
National Park Service
Cultural Landscapes Inventory
2024



Cabrillo Coastal Defense System
Cabrillo National Monument



Cabrillo Coastal Defense System Cabrillo National Monument

Cultural Landscapes Inventory

Cabrillo National Monument concurs with the findings of the CLI, including the management category and condition assessment as identified below:

MANAGEMENT CATEGORY: **A: Must be preserved and maintained**

CONDITION ASSESSMENT: **Fair**

ANDREA COMPTON

Digitally signed by ANDREA
COMPTON

Date: 2022.02.25 15:50:43 -08'00'

Superintendent, Cabrillo National Monument

Date

Please return to:

Vida Germano
Cultural Landscapes Program Manager
National Park Service
Interior Regions 8, 9, 10, and 12
vida_germano@nps.gov

Management Category

Must be Preserved and Maintained (Category A): An inventory unit meeting any one of the following criteria: the preservation of the inventory unit is specifically legislated; the inventory unit is related to the park's legislated significance; the inventory unit is nationally significant as defined by National Historic Landmark criteria or serves as the setting for a nationally significant structure or object; the inventory unit is less than nationally significant, but contributes to the park's national significance; the inventory unit is prehistoric.

Should be Preserved and Maintained (Category B): An inventory unit meeting all of the following criteria (failure to meet any of the conditions moves it to Category C): the inventory unit meets National Register criteria; the inventory unit is compatible with the park's legislated significance.

May Be Preserved and Maintained (Category C): An inventory unit meeting one of the following criteria: the inventory unit meets the National Register criteria but because of condition or other factors does not qualify for Category B classification; there is currently insufficient information available to determine eligibility for the National Register but preliminary study indicates eligibility, or a landscape that has been determined ineligible but is managed as a cultural resource base through an NPS planning process.

May be Released, Altered or Destroyed (Category D): An inventory unit meeting one of the following criteria: the inventory unit is an irreparable hazard to public health and safety of has lost its historical integrity; the inventory unit is a physical or visual intrusion on the park's legislated significance, as defined through the planning process; the inventory unit has been disposed of by planned action or destroyed by natural forces.

Condition Assessment

Good: Indicates the inventory unit shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The inventory unit's cultural and natural values are as well preserved as can be expected under the given environmental conditions. No immediate corrective action is required to maintain its current condition.

Fair: Indicates the inventory unit shows clear evidence of minor disturbances and deterioration by natural and/or human forces, and some degree of corrective action is needed within 3-5 years to prevent further harm to its cultural and/or natural values. If left to continue without the appropriate corrective action, the cumulative effect of the deterioration of many of the landscape characteristics will cause the inventory unit to degrade to a poor condition.

Poor: Indicates the inventory unit shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining historical and natural values.

Undetermined: This pick can be used during consultation with the park regarding the landscape's condition. Condition must be determined before a record can be approved as complete.



**DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION**

Armando Quintero, Director

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

November 15, 2024

SUBMITTED VIA EMAIL

In reply to: OTIS ID NPS_2024_1002_001

Chris Rodriguez
Superintendent, Cabrillo National Monument
1800 Cabrillo Memorial Drive
San Diego, CA 92106

RE: Section 110 Evaluation, Cabrillo Coastal Defense System Cultural Landscapes Inventory, Cabrillo National Monument, San Diego County, California

Dear Superintendent Rodriguez:

Pursuant to Section (a)(2)(A) of Section 110 of the National Historic Preservation Act (NHPA), the Office of Historic Preservation has been asked to review the determination of eligibility of resources associated with the above identified properties, per Section 110 of the National Historic Preservation Act, located at Cabrillo National Monument, San Diego County.

This office concurs with your determination regarding Cabrillo Coastal Defense System. The landscape characteristics as described in the Cultural Landscape Inventory (CLI) contribute to the historic character of the Cabrillo Coastal Defense System. This office also concurs with the list of contributing and non-contributing buildings and features described in the CLI. A list of evaluated contributing and non-contributing resources is attached.

If you have any questions about our assessment of this document, please contact William Burg of my staff at (916) 445-7004 or william.burg@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer
California Office of Historic Preservation

Enclosures

Table 1: Contributing Feature, Cabrillo Coastal Defense System

Feature Name	Contributing?
Bayside Trail	Contributing
Army Radio Station	Contributing
Battery Commander and Base-End Station, Battery Ashburn	Contributing
Electrical Connection Box	Contributing
Searchlight Shelter No.18	Contributing
Generator Station for Searchlights 18 & 19	Contributing
Searchlight Shelter No.19	Contributing
Base-End Station, Batteries Calef and Wilkeson	Contributing
Battery End Station, Batteries Calef and Wilkeson	Contributing
Battery McGrath Base End Station	Contributing
Battery Bluff South Gun Emplacement	Contributing
Battery Commander Station, Battery Humphreys	Contributing
Batteries Woodward and Grant Base End Stations	Contributing
Battery Point Loma Bunker Complex, Guns 1 & 2	Contributing
Battery Point Loma Bunker Complex, Guns 3 & 4	Contributing

Table 1, Continued

Feature Name	Contributing?
Battery Point Loma Gun Mount 4	Contributing
Searchlight Shelter No.15	Contributing
Lower Base End Station at Billy Goat Point	Contributing
Battery Point Loma Reserve Magazine	Contributing
Generator Station for Searchlight No.15	Contributing
Upper Base End Station at Billy Goat Point	Contributing
Bayside Trail Historic Culvert System	Contributing
Road Remnant near Battery Point Loma	Contributing
Battery Point Loma Boundary Fence	Contributing
Battery Point Loma Remnant Wood Structure	Contributing
Battery Point Loma Remnant Drainage	Contributing
Battery Point Loma Remnant Concrete Features (2)	Contributing
Mortared Stone Column	Contributing
Vertical Cuts near Searchlight Shelter No.19 (2)	Contributing

Table 2: Non-Contributing Features, Cabrillo Coastal Defense System

Feature Name	Contributing?
Cabrillo-Gatchell Road	Non Contributing
Paved Walkway to Battery Command Station, Battery Humphreys	Non Contributing
Catalina Boulevard Alignment	Non Contributing
Bayside Trail Modern Drainage Features	Non Contributing
Modern Benches	Non Contributing
Modern Signs	Non Contributing
Wooden Post and Rope Fence	Non Contributing

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Introduction

Cultural Landscapes in the Cultural Resources Inventory System

CRIS is the National Park Service's database of cultural resources on its lands, consisting of archaeological sites, historic structures, ethnographic resources, and cultural landscapes. The set of CRIS records for cultural landscapes is referred to as CRIS-CL. CRIS-CL records conform to a standardized data structure known as the Cultural Landscapes Inventory (CLI).

The legislative, regulatory and policy directions for conducting and maintaining the CRIS are as follows: Section 110 of the National Historic Preservation Act, NPS Management Policies (2006), Director's Order 28 (Cultural Resources) and Director's Order 28a (Archeology).

The Cultural Landscapes Inventory (CLI)

The CLI is the data structure within CRIS used to document and evaluate all potentially significant landscapes in which NPS has or plans to acquire any enforceable legal interest.

Each CRIS-CL record is certified complete when the landscape is determined to meet one of the following:

Landscape individually meets the National Register of Historic Places criteria for evaluation; or,
Landscape is a contributing element of a property that is eligible for the National Register; or,
Landscape does not meet the National Register criteria, but is managed as cultural resources because law, policy or decisions reached through the park planning process.

Cultural landscapes are varied in type and include historic sites, historic designed landscapes, historic vernacular landscapes, and historic ethnographic landscapes; however, a cultural landscape also may fit within more than one type. Those cultural landscapes eligible for the National Register have significance in the nation's history on a national, state, or local level, as well as integrity.

The legislative, regulatory and policy directions for conducting and maintaining the CLI within CRIS are as follows:

The *National Historic Preservation Act of 1966 (16 USC 470h-2(a)(1))*, which states that “Each Federal agency shall establish...a preservation program for the identification, evaluation, and nomination to the National Register of Historic Places...of properties...”

Executive Order 13287: Preserve America, 2003. Sec. 3(a), which states that “...Each agency with real property management responsibilities shall prepare an assessment of the current status of its inventory of historic properties required by section 110(a)(2) of the NHPA...No later than September 30, 2004, each covered agency shall complete a report of the assessment and make it available to the Chairman of the Advisory Council on Historic Preservation and the Secretary of the Interior...”

Executive Order 13287: Preserve America, 2003. Sec. 3(c), which states that “each agency with real property management responsibilities shall, by September 30, 2005, and every third year thereafter, prepare a report on its progress in identifying...historic properties in its ownership and make the report available to the Council and the Secretary...”

The Secretary of the Interior’s Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act, 1998, which provides under Standard 2 the guidance that follows: “An agency provides for the timely identification and evaluation of historic properties under agency jurisdiction or control and/or subject to effect by agency actions (Sec. 110 (a)(2)(A) and Sec. 112.”

Management Policies 2006. 5.1.3.1 Inventories, which states that “The Park Service will (1) maintain and expand the following inventories...about cultural resources in units of the national park system...Cultural Landscape Inventory of historic designed landscapes, historic vernacular landscapes,...and historic sites...”

Cultural Resource Management Guideline, 1997, Release No. 5, page 22 issued pursuant to Director’s Order #28, which states that “As cultural resources are identified and evaluated, they should also be listed in the appropriate Service-wide inventories of cultural resources.”

General Information

Cultural Landscape Inventory Name	Cabrillo Coastal Defense System
Cultural Landscape Inventory Number	725232
Parent Cultural Landscape Inventory Name	N/A
Parent Cultural Landscape Inventory Number	N/A
Park Name	Cabrillo National Monument
Park Alpha Code	CABR
Park Org Code	8110
Property Level	Landscape

Landscape/Component Landscape Description

The Cabrillo Coastal Defense System Cultural Landscape Inventory consists of several historic military defense features including eight base-end stations, three searchlight shelters, two generator stations for searchlights, an army radio station, an AMTB gun emplacement, a gun mount and two associated bunker complexes, and an old military road within the boundaries of Cabrillo National Monument. The historic defense system extends outside the boundaries of the monument, but only the NPS-owned portion of the system is inventoried in this report. The monument is located within the city limits of San Diego, California, on the southern end of the six-mile Point Loma peninsula. The peninsula rises to a height of approximately 420 feet and forms the western edge of San Diego bay. The monument contains 159.94 acres and is bordered on the north and south by the Naval Command, Control and Ocean Surveillance Center (NCCOSC), on the southwest by the U.S. Coast Guard Point Loma Light Station, the northwest by the City of San Diego Point Loma Sewage Plant, and on the northeast by the Naval Submarine Base, San Diego.

The Cabrillo Coast Defense System is regionally significant under criteria A and C with a period of significance spanning 1913 through 1950 to reflect the advancements of harbor defenses of the west coast of the United States in the late nineteenth and the first half of twentieth centuries. The

system is also exemplary of the Modern Era coastal fortification system, as most of the coastal defense systems from this period are non-extant on the west coast and in southern California in particular. The system within the Cabrillo National Monument boundary is one of very few sites that retains integrity. This significance is conveyed through multiple cultural landscape characteristics, including natural systems and features, spatial organization, circulation, views and vistas, buildings and structures, and archaeological sites, which, evaluated together, contribute to the character of the cultural landscape.

The unit retains its historic integrity and effectively represents the advancements in American harbor defenses through the first half of the twentieth century. Situated within the national monument and protected from development, the defense structures retain their general environmental setting and historic views and vistas as established during the period of significance. The circulation routes constructed and utilized during the period of significance have changed little in alignment, though the eastern road has been converted to a trail, and the buildings and structures and archaeological sites associated with the harbor defense system remain relatively undisturbed in their historic spatial layout. The cultural landscape is in fair condition.

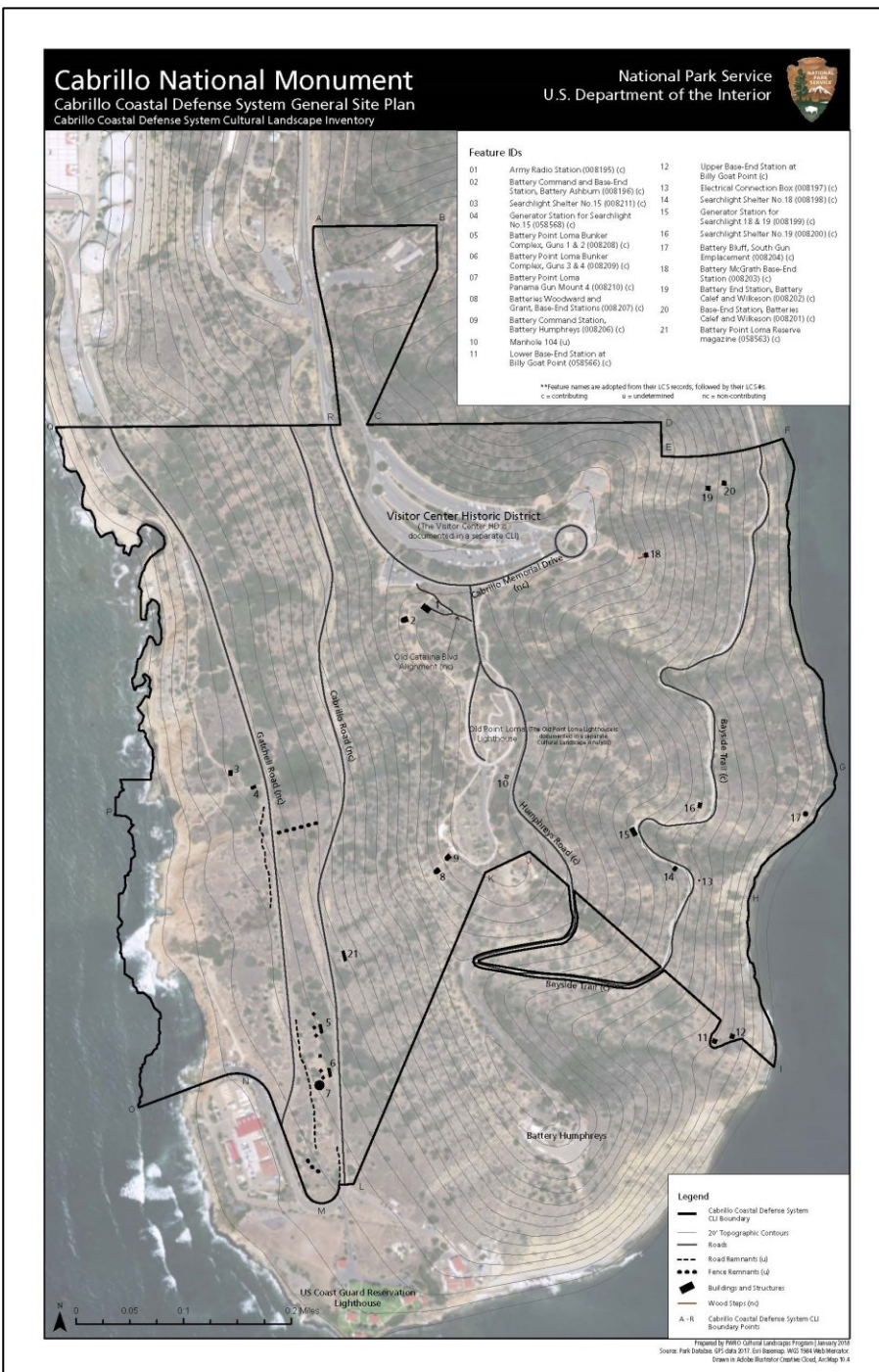
Landscape Hierarchy Description

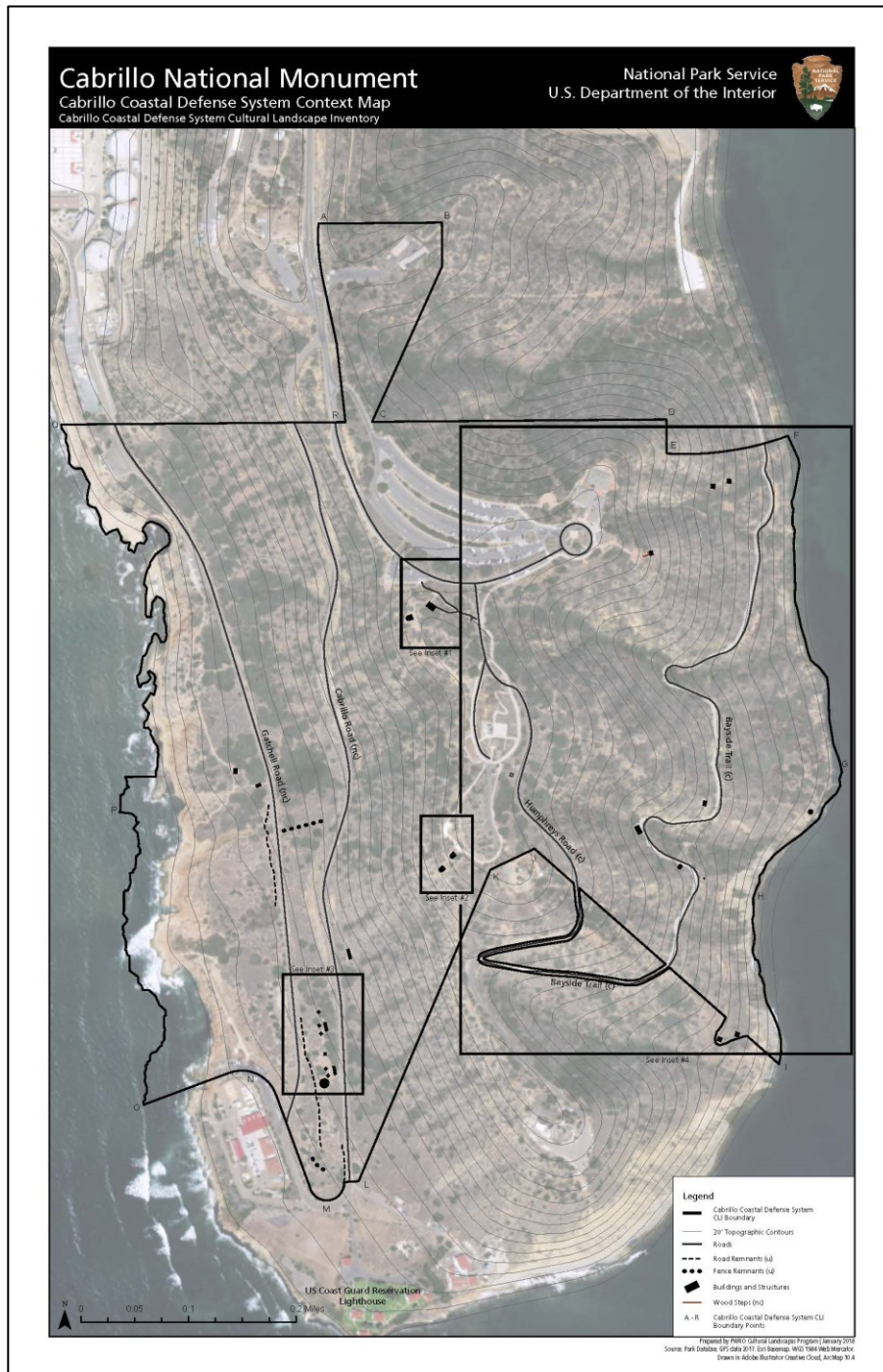
Cabrillo Coastal Defense System is a cultural landscape with no component landscapes.

Landscape Type

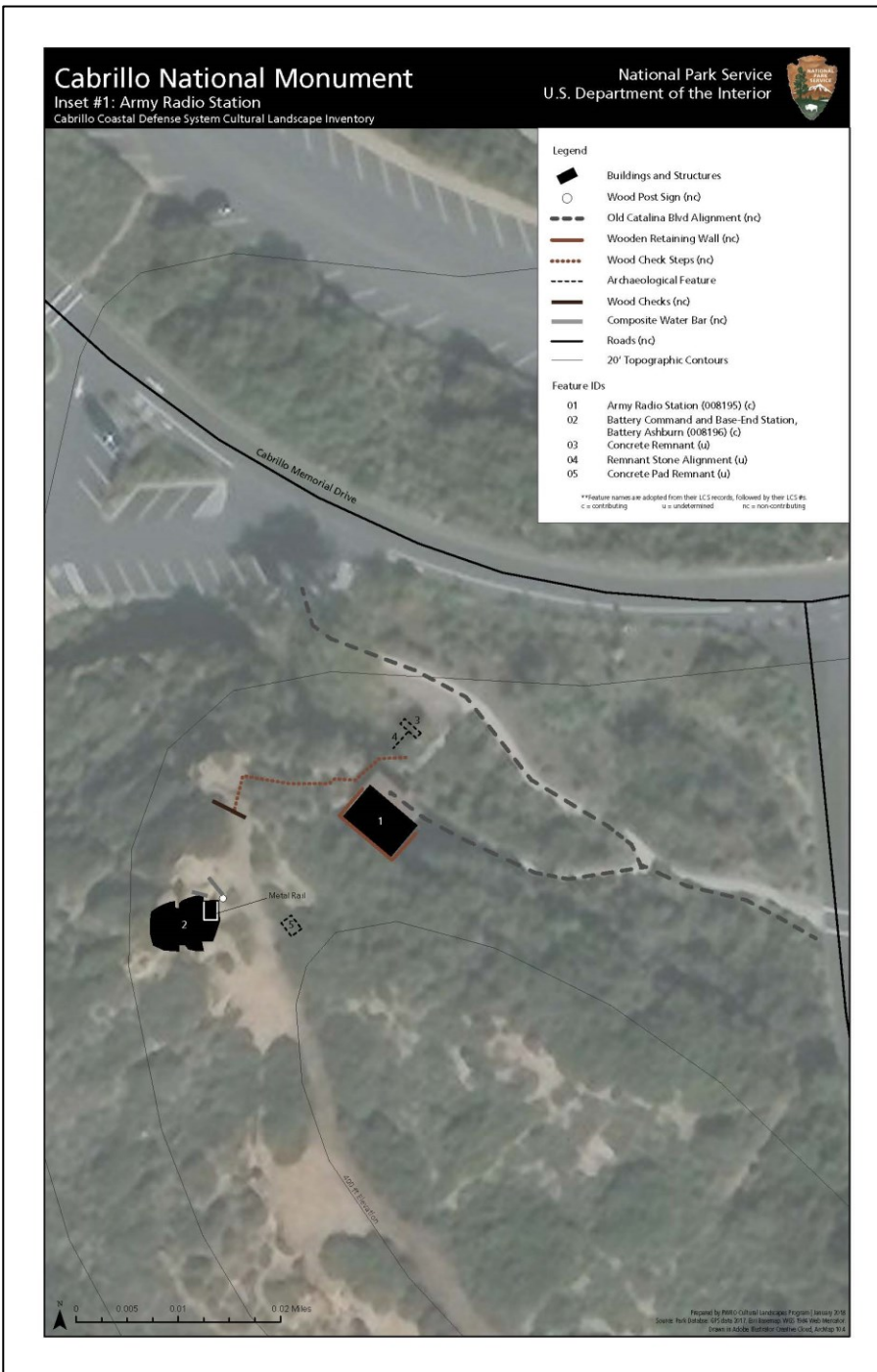
Historic Site

Site Plan

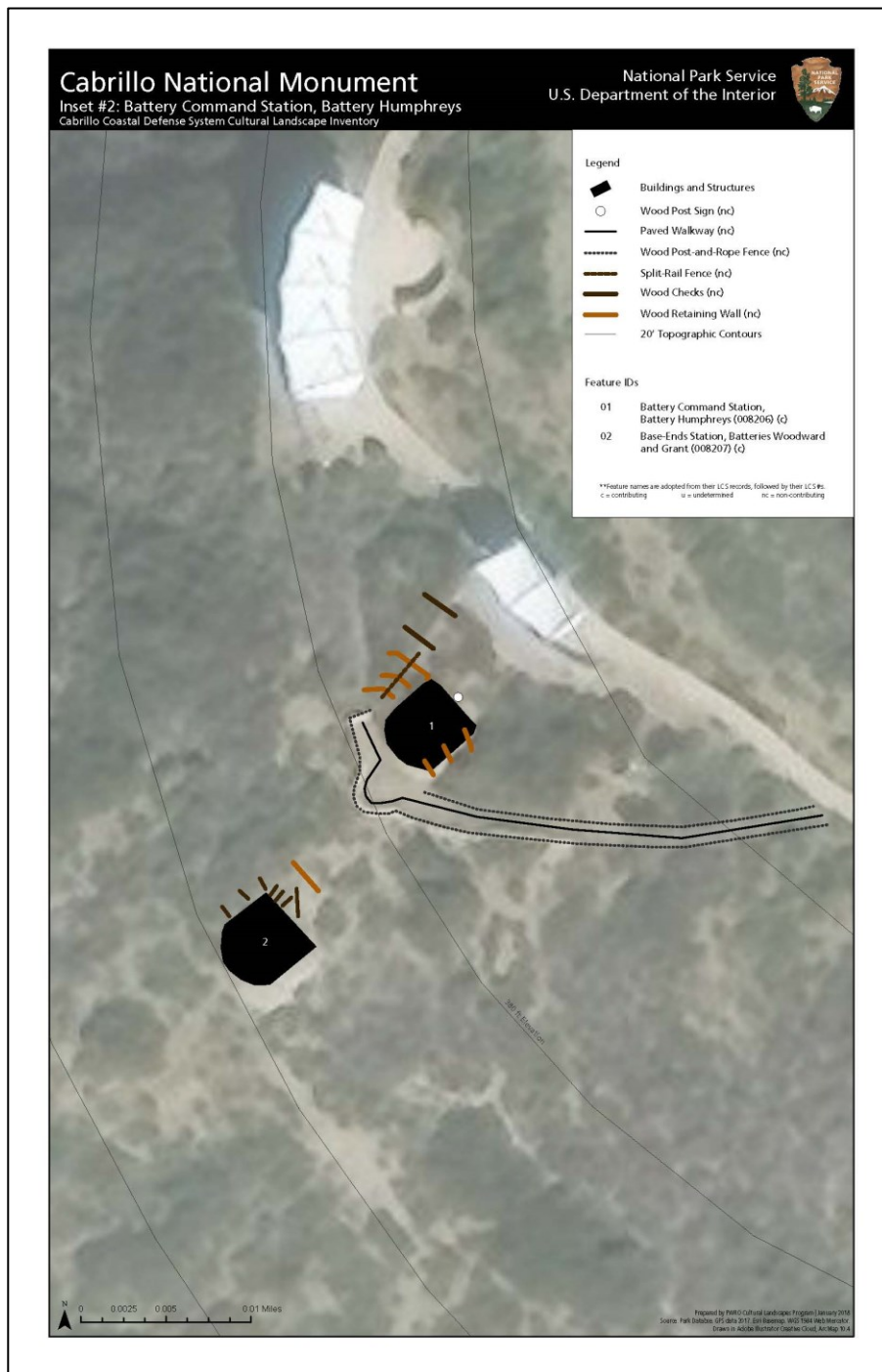




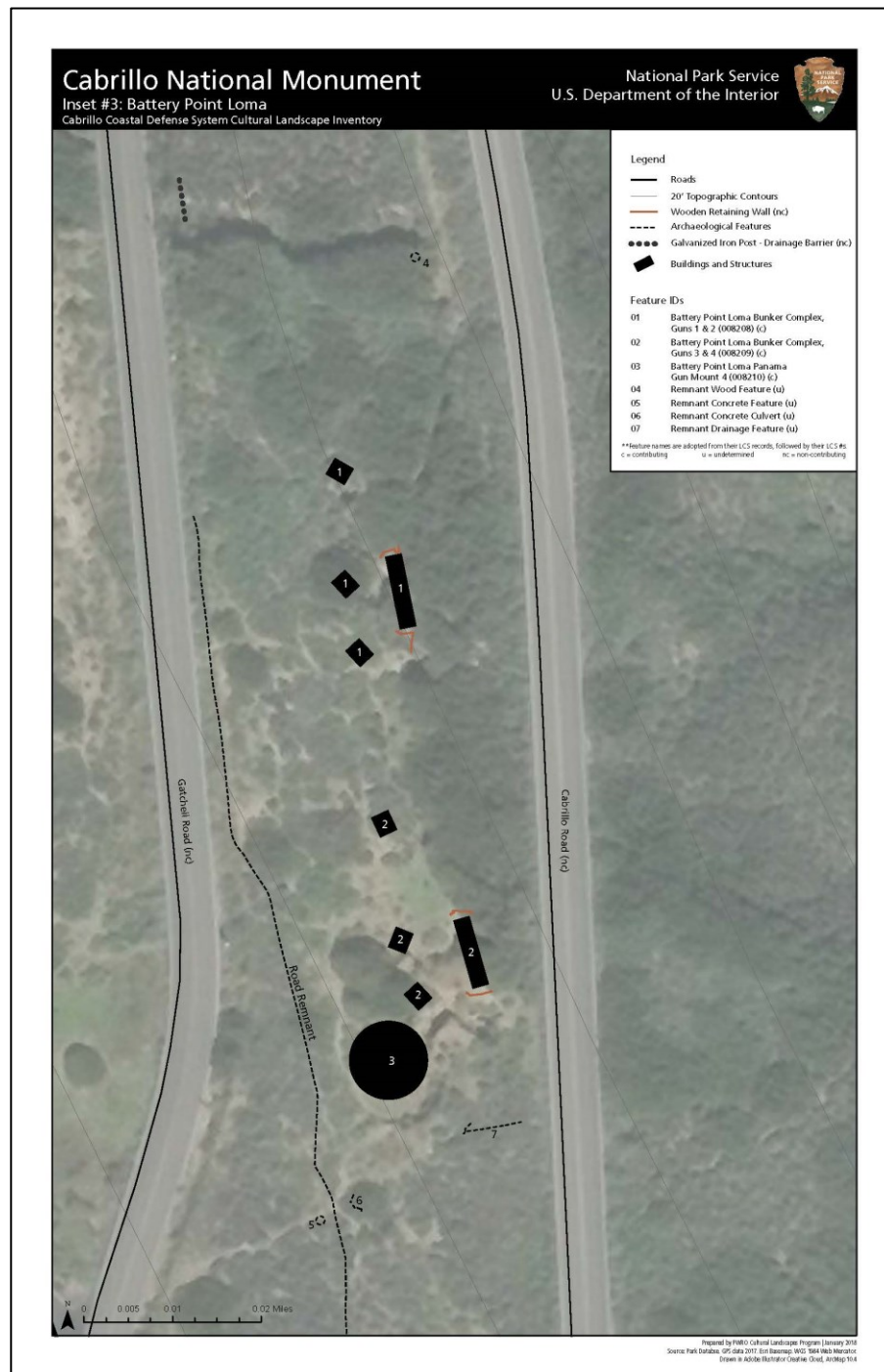
Site Plan #2. General context map of Cabrillo Coastal Defense System Cultural Landscape with keys to inset maps (PWR, 2017).



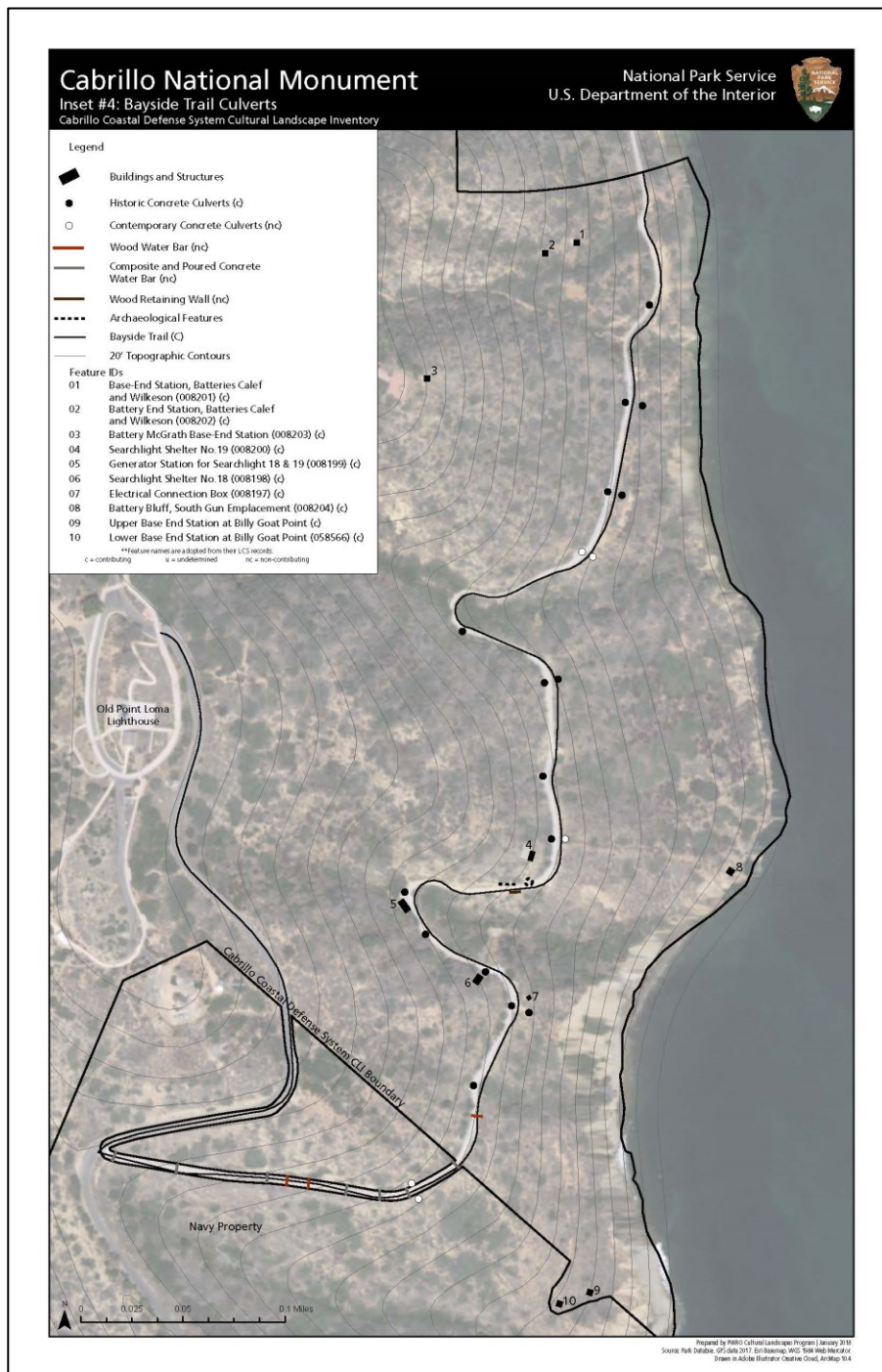
Site Plan #3. Site plan inset #1 of the Army Radio Station and Battery Ashburn (PWR, 2017).



Site Plan #4. Site plan inset #2 of Batteries Humphreys and Woodward-Grant (PWR, 2017).



Site Plan #5. Site plan inset #3 of Battery Point Loma (PWR, 2017).



Site Plan #6. Site plan inset #4 of the Bayside Trail (PWR, 2017).

Other Names

Name	Type
Point Loma	Both Current and Historic
Cabrillo National Monument	Current
Fort Rosecrans	Historic

Concurrence Information

Park Superintendent Concurrence

Yes

Park Superintendent Concurrence Date

02/25/2022

Completion Status Explanatory Narrative

Field work, archival research, writing and graphic development for the CLI were completed in fiscal year 2018 by PWR cultural landscape staff Sang Bae (PWR Cultural Resources Program Associate), Cortney Cain Gjesfjeld (Historical Landscape Architect), and Shannon Sawyer (Historical Landscape Architect).

As the subject of this inventory unit is the seacoast fortification system within Cabrillo National Monument, field work, archival research, writing, and graphic development focuses predominantly on military history. The Visitor Center Historic District and the Point Loma Lighthouse have been documented as separate cultural landscapes.

The CLI will be considered complete after it has received park and SHPO concurrence and the CLI coordinator has certified the data.

Geographic Information

Area (Acres)

159.94

Boundary Description

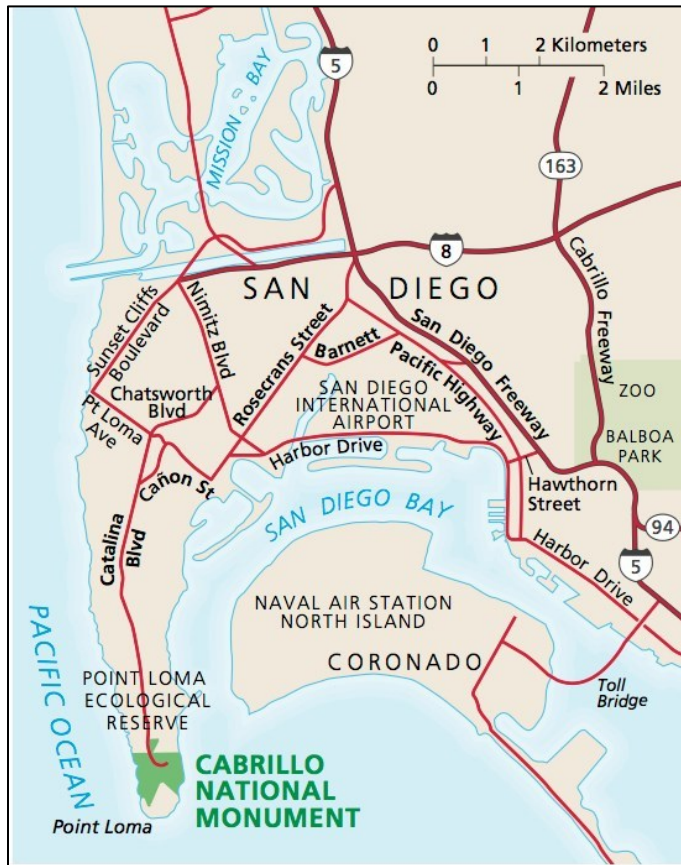
The CLI boundary is congruent with the Cabrillo National Monument boundary with the addition of the portion of Bayside Trail on US Navy property (to access the trail) and an extension of the southeast corner of the existing boundary to encompass the two base-end stations on Billy Goat Point. It is located within the city limits of San Diego, California, on the southern end of the six-mile Point Loma peninsula. The monument contains 159.94 acres and is in an area of exclusive jurisdiction within the federal reservation. It is bordered on the north and south by the Naval Command, Control and Ocean Surveillance Center (NCCOSC), on the southwest by the U.S. Coast Guard Point Loma Light Station, and the northwest by the City of San Diego Point Loma Sewage Plant, and on the northeast by the Naval Submarine Base, San Diego.

The CLI boundary includes the entire Cabrillo National Monument boundary, the portion of the Bayside Trail and the two base-end stations within Navy territory to capture all historic military buildings, structures, and landscape features dispersed throughout the grounds under park management. The 159.94 acres of land within the boundary is owned by NPS in fee, with the most recent addition having taken place in October of 2000. The NPS has a license agreement with the Navy for the management of and access to the Bayside Trail; the park does not yet have an official management agreement for the management of the two base-end stations on Billy Goat Point.

