
National Park Service
Cultural Landscapes Inventory
2005



Alcatraz Island
Golden Gate National Recreation Area

Cultural Landscape Inventory: Alcatraz Island

Golden Gate National Recreation Area concurs with the general findings of this Cultural Landscape Inventory, including the Management Category and Condition Assessment as listed below:

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

CONDITION ASSESSMENT: **Fair**



Superintendent, Golden Gate National Recreation Area

8/27/05

Date

Please return this form to:
John Hammond
CLI Coordinator, Oakland Office
National Park Service
1111 Jackson Street, Suite 700
Oakland, CA 94607

ALCATRAZ ISLAND
GOLDEN GATE NATIONAL RECREATION AREA

California SHPO Eligibility Determination

Section 110 Actions Requested:

- 1) SHPO concurrence that the Setting, as identified in the CLI, contributes to the significance of the site.
- 2) SHPO concurrence with the addition of the following buildings and structures as contributing features of the historic district. (See chart below)

1) X I concur, I do not concur that the **Setting** as described in the CLI contributes to the historic district (see the following landscape characteristics: natural systems and features, topography, vegetation, cluster arrangement, and views and vistas).

2) The following structures, located within the Alcatraz Island Historic District, are **already listed on the National Register of Historic Places** as contributing features:

LCS Number	LCS Structure Name	NRIS Number
10049	Alcatraz Detector Shed	76000209
10050	Alcatraz Defensive Barracks	76000209
10051	Alcatraz Parade Ground	76000209
10052	Alcatraz Warden's Residence	76000209
10053	Alcatraz Stockade	76000209
10054	Alcatraz Guard Tower at Wharf	76000209
10055	Alcatraz Wharf	76000209
10056	Alcatraz Fortification Wall	76000209
10057	Alcatraz Old Cell House	76000209
10058	Alcatraz North Caponier	76000209
10059	Alcatraz Shops and Storage Building	76000209
10060	Alcatraz Cellhouse	76000209
10061	Alcatraz Sallyport & Guardhouse	76000209
10062	Alcatraz Model Industries Building	76000209
10063	Alcatraz Fortification Tunnel and Bombproof	76000209
10064	Alcatraz Fortification Tunnel and Magazines	76000209
10065	Alcatraz Fortification Walls and Magazine	76000209
10066	Alcatraz Fortification Wall (West Side Access Rd)	76000209
10067	Alcatraz Fortification Wall (East Side Access Rd)	76000209
21281	Alcatraz Lighthouse	76000209
21282	Alcatraz Fortification Tunnel	76000209
21283	Alcatraz Officers Quarters #7	76000209
21284	Alcatraz Officers Quarters #8	76000209
21285	Alcatraz Officers Quarters #9	76000209
21286	Alcatraz South Battery	76000209
21287	Alcatraz Citadel Retaining Wall & Steps	76000209

21288	Alcatraz Road to Northwest Side of Island	76000209
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LCS Number	LCS Structure Name	NRIS Number
21289	Alcatraz Road from Guardhouse to Citadel	76000209
21290	Alcatraz Three Gun Battery	76000209
217422	Alcatraz Water Tower	76000209
217429	Alcatraz Foghorn (N)	76000209
217430	Alcatraz Foghorn (S)	76000209
217432	Alcatraz Tool Shed	76000209
217433	Alcatraz Morgue	76000209
217439	Alcatraz Post Exchange	76000209
217445	Alcatraz Power Plant	76000209
217446	Alcatraz Guardhouse	76000209
217450	Alcatraz New Industries Building	76000209
217452	Alcatraz Ranger Office	76000209
217456	Alcatraz Maintenance Garage	76000209
217462	Alcatraz Firebox No. 1	76000209
217466	Alcatraz Firebox No. 2	76000209
217472	Alcatraz Firebox No. 3 and Equipment Storage	76000209
217474	Alcatraz Oil Tank No. 1	76000209
217475	Alcatraz Storage Vault	76000209
217476	Alcatraz Greenhouse	76000209
217481	Alcatraz Oil Tanks No. 2	76000209

Based on the information provided in the CLI, the following previously unevaluated structures have been identified as **contributing** to Alcatraz Island:

LCS Number	LCS Structure Name	Date Built	Concur	Do Not Concur
461307	Alcatraz East Side Stairs	Pre-1963	X	
460998	Alcatraz Path to Water Tower	1961	X	
454060	Alcatraz Pedestrian Path 1	1898-1933	X	
461294	Alcatraz Pedestrian Path 2	1910-1920	X	
461297	Alcatraz Pedestrian Path 3	1910-1920	X	
461300	Alcatraz Pedestrian Path 4	1933-1963	X	
460633	Alcatraz Road to Parade Ground	1890	X	
461312	Alcatraz West Side Stairs	Pre-1963	X	
NA.	"Warning Keep Off" Sign	1933	X	
NA	Above-ground Utility Pipes	Pre-1963	X	
461358	Alcatraz Concrete Fence Posts	Pre-1963	X	
461369	Alcatraz Concrete fences w/ Straight Posts	1907-1933	X	
461361	Alcatraz Concrete Fences W/Cut-Out Panels	1907-1933	X	
NA	Concrete Light Standards	1907-1933	X	

LCS Number	LCS Structure Name	Date Built	Concur	Do Not Concur
NA	Concrete-covered Utility Trenches	Pre-1963	X	
NA	Fire Hydrants	Pre-1963	X	
461372	Alcatraz Federal Prison Metal Fencing	1933-1963	X	
NA	Metal Manhole Covers	Pre-1963	X	
NA	Planting Terrace Wall	Pre-1963	X	
NA	Warning sign on Agave Trail	1933	X	
461374	Alcatraz Wood Fence	Pre-1963	X	
461376	Alcatraz Building Terraces	Pre-1963	X	
461380	Alcatraz Dry Moat at Guardhouse/Sallyport	1853-1907	X	
461378	Alcatraz Garden Terraces	1853-1933	X	
NA	Seawall Planter	Pre-1963	X	
NA	Trough Planter	Pre-1963	X	
	Archeological Sites		X	
NA	Battery Halleck and North Caponier	1853-1907	X	
NA	Battery Rosecrans	1853-1907	X	
NA	Citadel Basement	1853-1907	X	
NA	Dry Moat	1853-1907	X	
NA	Dumping Sites	Pre-1963	X	
NA	Sandstone Walls	1853-1907	X	
NA	Traverse Tunnels and Magazines	1853-1907	X	

The SHPO concurs that the above contributing features are components of the setting under the National Register Historic District listed in 1976 and the NHL District identified in 1986. However, there is some question regarding those features indicated as archeological sites, such as the batteries. They might also be considered structures. This is an issue which should be discussed further should any other actions be taken regarding the National Register status of the buildings and features.

This evaluation is a particularly good analysis of the modification of a natural landscape into a cultural landscape and the interaction of cultural and natural conditions. It appears to have potential to be a significant cultural landscape under its own context.

Reasons/comments why 'Additional Information Is Needed To Concur' or 'Do Not Concur' findings were made:

Stephen D. Miksa SHPO 9/28/05
California State Historic Preservation Officer Date

Please return forms to the attention of:
Kimball Koch
Cultural Landscape Program Lead-Oakland
National Park Service

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Executive Summary

General Introduction to the CLI

The Cultural Landscapes Inventory (CLI) is a comprehensive inventory of all historically significant landscapes within the National Park System. This evaluated inventory identifies and documents each landscape's location, physical development, significance, National Register of Historic Places eligibility, condition, as well as other valuable information for park management. Inventoried landscapes are listed on, or eligible for, the National Register of Historic Places, or otherwise treated as cultural resources. To automate the inventory, the Cultural Landscapes Automated Inventory Management System (CLAIMS) database was created in 1996. CLAIMS provides an analytical tool for querying information associated with the CLI.

The CLI, like the List of Classified Structures (LCS), assists the National Park Service (NPS) in its efforts to fulfill the identification and management requirements associated with Section 110(a) of the National Historic Preservation Act, NPS Management Policies (2001), and Director's Order #28: Cultural Resource Management (1998). Since launching the CLI nationwide, the NPS, in response to the Government Performance and Results Act (GPRA), is required to report on an annual performance plan that is tied to 6-year strategic plan. The NPS strategic plan has two goals related to cultural landscapes: condition (1a7) and progress on the CLI (1b2b). Because the CLI is the baseline of cultural landscapes in the National Park System, it serves as the vehicle for tracking these goals.

For these reasons, the Park Cultural Landscapes Program considers the completion of the CLI to be a servicewide priority. The information in the CLI is useful at all levels of the park service. At the national and regional levels it is used to inform planning efforts and budget decisions. At the park level, the CLI assists managers to plan, program, and prioritize funds. It is a record of cultural landscape treatment and management decisions and the physical narrative may be used to enhance interpretation programs.

Implementation of the CLI is coordinated on the Region/Support Office level. Each Region/Support Office creates a priority list for CLI work based on park planning needs, proposed development projects, lack of landscape documentation (which adversely affects the preservation or management of the resource), baseline information needs and Region/Support office priorities. This list is updated annually to respond to changing needs and priorities. Completed CLI records are uploaded at the end of the fiscal year to the National Center for Cultural Resources, Park Cultural Landscapes Program in Washington, DC. Only data officially entered into the National Center's CLI database is considered "certified data" for GPRA reporting.

The CLI is completed in a multi-level process with each level corresponding to a specific degree of effort and detail. From Level 0: Park Reconnaissance Survey through Level II: Landscape Analysis and Evaluation, additional information is collected, prior information is refined, and decisions are made regarding if and how to proceed. The relationship between Level 0, I, and II is direct and the CLI for a landscape or component landscape inventory unit is not considered finished until Level II is complete.

