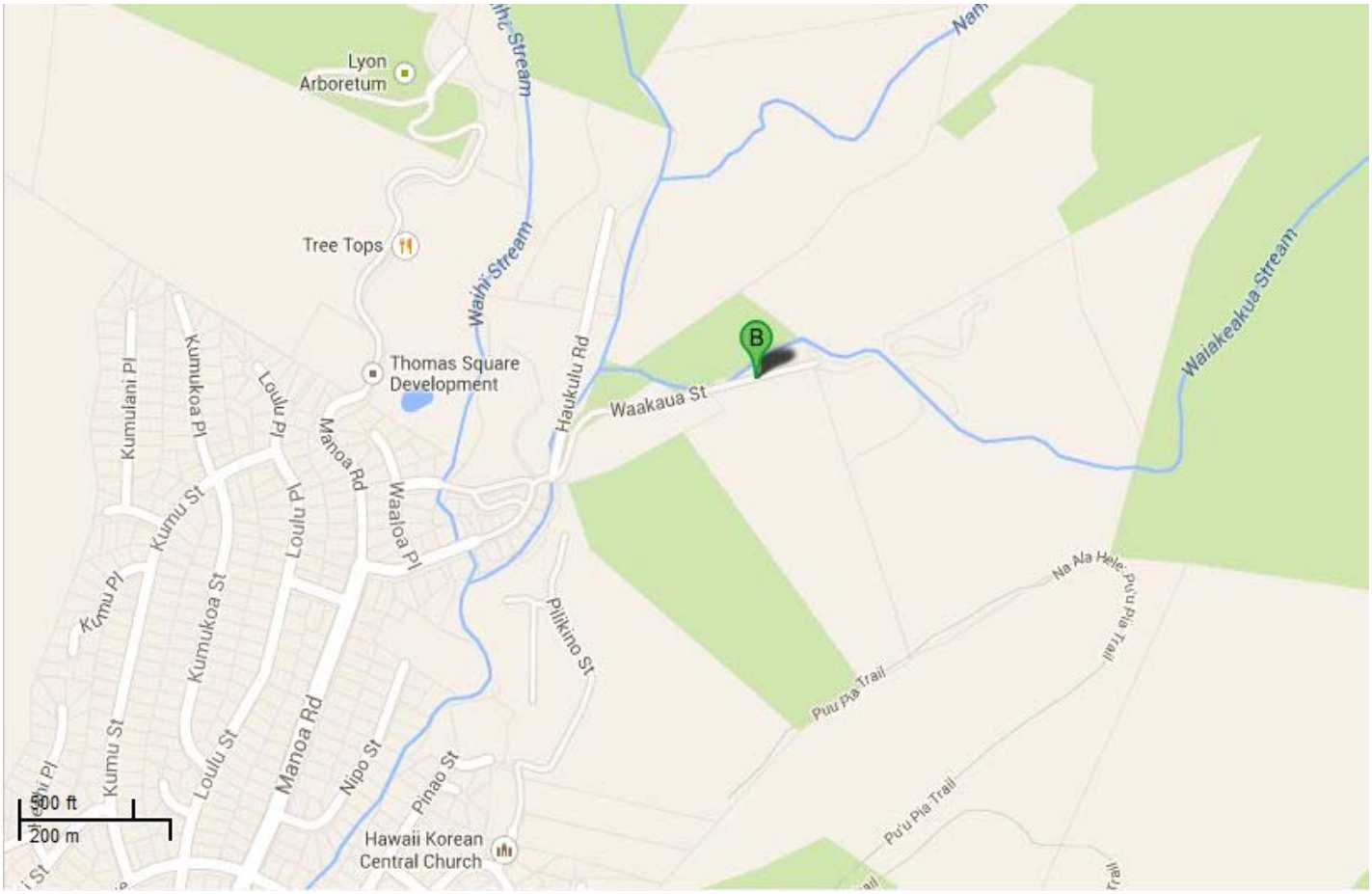
Inventory Form
(County/Private)