Latitude/Longitude

Geometry	Latitude	Longitude	GeoDatum	Elevation (Meters)	Position Source	Position Accuracy
Point	32.6777	-117.2433	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6777	-117.2416	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6755	-117.2425	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6755	-117.2389	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6751	-117.2389	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6753	-117.2369	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6716	-117.2362	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6701	-117.2374	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6682	-117.2371	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6707	-117.2404	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6704	-117.2409	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6669	-117.2427	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6667	-117.2431	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6681	-117.2441	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6678	-117.2456	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6711	-117.2459	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6754	-117.2467	1983 NAD	Not Avail	GIS	Not Avail
Point	32.6755	-117.2429	1983 NAD	Not Avail	GIS	Not Avail

Location Map Graphic Information



Location Map. Cabrillo Coastal Defense System comprises the entire Cabrillo National Monument boundary and is located at the southern tip of Point Loma in San Diego, California (CABR website).

State and County

State

California

County

San Diego

Management Information

Management Category

Must be Preserved and Maintained

Management Category Date

02/25/2022

Management Category Explanatory Narrative

The Cabrillo Coastal Defense System meets the criteria for Management Category A (Must Be Preserved and Maintained) because the preservation of the fortifications (military history) is specifically identified in the park purpose statement, derived from the careful analysis of the monument's enabling legislation and legislative history.

Management Agreements

Management Agreement	Other Management Agreement	Management Agreement Expiration Date	Management Agreement Explanatory Narrative
Interagency Agreement	Other Federal Agency Owned		NPS has a license agreement with the U.S. Navy to access and manage the portion the Bayside Trail outside park boundaries.

Legal Interests

Legal Interest Type	Fee Simple Reservation Expiration Date	Other Organization/Agency	Legal Interest Narrative
Fee Simple			NPS owns the park in fee.
None – Other Federal Agency Owned		U.S. Navy	NPS has a license agreement with the U.S. Navy to access and manage the portion the Bayside Trail outside park boundaries. The two base-end stations on Billy Goat Point are on Navy land; the NPS does not yet have an official agreement

			with the Navy for the management of these structures.
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Adjacent Lands Information

Yes – Adjacent lands do contribute

Narrative

The entire cultural landscape associated with the coastal defense system is larger than the park's authorized boundary. There are areas adjacent to the national monument that contain historic features and landscape characteristics that contribute to the overall coastal defense historic property. While the majority of the extant base-end stations and searchlight shelters are managed by the NPS, there are several areas throughout the Point Loma peninsula and along the San Diego coastline that were instrumental to the historic coastal defense system, including the gun emplacements of Battery Calef-Wilkeson, Battery McGrath, Battery Ashburn, Battery Humphreys, Battery Imperial, Battery Grant, Battery Woodward, Battery Strong, and Battery Whistler, and a number of additional searchlight shelters and base-end stations, which are not owned or managed by the NPS. Large portions of Point Loma are a part of the Navy Base, while other areas are owned by the local government or private landholders.

Uses Information

Functions and Uses

Major Category	Category	Use/Function	Historic Use	Current Use	Primary Use
Defense	Fortification	Battery (Defense)	Yes	No	Yes
Landscape	Leisure – Passive (Park)	Leisure – Passive (Park)	No	Yes	Yes

Public Access

Public Access

Unrestricted

Associated Ethnographic Groups

Ethnographic Study Status

No survey conducted

Ethnographic Groups

Ethnographic Group	Type
Kumeyaay	Both Current and Historic

National Register Information

Documentation Status

Entered – Inadequately Documented

Documentation Narrative Description

The Old Point Loma Lighthouse and all the fortification features within the Cabrillo National Monument have been administratively listed on the National Register of Historic Places as components of the Cabrillo National Monument historic district on October 15, 1966.

The Old Point Loma Lighthouse (NRIS#74000350) was individually listed on the National Register of Historic Places on June 27, 1974. The lighthouse is nationally significant as a symbol of the nation's first successful effort to obtain navigational aids for the newly acquired west coast, and as one of the four surviving structures of the original eight brick-made Cape Cod style lighthouses in the west coast.

The Cabrillo National Monument Historic District (NRIS#66000224) was administratively listed on the National Register of Historic Places on October 16, 1966 and documented on November 26, 1997. The district is regionally and locally significant under Criteria A and C for its association with early exploration, maritime history, military, and entertainment/recreation. The military resources represent the defense of the west coast of the United States and are therefore regionally significant.

The Cabrillo National Monument Visitor Center Historic District (consensus determination of eligibility on October 22, 2008) identify the NPS-built resources dating from 1963-1967 are locally significant for the district's association with the Mission 66 program and for its architectural and landscape architectural design.

Concurrence Eligibility

“Eligible – SHPO Consensus Determination”

Date (Required)

11/15/2024

The SHPO concurred with the eligibility findings of the CLI including the list of contributing and non-contributing resources.

National Register Significance Level

State

National Register Significance -- Contributing/Individual

Contributing

National Register Classification

District

Statement of Significance

The following statement of significance for the Cabrillo Coastal Defense System has been excerpted and/or adapted from the Cabrillo National Monument Historic District National Register nomination:

The Cabrillo Coastal Defense System is regionally significant under Criteria A and C for its association with events significant to broad patterns of our history as a reflection of the development of coastal and harbor defense systems of the west coast of the United States during World War I and II, and as an example of Modern Era defense structures. The National Register area of significance for the Cabrillo Coastal Defense System is military. Significant dates include 1913, 1916-1919 and 1936-1944, and 1950. The period of significance for the Cabrillo Coastal Defense System begins in 1913 when the original 1.5-acre Cabrillo National Monument was established, and extends to 1950, when the harbor defenses of San Diego were formally discontinued. The activities at Cabrillo Coastal Defense System during this period reflect major advancements in military technology in general, and in coastal and harbor defense systems in particular.

CRITERION A

The Cabrillo Coastal Defense System is regionally significant under criterion A as a reflection of the advancements of harbor defenses of the west coast of the United States in the late-nineteenth and the first half of twentieth century. The fortification features within the Cabrillo Coastal

Defense System are the physical manifestations of the changing harbor defense plans and theories that started during the post-Civil War era and were standardized throughout World War I and II. Reflective of the change in emphasis from the fortification structures to the weapons contained therein, these structures are relatively simple in form and dispersed throughout the coast, no longer compact and architecturally grand. The extant structures are found in varying elevations, made possible by the introduction of advanced weapons, and are attributed specific uses that are associated with the development in harbor defense theory and technology.

While the first appearance of a harbor defense structure is credited to the Spanish crown in the late 1790s, the most intensive development of coastal and harbor defense is attributed to the United States throughout the first half of twentieth century. Shortly following California's admittance into the Union, the United States government declared Point Loma a military reservation in 1852, and in 1871 appropriated \$50,000 to build a fort at the site of the original Spanish fortification at Ballast Point. The first American fort on Point Loma would be a triangular earthwork housing fifteen massive 15-inch Rodman smoothbore cannon stockpiled from the Civil War. However, construction of a traditional earth-and-masonry fortification on Point Loma was never completed due in large part to outdated technology and the remote location. At this time, foreign powers were developing naval ordnance that would pulverize the earth-and-masonry walls of American forts. Additionally, the planned Texas & Pacific Railroad failed to reach San Diego; a project that would have connected the then-nondescript harbor town to the rest of the country and would have thus warranted defense.¹

The Cabrillo Coastal Defense System was constructed predominately of concrete fortifications and gun mounts for more-accurate larger artillery. As the domestic metals industry matured in the United States during the latter half of nineteenth century, weapons of greater accuracy and power were introduced and the efficiency in manufacturing increased. The resulting artillery were more-efficient compound, breech-loading, rifled guns.² Concrete, rather than earth and brick, were more efficiently constructed during this period. The appearance of such advance technology allowed for batteries, such as those at Cabrillo, to be raised above sea level, in some instances to

¹ Barry Alan Joyce, *A Harbor Worth Defending: A Military History of Point Loma*, (San Diego, CA: Cabrillo National Monument Foundation, 1995), p.11-12.

² Edmond Raymond Lewis, *Seacoast Fortifications of the United States: An Introductory History*, (Washington DC: Smithsonian Institution Press, 1970), p.7-8.

positions several hundred feet above water, and rendered the existing earth-and-masonry coastal and harbor fortifications obsolete.³

During this period of industrial and technological development, the United States government sought to establish a new, assertive navy and an effective fixed harbor fortification system throughout the coast.⁴ In 1885, President Grover Cleveland, in response to a mandate from Congress, directed Secretary of War William Endicott to convene a board empowered to select sites for new, upgraded defense fortifications. The Board called for an enormous number of defensive works, including many armored turrets and casemates, and weapons of unprecedented size and power. Harbor defense techniques diversified during this era, employing not only major-caliber seacoast weapons but also large numbers of mortars and light-caliber rapid-fire guns sited to cover the fields of electrically controlled submarine mines. During this era, three batteries were constructed on Point Loma, on lands adjacent to today's Cabrillo National Monument: Battery Wilkeson, Battery McGrath, and Battery Meed. Also during this era, in 1899, the War Department officially named the military reservation Fort Rosecrans, in honor of Civil War Major General William Starke Rosecrans.

In 1905, President Theodore Roosevelt established another military board, chaired by Secretary of War William Taft, to review and update Endicott Board's program. Major technical changes by the Taft Board were in accessory harbor defense equipment: searchlights and other nighttime illumination of harbor entrances were installed; all aspects of harbor defense were electrically wired (including communications and powered ammunition handling), and most importantly, a modern system of aiming for major-caliber guns and mortars was introduced in the form of base-end stations. A minimum of two base-end stations were constructed per battery. These stations were used for enhanced aim, based on optical instrumentation of great precision, rapid processing of mathematical data, electrical transmission of target-sighting and gun-pointing information.⁵ Simultaneous optical bearings would be continuously taken from these small buildings, which were repeatedly communicated to a central battery computing room where the location of the target would be triangulated in high precision. The computed products would be then translated

³ Lewis, *Seacoast Fortifications*, p.7.

⁴ Joyce, *A Harbor Worth Defending*, p.12.

⁵ Lewis, *Seacoast Fortifications*, p.89, 93.

into aiming directions which would be forwarded electrically to each gun emplacement or mortar pit.⁶

The majority of the initial recommendations for harbor defense construction, as guided by the Taft Board, were completed in 1911. These installations, constructed in unspecified locations outside the military reservation on Point Loma, largely comprised accessory harbor defense equipment: a small number of high-powered searchlights and searchlight shelters.⁷ San Diego would have to grow both commercially and in population to qualify for additional expenditures on harbor defense systems; though Point Loma was surveyed and considered during the Taft era, the military reservation only received funding for heavy development ten years later during the 1910s.⁸

A combination of rapidly evolving military technology in early-twentieth century and the opening of the Panama Canal in 1914 elevated San Diego to a site of new commercial and strategic importance. The advanced military technology no longer required an enemy fleet to enter to the harbor in order to attack the city; with the improved range and accuracy of naval ordnance, the battleship or cruiser could lie securely off Sunset Cliffs near Ocean Beach (north of Point Loma) and effectively fire shells across the bay into the city proper. The three batteries of Fort Rosecrans were poised only for a frontal assault through the channel that would never come. In addition to these technological advancements, the newly opened Panama Canal enabled San Diego to grow in commercial significance. This resulted in the construction of updated defenses systems at San Diego Bay.

Responding to new and growing threats to the coast of San Diego, Battery White and Battery Whistler were constructed in 1915. In addition, an existing battery, Battery Wilkeson, was divided into two separate batteries, with guns 3 and 4 used in Battery Calef. Base-end stations first appeared around Point Loma during this time, improving accuracy of Fort Rosecrans' fire power. Four of these structures within the Cabrillo Coastal Defense System boundary included

⁶ Lewis, *Seacoast Fortifications*, p.93.

⁷ Flower & Roth Environmental Consultants, *Cultural Resource Inventory - Archaeology/History/Architecture: Navy and Coast Guard Lands Point Loma, San Diego, California*, Contract N62474-81-C-5747, Department of the Navy: Western Division (October 1982), p.134.

⁸ Ibid.; Joyce, *A Harbor Worth Defending*, p.22.

base-end stations for Batteries McGrath, Calef-Wilkeson, Whistler, and White. These structures were all constructed circa 1920 and are of concrete walls and tar and gravel roof, consistent with the contemporary harbor defense structure style.⁹ Additionally, an army radio station, two searchlight shelters (Searchlight No. 18 & 19), and a generator station for the two searchlights were constructed of reinforced concrete between late-1910s and early-1920s.

Despite the improvements to the coastal and harbor defense system at Fort Rosecrans during the 1910s, the post-World War I era at Fort Rosecrans saw little activity. It was decided at the Washington Naval Conference of 1921 that the fort would close, and personnel were shipped out to the new defensive frontiers in Panama, Hawaii, and the Philippines, which resulted in Fort Rosecrans being placed on caretaker status.¹⁰ Throughout the Great Depression of the 1930s, the harbor defenses of San Diego received little federal government attention. Throughout the years leading up to World War II improvements in battleship guns and the proliferation of military aircraft revealed that the permanent harbor defense artilleries were no longer effectively concealed. While the existing harbor defense structures were concealed at sea level, they were obvious targets from above.

At the onset of World War II, an entirely new type of battery was once again designed for harbor defense in response to the advancement in military technology. The new design consisted of substantial overhead cover for all components of a battery: its armament, magazines, and various accessory equipment. The overhead protection was provided by eight to ten feet of densely reinforced concrete and up to twenty additional feet of earth along the full length of the battery. Such reinforcement was designed to withstand direct hits from battleship projectiles and aerial bombs of equivalent energy.¹¹ The importance of aerial and sea level camouflage extended to the satellite structures of the batteries such as the base-end and fire control stations. These stations dug into the ground, with only the sighting aperture extended above ground level in areas where elevated sites were available near the ocean.¹² Further, guns within the batteries diversified to cover the “dead areas” beneath the trajectory of the batteries’ main guns and to provide

⁹ Carey & Co., Inc. Architecture, *Historic Structures Report for Harbor Defense Structures, Cabrillo National Monument, San Diego, California*, US Department of the Interior, National Park Service (April 15, 2000), p.35-37.

¹⁰ Joyce, *A Harbor Worth Defending*, p.31.

¹¹ Lewis, *Seacoast Fortifications*, p.115.

¹² Ibid., p.122.

antiaircraft support.¹³ Such World War II era harbor defense designs are reflected in the construction of batteries and gun emplacements on Point Loma.

The United States government launched a modernization program to update the outdated harbor defense system in the years leading up to WORLD WAR II. However, delays left San Diego undefended from an attack from the west and northwest even after Europe went to war in 1939. Though three batteries were proposed to modernize the harbor defense system of Fort Rosecrans in 1940, construction did not commence until 1942. To fill this gap, in 1941, the Army sent a battery of four 155 mm guns to Fort Rosecrans, and Panama mounts for the guns were constructed that year. These mounts enabled the guns to traverse a full 360 degrees.¹⁴ These guns were designated Battery Point Loma. In 1942, construction of Battery Ashburn and Humphreys commenced and in 1943, Battery Humphreys was completed, with guns in place. Construction of Battery Woodward also commenced in 1943. These new constructions were large permanent batteries with huge 16-inch and 6-inch guns. Associated artillery fire control stations were built at the same time. The new emplacements were positioned to cover the western side of Point Loma, now to guard not only the eastern side of the peninsula, overlooking the channel entrance, but also the western and northwestern approaches to San Diego. Because of the greater range of the 6- and 16-inch guns, observation stations were placed farther apart, along a 20-mile stretch of the coast from Solana Beach to the Mexican border. These structures were also camouflaged, with rocks cemented onto roofs of the reinforced concrete structures. A new split-level style of structures appeared during this era of construction; many of the observation stations were a part of this split-level design that served different functions.¹⁵

Also during World War II, army engineers constructed small 37 mm Battery Bluff on the east side of Point Loma. For most of the early twentieth century, the entrance channel and the approach to the harbor had been well guarded by four coastal batteries. By 1942, however, three had been disarmed because they had become obsolete; only the 3-inch guns of Battery McGrath remained. To reinforce the defense of this vital area, Battery Bluff was constructed and given the mission of defending against motor torpedo boats through the war.

¹³ Lewis, *Seacoast Fortifications*, p.101-102.

¹⁴ Jamie M. Donahoe, "National Register of Historic Places Nomination: Cabrillo National Monument," US Department of the Interior, National Park Service (June 1997), Section 8 p.4-5.

¹⁵ Joyce, *A Harbor Worth Defending*, p.49-59.

In addition to the new batteries, new defense equipment were installed at Fort Rosecrans. Additional searchlights appeared on the western side, including Searchlight No. 15 and its underground shelter, within the Cabrillo Coastal Defense System boundary, to illuminate the new guns facing west. Further, the effectiveness of the batteries was heightened by the installation of a complex network of armored cable covering Point Loma, tying together the batteries, fire control stations, searchlights, radar sets, command posts, and other elements of the harbor defenses. Though most of it has been removed from Point Loma, the electrical connection box located along the Bayside Trail within the Cabrillo Coastal Defense System boundary serves as a prominent reminder of the network that connected the peninsula during World War II.¹⁶

With the ending of World War II, the Harbor Defense Command Post at Fort Rosecrans ceased operations, forever silencing the guns of Fort Rosecrans. In 1947, Fort Rosecrans was placed in caretaker status and in the following years, the guns were cut up and sold for scrap. On January 1, 1950, the harbor defenses of San Diego were formally discontinued.¹⁷

The extant fortification features within the Cabrillo Coastal Defense System boundary thus serve as the physical manifestation of the changing military theory, technology, and strategy. While much of the military constructions outside the monument have been demolished to take advantage of their prime real estate or have been repurposed for naval research purposes, the features within the Cabrillo National Monument remain in their original setting and workmanship. The features vary from World War I era constructions to World War II designs. The distribution of searchlights and base-end and fire control stations facing both sides of the peninsula reflect the advancement in naval ordnances, as evolving technology called for not only the guarding of the channel but also of the west and northwest coasts. As such, the coastal fortifications of Cabrillo National Monument effectively serve as a reflection of the advancements of harbor defenses of the west coast of the United States in the late-nineteenth and the first half of twentieth century.

CRITERION C

¹⁶ National Register Nomination: CMN, Section 8 p.4.

¹⁷ Ibid., Section 8 p.2.

The coastal fortifications of Cabrillo National Monument are also regionally significant under criterion C as an exemplary sample of the Modern Era coastal fortification system. Adopting the title “Modern Era” from military and naval historian Emanuel Raymond Lewis, the style refers to constructions ranging from the Endicott Era to the end of World War II; between 1890 and 1945.¹⁸ These structures dramatically diverge from the traditional style in both form and material: from earthwork to reinforced concrete, and from a single, massive structure to a system of smaller, dispersed structures.

The Modern Era fortification style of reinforced concrete came to existence when the traditional fortifications of massive earthworks were rendered obsolete in the post-Civil War era. By the end of Civil War in 1865, several European nations were already responding to the technical lessons of the war by drafting plans for the construction of entirely new and expensive types of permanent harbor defenses. While the United States, under extreme postwar stress on reduced military spending, was in no position to commence an extensive new system of harbor defenses, it too launched studies to determine the feasibility of facing existing masonry works with iron armor, and to design and test rifled guns of increased size and power. These studies continued throughout the century and into the next, responding to technological advancements in naval ordnance and designing new coastal defense systems.

The architectural style of Modern Era seacoast fortification structures was dictated by their function and material. As such, there was little variation in the aesthetics of the Modern Era structures, with accommodations only made to the blend with the surrounding topography and soil conditions; the structures were derived from a generalized plan per building type. Therefore, the observation stations and the searchlight shelters of Cabrillo National Monument are exceptional examples of this Modern Era style.¹⁹

Coastal searchlights were introduced to the seacoast defense system during the Taft era as a component of the modernization efforts. Two of three types of searchlight shelters proposed and constructed during this time period (1905-World War I), subterranean shelters with weighted

¹⁸ The *Historic Fortification Preservation Handbook*, 2003, refers to the Modern Era fortifications the “Mass Material-Based Fortifications (1890-1945),” and the traditional fortifications the “Unit Material-Based Fortifications (1800-1865).”

¹⁹ See the Reports of Completed Works (RCWs) for the uniform plans of Fort Rosecrans structures in Kenneth Glaze’s *The Illustrated Fort Rosecrans*, second ed., 2017.

elevators and above-ground shelters with track mounts, are represented at within the CLI boundary. The reinforced concrete and metal Searchlight Shelters No.18 and 19 of 1918-1919 are, in both building type and design, uniquely Modern Era structures. These building types and plans persisted into World War II when Searchlight Shelter No.15 was constructed employing the same template plan for a disappearing searchlight shelter as was used by Searchlight Shelter No.19 two decades prior. All three structures retain high levels of integrity in that no significant alterations have been made since their decommission and abandonment.

The “Base-End Station” was also a building type first introduced during the Modern Era of seacoast fortifications, specifically during the Taft era. This building type was designed specifically as a component of the aiming enhancement system and was meant to be situated in optically advantageous locations. The base-end stations constructed during the Taft and World War I era were, as other Modern Era structures, of reinforced concrete and metal, rectangular in footprint, and set into the slopes of their surroundings. They were subterranean with only their sighting aperture extending above ground level. Construction reports suggest that a uniform design plan was applied to all base-end stations of this time. Five of such structures are present within the Cabrillo boundary, all retaining their original form and views.

The design for the base-end stations evolved in World War II when the coastal defense had to defend against not only naval but also airborne attacks. It became crucial for base-end stations, critical for precise and accurate firing but itself without any heavy artillery, to be well-concealed from both horizontal and vertical lines of vision. As such, camouflage became a prime factor in the design of the World War II base-end stations. Though still to be constructed of reinforced concrete and metals, the new design adopted a more organic, rounded footprint with a domed roof that would enable the structure to blend into its environment more naturally, as opposed to the hard lines of the previous war structures. The domed, textured roof provided aerial camouflage as well. Also during this time, the base-end stations were designed to be split-level structures with different functions in each level. Three of such stations are situated on/in the slopes of Point Loma within the Cabrillo boundary looking toward the horizon. Construction reports suggest that they too employed a uniform design plan issued by the US Engineers Office. The interior of one of the three structures within Cabrillo has been restored with time-specific furnishing and paint

but no significant alterations have been made to any of the three structures since their decommission and abandonment.

These military structures within Cabrillo National Monument are not only exceptional sample of their respective building type within the broader context of the Modern Era style, but also significant in that they are among the very few extant structures of their kind in southern California. As seacoast defense necessitated visually advantageous locations near the ocean, the locations selected for the searchlight shelters and base-end stations were later considered prime oceanfront real estate. When in the postwar years the harbor defense districts were decommissioned, much of the land was sold to local agencies and private citizens who removed the obsolete military structures and developed the area. Most of the base-end stations that have dotted the coastline of San Diego are no longer extant. The only reason that the eight base-end stations and three searchlight shelters survive in their original locations is because these structures remained on federal land under the jurisdiction of the National Park Service. As such, these structures are the few remaining components of modern seacoast defense that can effectively communicate their uniformity in style and their relationship to the natural environment.

National Register Significance Criteria

Criterion A: Event

Criterion C: Design/Construction

National Register Periods of Significance (with Historic Context Themes)

Start Year/Era and End Year/Era	Historic Context Theme	Subtheme	Facet
1913 CE – 1950 CE	Shaping the Political Landscape	Political and Military Affairs 1865-1939	World War I
1913 CE – 1950 CE	Shaping the Political Landscape	World War II	The Home Front

National Register Areas of Significance

Category	Subcategory (only for Archeology and Ethnic Heritage)	Narrative
Military		

National Historic Landmark

Status

No

World Heritage Site

Status

No

National Natural Landmark

Status

No

NRIS Information (with Other Certifications)

NRIS Name

Cabrillo National Monument

NRIS ID

NRIS#66000224

Primary Certification Date

11/26/1997

NRIS Name

Old Point Loma Lighthouse

NRIS ID

NRIS#74000350

Primary Certification Date

06/27/1974

Chronology & Physical History

Chronology

Start Year	Start Era	End Year	End Era	Major Event	Major Event Description
1542	CE	1542	CE	Established	On September 28, the first recorded defense of San Diego's harbor by the Kumeyaay against Cabrillo and his men.
1542	CE	1542	CE	Established	Cabrillo arrived in present-day San Diego Bay on September 28 and named the unknown port "Puerto de San Miguel."
1602	CE	1602	CE	Established	On November 10, Spanish maritime explorer Sebastian Vizcaino arrived at Point Loma and renamed Cabrillo's Puerto San Miguel, honoring his patron, San Diego de Alcala de Henares, and christened the rock-strewn finger of land where Cabrillo had first landed La Punta de los Guijarros, "the Point of Cobblestones."
1768	CE	1768	CE	Established	King Carlos III of Spain ordered the Viceroy of New Spain, Marquez de Croix, to occupy and fortify both San Diego and Monterey.
1769	CE	1769	CE	Established	During May-June, Captain Gaspar de Portola, accompanied by Franciscan Father Junipero Serra, established the first presidio (fort) and mission in California at San Diego.
1769	CE	1769	CE	Established	Father Junipero Serra blessed the cross on July 16 and dedicated the first mission in Alta California to San Diego de Alcala, beginning the European settlement of Alta California.
1774	CE	1774	CE	Established	San Diego was promoted in status to a regular royal coastal presidio.
1774	CE	1774	CE	Established	By December, the mission separated from the military installation of the presidio, moving six miles up the river.
1782	CE	1782	CE	Established	The name "Loma" first appeared on Juan Pantoja's plans of 1782.

1795	CE	1798	CE	Built	The Spanish began work on a fort at the base of Point Guajarras. Named <i>El Castillo de San Joaquin</i> , it was dedicated in 1796, although it was not finished until 1798. The installation was commonly referred to as Guajarras.
1803	CE	1803	CE	Established	The Battle of San Diego Bay on March 17 against <i>Lelia Byrd</i> took place in the San Diego harbor.
1820	CE	1850	CE	Destroyed	Local vegetation on Point Loma was destroyed by the large herds of cattle from the hide houses established on Ballast Point.
1821	CE	1821	CE	Established	Mexico attained its independence from Spain.
1821	CE	1821	CE	Established	Mexican independence led to the institution of private land ownership and subdivision of Point Loma into private plots, with most of the development in the northern end of the peninsula near La Playa.
1828	CE	1828	CE	Established	The guns of Fort Guajarras fired against the American smuggler vessel, the 333-ton <i>Franklin</i> , in San Diego harbor.
1833	CE	1833	CE	Established	The Secularization Act was passed, which took away much of the California Mission land and sold or gave it away in large grants called <i>ranchos</i> .
1834	CE	1834	CE	Land Transfer	Governor Pio Pico awarded the San Diego mission lands to a private citizen, Jose Rocha.
1835	CE	1835	CE	Abandoned	Fort Guajarras was abandoned and the garrison departed.
1840	CE	1840	CE	Sold	The remnants of the buildings of Fort Guajarras and "casa mata" were sold for salvage to local resident Don Juan Machado for \$40.
1846	CE	1846	CE	Abandoned	The San Diego Mission closed when the last priest moved away.
1847	CE	1847	CE	Established	General Stephen Watts Kearny ordered a military reconnaissance of Point Loma.

1848	CE	1848	CE	Established	The Treaty of Guadalupe Hidalgo was signed, officially ending the Mexican-American War. All of Point Loma, including La Punta de Los Guijarros (Ballast Point) passed into the hands of the U.S.
1850	CE	1850	CE	Established	On September 9, California was admitted to the Union as the thirty-first state.
1852	CE	1852	CE	Established	The United States government declared Point Loma a military reservation.
1852	CE	1852	CE	Established	The Lighthouse Board of the United States was established.
1854	CE	1854	CE	Planned	A Coast Survey party investigated San Diego and A.M. Harrison, Chief Topographer of the party, recommended that the lighthouse be built on a spot near the southern end of Point Loma that rose 422 feet above sea level, permitting it to be used both as a coastal light and a harbor light.
1854	CE	1854	CE	Built	An access road was built from Ballast Point to Point Loma to transport supplies for the construction of the lighthouse.
1854	CE	1854	CE	Built	The construction of the Point Loma Lighthouse started on April 8 and was completed by mid-summer.
1857	CE	1857	CE	Built	A road from La Playa to the lighthouse was built, rising gradually in a straight line until it reached the crest of Point Loma which it then followed for about two miles.
1857	CE	1857	CE	Abandoned	Upon the construction of the road connecting La Playa and the lighthouse, the 1854 access road from Ballast Point was put into disuse.
1870	CE	1871	CE	Established	The U.S. Army took possession of Ballast Point and the Point Loma Military Reservation on February 28.
1871	CE	1871	CE	Planned	Plans were drawn for a wedge-shaped fifteen-gun battery that would house massive 15-inch Rodman smoothbore cannon stockpiled from the Civil War.

1873	CE	1873	CE	Built	A stable, stone house, carpenter's shop, and overseer's quarters were built, the site was cleared, 27,636 cubic yards of embankment placed, and concrete dams were built before the money for the new fort on Ballast Point ran out. The project was halted in April 1874.
1885	CE	1885	CE	Established	President Grover Cleveland established the Endicott Board.
1891	CE	1891	CE	Abandoned	The old Point Loma Lighthouse was abandoned.
1895	CE	1895	CE	Planned	The Endicott Board surveyed Point Loma for sites for a military post and harbor defenses.
1895	CE	1895	CE	Planned	The Endicott Board proposed three sets of guns for Point Loma.
1896	CE	1896	CE	Built	Work commenced on the construction of Battery Wilkeson on Ballast Point.
1897	CE	1897	CE	Destroyed	The incomplete battery from 1873 was obliterated in the construction of Battery Wilkeson; the new battery was placed almost immediately over the old, incomplete fort.
1897	CE	1897	CE	Planned	The construction of a new road was proposed, to run along the harbor shore from a wharf at La Playa to Ballast Point and beyond to Billy Goat Point, from where one branch would lead upslope to the lighthouse while another would continue on to the south end of the peninsula. Improvements to the road on the ridge of Point Loma were also proposed. Neither of the proposals were carried out.
1898	CE	1898	CE	Established	When the USS <i>Maine</i> blew up in Havana Harbor amidst heightened tensions between the U.S. and Spain over Cuba, a detachment from the recently formed Battery D, Third Artillery Regiment arrived at Point Loma to man the guns at Ballast Point.
1898	CE	1898	CE	Established	The Point Loma military reservation was closed to civilians.

1898	CE	1898	CE	Established	The U.S. declared war on Spain in April, beginning in the Spanish-American War.
1898	CE	1898	CE	Established	Fifteen torpedoes were laid in the San Diego channel in April and were not lifted until August.
1898	CE	1898	CE	Established	Upon the Secretary of War's order, the San Diego Harbor closed from eight in the evening until four in the morning.
1899	CE	1899	CE	Established	The War Department named the Point Loma military reservation Fort Rosecrans in July.
1899	CE	1899	CE	Established	Battery Wilkeson was designated.
1899	CE	1900	CE	Built	Three new emplacements were added to augment the defense of the harbor in addition to Battery Wilkeson; Battery Fetterman, Battery Meed, and Battery McGrath. These new additions were manned by 30 th Company, recent arrivals to Fort Rosecrans.
1902	CE	1902	CE	Established	Fort Rosecrans cemetery located north of the lighthouse was declared an official post cemetery.
1903	CE	1903	CE	Established	The entire garrison of the San Diego Barracks (located in New San Diego) was transferred to Fort Rosecrans.
1903	CE	1903	CE	Established	On August 6, Fort Rosecrans was organized as a separate post and both companies (30 th Company, Coast Artillery, and 115 th Company, Coast Artillery) were permanently stationed there.
1903	CE	1903	CE	Established	By the end of 1903, the new barracks were completed just north of Ballast Point and tents were no longer necessary.
1905	CE	1905	CE	Established	President Theodore Roosevelt established the Taft Board.
1910	CE	1910	CE	Built	The Army's Quartermaster General had a three-mile-long road surfaced with decomposed granite built out to the lighthouse along the crest of the point. It is an extension

					of Catalina Boulevard and is now known as Cabrillo Memorial Drive.
1910	CE	1919	CE	Established	The Army began housing military families in the lighthouse in an attempt to slow its decay during the 1910s.
1913	CE	1913	CE	Established	Presidential Proclamation No. 1225 signed by President Woodrow Wilson on October 14 established Cabrillo National Monument.
1914	CE	1914	CE	Established	The Panama Canal was opened and San Diego gained new commercial and strategic importance.
1915	CE	1915	CE	Established	Battery Wilkeson was divided into Battery Wilkeson and Battery Calef.
1915	CE	1915	CE	Established	Two new batteries were built to offer San Diego a measure of protection from ocean bombardment: Battery White, and Battery Whistler.
1915	CE	1915	CE	Built	The Base-End Station and Battery Commander Station for Batteries Calef-Wilkeson were constructed.
1916	CE	1921	CE	Built	The Lower Base-End Station at Billy Goat Point was constructed.
1917	CE	1917	CE	Established	U.S. declared war on Germany on April 6, officially entering World War I.
1917	CE	1917	CE	Abandoned	Battery Fetterman was decommissioned.
1918	CE	1918	CE	Built	The Army Radio Station was built.
1918	CE	1919	CE	Built	Searchlight Shelter No. 18 was constructed to shelter a 60-inch searchlight mounted on narrow-gauge rails. At the time of construction, it was assigned the number Searchlight No. 5.
1918	CE	1919	CE	Built	Searchlight Shelter No. 19 was constructed to shelter a 60-inch searchlight mounted on a counterweighted elevator. At the time of construction, it was assigned the number Searchlight No. 6.

1918	CE	1919	CE	Built	The Generator Station for Searchlight No. 18 and 19 was constructed.
1918	CE	1919	CE	Built	The Army built Meyler Road running north-south to the east of the ridge.
1918	CE	1919	CE	Built	The Army built a dirt road from the northern part of the reservation south along the west side of the peninsula to the new lighthouse, now known as Cabrillo Road.
1918	CE	1918	CE	Established	World War I ended on November 11.
1919	CE	1919	CE	Established	Fort Rosecrans demobilized quickly after the war, with only 200 soldiers in three companies left by January.
1920	CE	1920	CE	Built	The Base-End Station for Battery McGrath was constructed around 1920.
1921	CE	1921	CE	Established	Fort Rosecrans was placed on caretaker status.
1921	CE	1921	CE	Established	The 11 th Naval District was established in San Diego.
1924	CE	1926	CE	Established	The old Point Loma Lighthouse was used as a military radio station in the mid-1920s.
1933	CE	1933	CE	Land Transfer	The administration of Cabrillo National Monument was transferred from the War Department to the National Park Service on July 28, shortly following Executive Order No. 6166.
1933	CE	1933	CE	Restored	The old Point Loma Lighthouse was restored.
1933	CE	1933	CE	Established	Several hundred members of the Civilian Conservation Corps (CCC) trained at Fort Rosecrans.
1934	CE	1934	CE	Built	In July, a California State Highway, El Camino Cabrillo, was constructed; it ran 2.7 miles along the ridge of Point Loma and circled the lighthouse.
1934	CE	1934	CE	Improved	The trail from the old Point Loma Lighthouse to Billy Goat Point was widened into a road

					that tied into Meyler Road, creating a loop on the eastern half of the peninsula.
1935	CE	1935	CE	Established	Fort Rosecrans Post Cemetery, also referred to as the Bennington Cemetery, became a National Cemetery.
1936	CE	1936	CE	Established	The War Department started the modernization of America's coast defense.
1936	CE	1936	CE	Established	Present-day Searchlight (and Shelter) No. 18, originally No. 5, was renamed Searchlight (and Shelter) No. 11.
1936	CE	1936	CE	Established	Present-day Searchlight (and Shelter) No. 19, originally No. 6, was renamed Searchlight (and Shelter) No. 12.
1936	CE	1941	CE	Built	Battery Commander and Base-End Station for Battery Ashburn were built for use during World War II. The Upper level served as the Battery Command Station and the lower level was the Base-End Station and sleeping area.
1937	CE	1942	CE	Built	Battery Strong was built to house two 8-inch guns.
1939	CE	1945	CE	Built	Searchlight Shelter No. 15 was built during World War II to shelter a 60-inch coastal searchlight previously mounted on a counterweighted elevator.
1939	CE	1945	CE	Built	The subterranean generator station for Searchlight Shelter No. 15 was built around the same time.
1939	CE	1945	CE	Established	The old Point Loma Lighthouse was used as the Harbor Entrance Control Post Signal Station during World War II.
1940	CE	1940	CE	Planned	In September, the Sea Coast Harbor Defense Board planned for additional firepower on Point Loma: it recommended that 6-inch and 16-inch batteries be included in the scheme. It also called for a new and improved network of harbor command posts, plotting rooms, and base-end station to coordinate the new systems of defense.

1941	CE	1941	CE	Established	A special-use permit was granted to the War Department by the Department of the Interior, returning Cabrillo National Monument to the former. This event closed the national monument and the associated tourism.
1941	CE	1941	CE	Rehabilitated	The old Point Loma Lighthouse was painted a drab olive green and plans were made to convert the structure into a signal station for hailing incoming ships.
1941	CE	1941	CE	Removed	The twin radio towers next to the Army Radio Station near the lighthouse were removed.
1941	CE	1941	CE	Built	Battery Point Loma was constructed.
1941	CE	1941	CE	Built	The Battery Point Loma Bunker Complex for guns 1&2, and 3&4 were constructed, likely at the same time the gun mounts were built.
1941	CE	1941	CE	Established	The Japanese attacked Pearl Harbor on December 7.
1941	CE	1941	CE	Established	Upon news of the Pearl Harbor attack, the men at Battery Point Loma camouflaged the defense structures with woven burlap and set up pup tents around the batteries in preparation to defend the city.
1941	CE	1941	CE	Removed	By 1941, Battery Fetterman had been razed.
1941	CE	1941	CE	Built	The Electrical Connection Box was constructed, with the date "1941, USA" on the exterior.
1941	CE	1942	CE	Reconstructed	Meyler Road-Humphreys Road were reconstructed. Meyler Road was renamed Sylvester Road around this time.
1942	CE	1942	CE	Built	Battery Gillespie and Battery Zeilin were constructed.
1942	CE	1942	CE	Built	The construction of Battery Humphreys commenced in February 1942.
1942	CE	1942	CE	Built	The north and south gun emplacements of Battery Bluff were constructed.