A number of steps are involved in completing a Level II inventory record. The process begins when the CLI team meets with park management and staff to clarify the purpose of the CLI and is followed by historical research, documentation, and fieldwork. Information is derived from two efforts: secondary sources that are usually available in the park's or regions' files, libraries, and archives and on-site landscape investigation(s). This information is entered into CLI database as text or graphics. A park report is generated from the database and becomes the vehicle for consultation with the park and the

SHPO/TPO.

Level III: Feature Inventory and Assessment is a distinct inventory level in the CLI and is optional. This level provides an opportunity to inventory and evaluate important landscape features identified at Level II as contributing to the significance of a landscape or component landscape, not listed on the LCS. This level allows for an individual landscape feature to be assessed and the costs associated with treatment recorded.

The ultimate goal of the Park Cultural Landscapes Program is a complete inventory of landscapes, component landscapes, and where appropriate, associated landscape features in the National Park System. The end result, when combined with the LCS, will be an inventory of all physical aspects of any given property.

Relationship between the CLI and a CLR

While there are some similarities, the CLI Level II is not the same as a Cultural Landscape Report (CLR). Using secondary sources, the CLI Level II provides information to establish historic significance by determining whether there are sufficient extant features to convey the property's historic appearance and function. The CLI includes the preliminary identification and analysis to define contributing features, but does not provide the more definitive detail contained within a CLR, which involves more in-depth research, using primary rather than secondary source material.

The CLR is a treatment document and presents recommendations on how to preserve, restore, or rehabilitate the significant landscape and its contributing features based on historical documentation, analysis of existing conditions, and the Secretary of the Interior's standards and guidelines as they apply to the treatment of historic landscapes. The CLI, on the other hand, records impacts to the landscape and condition (good, fair, poor) in consultation with park management. Stabilization costs associated with mitigating impacts may be recorded in the CLI and therefore the CLI may advise on simple and appropriate stabilization measures associated with these costs if that information is not provided elsewhere.

When the park decides to manage and treat an identified cultural landscape, a CLR may be necessary to work through the treatment options and set priorities. A historical landscape architect can assist the park in deciding the appropriate scope of work and an approach for accomplishing the CLR. When minor actions are necessary, a CLI Level II park report may provide sufficient documentation to support the Section 106 compliance process.

Park Information

Park Name:	Golden Gate National Recreation Area
Administrative Unit:	Golden Gate National Recreation Area
Park Organization Code:	8140
Park Alpha Code:	GOGA

Property Level And CLI Number

Property Level:	Landscape
Name:	Alcatraz Island
CLI Identification Number:	725241
Parent Landscape CLI ID Number:	725241

Inventory Summary

Inventory Level:	Level II
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Completion Status:

Level 0

Date Data Collected - Level 0:	8/29/1998
Level 0 Recorder:	Bright Eastman
Date Level 0 Entered:	8/29/1998
Level 0 Data Entry Recorder:	Bright Eastman
Level 0 Site Visit:	No

Level II

Date Level II Data Collected:	6/6/2004
Level II Data Collection	Denise Bradley
Date Level II Entered:	8/7/2005
Level II Data Entry Recorder:	Gretchen Stromberg
Level II Site Visit:	Yes
Date of Concurrence	8/29/2005

Explanatory Narrative:

The field work for the CLI inventory was done by Denise Bradley (consulting landscape historian) during the fall of 2004. The Golden Gate National Parks Conservancy (GGNPC) is updating the inventory and mapping of garden areas and plant materials; this work was in-progress at the time of the submittal of the CLI.

Landscape Description

Alcatraz Island is a 22.5-acre historic site in San Francisco Bay, California. Part of the Golden Gate National Recreation Area, Alcatraz Island was entered on the National Register of Historic Places in 1976 and was designated a National Historic Landmark in 1986 for its association with military history, social history (penal), and maritime commerce. The island was the site of the first lighthouse on the Pacific Coast (1854), served as a Civil War bastion, and became the nation's first official army prison. "Uncle Sam's Devil's Island" was transferred to civilian authority in 1934 and became infamous as a place of incarceration for the nation's most hardened criminals. The prison this was closed in 1963, and ten years later the island was opened to the public as the first unit of the Golden Gate National Recreation Area.

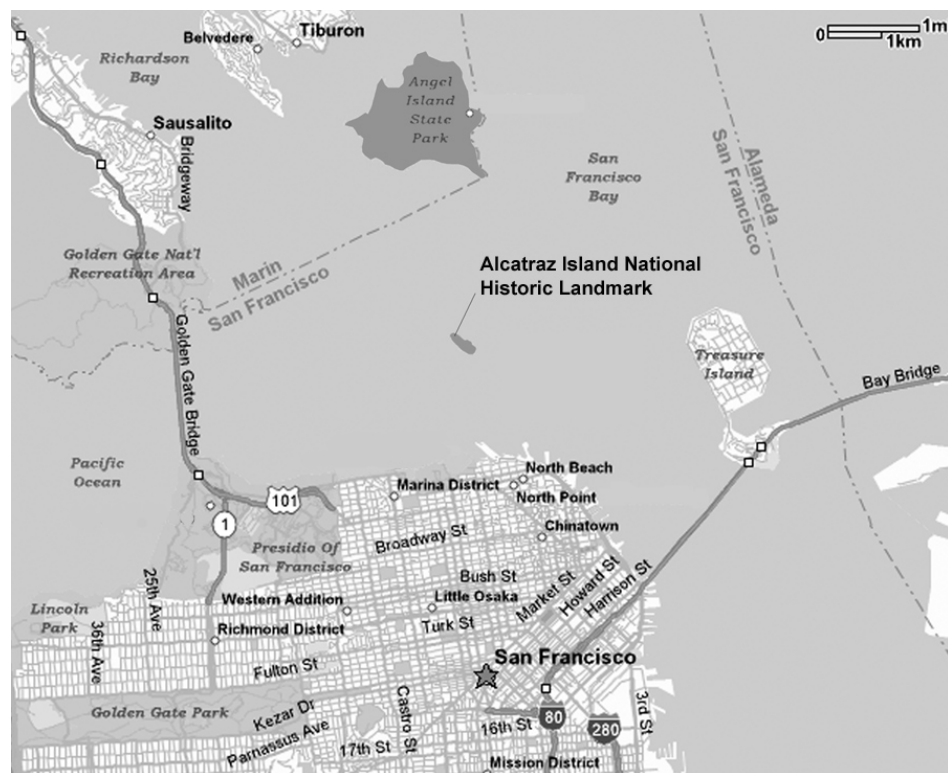
Approximately 1,700 feet long and 580 feet wide, Alcatraz Island occupies a commanding position nearly four miles directly east of the entrance to the bay. Fog and high winds frequently pour in from the Pacific Ocean through the Golden Gate to buffet the island. Precipitous cliffs ring the island, rising as high as 50 feet from the water. Two rounded peaks that once stood 138 feet and 135 feet were reduced to 134 feet and 131 feet respectively during the early development of the island, and the shallow saddle between the peaks was largely filled with the removed rock to form a long flat area. The bare rock of the island is today covered by a thin layer of imported soil and vegetation and dotted with structures associated with the island's military and prison history.

While the island is dominated by the large buildings associated with the military and federal prisons, including the imposing cellhouse perched on the top terrace, contributing features also include many smaller buildings and structures, garden areas, roads, sidewalks, and topographic features. Nine landscape characteristics are associated with the cultural landscape of Alcatraz Island and contribute to its integrity: buildings and structures, spatial organization, topography, circulation, vegetation, small-scale features, natural systems and features, land use, and archeological sites.

Cultural Landscapes Inventory Hierarchy Description

Alcatraz is a single cultural landscape. There are no component landscapes.

Location Map



Location of Alcatraz Island National Historic Landmark within the San Francisco Bay Area

Boundary Description

As per the 1985 NHL nomination, the boundary of the historic district at Alcatraz Island is a rectangle with its long axis lying in a northwest-southeast direction encompassing all of the island and immediately surrounding waters.

Regional Context

Cultural Context

Alcatraz has been modified as the result of actions related to presence of the U.S. Army (1847-1933), U.S. Bureau of Prisons (1933-1963), GSA (1963-1972), and NPS (1972-present) on the island. During these periods, the island has been: a defensive fortification, an army post, a military prison, a federal prison, abandoned federal land, and a public park.

