

FORT BARRY, BONITA RIDGE ACCESS ROAD, RETAINING WALL
Golden Gate National Recreation Area
Point Bonita, Marin Headlands
Sausalito vicinity
Marin County
California

HABS CA-2794-B
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY
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HISTORIC AMERICAN BUILDINGS SURVEY

FORT BARRY, BONITA RIDGE ACCESS ROAD, RETAINING WALL

HABS No. CA-2794-B

Location: The Bonita Ridge Access Road Retaining Wall is located off a dirt access road approximately 1800' north of Point Bonita Lighthouse and approximately 600' south of Field Road in the Marin Headlands, Golden Gate National Recreation Area, Marin County, California. USGS Quadrangle Point Bonita, California (7.5') 1968. UTM: 10.0541394.4185782

Significance: The Fort Barry Bonita Ridge Access Retaining Wall is important for its support role in the seacoast defenses of the San Francisco Bay. It is a contributing element to the Forts Baker, Barry and Cronkhite National Register Historic District. The retaining wall functioned as a physical support for the former tramway hoist engine house, which aided in the transportation of construction materials to Point Bonita for the construction of Point Bonita Military Reservation's (Fort Barry) batteries and post buildings between 1901 and 1910, and later for Signal Corps Radar (S.C.R.) 296 Station 5 Transmitter Building (see **HABS No. CA-2794-A**) during World War II.

Description: The Bonita Ridge Access Retaining Wall is located near the end of a dirt and gravel access road that leads from Field Road to the U.S. Coast Guard's Point Bonita Vessel Traffic Service (VTS) Station in the Marin Headlands of the Golden Gate National Recreation Area. The southernmost portion of the trail is paved in asphalt, starting near the north end of the retaining wall. The ridge is covered by tall grasses and shrubs that conceal most of the foundation and retaining wall. Large evergreen trees are found along the lower ridgeline and the west side of the trail, which is supported by a modern concrete retaining wall. Cypress and other evergreen trees grow along the east side of the road, where the hillside drops steeply to a paved road that leads to the Point Bonita Lighthouse.

The retaining wall was originally 100'-0" in length and 0'-6" in width; presently, the wall is approximately 93' in length. It varies in height according to the ridge's topography. At the northernmost point, the wall is approximately 2'-0" in height and slopes upward to 9'-0" at its central point. The wall then gently falls to approximately 5'-0" in height about 11'-6" from its original southern end, which is no longer extant. The Army constructed the wall approximately 245' above sea level along the natural landscape of the ridge. The wall consists of four sections or segments from the north to the south: 20'-0', 42'-6", 5'-0", 14'-0". To accommodate the construction of the concrete ramp adjacent the wall, the United States Coast Guard demolished approximately 5' of the southern end of the retaining wall in 1973, and an adjacent portion of the wall measuring about 6'-6" in length collapsed in early 2005. The wall is of coarse-aggregate concrete construction strengthened by flat, scroll-shaped reinforcing bars that run vertically through the wall. Likely cast in place, the wall has a relatively smooth finish but has been significantly damaged over

time by structural cracking and buckling, spalling and corrosion. Three metal drainpipes are placed about 4' on center in the northern half of the wall.

Historic

Context:

The following text provides a history of the Bonita Ridge Access Retaining Wall as well as a general history of the Forts Baker, Barry and Cronkhite National Register Historic District.

The Forts Baker, Barry and Cronkhite National Register Historic District historically played a key role in the coastal defense of the West Coast. The United States military determined the San Francisco Bay to be the most important harbor in the Pacific coast not long after the United States obtained California at the Mexican War in 1848. Despite President Fillmore's executive order that reserved Lime Point as the site of a future fort in 1850, it was not until 1866 that the government successfully purchased approximately 1,900 acres of headlands and formally established Lime Point Military Reservation to augment the fortification at the Presidio of San Francisco.¹ With the technological restrictions of mid-nineteenth-century short-range artillery, the Army installed defenses at the narrowest part of the harbor entrance. Over the next ten years, under the direction of Major George Mendell (United States Engineers), the Army constructed four batteries (Gravelly Beach, Cliff, Ridge, and Cavallo) at or near Lime Point. However, within the next decade, the Lime Point emplacements were rendered nearly obsolete by advances in heavy ordinance that led to lighter, longer range, and more powerful weapons with greater accuracy and potential for heavier damage.² In light of these technological developments, the Board on Fortifications or Other Defenses, also known as the Endicott Board (named after the board's chairman Secretary of War William C. Endicott), announced in late 1885 that San Francisco's harbor was exposed and difficult to defend because of its wide entrance. To match the caliber and range of modern warship guns, the board recommended significant gun and mortar enhancements throughout the San Francisco Bay. In addition, the line of defense would be shifted westward, and new batteries would be constructed along the westernmost points of the entrance to the bay to defend against enemy attack on San Francisco or its harbor.³