1942	CE	1943	CE	Built	The construction of Battery Ashburn commenced in 1942 and the cement work was completed by 1943.
1942	CE	1942	CE	Built	Batteries Cabrillo and Fetterman II were constructed.
1942	CE	1942	CE	Established	The U.S. Intelligence officers broke the Japanese code in May.
1942	CE	1942	CE	Abandoned	Batteries Calef-Wilkeson, White, and Whistler were declared obsolete and were abandoned.
1942	CE	1942	CE	Abandoned	Base-End Station, Battery McGrath, was abandoned.
1942	CE	1942	CE	Abandoned	Base-End Station and Battery Commander Station for Batteries Calef-Wilkeson were abandoned.
1942	CE	1942	CE	Abandoned	The Lower Base-End Station at Billy Goat Point was decommissioned and abandoned in October.
1943	CE	1943	CE	Built	Battery Woodward was constructed, just below the 8-inch guns of Battery Strong.
1943	CE	1943	CE	Built	Battery Grant was constructed.
1943	CE	1943	CE	Established	Battery Commander Station and Base-End Station, Battery Humphreys, was assigned on February 18.
1943	CE	1943	CE	Established	Base-End Stations, Batteries Woodward and Grant, were assigned on February 20.
1943	CE	1943	CE	Established	Battery Humphreys was operational.
1943	CE	1943	CE	Abandoned	Battery Point Loma and its bunker complexes were abandoned.
1943	CE	1944	CE	Built	Batteries Channel and Cliff were constructed.
1944	CE	1944	CE	Established	By March, Battery Ashburn was operational.
1944	CE	1944	CE	Established	The nineteenth Coast Artillery was deactivated and split into two separate battalions on October 18.

1945	CE	1945	CE	Established	On August 31, two days before Japan's formal surrender in Tokyo Bay, the Harbor Defense Command Post ceased operations.
1947	CE	1947	CE	Land Transfer	The government returned Cabrillo National Monument to the NPS.
1947	CE	1947	CE	Established	Fort Rosecrans was put on caretaker status in March.
1947	CE	1947	CE	Established	The topside of Fort Rosecrans continued activities, under Navy operations, rather than the Army, as research facilities, following the end of World War II.
1948	CE	1948	CE	Removed	The barrels and mounts at each gun emplacement were dismantled and cut up.
1948	CE	1948	CE	Abandoned	The Battery Commander and Base-End Stations of Battery Ashburn closed in 1948.
1948	CE	1948	CE	Removed	The 68-foot barrels at Battery Ashburn were cut up and sold for scrap.
1949	CE	1949	CE	Built	A statue of Cabrillo was installed at the monument.
1956	CE	1956	CE	Established	Donald Robinson became the first Superintendent of Cabrillo National Monument.
1957	CE	1957	CE	Land Transfer	All remaining Fort Rosecrans property was transferred to the Navy subject to further transfer of 14.5 acres from the Navy to the Department of Treasury for Coast Guard Light Stations at Ballast Point (3 acres) and Point Loma (11.5 acres), and 80.6 acres from the Navy to the Department of the Interior for the Cabrillo National Monument.
1959	CE	1959	CE	Established	On February 2, President Eisenhower signed Proclamation, No. 3273, transferring 80.6 acres of land to the NPS.
1959	CE	1959	CE	Land Transfer	In March, the Army vacated Fort Rosecrans, leaving the reservation to the Navy.
1959	CE	1959	CE	Land Transfer	In September, the Navy sold 40 acres of surplus land to San Diego City for the

					construction of a sewer treatment facility, located just north of Cabrillo.
1959	CE	1960	CE	Built	The DOI proposed an “atomic powered salt water conversion plant” on a plot of land southwest of the monument boundaries. Upon the Atomic Energy Commission’s recommendation in 1960, the plant was built to use conventional power.
1960	CE	1960	CE	Established	A 20-year special permit was issued to the City of San Diego for a right-of-way through Cabrillo’s western boundary for a road and utility lines to the sewage treatment plant. Part of the road would also give right-of-way to the saline water plant.
1960	CE	1960	CE	Built	The present alignment of Cabrillo-Gatchell Roads was built by the City of San Diego.
1963	CE	1963	CE	Moved	The entire saline conversion plant was airlifted to Guantanamo Naval Station.
1963	CE	1963	CE	Established	The saline conversion plant’s Point Loma office space was offered to the monument.
1963	CE	1963	CE	Established	Don Robinson acquired the dirt removed in constructing the City of San Diego’s sewage plant around 1963; it became the fill dirt on which Cabrillo’s expanded parking lot would be constructed.
1960	CE	1969	CE	Established	The Westside Trail was established and used through the 1960s.
1963	CE	1967	CE	Built	The Visitor Center complex was built and landscaped.
1974	CE	1974	CE	Land Transfer	The Navy declared a portion of the loop road on the eastern half of the peninsula surplus and it was added to Cabrillo National Monument.
1975	CE	1975	CE	Established	The Bayside Trail opened.
1984	CE	1986	CE	Established	Panama gun mount #4 of the abandoned Battery Point Loma was uncovered by archaeologists.

1985	CE	1985	CE	Proposed	The 1985 revision of the "Natural and Cultural Resources Management Plan, an Addendum to the Natural Resource Management Plan for Cabrillo National Monument, California," called for the cultivation of native ground cover and the gradual reduction of exotic species.
1985	CE	1985	CE	Removed	The two underground gasoline tanks located in front of the Generator Station for Searchlight No. 18 and 19 were removed.
1993	CE	1993	CE	Stabilized	The San Diego Urban Corps stabilized the Lower Base-End Station at Billy Goat Point.
1994	CE	1994	CE	Improved	The Bayside Safety Improvement project was executed.
1998	CE	1999	CE	Rehabilitated	The Army Radio Station Trail was rehabilitated and used as the military history exhibit.
2000	CE	2000	CE	Established	Cabrillo National Monument Boundary increased to 159.94 acres.
2011	CE	2011	CE	Stabilized	The Bayside Trail was stabilized from erosion.
2011	CE	2012	CE	Restored	The Battery Command and Base-End Station for Battery Ashburn was restored by the San Diego Military History Association and open for public viewing on weekends.

Physical History

The Cabrillo Coastal Defense System is located within the 160-acre National Park Service unit at the southern tip of Point Loma peninsula, a narrow north-south peninsula that extends three miles at the north end of San Diego Bay. The portion of the coastal defense system within Cabrillo National is part of a greater network of coastal defense military structures that once stretched throughout the entire peninsula and are associated with the names Fort Rosecrans, San Diego Harbor Defenses, and Point Loma.

PRE-CONTACT POINT LOMA: CA. 6,000 YEARS AGO – 1542

Before the last ice age, the Point Loma peninsula was an island, isolated from the present-day San Diego. A drop in sea level and sedimentation from the San Diego River connected the island to the mainland. The ridge along the point and the peninsula itself is a result of uplifting associated with the Point Loma fault and nearby shear zones, likely during the most recent glacial period, about 10,000 years ago.²⁰

The sandstone ridges of Point Loma have been a site of aboriginal presence for at least 6,000 years, as evidenced by kitchen middens found on Ballast Point. Tribes in the coastal San Diego area are considered to have been mainly coastal tideland collectors (hunter gatherers), though they are also known to have explicitly planted some crop species and other spontaneous plants were managed by cutting and burning.²¹ The coastal tideland collectors' main food source was the intertidal shoreline and estuaries, and excavation on Ballast Point, with bone finds of some 12,425 fish bones,²² confirms that the Point Lomans' main food source was from the ocean. The rocky coast, soft sloughs, sandy tidal areas, and the kelp beds would have provided clams, mussels, surf fish, and other marine mammals as important resources for the collectors; however, evidence suggests that to some extent, the coastal tideland collectors also utilized terrestrial food resources such as acorns, antelope, deer, rabbits, and grass seed.²³ At this time, the vegetation on

²⁰ Kevin Cummins, *Vegetation History of Cabrillo National Monument*, US Department of the Interior, National Biological Service (March 1995), p.6.

²¹ *Ibid.*, p.8.

While inhabitants of the Pacific coast, especially in Southern California, are known to have burned coastal vegetation, Indian burning on Point Loma has never been documented and its frequency even less known.

²² Samantha Weber, "People on Point Loma: History of Human Impacts" in *Understanding the Life of Point Loma*, ed. Rose Houk (San Diego, CA: Cabrillo National Monument Foundation, 2004), p.135.

²³ Cummins, *Vegetation History*, p.8.

Point Loma likely consisted of variations of maritime sage scrub, chaparral, and coastal bluff scrub.²⁴

Point Loma is most closely associated with the Kumeyaay people today. The Kumeyaay is one of two separate cultural traditions that developed in San Diego County upon the Shoshonean intrusion and the hypothesized La Jolla-Yuman acculturation during the Late Prehistoric Period.²⁵ The Kumeyaay were the primary inhabitants of the San Diego Bay area from this point until the time of European contact. The semi-nomadic people established two seasonal villages, the “Totakamalam” on Ballast Point and “Pauipa” at the northeastern part of Point Loma, likely present-day La Playa, and utilized the peninsula for hunting on land, fishing in the sea, and even harvesting plants.²⁶ Skilled manipulators of the environment, the Kumeyaay took advantage of all the various food resources of Point Loma. They created paths down to the tide pool where they collected shell fish and other edible sea creatures, leaving piles of empty shells along the trails on their way back to their camps on Ballast Point.²⁷ These ancient trails crisscrossed Point Loma, running from the La Playa shore on the east side, to the top of the ridge, and down to the western tide pools.²⁸ Later European observations of the American Indians describe two-to-three hundred Kumeyaay forming a human line from the steep bluffs to the shore and advancing together with curved throwing sticks to drive rabbits and hares ahead of them into gullies or up against walls.²⁹ As such, Point Loma had special importance in Kumeyaay life.

²⁴ Cummins, *Vegetation History*, p.6.

²⁵ Flower & Roth Environmental Consultants, *Cultural Resource Inventory - Archaeology/History/Architecture: Navy and Coast Guard Lands Point Loma, San Diego, California*, Contract N62474-81-C-5747, Department of the Navy: Western Division (October 1982), p.63.

Prior to 1973 when some of the Digueño of southern San Diego County stated a preference for “Kumeyaay” by establishing the Kumeyaay Tribal Affairs Office in El Cajón, the Kumeyaay peoples were referred to as not only the “Kumeyaay” (“the steep ones, those from the cliffs”), but also the “Ipai” (“people”), “Ipai-Tipai,” “Kamia,” and “Diegueño.” (Roger E. Kelly and Ronald V. May, “Chapter One: Shadows of the Past at Cabrillo National Monument” *Shadows of the Past at Cabrillo Monument*, US Department of the Interior, National Park Service (2001), p.5.)

²⁶ Flower & Roth, *CRI*, p. 66; Weber, “History of Human Impacts,” p.138; Kelly et al, *Shadows of the Past*, p.5.

²⁷ Hank Florence, Robbyn Jackson, Art Dryer, and Zehra Osman, *Cultural Landscape Analysis and Recommendations for General Management Planning: Old Point Loma Lighthouse, Cabrillo National Monument, San Diego, California*, US Department of the Interior, National Park Service (November 1993), p.11.

The camps on Ballast Points are possibly the subsidiary camps that were commonly used and were usually within a one-day radius of a village (Flower & Roth, *CRI*, p.66).

²⁸ Some modern roads follow the path of some of these old trails: when a road swings left or right for no apparent reason, it may be following the same route as an ancient trail that was turning to avoid a period-specific barrier such as a rock outcrop or stream. Present-day Cañon and Rosecrans streets are two examples of such roads (Weber, “History of Human Impacts,” p.139).

²⁹ *Ibid.*, p.137.

EXPLORATION AND SETTLEMENT: 1542 – 1845

On September 28, 1542, the first recorded defense of San Diego Harbor ensued, the Kumeyaay defending their lands against the incoming foreigners. Fearful that Cabrillo and his men would behave as did Francisco Vázquez de Coronado, the Kumeyaay flew several arrows at the Spanish party foraging along the point.³⁰ After this initial contact, the Kumeyaay recognized that the Spaniards were merely sojourners in the bay, and exchanged food and goods with the crew.³¹

Though the Spanish crew was in the San Diego Bay area for only six days on a foraging stop during their expedition to find the Northern Strait³² to replenish supplies, Juan Rodríguez Cabrillo's "discovery" of Point Loma marked a momentous time in history that would soon shift the primary inhabitants of the San Diego Bay area from the Kumeyaay to the Spanish settlers. During his short stay on Point Loma, Cabrillo named the port "Puerto de San Miguel," which later Spanish explorers named "La Punta de los Gujarras," present-day Ballast Point.³³

The next direct European contact in Point Loma following Cabrillo's expedition occurred on November 10, 1602, when Spanish maritime explorer Sebastián Vizcaíno arrived at the San Diego harbor. The developments in the previous decades, of increasing tension with the English in the Pacific, necessitated this expedition: Vizcaíno was to identify a space for the said northern harbor where repairs could be made and shelter could be offered.³⁴ Upon his arrival, Vizcaíno renamed Cabrillo's San Miguel Bay "San Diego de Alcalá de Henares, in honor of his patron. He further christened the rock-strewn finger of land where Cabrillo had first landed (present-day Ballast Point) "La Punta de los Gujarras," or "the Point of Cobblestones."³⁵ Unlike Cabrillo, the seventeenth century explorer also left reports of the vegetation of the peninsula.

³⁰ The Kumeyaay are known to have had extremely sharp hooks and spears fashioned out of stone, animal bones, and possibly even cactus spines. Later European observers have recorded the Kumeyaay's impressive command over their tools and weapons. (Ibid., p.137-138).

³¹ Barry Alan Joyce, *A Harbor Worth Defending: A Military History of Point Loma*, (San Diego, CA: Cabrillo National Monument Foundation, 1995), p.5.

³² Cabrillo led three Spanish vessels from Navidad, Mexico on June 27, 1542 under the service of the Spanish crown, on an expedition up California's Pacific Coast. The object of Cabrillo's expedition is debatable: some historians conjecture that his object was "exploration pure and simple," with the hope of discovering new sources of gold and silver, or a seaport in the fabled country of the Seven Cities, "Quivira," while other scholars attribute his expedition to the mission to find the Northern Strait and thereby establish a new route from the Pacific to Europe (Erwin N. Thompson, *The Guns of San Diego: San Diego Harbor Defenses, 1796-1947*, US Department of the Interior, National Park Service (1991), p.1-2; Flower & Roth, *CRI*, p.124).

³³ Thompson, *Guns of San Diego*, p.2.

³⁴ Ibid., p.3.

³⁵ Joyce, *A Harbor Worth Defending*, p. 5.

Vizcaíno was the first of the Europeans in the San Diego Bay area to start the long-argued oak forest debate. He stated that San Diego had good wood resource, but did not specifically provide locational details. Explorers, missionaries, scientists, and surveyors offered varying accounts of the vegetation observed in the area throughout the next two centuries. In addition to Vizcaíno, three accounts during the eighteenth century claim that there was a forest of trees in the vicinity of the Bay. One account observed overgrown trees in the arroyos in the area; another observed cottonwoods near the river, “three leagues away”; and finally, the third account claimed that there were willows and cottonwoods near the river. Other numerous accounts report a scarcity of trees for miles.³⁶

The contested oak forest likely did not exist on Point Loma despite the early observations. The lack of any description of a forest, which would have served a priority resource for any new harbor, supports this claim. Though most of the early accounts of the landscape note that trees were present in the landscape despite the scarcity of wood, it is likely that the trees observed were those of the well-developed riparian forest along the San Diego River.³⁷ The specific trees identified (cottonwoods and willows) were those commonly associated with riparian ecosystems.

Point Loma and the general San Diego Bay area remained relatively free of direct Spanish contact upon Sebastián Vizcaíno’s departure until some 166 years later when King Carlos III of Spain ordered the Viceroy of New Spain, Marquez de Croix, to occupy and fortify San Diego in 1768.³⁸ Accordingly, between May and June of the following year, Captain Gaspar de Portolá, accompanied by Franciscan Father Junípero Serra, established the first presidio and mission in California at San Diego. They constructed the presidio atop a hill overlooking the San Diego River delta, five miles from the sea anchorage. It was garrisoned by sixty soldiers and three small cannons. As this settlement was far too distant from the harbor, the cannons were meant for the protection of the immediate surrounding, not to deter enemy vessels from landing troops.³⁹

³⁶ Cummins, *Vegetation History*, Table 4.2 “Historic Description of San Diego and Point Loma’s Vegetation.” See Physical History 17.

³⁷ Ibid., p.17.

Trees are still found along the lower portions of the San Diego River.

³⁸ Thompson, *Guns of San Diego*, p.4

The Spanish crown also ordered the occupation and fortification of Monterey at this time.

³⁹ Joyce, *A Harbor Worth Defending*, p. 6; Thompson, *Guns of San Diego*, p.4.

Father Junípero Serra blessed the cross and dedicated the first mission in Alta California to San Diego de Alcalá on July 16, 1769, beginning the European settlement of Alta California.⁴⁰

Throughout the following decades, the missionaries continued their efforts to convert and acculturate the American Indians of San Diego, deterring them from their traditional land use practices such as foraging and controlled burning. As more of the indigenous population resided within the mission grounds, it is likely that their natural foraging and hunting grounds such as Point Loma were less utilized.⁴¹ Instead, the missions sustained themselves through European agriculture; as the number of people, both missionaries and American Indians, grew, the mission relocated six miles up the river, where the land promised greater opportunities for crops and grazing. The mission officially separated from the military in 1774, the same year during which San Diego was promoted in status to a regular royal coastal presidio authorized to house the guards attached to the missions, in addition to protecting the general interests of the Spanish Crown.⁴²

Perhaps as a measure to protect the general interests of the Spanish Crown in San Diego as ordered in 1774, second sailing master of the Spanish fleet, Don Juan Pantoja surveyed and created a plan of the port of San Diego in 1782. This plan, published in Madrid in 1802, is the first document to attribute the name “Loma” to the peninsula, *Punta de la Loma*, likely because of its promontory. The word “Loma” is a Spanish geographical term designating a low, long elevation or hill; however, even in Spanish times it was occasionally applied to higher hills or mountains.⁴³ Though a variation of names were applied to the peninsula by other European explorers in the immediate decades (a 1797 plan of the port of San Diego by French navigator

⁴⁰ Thompson, *Guns of San Diego*, p.4.

⁴¹ The practice of traditional land use did not completely halt, however: fifty-eight years later after the mission was established, a group of American Indians led a large rabbit hunt on Point Loma. Further, native inhabitants near the mission and around the state were still actively burning vegetation in 1793. This practice, though not necessarily on Point Loma, continued well into the 1800s (Cummins, *Vegetation History*, p.10).

⁴² Thompson, *Guns of San Diego*, p.5.

⁴³ Erwin G. Gudde, *California Place Names: The Origin and Etymology of Current Geographical Names*, Second Ed., Revised and Enlarged (Berkeley and Los Angeles, California: University of California Press, 1960), p.171.

“Loma” became a semigeneric term within the Spanish domain, often one used for a “Spanish” effect without regard to the actual meaning. (See Physical History 1)

Jean-François de Galaup, comte de La Pérouse labels the land mass *Pointe de la Colline*)⁴⁴, the name *Punta de la Loma*, or Point Loma, persisted.

A more direct effort to protect the interests of the Spanish Crown in San Diego occurred in 1795 when the Spanish began work on the first permanent fortification structure at the base of Point Guijarros. The move to fortify the port of San Diego was likely the influence of Captain George Vancouver who entered San Diego Bay two years prior and recognized that “with little difficulty it might be rendered a place of considerable strength by establishing a small force at the entrance of the port.”⁴⁵ The combination of the increasing ease with which other European vessels sailed the Pacific Ocean and other European tensions in the late-18th century warranted the fortification of the Spanish port and pueblo.

The fortification on Point Guijarros (Ballast Point) marked the beginning of a long harbor defense and fortification history on the strategically located Point Loma. Though this fort was officially blessed as *El Castillo de San Joaquín* in 1796, it is better known as “Fort Guijarros.” Constructed by American Indian prisoners using lumber, including 103 twenty-three-foot planks, from Monterey, axle-trees and wheels sufficient for ten carts from Santa Barbara, and local tiles and adobe bricks, the fort was completed in 1798. It consisted of a battery, a wooden casemate, magazine, barracks, flagstaff, and a flatboat. It also included the first constructed water source, as a dam was created at the bottom of a ravine.⁴⁶ Archaeological evidence indicates that the fortification consisted of two outer adobe-brick-and-sand walls twenty feet thick, with eight to ten cannons of an unknown size protruding from its battlements. The fort was under the authority of a corporal who commanded five soldiers who manned the guns. The installation was ideally situated to defend the port from intruders: opposite the tip of North Island, the installation further narrowed the strait that served (and serves) as the only entrance to the harbor. Further, silting

⁴⁴ “Plan du Port de St. Diego en Californie situe par 32039'0" de latitude nord et 1204'0" a l'ouest de St. Blas,” Jean-François de Galaup, comte de La Pérouse (Paris: L'Imprimerie de la Republique, An V, 1797). Accessed December 15, 2017, https://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~20338~550035:St--Diego,-St--Blas-?sort=pub_list_no_initialsort%2Cpub_date%2Cpub_list_no%2Cseries_no&qvq=q:juan%2Bpantoja;sort:pub_list_no_initialsort%2Cpub_date%2Cpub_list_no%2Cseries_no;lc:RUMSEY~8~1&mi=1&trs=3. (See Physical History 2)

It is likely that the name *Pointe de la Colline* was a direct translation of Pantoja's *Punta de la Loma*, as “colline” means “hill” in French and the word “Loma” in Spanish also referred to hills of varying elevations.

⁴⁵ Joyce, *A Harbor Worth Defending*, p.6.

⁴⁶ Cummins, *Vegetation History*, p.11.

made ships passing through this narrow strait steer a course that carried it just yards away from Point Guijarros, exposing them as easy targets for the cannoneers of the fort.⁴⁷

The Fort Guijarros installation was put into action twice during her lifetime. She was first put to test during the Battle of San Diego Bay on March 17, 1803, when an American smuggler vessel, *Lelia Byrd*, arrived in San Diego. Conflicting accounts render the outcome of this “battle” indecisive: some accounts claim that the Spanish cannons, despite their strategically advantageous location, failed to inflict any real damage on the smuggling vessel, allowing her to sail off with her smuggled goods,⁴⁸ while others report that the fort first fired a warning shot, and when the brig refused to turn to, the fort opened fire and hit the rigging and mast. The same report claims that *Lelia Byrd*’s 3-pounders did not stand a chance against the adobe walls of the fort.⁴⁹ The second incident occurred a quarter-century later, in 1828 when the American ship *Franklin* entered San Diego Bay.⁵⁰ The American captain John Bradford refused to contend to the orders of the Mexican officials and set sail past the fort; Fort Guijarros fired some forty rounds, causing some damage to the rigging and wounding Bradford.⁵¹

The *Franklin* incident was the only military activity in San Diego under Mexican rule. Mexico attained its independence from Spain in 1821 and took claim over Alta California. Upon its independence, Mexico instituted private land ownership and subdivided Point Loma into private plots. Approximately twenty-three lots were subdivided on Point Loma.⁵² Most development took place in the northern end of the peninsula near La Playa.⁵³

In 1833, out of fear that Spain could continue to exert power and influence in California through Spanish missions, who remained loyal to the Roman Catholic Church in Spain, the Mexican Congress passed the Secularization Act, disestablishing the Spanish missions in California. The Secularization Act took away most of the mission lands and sold or gave them away in large

⁴⁷ Cummins, *Vegetation History*, p.6-7; Thompson, *Guns of San Diego*, p.10-11.

⁴⁸ Thompson, *Guns of San Diego*, p.11.

⁴⁹ Joyce, *A Harbor Worth Defending*, p.8.

⁵⁰ It is unclear whether the time gap between the two incidents was reflective of the effectiveness of Fort Guijarros, as suggested by Joyce, or if it was coincidental, as suggested by Thompson.

⁵¹ Thompson, *Guns of San Diego*, p.11.

⁵² Cummins, *Vegetation History*, p.13.

⁵³ Florence et al, *Cultural Landscape Analysis*, p.11.

grants called ranchos.⁵⁴ As a result of this legislation, the San Diego mission was disestablished in 1834 and Governor Pio Pico awarded its lands to a private citizen, Jose Rocha.⁵⁵ The last priest moved away and the San Diego mission officially closed in 1846.⁵⁶

Following the disestablishment of the San Diego mission, it was recognized that the garrison at Fort Guijarros was severely outdated. Amidst the actively advancing maritime and naval technology, the guns of the adobe fort were deemed no match for even a small squadron of enemy ships. At the same time, San Diego population had never exceeded two hundred in the first three decades of the nineteenth century, begging the question of whether or not it was worth defending. The fort was ultimately abandoned and the garrison departed in 1835. By 1840, the remnants buildings of the fortification were sold for salvage to local resident, Don Juan Machado, for \$40.⁵⁷

While religious and military activities dwindled and eventually ceased on Point Loma and in the San Diego Bay area by the 1830s, these lands were not devoid of all activity under Mexican rule leading to and after this time. When the presidio was still active, the southern parts of Point Loma, away from private development and closer to the garrison, were used to provide feed for the presidio horses. The water source established at Fort Guijarros made this area a desirable location for the animals to graze, though no evidence suggests that mission herds ever grazed here. In addition to providing feed for the animals, the chaparral shrubs of Point Loma supplied the population of San Diego with fuel as late as the 1830s. Richard Henry Dana noted that the American Indians were sent out to collect shrubwood for fuel. These chaparral shrubs produced ideal cooking fuel, as the wood of chamise burned well and the whole burl was stove size.⁵⁸

Concurrently, Point Loma became a prime location for the up and coming leather industry. During the first half of the nineteenth century, California became a major source for raw materials for the leather industry in the Eastern United States. American ships collected hides along the

⁵⁴ For more detailed information on the effect of the Secularization Act in California, see: Randall Milliken, Laurence H. Shoup, and Beverly R. Ortiz, "Chapter 8. Secularization and the Rancho Era, 1834-1846" in *Ohlone/Costanoan Indians of the San Francisco Peninsula and their Neighbors, Yesterday and Today*, US Department of the Interior, National Park Service, Golden Gate National Recreation Area (June 2009).

⁵⁵ Thompson, *Guns of San Diego*, p.5.

⁵⁶ Ibid.

⁵⁷ Ibid., p.12; Joyce, *A Harbor Worth Defending*, p.9; Flower & Roth, *CRI*, p.129.

⁵⁸ Cummins, *Vegetation History*, p.11-12.

coast of California, including San Diego, for delivery back to the east coast. As such, hides were gathered and prepared for shipment in “hide houses” on Ballast Point where they would be loaded onto the American ships. This satellite of the leather industry became the only significant commercial enterprise in San Diego during this period. Hide houses operated from the 1820s to 1850s on Point Loma, where the operation continued to use the local shrublands as a heating fuel resource. Further, while it is unlikely that cattle for leather were kept on Point Loma, the operation’s horses are known to have freely grazed and browsed in the nearby slopes.⁵⁹

AMERICAN MILITARY IN SAN DIEGO: 1846 – 1898

On July 29, 1846, amidst the Mexican American War, the US war sloop *Cyane*, commanded by Captain Samuel F. DuPont, entered San Diego harbor. A detachment of sailors and Marines landed at the hide houses at La Playa, northern Point Loma, and marched five miles to the pueblo and raised the US flag in the town plaza.⁶⁰ While most of the battalion marched overland to Los Angeles after eleven days, the shore detachment remaining in San Diego established a strongpoint on top of Presidio Hill, ignoring the ruined presidio established by the Spanish garrison some eighty years prior.⁶¹ The Mexican period of San Diego’s history ended without opposition.

The American era of Point Loma began the following year with a military reconnaissance of Point Loma and San Diego. Between late 1846 and early 1847, Brigadier General Stephen Watts Kearny ordered Lieutenant William H. Emory, US Army Corps of Topographical Engineers, to survey the newly acquired territory. Emory reported Point Loma to be a high promontory that:

Runs into the sea four or five miles, and is connected by the flat with the main land. The road to the hide houses leads on the east side of this promontory. The hide houses are a collection of store houses where the hides of cattle are packed before being shipped; this article forming the only trade of the little town.⁶²

⁵⁹ Cummins, *Vegetation History*, p.12-13.

⁶⁰ Thompson, *Guns of San Diego*, p.13.

⁶¹ Ibid.

The Presidio Hill is in the present-day Old Town area, northeast of Point Loma. The fort was first named Fort DuPont in honor of the captain of *Cyane*, but soon changed to Fort Stockton, after the commander of the US Navy’s Pacific Squadron, Robert F. Stockton. This site is listed on the California Historical Landmarks, as No. 54: Fort Stockton.

⁶² Ibid., p.14.

Emory’s observation of Point Loma is consistent with the period of the hide industry in San Diego, as the establishment persisted until the 1850s.

The lands surveyed by Emory, including Point Loma, were officially passed into the hands of the US on February 2, 1848, with the signing of the Treaty of Guadalupe Hidalgo that ended the Mexican-American War. Point Loma was now an American territory.⁶³

When California officially became the thirty-first state of the Union on September 9, 1850, the United States government began its work to develop and safeguard its interests in the Pacific coast. During the initial years since the acquisition of California, the military presence in San Diego was contained to the old mission buildings. However, by 1850, the US Army found it necessary to establish a depot in San Diego from which to distribute quartermaster and subsistence supplies to military establishments in the neighboring regions. While the intended location for the depot was at La Playa on the northern end of Point Loma, a group of developers led by William Heath Davis persuaded Lieutenant Thomas D. Johns, who had the command of establishing the depot, to erect the depot at their new development site, “New San Diego.”⁶⁴

Though the military depot was ultimately constructed elsewhere, Point Loma was recognized as an area that warranted military presence as it was a key contributor to the value and quality of San Diego harbor. The San Diego harbor was a remarkable harbor along a coast where good harbors were rare: it was spacious, sheltered by the peninsula, free from shoals, secure from storms, and had a natural, easily defensible, narrow entrance.⁶⁵ The American government feared that the narrow entrance established by Ballast Point and North Island could be attacked on the land side from the ridges of Point Loma. President Millard Fillmore signed an Executive Order on February 26, 1852, establishing the Point Loma Military Reservation, which consisted of 1,300.42 acres, over the protest of local residents who had staked claims in the area.⁶⁶

By the time that California joined the Union, the hide industry in San Diego dwindled. Though the industry persisted through the decade, a new industry appeared on the peninsula, on Ballast Point specifically, that became the main commercial enterprise in the area. Around the mid-

⁶³ Joyce, *A Harbor Worth Defending*, p.9.

⁶⁴ Thompson, *Guns of San Diego*, p.18.

“New San Diego” is the area covering the present downtown San Diego.

⁶⁵ Ibid., p.23.

⁶⁶ Ibid., p.24; Joyce, *A Harbor Worth Defending*, p.11.

1850s, at least two whaling companies operated from Ballast Point in a shore whaling station. At this time, the Pueblo of San Diego continued to develop, consistently increasing its population, reaching 2,600 by 1880. As La Playa was a part of this development, as the closest developed settlement from Ballast Point, it is likely that the whalers obtained most of their resource needs from this area. The seasonal operation continued into the 1870s.⁶⁷

Despite its designation as a military reservation, the first official American activity on Point Loma was not to fortify the harbor entrance. Rather, the first construction on Point Loma took form of a lighthouse. In 1852, President Fillmore established the Lighthouse Board of the United States and Secretary of Treasury Thomas Corwin authorized the construction of eight lighthouses on the Pacific Coast. This was the nation's first successful effort to provide navigational aids for the newly acquired west coast.⁶⁸ A Coast Survey party investigated San Diego and the Chief Topographer, A.M. Harrison, recommended that the lighthouse be built on a spot near the southern end of Point Loma at an elevation of 422 feet above sea level. This height, despite the concern over the frequent and heavy fog, would permit the lighthouse to function as both a coastal light and a harbor light. This lighthouse was one of the eight authorized on the Pacific Coast and was constructed in 1854 and went into service by 1855.⁶⁹

The construction process of the lighthouse left lasting impressions on Point Loma. The first road on Point Loma was constructed as an access road that connected Ballast Point, where the San Francisco schooner *Vaquero* discharged supplies, to the lighthouse site to transport the delivered construction supplies. It ran from Ballast Point in a series of switchbacks to the rest of Point Loma, at a place almost directly above Ballast Point. The road took eighteen men over thirty-five days to build; it was a difficult road to travel. The old American Indian trails and paths left by the hide industry were probably utilized to reach La Playa from Ballast point; the absence of a water source on the summit of Point Loma required workers to haul water from a well at La Playa, some seven miles away.⁷⁰

⁶⁷ Cummins, *Vegetation History*, p.13.

⁶⁸ Florence et al., *Cultural Landscape Analysis*, p.13.

⁶⁹ Ibid.

⁷⁰ Ibid.

The lack of a reliable water source on the summit of Point Loma continued to be problematic. Major Hartman Bache, the lighthouse inspector, recognized the problem in 1857 and recommended building a road from La Playa to the lighthouse to ease the transport of water. The La Playa Road was built in 1857 and replaced the difficult access road from Ballast Point. This new road rose gradually in a straight line until it reached the crest of Point Loma, which it then followed for about two miles.⁷¹ Parts of this new, improved but still difficult and steep, road was included in the one of Bache's sketches of the promontory. The sketch was made from the approximate location of the lighthouse, looking northward, with the harbor on the right and the road running along the crest (See Physical History 3 and 4). It is worth noting that Bache depicts Point Loma as a treeless land in his sketches, confirming the scarcity of wood on the peninsula and putting to rest the speculations on the whereabouts of the long-contested oak forest. By the mid-1850s, Point Loma was devoid of large trees (see Physical History 5).⁷²

Alongside the construction of the lighthouse and the new road, another development took place on Point Loma. In November of 1855, the San Diego Coal Company went into business. The company excavated a mine shaft on the western slope of Point Loma, about a mile and a half north of the lighthouse. The mine consumed thousands of man-hours and investor dollars, and, near the end of its first year in business, the company was within a few vertical feet of exposing the potentially profitable coal reserve. However, toward the end of the second year, in 1857, the mining activities came to an abrupt halt and most of the entrepreneurs and laborers abandoned the operation. It is unclear why the company was established on Point Loma and even less clear why it came to an abrupt close. Various interpretations and scenarios have been offered by historians, journalists, and geologists throughout the years, most making connections to the Mormon Battalion garrisoned in Old Town during California's early statehood. Though short lived, this mining site has inspired popular folk legends in the area, of a "Mormon Mine" or "Mormon Well," and perhaps even the famous legend of a tunnel that bisects the peninsula.⁷³

The first military project on the peninsula since its designation as a military reservation occurred nearly two decades later. During the post-Civil War years, the army engineers realized that

⁷¹Florence et al, *Cultural Landscape Analysis*, p.13.

⁷² Kelly et al, *Shadows of the Past*, p.5.

⁷³ Bradley Lunt Hill, "The San Diego Coal Company: An Early Mormon Enterprise on Point Loma," *Journal of San Diego History* v.56, no. 1&2 (Winter/Spring 2010), p.67-82.

advancements in warfare, such as rifled artillery and steam-propelled warships protected by iron armor, had made the extant, and costly, masonry casemated forts of the US obsolete. Engineer boards in both San Francisco and New York began planning a report for new standards of defense that would match the advancing military artillery. Concurrently, by 1870, San Diego's population had multiplied to almost 5,000 and by 1871, the city was designated the western terminus of the proposed Texas & Pacific Railroad, bringing the nondescript town to the attention of the US Board of Engineers.⁷⁴ Now a city of substantial numbers, soon to be connected to the rest of the country, San Diego warranted protection and was included in the planning for the future of coastal defenses.⁷⁵

The Board of Engineers did not delay in its plans to fortify the San Diego harbor, especially in light of its imminent railroad connection. In the same year that San Diego was designated the western terminus of the railroad, plans were drawn for a wedge-shaped fifteen-gun battery that would house massive 15-inch Rodman smoothbore cannons that were stockpiled from the Civil War. This design was one specific to the period, one during which the US engineers desperately attempted to update their defenses to match the technological advancements in warfare. The design of the fort reflected the concepts of the 1868 New York board's report: the original plans for the new fortification included a battery proper, a triangular earthwork having positions for fifteen 15-inch Rodman smoothbores and four mortars, and an outwork on the point which included positions for seven of the heavy guns and two mortars. The final plans excluded the outwork; rather, it called for an earthwork containing guns mounted in pairs, and the pairs separated by earthen traverses, each containing a magazine. All mortars had been deleted from the plans.⁷⁶

The construction of the first fortification on Point Loma under American authority started in 1873. An initial \$50,000 was appropriated for the new fort along the neck of Ballast Point. The site was cleared, 26,626 cubic yards of embankment placed, and concrete dams were built. A stable, stone house, carpenter's shop, a mess house, and overseer's quarters were also built.⁷⁷ However, when the Texas & Pacific Railroad failed to wind its way into San Diego, and word

⁷⁴ Joyce, *A Harbor Worth Defending*, p.11.

⁷⁵ Thompson, *Guns of San Diego*, p.26-27.

⁷⁶ Ibid., p.27-28.

⁷⁷ Ibid., p.28; Joyce, *A Harbor Worth Defending*, p.11-12; Flower & Roth, *CRI*, p.130.

came that foreign countries were developing naval ordnance that could pulverize the earth-and-masonry walls of American forts, the efforts to build a fort on Ballast Point became moot. Without a railroad connection San Diego to the rest of the country, the city did not warrant protection and fortification. Furthermore, the current design of the fort had once again become obsolete against foreign powers. In light of these changes, all amidst an economic depression, the fortification of Ballast Point was deemed an unnecessary expenditure. Funding ceased in 1874 and the construction halted, never to be resumed.⁷⁸ This unfinished fort of Ballast Point was the first and last earth-and-masonry fort constructed on Point Loma.

In the following decade, the city of San Diego once again proved its worthiness of protection. A renewed talk of the imminent arrival of a railroad during the early-1880s caused a real estate boom that caused the city's population to burgeon by forty thousand by 1887, a fifteen-fold increase in seven years. This population and real estate boom, coupled with the scarcity of quality deep-water ports on the West Coast, made it difficult for the United States government to ignore and exclude San Diego from its plans for coastal defense; Point Loma was once again included in the list of twenty-seven sites recommended for harbor defense.⁷⁹

In 1885, President Grover Cleveland had directed Secretary of War William Endicott to convene a board to select sites for new, upgraded coastal defense fortifications. The Endicott Board compiled a list of twenty-seven sites, including San Diego. The establishment of this board was in response to the perceived threat that the Europeans and their advanced ordnance, actively colonizing Africa and Asia, were encroaching on America's foreign commerce. US naval theorists called for a new, assertive navy that could keep belligerent foreign nations at bay. To accomplish this, the new navy would formally separate from the responsibility of coastal defense; coastal defense would solely be the responsibility of fixed harbor fortifications.⁸⁰

As one of twenty-seven sites selected for harbor defense, Point Loma was surveyed by the Endicott Board in 1895. A special board of officers arrived at the peninsula to determine sites for a military post and harbor defenses. The Board identified a space east of the old lighthouse, at an

⁷⁸ Thompson, *Guns of San Diego*, p.28.

⁷⁹ Joyce, *A Harbor Worth Defending*, p.13.