Political Context

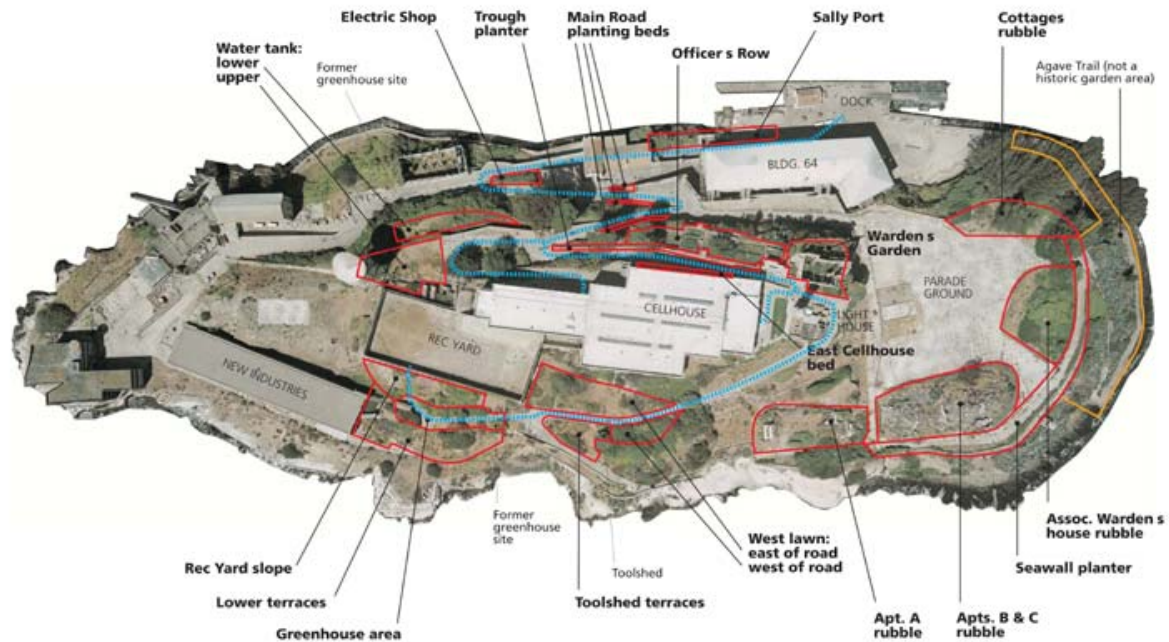
Alcatraz is part of the City and County of San Francisco, California and is located within California's 8th Congressional District. The island, a unit in the 75,000-acre Golden Gate National Recreation Area (GGNRA), is under the jurisdiction of the United States Department of the Interior and is part of GGNRA's Bay District.

Physiographic Context

Alcatraz is a 22.5-acre island composed of Franciscan sandstone located in the San Francisco Bay approximately three miles east of the Golden Gate.

Site Plan

Alcatraz Island National Historic Landmark Existing Conditions Map. See Supplemental Information for full size image.



Chronology

Year	Event	Description
1769 AD	Explored	Jose Francisco Ortega came upon the bay during his scouting for Gaspar de Portola's 1769 expedition.
1772 AD	Explored	Pedro Fages described the three major islands in the bay (Angel, Alcatraz, and Yerba Buena) in his journal from the Spanish expedition in 1771.)
1775 AD	Explored	The first Europeans to record their visit to Alcatraz were aboard the Spanish ship San Carlos, commanded by Juan Manuel de Ayala.
1822 AD	Established	Mexico took over control of California following its independence from Spain.
1846 AD	Established	U.S. claimed control of California.
1847 AD	Platted	U.S. Army engineers surveyed Alcatraz.
1848 AD	Mined	Discovery of gold in California.
1850 AD	Established	President Fillmore signed an executive order on 6 November 1850 reserving Alcatraz for public use.
1852 AD	Built	Construction began on the Alcatraz lighthouse on 15 December 1852.
1853 - 1859 AD	Built	Construction of the masonry fortifications on Alcatraz began in the summer of 1853 and continued through 1859.
1854 AD	Built	First guns were put into place on Alcatraz on 15 April 1854.
1854 AD	Established	Lighthouse was first lit on 1 June 1854.
1856 AD	Built	Fog bell was installed on the edge of the bluff on Alcatraz's south side.

1859 AD	Established	U.S. Army post on Alcatraz was garrisoned on 30 December 1859.
1859 AD	Built	Three houses (Nos. 12-14) for NCO's were built on a terrace at the third switchback on the main road. (Thompson 1979: 248)
1861 AD	Established	Alcatraz designated as the official military prison for the entire Department of the Pacific on 27 August 1861.
1862 AD	Built	First cellblock erected, on the site of today's Electric Shop building. (Martini 2003)
1863 - 1864 AD	Abandoned	Defensive walls buried. (Martini 2003)
1865 AD	Planted	By the end of the Civil War, people were excavating sockets in the rock of Alcatraz, filling them with imported earth, and planting ornamental gardens (Hart 1996: 9).
1865 - 1867 AD	Built	Work began on Bombproof Barracks in January 1865. (Martini 2003) Work suspended on Bombproof Barracks. (Martini 2003)
1868 - 1876 AD	Built	Work began on modifications to remodel the fortifications at Alcatraz based on the Plan of 1870 specifications.
1869 AD	Established	Eadweard Muybridge took a series of photos including well-known views of gardens, families, and Rodman guns during the summer of 1869. (Martini 2003)
1870 - 1890 AD	Excavated	Parade ground excavated and leveled at south end of island. (Martini 2003)
1874 AD	Built	Wood barracks completed atop unfinished bombproof barracks in the fall of 1874. (Martini 2003)

1881 AD	Built	Citadel remodeled to provide housing for officers. Thompson made a reference to the " formal flower gardens" being "laid out on top of the water cisterns on the southeast side of the building."
1881 AD	Built	Three officers' houses built on the terrace that was below the east side of the Citadel. (Thompson 1979: 226)
1882 AD	Built	Hospital constructed on slope above Lower Prison. (Martini 2003)
1884 AD	Built	Mess hall & kitchen built on dogleg of bombproof barracks. Wood barracks enlarged with front porch when casemates converted to mine storage. (Martini 2003)
1884 AD	Restored	Wharf extensively repaired and two coal houses and a boathouse built on wharf. (Thompson 1979: 229)
1885 AD	Reconstructed	Fence replaced around the garden in front (south) of the Citadel. (Thompson 1979: 219)
1886 AD	Built	Adjutant's Office, with offices for commanding officer, sergeant major, clerk, and telegraph, was built in 1886. The warden's residence is located in that site today. (Thompson 1979: 225)
1886 AD	Built	Quartermaster stables erected in 1886 next to the carriage house on the southwest side of the island. (Thompson 1979: 226)
1886 AD	Built	Wood bakehouse built on the top level of the island to the north of the Citadel. (Thompson 1979: 229)
1886 AD	Built	Wood water closet for enlisted men built.
1886 AD	Built	A two-foot-high wall was built around the lighthouse, by the Alcatraz lightkeeper, filled with soil and planted with flowers and trees. (Thompson 1979: 459)
1887 AD	Built	Addition made to wharf. (Thompson 1979: 229)

1888 AD	Destroyed	Three wooden buildings (stables, laborers' quarters and laundress's quarters) that were located on the southwest side of the island burned. (Thompson 1979: 189)
1888 AD	Built	Engine house built on wharf. (Thompson 1979: 230)
1891 AD	Built	Concrete wall on the west side of the road leading up from the hospital. Iron pipe railings were placed along this wall and along the edge of casements. (Thompson 1979: 230-231)
1900 - 1930 AD	Exploited	Operation of quarry on Alcatraz. (Delgado et al. 1991: 14-15)
1900 AD	Built	Upper Prison built on parade ground. (Martini 2003)
1900 AD	Moved	Fog bell on the southeast end of the island was moved to a new building at the top of the cliff, which increased its effectiveness since it could now be heard on both sides of the island. (Thompson 1979: 461)
1900 AD	Built	"A new iron fence was placed around the Citadel ditch, because the old one had rusted beyond repair and created a safety hazard for the children" (Thompson 1979: 238).
1901 AD	Built	Fog bell on the northwest end of the island was installed. (Thompson 1979: 461)
1902 - 1910 AD	Destroyed	Many of the wood-frame structures were demolished including: ca. 1850s blacksmith shop, engineer carpenter shop and storehouse, post carpenter shop, latrine for old prison, first prison mess hall, and old adjutant's office. (Thompson 1979: 240)
1902 AD	Altered	Last remaining embrasure were enlarged (casemate #3). (Martini 2003)

1903 AD	Built	New water tanks, tripled storage capacity, were built on top of the Citadel and. (Thompson 1979: 238) (In 1888, the post had a capacity to store 241, 543 gallons of water –enough for an eight month’s supply for 500 men. [Thompson 1979: 229])
1903 AD	Destroyed	Bakery burned and was rebuilt in 1904. (Thompson 1979: 239)
1904 AD	Altered	Upper Prison was enlarged. (Martini 2003)
1904 AD	Planted	Fifty pounds of clover and bluegrass seed were planted around the barracks and officers’ quarters. (Thompson 1979: 239)
1905 - 1906 AD	Built	Building 64/Barracks were built. (Martini 2003).
1907 - 1933 AD	Paved	Roads paved with concrete; the work was done using prison labor. (Martini 1990: 118)
1907 AD	Established	The War Department removed Alcatraz from the control of the Department of the Pacific. Alcatraz was redesignated the Pacific Branch, U.S. Military Prison, Alcatraz island. (No longer designated as a harbor-defense fort (Martini 1990:95).
1908 AD	Demolished	Citadel was demolished. (Martini 2003)
1909 - 1912 AD	Built	Work on new concrete cellhouse.
1909 AD	Built	Original Alcatraz lighthouse were torn down and a new 84-foot-high, reinforced concrete light tower with attached quarters, for a lightkeeper and two assistants was built. The new light was lit on 1 December 1909. (Thompson 1979: 462 and Martini 2003)
1909 AD	Built	Work began on Post Exchange. (Martini 2003)
1909 AD	Built	Work continued on new prison. (Martini 2003)
1910 AD	Built	Work began on Shops and Powerhouse. (Shops built first.) (Martini 2003)