Over the next two decades, the Army constructed a series of modern, massive, reinforced-concrete batteries and various support structures in the San Francisco Bay. At Lime Point Military Reservation, formally renamed Fort Baker in April 1897, Batteries Spencer, Ridge, Kirby, Duncan, Orlando Wagner and George Yates were constructed between 1893 and 1904. In the western portion of the reservation, which previously had not had any fortifications, the Army built Batteries Mendell, Alexander, Edwin Guthrie, Patrick O'Rorke, and Samuel Rathbone between 1900 and 1904 on what was then unofficially known as Point Bonita Military Reservation. In

¹ The 1,900 acres included all of the Marin Headlands, extending westward from Point Cavallo to Point Bonita.

² Erwin N. Thompson, *Historic Resource Study: Seacoast Fortifications, San Francisco Harbor, Golden Gate National Recreation Area, California*, (Denver: Denver Service Center, National Park Service, May 1979) 128.

³ Thompson, *Historic Resource Study: Seacoast Fortifications*, 131.

December 1904 this half of the former Lime Point Military Reservation was formally named Fort Barry. Lacking an adequate road between Forts Barry and Baker, the Army determined that it would be cost effective to bring construction materials to a new wharf to be built within Bonita Cove. Instead of constructing a winding roadway up the steep, 250-foot-high hillside, the Army installed a 578-foot-long tramway from the engineers' wharf to a new road along the east side of Bonita Ridge, just below the old lighthouse. The northernmost point of the tramway included a hoist engine house constructed just above the Bonita Ridge roadway and below the summit. The Army built a retaining wall ca. 1900-1901 along the access road to support the engine house. At the time, Bonita Point and the Bonita Ridge were rural, relative unused lands that contained very little vegetation. The only structure located in the immediate vicinity of the wall was the 1855 lighthouse at Point Bonita, located at the approximate site of the current Coast Guard VTS tower. The lighthouse keeper's dwelling was located approximately 250' northeast of the wall, and a Life Saving Station was located further east on the hillside of Bonita Cove. At the end of the point was the second Point Bonita Lighthouse, constructed in 1877.⁴

Cargo was carried up the inclined tramway in cars that could support up to six tons. The cargo was then moved via horse-drawn wagon a short distance along the ridge road and then along the main fort road (presently known as Field Road) that connected the batteries, cement plant, and engineering shops. The Army used the tramway into the 1910s, but by World War I it had constructed a connecting tunnel and improved overland roads to Fort Baker, eliminating the need for the tramway.⁵

Just after completion of the last batteries at Fort Barry during the Endicott period, President Theodore Roosevelt ordered a board headed by Secretary of War William H. Taft to review all battery construction that had occurred during the preceding twenty years. Among the board's important recommendations was a modern system of aiming weaponry. As a result, dozens of mine position-finding and fire-control stations were constructed throughout San Francisco Bay, allowing the Army to better synchronize fire from the batteries. This was done by "relaying data from observation posts situated around the harbor mouth to the various battery fire control centers, each

⁴ Thomas Lile, A.I.A., National Register of Historic Places Inventory-Nomination Form for Forts Baker, Barry and Cronkhite, December 12, 1973; Erwin N. Thompson, National Register of Historic Places Inventory-Nomination Form for Forts Baker, Barry and Cronkhite: Marin Headlands, January 11, 1979; David G. Sox, U.S. Coast Guard, National Register of Historic Places Amendment to Forts Baker, Barry and Cronkhite National Register of Historic Places Nomination: Signal Corps Radar (S.C.R.) 296 Station 5 at Fort Barry, May 31, 2005 and Register of Historic Places Amendment to Forts Baker, Barry and Cronkhite National Register of Historic Places Nomination: Bonita Ridge Access Road Retaining Wall at Fort Barry, May 31, 2005; U.S. Engineer Office, San Francisco, California. *Defenses of San Francisco Harbor, California, Fire Control, F 1/3 (Alexander, F1/4 (Barry), B1/2 (Mendell), and M1/1-M1/1 near Old Tower, Fort Barry, California.* July 29, 1907.