⁸⁰ Ibid., p.12-13.

elevation of 70-100 feet, sufficient for three or four guns⁸¹, and another space south of the lighthouse, at 300 feet elevation, for a gun battery that commanded the ocean approach to the harbor.⁸² The Board ultimately recommended two 10-inch guns south of the old lighthouse, on non-disappearing carriages, two 8-inch guns east of the old lighthouse, on disappearing carriages, and finally, four 10-inch guns on Ballast Point, on disappearing carriages.⁸³

The Endicott Board survey of San Diego resulted in the first completed fortification system on Point Loma under the United States government. In 1896, work commenced on the construction of a battery of four 10-inch disappearing rifles and a mine-storage casemate on Ballast Point, as recommended the year prior. The guns were placed at the site of the incomplete battery from 1873, obliterating the incomplete fortification features.⁸⁴ The rifled, breech-loading guns placed over the old battery were state of the art technology, designed to disappear behind a thirty-two-foot-thick concrete-and-boulder parapet. The new, advanced ordnance behind massive walls of new materials marked the beginning of the modern era of coastal defense. The guns on Ballast Point were designated Battery Wilkeson in 1899.⁸⁵

Also constructed in 1897, just an eighth of a mile north of Battery Wilkeson, was the bombproof casemate for the electrically controlled submarine mines, “torpedoes,” installed at the San Diego harbor entrance. Employing the technology perfected by the US Army in the 1880s, cables ran out of the casemate out into the water, through which the operator sent the impulse to explode the mines.⁸⁶ The harbor was mined by a volunteer company of eighty citizens and five engineer enlisted men under the leadership of Lt. James J. Meyler⁸⁷ in April 1898. The mines were removed in August when the Spanish American War ended.⁸⁸

⁸¹ This area would later be called the Billy Goat Point by the Army.

⁸² Thompson, *Guns of San Diego*, p.33.

⁸³ Ibid.

⁸⁴ Ibid., p.28-29.

⁸⁵ Joyce, *A Harbor Worth Defending*, p.14, 17, 24.

⁸⁶ Thompson, *Guns of San Diego*, p.41-42.

Little is known about this casemate structure other than its construction date. Dimensions and style of construction, as well as date of removal, are unknown. A concrete cable tank and a mine storehouse reportedly followed shortly after the casemate; however, the exact location and date of construction are also unknown.

⁸⁷ Ibid.

Lt. Meyler was also responsible for actively leading his men in emplacing the guns at Battery Wilkeson (Joyce, *A Harbor Worth Defending*, p.15).

⁸⁸ Ibid., p.15, 17; Flower & Roth, *CRI*, p.132.

Alongside the construction of Battery Wilkeson on Ballast Point and other efforts to fortify the harbor, additional surveys were carried out throughout Point Loma to enhance mobility and defense. In 1897, another road was proposed along the harbor shore from a wharf at La Playa to Ballast Point and beyond to Billy Goat Point. The road was suggested to branch from this point, for one branch to climb up the slope to the lighthouse atop the hill, and another to continue on the south end of the peninsula. The surveyor, Colonel Charles R. Suter, also proposed that the road along the ridge, often referred to as “Topside Road,”⁸⁹ be strengthened to withstand the impact of military use, including the hauling of ammunition.⁹⁰ Though the proposed road was not constructed at this time (as the batteries proposed for Billy Goat Point and south of the lighthouse from the survey two years prior were not constructed), the proposed alignment of the road would be actualized in the years to come.

The establishment of the fort on Ballast Point did not, however, restrict civilian access to the peninsula, with the exception of active wartime.⁹¹ Since as early as 1855, when the lighthouse went into service, the lighthouse grounds served as a popular site for visitors. At the summit of the promontory, the site offered some of the most beautiful, and unobstructed, vistas, offering a panoramic view of endless blue to the west, of Mexico to the south, and to the San Diego harbor to the east and northeast. The immediate grounds of the lighthouse were also of interest to the visitors. Generations of light keepers and their families resided in the lighthouse and reportedly kept livestock and gardens. The Israels, the last keeper family to reside in the lighthouse, were known to have kept horses, chickens, goats, sheep, and possibly even bees on the grounds; they also attempted to keep a vegetable garden of potatoes, tomatoes, and grapevines. Their barn and storehouse also served as sites of socialization, such as dances, for young visitors.⁹² The site was of such great public interest that it made appearances in the local newspapers. Such articles offer a glimpse of the vegetative state of southern Point Loma: “Maggie May,” a local San Diego reporter, described the vegetation on Point Loma as “very meagre, consisting of very low,

⁸⁹ Cummins, *Vegetation History*, p.14.

⁹⁰ Thompson, *Guns of San Diego*, p.136.

⁹¹ Fort Rosecrans was declared off limits to civilians in 1898 when USS *Maine* blew up in Havana Harbor on February 15 and US declared war on Spain in April 21. The Secretary of War also ordered the harbor closed from eight in the evening to four in the morning during the war (Joyce, *A Harbor Worth Defending*, p.15, 17).

⁹² Florence et al, *Cultural Landscape Analysis*, p.15-16; William Michaels, *Old Point Loma Lighthouse Outbuildings*, [s.i.], [s.n.], 1960, p.1.

scrubby sage brush.”⁹³ The Point Loma lighthouse remained a popular tourist destination even when the lighthouse itself went out of service in 1891, though with some repercussions: once abandoned, vandalism, littering, and unauthorized removal of outbuilding materials increased across the unmanned grounds. In 1903, a brushfire ignited by visitors took soldiers two days to suppress.⁹⁴

FORT ROSECRANS: 1898 – 1920

The Point Loma military reservation was finally occupied by artillerymen in February 1898 when a small detachment of soldiers, Lt. George T. Patterson and twenty-two enlisted men of Company D, 3rd Artillery Regiment, were dispatched to Ballast Point to man the new fort.⁹⁵ The remainder of the company arrived at the new camp, led by Capt. Charles Humphreys, in the following month. Though the company remained at Ballast Point only throughout the summer, returning to the Barracks in August, a detachment remained during the following months to occupy and guard the new battery.⁹⁶ With the Ballast Point camp and Battery Wilkeson established, the War Department officially named the Point Loma military reservation Fort Rosecrans on July 22, 1899, under General Orders 134. The name was in honor of Major General William Starke Rosecrans who had died in 1898.⁹⁷

Fort Rosecrans became a separate military post on August 6, 1903. Leading up to the establishment of Fort Rosecrans as its own post, 30th and 115th Companies, Coast Artillery, divided their time between the San Diego Barracks and Fort Rosecrans, one company stationed at each post. They rotated monthly so that both could engage in target practice at the batteries: Fort

⁹³ Michaels, *Old Point Loma Lighthouse Outbuildings*, p.1.

Reporter “Maggie May’s” description of the lighthouse surroundings supports the claim that Point Loma was a “treeless” land by the mid- to late-19th century, as depicted in Bache’s sketches nearly twenty years prior—regardless of whether or not the contested oak forest existed in the earlier centuries. By the time of American land use of the promontory, the peninsula was devoid of large forest trees; it was a land mass of coastal brush.

⁹⁴ Kelly et al, *Shadows of the Past*, p.5.

In 1891, a new lighthouse station was built at a lower elevation on the southernmost tip of the peninsula, as the original lighthouse was too often subject to the thick fog at its higher elevation. This lighthouse is located within the present-day Coast Guard grounds.

⁹⁵ At this time, the camp at Ballast Point was known as the Ballast Point Battery of San Diego Barracks. (Flower & Roth, *CRI*, p.131)

⁹⁶ Thompson, *Guns of San Diego*, p.43.

Most of the military presence—its soldiers, officers, and facilities—was located at the San Diego Barracks, or the “New San Diego Barracks,” northeast of Point Loma near present-day downtown San Diego. This was the location of the official military post in San Diego at the time.

⁹⁷ Thompson, *Guns of San Diego*, p.43.

Rosecrans was a site of target practice for the large guns while the San Diego Barracks served as a site of infantry and signal drills. The troops usually transferred by water, as both posts were conveniently located around the San Diego harbor, occasionally marching overland the 8.7 miles as training.⁹⁸ When Fort Rosecrans became a separate military post, both companies were permanently stationed there: Point Loma received its first group of permanent military residents.

Upon the establishment of Fort Rosecrans, the US military moved to better fortify the San Diego Harbor. From 1899 into the early years of 1900s, three new emplacements were added to augment the defense of the harbor. Battery Fetterman stood on Wilkeson's left flank and was comprised of two 3-inch rapid fire guns to guard against any small enemy landing craft that might sneak in under the big guns of Wilkeson (more powerful but with less mobility for short-range targets); Battery Meed stood on a small subpost called Fort Pio Pico across the channel on North Island, serving the same purpose as Battery Fetterman; and on the ridge of Wilkeson's right flank were 5-inch rapid fire guns of Battery McGrath, which relieved the old "Napoleons" (Civil War era vintage smoothbore cannons) of the responsibility of sweeping the minefield.⁹⁹ Ballast Point and the channel entrance were now heavily fortified with four batteries. The new emplacements were manned by 30th Company, Coastal Artillery.

Beyond the batteries at Fort Rosecrans, development spanned to include the construction of barracks and other military post facilities. During the first half of the first decade of twentieth century, men, horses, and mules moved earth, timber, and concrete to construct military facilities at the new fort. Between 1901 and 1904, numerous buildings were erected; all frame buildings with the exception of the Post Exchange, which was of brick construction. The Post Hospital was built by Schaniel Brothers of San Diego, ten buildings were built by Solon Bryan, and four were by Charles Engebretson.¹⁰⁰ By the end of the decade, at least 42 buildings were constructed at Fort Rosecrans to afford necessary operations.¹⁰¹ In addition to the new fort buildings, the Fort Rosecrans cemetery located north of the old lighthouse was made the official post cemetery in

⁹⁸ Thompson, *Guns of San Diego*, p.44.

⁹⁹ Joyce, *A Harbor Worth Defending*, p.18; Thompson, *Guns of San Diego*, p.41.

¹⁰⁰ Florence et al, *Cultural Landscape Analysis*, p.132.

¹⁰¹ Ibid., p.133-134.

1902.¹⁰² By 1903, the new barracks were completed and available for all men stationed at Fort Rosecrans.¹⁰³

Though intensive development took place at Fort Rosecrans since its establishment, the military did not construct facilities further south than Ballast Point until World War I. The facilities constructed south of Ballast Point, and those specifically located within this CLI boundary, were a part of the effort to improve the coastal and harbor defense of San Diego upon completion of the Panama Canal in 1914. Prior to the opening of the canal, the Taft Board¹⁰⁴ determined that San Diego did not qualify for expenditures to strengthen its defense system. The city of San Diego was still very low in population and did not offer significant commercial value that warranted additional defense. Only a few high-powered searchlights and a new fire-control system were recommended for installations.¹⁰⁵

Improvements within the CLI boundary prior to 1914 revolved predominantly around civilian access. As previously discussed, the old Point Loma lighthouse was subject to vandalism and decay since its abandonment in 1891. To amend the situation, the army began housing military families in the vacant lighthouse during the early-1900s as an attempt to decrease trespassing and slow the building's decay.¹⁰⁶ Further, in 1910, perceiving it a valuable circulation method during wartime and a means of convenient access for tourists heading to the old lighthouse, the Army's Quartermaster General had a three-mile road surfaced with decomposed granite built to the lighthouse.¹⁰⁷ With these improvements made, the old Point Loma lighthouse was selected as the site for a commemorative statue of Juan Rodriguez Cabrillo by the Order of Panama. The Order was granted authority to erect the statue, and President Woodrow Wilson accordingly signed the Presidential Proclamation No. 1255 on October 14, 1913 establishing the Cabrillo National

¹⁰² Florence et al, *Cultural Landscape Analysis*, p.18.

¹⁰³ Joyce, *A Harbor Worth Defending*, p.18.

¹⁰⁴ In 1905, President Theodore Roosevelt established a military board chaired by Secretary of War William Taft—the Taft Board. Roosevelt recognized the potential consequences of America's proven naval power and the subsequent victory in the Spanish-American war in 1898 and moved to now evaluate and improve the state of America's coast defense. Like the Endicott Board, the Taft Board visited and evaluated existing coastal defense sites, including San Diego. (Ibid., p.22)

¹⁰⁵ Joyce, *A Harbor Worth Defending*, p.22.

The exact location of these searchlights and fire-control stations are unknown; as the Taft Board-recommended improvements were completed by 1911, these were likely not within the Cabrillo National Monument boundary. (Flower & Roth, *CRI*, p.134)

¹⁰⁶ Florence et al, *Cultural Landscape Analysis*, p.18-19.

¹⁰⁷ Ibid.

This is an extension of Catalina Boulevard and is now known as Cabrillo Memorial Drive.

Monument. The one-half acre of land surrounding the old lighthouse was dedicated on September 26, 1913, with a ceremony attended by state officials, senators, and the Spanish envoy. Though the Order of Panama never acted on the authority given them to erect the statue, the new national monument continued to attract visitors to its grounds. By this time, the army sergeant and his wife who lived in the lighthouse sold postcards and candy to the tourists.¹⁰⁸ The army continued to occupy the lighthouse and make minor repairs after the establishment of Cabrillo National Monument.¹⁰⁹

When the Panama Canal opened in 1914, the city of San Diego gained new commercial and strategic importance. The rising border tensions caused by the Mexican Revolution, coupled with the Panama Canal, triggered a renewed federal concern for the safety of San Diego. The coastal and harbor defense of San Diego had been declared lacking since the Taft Board's evaluation and little had been done to rectify the problems, especially in light of the rapidly evolving military technology. By this time, naval ordnance had become so advanced that an enemy fleet was no longer required to enter to harbor to attack the city. The improved range and accuracy of battleships and cruisers meant that in an attack a fleet could stay securely off the coast and fire shells over the peninsula. The four emplacements on Fort Rosecrans were situated toward the channel entrance, poised for an outmoded method of assault.¹¹⁰

Congress was finally persuaded in 1915 to appropriate funds for correcting the deficiencies of San Diego's defenses. Construction promptly began on two new batteries that would defend the city from the advanced naval ordnance that could launch an assault from the safe distance off the Pacific coast. Battery White was situated in a canyon above Ballast Point while Battery Whistler was built farther north overlooking the naval coaling station. Each of the batteries was comprised of four 12-inch mortars; they were each able to launch clusters of shells weighing 600 to 1000 pounds, lobbed high into the air, which would crash down through the decks of even the most heavily armored enemy vessel. Their range extended four to six miles over the ridge of Point Loma and could swing around to point eastward and fire as far inland as downtown San Diego if need be, making these guns versatile and adaptable to varying circumstances.¹¹¹

¹⁰⁸ Florence et al, *Cultural Landscape Analysis*, p.19.

¹⁰⁹ Cabrillo National Monument was originally under the administration of the War Department.

¹¹⁰ Joyce, *A Harbor Worth Defending*, p.27-28.

¹¹¹ *Ibid.*, p.28.

In addition to the new gun emplacements, eight “base-end stations”¹¹² were constructed around Point Loma to improve the accuracy of Fort Rosecrans’ fire power. Base-end stations were widely spaced sighting structures associated with specific batteries that housed optical instruments that collected mathematical data to triangulate the exact location of targets. The appearance of these small camouflaged concrete structures represented a giant step in coastal defense improvements, officially entering the modern era of coastal defense systems, one characterized by dispersed, function-specific structures.

Five of the eight base-end stations were constructed within the CLI boundary. Between 1916 and 1921, the base-end station and battery commander station for Batteries Calef-Wilkeson¹¹³ were constructed into the slopes near the northeastern corner of the monument boundary. These were among the first base-end stations built at Fort Rosecrans. Two base-end stations were constructed into the slopes of Billy Goat Point, in the area recommended for a battery in a survey in 1897. All four of these constructions were originally built as temporary structures, but by World War I concrete walls and tar-and-gravel roof provided a level of permanence to the stations.¹¹⁴ The four stations were situated east of the ridge, looking eastward. The stations associated with Batteries Calef-Wilkeson had unobstructed views into the harbor, south of the peninsula, and into downtown San Diego, while the stations at Billy Goat Point, at the time assigned to Battery White,¹¹⁵ afforded views as far south as Mexico. The fifth base-end station was also constructed during the World War I era, located immediately downslope of the present-day Cabrillo Statue. This station served as the sole fire control point for Battery McGrath, and like the other four base-

¹¹² Edmond Raymond Lewis, *Seacoast Fortifications of the United States: An Introductory History*, (Washington DC: Smithsonian Institution Press, 1970), p.93.

Each housed an optical instrument and the stations simultaneously and continuously collected optical bearings from a moving target; the data collected were communicated repeatedly to a central battery computing room where the sightings were plotted and future positions collected. Allowances were made and corrections worked in for meteorological factors and other variables such as projectile time of flight, and the product was translated into aiming directions forwarded electrically to each gun emplacement. This new system utilized mathematics (techniques of triangulation), simultaneous telephone communications among base-end stations, plotting room, and gun battery. This complex system persisted as the most effective coastal defense tactic until the advent of radar in the 1940s. (Joyce, *A Harbor Worth Defending*, p.29) (see Physical History 6)

¹¹³ In 1915, Battery Wilkeson was divided: guns 1 and 2 on the right flank retained the name Wilkeson while rifles 3 and 4 were named in honor of Col. John H. Calef. Most of the secondary documents today refer to these batteries as “Batteries Calef-Wilkeson.” (Thompson, *Guns of San Diego*, p.35)

¹¹⁴ Carey & Co., Inc. Architecture, *Historic Structures Report for Harbor Defense Structures, Cabrillo National Monument, San Diego, California*, US Department of the Interior, National Park Service (April 15, 2000), p.35, 37.

¹¹⁵ *Ibid.*, p.37.

end stations, was originally built as a temporary structure but later gained permanence with concrete walls and a tar-and-gravel roof.¹¹⁶

A third category of military structures originating in the Taft era appeared in Fort Rosecrans during this time. At least two high-powered searchlights were installed within the CLI boundary from 1918 to 1919.¹¹⁷ The introduction of searchlights was one of the major technical changes made by the Taft Board which, along with the modern system of aiming for the major-caliber guns, significantly strengthened the seacoast defense systems of the US.¹¹⁸ The lights introduced at this time were likely the result of a combination of persisting border tensions with Mexico and the US's declaration of war on Germany in 1917. In 1916, a Mexican revolutionary, Pancho Villa, had invaded and ransacked an American city, to which Fort Rosecrans responded by installing searchlights illuminating the Tijuana border.¹¹⁹ Further, upon officially entering World War I, German warships were sighted in the Pacific, strengthening the coastal defense of the Pacific coast became ever more urgent and necessary.¹²⁰

The searchlights were 60-inch lights that required a mount, a shelter, and a power source. Two searchlight shelters were constructed between 1918 and 1919: one aboveground, naturally protected, shelter known today as Searchlight Shelter No.18, which housed a 60-inch light mounted on narrow-gauge rails¹²¹ and one subterranean shelter, known today as Searchlight Shelter No.19, which housed a 60-inch light mounted on a counterweighted elevator.¹²² Both positioned east of the ridge, the lights illuminated the harbor entrance. These searchlights were powered by the generator station located between the two shelters on the Bayside Trail, in a

¹¹⁶ Carey & Co., *HSR*, p.33.

¹¹⁷ Eight were constructed in total, with two within the CABR boundary. Lights 1 and 2 were located at the northwest part of Fort Rosecrans; 3 and 4 were located near the extremity of Point Loma, at elevations 97 and 285 feet; 7 and 8 were located at Fort Pio Pico on North Island (Thompson, *Guns of San Diego*, p.62).

¹¹⁸ Lewis, *Seacoast Fortifications*, p.89, 93.

¹¹⁹ Joyce, *A Harbor Worth Defending*, p.27.

¹²⁰ *Ibid.*, p.30.

¹²¹ Carey & Co., *HSR*, p.27.

Approximately 75 feet of rails extended from the structure up the Bayside Trail allowing the searchlight to be positioned at a point overlooking the harbor entry. Upon installation, the light was assigned the name Searchlight No.5, which would later be changed to Searchlight No.18.

¹²² *Ibid.*, p.29.

The light, stored underground during daytime, would be elevated during dark hours. Only vertically mobile, this light was situated at a higher elevation than the rail-mounted Searchlight No.18. Upon installation, the light was assigned the name Searchlight No.6, which would later be changed to Searchlight No.19.

ravine affording partial natural protection. The rectangular above-ground structure was one of three stations known of its type.¹²³

As the US mobilized for war, Fort Rosecrans quickly continued to update and improve its defense systems. The fort once again closed to visitors, mines were laid again in the channel, and artillerymen manned the guns on a 24-hour basis.¹²⁴ By this time, the military reservation was overpopulated by soldiers in training and artillerymen in service. Temporary barracks and tents blanketed the shoreline to accommodate for over two thousand recruits.¹²⁵ The Army also built roads to improve circulation throughout the fort and to ease access to its new structures. Around 1918, two roads were constructed, one on either side of the ridge. The road on the east side of the ridge was graded but not surfaced and linked Ballast Point to the new fire control stations and the battery of searchlights. It continued as far south as Billy Goat Point, from which a trail continued up the hill to the old lighthouse.¹²⁶ This road was originally called Meyler Road, which was later assigned the name Sylvester Road in the 1940s and Bayside Trail (circa 1975). The second road ran north-south west of the ridge, from the northern part of the reservation to the new lighthouse.¹²⁷ This too was an unsurfaced road and may have replaced the original road built to the new lighthouse.¹²⁸ Another possibility is that this road is one that branches from Catalina Boulevard and makes its way southward, converging with the original north-south road to the lighthouse. A 1921 plan of Fort Rosecrans shows two separate roads on the west side of the ridge, both of which lead to, and possibly meet, at the new lighthouse grounds. On this plan, the road farther west of the peninsula seems to be similar to that of the 1904 USGS map, suggesting that perhaps

¹²³ Carey & Co., *HSR*, p.31.

It is unclear whether the *HSR*'s statement of "one of three stations known of its type" refers to one of three known of its type within Fort Rosecrans or in the entire seacoast defense history of US.

¹²⁴ Florence et al, *Cultural Landscape Inventory*, p.19; Joyce, *A Harbor Worth Defending*, p.29.

By 1917, the guns of Battery Fetterman were deemed obsolete and the battery was decommissioned. (Mark A. Berhow, *The Harbor Defenses of the Ninth Coast Artillery District, A short history and guide to the Coast Defenses of California, Oregon and Washington*, (San Pedro, CA: Fort MacArthur Military Press, 1992), p.26)

¹²⁵ Joyce, *A Harbor Worth Defending*, p.30.

¹²⁶ Jamie M. Donahoe, "National Register of Historic Places Nomination: Cabrillo National Monument," US Department of the Interior, National Park Service (June 1997), Section 8 p.5; Florence et al, *Cultural Landscape Inventory*, p.19;

¹²⁷ Thompson, *Guns of San Diego*, p.137.

¹²⁸ A road of similar alignment appears in the 1904 USGS Topographic Map of San Diego (See Physical History 7). Though the exact date of construction has yet to be found, the road likely appeared around the time the new lighthouse was built, in 1891. Little is known about this original road and its alignment.

the new dirt road circa 1918 is referring to the road depicted as branching off of the main ridge road (Catalina Boulevard) and continues south farther inland (See Physical History 8 and 9).¹²⁹

During the war years, the Army built a radio station with twin towers to improve communications with ships entering the harbor. Located a hundred yards north of the old Point Loma lighthouse, which itself functioned as a signal station during the war, the Army Radio Station was a rectangular one-story building set into the sloping hill. Operational from 1918 to 1936, the building was the Army's first radio station in the Harbor Defenses of San Diego.¹³⁰

Amidst the numerous construction projects throughout Fort Rosecrans to supplement the defenses of the San Diego coast and harbor, World War I ended on November 11, 1918. As many of the military structures reached completion, Fort Rosecrans demobilized quickly. By January of the following year only 200 soldiers in three companies remained at the reservation, and Fort Rosecrans reopened to visitors by February.¹³¹

This era of seacoast defense revolved around hyper-specialized spaces that were designed to blend, so far as possible, into the surrounding landscape.¹³² Unlike the traditional, massive earth-and-masonry structures of the previous era, camouflage was key to modern fortification systems. Around 1915 the army grew concerned with the level of concealment afforded by the sparse vegetative cover on Point Loma. The army is said to have repeatedly attempted to obtain funding to buy trees and shrubs to conceal their structures, and in 1915, finally received an allotment to build a lath house in order to grow the necessary vegetation. The Army reportedly planted Monterey Cypress and Torrey Pines throughout the fort over the years.¹³³ If the cypresses and

¹²⁹ Further research is necessary to determine which of the two roads the 1918 dirt road is referring to, and if it in fact replaced the original road to the new lighthouse, when the second branch of the road was constructed. It is also unclear why a 1934 revision of the 1921 plan omits the outer of the two roads. (See the revised plan at: [http://cdsg.org/fort-rosecrans/#lightbox\[gallery-1\]/2](http://cdsg.org/fort-rosecrans/#lightbox[gallery-1]/2)) These two roads are the earliest iteration of present-day Cabrillo Drive-Gatchell Road loop.

¹³⁰ Carey & Co., *HSR*, p.21.

¹³¹ Joyce, *A Harbor Worth Defending*, p.30; Florence et al, *Cultural Landscape Analysis*, p.19.

¹³² Lewis, *Seacoast Fortifications*, p.78.

¹³³ Florence et al, *Cultural Landscape Analysis*, p.18.

pinos were in fact planted, they may have been outside the CLI boundary, closer to the barracks and other post facilities rather than the actual defensive features.¹³⁴

INTERLUDE: 1920 – 1935

Following the end of World War I, Point Loma entered a decade-and-a-half-long period of military inactivity, referred to as the “Interlude” or the “Isolationism” period by researchers.¹³⁵ By 1920, all works recommended by the Taft Board were completed. Within a course of three years two military sites were abandoned. Fort Pio Pico, the auxiliary fort on North Island, was abandoned due to chronic flooding, and the San Diego Barracks at “New San Diego,” which had remained a sub-post of Fort Rosecrans throughout the war, was abandoned upon demobilization.¹³⁶ The entire Fort Rosecrans was placed on caretaker status by 1921 and while the city of San Diego was developing into a “Navy town” throughout the 1920s upon the establishment of the 11th Naval District in 1921, the military reservation remained dormant.¹³⁷

Open to the public, Fort Rosecrans continued to be a great tourist attraction, favored by curious visitors now able to utilize the roads and trails established during the war. By the mid-1920s, a wide foot trail appeared, connecting the Meyler Road (present-day Bayside Trail) and the trail that branched up to the old lighthouse (present-day Humphreys Road).¹³⁸ The alignment was steep and inconsistent in width, suggesting that this was a social trail rather than one planned for official (and vehicular) use. By the 1930s, two additional circulation paths appeared, one on the western terrace and the other just south of the old lighthouse. On the western terrace, a forked dirt path branched off of the two military roads; its narrow width suggests that it was a foot trail and

¹³⁴ Only one document consulted during the research of this CLI mentions the purposeful planting of trees, and with little detail. This document, the *Cultural Landscape Analysis*, cites this statement to a master’s thesis written by Paul Michael Callaghan, University of San Diego, titled “Fort Rosecrans, California,” 1980. This document could not be accessed at the time of research; a hard copy of the thesis is located in the Copley Library, University of San Diego. Future research should pursue the primary document from which statement was drawn to verify the vegetation species, location of planting, and the location of the lighthouse.

¹³⁵ Historian Erwin Thompson refers to this period as the “Interlude,” while the researchers of Keniston Architects, who prepared the National Register Nomination for Fort Rosecrans for the Navy in 1996, refer to the period as “Isolationism.” (Keniston Architects, “National Register of Historic Places Nomination: Fort Rosecrans Point Loma Coastal Defenses,” Department of the Navy, Naval Command, Control and Ocean Surveillance Center, RDT&E, (May 1996))

¹³⁶ Joyce, *A Harbor Worth Defending*, p.31; Thompson, *Guns of San Diego*, p.22.

¹³⁷ Joyce, *A Harbor Worth Defending*, p.31, 33, 34.

The Navy continued to dredge the bay to allow for larger and larger vessels to enter the port, aiding San Diego’s transformation into a “Navy town.”

¹³⁸ Cummins, *Vegetation History*, p.27-28.

vehicular access was limited to the road.¹³⁹ South of the lighthouse was another dirt road that ran along the ridge to the edge of the point. This road, which dates pre-1934, was not well-defined, indicating that traffic did not follow a consistent course, resulting in a wide area of disturbance.¹⁴⁰ As all three roads were those leading to and from advantageous viewpoints and branched off of established roads, it is likely that they were the result of civilian exploration of the peninsula throughout this period.

In 1932, the popularity of Cabrillo National Monument deemed it “most appropriate for [the] property to be transferred to the National Park Service”¹⁴¹ and administration of the national monument was accordingly transferred from the War Department to the National Park Service on July 28, 1933, following Executive Order No.6166. The jurisdiction of the new NPS unit was given to Col. John R. White, Superintendent of Sequoia National Park, in 1934.¹⁴²

In 1933, the California Department of Transportation constructed a new California State Highway, “El Camino Cabrillo,” running 2.7 miles along the ridge of Point Loma and circling the national monument. A low masonry wall lined the outside of the loop about the lighthouse. The construction of this highway resulted in hillside cuts and downslope spoils.¹⁴³ The completion of El Camino Cabrillo in July 1934 aided in acquiring the Works Progress Administration’s approval of the lighthouse restoration project in late August, allotting \$38,000 for the needed work.¹⁴⁴ The lighthouse restoration project was carried out by the members of the Civilian Conservation Corps who camped and trained at Fort Rosecrans during the Great Depression.¹⁴⁵

The restoration project consisted of not only the restoration of the lighthouse but also landscaping of its grounds, construction of the inner loop masonry wall, a comfort station, and a parking area. Around 1934, the War Department granted NPS the permission to turn the large, flat knoll south

¹³⁹ Cummins, *Vegetation History*, p.27.

¹⁴⁰ Ibid.

¹⁴¹ Quoting Newton B. Drury, the head of the State of California Division of Parks, from: Susan Collins Lehmann, *An Embarrassment of Riches, The Administrative History of Cabrillo National Monument*, (San Diego, CA: Cabrillo Historical Association, 1987), p.39.

¹⁴² Florence et al, *Cultural Landscape Analysis*, p.21.

¹⁴³ Cummins, *Vegetation History*, p.27.

¹⁴⁴ Florence et al, *Cultural Landscape Analysis*, p.21.

The highway meant that there would soon be a greater influx of visitors and associated demands for comfort stations and other accommodations.

¹⁴⁵ Thompson, *Guns of San Diego*, p.35.

of the old lighthouse into a parking area, and for the park administration to use the old radio station as an administration building.¹⁴⁶ A fence enclosed the parking area to keep visitors out of the restricted military area beyond.¹⁴⁷

The landscaping element of the project included clearing the lighthouse grounds of previous visitor and military refuse, regrading in some places, and new plantings. Upon the crew's arrival, the grounds were reportedly covered with native weeds and some local shrubs. The crew cleared and regraded the area, bringing in topsoil from a site nearby that was similar in composition and texture. The original landscaping plans had involved replanting with native plants from local nurseries; however, when budget was expended elsewhere, the City of San Diego Balboa Park Department donated thirty-one Monterey Cypress and thirteen Torrey Pines and property owners in Sunset Cliffs donated ice plant for the grounds.¹⁴⁸

In 1934, post commander Col. George Rhulen had the trail from the old lighthouse to Billy Goat Point widened into a road that tied into Meyler Road (present-day Bayside Trail), creating a loop road on the eastern half of the peninsula. This stretch of the road is known today as "Humphreys Road."¹⁴⁹ The reason for this road development is unclear.

MODERNIZATION: 1936 – 1941

As indicated by the level of visitor use of Cabrillo National Monument and Fort Rosecrans, San Diego matured as a city during the 1930s. The expanding navy presence in the city buffered San Diego from the impacts of the Great Depression, drawing in contracts, labor, and money to the area. At the same time, San Diego developed into one of America's major suppliers of commercial and military aircraft. The city (and Fort Rosecrans) also grew in tourism, hosting the California Pacific International Exposition of 1935.¹⁵⁰ The city of San Diego had finally become a site of vital institutions which were so frequently deemed lacking in the previous decades.

¹⁴⁶ Cummins, *Vegetation History*, p.25.

¹⁴⁷ Florence et al, *Cultural Landscape Inventory*, p.23.

¹⁴⁸ Ibid., p.28.

For more detailed information of CCC-era plantings, consult the "Planting Plan for Cabrillo National Monument," ca. 1935, Cabrillo National Monument Facilities Flat Files or the "Old Point Loma Lighthouse Cultural Landscape Assessment" (2017) at Cabrillo National Monument.

¹⁴⁹ Thompson, *Guns of San Diego*, p.138; Cummins, *Vegetation History*, p.32.

¹⁵⁰ Joyce, *A Harbor Worth Defending*, p.36.

In light of the ominous developments in Asia and Europe, the War Department once again reviewed America's coastal defense in 1936. The Board of Engineers acknowledged the antiquated state of San Diego's coastal defense system. The guns and mortars on Point Loma were technologically and strategically deficient and would be unable to defend the city from even a medium-sized warship. The Board of Engineers proposed a dramatic shift in strategy of San Diego's harbor defense, stating that any new gun emplacements must be built on the western slopes of Point Loma, facing west, to engage hostile vessels far out at sea. The guns of Point Loma must outrange those of enemy vessels to keep them from coming within range of the city.¹⁵¹

Modernization of San Diego's seacoast and harbor defense began shortly after the Board of Engineers' review. The modernization program for San Diego was originally comprised of 8-inch railroad guns, and 155mm guns; additional construction of two batteries of 16-inch guns and three rapid-fire 6-inch guns were recommended in 1940 upon realization that the coastal defense of San Diego was still insufficient.¹⁵² The 8-inch railroad guns and 155mm guns, along with Batteries Whistler, White, Wilkeson, and Calef would be abandoned/decommissioned upon completion of the new batteries.¹⁵³

Fort Rosecrans revived from its dormant state with the construction of Battery Strong, the first of the new emplacements to be built, in 1937. Located along the western slope, north of the CLI boundary, the battery would house two 8-inch guns with a range of nearly twenty miles into the Pacific. Two additional batteries of 155mm GPF (Grande Puissance Filloux) guns were constructed to cover the "dead" areas in the water beneath the trajectory of Battery Strong's guns, one located at the northwest corner of Fort Rosecrans and the other within the CLI boundary, named Battery Point Loma. These 155mm guns were mounted on "Panama" mounts, concrete rings forty feet in diameter in which a narrow-gauge rail was embedded. In these, the trails of the gun were set, allowing for swift rotation of the gun. Though four 155mm guns were acquired by 1939, another two years passed before the batteries reached completion. Battery Point Loma went into service in 1941.¹⁵⁴

¹⁵¹ Joyce, *A Harbor Worth Defending*, p.36.

¹⁵² Ibid., p.39.

¹⁵³ Thompson, *Guns of San Diego*, p.86.

¹⁵⁴ Carey & Co., *HSR*, p.45.

Battery Point Loma likely utilized the circa 1918 loop road on the western terrace of the peninsula.¹⁵⁵ Located about 300 yards north of the new lighthouse on the sandstone shelf overlooking the tidepools, this battery of four Panama mounts and associated bunkers were situated inside the southern switchback of the road. Originally comprised of five structures per complex, these semi-subterranean corrugated metal bunkers were connected to (or via) a communications tunnel at the rear of the battery, all of which would have required intense trenching (see Physical History 11).¹⁵⁶

The introduction of new gun emplacements necessitated additional fire-control stations and searchlights to cover the western shores of Point Loma. In addition to the eight coastal searchlights in place at Fort Rosecrans and North Island, six portable searchlights were recommended to be placed along the coast from Ocean Beach to Torrey Pines and another four to be added at Coronado Heights and near the Mexican border to the south.¹⁵⁷ Only one of the ten new lights was installed within the CLI boundary. During the late-1930s to early-1940s, Searchlight Shelter No. 15 was built on the western terrace of Point Loma. Located on the western side of the outer road, almost directly west of the old lighthouse, the shelter housed a 60-inch searchlight mounted on a counterweighted elevator like that of Searchlight Shelter No. 6. This new searchlight and operating mechanism were reportedly salvaged from the defunct Searchlight No. 4 at the southern extremity of the point.¹⁵⁸ The subterranean generator station for Searchlight No. 15 located just southeast of the light was likely constructed around the same time.¹⁵⁹ In the process of this expansion of the battery of searchlights, the existing lights were also assigned new numbers. In 1936, the two searchlights within the CLI boundary, Nos. 5 and 6, were assigned the new numbers 11 and 12, respectively.¹⁶⁰

In light of the slow progress in the construction of new gun emplacements (Battery Strong alone took five years to complete), the War Department approved of the recommendation to retain the

¹⁵⁵ Though the exact order of construction is unclear in regards to this loop road, a 1937 aerial of the point shows that the road was clearly established, with a switchback located just north of the new lighthouse grounds. (See Physical History 10)

¹⁵⁶ Carey & Co., *HSR*, p.47.

¹⁵⁷ Thompson, *Guns of San Diego*, p.87.

¹⁵⁸ Carey & Co., *HSR*, p.25.

¹⁵⁹ Since its decommission, the generator station has been buried and omitted from documentation until 2000 when it was included in the List of Classified Structures database.

¹⁶⁰ *Ibid.*, p.27, 29.

10-inch Batteries Wilkeson and Calef in April 1940. The two batteries were combined to be a single battery once again, now bearing the name Battery Calef-Wilkeson. The four guns were deemed still valuable for the defense of the outer channel area and were made part of the permanent fortification system.¹⁶¹

As military construction and modernization continued in Fort Rosecrans through the end of the decade, President Franklin Delano Roosevelt called for the first peacetime draft in history in September 1940, in response to the ongoing war in Europe and the increasing threat Japan posed in the Pacific. As an established military and navy town, San Diego boomed during this draft, its population jumping to more than 203,000.¹⁶² Further gearing up for potential war, the War Department received a special-use permit from the Department of the Interior in May of 1941, returning Cabrillo National Monument to the jurisdiction of the War Department. The national monument was once again closed to the public.¹⁶³

WORLD WAR II AND AFTER: 1941 – 1948

As tension in both Europe and in the Pacific rose, Fort Rosecrans prepared itself for potential assault. Modernization of the coastal defense continued to increase efficiency and effectiveness. An electrical connection box was constructed on the eastern bluff across the road from Searchlight Shelter No.11 (present-day No.18) in 1941,¹⁶⁴ signaling that the modernization program included electrically wiring the existing and newly constructed structures for enhanced communication. Existing searchlights were also assigned new numbers during the war era, changing Searchlight No.11 to No.18 and Searchlight No.12 to No.19.¹⁶⁵ Another notable improvement to the military reservation during this era was the reconstruction of the Meyler Road and Humphreys Road from 1941 to 1942. The road was widened and, though unpaved, oiled. Culverts and headwalls were likely built along the road at this time.¹⁶⁶ The distance between the

¹⁶¹ Thompson, *Guns of San Diego*, p.100.

¹⁶² Joyce, *A Harbor Worth Defending*, p.38.

¹⁶³ *Ibid.*, p.40.

¹⁶⁴ Carey & Co., *HSR*, p.23.

¹⁶⁵ *Ibid.*, p.27, 29.

For reasons unknown as of date, Searchlight No.15 retained its original number.