1910 AD	Built	Post Exchange was completed in March except for lower floor. (Martini 2003)
1910 AD	Built	Smokestack for powerhouse was completed in November. (Martini 2003)
1911 AD	Demolished	Mess hall from Lower Prison was demolished. (Located partly beneath new PX). (Martini 2003)
1912 AD	Built	Power plant and New Prison was completed. (Martini 2003)
1912 AD	Demolished	Upper Prison was demolished. (Martini 2003)
1912 - 1913 AD	Built	Large drilling rig set up for fresh water well; near powerhouse (?). (Martini 2003) However, the work was abandoned in July-August 1913 when word came that the “army was expecting to give up its control of Alcatraz” (Thompson 1979: 243)
1914 - 1922 AD	Built	Four-story, reinforced concrete quartermaster storehouse, commissary, and garage were constructed. (Thompson 1979: 501)
1914 - 1933 AD	Built	A dock was added to the northwest side of the island to provide access for boats loading rock from the quarry operations. (Thompson 1979: 250)
1915 AD	Established	Alcatraz was renamed the “Pacific Branch, United States Disciplinary Barracks” and programs was implemented that focused on providing education, training, and rehabilitation for the soldiers incarcerated in the prison.
1917 AD	Built	December 20. “Schoolhouse” was completed atop old guardhouse. (Martini 2003)
1918 AD	Built	Quarry dock was completed on west side of island. (Martini 2003)
1921 AD	Built	New commandant’s house was completed. (Martini 2003)

1922 AD	Built	First floor of Model Shop was completed. (Martini 2003)
1924 AD	Built	Officers' duplex was completed at eastern end of parade ground. (Martini 2003)
1928 AD	Altered	"ALCATRAZ" was painted on roof of QM Warehouse. (Martini 2003)
1928 AD	Built	Concrete porches and hipped metal roof were added to Bldg. 64. (Martini 2003)
1929 AD	Built	Five officers' quarters built on the Parade Ground: four (Nos. 72-75) along southeast edge and one (No. 83) on top of "old Three Gun Battery (or Battery Prime and Battery 12). (Thompson 1979: 507-508)
1929 AD	Built	February. Cleaning plant (Bldg. 84) built on old quarry site on west side of island, on future site of New Industries Building. (Martini 2003)
1929 AD	Built	December 18. Upper two stories of Model Shop completed. (Martini 2003)
1930 - 1934 AD	Paved	Parade Ground was paved around 1930 and before 1934. (Thompson 1979: 403, 507)
1933 AD	Established	Military left Alcatraz and U.S. Bureau of Prisons took over the operations at Alcatraz. (Delgado et al. 1991: 7)
1934 AD	Built	Bureau of Prisons built 4 guard towers: Dock, Hill, Powerhouse and Road. (Martini 2003)
1934 AD	Built	Recreation yard gate and staircase to industries area constructed. (Martini 2003)
1934 AD	Built	Elevator constructed from dock to casemates of Bldg 64. (Martini 2003)
1936 AD	Built	Bleacher steps constructed in recreation yard. (Martini 2003)

1936 AD	Built	Two more guard towers constructed: Model Shop and Main Tower (atop cellhouse). Catwalk extended from Hill Tower to Model Shop. (Martini 2003)
1936 AD	Built	Handball court built on parade ground. (Martini 2003)
1938 - 1939 AD	Altered	Powerhouse remodeled and smoke stack moved to present location.
1939 - 1940 AD	Demolished	The wood-frame quarters on the southwest side of the upper slope (Nos. 15 and 43) were torn down. (Thompson 1979: 411)
1940 AD	Built	Water tower built. (Martini 2003)
1940 - 1941 AD	Built	Construction of New Industries Building (No. 84). (Martini 2003) The shops buildings located next to the powerhouse complex were torn down in 1940 after the New Industries Building was completed. (Thompson 1979: 501)
1940 - 1941 AD	Built	Three new apartment buildings (Nos. A, B, C) for families and bachelor guards built on the Parade Ground. (Martini 2003)
1940 - 1941 AD	Demolished	Army residences demolished, including two ca. 1881 Victorians (Nos. 8 and 9) below cellhouse and three ca. 1859 NCO's quarters (Nos. 12-14) near the water tank. (Martini 2003)
1940 - 1941 AD	Altered	Elevator on dock enlarged. (Martini 2003)
1940 - 1941 AD	Moved	Dock Tower rebuilt in present location. (Martini 2003)
1940 - 1941 AD	Built	Fences built across parade ground and around Building 64. (Martini 2003)
1940 - 1941 AD	Built	Utility trenches dug into roadways. (Martini 2003)
1941 AD	Demolished	Old Industries Building demolished. (Martini 2003)

1942 - 1944 AD	Built	Antiaircraft guns emplaced atop prison, Apartment Nos. A-B and Model Shop. (Martini 2003)
1958 AD	Built	Parapet of prison rebuilt. (Water tanks and Main Tower removed). (Martini 2003)
1958 AD	Altered	Spiral stairs on Dock Tower replaced by regular staircase. (Martini 2003)
1959 AD	Altered	Fire escapes added to Building 64. (Martini 2003)
1963 AD	Abandoned	Prison closed on Alcatraz on 12 April 1963. (Delgado et al. 1991: 7)
1963 AD	Altered	The Alcatraz light was automated, and there was no longer a need for a permanent lightkeeper to live on the island. A new "double-drum reflecting light" was installed. (Thompson 1979: 463)
1964 AD	Established	The General Services Administration assumed custody of Alcatraz in July 1964. (Thompson 1979: 466)
1969 - 1971 AD	Inhabited	Native American occupation of Alcatraz from 10 November 1969 to 11 June 1971.
1970 AD	Destroyed	Fires destroy Warden's house, Doctor's house, PX & lighthouse. (Thompson 1979: 463 and Martini 2003)
1971 AD	Demolished	GSA demolished three apartment buildings (A,B,C); Assistant Warden's house (No. 83, and four residential quarters (Nos. 72-75) to make the island "inhospitable for any future army of occupation." (Thompson 1979:474, 508).
1971 AD	Built	GSA installed approximately 2,500 feet of chain link fence (8-feet high with three strands of barbed wire on the top that faced outward) and 18 light standards, each with three mercury vapor lights. (Thompson 1979: 472)
1972 AD	Established	Golden Gate National Recreation Area (GGNRA) created. Alcatraz added to GGNRA.

1973 AD	Demolished	The road to the tower demolished in the fall. (Martini 2003)
1974 AD	Destroyed	Hill Tower collapses. (Martini 2003)
1977 AD	Demolished	Basketball hoops removed from Recreation Yard for filming of “Escape from Alcatraz”. (Martini 2003)
1978 AD	Established	Alcatraz listed on National Register of Historic Places.
1980 AD	Removed	1930s federal prison-era security fencing was removed along the west side of the island because it was a hazard to birds that were nesting in the area. (Delgado et al. 1991: 18) Some of the metal posts from this fencing remain in place.
1986 AD	Established	Alcatraz listed as a National Historic Landmark.
1986 AD	Maintained	Guardhouse/Sallyport restored and archway repaired (damaged during 1970 when GSA was demolishing buildings following the end of the Indian Occupation). (Martini 2003)
1989 AD	Destroyed	“One of the last two remaining 1930s Bureau of Prisons security fences collapsed when its rusted footings gave way” (Delgado et al. 1991: 18).
1992 AD	Preserved	First survey and inventory of remaining Alcatraz gardens (Lutsko Associates, 1992).
1994 AD	Built	Agave Trail completed along south end of island.
1999 AD	Built	New restrooms constructed on dock. (aka “The Docko Bell”) (Martini 2003)
2002 AD	Built	Spiral staircase to Dock Tower replaced. (Martini 2003)
2002 AD	Damaged	High winds tear roof off of the dog-leg of Building 64. (Martini 2003)

2002 - 2003 AD	Altered	Cellhouse seismic rehabilitation project completed. Water tank area used for construction staging.
2003 AD	Preserved	Golden Gate National Parks Conservancy and the Garden Conservancy begin joint project with NPS to preserve and maintain Alcatraz gardens.
2004 AD	Destroyed	Birdbath in the greenhouse area at the base of the Recreation Yard wall (west side of island) vandalized and removed.
2004 - 2005 AD	Preserved	Update of 1993 Alcatraz garden plant survey and inventory by Parks Conservancy/Garden Conservancy project staff and volunteers.
2005 AD	Damaged	Rubble from the cellhouse seismic rehabilitation project was spread over portions of the water tank area obscuring the remnants of historic plant materials in this area.

Statement Of Significance

Alcatraz Island was listed on the National Register of Historic Places (NRHP) in 1976 and was designated a National Historic Landmark (NHL) in 1986. The National Register nomination describes the significance of Alcatraz Island:

“Alcatraz is an island in San Francisco Bay which is of national historical significance in the categories of military history and social history (penology). During the mid-19th Century it was an impressive fortress guarding, along with Fort Point and, later, Angel Island, the entrance to San Francisco Bay. As a fortress, it was as nearly impregnable as technology of the time could make it – an “American Gibraltar” – and it was crowned with a brick/masonry “Citadel” which may have been unique in the annals of American military architecture. In later years it served as a military prison, and in more recent times became a Federal penitentiary and one of America’s most famous penal institutions, with a reputation rivaling France’s Devil’s Island. As a Federal prison, it housed some of America’s most dangerous criminals, those whom it was believed were too unmanageable for incarceration in other Federal prisons. Its location in the Bay rendered Alcatraz nearly escape-proof” (Chappell 1976).