General Information

Bridge Number: 003245001200001	
Popular Name: Waaloa Way Bridge No. 4-Waiakeakua Stream	
Feature Crossed: Waiakeakua Stream	
Feature Carried: Waaloa Way	
Milepost:	**County Private:** Honolulu
Longitude: 157d-47m-49.00s	**Latitude:** 21d-19m-45.00s

Location: TMK: 2-9-54
Historic Name: Waaloa Way Bridge No. 4-Waiakeakua Stream
Designer/Engineer:
Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Timber Stringer	**Construction Date:** 1963	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 2	**Max Span:** 15.0 ft.	**Total Length:** 31.0 ft.	**Deck Width:** 13.0 ft.
Superstructure: Timber Stringer			
Substructure: Masonry Abutment and Concrete Double Column Pier			
Floor/Decking: Timber Deck			
Parapets/Railings: Wood			
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:

The Waaloa Way Bridge No. 4 carries Waaloa Way across Waiakeakua Stream. This double-span wood bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has wood rails and a 4x12 wood timber deck. The bridge deck is supported by boulder concrete rock masonry abutments. The workmanship of the bridge has not been obscured by additions or repairs. The bridge is not publicly accessible and is utilized as a Board of Water Supply maintenance bridge.

Significance Statement:

The bridge is eligible under Criterion C for its association with post-war wood bridge construction in Hawaii. It is a good example of a wood bridge in the 1960s in its use of materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003605001100001