¹⁶⁶ The exact date of installation of the drainage system is unknown. The National Register Nomination for the national monument is unclear in its description of the trail, stating that the only improvement since construction were oiling of the surface and the “repair of some culverts” (National Register Nomination: CMN, Section 8 p.5), leaving the possibility that the culverts were installed as a part of the original construction of the road. However, the patina on the concrete and the

upslope headwall and downslope end wall suggests that the new road was approximately eight feet wide. The reconstructed road deviated from the original alignment, the new alignment branching from Humphreys Road at an angle almost directly east, unlike the original alignment which created a concave lens shape before heading north.¹⁶⁷ The new road also bisected the original Humphreys Road into two segments. The western segment continued to be used by vehicles into the 1960s and 1970s, while the eastern segment was not as easily accessible and consequently fell out of use.¹⁶⁸ In the process of this reconstruction, the old Meyler Road alignment also became an auxiliary road used throughout the war and naturally revegetated toward the end of the decade.¹⁶⁹ This was likely when the Meyler Road was renamed Sylvester Road. (See Physical History 12)

By this time in 1941, the old Point Loma lighthouse, temporarily under the jurisdiction of the War Department, was served as the Harbor Entrance Control Post Signal Station. The building was painted a drab olive green and was equipped with a signaling searchlight, an observation instrument, and telephone communication to Battery McGrath, the alert battery, and alert searchlight. A temporary signal mast was also installed along with a set of flags for visual signaling to surface craft.¹⁷⁰ Around this time, the twin towers of the Army radio station north of the lighthouse were removed to prevent providing any visual targets for enemy ships wishing to bombard San Diego.¹⁷¹

As Fort Rosecrans prepared to defend itself against a potential assault, the Navy radio station on Point Loma (north of the reservation) received news of the Japanese attack on Pearl Harbor on December 7, 1941. By mid-afternoon, all batteries mobilized, ready to defend the city. Men at Battery Point Loma hurriedly wove burlap to make camouflage netting while listening for further news. That night, as the US officially entered World War II, soldiers set up pup tents around the batteries, ready to jump to action should the city come under attack.¹⁷²

style of corrugated metal pipes used suggest that the culverts and headwalls were a part of the World War II era improvements.

¹⁶⁷ Cummins, *Vegetation History*, p.30.

¹⁶⁸ Ibid., p.32-33

¹⁶⁹ Ibid.

¹⁷⁰ Thompson, *Guns of San Diego*, p.102; Joyce, *A Harbor Worth Defending*, p.40.

¹⁷¹ Joyce, *A Harbor Worth Defending*, p.40.

¹⁷² Ibid., p.45.

Officially at war, Fort Rosecrans hastened to supplement their firepower and operations. Construction for the large guns proposed and approved in 1940 finally commenced. By February of 1942, construction of Battery Humphreys, a 6-inch gun emplacement, started, followed by construction of Battery Ashburn, a 16-inch gun emplacement, in June, and, finally, Battery Woodward, another 6-inch gun emplacement, in March 1943.¹⁷³ Battery Humphreys was located south of the old lighthouse, in the approximate location earmarked by the engineers during the 1895 survey and Battery Ashburn was located north of the CLI boundary, on the western slope just south of the Fort Rosecrans cemetery. Battery Woodward was located just below the guns of Battery Strong. Two additional batteries were introduced to Fort Rosecrans' arsenal: Battery Gillespie and Battery Zeilin, containing 5-inch guns and 7-inch rifles respectively. These batteries were located in the northwest corner of the reservation. Five batteries of smaller guns were also established between 1942 and 1944, three of M3E1 guns (each with two .50-caliber machine guns mounted on one 37mm cannon) and two of 90mm AMTB (Anti-Motor Torpedo Boat) guns.¹⁷⁴ Neither of the two AMTB batteries was located within the CLI boundary, though Battery Cabrillo was located immediately outside the boundary, in close proximity of the new lighthouse (see Physical History 13). The three M3E1 batteries were placed to protect the entry channel to San Diego harbor and were thus positioned eastward. One of the three batteries, Battery Bluff, was situated at the edge of a high bluff overlooking the Bay, near Searchlights No. 11 and 12, which were renamed Nos. 18 and 19, respectively, during this era.¹⁷⁵ The small guns of Battery Bluff enabled the emplacement to be placed at the extreme edge of the bluff without concern for soil stability. It consisted of two concrete pads on which the guns were mounted, and an azimuth instrument mounted on a four-foot steel pipe with concrete to the north.¹⁷⁶

Associated with these new batteries were systems of fire-control stations. The greater range of the 6- and 16-inch guns, these observation stations were dispersed along a twenty-mile stretch of coast from Solana Beach to the Mexican border.¹⁷⁷ Though these stations served the same purpose as those constructed during World War I, the observation stations of World War II took a different form. The proliferation of military aircraft since World War I necessitated not only

¹⁷³ Joyce, *A Harbor Worth Defending*, p.49, 53, 58.

¹⁷⁴ *Ibid.*, p.53-54.

¹⁷⁵ Carey & Co., *HSR*, p.27, 29, 43.

¹⁷⁶ *Ibid.*, p.43.

¹⁷⁷ Joyce, *A Harbor Worth Defending*, p.59.

horizontal concealment (from sea level) but also vertical concealment as to avoid detection by aircrafts. These partly underground structures adopted mounded semicircular concrete roofs with rough aggregate concrete embedded with steel rings that anchored camouflage covering. These World War II-era stations became split-level structures, with each level serving different functions. Likely to camouflage from all angles, the two levels were generally irregularly stacked, blending to the cascading slope of the landmass into which they were built. The deep eaves of the mounded roofs afforded a level of concealment even when observation slots were opened.

Three of such stations were constructed within the CLI boundary during the World War II era. By 1943, Batteries Humphreys and Woodward were complete and in service.¹⁷⁸ Construction of Battery Ashburn had also completed by the end of 1943 and was fully operational by March 1944.¹⁷⁹ In correlation with the completion of the two 6-inch batteries, “Battery Commander Station and Base-End Station, Battery Humphreys” and “Base-End Stations, Batteries Woodward and Grant”¹⁸⁰ were designated in February 1943.¹⁸¹ These two split-level structures were located southwest of the old lighthouse, immediate downslope of present-day whale watching station. The Historic Structures Report of 2000 dates the actual construction of these structures to circa 1936-1941 because these new gun emplacements were planned as early as 1936 and at least by 1940. It is possible that these structures were first constructed and later designated upon completion of the batteries.¹⁸² The same date range is assigned to “Battery Commander and Base-End Station, Battery Ashburn” (located near the Army Radio Station) but a designation date is unavailable. It is likely that it was designated in early 1944 when the guns of Battery Ashburn went into service.¹⁸³

With the addition of several new batteries, 1940s marked an era of drastic overhaul in Fort Rosecrans’ arsenal. As work continued to emplace the large guns along the western slope of

¹⁷⁸ Berhow, *Harbor Defenses*, p.26.

Battery Woodward is also referred to as “#237” in research documents.

¹⁷⁹ Kenneth Glaze, *The Illustrated Fort Rosecrans, A Reference Guide to the Army’s Coast Artillery Corps in San Diego*, second edition, (San Diego, CA; published by Kenneth Glaze, 2017), p.27.

¹⁸⁰ Battery Grant was another 6-inch gun battery, completed in 1943, located in Fort Emory on North Island. (Berhow, *Harbor Defenses*, p.26)

¹⁸¹ Glaze, *Illustrated Fort Rosecrans*, p.71, 73.

¹⁸² Carey & Co., *HSR*, p.39.

¹⁸³ Glaze, *Illustrated Fort Rosecrans*, p.69.

Point Loma, the existing batteries facing east towards the harbor were declared antiquated and obsolete. By fall of 1942, Batteries Calef-Wilkeson, White, and Whistler were abandoned, along with their fire-control and observation stations, including the two base-end stations at Billy Goat Point.¹⁸⁴ Upon completion of Batteries Humphreys and Cabrillo, Battery Point Loma and its 155mms and bunker complex, too, were abandoned.¹⁸⁵

Ironically, the completion of Battery Ashburn and its roaring 16-inch guns marked the demise of Fort Rosecrans' coast artillery. By 1944, Allied forces had penetrated Hitler's Atlantic Wall, landing on the beaches of Normandy, Russians were advancing westward towards Germany, and Japan had been on the defensive since the Battle of Midway in summer of 1942. With the war nearing its end, the nineteenth Coast Artillery District at Fort Rosecrans was deactivated on October 18, 1944 and split into two separate battalions. By the beginning of 1945, most men at the fort, at one point numbering 20,000, shipped out to the war theaters or to replacement depots and training centers throughout the US. On August 31, 1945, two days before Japan's formal surrender and the official end of World War II, the Harbor Defense Command Post ceased operations, forever silencing the guns of Fort Rosecrans.¹⁸⁶ The Cabrillo National Monument opened once again to the public on November 11, 1946, under the Army, and was officially returned to the National Park Service on January 28, 1947; the fort was once again placed in caretaker status by March 1947.¹⁸⁷ Most of the abandoned/decommissioned ordnance were dismantled and sold for scrap in 1948, including the massive 16-inch guns of Battery Ashburn, despite future Superintendent Donald Robinson's efforts to save them.¹⁸⁸

The area of the heaviest land use during the war era was the southern portion of the western terrace, around Battery Point Loma and grounds immediately to its north. Located in this area were lesser military structures such as dummy gun emplacements and a shack. The leveling of terrain and removal of vegetation likely radiated outward from these structures.¹⁸⁹ The Army Radio Station, just north of the old lighthouse, contained at least ten small military structures

¹⁸⁴ Florence et al, *Cultural Landscape Inventory*, p.137; Joyce, *A Harbor Worth Defending*, p.52; Carey & Co., *HSR*, p.33, 35, 37.

Battery Fetterman was razed in 1941. (Joyce, *A Harbor Worth Defending*, p.46)

¹⁸⁵ Carey & Co., *HSR*, p.45, 47.

¹⁸⁶ Joyce, *A Harbor Worth Defending*, p.64.

¹⁸⁷ Lehmann, *An Embarrassment of Riches*, p.81; Joyce, *A Harbor Worth Defending*, p.67.

¹⁸⁸ Joyce, *A Harbor Worth Defending*, p.67.

¹⁸⁹ *Ibid.*, p.31.

constructed during World War II. The canopy cover of the area was reportedly high during the 1940s, consisting of mostly large woody plants,¹⁹⁰ which was dotted with gaps of bare ground, most likely caused by frequent foot traffic.¹⁹¹ The other, smaller area is located immediately east of the present-day whale watch loop. Two military structures were located within this site. It is likely that the unidentified, subterranean concrete structure encountered during field visit in October 2017 (referred to as “Manhole 104” by Kenneth Glaze) is one of the two structures marked. The rectangular concrete structure with a top hatch shows patina consistent with the other World War II structures and was likely constructed during this era.¹⁹² Camouflage and concealment were crucial in the coastal fortification tactics of the and vegetation removal was localized and minimized to the greatest extent possible.

POSTWAR FORT ROSECRANS AND LAND REDISTRIBUTION: 1949 – 1959

With its roaring guns dismantled and placed under caretaker status, the seacoast fortification system of Fort Rosecrans never revived to assume active duty. The postwar era for Fort Rosecrans was one of dismantlement, of both its artillery and of the reservation. When the harbor defenses of San Diego were formally discontinued on January 1, 1950,¹⁹³ Fort Rosecrans was subdivided and redistributed among federal and local agencies.

Most of the federal real estate of Point Loma was transferred to the Navy as the agency expanded its research and development of new communications and weapons systems for the military. By February 26, 1951, the Secretary of the Army transferred the Upper Cantonment (areas north of Ballast Point) of Fort Rosecrans to the Naval Electronics Laboratory (NEL). The acreage included Batteries Strong, Whistler, and Woodward, all lands west of Catalina Boulevard, north of the Fort Rosecrans National Cemetery.¹⁹⁴ By 1959, the Army had vacated Fort Rosecrans,

¹⁹⁰ It is unclear what type of vegetation was present in the area at the time; whether it was comprised of mature native vegetation or introduced plants is unknown. Today, the area bears stumps of a few trees (Monterey Cypress and Torrey Pines), which suggests the possibility of this area having been wooded during the war; however, a 1947 aerial image does not show any noticeable signs of a well-established canopy. “Old Rozelle #47-2-5, Tip End of Point Loma,” in Aerials: Rozelle, Point Loma Book 20 of 30, San Diego History Center.

¹⁹¹ Cummins, *Vegetation History*, p.30.

¹⁹² The date of this structure is debatable, as the *Vegetation History* depicts ground disturbance and military structures in this area in the disturbance map of 1940-1949 while Kenneth Glaze’s research suggests that this structure is likely a telephone manhole circa World War I (conversation with Kenneth Glaze, October 31, 2017).

¹⁹³ National Register Nomination: CMN, Section 8 p.2.

¹⁹⁴ Florence et al, *Cultural Landscape Inventory*, p.138; “1947 Naval Electronics Lab Map Showing Transfer of Lands,” Eleventh Naval District, San Francisco, California, December 29, 1947, Cabrillo National Monument Facilities Flat Files.

transferring the remaining lands of the reservation to the Navy.¹⁹⁵ By this time, Cabrillo National Monument was still a one-half acre unit (with permits to use the adjacent military property on which the comfort station was built during the CCC era).

During this time, existing auxiliary roads were still in use and new dirt roads were established. For example, the old alignment of the Humphreys Road and Sylvester Road (Bayside Trail) were still in use, though vegetation closing in on the road suggested that it was used less frequently than during the war era. By 1953, a new dirt road forked off Humphreys and Sylvester Roads, terminating near Billy Goat Point at a small, graded area.¹⁹⁶ Both dirt roads showed signs of heavy use and generally connected Gatchell Road to the shore. The southern of the two roads appeared in the first half of the decade and the northern road, which directly forked off Gatchell Road, appeared in the latter half of the 1950s. During this time, the area between the two roads, the mid-section of the western terrace, was also subject to frequent use.¹⁹⁷

While the popularity of Cabrillo National Monument increased with the establishment of a museum within the lighthouse and the placing of the Cabrillo Statue within the grounds in 1949,¹⁹⁸ the monument was physically limited by its size to accommodate and administer the disproportionately large number of visitors.¹⁹⁹ From 1950 to 1959, visitation rate doubled, despite the lack of increasing infrastructure. The concentration of daytime visitors at the lighthouse loop of the national monument likely dispersed from the summit downslope, gravitating towards the tidepools and the harbor views.

CABRILLO NATIONAL MONUMENT AND MISSION 66: 1959 – 1969

The decade-long issue of space, or rather the lack thereof, was finally resolved on February 2, 1959 when President Eisenhower signed Proclamation No.3273 authorizing the transfer of 80.6

¹⁹⁵ Joyce, *A Harbor Worth Defending*, p.69.

¹⁹⁶ Cummins, *Vegetation History*, p.34-35.

¹⁹⁷ Ibid., p.35.

¹⁹⁸ National Park Service, "Cultural Landscape Inventory: Cabrillo National Monument Visitor Center Historic District," US Department of the Interior, National Park Service (2009), p.29.

For more information on the planning and installation of the Cabrillo Statue, consult the Visitor Center Historic District CLI.

¹⁹⁹ Lehmann, *An Embarrassment of Riches*, p.81-82.

The auxiliary parking lot was loaned to the Monument for use by the military, indicating that the military was not against the influx of visitors. (Cummins, *Vegetation History*, p.33)

acres of land to the NPS from the Navy.²⁰⁰ The extended boundary of Cabrillo National Monument now encompassed the original half-acre, the present-day Visitor Center area, the auxiliary parking lot, and the western terrace between the present-day northern boundary and the old Point Loma lighthouse (see Physical History 14). The extended boundary did not include any of the Humphreys-Sylvester Roads south of the auxiliary parking lot. Great administrative planning and development that shaped Cabrillo National Monument to its present form ensued in full force in the decades following this expansion.

The 1960s was a decade of both internal (NPS) and external development of southern Point Loma. Two major external developments occurred during this period that, to the park administration's relief, positively affected the development of the national monument. In the early-1960s, the Monument received new neighbors with the establishment of a sewage treatment plant and a saline conversion plant. In 1959, Congress authorized the Navy to sell the 40-acre property immediately north of Cabrillo to the city of San Diego for a sewage plant; in 1961, the Department of the Interior commenced construction of the saline conversion plant on a plot of land southwest of the monument boundaries.²⁰¹ This plot of land was the mid-western terrace between the southern boundary of Cabrillo and north of the 11.5-acre Coast Guard land.²⁰² On October 1, 1960, the City of San Diego received a twenty-year special-use permit for a right-of-way through Cabrillo's western boundary for a road and utility lines to the sewage treatment plant. Part of this road also gave right-of-way to the saline water plant.²⁰³

On November 1, 1960, plans were drafted for the road through Cabrillo's western boundaries. The proposed road did not deviate significantly in alignment from the existing Cabrillo-Gatchell road, though better streamlined through grading and uniform width.²⁰⁴ The widened and resurfaced road connected the sewage treatment plant to Cabrillo Memorial Highway and down to the saline conversion plant, resulting in renewed road cuts and fresh spoils below the road.²⁰⁵

²⁰⁰ Lehmann, *An Embarrassment of Riches*, p.92.

The inter-agency conversation regarding this land transfer had carried on for as long as the problem was identified.

²⁰¹ Ibid., p.107.

²⁰² See the context image on "Cabrillo Road, Sheet 5 of 17," November 1, 1960, City of San Diego Engineering Department, Cabrillo National Monument Facilities Files.

²⁰³ Lehmann, *An Embarrassment of Riches*, p.107.

²⁰⁴ "Construction of Cabrillo Road and Site Grading for Sewage Treatment Plant," November 1, 1960, City of San Diego Engineering Department, Cabrillo National Monument Facilities Files.

²⁰⁵ Cummins, *Vegetation History*, p.36.

While most of the new road was built over the original alignment, sections of the old unpaved road were left to recover from decades of use. The abandoned alignment, from the junction of Cabrillo and Gatchell Roads running northward along the eastside of Gatchell Road and crossing the new road to create a lens shape along its westside, was exposed to little if any new disturbance. Segments of this original alignment can still be found in the area, with traces of road surfacing on either side of the road.²⁰⁶

In addition to the construction of the Cabrillo Road, the activities associated with the construction of the sewage treatment plant and the saline conversion plant subjected the midsection of the western terrace to frequent vehicle and foot traffic. During the simultaneous construction, a wide access road leading to the wastewater treatment plant was established to the west of Cabrillo Memorial Highway between Cabrillo Road and Battery Ashburn for the use of landmovers. This road was wide enough to accommodate two-way landmover traffic. Upon completion of the facilities, the road was covered and sculpted to resemble the original topography.²⁰⁷ Additional dirt roads appeared during this decade on the western terrace, running east-west off Gatchell Road towards the shore.²⁰⁸ These were also likely associated with the intense development of adjacent lands.

Amidst the development of the western terrace, Cabrillo National Monument underwent numerous administrative actions, such as master planning and designations, as well as physical development, most notably the Mission 66 Visitor Center area and the tidepools area, during the 1960s. Between the large ravine and present-day's southernmost parking lot in the tidepools area was reportedly used every summer as a site of training exercises for the Army Reserve during the 1960s and the military had surfaced the area with gravel.²⁰⁹ The grading of this area can still be observed today.

²⁰⁶ Though the road was an unpaved dirt road when it was first constructed, at least a few sections of it were paved and/or oiled at one point during its decades of use. Other sections appear to have been largely dirt or gravel. It is unclear exactly when this occurred, though the prevalent use of military vehicles during WORLD WAR II suggests that this improvement may have been made during the war era.

²⁰⁷ Cummins, *Vegetation History*, p.36.

²⁰⁸ *Ibid.*, p.36-38.

²⁰⁹ *Ibid.*, 38.

Through a National Park Service Mission 66 planning process, a new visitor center was designed. Construction commenced on the knoll northeast of the old lighthouse for the new visitor center complex in 1963 with the grading of slopes and filling of ravines. Most of the fill material during this phase of construction originated from the soil excavated during the construction of the sewage treatment plant.²¹⁰ The visitor center parking lot and adjacent pedestrian pathways were constructed on this newly graded and filled land. During this first phase of construction, the entrance road to the national monument was realigned, which would have been the Catalina Boulevard alignment, to its current alignment. Three buildings in the visitor center complex were completed by 1966 and final landscaping around the VC was completed by 1967.²¹¹

The Mission 66 program at Cabrillo also affected the western terrace of the national monument. As indicated in the Mission 66 master plan, the park developed the tidepools area for visitor use. Around 1963, three parking lots were constructed on the western terrace. The northernmost parking lot was built on land filled and leveled with soil from the sewage treatment plant. Similarly, the middle parking lot was also built near an area of thick fill dirt from the sewage treatment plant (the parking lot was established just north of this filled area).²¹² The southernmost parking area was likely only possible because the entire saline conversion plant located in the southwest corner of the peninsula was airlifted to the Guantanamo Naval Station in 1963. The plant's original Point Loma facilities site was offered to the monument to use.²¹³

Additionally, the Westside Trail was created over an underground pipeline constructed in the 1940s.²¹⁴ The trail ran north-south from the Army Radio Station area down towards the whale watch station (see Physical History 15). The Mission 66 plan proposed the development of a one-mile self-guided trail to give the visitor “an opportunity to see the unusual shore line and its

It is unclear exactly which federal agency had jurisdiction over this area, as the area is labeled a Navy Reservation in some maps, but the US Department of the Interior had built its saline conversion plant in this area. The relationship with the Army Reserve is also unknown and should be researched further.

²¹⁰ Lehmann, *An Embarrassment of Riches*, p.107.

²¹¹ For detailed information on the development of the CABR VC, consult the Cabrillo National Monument Visitor Center Historic District CLI, 2009.

²¹² Cummins, *Vegetation History*, p.37.

²¹³ Lehmann, *An Embarrassment of Riches*, p.107.

²¹⁴ Cummins, *Vegetation History*, p.39.

untouched wonders, such as the nesting sea birds, tide pools, and coastal chaparral.”²¹⁵ While this one-mile trail is most likely referring to the Tidepool Trail along the western shoreline, this Westside Trail may have been established as a secondary trail project to accommodate the demands of the high influx of visitors. This trail too would have offered fantastic views and opportunities to observe local flora and fauna. It was reportedly in active use in the 1960s; however, no other references to this trail have been found in the following decades. The trail is no longer extant.²¹⁶

The second of the potential Mission 66 feature is the overlook around the base-end stations of Batteries Humphreys, Woodward, and Grant. Today, a paved path branches from the Whale Watch Overlook westward downslope to the upper of the two split-level structures. While no exact date of construction for this paved path has been found, the 1965 General Development Plan shows a small overlook branching from the then-auxiliary parking lot, with a call-out line pointing to a rounded symbol placed near the base-end stations, annotated “Proposed Whale Interp. Area.”²¹⁷ It is unclear whether the proposal was to rehabilitate the upper base-end station into an interpretation area or to remove and build anew. The base-end station remains closed to the public and the whale interpretation area is upslope along the auxiliary loop.

Finally, the last notable event of the 1960s was an administrative one: the designation of Cabrillo National Monument. When the National Historic Preservation Act passed in 1966, the Cabrillo National Monument was administratively designated a historic district on October 16 of that year.²¹⁸

CABRILLO NATIONAL MONUMENT: 1970 – PRESENT

²¹⁵ National Park Service, “Mission 66 for Cabrillo National Monument,” US Department of the Interior, National Park Service (ca.1960), p.3.

²¹⁶ Due to the lacking information regarding the planning of the trail, as well as its exact construction and removal date, the possibility of the Westside Trail being a social trail cannot be ruled out. A photograph circa 1965 shows a distinct path from the Army Radio Station towards the Whale Watching Station, following the natural topography. This could be the Westside Trail (see Physical History 16). Further research is necessary.

²¹⁷ “General Development Plan, Part of the Master Plan,” US Department of the Interior, National Park Service, Branch of Landscape Architecture, Western Office Division of Design and Construction, February 15, 1965, Cabrillo National Monument Archives Flat Files.

²¹⁸ National Register Nomination: CMN.

When the national monument increased in size by roughly 70% by Presidential Proclamation No.4319 on October 1, 1974 which transferred 56.6 acres from the Navy to the National Park Service, a natural resource management plan and a new master plan for the newly enlarged park were concurrently developed.²¹⁹ The Natural Resource Management Plan identified landscape management actions to enhance the ecological health and visitor experience, including the construction of an ethnobotanical trail, removal of military debris and safety hazards, and erosion control. The ethnobotanical trail likely referred to the present-day Bayside Trail, which it identified as an important feature to the interpretation of natural resources, as the trail officially opened in 1975.²²⁰ It is possible that the development of this trail was responsible for the widening of the Humphreys road (as suggested by some freshly cut roadsides) and the appearance of a well-worn trail west of the Humphreys Road-Bayside Trail junction.²²¹ The trail may have been created by the workmen during the trail project or by visitors straying off the trail upon the opening of the Bayside Trail. Like many of the trails and dirt roads that have appeared in this area in the previous decades, this trail was left to naturally revegetate; today, this area shows evidence of the original road alignment and traces of old circulation paths.

The park administration executed preservation maintenance projects on the military features starting in the 1980s. Lacking management and interpretation programs specific to these features, preservation work was done case by case as it became necessary. The scope of preservation maintenance work ranged from vegetation removal, repainting, pest control, and replacement of hardware. In 1993, the Lower Base-End Station at Billy Goat Point was stabilized by the San Diego Urban Corps.²²²

Other activities throughout Cabrillo revolved heavily around elimination of hazards throughout the visitor-exposed areas. Most of these efforts took place along the Bayside Trail, which was often subject to erosion. In 1982, a northern segment of the Bayside Trail (almost immediately downslope of Base-End Station, Battery McGrath) was badly damaged by erosion. The resulting

²¹⁹ National Park Service, "Environmental Assessment, Master Plan Cabrillo National Monument," US Department of the Interior, National Park Service (June 1976), p.11.

While some secondary documents, such as Lehmann's *An Embarrassment of Riches*, refer to this master plan as the 1974 master plan, the master plan documents were signed in 1976 and will be referred to as the 1976 master plan in throughout the remainder of this document.

²²⁰ Cummins, *Vegetation History*, p.40.

²²¹ Ibid.

²²² Carey & Co., *HSR*, p.37.

large gully was filled in by Monument staff using the asphalt and soil that were removed from the old auxiliary parking lot south of the lighthouse.²²³ Two underground gasoline tanks located in front of the Generator Station for Searchlight Shelter No.18 & 19 were removed as they were in a very high pedestrian traffic area, along the Bayside Trail.²²⁴ In 1994, a project was executed to improve safety along the trail, stabilizing and clearing existing culverts of debris and building three new culverts in areas identified as having improper drainage.²²⁵ Work commenced again on the trail in 2011 to stabilize the erosion in the ravines: the Request for Proposal required “the design and construction of mechanically stabilized earth (MSE) retaining walls with modular block facing and safety railing.”²²⁶

In 1998, an official project was funded to restore coastal sage scrub and to remove exotic species throughout the monument, in cooperation with neighboring agencies, the Youth Conservation Corps, the California Conservation Corps, and other Public Lands Corps groups. This effort, which includes the restoration of the historic landscape of old Point Loma Lighthouse and the replacement of visitor center complex plantings with native species, are ongoing today.²²⁷

The park rehabilitated the Army Radio Station into a military history exhibit space.²²⁸ This building was likely selected as it was one of the larger military buildings on site and was the most accessible. Today, two of military structures at Cabrillo National Monument are open to the public: the Army Radio Station (also known as the Military History Museum) and the Battery Command and Base-End Station, Battery Ashburn, located on the bluff west of the museum. In late 2011, the San Diego Military History Association gained access to the split-level World War

²²³ Carey & Co., *HSR*, p.42.

The auxiliary parking lot area was undergoing major topographic restoration and native revegetation during the 1980s.

²²⁴ *Ibid.*, p.31.

²²⁵ “Improved Safety, Bayside Trail,” Sheet 2 of 3, US Department of the Interior, National Park Service, Denver Service Center (July 1994).

²²⁶ National Park Service, “Final Design Build, Request for Proposal Scope, Repair Bayside Trail and Drainage Structures for Safe Visitor Use and Enjoyment,” US Department of the Interior, National Park Service (October 2011), p.7.

²²⁷ “PMIS 6784 Restore Coastal Sage Scrub”; “PMIS 16515 Restore Historic Landscape”; “PMIS 234250 Rehabilitate the Historic 19118 Searchlight Generator Station for Adaptive Reuse.”

The historic landscape restoration project at the old lighthouse took place from 2003 to 2005 which involved dramatic changes to the grounds, including a complete realignment of the 1934 loop road. See the “Old Point Loma Lighthouse Cultural Landscape Assessment 2017” for more details.

²²⁸ Carey & Co., *HSR*, p.21.

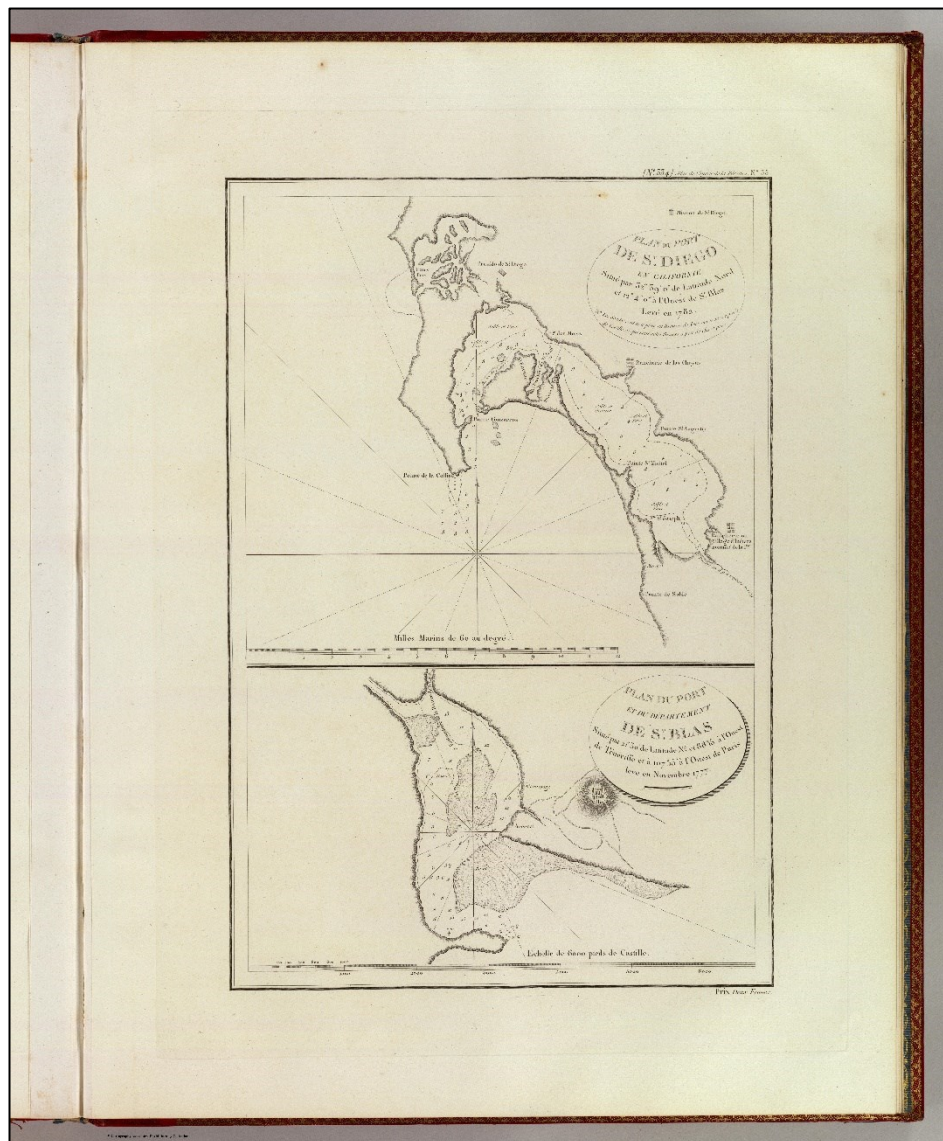
II structure and executed an interior restoration project. The restoration was completed in 2012 and the SDMHA offers limited weekend access to visitors.²²⁹

In 2000, the Cabrillo National Monument boundary increased to its present size, 159.94 acres. The boundary included the Bayside Trail and the lower tidepools area.

²²⁹ Conversation with Kenneth Glaze, October 31, 2017.



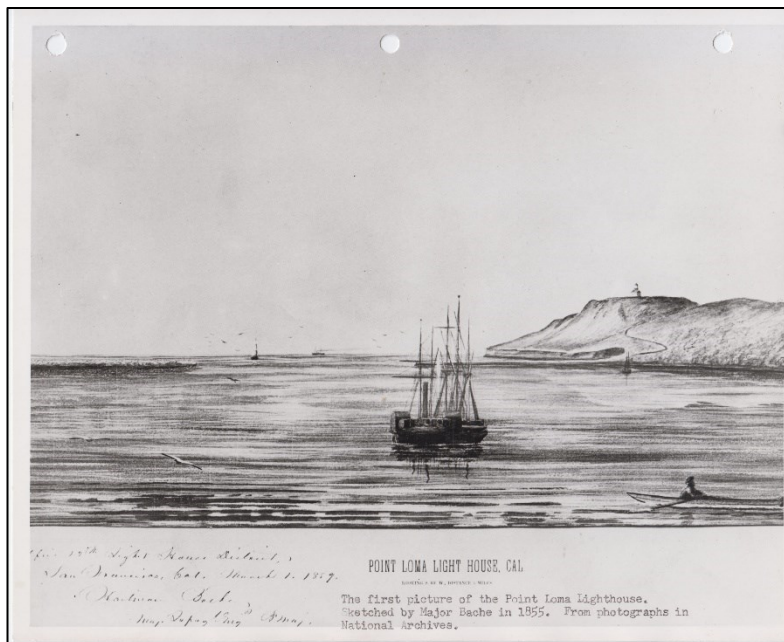
Physical History #1. "Plan del Puerto de S. Diego," Juan Pantoja, 1782. Note the "P. de la Loma" indicating the Point Loma peninsula. David Rumsey Map Collection,
https://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~718~80046:Plano-del-Puerto-de-S-Diego-?sort=pub_list_no&initialsort%2Cpub_date%2Cpub_list_no%2Cseries_no&qvq=q:juan%2Bpantoja;sort:pub_list_no&initialsort%2Cpub_date%2Cpub_list_no%2Cseries_no;lc:RUMSEY~8~1&mi=2&trs=3.



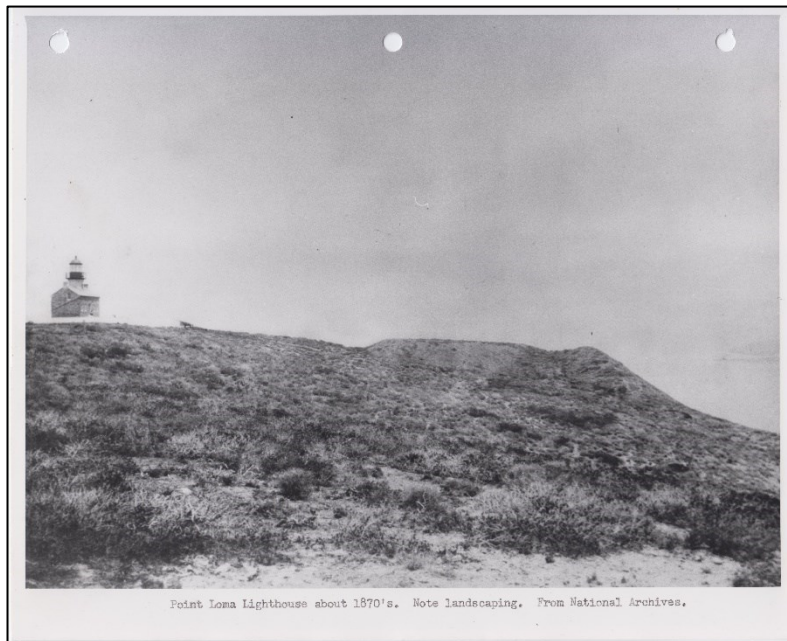
Physical History #2. "Plan du Port de S. Diego en Californie," Jean-François de Galaup, 1797. While the engraved map of San Diego is dated 1782, the atlas in which it was published is dated 1797. David Rumsey Map Collection, <https://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~20338~550035?qvq=q%3Ajuan%2Bpantoja%3Bsort%3Apub%20list%20no%20initials%20pub%20date%20pub%20list%20no%20series%20no%3Bblc%3AARUMSEY~8~1&mi=1&trs=3>.



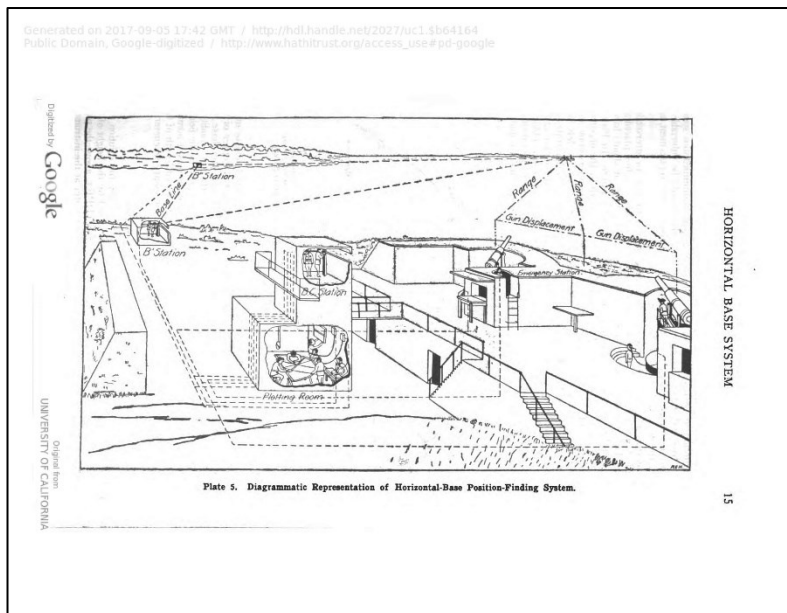
Physical History #3. View northward from the approximate location of the old Point Loma lighthouse. Major Hartman Bache, March 1, 1859. From: F. Ross Holland, Old Point Loma Lighthouse Historic Structures Report, US Department of the Interior, National Park Service, 1964.



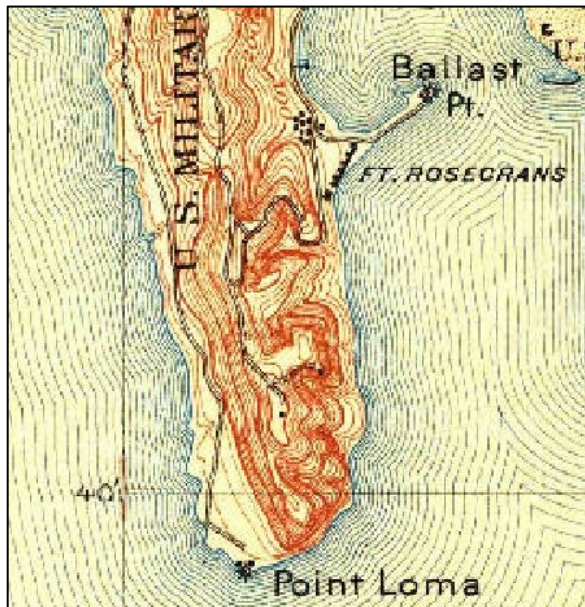
Physical History #4. View of the Point Loma lighthouse from Ballast Point anchorage. Major Hartman Bache, March 1, 1859. From: F. Ross Holland, Old Point Loma Lighthouse Historic Structures Report, US Department of the Interior, National Park Service, 1964.