⁵ Sox, National Register of Historic Places Amendment; Office Lt. H. Engineer, 12th District, San Francisco, California, *Map of Point Boneta and Vicinity Showing Location of Structures, Etc, as They Exist September 1902.*" September 24, 1902; U.S. Engineer Office, *Defenses of San Francisco Harbor, California, Fire Control,* July 29, 1907; U.S. Engineer Office, 2nd District, San Francisco, California, *Communications Cable System Fort Barry, California,* December 9, 1918.

which housed a primitive mechanical computer, in order to coordinate the direction and range of fire.”⁶ At Fort Barry, two such fire-control stations and two mine-finding stations were constructed by 1908 along Bonita Ridge, just southwest of the engine hoist house. These stations were accessed by a reinforced concrete stairway at the south end of the retaining wall.⁷

Over the next few years the Army completed the modernization projects, but by the onset of World War I Germany and England had achieved even greater technical advances in artillery that again made the Bonita Ridge stations obsolete. In 1915, the War Department’s Board of Review recommended a four-year program to further modernize coastal defenses. Fort Barry was one of two posts in San Francisco that would receive upgraded munitions. The Army constructed Battery Elmer J. Wallace southeast of Battery Alexander and northeast of Point Bonita in 1917. Several anti-aircraft emplacements were constructed at Fort Barry over the next few years. During the period between World War I and II, Forts Baker and Barry were continually upgraded in weaponry. Fort Cronkhite, located just north of Fort Barry, was the last of the large-gun military reservations constructed as part of the San Francisco coastal defense. Plans for 16” batteries at San Francisco originated in 1915, but it was not until the late 1930s that funding became available for their construction. The Army completed the 16” first battery, Battery Tensley, at Fort Cronkhite, in 1940.⁸

Between 1940 and 1943, the Navy constructed the Harbor Defenses No. 2 Signal Station for the Coast Guard and the Army constructed Signal Corps Radar (S.C.R.) 296 Station 5, a precision fire-control radar station, along Bonita Ridge. The transmitter building for S.C.R. Station 5 was built on the site of the former tramway engine hoist building. Since World War II, the Bonita Ridge Access Road Retaining Wall’s sole purpose has been the terrain stability for the access road. In February 1966, the Coast Guard obtained from the Army thirty-nine acres at Point Bonita, including the Point Bonita Light Station, Harbor Defenses No. 2 Signal Station, Meteorology Station, fire control stations and the adjacent S.C.R. 296 Station 5. In 1982, the Coast Guard permitted the majority of the land and facilities at Point Bonita to the National Park Service, Golden Gate National Recreation Area.

⁶ Thompson, *Historic Resource Study: Seacoast Fortifications*, 222, 229-235.

⁷ David G. Sox, U.S. Coast Guard, National Register of Historic Places Amendment to Forts Baker, Barry and Cronkhite National Register of Historic Places Nomination: U.S. Army Buildings 621 & 622 Fire Control Stations at Fort Barry, May 31, 2005.

⁸ Lile, National Register of Historic Places Inventory-Nomination Form; Thompson, National Register of Historic Places Inventory-Nomination Form.

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A. Architectural Drawings:

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B. Bibliography:

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S. E. Tower, 1st Lt, AGC. Letter to the Commander, Twelfth Coast Guard District. March 23, 1966. On file at U.S. Coast Guard Maintenance and Logistic Command Pacific, Civil Engineering Division, Real Property files, Oakland.

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C. Likely Sources not yet investigated:

1. Golden Gate National Recreation Area Archives and Records Center.

JRP carefully reviewed the index to collections of the Golden Gate National Recreation Area Archives and Records Center and examined historic photographs and drawings as well as other documentation that pertained to or had the potential to be associated with the Signal Corps Radar (S.C.R.) 296 Station 5. The following collections might provide additional information about Signal Corps Radar (S.C.R.) 296 Station 5 but were not wholly accessible or were not available to the public at the time of this documentation.

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National Archives Pacific Sierra Regions, San Bruno, California:

Record Group 392, Records of the Army Coast Artillery District and Defenses, 1901-1942.

Record Group 393, Records of the Army Continental Commands, 1821-1920.

Project

Information: The project was undertaken to fulfill the requirements of the “Memorandum of Agreement” between the United States Coast Guard California and the California State Historic Preservation Officer, for the demolition the Signal Corps Radar (S.C.R.) 296 Station 5 Transmitter Building foundation and Bonita Ridge Access Retaining Wall for the replacement/relocation of the United States Coast Guard Vessel Traffic Service Radar Tower at Point Bonita.

Toni Webb of JRP Historical Consulting prepared this document for the United States Coast Guard (under subcontract from TEC ACRE). Toni Webb conducted the fieldwork, wrote descriptions and the historic context. Bill Dewey produced the photography.

LOCATION AND SITE MAPS