Popular Name: Waialua Beach Road Bridge-Kiikii Stream

Feature Crossed: Kiikii Stream

Feature Carried: Waialua Beach Road

Milepost: **County Private:** Honolulu

Longitude: 158d-07m-12.22s **Latitude:** 21d-34m-32.62s

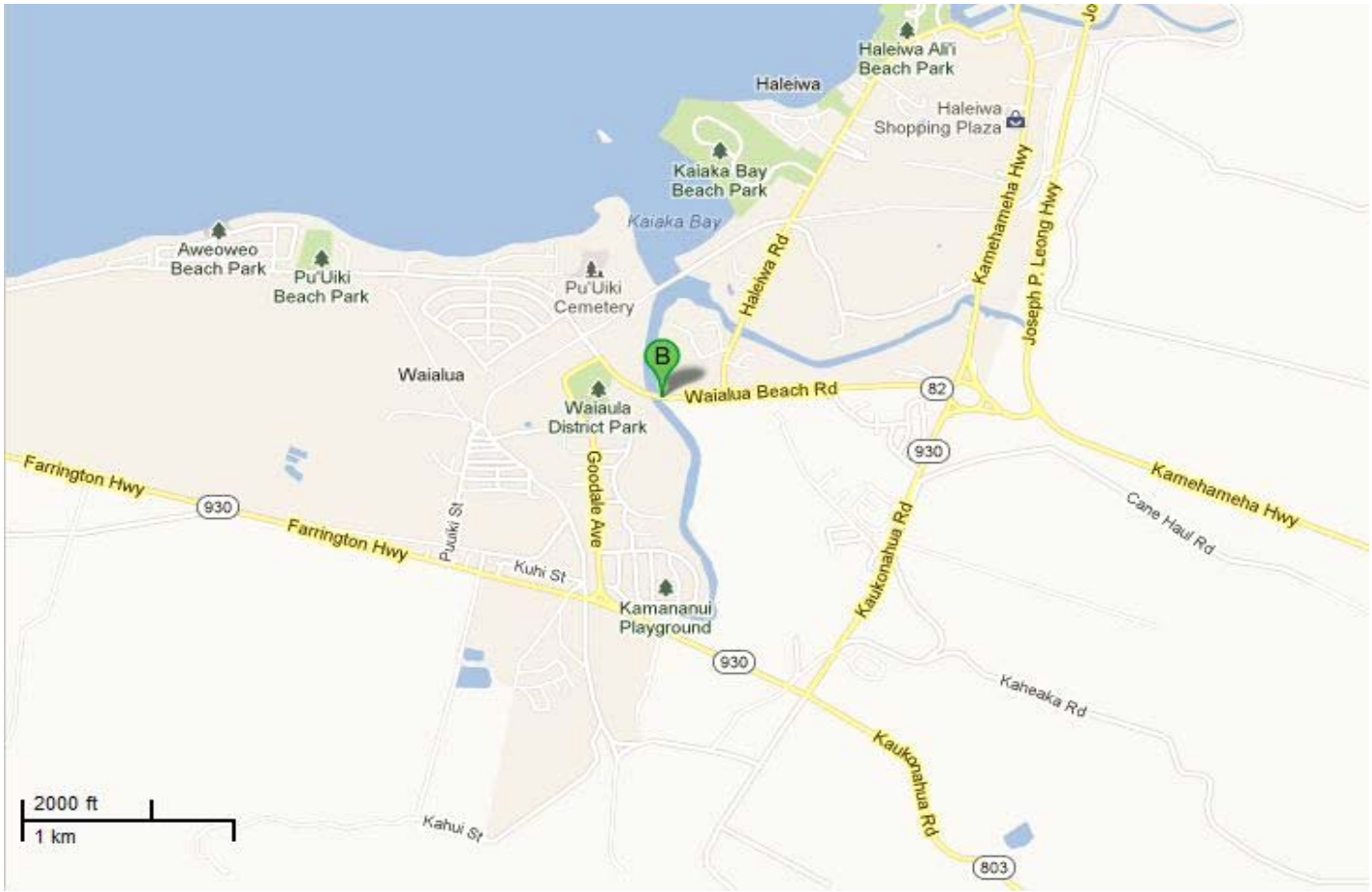
Location: TMK: 6-7-01

Historic Name: Waialua Beach Road Bridge-Kiikii Stream

Designer/Engineer:

Builder/Contractor: E. E. Black, Ltd.

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1950	**Replaced?** No
Altered? Yes **Alteration Date(s):**		
Alteration Type(s):		
Alteration Description(s): Replaced timber deck		

Bridge Information

Number of Spans: 4	**Max Span:** 35.0 ft.	**Total Length:** 141.0 ft.	**Deck Width:** 38.5 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Pile Bent			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Horizontal			
Setting:			
Other Features: Sidewalk one side; stepped end piers			

Historic Association

Eligibility Status: Eligible	**Criteria:** B	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Significance with a Person		

Narrative Description:

The Kiikii Stream Bridge was built in 1950 and carries Waialua Beach Road over Kiikii stream in Waialua near the Waialua Elementary School. The bridge is part of the Haleiwa cut-off from Weed Junction to Waialua, created in 1952. It has four spans and is concrete tee beam construction. The Kiikii Stream Bridge is in its original location and has retained its original rural setting in the rural agricultural area of Waialua. The bridge's continuous tee beam construction remains intact and no apparent alterations have been made to the structure. Despite minor damage and the addition of removable flared guardrails to the end piers, the bridge's original workmanship remains evident. The guard railings are composed of a reinforced concrete balustrade of two horizontal rails with intermittent pairs of vertical supports common to the post-war era. The incised name and date on the end piers aid interpretation of the bridge. There is a bronze dedication plaque on one of the endposts. The bridge was dedicated in August 1952 to Howard Misayuki Kurio, a section engineer with the Territorial Department of Public works. Kurio was fatally injured on the jobsite during the construction of the bridge.

Significance Statement:

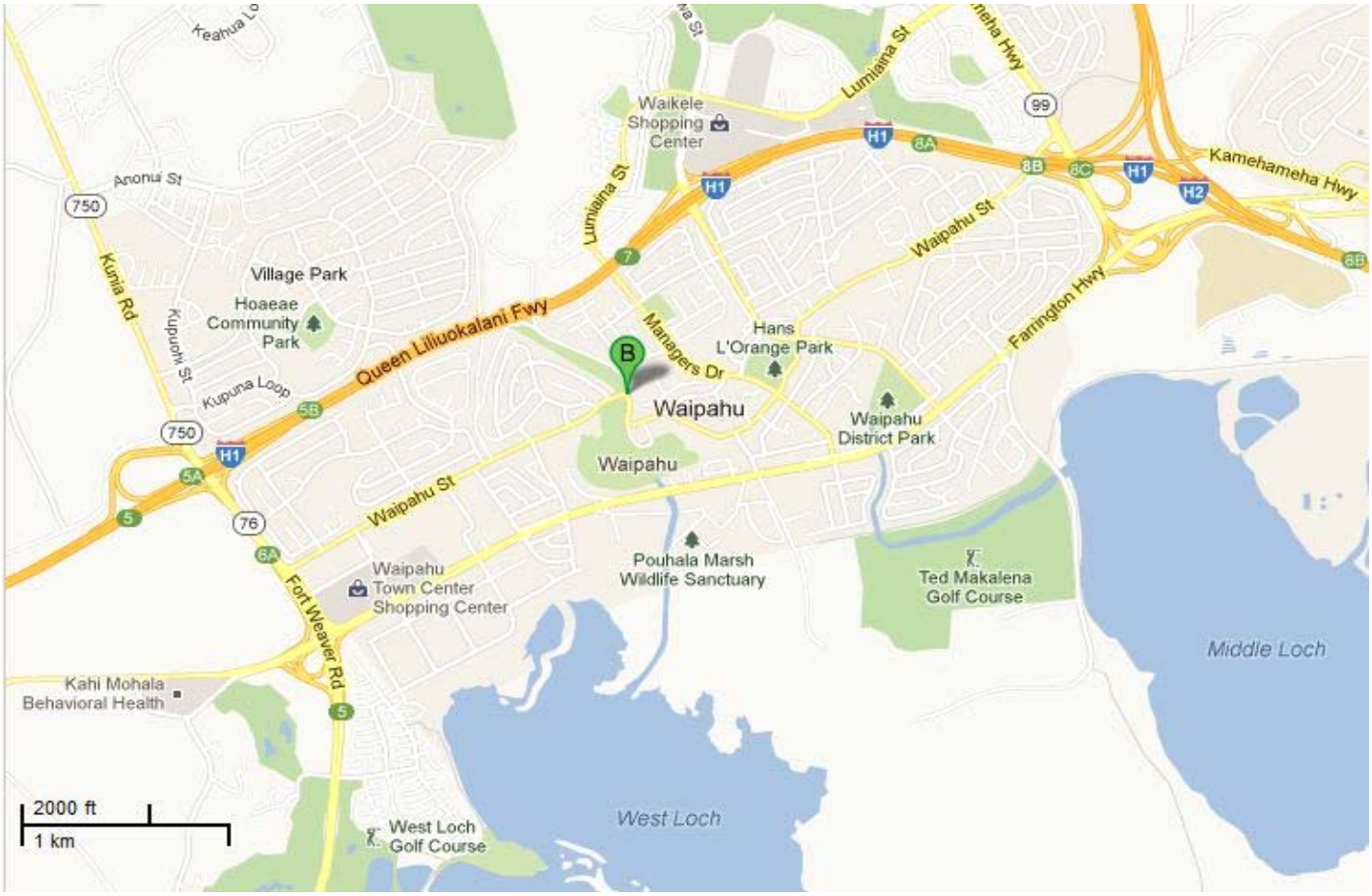
The Kiikii Stream Bridge is eligible under criterion B – due to its close association with a significant person. Howard Hisayuki Kurio was a respected member of the Wahiawa community. He had a seventeen year career with the Territorial Department of Public Works where he began in 1932 as a rodman. At the time of his death, he was a section engineer. Prior to joining the Department of Public Works, Howard Kurio was the Postmaster at Wahiawa.

Inventory Form
(County/Private)

General Information

Bridge Number: 003083661400104	
Popular Name: Waipahu Street Arch Bridge-Waikele Stream	
Feature Crossed: Waikele Stream	
Feature Carried: Waipahu Street	
Milepost: **County Private:** Honolulu	
Longitude: 158d-00m-46.08s **Latitude:** 21d-23m-14.19s	
Location: 200 Feet East of Awamoi Street	
Historic Name: Waipahu Street Arch Bridge-Waikele Stream	
Designer/Engineer:	
Builder/Contractor:	

Location Map:



Construction Information

Bridge Type: Closed Spandrel Arch	**Construction Date:** 1905	**Replaced?** No
Altered? Yes	**Alteration Date(s):** 1982	
Alteration Type(s):		
Alteration Description(s): Pedestrian walkway added in 1982.		