Physical History #5. View of the old Point Loma lighthouse circa 1870s. Note the type and height of vegetation. From: F. Ross Holland, Old Point Loma Lighthouse Historic Structures Report, US Department of the Interior, National Park Service, 1964.



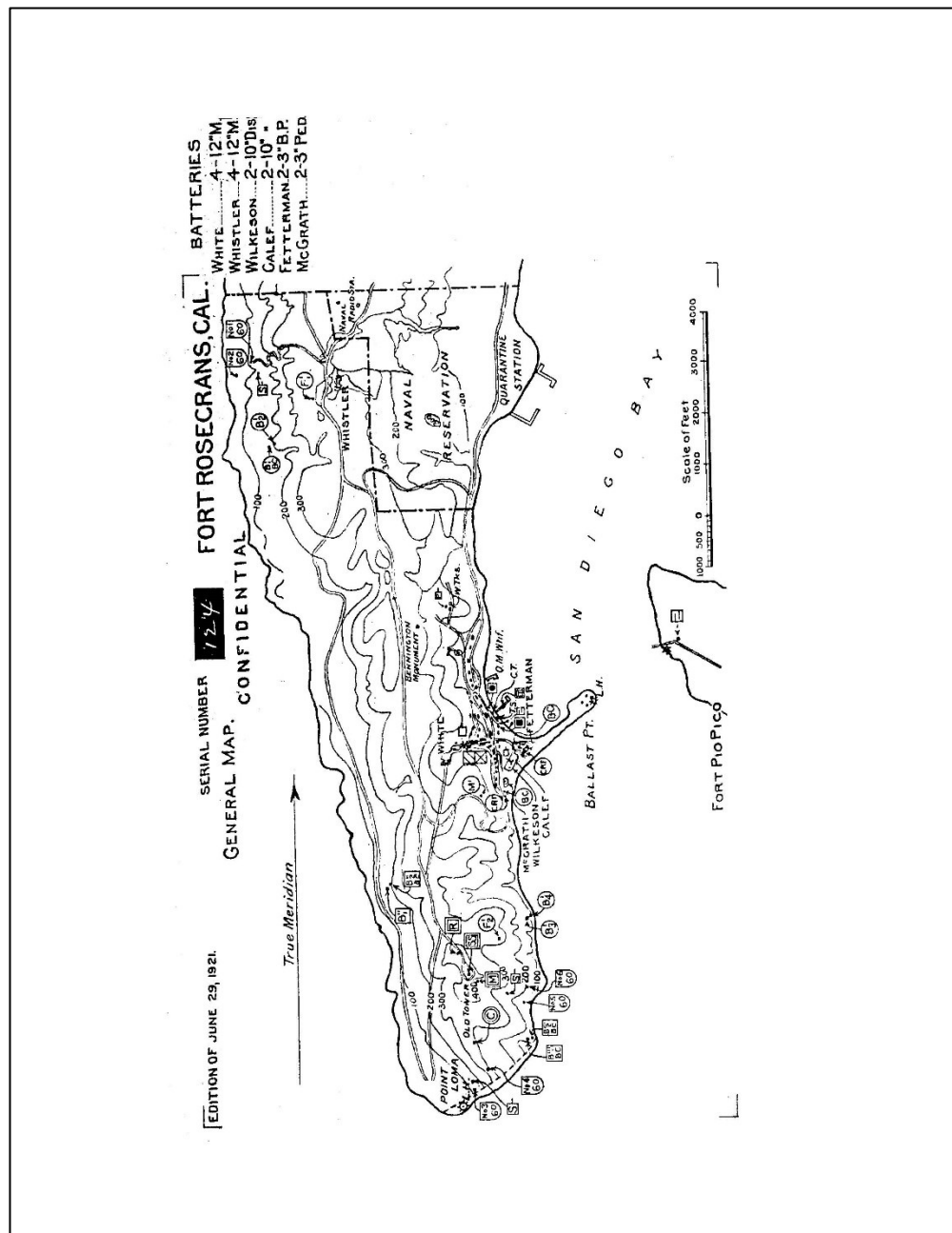
Physical History #6. Diagram of Horizontal-Base Position-Finding System, using base-end stations. Robert Arthur, The R.O.T.C. Manual Coast Artillery... A Textbook for the Reserve Officers Training Corps, Washington, D.C., 1931-1932.



Physical History #7. A section of the “1904 USGS Topographic Map of San Diego, California” showing the existing roads on Point Loma. Note the road along the western side of the peninsula leading southward to the new Point Loma lighthouse.



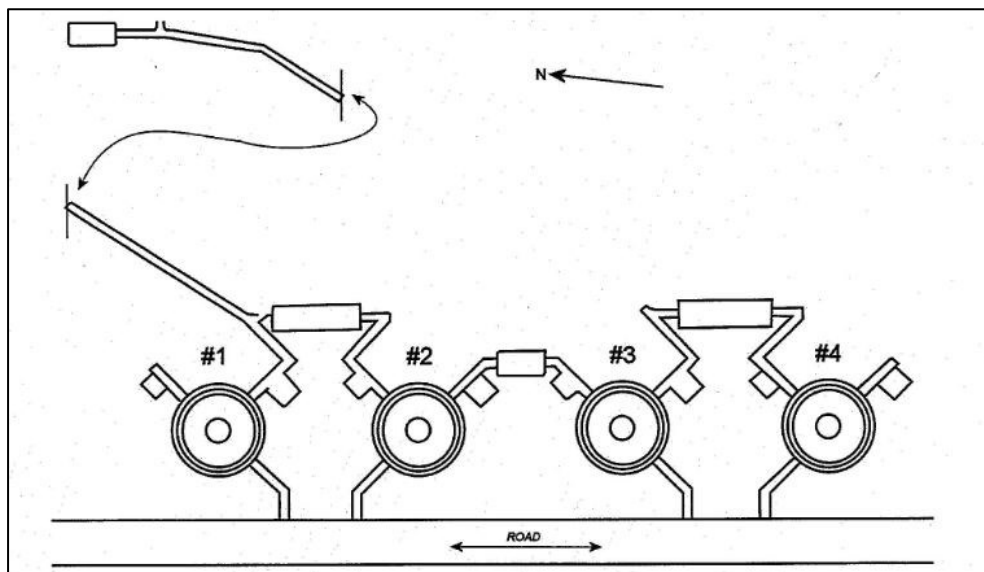
Physical History #8. View of the new Point Loma lighthouse looking northward, 1920s. Note the convergence of roads north of the lighthouse grounds. “Aerial View of Point Loma Lighthouse” San Diego History Center Photographs, UCSD Digital Library. <https://library.ucsd.edu/dc/object/bb14346083>.



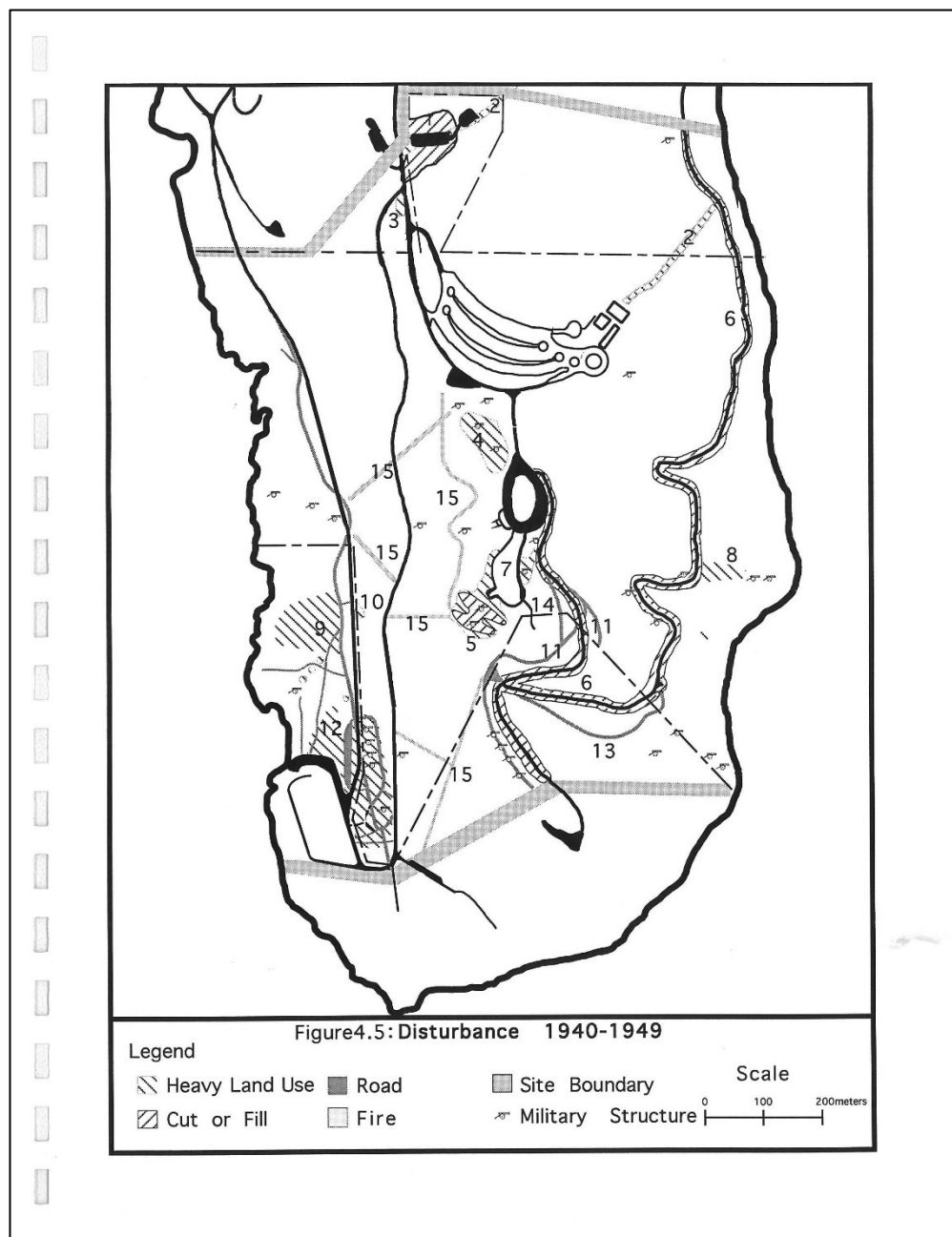
Physical History #9. 1921 General Map of Fort Rosecrans. Coastal Defense Study Group, <http://cdsg.org/the-harbor-defenses-of-san-diego-cdsg/>.



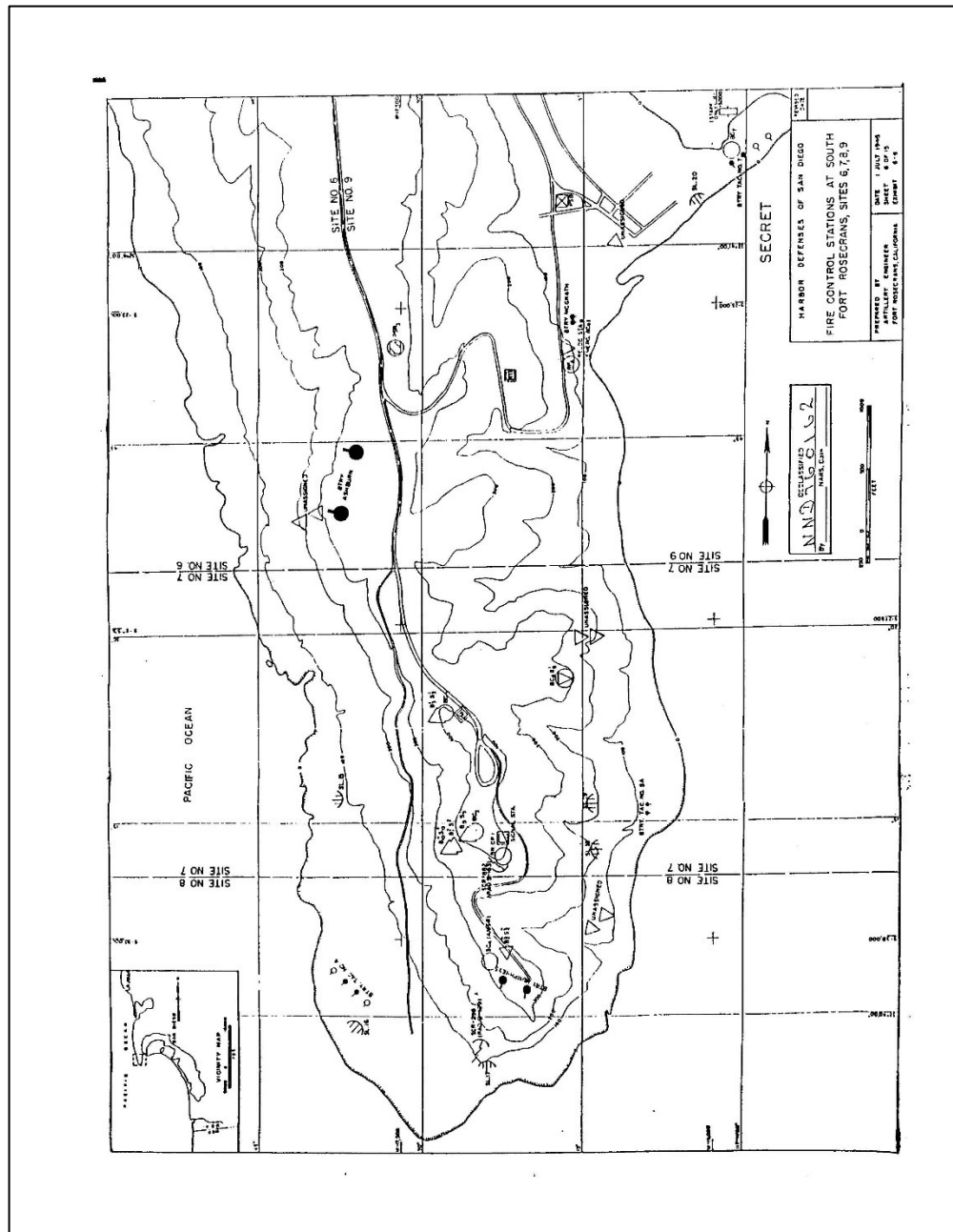
Physical History #10. 1937 aerial of Point Loma. Note the convergence of two roads on the western side of Point Loma, immediately north of the new Point Loma lighthouse. From Kenneth Glaze, Illustrated Fort Rosecrans, San Diego, self-published, 2015.



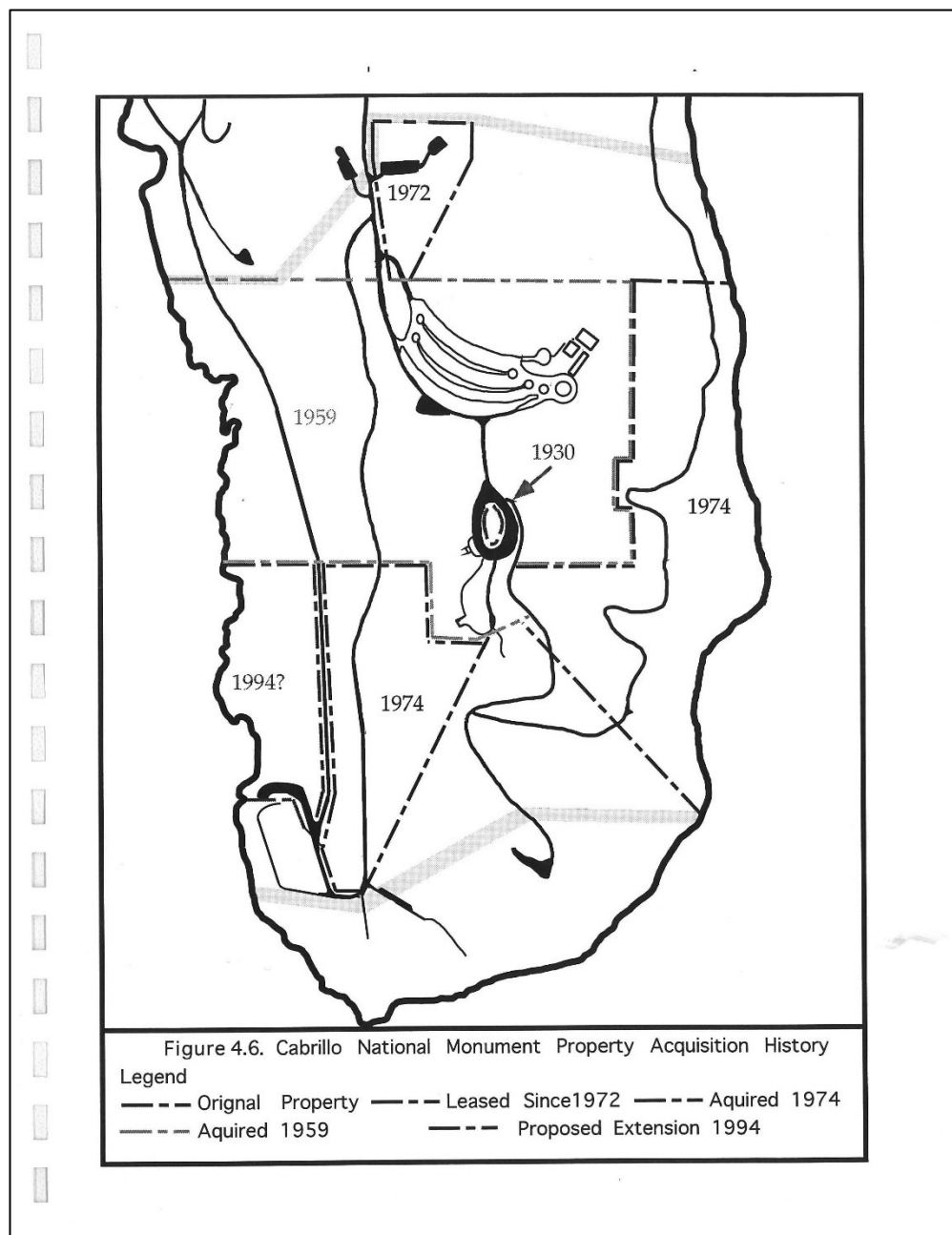
Physical History #11. Diagrammatic representation of Battery Point Loma's gun mounts and bunker complex. Only #4 is extant of the four gun mounts today. From Kenneth Glaze, Illustrated Fort Rosecrans, second edition, San Diego, self-published, 2017.



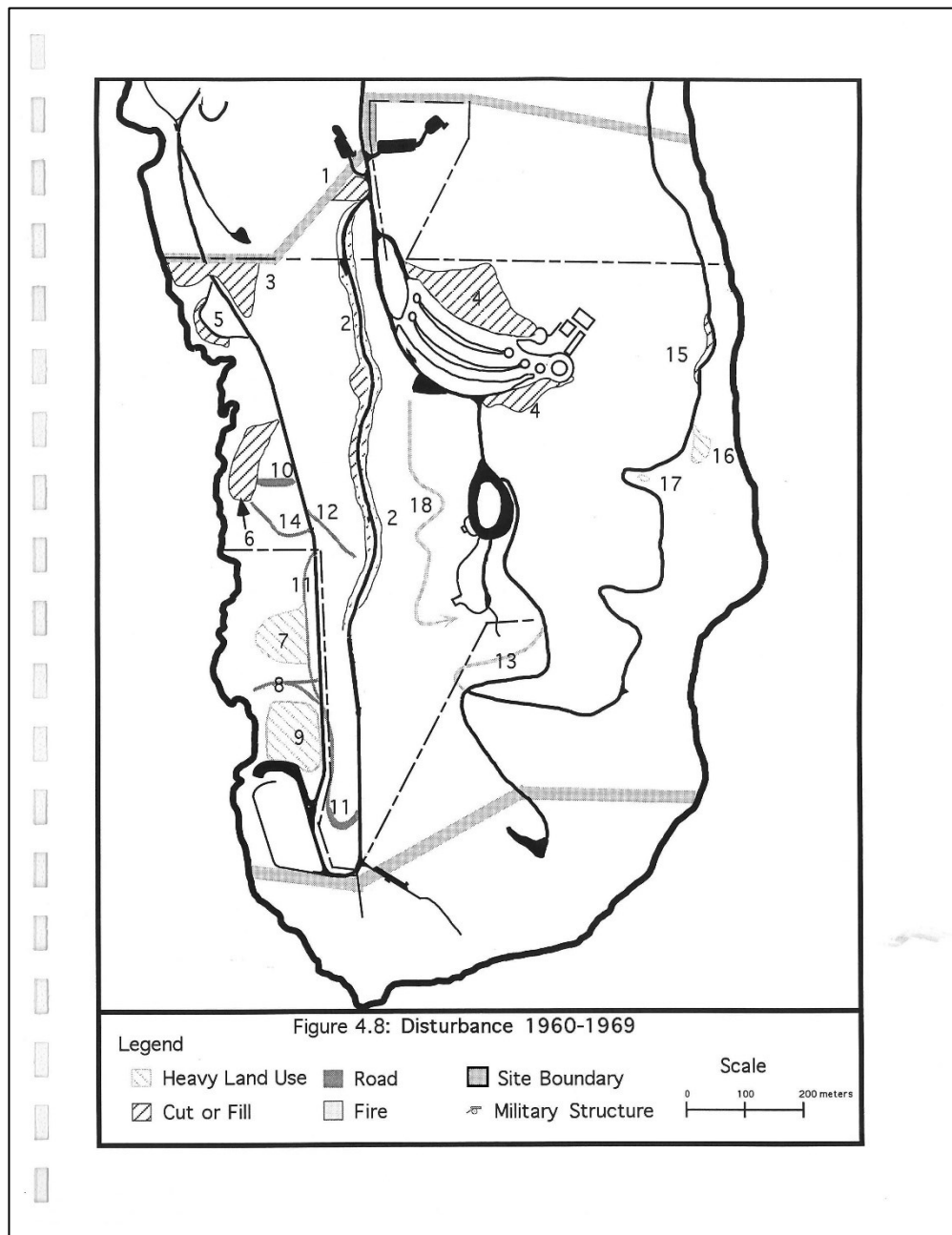
Physical History #12. Disturbance map of 1940-1949. Kevin Cummins, Vegetation History of Cabrillo National Monument, US Department of the Interior, National Park Service, 1995.



Physical History #13. 1945 General Plan of Fort Rosecrans. Coastal Defense Study Group, <http://cdsg.org/the-harbor-defenses-of-san-diego-cdsg/>.



Physical History #14. Cabrillo National Monument Property Acquisition History. Kevin Cummins, *Vegetation History of Cabrillo National Monument*, US Department of the Interior, National Park Service, 1995.



Physical History #15. Disturbance map of 1960-1949. Kevin Cummins, *Vegetation History of Cabrillo National Monument*, US Department of the Interior, National Park Service, 1995.



Physical History #16. Aerial view of the old Point Loma lighthouse loop, looking northeast. Note the distinct line of disturbance (absence of vegetation) following the natural topography of the western side of Point Loma, from the Ocean View parking lot area southward towards the Whale Watching Station. This was likely the Westside Trail. "Cabrillo National Monument" UCSD Library Digital Collections, <https://library.ucsd.edu/dc/object/bb52583673>.

Table 4.2. Historic Description of San Diego and Point Loma's Vegetation

Date	Observer	Title	Vegetation			General Description	Shrubs Present	Sage Scrub Present	Indians Present
			Absent	Trees Present	Not Mentioned				
1542	Cabrillo	Explorer			X				X
1602	Viscaino	Explorer		Good Wood					At least 100 Indians
1602	Ascesion	Priest				Many grassy pastures			
1769	Serra	Missionary	Wood scarce in immediate area	Arroyos in the area overgrown with trees		Good pastures; distinctly better than old California			X
1769	Pages	Missionary				Nearby well grassed area			X
1769	Portola	Governor, explorer		Three leagues away trees, cottonwoods near the river			Brushwood bundles used to make cover for the sick crew	Sweet smelling plants	X
1769	Vila	Sailor			X				None mentioned
1769	Constanso	Cartographer		Willows and cottonwoods near the river					X
1776	Font	Missionary	Short on firewood very short on timber			The land there is plenty of grass although not so good as in other places.			
1792	Longinos	Scientist			X	Was on P.L. but, no direct description was made. Noted trees were scarce in the region.			
1792	Meinzies	Botanist	No trees anywhere around			P.L. mostly covered by shrubery and brushwood	X	X	None mentioned
1793	Vancouver	Sailor	Trees absent				Some bushes		None mentioned
1827	Duhaut Cilly				X				None mentioned
1835	Nuttall	Botanist					Collected shrubs		None mentioned
1835	Dana	Sailor, author	No trees of any size for miles			San Diegans burn small wood which grows in thickets	Thickets and underwood		In San Diego
1847	Emory	Soldier botanist				Barren waste around the town of San Diego	Dense growth of shrubbery		None mentioned
1849	Whipple	Soldier botanist				No trees from the mission to the valley of the river of S.D.	X		In San Diego
1850s	Bariet	Survivor	Wood comes from 8 - 10 miles away			No arable land within 4 miles			
1880	Davidson					P.L. covered with coarse grass, cacti, wild sage, and low bushes	Low bushes	Wild sage	None mentioned

Physical History #17. Historic Description of San Diego and Point Loma's Vegetation. Kevin Cummins, Vegetation History of Cabrillo National Monument, US Department of the Interior, National Park Service, 1995.

Analysis & Evaluation

Analysis and Evaluation Summary

The Cabrillo Coastal Defense System was constructed between 1913-1950 as part of the harbor defenses of San Diego. As the coastal defense features are distributed throughout the entire Cabrillo National Monument, the CLI unit too spans the entire monument boundary. The monument is sited near the southern tip of Point Loma, a narrow six-mile-long peninsula at the entrance to San Diego Bay. The Cabrillo Coastal Defense System is regionally significant as a reflection of the advancements of harbor defenses of the United States' west coast from the late-nineteenth to the first half of twentieth century, as well as an exceptional sample of the Modern Era seacoast fortification style. The system represents the developments in military technology and naval ordnance and evolving technology that enabled the military to take full advantage of the strategic Point Loma's steep bluffs and deep ravines.

The major components of the Cabrillo Coastal Defense System include eight base-end stations, three searchlight shelters, two generator stations for searchlights, an army radio station, an AMTB gun emplacement, a gun mount and two associated bunker complexes, and an old military road that functions today as a park trail. The siting of these resources was significantly influenced by the natural topography and vegetation on Point Loma, incorporating the peninsula's natural systems into the location and design of the individual structures to optimize performance and minimize visible impact. The deep ravines and valleys and the steep cliffs and bluffs continue to provide panoramic views of the Pacific Ocean and the San Diego Bay while providing natural concealment for the structures. The largely consistent climate and vegetation height also further preserve the historic character of the site. Although the function of the old military road shifted to a park trail, it retains its historic alignment and continues to reflect the historic circulation system of eastern Point Loma.

Contributing landscape characteristics include natural systems and features, spatial organization, circulation, views and vistas, buildings and structures, and archaeological sites.

Integrity

The Cabrillo Coastal Defense System retains integrity as a coastal fortification on the US west coast and as an exceptional sample of the Modern Era coastal fortification style in the country. The Coastal Defense System retains all seven aspects of integrity. The features within the unit retain their location and setting including the vistas of the open coastal land and the natural topography that were integral to the siting of the structures. Materials, workmanship, and design are retained with minor preservation maintenance work completed since the 1980s. As a whole system, the cultural landscape conveys the feeling and association of military coastal defense that combined military technology and design with the natural setting of Point Loma to establish a coastal defense system that could protect the city and harbor from attack. Located in a landscape very similar to its original setting, isolated from targeted development sites within the national monument boundary, and with the naval and commercial vessels in the harbor to the east and the vast Pacific horizon to the west, the landscape retains its historic character.

Although targeted areas within the boundary have undergone major alterations since the unit's period of significance, these changes are not associated to the military structures and thus do not diminish the overall integrity of the cultural landscape. As the ongoing native vegetation restoration within Cabrillo National Monument does not incorporate large areas of ground cover removal, the restoration effort does not diminish the overall historic character of the military landscape. The Cabrillo Coastal Defense System continues to retain integrity of setting, location, design, materials, workmanship, feeling, and association.

Natural Systems and Features

Natural systems and features are the natural aspects that have influenced the development and physical form of the landscape, and can include geology, geomorphology, hydrology, ecology, climate, and native vegetation.

The natural systems and features considered in this evaluation are those that have influenced the development and physical form of the Cabrillo Coastal Defense System's landscape and contribute to the property's setting and historic character. The unit offers panoramic views of San Diego, its bay, and adjacent cities to the north, east, and south, Mexico to the far south, and the Pacific Ocean to the west.

The establishment of a coastal defense system was heavily influenced by the dramatic natural features of Point Loma, with its natural topography that afforded the military prime real estate to guard the coast and harbor from higher ground, safely tucked into the steep slopes of the sandstone ridge. As defense structures without artillery, concealment and camouflage was of primary importance. The natural topography and vegetation were minimally disturbed and concentrated to the immediate vicinity of the structures. The natural systems and features that influenced the development of the coastal defense system remain today much as they were during the military era, with the exception of the Visitor Center Historic District and the Old Point Loma Lighthouse site, contributing to the setting of the property.

NATURAL TOPOGRAPHY

The Cabrillo National Monument occupies 160 acres at the tip of Point Loma, a narrow north-south peninsula that extends three miles at the north end of San Diego Bay. This finger of land is bounded by the Pacific Ocean to its west, the San Diego Bay to its east and south, and by the urban environment of San Diego to its north. Within the monument, the peninsula is no more than a half mile wide and reaches an elevation of 422 feet. The peninsula is bordered by nearly vertical sea cliffs on the west, south, and east; the most pronounced terraces extend along all of the western and southeastern side.

The topographic expression of the promontory is heavily impacted by the network of northeast-southwest and northwest-southeast trending faults and fracture patterns which control the drainage pattern of the peninsula. Intermittent streams formed by the runoff from the occasional rains have dissected the area to form a series of v-shaped valleys. The relief is 430 feet near the southern tip of Point Loma and gradually diminishes northward to the vicinity of Mission Bay. These resulting valleys and ravines, in conjunction with the dramatic elevation change throughout the point, provide the ideal, naturally camouflaged setting for the coastal defense systems of Cabrillo National Monument.

The Cabrillo National Monument coastal defense system features are sited across the entire monument grounds, incorporating the topography of the peninsula into their design to fully utilize the natural concealment afforded by the point. The three above-ground structures, Searchlight Shelter No. 18, Generator Station for Searchlights 18 & 19, and the Army Radio Station, are tucked into the steep hillsides, blending the superstructure into the natural topography for protection and camouflage. The base-end stations are sited at higher elevations along the steep spurs, especially on the eastern side of Point Loma, as they afford the best panoramic views of San Diego Bay. The dramatic changes in elevation, however, dictate that these structures be semi-subterranean to enhance stability and camouflage. The subterranean structure type, including Searchlight Shelter No. 15, Generator Station for Searchlight No. 15, and the Battery Point Loma Reserve Magazine, were deemed appropriate for the more level grounds of the western terrace. The subtle changes in topography called for subterranean structures for concealment. The Battery Point Loma Bunker Complexes are also nearly subterranean to ensure concealment and camouflage from sea level.

The resulting military landscape of Cabrillo National Monument is one of subtly and concealment: all features are carefully sited to best perform their primary function without attracting unnecessary attention.

NATIVE VEGETATION

Native plants found in the Cabrillo National Monument are part of the coastal sage scrub community, an association of woody shrubs ranging in height from one to ten feet. The national monument and the Point Loma peninsula are located at the transition between the coastal sage

scrub community of southwestern California and the maritime succulent scrub characteristic of northwestern Baja California. This unique geographical setting is the driving force behind the unique assemblage of vegetation, which is not found anywhere else in the United States (CABR State of the Park, 2017). The dominant shrubs include lemonade berry (*Rhus integrifolia*), coast manzanita (*Arctostaphylos* sp.), toyon (*Heteromeles arbutifolia*), and scrub oak (*Quercus dumosa*). According to the 1961 Master Plan, “Seventy to eighty percent of the area is covered by coast chaparral, the dominate shrubs being lemonade berry, coast manzanita, and scrub oak.” Typically, the plant community is two to five feet tall; although taller species, such as the lemonade berry and toyon, can achieve the size of small trees if fire is kept out of the growth cycle (NPS, Cabrillo National Monument, Park Website, 2007). The coastal sage scrub species have adapted to an ecosystem that rarely freezes in the winter and only occasionally experiences temperatures over 90 degrees Fahrenheit during the dry California summer. Plants within this community are adapted to both drought and fire. This sage scrub plant community evolved within the Mediterranean climate typified by winter rains and dry warm summers with a fairly constant temperature (park website, 2007).

Southern California's coastline, once covered by coastal sage scrub, is now largely developed, and although originally the dominant ecosystem, the coastal sage scrub community now only exists in scattered pockets. One such pocket of this endangered habitat is the Point Loma Ecological Conservation Area, an area of 840 acres protected under the joint management of the U.S. Navy, the Cabrillo National Monument, the U.S. Coast Guard, the Department of Veterans Affairs, and the City of San Diego Wastewater Treatment Plant. The Cabrillo National Monument occupies 157.8 acres within the Point Loma Ecological Conservation Area (park website, 2007; Cabrillo National Monument Visitor Center Historic District CLI, 2009).

The unique native plant communities of Point Loma, with their resiliency against droughts and fire and their generally low height, provided the Cabrillo Coastal Defense System with effective year-round ground cover and camouflage. Their low height likely meant that the fortification features, especially gun emplacements and observation stations, could be concealed without obstructing their views with little maintenance; their drought resiliency eliminated the cost and labor of irrigating water to maintain these plant communities throughout the year. The absence of large groves of trees also likely spared the military from making lasting, and very visible,

impressions on the landscape from tree removals that would have been required for any of their numerous construction programs.

CLIMATE

The average annual temperature is 64 degrees Fahrenheit, and Cabrillo National Monument experiences moderate temperatures year-round due to its proximity to the ocean. The average annual rainfall is 9.5 inches and is concentrated in the winter, from November to April. The ceiling height for the cloud base is typically around 500 feet, and the highest located structure within the defense system is at 380 feet, well below this cover so that views (of the San Diego Harbor, the ocean, and the surrounding landscape) are generally available on most days of the year. With less than a tenth of an inch of rain during the summer months, the climate has also been a major factor in determining the plant communities which grow on Point Loma (park website, 2018; Cabrillo National Monument Visitor Center Historic District CLI, 2009).

This generally mild climate with its high cloud base and low rain fall, allowed the military to take advantage of the higher elevations of Point Loma with little concern for marine layer-related view obstructions and rainfall-related landslides. As such, many of the observation stations, to which unobstructed panoramic views are vital, are situated on higher elevations along the spurs of the ravines. This is most evident on the eastern side of the Point Loma ridge.



Natural Systems and Features #1. View of Point Loma from the Naval Base, Ballast Point, looking southwest (PWRO, November 2017).



Natural Systems and Features #2. View upslope from the north end of Bayside Trail (PWRO, June 2017).



Natural Systems and Features #3. View downslope from Bayside Trail, towards San Diego Bay (PWRO, June 2017).



Natural Systems and Features #4. View northwest from the lighthouse tower (PWRO, June 2017).



Natural Systems and Features #5. Sample of natural vegetation found in the western terrace of Point Loma. View of Battery Point Loma Panama Gun Mount 4 (PWRO, June 2017).

Spatial Organization

Spatial organization is the three-dimensional organization of physical forms and visual associations in a landscape, including the articulation of ground, vertical, and overhead planes that define and create spaces. The historic spatial organization of the Cabrillo Coastal Defense System is evident when viewing the unit in an environmental setting and in relationship to the evolution of naval ordnance and seacoast defense technology. As the US military began to construct their coastal defenses on Point Loma, they utilized the beach cliffs, steep slopes, and deep ravines of the peninsula in an effort to establish high, well-concealed vantage points for its illumination apparatus and observation stations.

The Point Loma peninsula forms a natural protective barrier at the entrance of San Diego Bay, rising 422 feet to provide strategic views of the harbor and ocean. The advancing military technologies of the late-nineteenth and early-twentieth century had enabled defense structures to be on varying elevations and at varying distances from the coastline, allowing the military to fully utilize the natural topography of the optimally located Point Loma. Any approaches to the city and harbor would have been detected by the strategically sited (and naturally concealed) observation stations and searchlights along the steep slopes of the peninsula.

Despite performing similar functions, it is important to note that the fortification features within the Cabrillo National Monument do not function inter-dependently in a single system. Rather, as a sample the seacoast fortification system from the early- to mid-twentieth century, these structures form a spatial and functional relationship with the other features of their individually associated battery complexes (other observation stations, spotting stations, base commander station, etc.), which, owing to the technological advancements of the late-nineteenth and early-twentieth century, are each dispersed throughout a large area—in this case the entire San Diego coast. These features are not sited to establish a functional relationship with each other. Instead, the features are sited in relation to the two major phases of development on Point Loma that reflect the evolution of military technology.

The first phase of military development within the Cabrillo National Monument grounds took place during the World War I era. The naval ordnance of the era limited any naval assault to take place within the vicinity of the harbor entrance. As such, all the installations of this period are

situated along the eastern slope of the peninsula ridge, with panoramic views of the city and harbor to the north and east, and of the Mexican border to the south. Five base-end stations, from which locational data were collected, and two searchlight shelters that housed 60-inch harbor illumination devices, and the associated generator station were constructed within the park boundary during this time to service the gun emplacements on Ballast Point and northeastern Point Loma. Also during this period, dirt roads were constructed along both eastern and western sides of the ridge as primary methods of circulation to and from these structures.

The second phase of military development within the park unit was the most intense and took place during the modernization and World War II eras. After World War I, the US learned that its defense systems were no match for the advanced naval and, now, aircraft ordnance. Enemy vessels were no longer limited in artillery range; they could bombard the city, over the peninsula, from a safe distance in the Pacific Ocean. Furthermore, airborne attacks introduced during World War I left the defense system of Point Loma vulnerable. The harbor entrance was no longer the only point requiring defense. As such, the structures built during this phase were predominantly located on the western slope of the Point Loma ridge where the bluff granted panoramic views of the Pacific horizon to the north and west, and the maritime Mexican border to the south. Three split-level observation stations, with each level assigned to different batteries constructed along northwestern Point Loma and on North Island and either the function of battery command or observation, an additional searchlight shelter to house a 60-inch harbor illumination apparatus, its associated generator station, an entire battery of four 155mm GPF guns, along with its bunker complex, were constructed at Cabrillo during this time. The structures that were constructed during the previous phase of development were also employed during the Second World War, watching all sides of the peninsula for potential enemy vessels. The dirt roads were actively used during this time, indicating that this area of Fort Rosecrans was heavily manned. The eastern road was reconstructed during this phase.