The statement of significance included with the NHL nomination states:

“Alcatraz Island has been the site of events that have had an important impact on the nation as a whole from before the Civil War through an Indian Occupation of the 1970s. Its significance in the area of military history, social history (penology), and maritime commerce is enhanced by the integrity of the resource which follows from the fact that access to the island has been strictly limited by the U.S. Government throughout its history. Maritime commerce was aided by the first U.S. lighthouse on the Pacific Coast built here in 1854; its successor still serves. By the start of the Civil War, Alcatraz was the key fort in the center of the most important Pacific port in nineteenth century America, mounted the first permanent cannons on the West Coast of the United States, and featured a brick and masonry defensive barracks that may have been unique in the annals of American military architecture. In the areas of both military and social history, Alcatraz is noteworthy because it was the first army prison in the nation. When it became a civilian penitentiary in 1934, it quickly gained nationwide attention due to its association with many of the most infamous criminals of the gangster era and the bloody escape attempts made from there. It is representative of the far end of the penological spectrum, since it was a prison designed for punishment and incarceration only, rather than rehabilitation. It is of national importance in this regard because of its use as the repository of incorrigibles throughout the Federal prison system . . . In terms of the national Historic Landmarks program, the history of Alcatraz Island is nationally significant under Theme 5 (Political and Military Affairs), subthemes 5b (1830-1860) and 5c (1865-1941); Theme 7 (America at Work), subtheme 7j (Engineering), facet 5 (Military Fortifications); Theme 9 (Society and Social Conscience) Subtheme 9b (Social and Humanitarian Movements), facet 2 (Humanitarian Movements), subfacet c (Prison Reform)” (Haller 1986: 8-1).

At the time the property was listed on the NRHP, no National Register criteria were explicitly cited to justify the significance. However, from the narrative statements of significance quoted above, it can be surmised that Alcatraz Island is significant under National Register criterion A (association with historic events). Under criterion A, Alcatraz Island is significant for its association with maritime commerce, as the site of the first U.S. lighthouse on the Pacific coast; for its association with coastal defense, as the site of one of the first permanent U.S. defensive facility in San Francisco Bay; for its association with military penology, as the first military prison in the country; and for its association with federal penology, as the site of the Federal Bureau of Prisons maximum security detention facility.

The statement of significance narrative also implies that Alcatraz Island may be eligible for the Register under criterion B (association with a person or persons) for its association with infamous criminals Robert Stroud (“Birdman of Alcatraz”), Alphonse Capone, and George Kelly Barnes (“Machine Gun Kelly”), who were each incarcerated at Alcatraz during the federal penitentiary period, and under criterion C (characterized by distinctive construction or design) for the Citadel that housed soldiers during the military fortifications period. More research is required to ascertain the property’s significance under these criteria.

The period of significance stretches from 1847, when the island was first surveyed for the military fortifications, to 1971, when the National Park Service acquired the island. This period of significance covers the military fortifications period (1847-1907), the military prison period (1907-1933), the federal prison period (1933-1963), and the public lands period (1963-1971). The current landscape of Alcatraz Island is a collection of landscape characteristics and features that date from each of the historic periods. The significance is conveyed through the nine remaining landscape characteristics: buildings and structures, spatial organization, circulation, small-scale features, topography, vegetation, natural systems and features, archeological sites, and land use. These landscape characteristics and their associated features contribute to the overall integrity of location, design, materials, workmanship, setting, association, and feeling.

Physical History

PRE-EUROPEAN (Pre-1776)

Before Europeans settled in San Francisco, the area was inhabited by Native American groups including the Miwok, in the area north of San Francisco Bay (today's Marin County), and the Ohlone, in the area south of San Francisco Bay (today's San Francisco peninsula). Then, as today, Alcatraz had a harsh environment—strong winds, fog, a lack of a fresh water source (other than rain or fog), rocky terrain—and there was only sparse vegetation, mainly grasses. These conditions were not conducive to living on the island. These groups may have used the island for a fishing station or they may have visited it to gather seabird eggs since the island did provide a suitable habitat for colonies of seabirds. However, the Miwok and Ohlone do not appear to have lived on Alcatraz or to have visibly altered its landscape, and no prehistoric archeological sites have been identified on the island. (Thomson 1979: 2, Delgado et al. 1991: 8, and Hart 1996: 4).

SPANISH AND MEXICAN PERIOD (1776-1846)

Early Spanish explorers into Alta California encountered the San Francisco Bay and its islands. (Jose Francisco Ortega saw the bay during his scouting for Gaspar de Portola's 1769 expedition, and Pedro Fages described the three major islands—Angel, Alcatraz, and Yerba Buena—in his journal from the subsequent 1772 expedition.) However, the first Europeans to record their visit to Alcatraz were aboard the Spanish ship *San Carlos*, commanded by Juan Manuel de Ayala that sailed through the Golden Gate and anchored off Angel Island in August 1775. The *San Carlos*' pilot, Jose de Canizares, surveyed and charted the bay, its shoreline, and islands. Alaya named the islands in the bay and bestowed the name "Isla de los Alcatraces" on an island that he described as "so arid and steep that there was not even a boat-harbor there; I named the island de los Alcatraces because of their [birds] being so plentiful there" (Thompson 1979: 3 and Hart 1996: 4). The map that was drawn from this survey labeled today's Yerba Buena Island as "Alcatraces." Then in 1826, a British Navy surveyor, Captain Frederick Beechey, secured permission from Mexican authorities to survey the bay. (Thompson 1979: 2-3 and Martini 1990: 11) For whatever reasons, he gave each island [Alcatraz and Yerba Buena] its present name and "thus they have been known ever since" (Thompson 1979: 5). (The name "Alcatraces" was traditionally translated as "Pelicans" but newer translations have indicated that that the word should be translated as "Cormorants" (Hart 1996: 4). The name has been spelled in a variety of ways over the years, among them Alcatraces, Alcatras, Alcatrace. The spelling of "Alcatraz" was adopted by the U.S. Coast Survey in the 1850s and by the U.S. Army in the mid-1860s. [Thompson 1979: 3])

Alcatraz was generally left unsettled and unexplored (Thompson 1979:1)—and hence unaltered—by the European population during the Spanish and Mexican periods. However, Alcatraz's strategic location, in relation to the defense and to the navigation of the bay, was recognized. The Spanish colonial government retained ownership and control of all coastal lands in California (including Alcatraz as an island in the San Francisco Bay). By the time that the Mexican government assumed control of California in 1822, "increasing seaborne trade in hide and tallow, and an expanding influx of Anglo-American settlers resulted in the territorial ambitions of the young United States becoming focused upon California" (Freeman 1999: 2-6). In 1838, "the Mexican government, fearful that foreigners might occupy some of these islands [in the bay], passed a law that authorized the governor of California to grant them to Mexican citizens" (Thompson 1979: 6).

On 30 April 1846, less than two months before the Bear Flag Revolt, Julian Workman, a naturalized

Mexican citizen, petitioned the governor for a grant to Alcatraz “which has never been inhabited by any person, nor used for any purpose” (Thompson 1979: 6). On 8 June 1846, Workman was granted the title to Alcatraz with the condition that he would establish a navigation light “as soon as possible” (Thompson 1979: 6) on the island. Workman did not do this and soon transferred the title to his brother-in-law, Francis P. Temple. John Fremont, who had appointed himself governor after the United States declared its control of California, took it upon himself to pay Temple \$5,000 for Alcatraz. (Thompson 1979: 6-7) In 1848, at the end of the war with Mexico, the United States government declared that Alcatraz was federal property and “refused to recognize both Temple’s claim to ownership of Alcatraz and Fremont’s petition for reimbursement for its purchase. The government’s explanation was that the original owner, Julian Workman, had never erected the lighthouse required of him, and that Fremont had never been empowered to make any such land purchases for the United States of America. All private claims [to Alcatraz] were null and void” (Martini 1990:13), and Alcatraz has remained the property of the federal government to the present-day.

U.S. MILITARY DEFENSE ERA: MASONRY FORTIFICATIONS (1847-1868)

Summary of History

1. Initial Survey of the Island

The United States recognized the military importance that control of the San Francisco Bay and harbor would have in maintaining its control of California, and “one of the first orders of government business was to survey the harbor for potential fortification sites” (Martini 2002: 6). Alcatraz was surveyed by military engineers in May 1847. (Thompson 1979: 10) The field map that was drawn from this survey noted that:

“This Island is chiefly composed of regularly stratified sandstone covered with a thin coating of guano. The stone is full of seams in all directions which render it unfit for any building purposes & probably difficult to quarry. The island has no beach & but two or three points where boats can land” (Warner 1847).

2. Gold Rush

At the time of the Army’s survey, in 1847, less than 500 people lived in the small settlement of San Francisco, and “[t]he bay –and for that matter, the entire territory of California –offered little that would put the new American possession at risk from foreign attack” (Martini 2002: 6-7). However, after the discovery of gold in the Sierra foothills in January 1848, San Francisco quickly developed into a boom town, providing supplies and services to the thousands of individuals who arrived on ships, from all over the world, seeking their fortune in the California gold fields.

The number of ships entering the harbor increased dramatically during the Gold Rush. In 1849, 775 ships passed through the Golden Gate. The increase in the area’s population, commerce, and wealth increased the strategic importance of San Francisco to the United State’s claim to California and “had an immediate impact upon the need for the protection of the city and its maritime commerce” (Haller 1985: 8-2). San Francisco went from obscurity to being the “most valuable port in the world” (Martini 2002: 7). It was now a vital possession of the United States, and, as such, funding for the protection of San Francisco became a top priority.

Alcatraz’s landscape remained untouched and unaltered during the Gold Rush period of 1848-1850.