Bridge Information

Number of Spans: 1	**Max Span:** 40.0 ft.	**Total Length:** 54.1 ft.	**Deck Width:** 27.6 ft.
Superstructure: Concrete Closed Spandrel Arch			
Substructure: Concrete Abutment Wall			
Floor/Decking: AC Pavement			
Parapets/Railings: Concrete Solid with Cap			
Setting:			
Other Features:			

Historic Association

Eligibility Status: High Preservation Value	**Criteria:** C	**State/National Registered?** No
Current Function: Bridge	**Historic Function:** Bridge	
Area of Significance: Engineering		

Narrative Description:

The Waikele Stream Bridge carries Waipahu Street across Waikele Stream. This single-span closed arch bridge is in its original location and its materials remain intact. The bridge has solid concrete parapets with horizontal caps and has been painted various colors including white and brown. The concrete deck is supported by concrete abutments. A pedestrian walkway with a chain-link fence has been added on one side behind the parapet and metal in 1982. Thrie Beams have been bolted to all approaches of the parapets. The workmanship of the bridge has not been obscured by additions or repairs however, the chain-link fence has detracted from the historic feeling.

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 an early 1900's closed spandrel arch bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design. Arch bridges are also an uncommon bridge type.

Inventory Form
(County/Private)

General Information

Bridge Number: 003903001100001

Popular Name: Waipio Pt. Access Rd. Bridge No.1-Railroad ROW

Feature Crossed: Railroad Right of Way

Feature Carried: Waipio Point Access Road

Milepost: **County Private:** Honolulu

Longitude: 157d-59m-36.04s **Latitude:** 21d-23m-04.90s

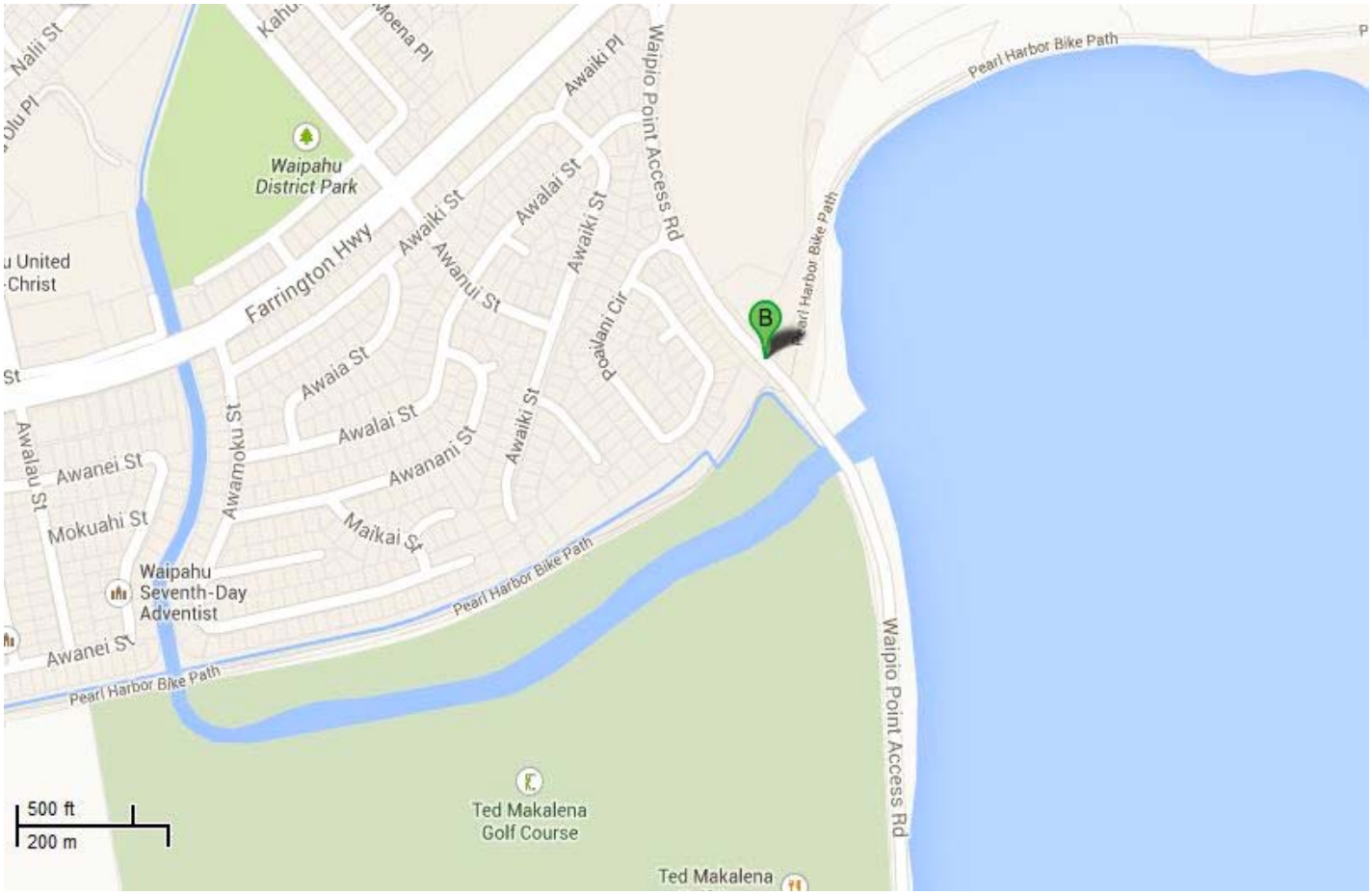
Location: TMK: 9-4-50

Historic Name: Waipio Point Access Road Bridge No.1-Railroad Right of Way

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1946	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 3	**Max Span:** 50.0 ft.	**Total Length:** 84.0 ft.	**Deck Width:** 33.0 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall and Concrete Multi-Column Bent			
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:

The Wapio Pt. Access Road Bridge No. 1 carries Waipio Pt. Access Road across a railroad right of way. This two-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. The workmanship of the bridge has not been obscured by additions or repairs.

Significance Statement:

This bridge is eligible under Criterion C for its association with early developments in concrete bridge construction in Hawaii. This is a unique example of a 1940's concrete tee beam bridge in its materials, method of construction, craftsmanship, and design.

Inventory Form
(County/Private)