The overall defense system spatial organization has been retained to the present day. Cabrillo National Monument is still dotted with World War II structures along the western slopes of its ridge, and World War I structures on its eastern slopes. Development of southern Point Loma as a national park unit that took place since the decommission of the harbor defense of San Diego do not diminish this spatial organization established by the decades of military use. No military

feature has been removed within the Cabrillo boundary since the decommission and the extant structures continue to stand isolated and dispersed throughout the grounds.



Spatial Organization #1. East side of Point Loma, looking south from Bayside Trail. (PWRO, November 2017).



Spatial Organization #2. View of the west side of the Point Loma ridge, looking south from Gatchell Road. Note the Whale Watching Station at the top of the ridge (PWRO, November 2017).



Spatial Organization #3. View of the two base-end stations at Billy Goat Point. Looking southeast, downslope (PWRO, November 2017).

Circulation

Circulation is defined as spaces and features which constitute systems of movement within a landscape. The Cabrillo Coastal Defense System encompasses four circulation systems, one of which dates to the period of significance, another that has been reconstructed and realigned in the 1960s in association with the development of the City of San Diego wastewater treatment plant located immediately north of the Cabrillo National Monument Boundary on the western terrace, and two established during the Mission 66 era. Other systems within the park boundary have been previously addressed in the Visitor Center Historic District CLI and the Old Point Loma Lighthouse CLI.

Bayside Trail – Contributing (LCS ID 058565, Structure ID 09BAYTR)

The Bayside Trail is comprised of a dirt road and a trail that was built 1918-1919 as a part of the army project to construct Searchlights No.5 and 6 (present-day 18 & 19) and their generator station. Upon the engineers' specifications, the road was merely graded and not surfaced upon construction. A trail continued from the road's southern termination point at Billy Goat Point up the hill to the old Point Loma lighthouse. Originally named Meyler Road, in honor of Lieutenant James J. Meyler, the road ran north-south from the post of Fort Rosecrans along the east side of Point Loma to Billy Goat Point (it is uncertain whether the trail also bore the name Meyler). The dimensions of the original road and trail are unknown. In 1934, the trail segment of the circulation system was widened into a road that tied into Meyler Road, thus creating a loop on the eastern half of the peninsula. The newly widened segment of the loop road is commonly known as Humphreys Road, though it is unclear exactly when this name was assigned. This circulation system was improved once again in 1941 when the army reconstructed both Humphreys Road and Meyler Road. The reconstructed road deviated from the original alignment, with the new alignment branching from Humphreys Road at an angle directly east, unlike the old alignment which created a concave lens shape before heading north. This reconstructed road was roughly eight to nine feet wide. The surfacing of the road is debatable; some sources claim that the road was unpaved but oiled while others state that it had a macadam or asphalt surface. Remnants of what appear to be old macadam surfacing are found along the Bayside Trail today, which suggests that, since no major alterations to the road have been made since its reconstruction (with the exception of the widening of Humphreys Road in the 1970s), the road was paved during the

era of heaviest use. Around the time of reconstruction, the name Meyler Road was changed to Sylvester Road.

Today, while only the gravel surfaced segment is called the Bayside Trail, the wide, paved Humphreys Road from the old Point Loma lighthouse loop to the junction point of the trail is also considered a part of the same circulation system “Bayside Trail” and is managed as such. The Bayside Trail officially opened as a park trail in 1975. The southern portion of the Bayside Trail system, including the junction point, is on navy land but used by the NPS through a license for use of real property by other federal agencies, OGLIC. The official northern termination point of the trail is the northern boundary of Cabrillo National Monument, immediately south of the termination fence, requiring visitors to retrace their steps to return to the visitor center and parking lot. The elevation of the trail ranges from approximately 400 feet to 80 feet, the access point at the highest elevation and the northern termination of the trail at the lowest.

The graveled trail varies in width throughout its one-mile course, the variation most likely affected by topography and soil erosion; the segment of the trail located within the monument boundary averages to approximately eight to nine feet. The segment of the trail on navy land is wider (approximately 11 feet) and is checked with contemporary water bars. The water bars present are a combination of precast concrete, composite, and wooden checks.

Despite the alterations to the military road since its period of significance, such as surfacing and widening of the trail, the Bayside Trail retains integrity as a coastal defense feature through its location, setting, design, feeling, and association. While the material integrity may have diminished, the fundamental workmanship of the trail was established during the military era. The Bayside Trail is a contributing feature to the Cabrillo Coastal Defense System.

Cabrillo-Gatchell Road – Non-Contributing, Compatible

The present-day Cabrillo-Gatchell Road is a contemporary iteration of a historic circulation system. This north-south loop road runs along the western side of Point Loma and provides access to the tidepools area and two overlooks. The road on higher elevation, situated farther inland, is named Cabrillo Drive, and the western, lower elevation road is called Gatchell Road. The origin of the name “Gatchell Road” is uncertain, however. Contemporary maps refer to both

as Cabrillo Road, while some secondary documents call the road “Catchall Road.” Access to the road is located immediately south of the entrance station of Cabrillo National Monument where Cabrillo Drive branches westward from Cabrillo Memorial Drive. The circulation system within the monument terminates on Gatchell Road, at the monument’s northern boundary.

Historically, a similar system of roads coursed through the area during the landscape’s period of significance. A dirt road was constructed on the western side of Point Loma at the same time Meyler Road was built. This road likely converged with another dirt road that was established upon the construction of the new Point Loma lighthouse in 1891, creating a loop road on the western terrace. These roads were used heavily particularly during World War II, servicing the two batteries that once guarded the southern and western shores of Point Loma.

The present iteration of the north-south loop road running along the western side of Point Loma was constructed in the early-1960s in association with the construction of the City of San Diego wastewater treatment plant and the federal saline conversion plant, located immediately north and south of the monument respectively. The 1960s road construction significantly changed the alignment, width, and grading of the historic roads and the present-day Cabrillo-Gatchell Road fails to communicate their military association. The Cabrillo-Gatchell Road is a non-contributing, but compatible, feature of the Cabrillo Coastal Defense System.

Paved Walkway to Battery Command Station, Battery Humphreys – Non-contributing

The paved walkway to Battery Command Station, Battery Humphreys is accessed from the whale watching station pedestrian loop, south of the whale watching shelter. From this point, a walkway approximately 4’6” wide runs westward downslope to the upper of the two World War II base-end stations in the hillside, Battery Command Station, Battery Humphreys. Surfaced with aggregate concrete, this narrow walkway extends downslope approximately 150’ to reach the paved overlook that surrounds the arced façade of the military structure. The walkway and overlook are graded and curbed, with a wooden post-and-rope fence delineating the downslope side. Three wooden retaining walls flank either sides of the structure, and an additional two retaining checks are located upslope for further erosion control. A wooden split-rail fence also extends the length of the structure’s northwestern elevation. Centered at the rear edge of the base-end station is a sign that reads “Coastal Defense 1943-1946.”

This circulation system providing pedestrian access to the arced front of the World War II bunker was likely a part of the Mission 66 program for Cabrillo National Monument. Furthermore, General Development Plan of 1965 proposes an area branching from the then-auxiliary parking lot, with a filled-in symbol with the annotation “Proposed Whale Interp. Area.” This branched area is consistent with the location of the present-day walkway and military bunker, supporting the claim that it was a Mission 66 development. The sign at the rear edge of the structure is also in a typical Mission 66 style.

As this circulation system developed post-period of significance as a part of another designed landscape, it is a non-contributing feature of the Cabrillo Coastal Defense System.

Catalina Boulevard Alignment – Non-contributing

A paved sidewalk links the southernmost overlook of the Visitor Center complex to the road to the lighthouse loop. This sidewalk serves the primary access route to the Army Radio Station. During the major topographic and circulation overhaul of the Mission 66 era, this sidewalk was paved to follow the original alignment of Catalina Boulevard, built circa 1910. According to the geospatially referenced 1921 plan of Fort Rosecrans, this Mission 66 paved sidewalk retains the alignment of the original “topside road.” However, despite retaining its original alignment, the 1960s alteration has diminished the integrity of the original road and this circulation system is a non-contributing feature of the military landscape.



Circulation #1. Bayside Trail, looking northeast (PWRO, November 2017).



Circulation #2. Bayside Trail, looking south (PWRO, November 2017).



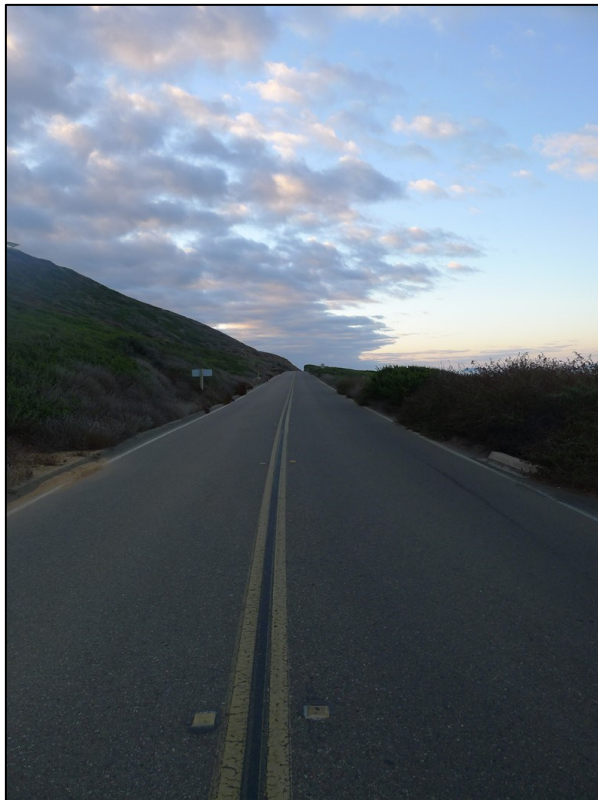
Circulation #3. Remnant road surface along Bayside Trail (PWRO, November 2017).



Circulation #4. Precast concrete and composite water bars along Bayside Trail (PWRO, November 2017).



Circulation #5. View looking south from Cabrillo Road (PWRO, November 2017).



Circulation #6. View looking south from Gatchell Road (PWRO, November 2017).



Circulation #7. Along the switchback of Cabrillo-Gatchell Roads (PWRO, November 2017).



Circulation #8. View of the paved walkway to Battery Command Station, Battery Humphreys from the Whale Watch Station. Looking south, upslope (PWRO, November 2017).



Circulation #9. View of the Catalina Boulevard alignment, looking south (PWRO, November 2017).

Feature Name	Feature Contribution	CRIS CL Feature ID	CRIS-HS Resource Name	CRIS-HS Resource ID	CRIS-AR Resource ID	FMSS Record Number
Bayside Trail	Contributing	201958	Bayside Trail	058565		
Cabrillo-Gatchell Road	Non Contributing	201959	Cabrillo-Gatchell Road	1171860		
Paved Walkway to Battery Command Station, Battery Humphreys	Non Contributing	201960	Battery Humphreys Command Station Walkway	1171861		
Catalina Boulevard Alignment	Non Contributing	201961	Catalina Boulevard Alignment	1171862		

Buildings and Structures

Buildings are elements constructed primarily for sheltering any form of human activity in a landscape, while structures are elements constructed for functional purposes other than sheltering human activity. The Cabrillo Coastal Defense System retains both historically significant buildings and structures within its boundary. Structures that lack individual physical integrity are considered ruins and are documented in the Archaeological Sites section of the inventory.

All buildings and structures within the unit are reinforced concrete and metal structures of the Modern Era of seacoast fortifications. While the Modern Era of seacoast fortifications span from the Endicott period, at the close of the nineteenth century, through World War II, the features within the Cabrillo National Monument are predominantly World War I and II constructions. With the exception of two sets of contemporary drainage features and a concrete subterranean structure, all the buildings and structures within the unit contribute to the cultural landscape of Cabrillo Coastal Defense System.

Army Radio Station – Contributing (LCS ID 008195, Structure ID 03HS2)

The Army Radio Station was built in 1918 as the first radio station in harbor defenses of San Diego. The World War I Modern Era structure is a one-story, three-room building measures approximately 21'8" by 15'8" with reinforced concrete walls, wood-framed roof with deep overhang, and asphalt roll roofing-clad. The building sits 1000 feet northwest of the old lighthouse, west of the road to the lighthouse loop. The building is situated with its primary elevation facing northeast and is tucked into a hillside to its rear elevation. As such the three secondary elevations of the building are bordered by a wood retaining wall to minimize damage from soil erosion. A narrow concrete path separates the retaining wall from the structural walls.

There are two ways of approach to the building, one by a set of concrete steps that directly lead to the building entrance, and another ADA accessible sidewalk that approaches from the southeast of the building. Both approaches branch off the original alignment of Catalina Boulevard (Cabrillo Memorial Drive), which has been retained in the form of a concrete paved sidewalk that connects the road to the lighthouse loop and the ocean view parking lot of the visitor center complex. Along the north side of the concrete steps are an unidentified remnant concrete feature

and a stone alignment hidden by vegetation. The stonework resembles that found around the CCC-era Comfort Station off the lighthouse loop. To the immediate northwest of the Army Radio Station are wood check steps leading to Battery Command and Base End Station, Battery Ashburn. These check steps are comprised of over twenty five 4x4 treated lumber pieces. These steps also lead to a remnant concrete pad located southwest and upslope of the radio station. This is likely where the old antenna field was located.

The fenestration on the façade features a single wood-paneled door and a fixed, wood sash window with eight lights, each containing wire-mesh glazing, replicated from a sample window taken from Battery Whistler. A window of the same style is centered on the northwest elevation; two of such windows are positioned opposite the door and window of the façade, on the southwest elevation. The southeast elevation bears no fenestration. The building was rehabilitated in 1999, during which the windows were restored to its period of construction. The rehabilitation also included creating an additional opening in the interior of the building to connect the Operating Room and the Motor Generator Room. The building currently functions as a military history exhibit. The alterations to the building are minimal and do not diminish the integrity of the building. The Army Radio Station is a contributing feature.

Battery Commander and Base-End Station, Battery Ashburn – Contributing (LCS ID 008196, Structure ID 10HS3)

The Battery Commander and Base-End Station, Battery Ashburn was constructed circa 1936-1941 as one of five base-end stations for Battery Ashburn during the seacoast fortifications modernization program. The split-level, three-room bunker is set partially underground in the hillside immediately west and upslope of the Army Radio Station, overlooking the Pacific Ocean. Constructed of reinforced concrete using formwork for the foundation walls and rough camouflage techniques for the finish, the half-buried structure cascades down the hillside. Characteristic of the period of advanced weaponry, the Battery Ashburn Battery Commander and Base-End Station fully incorporates both modern materials (reinforced concrete and metal) and the natural terrain into its design for added protection from airborne attacks. Its exterior is comprised of two semi-circular concrete mounds formed of large aggregate, rough concrete that blend into the surrounding terrain, serving as aerial camouflage. Rough drainage grooves penetrate the roof concrete. Under the deep eaves of the concrete-mound roof on both levels are

observation slots facing the Pacific Ocean, with six solid metal, rectangular shutters arrayed geometrically. Due to the organic form of its exterior, it is difficult to provide clear geometric measurements. The interior, however, measures approximately 14' by 9' from the back wall to the apex of the geometric observation slots in the upper level, and approximately 14' by 21'2" in the lower level. The bunker is accessed by a stairway with pipe handrails that descend to an exterior metal door. Some erosion control wood checks have been installed around the feature.

The interior of this bunker has been furnished and restored to its period of use in 2011 and is the only underground structure that is accessible to park visitors, albeit limited to Saturdays. As this restoration did not involve any structural changes, the bunker retains integrity as a World War II coastal defense structure. The Battery Commander and Base-End Station, Battery Ashburn is a contributing feature.

Electrical Connection Box – Contributing (LCS ID 008197, Structure ID 09HS4)

The Electrical Connection Box was installed circa 1941 as a part of the coastal defense modernization effort that spanned 1936 to World War II. The box is located on the eastern side of Bayside Trail near Searchlight Shelter No.18. The Modern Era reinforced concrete structure is rectangular in plan and measures 2' by 3' by 4' high. Its tapered concrete sides are capped by a continuous concrete arched top. The structure is situated southwest, with its façade marked by a steel door. There are two small areas on the northeast elevation where concrete is missing but the area has been painted over. The structure is maintained on a need-for basis and is bordered by a wooden retaining structure at its base to prevent erosion damage. The Electrical Connection Box is a contributing feature as it retains a high level of integrity.

Searchlight Shelter No.18 – Contributing (LCS ID 008198, Structure ID 09HS5)

Searchlight Shelter No.18 was constructed in 1918-1919 to shelter a 60-inch searchlight mounted on narrow-gauge rails. Originally named Searchlight Shelter No.5 upon construction, it was renamed Searchlight Shelter No.11 in 1936 during the coastal defense modernization program, and was finally named Searchlight Shelter No.18 during World War II. The World War I Modern Era single-story reinforced concrete structure is rectangular in plan and measures 12' by 16' and 13' high. Its flat, vegetation-camouflaged roof features a drip edge at the front. The shelter is situated southeast, set in the southern ravine along the Bayside Trail. Its façade is marked by

thirteen-foot-high double access doors of wood frame and clad in metal. Remains of the narrow-gauge rails protrude from underneath these doors, terminating approximately five feet in front of the structure. A drainage pipe runs perpendicularly under these rails, emptying into a grate-covered drainage feature located at the eastern corner of the structure. This drainage feature runs underneath the Bayside Trail and empties into the ravine, west side of the trail. In 1994, the bank erosion along the shelter's northeast elevation was filled with stone and mortar to prevent further erosion and damage. This shelter has been recently painted drab green and cleaned for future use as a part of the military history interpretation program. The work done on the structure thus far has not diminished its integrity as a World War II era coastal defense structure and Searchlight Shelter No.18 is a contributing feature to the Cabrillo Coastal Defense System.

Generator Station for Searchlights 18 & 19 – Contributing (LCS ID 008199, Structure ID 09HS6)

The Generator Station for Searchlights 18 & 19 was constructed in 1918-1919 to serve searchlight Nos. 18 and 19 and remained in operation until the end of the harbor defenses. The World War I Modern Era structure is a single-story, flat-roofed, reinforced concrete structure. Rectangular in plan, it measures approximately 13' by 29' and is partially set in the ravine along Bayside Trail. Situated northeast, the fenestration on the façade features two riveted metal doors with windows above, two large windows, and a five-panel door. The four windows feature projecting concrete sills and their exterior have been sealed with wire mesh. One exhaust vent protrudes from this wall and hole remains from another, though the vent is gone. This structure had reportedly undergone restoration work in 2006 to reverse a previous alteration made during its period of use when the southernmost window was infilled with concrete and the pedestrian doorway widened. Though the façade has been altered since its period of use, it restored the façade to its original design and thus the Generator Station for Searchlights 18 & 19 retains enough integrity to be a contributing feature of the Cabrillo Coastal Defense System. In the recent past, the park used this structure as a part of their Artists in Residence program.

Searchlight Shelter No.19 – Contributing (LCS ID 008200, Structure ID 09HS7)

Searchlight Shelter No.19 was constructed in 1918-1919 to shelter a 60-inch searchlight mounted on a counterweighted elevator. Originally named Searchlight Shelter No.6 upon construction, it was renamed Searchlight Shelter No.12 in 1936 during the coastal defense modernization

program, and was finally named Searchlight Shelter No.19 during World War II. The multi-level, subterranean, reinforced concrete Modern Era structure measures approximately 14'8" by 19'8" in interior plan and 14'8" by 31'9" in exterior plan from the hatch to the edge of the tracks. It is approximately 14' deep for the lift and 9' deep for personnel. The structure bears a riveted, metal hipped roof that rests on a wooden structure. The roof slides north to completely expose the main room of the structure and the counterweighted elevator platform below. The roof slides onto narrow-gauge rails set on concrete track supports roughly one foot wide. A cog and chain roof opening mechanism is located at grade, west of the roof. The mechanism is sheltered in a curved metal casing. Access to the shelter is provided by a single, solid, riveted metal hatch at the south end. All openings are sealed with wire mesh. Remnants of yellow/earth-tone paint are found on the wooden structure suggesting that this may have been the historic color prior to park-service green. The searchlight shelter is located at an elevation of 210 feet, off the northern side of Bayside Trail. Searchlight Shelters No. 18 and 19, and their associated generator station are all located within the same ravine. With little to no change made on this structure, the searchlight shelter retains a high level of integrity and is a contributing feature of the CLI.

Base End Station, Batteries Calef and Wilkeson – Contributing (LCS ID 008201, Structure ID 09HS8)

The Base-End Station, Batteries Calef and Wilkeson was constructed in 1915 along with Battery End Station, Batteries Calef and Wilkeson. These were among the first base-end stations built at Fort Rosecrans. These early base-end stations were, in contrast to the later World War II-era stations, geometric in shape and did not incorporate aerial camouflage into their structural form. The single-level, semi-subterranean pillbox structure is 8' by 8' in plan and is built into the eastern hillside of CABR, near the north boundary, at an approximate elevation of 150 feet. The reinforced concrete structure is accessed through a square metal hatch resting on concrete curbs and has its observation slots situated north, east, and south, with four metal awning shutters. The east elevation is its primary elevation. The standard plans for these semi-subterranean structures suggest that the observation station's flat roof was originally re-covered with earth upon construction; during World War I the roof was changed to tar and gravel; finally, the roof was changed to earth-covered rough aggregate concrete during World War II. Today, the roof is of smooth concrete, with its edges textured by cemented rocks and boulders, an alteration that occurred between 2000 and 2011, likely to manage the cracking and spalling of concrete.

Encroaching vegetation is beginning to obstruct the panoramic view originally planned for this structure. Despite the changes to the surfacing of the roof, this base-end station retains integrity and is a contributing feature of the CLI.

Battery End Station, Batteries Calef and Wilkeson – Contributing (LCS ID 008202, Structure ID 09HS9)

The Battery End Station, Batteries Calef and Wilkeson was built in 1915 along with Base-End Station, Batteries Calef and Wilkeson as one of the first base-end stations built at Fort Rosecrans. These early base-end stations were, in contrast to the later World War II-era stations, geometric in shape and did not incorporate aerial camouflage into their structural form. The single-level, semi-subterranean pillbox structure is 8' by 8' in plan and is built into the hillside on the east side of CABR, near the north boundary, at an approximate elevation of 180 feet. This structure is situated slightly southwest of Base-End Station, Batteries Calef and Wilkeson. The reinforced concrete structure is accessed through a square metal hatch resting on concrete curbs and has its observation slots situated east and south, with three metal awning shutters. The standard plans for these semi-subterranean structures suggest that the observation station's flat roof was originally re-covered with earth upon construction; during World War I the roof was changed to tar and gravel; finally, the roof was changed to earth-covered rough aggregate concrete during World War II. Today, the roof is of smooth concrete, with its edges textured by cemented rocks and boulders, an alteration that occurred between 2000 and 2011, likely to manage the cracking and spalling of concrete. Encroaching vegetation is beginning to obstruct the panoramic view originally planned for this structure. Despite the changes to the roof of the structure, this base-end station retains integrity and is a contributing feature of the CLI.

Battery McGrath Base End Station – Contributing (LCS ID 008203, Structure ID 09HS10)

The Battery McGrath Base End Station was constructed circa 1920 as the only base-end station for Battery McGrath and is located on the east side of Point Loma, 15' downslope of the Cabrillo Statue. This base-end station is identical to the base-end stations of Batteries Calef and Wilkeson in design and construction except that this structure has a steeper roof slope. Like the base-end stations of Batteries Calef and Wilkeson, this base-end station is geometric in shape and lacks aerial camouflage. The 8' by 8'' reinforced concrete pillbox structure is semi-subterranean and has observation slots situated north, east, and south, with four metal awning shutters. The view

from these observation slots is fully intact. The plans for the semi-subterranean structure suggest that the observation station's sloped roof was originally re-covered with earth upon construction; during World War I the roof was changed to tar and gravel; finally, the roof was changed to earth-covered rough aggregate concrete during World War II. Today, the structure's sloped, smooth concrete roof shows remnants of tar and the rocks and boulders lining its edges show evidence of repointing. The base-end station is accessed through a square metal hatch resting on concrete curbs.

This station is best approached from the Cabrillo Statue; narrow wood checked steps lead down from behind the Cabrillo Memorial Statue Overlook to the roof of the base-end station. Wood retaining walls also border the western and southern sides of the station to prevent damage from soil erosion. This base-end station retains integrity and contributes to the military landscape of Cabrillo.

Battery Bluff South Gun Emplacement – Contributing (LCS ID 008204, Structure ID 09HS11)

The Battery Bluff South Gun Emplacement, constructed in 1942, is located on the edge of the eastern bluff of Point Loma overlooking San Diego Bay. The circular concrete foundation is about 20' in diameter with the central portion depressed below the 3'-wide outer edge. This World War II Modern Era structure is situated on the extreme edge of the bluff, an area determined to be too unstable to approach in 2017. Soil erosion and the resulting undercutting of the bluff resulted in the loss of the northern emplacement. The bluff has eroded within 15' of the southern emplacement as of 2000 and soon it will erode enough to cause the remnants of the southern emplacement to fall into the ocean as well. Though structurally in poor condition, the gun emplacement retains a high level of integrity and contributes to the military landscape as one of only two gun emplacements in Cabrillo.

Battery Commander Station, Battery Humphreys – Contributing² (LCS ID 008206, Structure ID 02HS12)

Battery Commander Station, Battery Humphreys was constructed circa 1936-1941 as the battery commander and base-end station for the 6-inch guns of Battery Humphreys. This base-end station is one of five constructed for Battery Humphreys. Located on the west side of Point Loma, directly below the whale overlook, the split-level, three-room bunker is set partially

underground in the hillside, overlooking the Pacific Ocean. Constructed of reinforced concrete using formwork for the foundation walls and rough camouflage techniques for the finish, the half-buried structure cascades down the hillside. Characteristic of the period of advanced weaponry, the Battery Humphreys Battery Commander Station fully incorporates both modern materials (reinforced concrete and metal) and the natural terrain into its design for added protection from airborne attacks. Its exterior is comprised of two semi-circular concrete mounds formed of large aggregate, rough concrete, with embedded steel rings that were used to anchor camouflage covering. Some exposed metal straps were observed on the roof, as well as evidence of masonry patching on the lower roof edge. The concrete walls under the deep eaves of the concrete-mound roof at both levels feature observation slots facing the Pacific, protected by eight solid metal, green-painted, rectangular shutters.

Due to the organic form of its exterior, it is difficult to provide clear geometric measurements. The interior, however, measures approximately 14' by 7' from the back wall to the apex of the geometric observation slots in the upper level, and approximately 14' by 19" in the lower level. The bunker is accessed by a square metal hatch on the roof of the upper level.

A number of erosion control wood retaining walls are found behind the structure and two wooden fence types, post-and-rope and split-rail, delineate a paved walkway that connects the whale watch overlook with the battery command station. While these features around the structure are post-period of significance, the structure itself retains a high level of integrity and is a contributing feature of the cultural landscape.

Batteries Woodward and Grant Base End Stations – Contributing⁷ (LCS ID 008207, Structure ID 02HS13)

Batteries Woodward and Grant Base End Stations was constructed circa 1936-1941 as one of five base-end stations for each battery and is almost identical in construction with the Battery Commander Station, Battery Humphreys. Located downslope of the Battery Humphreys station to its west, the split-level, three-room bunker is set partially underground in the hillside, overlooking the Pacific Ocean. This World War II Modern Era structure reflects the advanced weaponry of the period, as it conceals itself from both seaborne and airborne attacks through its structural form. Its design fully incorporates both modern materials (reinforced concrete and

metal) and the natural terrain for added camouflage. Constructed of reinforced concrete using formwork for the foundation walls and rough camouflage techniques for the finish, the half-buried structure cascades down the hillside. The two mounded roofs, designed to blend into the surrounding terrain, of concrete show areas of punctured concrete where the camouflage stone have fallen off. Under deep eaves of these mounded roofs at both level are observation slots facing the Pacific, protected by eight solid metal, green-painted, rectangular shutters.

Due to the organic form of its exterior, it is difficult to provide clear geometric measurements. The interior, however, measures approximately 14' by 9' from the back wall to the apex of the geometric observation slots in the upper level, and approximately 14' by 19" in the lower level. The bunker is accessed by a square metal hatch on the roof of the upper level.

Evidence of erosion can be observed in the area, most notably the increasingly exposed rear of the structure. As such, wooden checks that start at the rear of the structure and continue down the slope around the north side have been placed for erosion control. Some encroaching vegetation threatens to obstruct the southern view from the observation slots. While these erosion control features around the structure are post-period of significance, the structure retains a high level of integrity and is a contributing feature of the cultural landscape.

Battery Point Loma Bunker Complex, Guns 1 & 2 – Contributing (LCS ID 008208, Structure ID 05HS14)

The Battery Point Loma Bunker Complex for Guns 1 & 2 was constructed in 1941 on the western terrace of Point Loma. The complex was originally comprised of a primary structure and four smaller structures, all of quarter-inch thick corrugated metal barrel vaults. The primary structure, located between the two guns, slightly to the east, is 10' wide and 40' long and has 12" of concrete cover. It is suggested that this chamber was used as a magazine, suggested by the three tiers of magazine racks made of lumber and chicken wire that resemble bunk beds. The smaller bunkers range from 7'6" to 10' long and are approximately 7' wide in diameter. These structures had only an earth cover.

Only the main chamber and three of four bunkers are found today. While the concrete-covered chamber has been protected from erosion and debris with wooden retaining walls around either

ends of the structure, the smaller earth-covered chambers are barely noticeable in the landscape, their entrances obscured by thick vegetation and much of the interior filled with debris. For two of the three smaller bunkers, only the lip of the corrugated metal at the entrance could be located. Evidence of pests such as rodents and coyotes were observed throughout interiors, where visible, of the complex structures.

While the complex retains its historic material and spatial organization, and thus is a contributing feature, the individual features are in danger of being completely buried and becoming archaeological sites.

Battery Point Loma Bunker Complex, Guns 3 & 4 – Contributing (LCS ID 008209, Structure ID 08HS14)

The Battery Point Loma Bunker Complex for Guns 3 & 4 was constructed in 1941 on the western terrace of Point Loma. The complex was originally comprised of a primary structure and four smaller structures, all of quarter-inch thick corrugated metal barrel vaults. The primary structure, located between the two guns, slightly to the east, is 10' wide and 40' long and has 12" of concrete cover. It is suggested that this chamber was used as a magazine, suggested by the three tiers of magazine racks made of lumber and chicken wire that resemble bunk beds. The smaller bunkers range from 7'6" to 10' long and are approximately 7' wide in diameter. These structures had only an earth cover.

Only the main chamber and three of four bunkers are found today. While the concrete-covered chamber has been protected from erosion and debris with wood retaining walls around either ends of the structure, the smaller earth-covered chambers are barely noticeable in the landscape, their entrances obscured by thick vegetation and much of the interior filled with debris. Only the lip of the corrugated metal at the entrance could be located for one of the smaller bunkers, while the interiors of the other two were filled half-way with debris. Evidence of pests such as rodents and coyotes were observed throughout interiors, where visible, of the complex structures.

While the complex retains its historic material and spatial organization, and thus is a contributing feature, the individual features are in danger of being completely buried and becoming archaeological sites.

Battery Point Loma Panama Gun Mount 4 – Contributing (LCS ID 008210, Structure ID 09HS14)

The Battery Point Loma Panama Gun Mount 4 was constructed in 1942 on the western terrace of Point Loma. The only surviving of four gun mounts of Battery Point Loma, a 155mm gun was emplaced on the Panama mount with a traverse of 360 degrees. This battery served as the examination or “challenge” battery for ships approaching the water areas to the west and northwest of San Diego Harbor. Following Pearl Harbor, they served as the primary anti-submarine battery. The guns were originally emplaced to cover the “dead” areas in the water beneath the trajectory of Battery Strong’s 6-inch guns.

The emplacement consists of two concrete rings. The inner 10’ diameter circular concrete base, strapped with a band of iron at the center of the emplacement, seated the gun. The outer ring of 3’ wide concrete is 38’6” in diameter. The steel rails are embedded in this outer ring, on which the gun’s trails rested and turned. Two rails are present, one smooth and the other toothed. The emplacement was originally about 3’ high; less than 12” of the emplacement remains visible today due to soil erosion and encroaching vegetation.

As one of two gun emplacements within the Cabrillo boundary, and as the only emplacement accessible, the Battery Point Loma Panama Gun Mount 4 contributes greatly to the military landscape of Cabrillo Coastal Defense System.

Searchlight Shelter No.15 – Contributing (LCS ID 008211, Structure ID 05HS15)

Searchlight Shelter No.15 was constructed during World War II to shelter a 60-inch searchlight mounted on a counterweighted elevator. Though a World War II structure, this Modern Era shelter is similar to other searchlight shelters built during an earlier period of era, circa World War I. The searchlight and its operating mechanisms were salvaged from the defunct Searchlight No.4, circa 1921.

The multi-level, subterranean, reinforced concrete structure is located on the western terrace of Point Loma, on the west side of Gatchell Road at an elevation of 100 feet. The structure measures approximately 14’8” by 19’8” in interior plan and approximately 14’8” by 31’9” in

exterior plan from the hatch to the edge of the tracks. It is approximately 9'5" deep for personnel space and 14'4" deep for the lift. The structure bears a riveted metal roof that rests on a wooden structure. Narrow-gauge metal rails mounted on concrete extend to the north; the roof would have slid north on these rails during its years of use. A cog and chain roof opening mechanism is located at grade, east of the roof. The mechanism is sheltered in a curved metal casing. Access to the structure is provided by a single, solid, riveted metal hatch at the southwestern end. All openings of the structure have been sealed with wire mesh to prevent vandalism and pest problems. Its proximity to the heavily visited tidepools area has necessitated a danger sign reading "Danger. Unstable Roof. Please Keep Off" to its south and west.

With little to no change made on this structure, despite some cracking of concrete and encroaching vegetation, this searchlight shelter retains a high level of integrity and contributes to the military landscape of Cabrillo.

Lower Base End Station at Billy Goat Point – Contributing (LCS ID 058566, Structure ID 09HS22)

The Lower Base End Station at Billy Goat Point was constructed circa 1916-1921 and is located on the east side of Point Loma overlooking San Diego Bay, below the Bayside Trail at an elevation of approximately 120 feet. This World War I structure is the lower of a pair. This pair of base-end stations straddles the monument boundary and is potentially located on navy property. They are, however, managed by the NPS.

The Lower Base End Station at Billy Goat Point is identical in design and construction to the base-end station of Batteries Calef and Wilkeson. These early base-end stations were, in contrast to the later World War II-era stations, geometric in shape and did not incorporate aerial camouflage into their structural form. It is a single-level, subterranean pillbox structure, 8' by 8' in plan and is built into the hillside near the southeastern boundary of the monument. The reinforced concrete structure is accessed through a square metal hatch resting on concrete curbs at the northwestern corner of the roof, and has observation slots to its north, east, and south, with four metal awning shutters. The standard plans for these semi-subterranean structures suggest that the observation station's flat, sloped roof was originally re-covered with earth upon construction; during World War I the roof was changed to tar and gravel; finally, the roof was

changed to earth-covered rough aggregate concrete during World War II. The roof edge is lined with boulders embedded in concrete, like those of the other World War I base-end stations at Cabrillo. Some reinforcement metal straps are visible on the roof and the two metal shutters located at the southeastern corner are curling apart, creating a small opening large enough for pests to enter. The sloped roof is covered in gravel and other debris. The concrete curb supporting the hatch has been recently re-poured. The station's original views are intact, though vegetation is encroaching on the structure from the east.

The two base-end stations are approached via a trail maintained by the park to access the fortification. Branching off the Bayside Trail, this trail is also used by NPS natural resources professionals and is not considered a social trail.

With only minor preservation maintenance work done on this structure, this base-end station retains a high level of integrity and contributes to the military landscape of Cabrillo Coastal Defense System.

Upper Base End Station at Billy Goat Point – Contributing

The Upper Base End at Billy Goat Point was constructed circa 1916-1921 and is located on the east side of Point Loma overlooking San Diego Bay, below the Bayside Trail at an elevation of approximately 100 feet. This base-end station is located northeast of the Lower Base End Station (hence its name) but is downslope of its counterpart. This structure, too, likely either straddles the monument boundary or is on navy land. However, like the Lower Base End Station, the structure is managed by the NPS.

The structure is identical in design and construction to its lower counterpart: geometric in shape and with little consideration for aerial camouflage in their structural form. It is a pillbox structure 8' square in plan, of reinforced concrete, and accessed through a square metal hatch resting on concrete curbs at the northwestern corner of the roof. This hatch, however, is not fixed on the curb; straps and rivets are missing from the hatch and it thus resembles a simple metal sheet placed on the curb. The station's observation slots and four metal awning shutters on the north, east, and south elevation are sealed with wire mesh, and its boulder-lined roof edge shows evidence of recent mortar repairs. The standard plans for these semi-subterranean structures

suggest that the observation station's flat, sloped roof was originally re-covered with earth upon construction; during World War I the roof was changed to tar and gravel; finally, the roof was changed to earth-covered rough aggregate concrete during World War II. Vegetation encroachment is heavy near this structure, vegetation even growing on its roof.

With only minor preservation maintenance work done on this structure, this base-end station retains a high level of integrity and contributes to the military landscape of Cabrillo Coastal Defense System.

Battery Point Loma Reserve Magazine – Contributing (LCS ID 058563, Structure ID 05HS17)

The Battery Point Loma Reserve Magazine is associated with the active period of Battery Point Loma, from 1941-1942. This Modern Era structure is an underground, reinforced concrete magazine located east of Cabrillo Road on the western terrace of Point Loma, set into a steep slope. Severe erosion and vegetation encroachment has substantially filled the structure with soil. It appears that significant grading was undertaken in the area, potentially to conceal the location of the magazine or as a result of the construction of Cabrillo Road in the 1960s. Only the entrance could be observed due to unstable soils and a dramatic change in grade. This structure is the only reserve magazine located within the monument boundary.

Bayside Trail Historic Culvert System – Contributing

A historic culvert system dots the Bayside Trail throughout its course within the Cabrillo National Monument boundary and dates to the time of the reconstruction of Bayside Trail (then known as Meyler Road and changed to Sylvester Road), in 1941. A complete, intact culvert is comprised of a concrete headwall and an end wall, and a corrugated metal pipe running beneath the surface of the Bayside Trail. Four of such intact culverts are present along the trail; seven features are missing their end walls, with only their spillway pipe visible on the downslope side of Bayside Trail; one intact culvert retains its historic headwall, but its end wall has been replaced. Three of the twelve historic headwalls have wing walls that create an "L" shape, and one potentially has two wing walls. One historic L-shaped headwall is located immediately north of the monument boundary, just south of the trail termination fence, on Navy property. The use of poured concrete as headwalls and end walls, and of corrugated metal pipes, rather than PVC pipes, as culverts, in conjunction with the patina on the features, indicate that this culvert system was established

during the World War II years of the Modern Era, which suggests the time of the reconstruction of the road as its most plausible construction date.