However, the Gold Rush probably did impact the island. It is well documented that the bird nests on the Farallon Islands, located 26 miles offshore, were raided for eggs, a scarce frontier commodity. It seems likely that the nests of the birds on Alcatraz would also have been raided since the island, located within the bay, could have been easily reached. (Delgado et al. 1991: 9) This disruption of the bird's habitat would continue with the subsequent construction of the light house and fortifications on the island in the 1850s.

3. Alcatraz Lighthouse

Alcatraz's location and the height of its landform made it a landmark that could be used for navigation, and as such was an appropriate site for the placement of a navigation light. Alcatraz was included as one of the eight lighthouses for the Pacific Coast that Congress included in its 1850 appropriation. (The Fort Point [1855] and Farallon Islands [1856] lights were also included in this appropriation, and a separate local contractor was hired to build the Point Bonita Light [1855]. [Gibbs 1986: 18]) Construction of Alcatraz's lighthouse began on 15 December 1852, and the lighthouse was placed into operation on 1 June 1854. The Alcatraz lighthouse was the first major structure to be built on the island and was the first lighthouse on the West Coast.

The lighthouse was located on the south crest of the island. "By lining up Alcatraz's light with the one at Fort Point, [completed in 1855] pilots could bring vessels over the dangerous San Francisco Bar" (Haller 1985: 8-3). In 1856, a fog bell was installed on the edge of the bluff on the island's south side to further aid navigation. (Haller 1985: 8-5)

4. Development of Earthen Fortifications (1853-1859)

The Joint Board of Military Engineers and Naval Officers (Pacific Coast) was established by Congress in 1849 to review the conditions along the Pacific Coast and to make recommendations for its defense. In its final report, submitted on 1 November 1850, the commission recommended that fortifications be built at Fort Point, Lime Point, and Alcatraz to protect the Golden Gate. Five days later, and in fact before he had even read the commission's final report, President Fillmore signed an Executive Order on 6 November 1850 that reserved Alcatraz for public use. (Thompson 1979: 10-12)

Alcatraz's location was ideal from the viewpoint of contemporary military defensive strategies and capabilities. The guns of the day had an accurate range of about one and a half miles and could "direct annoying fire" (Thompson 1979: 14) at a range of up to two miles. Alcatraz was located within that distance of the Golden Gate, San Francisco, and all of the approaches by the bay into the city's port. Military engineers reported back to Washington after surveying Alcatraz in 1852 that:

"Nature seems to have provided a redoubt for this purpose in the shape of Alcatraz Island –situated abreast the entrance directly in the middle of the inner harbor, it covers with its fire the whole of the interior space lying between Angel Island to the North, San Francisco to the South, and the outer batteries to the West. It is just three miles from each of the Entrance forts [of Fort Point and Lime Point] and consequently takes up the fire dropped by them at the 1-1/2 mile range. A vessel passing directly to San Francisco must pass within a mile [of Alcatraz]; and the center of the city is about two miles distant. A vessel approaching the city from the north by the Riley channel [east of Angle Island] must pass within two miles of Alcatraz –thus the main object of preventing an anchorage in the harbor within range of the town may be accomplished from this position and Rincon Point" (Thompson 1979: 15).

Alcatraz's physical characteristics only added to its desirability:

“The Island presents natural advantages for the site of a battery –The walls are already mostly scarped by nature in the solid rock. A slight degree of blasting would complete this part of the work, & the battery may at once be placed at a suitable height upon the top of the Island” (Thompson 1979: 15).

During this initial phase of development (1853-1859), the island was modified to meet the needs of the 1852 fortification plans. The 1852 plans for Alcatraz were a part of the United States Third System of fortifications. This system was a strategic doctrine for “building the infrastructure of a unified defense network” (Freeman 1999: 2-8) for the nation’s seacoasts and called for “large brick or stone forts with multiple tiers of gun batteries . . . built on promontories and on islands at choke points to important harbor entrances” (Freeman 1999: 2-9). The 1852 plan for Alcatraz consisted of modifying the existing topography so that it would better serve the defensive purposes of the fort; constructing batteries for guns; and building the infrastructure to support the operations of the fort: a wharf, a road to connect the wharf and batteries, a guard house to protect access to the island from the road, buildings for support facilities, and barracks to provide living quarters for soldiers.

Actual work on the fortifications at Alcatraz began in the summer of 1853, and, although the construction of the lighthouse had begun the previous winter, this marked the real beginning of the modifications to the island’s landscape. The work was directed by 1st Lieutenant Zealous Bates Tower. The construction of the fortifications continued through the end of 1859, and on 30 December 1859, the post was garrisoned, and the “first troops took up residence in the newly completed Citadel” (Thompson 1979: 203). The start of the Civil War halted any major construction on Alcatraz (Thompson 1979: 87) and ended this initial phase of the development of the military landscape at Alcatraz. The defense of San Francisco was a low priority throughout most of the Civil War (Martini 1990: 49), and the work that continued was minor. Major construction at Alcatraz did not begin again until after the end of the Civil War, when the redesign of the masonry batteries would turn into a “full-scale rebuilding” (Freeman 1999: 2-16) of the island to conform to newer military requirements.

Changes to the Cultural Landscape (1853-1859)

1. Summary

Before 1853, Alcatraz could be described as follows:

“The shores were irregularly shaped, with the prominent landmarks being the point at the northern end, a small cove, later named ‘Pirates Cove,’ close to the tip but on the windward shore, and another small cove on the leeward shore, close to the southern tip of the island. Alcatraz was originally 1,705 feet long, with its widest point measuring 580 feet across. Two low, rounded peaks on the island had elevations of 134.9 and 138.4 feet respectively. The southeast end gradually sloped to the water, while at the northwest end, the cliffs climbed from 10 to 120 feet above the water in a hundred yard distance. The east and west shores were more precipitous, rising 50 feet straight up from the water on the west side before climbing another 80 feet in less than a hundred yards. The eastern side climbed 20 feet straight from the waves, and then steeply angled to a 130 foot summit within a hundred yards of the shore” (Delgado et al. 1991: 9).

The changes to the cultural landscape features on the island during this initial phase of development were directly related to modifying the island in order to construct the masonry fortifications and the army post. The Army modified the existing topography in order: to construct a roadbed; to create a large level plateau on the top of the island; to create the linear level areas or platforms that were required for the construction of the batteries; and to alter smaller areas of the island’s slopes to accommodate the construction of the support buildings and structures. Because Alcatraz was basically rock with very little

soil to grade, the only way to create these level areas was to cut or blast away the rock.

The basic features of the island during this period consisted of : a wharf on the southeast end of the island; a road system that connected the different levels (and built features) of the island; a level plateau on the summit of the island where the Alcatraz lighthouse, Citadel, parade ground, and engineer's office were located; batteries, one at each end of the island; support buildings and structures located along the east side of the island; a second cluster of support buildings and structures located on the southwest slope of the island between the top summit (above) and the south batteries (below). (Thompson 1979: 24-36)

The fortifications (batteries, guardhouse, and Citadel) were masonry (built of brick and stone). The support buildings were wood-frame and were meant to be temporary; however, most of them remained as permanent features on the island through the end of the 19th century and into the early 20th century.

During this initial period of development, Alcatraz lacked the types of vegetation features that would normally be found on an army post –native plant communities, areas used for grazing, vegetable gardens or orchard, or ornamental vegetation. The additions of garden areas and the introduction of new ornamental plants to the island –alterations that would soften the harsh environment of the island and make it more livable for residents –did not begin until the 1860s, after the basic facilities of the Army post had been constructed.

The following sections provide a more detailed description of the key cultural landscape features on the island during this period.

2. Topographic Modifications on the Summit and Construction of the Citadel, Lighthouse, and Engineer's Office

The two rounded peaks of the island were altered by blasting to create a large level plateau that sloped down slightly from south to north. The south peak was reduced from its original height of 138.4 feet to about 134 feet, and the north peak was reduced from its original height of 134.9 feet to about 131 feet. The shallow depression between the two peaks was filled with the rock that was removed. (Warner 1847, Ernst 1867, Thompson 1979: 69)

The company barracks, known as the Citadel, was built on the north end of this new plateau. From this height, sentries had an unobstructed view of the waters surrounding Alcatraz, and the entire perimeter of the island could be defended. The Citadel was a “solid, massive, defensible building that could withstand not only an infantry assault, but most of the naval armament of the day” (Thompson 1979: 64). The Citadel, sitting on the top of the island, became the most visible building on Alcatraz.

The Citadel was located in the center of a dry moat, an excavated pit, 150 feet by 75 feet. Martini described this feature in *Fortress Alcatraz*:

“This recess, lined with brick, formed a dry moat or ditch, and the three-story Citadel itself was erected in the middle of the ditch. The only entrance to the barracks was across two drawbridges spanning the moat, providing access to the second story. The exterior counter scarp walls of the moat were hollowed out for privies, storerooms, and water cisterns” (Martini 1990: 27).

The cisterns were located on the southeast wall and had a combined capacity of 54,000 gallons. They augmented the 23,000-gallon, wood, water tank located at the wharf area. (Delgado et al. 1991: 23) The expanse of ground to the north of the Citadel was used as a parade ground. The wood-frame engineer's office was located on the north end of the plateau. (Thompson 1979: 69)

Alcatraz's brick, Cape Cod-style lighthouse was located at the south edge of this plateau, just south of the Citadel. (The United States Lighthouse Board used one standardized plan for the construction of these first western lighthouses—a Cape Cod-style dwelling with a short tower thrusting up through the center of the roof; this arrangement allowed the keeper to service the light without venturing out into damp, foggy, and cold conditions. [Jones 1993: 6] This design was developed by Ammi B. Young, a prominent nineteenth-century architect. [Holland 1972: 155]) The Alcatraz light was a Third Order Fresnel lens with steady white light. It was used in conjunction with the light at Fort Point to guide ships into the port of San Francisco. (Thompson 1979: 459).