General Information

Bridge Number: 003083681400001

Popular Name: Wyllie Street Bridge-Waolani Stream

Feature Crossed: Waolani Stream

Feature Carried: Wyllie Street

Milepost: 0.01 mi. **County Private:** Honolulu

Longitude: 157d-50m-54.09s **Latitude:** 21d-19m-49.47s

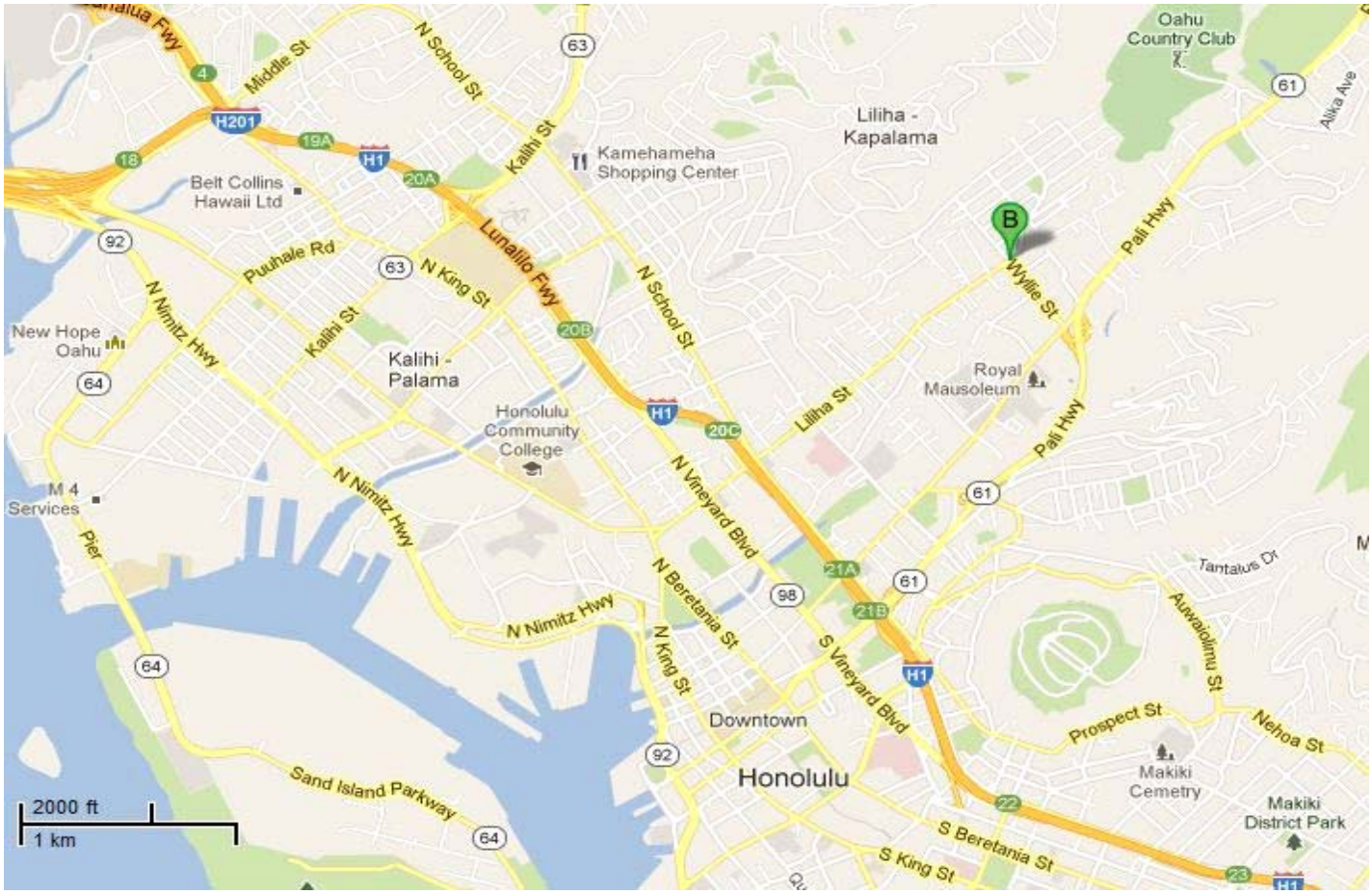
Location: TMK: 1-8-05

Historic Name: Wyllie Street Bridge-Waolani Stream

Designer/Engineer:

Builder/Contractor:

Location Map:



Construction Information

Bridge Type: Concrete Tee Beam	**Construction Date:** 1931	**Replaced?** No
Altered? No	**Alteration Date(s):**	
Alteration Type(s):		
Alteration Description(s):		

Bridge Information

Number of Spans: 1	**Max Span:** 28.0 ft.	**Total Length:** 33.0 ft.	**Deck Width:** 56.8 ft.
Superstructure: Concrete Tee Beam			
Substructure: Concrete Abutment Wall			
Floor/Decking: Concrete Deck with AC Overlay			
Parapets/Railings: Concrete Open Arched			
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:

The Waolani Stream Bridge carries Wyllie Street across Waolani Stream. This single-span reinforced concrete girder bridge is in its original location, is generally in good condition, and its materials remain intact. The bridge has solid concrete capped parapets with arched voids and decorative end posts. The concrete deck is supported by concrete abutments. The workmanship of the bridge has not been obscured by additions or repairs.

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 a 1930's concrete tee-beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship, and design.