Though the historic culvert system is obscured by heavy vegetation along the trail and its corrugated metal pipes are full of debris, the system aids in communicating the use of the trail as a military road during its period of significance. The Bayside Trail historic culvert system is a contributing feature of the Cabrillo Coastal Defense System.

Bayside Trail Modern Drainage Features – Non-Contributing

Two contemporary drainage features and one modern end wall are round along the Bayside Trail. The two contemporary drainage each comprise a drain opening with a metal grate cover and a spillway pipe set in precast concrete end wall. The drain opening of the northern of the two sets is accompanied by a precast concrete water bar that directs the water flow into the drain and away from the trail surface. The drain opening of the southern set is serviced by two perpendicularly set water bars, in an “L” shape, that perform a similar function. The end walls of both drains are of beveled precast concrete. The modern end wall is a replacement counterpart of an extant historic culvert headwall and bears two wing walls that attempt to keep vegetation and erosion at bay. This end wall appears taller than the historic walls found on site. These drainage features are modern installations, or replacements, to mitigate water runoff and related erosion and are non-contributing to the cultural landscape. See Inset #4 of the site plans in Appendix A for the location of these modern features.

Manhole 104 – Undetermined

A semi-subterranean, rectangular, poured concrete structure is located between the rock wall of the old Point Loma lighthouse and Humphreys Road, at an elevation above 400 feet. The structure measures approximately 9’ by 6’ and bears a strapped, metal hatch door 3’4” by 3’11” and a smaller concrete opening, strapped closed, measuring 3’ by 3’6”. The structure is set in the eastern hillside of Point Loma and its western edge is covered by soil and vegetation. The structure is locked with a contemporary Navy lock.

This structure is assumed to have housed utilities such as telephone wires and has been named “Manhole 104” by Kenneth Glaze, author of *Illustrated Fort Rosecrans*. Though a few secondary sources suggest potential construction dates, evidence is inconclusive to determine its status.



Buildings and Structures #1. View of the of the Army Radio Station façade, looking southwest from the Catalina Blvd. alignment (PWRO, 2017).



Buildings and Structures #2. A sample of the three split-level domed observation stations at CABR. View of the Base-End Station, Batteries Woodward and Grant, looking northeast. The other two stations of this style are Battery Commander and Base-End Station, Battery Ashburn and Battery Commander Station, Battery Humphreys. All three of these stations are located on the western side of Point Loma (PWRO, November 2017).



Buildings and Structures #3. View of the Electrical Connection Box, looking northeast (PWRO, November 2017).



Buildings and Structures #4. View of Searchlight Shelter No. 18, looking northwest from the Bayside Trail (PWRO, November 2017).



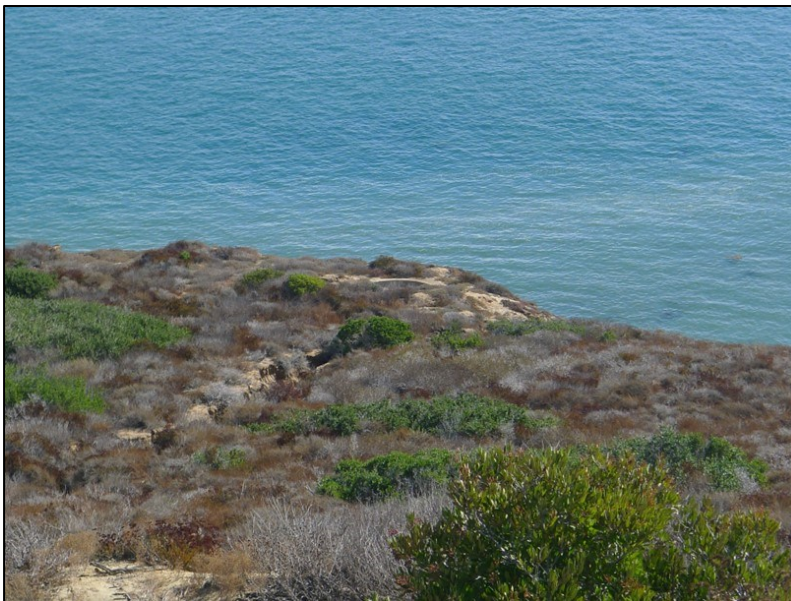
Buildings and Structures #5. View of the Generator Station for Searchlight No. 18 & 19, looking northwest (PWRO, November 2017).



Buildings and Structures #6. One of two subterranean searchlight shelters at the monument. View of Searchlight Shelter No.19, looking southwest. The other subterranean searchlight shelter is Searchlight Shelter No.15 (PWRO, November 2017).



Buildings and Structures #7. One of five World War I-era pillbox base-end stations at the monument. View of Base End Station, Batteries Calef and Wilkeson, looking northwest. The other four of such structures are: Battery End Station, Batteries Calef and Wilkeson, Upper and Lower Base-End Stations at Billy Goat Point, and Base End Station, Battery McGrath. All five of these structures are located on the eastern side of Point Loma (PWRO, November 2017).



Buildings and Structures #8. View of the Battery Bluff South Gun Emplacement from the Electrical Connection Box, looking northeast (PWRO, November 2017).



Buildings and Structures #9. One of two concrete covered corrugated metal, barrel vaulted bunkers of the Battery Point Loma. View of Battery Point Loma Bunker Complex Gun 1 & 2, south end (PWRO, November 2017).



Buildings and Structures #10. One of six smaller, earth covered corrugated metal, barrel vaulted bunkers at Battery Point Loma. View of the interior of the northernmost bunker of the Battery Point Loma Bunker Complexes (for all four gun mounts) (PWRO, November 2017).



Buildings and Structures #11. A sample of the smaller, earth covered bunkers at Battery Point Loma Bunker Complexes. View of the almost completely buried bunker, the third structure from north (PWRO, November 2017).



Buildings and Structures #12. One of six smaller, earth covered corrugated metal, barrel vaulted bunkers at Battery Point Loma. View of the filled interior of the southernmost of the small bunkers (PWRO, November 2017).



Buildings and Structures #13. View of the Battery Point Loma Panama Gun Mount 4, looking southwest (PWRO, November 2017).



Buildings and Structures #14. Exposed entrance of the Battery Point Loma Reserve Magazine (PWRO, November 2017).



Buildings and Structures #15. An example of the historic culvert headwalls found along Bayside Trail, with a wing wall (PWRO, November 2017).



Buildings and Structures #16. An example of the corrugated metal culverts found along Bayside Trail (PWRO, November 2017).



Buildings and Structures #17. An example of the modern culvert end wall found along Bayside Trail (PWRO, November 2017).



Buildings and Structures #18. View of Manhole 104, looking southwest (PWRO, November 2017).

Feature Name	Feature Contribution	CRIS CL Feature ID	CRIS-HS Resource Name	CRIS-HS Resource ID	CRIS-AR Resource ID	FMSS Record Number
Army Radio Station	Contributing	201962	Army Radio Station	008195		
Battery Commander and Base-End Station, Battery Ashburn	Contributing	201963	Battery Command & Base End Station, Battery Ashburn	008196		
Electrical Connection Box	Contributing	201964	Electrical Connection Box	008197		
Searchlight Shelter No.18	Contributing	201965	Searchlight Shelter No.18	008198		
Generator Station for Searchlights 18 & 19	Contributing	201966	Generator Station for Searchlights 18 & 19	008199		
Searchlight Shelter No.19	Contributing	201967	Searchlight Shelter No.19	008200		
Base-End Station, Batteries Calef and Wilkeson	Contributing	201968	Base-End Station, Batteries Calef and Wilkeson	008201		
Battery End Station, Batteries Calef and Wilkeson	Contributing	201969	Battery End Station, Batteries Calef and Wilkeson	008202		
Battery McGrath Base End Station	Contributing	201970	Battery McGrath Base End Station	008203		
Battery Bluff South Gun Emplacement	Contributing	201971	Battery Bluff South Gun Emplacement	008204		
Battery Commander Station, Battery Humphreys	Contributing	201972	Battery Commander Station, Battery Humphreys	008206		
Batteries Woodward and Grant Base End Stations	Contributing	201973	Batteries Woodward and Grant Base End Stations	008207		

Battery Point Loma Bunker Complex, Guns 1 & 2	Contributing	201974	Battery Point Loma Bunker Complex, Guns 1 & 2	008208		
Battery Point Loma Bunker Complex, Guns 3 & 4	Contributing	201975	Battery Point Loma Bunker Complex, Guns 3 & 4	008209		
Battery Point Loma Gun Mount 4	Contributing	201976	Battery Point Loma Gun Mount 4	008210		
Searchlight Shelter No.15	Contributing	201977	Searchlight Shelter No.15	008211		
Lower Base End Station at Billy Goat Point	Contributing	201978	Lower Base End Station at Billy Goat Point	058566		
Upper Base End Station at Billy Goat Point	Contributing	201979	Upper Base End Station, Billy Goat Point	1171863		
Battery Point Loma Reserve Magazine	Contributing	201980	Battery Point Loma Reserve Magazine	058563		
Bayside Trail Historic Culvert System	Contributing	201981	Bayside Trail Historic Culvert System	1171864		
Bayside Trail Modern Drainage Features	Non Contributing	201982	Bayside Trail Modern Drainage Features	1171865		
Manhole 104	Undetermined	201983	Manhole 104	1171866		

Views and Vistas

A view is the expansive and/or panoramic prospect of a broad range of vision that may be naturally occurring or deliberately contrived. A vista is a controlled prospect of a discrete, linear range of vision, which is deliberately contrived. The coastal defense of San Diego took advantage of the topography and vegetation that established expansive, panoramic views that enhanced its defense of the city and harbor against potential assault.

Cabrillo National Monument, located at the southern end of the 6-mile Point Loma, encompasses within its boundary the coastal bluffs and summit of the peninsula. This monument, ranging in elevation from sea level to 422 feet, affords expansive views of San Diego, its harbor, and the ocean beyond from its eastern structures and of the Pacific Ocean and the Mexican border from its western structures. These views heavily impacted the siting of the military structures within Cabrillo during the period of significance, as most of these structures were created to collect optical data of any sighting on the water. The base-end stations and searchlight stations required long-range views for maximum efficiency.

Today, views associated with each of the military structures within Cabrillo National Monument are fully intact, with the exception of some encroaching vegetation near the viewing apparatus of a few observation stations. These minimally obscured views are, however, easily restored with basic preservation maintenance around the structures. On protected federal land, these coastal defense features have been protected from intense and widespread development of the rest of San Diego and have retained not only their structural integrity but also their long-range views. Additionally, the ongoing native vegetation restoration efforts by the park administration have not yet obstructed the panoramic views and are unlikely to do so in the future as the coastal sage scrub communities are relatively low in height.



Views and Vistas #1. View southwest from Battery Commander and Base-End Station, Battery Ashburn (PWRO, November 2017).



Views and Vistas #2. View southeast towards the Mexican border from Billy Goat Point (PWRO, November 2017).



Views and Vistas #3. View northeast towards the city of San Diego from Billy Goat Point (PWRO, November 2017).



Views and Vistas #4. View northwest from the lighthouse complex (PWRO, June 2017).

Small-Scale Features

Small-scale features are elements that provide detail and diversity for both functional needs and aesthetic concerns in the landscape. The small-scale elements directly associated with the landscape features of the Cabrillo Coastal Defense System are limited to modern signs and benches along the Bayside Trail and in front of the Army Radio Station. While a non-contributing landscape characteristic, these resources were documented as they are directly associated with the visitor use and experience of the historic coastal defense structures.

Modern Benches – Non-Contributing

There are four modern benches along the Bayside Trail, of wooden and composite materials. Three composite, backed benches are strategically sited looking eastward to offer panoramic views of the San Diego Bay and the city and a wooden backless bench is located in front of the Generator Station for Searchlights 18 & 19. Research to date does not suggest that any of these benches are historic; the benches are non-contributing features of the Cabrillo Coastal Defense System.

Modern Signs – Non-Contributing

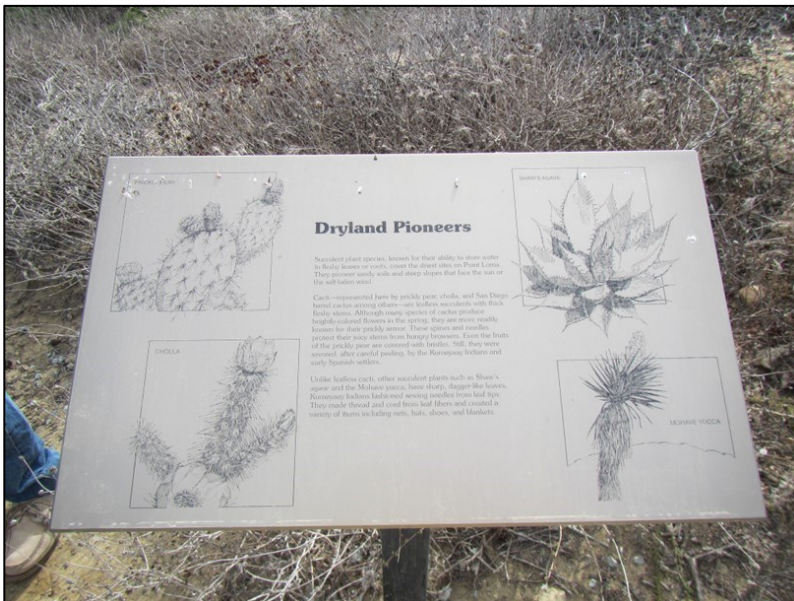
Three categories of modern signs are associated with the landscape features of the Cabrillo Coastal Defense System: natural systems, interpretation, and building marker signs. The natural systems signs dot the Bayside Trail describing in text and illustration the natural flora and fauna systems of Point Loma. The interpretive signs are directly associated with the Army Radio Station, Searchlight Shelter No. 18, and the Generator Station for Searchlights 18 & 19. These signs describe in text and historic photographs the original functions of the structures. Lastly, the building marker signs are white signs with simple black text on wooden posts that labels the associated structure. These signs are located in close proximity to the Battery Commander Station, Battery Humphreys, and Battery Command and Base-End Station, Battery Ashburn. The former reads “Coastal Defenses / 1943-1946” and the latter reads “Coastal Artillery / Control Station / 1943-1946.” Another sign is located along the walk to the Army Radio Station and reads “Military History Exhibit / The Coast Defenses / of Point Loma,” the building’s current function. All of these signs date post-period of significance and are non-contributing features of the Cabrillo Coastal Defense System.

Wooden Post and Rope Fence – Non-Contributing

Wooden post and rope fence was installed throughout the Cabrillo National Monument by the park service post-period of significance. These fence segments line portions of the cliff side of Bayside Trail and along the walk from the whale watching station down to the Battery Commander Station, Battery Humphreys, among other features within park boundary. These fence lines are non-contributing features of the Cabrillo Coastal Defense System.



Small-Scale Features #1. Modern bench located along the Bayside Trail overlooking San Diego Bay (PWRO, November 2017).



Small-Scale Features #2. Flora and fauna sign located along the Bayside Trail (PWRO, November 2017).



Small-Scale Features #3. Interpretive sign of Searchlight Shelter No. 18 located in front of the shelter on Bayside Trail (PWRO, November 2017).



Small-Scale Features #4. Building marker sign located by the entrance to Battery Command and Base-End Station, Battery Ashburn (PWRO, November 2017).).



Small-Scale Features #5. Wooden post and rope fence along Bayside Trail. A modern bench is situated immediately inside the fence line (PWRO, November 2017).

Feature Name	Feature Contribution	CRIS CL Feature ID	CRIS-HS Resource Name	CRIS-HS Resource ID	CRIS-AR Resource ID	FMSS Record Number
Modern Benches	Non Contributing	201986				
Modern Signs	Non Contributing	201987				
Wooden Post and Rope Fence	Non Contributing	201988				

Archeological Sites

Archeological sites are the locations of ruins, traces, or deposited artifacts in the landscape and are evidenced by the presence of either surface or subsurface features. Archaeological sites and features that contribute to the cultural landscape of Cabrillo Coastal Defense System include historic drainage and road remnants, fence alignments, and two historic structures that have lost their physical integrity.

Generator Station for Searchlight No.15 – Contributing (LCS ID 058568, Structure ID 05HS16)

The Generator Station for Searchlight No.15 was constructed during World War II in association with Searchlight Shelter No.15. The subterranean structure, located approximately 20' southeast of the shelter, measured 17'6" by 6'7" with up to 11 inches of its parapet exposed above ground. During its period of use, it was entered through a door reached via a sunken, sloping walkway. Sometime in the 1970s, due to past vandalism, the entry has since been filled in with earth so that the door is no longer visible, and the walkway was left to disintegrate. The associated fuel tank, located at the rear of the generator station, in a 7'6" by 5' concrete structure, was also filled in with sand. Today, the roof of the structure is completely covered with earth and vegetation. Only two pieces of the structure are visible, an approximately 1.5' by 3.5' concrete corner (southwest corner) of the roof. This structure was the only one of its kind constructed within the monument, as an underground generator station.

Road Remnant near Battery Point Loma

Road remnants run north-south inside the Cabrillo-Gatchell Road loop and on the western side of Gatchell Road. A portion of the remnant road inside the loop road is comprised of relatively intact road surface material with scattered remnants also visible. Surface material, based on historic documents, may have been oil-covered macadam surface. Another segment of the remnant road along the western side of Gatchell Road, creating a 500' lens shape alignment from as far north as the Generator Station for Searchlight No.15, running southward towards the Battery Point Loma complex. These remnant roads vary in width from a few inches to a foot depending on the thickness of encroaching vegetation and intensity of soil erosion; however, the roads' alignments are legible across the grounds as they follow the contours of the landscape.

These roads are likely part of the original alignment of Cabrillo and Gatchell Roads, circa 1918, which were abandoned and over which the contemporary road was built in 1960.

Battery Point Loma Boundary Fence

A remnant fence is located between Cabrillo and Gatchell Roads north of the Battery Point Loma complex. Nine metal “curlicue” posts are found, either leaning or fallen, in the area, with spools of barbed wire in the immediate vicinity. The remnant fence is nearly 180 feet long and likely served as the northern perimeter fence for Battery Point Loma during its years of use, 1941-1942. The same metal “curlicue” fence post has been located inside the Cabrillo-Gatchell Road switchback, next to a wooden fence post. This feature was listed as a contributing resource in the National Register of Historic Places Nomination in 1997, with the ID “05HS18.”

Battery Point Loma

Four remnant features, excluding the fence remnants, are found within the Battery Point Loma complex. Across Cabrillo Road from the reserve magazine is a wood remnant, possibly a door, associated with the Battery Point Loma bunker complex. Circular metal clamps and barbed wire are also present in the vicinity of this wood remnant. This wood remnant is potentially the communications tunnel to which the corrugated metal barrel vault structures of the bunker complex connected. In 1988, at least one underground vault was discovered in this vicinity and were attributed LCS ID “05HS17”; this wooden feature is likely associated with these vaults.

Another feature is a remnant drainage feature, possibly a spillway, made of stone and mortar is located nearly perpendicular to Cabrillo Road, south of Panama Gun Mount 4. Evidence of green paint can be observed on the mortar.

The last two features are likely a part of the same system. Downslope of the spillway is a remnant concrete feature that resembles a concrete headwall. Farther downslope of the headwall is another remnant feature that may have been the corresponding end wall. The feature is comprised of broken pieces of concrete and is obscured by heavy vegetation. These two features may have been a part of the drainage system at Battery Point Loma.

Mortared Stone Column

An unidentified mortared stone feature is located along the Bayside Trail, immediately downslope of Searchlight Shelter No.19. This feature resembles a column located at the inside slope of the Bayside Trail. It looks to be of concrete and mortared stone and potentially dates to World War II. Within its immediately vicinity is a large, roughly rectangular section cut into the sandstone slope that has been filled with stone and mortar sometime between 2009 and 2016 to deter the non-native Africanized honeybees from building a hive in the area.

Vertical Cuts near Searchlight Shelter No.19

Two vertical cuts are located along the inside slope of the Bayside Trail. One cut runs vertically upslope to Searchlight Shelter No.19 while the other is located closer to the rectangular fill area. The former has an exposed metal pipe running within the cut while the latter has been filled with mortar. The material and patina on the pipe and mortar suggest that these cuts may date to the time of active use of the searchlight, between World War I and II.



Archaeological Sites #1. The exposed corner of the Generator Station for Searchlight No.15 (PWRO, November 2017).



Archaeological Sites #2. Road remnants west side of Gatchell Road (PWRO, November 2017).



Archaeological Sites #3. Road remnants west side of Gatchell Road (PWRO, November 2017).



Archaeological Sites #4. Road remnants east side of Gatchell Road (PWRO, November 2017).



Archaeological Sites #5. "Curlicue" post of the Battery Point Loma boundary fence (PWRO, November 2017).



Archaeological Sites #6. Remnant spillway near Battery Point Loma Panama Gun Mount 4 (PWRO, November 2017).



Archaeological Sites #7. Remnant drainage feature near Battery Point Loma, east of Gatchell Road (PWRO, November 2017).



Archaeological Sites #8. Remnant concrete feature east side of Gatchell Road south of Battery Point Loma (PWRO, November 2017).



Archaeological Sites #9. Unidentified wood remnant feature north of Battery Point Loma Bunker Complexes (PWRO, November 2017).



Archaeological Sites #10. Mortared stone column on Bayside Trail (PWRO, November 2017).



Archaeological Sites #11. Mortar-filled vertical cut along Bayside Trail (PWRO, November 2017).



Archaeological Sites #12. Unfilled vertical cut along Bayside Trail with exposed pipe (PWRO, November 2017).

Feature Name	Feature Contribution	CRIS CL Feature ID	CRIS-HS Resource Name	CRIS-HS Resource ID	CRIS-AR Resource ID	FMSS Record Number
Generator Station for Searchlight No.15	Contributing	201989		058568		
Road Remnant near Battery Point Loma	Contributing	201990				
Battery Point Loma Boundary Fence	Contributing	201991				
Battery Point Loma Remnant Wood Structure	Contributing	201992				

Battery Point Loma Remnant Drainage	Contributing	201993				
Battery Point Loma Remnant Concrete Features (2)	Contributing	201994				
Mortared Stone Column	Contributing	201995				
Vertical Cuts near Searchlight Shelter No.19 (2)	Contributing	201996				

Condition Assessment

Condition

Fair

Condition Date

11/03/2017

Narrative

Through the analysis and evaluation of landscape characteristics and features, it has been determined that the Cabrillo Coastal Defense System is in “Fair” condition. The inventory unit shows clear evidence of minor disturbances and deterioration by natural and/or human forces, and some degree of corrective action is needed within 3-5 years to prevent further harm to its cultural and/or natural values.

Impacts

Type	Impact Type – Other	Internal Source	External Source	Narrative	Date Identified
Vegetation		Yes	No	Encroaching vegetation is negatively impacting buildings, structures and archaeological features associated with the Cabrillo Coastal Defense System. Encroaching vegetation is obscuring historically	11/03/2017

				significant views from the fortifications toward formerly strategic military vantages. Encroaching vegetation threatens to obscure archaeological resources that have not been thoroughly documented including road remnants, fence lines, and drainage features. Additionally, the roots from encroaching vegetation growing on or in close proximity to the military fortifications threaten to undermine their stability and accelerate deterioration of the concrete structures.	
Erosion		Yes	Yes	Soil erosion perpetuated by the marine environment and the rainy season is endangering the structural integrity of the fortification	11/03/2017

				features throughout the monument. Erosion around Battery Point Loma threatens to bury several of the corrugated metal bunkers as well as damage concrete headwalls associated with the entrance to the bunkers. Severe erosion in the vicinity of the ravine along Bayside Trail where two landslides have already occurred threatens several historic structures, including the trail itself. Other features along the Bayside Trail have already been lost, including historic concrete end walls on the lower slope. Finally, the park is at an elevated risk of losing the south gun emplacement to Pacific Ocean in the near future.	
Structural Deterioration		Yes	No	Minor structural deterioration was	11/03/2017

				noted on several of the military fortifications. Common impacts included cracking and spalling of concrete, exposed rebar, rusting metal components associated with the roofs and walls of the fortifications, and failing mortar joints. See "Deficiencies" section in the "Recommended Data for FMSS" for detailed information.	
Vandalism		Yes	No	Contemporary graffiti was noted on the exterior of Battery Woodward and Grant, Base End Station. Additionally, contemporary graffiti was identified on the interior of Lower Base End Station Billy Point. It should be noted that historic graffiti is also found in many of the fortifications associated with the Cabrillo	11/03/2017

				Coastal Defense System.	
Pests		Yes	No	Evidence of pests was found inside some of the military structures. Scat from larger animals such as coyote has been found inside the Battery Point Loma bunkers due to their open access. Spiders, snake skins and dead rats were also found inside two of the searchlight shelters.	11/03/2017
Deferred Maintenance		Yes	No	Culverts located along the Bayside Trail are filled with sediment and debris.	11/03/2017

Treatment

Stabilization Measures

Narrative

The following stabilization measures have been identified for Cabrillo Coastal Defense System. For additional detail see “Stabilization and/or Treatment and RM/Preservation Maintenance” sections in the “Recommended Data for FMSS” in the Supplemental Information section.

- Flush cut encroaching woody vegetation around fortifications in an effort to stabilize historic structures and maintain historic viewsheds. Use of herbicides should be avoided due to the threat of accelerated deterioration of the masonry from the salts found in these chemicals. A string trimmer may be used to maintain low grass cover within historic structures such as the Battery Point Loma Gun Mount 4.
- Clean culverts located along the Bayside Trail and near Searchlight Shelter No. 18. Sediment and debris should be removed to ensure that they are able to function as drainage features.
- Inspect buildings and structures for small openings and repair or install mesh wire patches over openings to deter pests.
- Work with regional historical landscape architect to consider compatible ways to arrest erosion in select locations. Priority should be given to locations along the Bayside Trail where two landslides have occurred as well as at the Battery Point Loma bunker complex.
- Develop a fire management plan that addresses the relationship between defensible space requirements and erosion control around historic military fortifications.
- Ensure that all historic military fortifications are properly secured to avoid vandalism to the interior.

Approved Treatments

Type

Preservation
Rehabilitation

Completed

No

Document

General Management Plan
Other Document

Narrative

According to the Preferred Alternative of the Cabrillo National Monument General Management Plan/Final Environmental Impact Statement (1996):

The objective of the park is to “restore or rehabilitate and interpret representative military structures” and to “stabilize the other structures.” (page v)

Further, the GMP states, in relation to the military structures, that “safe structures would be opened to the public by adding paths, signs, and interpretive exhibits. Structures open to the public would be restored.” (page 25)

Bibliography and Supplemental Information

Bibliography

Citation Author	Citation Title	Year	Publisher
(Optional) [enter text here]	(Required) [enter text here]	(Optional) [yyyy]	(Optional) [enter text here]
Berhow, Mar A.	<i>The Harbor Defenses of the Ninth Coast Artillery District, A short history and guide to the Coast Defenses of California, Oregon and Washington.</i>	1992	San Pedro, CA: Fort MacArthur Military Press
Carey & Co., Inc. Architecture	<i>Historic Structures Report for Harbor Defense Structures, Cabrillo National Monument, San Diego, California.</i>	2000	U.S. Department of the Interior, National Park Service
Cummins, Kevin	<i>Vegetation History of Cabrillo National Monument.</i>	1995	U.S. Department of the Interior, National Park Service
Danahoe, Jamie M.	"National Register of Historic Places Nomination: Cabrillo National Monument."	1997	U.S. Department of the Interior, National Park Service
Florence, Hank, Robbyn Jackson, Art Dryer, and Zehra Osman	<i>Cultural Landscape Analysis and Recommendations for General Management Planning: Old Point Loma Lighthouse, Cabrillo National Monument, San Diego, California.</i>	1993	U.S. Department of the Interior, National Park Service
Flower & Roth Environmental Consultants	<i>Cultural Landscape Inventory – Archaeology/History/Architecture: Navy and Coast Guard Lands Point Loma, San Diego, California, Contract N62474-81-C-5747</i>	1982	Department of the Navy: Western Division
Glaze, Kenneth	<i>The Illustrated Fort Rosecrans, A Reference Guide to the Army's Coast Artillery Corps in San Diego, Second Edition.</i>	2017	San Diego, CA: published by Kenneth Glaze
Gudde, Erwin G.	<i>California Place Names: The Origin and Etymology of Current Geographical Names, Second Ed., Revised and Enlarged.</i>	1960	Berkeley and Los Angeles, CA:

			University of California Press
Hansen, David, Kimberly Keagle and Debora Rhen, AIA.	<i>Historic Fortification Preservation Handbook.</i>	2003	Washington: Washington State Parks and Recreation Commission
Hill, Bradley Lunt	"The San Diego Coal Company: An Early Mormon Enterprise on Point Loma."	2010	<i>Journal of San Diego History</i> , v.56, no. 1&2 (Winter/Spring)
Joyce, Barry Alan	<i>A Harbor Worth Defending: A Military History of Point Loma.</i>	1995	San Diego, CA: Cabrillo National Monument Foundation
Kelly, Roger E. and Ronald V. May	<i>Shadows of the Past at Cabrillo Monument.</i>	2001	U.S. Department of the Interior, National Park Service
Keniston Architects	"National Register Nomination: Fort Rosecrans Point Loma Coastal Defenses."	1996	Department of the Navy, Naval Command, Control and Ocean Surveillance Center, RDT&E
Lewis, Edmond Raymond	<i>Seacoast Fortifications of the United States: An Introductory History.</i>	1970	Washington DC: Smithsonian Institution Press
Lehmann, Susan Collins	<i>An Embarrassment of Riches, The Administrative History of Cabrillo National Monument.</i>	1987	San Diego, CA: Cabrillo Historical Association
Michaels, William	<i>Old Point Loma Lighthouse Outbuildings.</i>	1960	N/A
Milliken, Randall, Laurence H. Shoup, and Beverly R. Ortiz	"Chapter 8. Secularization and the Rancho Era, 1834-1846." In <i>Ohlone/Costanoan Indians of the San Francisco Peninsula and their Neighbors, Yesterday and Today.</i>	2009	U.S. Department of the Interior, National Park Service, Golden Gate National Recreation Area

National Park Service	"Cultural Landscape Inventory: Cabrillo National Monument Visitor Center Historic District."	2009	U.S. Department of the Interior, National Park Service
National Park Service	"Environmental Assessment, Master Plan Cabrillo National Monument."	1976	U.S. Department of the Interior, National Park Service
National Park Service	"Final Design Build, Request for Proposal Scope, Repair Bayside Trail and Drainage Structures for Safe Visitor Use and Enjoyment."	2011	U.S. Department of the Interior, National Park Service
National Park Service	<i>General Management Plan, Final Environmental Impact Statement.</i>	1996	U.S. Department of the Interior, National Park Service
National Park Service	"Master Plan for Cabrillo National Monument."	1976	U.S. Department of the Interior, National Park Service
National Park Service	"Master Plan for Cabrillo National Monument, Mission 66 Edition, Volume I, Master Plan Narrative."	1960	U.S. Department of the Interior, National Park Service
National Park Service	"Mission 66 for Cabrillo National Monument."	1960	U.S. Department of the Interior, National Park Service
National Park Service	"Rehabilitate the Historic 19118 Searchlight Generator Station for Adaptive Reuse." PMIS 234250		
National Park Service	"Restore Coastal Sage Scrub." PMIS 6784		
National Park Service	"Restore Historic Landscape." PMIS 16515		
Thompson, Erwin N.	<i>The Guns of San Diego: San Diego Harbor Defenses, 1796-1947.</i>	1991	U.S. Department of the Interior, National Park Service

Weber, Samantha	"People on Point Loma: History of Human Impacts." In <i>Understanding the Life of Point Loma</i> , edited by Rose Houk, 132-157.	2004	San Diego, CA: Cabrillo National Monument Foundation
City of San Diego Engineering Department	"Construction of Cabrillo Road and Site Grading for Sewage Treatment Plant." Cabrillo National Monument Facilities Files.	1960	
National Park Service	"General Development Plan, Part of the Master Plan." Cabrillo National Monument Archives Flat Files.	1965	U.S. Department of the Interior, National Park Service, Branch of Landscape Architecture, Western Office Division of Design and Construction.
National Park Service	"Improved Safety, Bayside Trail, Sheet 2 of 3."	1994	U.S. Department of the Interior, National Park Service, Denver Service Center
	"Old Rozelle #47-2-5, Tip End of Point Loma." C100 Howard W. Rozelle Collection, 1940s-1980s.		San Diego History Center
Jean-François de Galaup, comte de La Pérouse	"Plan du Port de St. Diego en Californie situe par 32039'0" de latitude nord et 1204'0" a l'ouest de St. Blas." David Rumsey Map Collection.	1797	Paris: L'Imprimerie de la Republique, An V
Juan Pantoja, compiled by Espinosa y Tello	"Plano del Puerto de S. Diego en la Costa Setentl. de Californs. Levantado por el 2°. Piloto de la Armada D. Juan Pantoja. Año 1782." David Rumsey Map Collection.	1802	Madrid: Imprenta Real

Supplemental Information

Supplemental Information Title	Supplemental Information Narrative
Appendix A. Site Plans and Boundary Map	A six-page set of site plans including a general site plan of the entire unit, a context plan with keys to the inset maps, and four inset maps.

Cabrillo National Monument
Cabrillo Coastal Defense System General Site Plan
Cabrillo Coastal Defense System Cultural Landscape Inventory

National Park Service
U.S. Department of the Interior



Cabrillo National Monument
Cabrillo Coastal Defense System Context Map
Cabrillo Coastal Defense System Cultural Landscape Inventory

National Park Service
U.S. Department of the Interior



Legend

- Cabrillo Coastal Defense System CLI Boundary
- 20' Topographic Contours
- Roads
- Road Remnants (u)
- Fence Remnants (u)
- Buildings and Structures
- Wood Steps (nc)
- A - R Cabrillo Coastal Defense System CLI Boundary Points

Prepared by PWRO Cultural Landscapes Program | January 2018
Source: Park Database. GPS data 2017. Esri Basemap. WGS 1984 Web Mercator.
Drawn in Adobe Illustrator Creative Cloud, ArcMap 10.4

Cabrillo Coastal Defense System Cultural Landscape Inventory



Cabrillo National Monument

Inset #2: Battery Command Station, Battery Humphreys
Cabrillo Coastal Defense System Cultural Landscape Inventory

National Park Service
U.S. Department of the Interior



Legend

- Buildings and Structures
- Wood Post Sign (nc)
- Paved Walkway (nc)
- Wood Post-and-Rope Fence (nc)
- Split-Rail Fence (nc)
- Wood Checks (nc)
- Wood Retaining Wall (nc)
- 20' Topographic Contours

Feature IDs

- 01 Battery Command Station, Battery Humphreys (008206) (c)
- 02 Base-Ends Station, Batteries Woodward and Grant (008207) (c)

**Feature names are adopted from their LCS records, followed by their LCS #s.
c = contributing u = undetermined nc = non-contributing

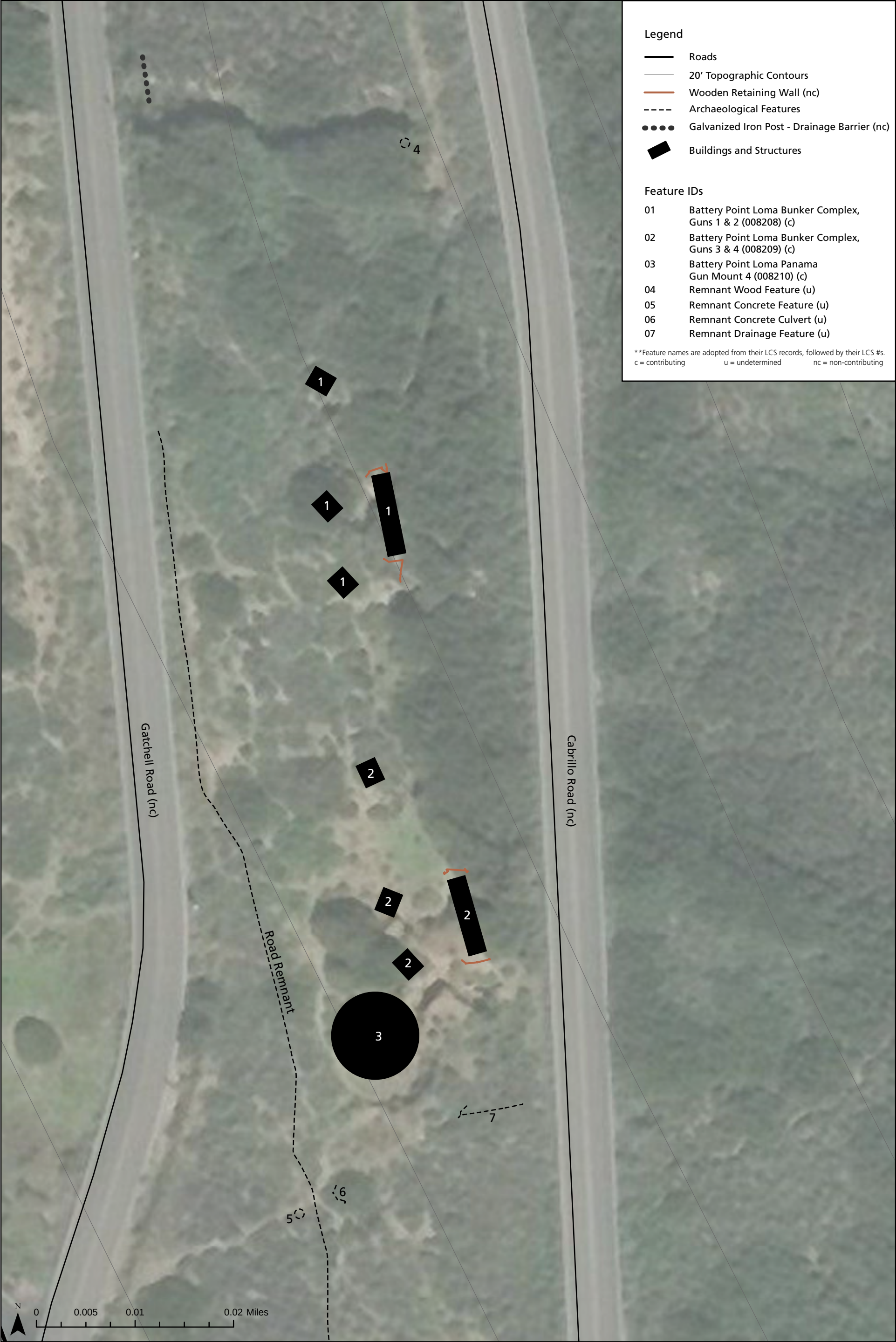


Cabrillo National Monument

Inset #3: Battery Point Loma

Cabrillo Coastal Defense System Cultural Landscape Inventory

National Park Service
U.S. Department of the Interior



Cabrillo National Monument

Inset #4: Bayside Trail Culverts

Cabrillo Coastal Defense System Cultural Landscape Inventory

National Park Service
U.S. Department of the Interior