3. Topographic Modifications Related to the Construction of the Masonry Fortifications

The natural topography of the upper slopes was altered by blasting to remove rock in order to create level platforms. Sandstone and brick “scarp walls” were constructed on the outside slopes of these terraces. These high retaining walls reinforced the protection of the perimeter of the island and, more importantly, held in place the island's rock that was prone to crumble and slide. The batteries of guns were mounted on the level areas behind the scarp walls.

There was a Barbette or open battery on the north end of the island that worked in conjunction with Angel Island to protect the north passage around the island. There was another Barbette battery on the south end of the island that extended around the west side that protected the Golden Gate and the south passage around the island to the port of San Francisco. On the northeast end of the island, the north caponier, a masonry tower, rose several stories above the masonry wall of the battery and held smaller guns. On the southwest end of the island, there was a similar structure—the south caponier.

4. Topographic Modifications and the Construction of a Wall Along the Shore

The rocky shores that surrounded the base of the island were modified by blasting away the “gentler slopes” to create steep cliffs with a “perpendicular height of 25 feet all around” (Thompson 1979: 16). This was done to prevent enemy landings around the perimeter of the island.

5. Construction of the Wharf

Transportation to and from the island was solely by water, and the construction of a wharf was needed to allow boats to dock at the island. Due to the current, tide, fog, and physical layout of the island, the only real location for a wharf was on the southeast end of the island, and a wharf was built there in 1853, out of sight from the Golden Gate and protected from prevailing winds. This was the only access point on the island.

6. Topographic Modifications Related to the Construction of the Roads and Building Clusters

The fortifications and support facilities of the post were reached via a system of roads that began at the wharf. In order to build the roads, the existing rocky slopes were blasted to create the roadbed. The rock on the sides of the roadbed was not stable, and brick retaining walls were built along the both sides of the road (to stabilize the hill on the west side of the road and to stabilize the east side of the roadbed). Construction of the main road began in the late summer of 1853, and by October, the roadbed from the wharf to the guardhouse had been blasted. The roads that were built basically followed the alignment of the today's roads.

The main road began at the wharf and continued in a northwest direction, uphill, and through the

guardhouse. The guardhouse was built over the road, and the guardhouse had a dry moat surrounding it. The road passed through the guardhouse on a wood drawbridge that spanned the moat. In case of attack, the drawbridge could be lifted and the guardhouse closed so that access to the batteries could be controlled.

Between the wharf and the guardhouse, a row of wood-frame buildings (that housed support facilities such as the boathouse; 23,000-gallon, wood, water tank; engineer storehouse, quartermaster store; coal shed; and sutler's store) were located on the narrow strip of land between the east side of the road and the edge of the island.

Above the guardhouse, the road divided at the first of three switchbacks. Part of the road continued to the northwest, along the east side of the island, to provide access to batteries (Battery Halleck, the North Caponier, and Battery Rosecrans) that were located around the northern end of the island.

The main part of the road continued around the first switchback and up the slope.

At the second switchback of the main road, the road again divided. (A secondary road continued southwest to the south end of the island.) The main road continued up the slope. To the north of the third switchback on the main road were a row of three quarters for Noncommissioned Officers (NCO) that was located next to the hillside (today this area is referred to as the Water Tank area). The main road ended on southeast side of the uppermost level of the island where the Citadel and lighthouse were located.

The secondary road that began at the second switchback of the main road continued around the south end of the island. This road provided access to a group of wood-frame buildings (two temporary barracks, laundry quarters, stable, engineers' quarters, commissary stores, carpenters shop, ordinance stores, and privy) located on the slope on the southwest side of the island.

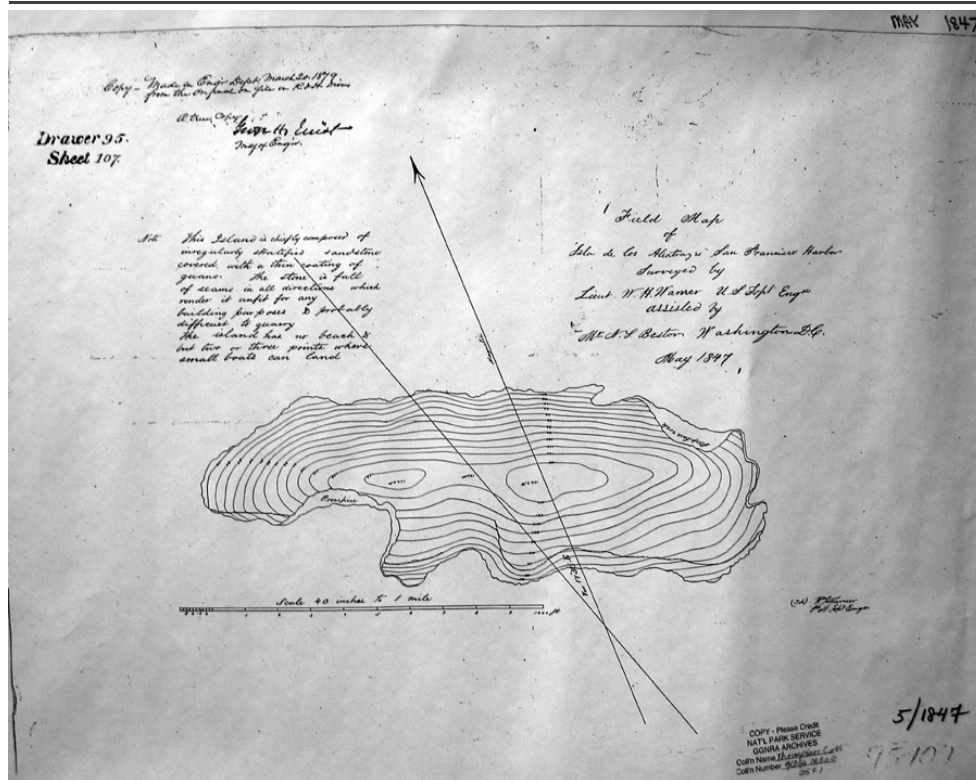
On the northwest side of this group of buildings, the road split into two branches. One branch continued north along the west side of the island and provided access to the batteries along the west side (Batteries Tower, Stevens, and Mansfield). The other branch of the road provided access to a lower level of the south end of the island, where Battery McClellan, the South Caponier, and Battery Prime were located.

7. Vegetation Features

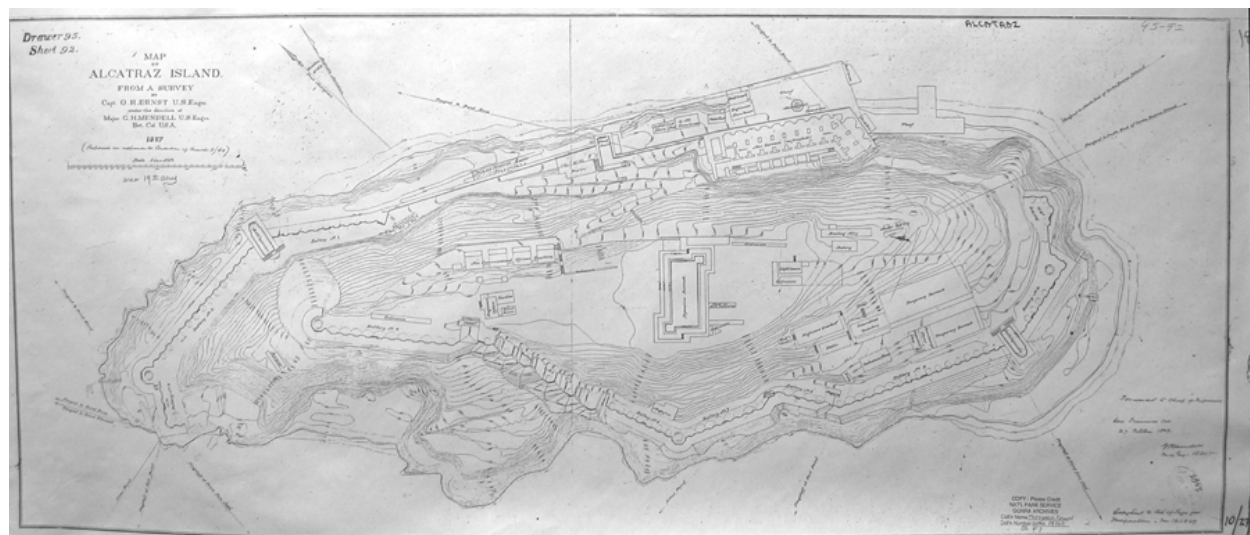
To 19th century eyes, Alcatraz was considered a "barren" island. No one lived there. The island only had a "thin deposit of native soil that supported native grasses and shrubs," (Delgado et al. 1991: 9) and the colonies of birds on the island—so numerous that the island was sometimes called the "White Island" in reference to the guano deposits that covered its slopes—were considered a nuisance. The native plant communities that did exist were probably adversely affected (and possibly eliminated) by the blasting and building during this initial phase of construction (1853-1859).

Alcatraz did not have areas that could be used for grazing animals, and it did not have the areas devoted to growing food to supplement the post's diet (such as fruit tree orchards or vegetable gardens). The terrain and growing conditions at Alcatraz were not conducive to either of these land uses. (The post's soldiers maintained a vegetable garden on Angel Island in a "sheltered valley near Pt. Blunt" [Martini 1990: 44].) The addition of garden areas and the introduction of new ornamental plants to the island—alterations that would soften the harsh environment of the island and make it more livable for residents—began in the 1860s after the basic facilities of the Army post had been built on the island.

Alcatraz Island
Golden Gate National Recreation Area



Field Map of Isla de los Alcatrazes, San Francisco Harbor, Surveyed by Lieut. W. H. Warner U. S. Topo. Engr. Assisted by Wm. N.L. Weston, Washington D.C., May 1847 See Supplemental Information for an 11 x 17" copy.



Map of Alcatraz Island From A Survey By Capt. O.H. Ernst U.S. Engrs. under the direction of Major G.H. Mendell U.S. Engrs. Bvt. Col. USA 1867. See Supplemental Information for larger copy.

U.S. MILITARY DEFENSE ERA: EARTHEN FORTIFICATIONS (1868-1907)

Summary of History

1. Alcatraz's Fortifications

As a result of battle experiences during the Civil War, the Board of Engineers for Fortifications concluded that:

“Only large rifles and 15-inch Rodman smoothbores were effective against armored vessels, that masonry works were vulnerable to such weaponry, and that earthwork barbette batteries were not only the most resistant to such fire but also the most cost-effective to build. As a result, major changes to the seacoast defenses of San Francisco Bay were implemented in the period immediately following the Civil War, under the scheme known as the Plan of 1870” (Freeman 1999: 2-16).

At Alcatraz, this meant that the existing stone and brick batteries were now considered obsolete. As described by John Martini in his history, *Fortress Alcatraz*:

“The most serious shortcomings in Alcatraz’s [pre-Civil War] design had been dictated by the island’s topography. Steep slopes of natural rock backed nearly all of the batteries, and the Army’s senior engineer for the Pacific Coast concluded that any projectile hitting these cliffs would shower gun emplacements and artillerymen with a devastating hailstorm of rock splinters. He speculated officers wouldn’t be able to force soldiers into these batteries during battle” (Martini 1990: 62).

“The new thinking required that guns be set in wide spaces and protected not by rigid walls but by mounds of soft, absorbent earth” (Hart 1996: 9) that would absorb the force of the incoming ordinance. Given Alcatraz’s rocky terrain, the Pacific Board, of the Board of Engineers for Fortifications, noted that: “A satisfactory solution seems to found only in extending the available area by excavation” (Thompson 1979: 157).

The redesign of the fortifications on Alcatraz began in 1868 under the direction of Major George Mendell of the Corps of Engineers. “Mendell’s recommendation for Alcatraz was simple and awesome: level the peaks and slopes of the island, spread the resulting spoil in front of the old scarp walls, and ring the island with Rodman guns and Parrott rifles in earthwork batteries” (Martini 1990: 62-63). According to this plan, 430,000 cubic yards of rock would need to be removed at a cost \$215,000. (Thompson 1979: 157). Mendell’s plan was forwarded to the Chief of Engineers and then to the Board of Engineers for Fortifications in Washington for review in March (Thompson 1979: 158). It was approved, after discussions with Mendell in December, and reflected the new nationwide standard for battery design and armament that became known as the Plan of 1870. (Martini 1990: 66)

Mendell proposed to defray the high costs associated with the excavation and construction by using the inmates at the military prison as the workforce. (Thompson 1979: 157) A military prison had been established at Alcatraz in 1861, and in 1869, there were between 90 to 125 prisoners on the island. While he was waiting for the approval and funding from Washington for his plan, Mendell began the task of cutting back and leveling the steep slopes at the north end of the island using a work force 30 to 50 military prisoners. (Thompson 1979: 158 and Martini 1990: 64) These men used picks, shovels, and wheelbarrows to remove the rock and then dump it over the walls in front of the existing batteries. As an incentive, the sentences of prisoners who earned a “good reputation as laborers” were commuted. (Thompson 1979: 159 and Martini 1990: 64). However, the use of military prisoners proved to be less than satisfactory to Mendell who noted that after six months of work: “The men are not industrious and

they are careless and at times malicious in their treatment of public property but with all of these drawbacks there is some profit in employing them” (Thompson 1979: 159). The practice of using prison labor continued for the remaining 64 years that the Army occupied the island, and the inmates were responsible for most of the construction work that was done on the island during this time.

Work on the redesign of the batteries was suspended in 1876 due to the nationwide reduction of military spending. By 1876, “Alcatraz stood only partially complete as fortress. A mere five guns were mounted on the entire post (106 fewer than a decade before), and little more than initial excavation work had been carried out on the six earthwork batteries planned for the southern sides of the island” (Martini 1990: 76). Although, Alcatraz continued to officially be a part of San Francisco’s coastal defenses for another 30 years, by 1876, Alcatraz’s utility as a seacoast fortification was for all intents and purposes over.

In 1885, a special board, eventually known as the Endicott Board after its chairman, Secretary of War William Endicott, was established by President Cleveland to make recommendations for the future of the seacoast defense system. These recommendations were based on the advances in military technology over the past 15 years (that is since the implementation of the Plan of 1870). These modernization plans for San Francisco’s seacoast included the “great extension of the outer line of defenses to points well beyond the harbor entrance proper, in reflection of the ten- to twelve-mile range of the new artillery pieces” (Freeman 1999: 2-20). In other words, the first line of defense was now well outside the harbor, and Alcatraz, located inside the harbor, was no longer strategically placed in relation to the new defensive strategies. New high power guns were proposed for Alcatraz, as part of the inner defense of the harbor, but these were never funded. “San Francisco Harbor already had a great deal of heavy armament emplaced” (Thompson 19979: 201), and the modernization of Alcatraz’s defenses was not a high priority.

2. Alcatraz’s Prison

Alcatraz was designated as the official military prison for the entire Department of the Pacific on 27 August 1861. During the Civil War, the number of prisoners at Alcatraz ranged from 15 to 50 men, and although the number of prisoners on the island varied over the next forty years, the Army’s investment in and need for the prison increased while that of the defensive fortifications on the island decreased. After the funding for fortifications ended in 1876, the buildings constructed during the next 30 years related to the operations of the post or prison rather than to defense.

During the Spanish-American War, all military prisoners returning from service in the Philippines were sent to the prison at Alcatraz, and the prison population went from 25 during the summer of 1899 to 441 in April 1900. (Thompson 1979: 223) The Upper Prison, a collection of wood-frame buildings constructed on the new parade ground area on the south side of the island, was built in 1900 and expanded in 1904, to handle the exploding prison population from the Spanish-American War. However, this complex and the collection of buildings of the Lower Prison were considered “temporary” structures. The Army needed a modern, permanent military prison and by 1903 was considering sites, including Alcatraz, in the Bay Area. (Thompson 1979: 200 and Martini 1990: 90-91) “In 1907, the War Department made a final decision regarding the future of Alcatraz. No longer would the island be designated as a harbor-defense fort . . . The island was removed entirely from the control of the Department of the Pacific” (Martini 1990: 95). On 21 March 1907, Alcatraz was redesignated the Pacific Branch, U.S. Military Prison, Alcatraz Island.

Changes to the Cultural Landscape (1868-1907)

1. Summary

The changes to the cultural landscape features that occurred after the Civil War and through 1907 were related to the construction of earthen fortifications based on the Plan of 1870 specifications and to the operational requirements of the army post and military prison.

The basic features and spatial organization of the island remained from the pre-Civil War landscape: a wharf on the southeast end of the island; the road system that connected the different levels (and built features) of the island; and a level plateau on the summit of the island where the Alcatraz lighthouse, Citadel, parade ground, and engineer's office were located. Major excavation projects were undertaken to widen the battery platforms and to add soil to the front of the batteries. There were batteries, on the north, south, and west sides of the island, located on terraces below the top summit. The support buildings and structures located along the east side of the island were expanded, and the Lower Prison complex expanded into this area. Most of the cluster of "temporary" wood-frame support buildings and structures, located on the southwest slope of the island between the top summit (above) and the south batteries (below) remained. A new terrace, known as the Parade Ground, was created on the south end of the island, and the wood-frame buildings of the Upper Prison were built here.

By the 1860s, the people who lived on Alcatraz had started creating small gardens. Both public and private planting beds and garden spaces were added to the landscape of Alcatraz during this era. "By 1870, Alcatraz had acquired the appearance of a settled, permanent military post" (Thompson 1979: 210), and, as John Martini pointed out in *Fortress Alcatraz*, the island resembled "a pleasant but unplanned western village" (Martini 1990: 96).

By 1890, the original topography of the island had been modified to the extent that "nearly every square yard of ancient island surface had either been cut away or buried in fill" (Hart 1996: 10), and the basic topography of the island that exists today was in place. The original rounded or humpback look of the island was gone, and the topography was taking on the blocky appearance that exists today.

The following sections provide a more detailed description of the key cultural landscape features on the island during this period (1868-1907).

2. Construction of the Earthen Fortifications

The pre-Civil War topography of the island was modified in order to implement Mendell's plan for the new earthen fortifications. Work included reshaping the north (for batteries 1, 2, 3, 4, 5) and south (for batteries 11, 12, 13) ends of the island; lowering the area of Battery 5 by removing 30 feet of rock; making a cut from Battery 5 (on the northwest side of the island) through to the northeast (in vicinity of the present-day morgue); constructing a 180-foot-long tunnel from the North Caponier to Battery 4. Work was undertaken on Batteries 1-5, 7, 10-12 and on the North and South Caponiers. (Thompson 1979: 163, 167, 174-176, 178, 179) Between 1879 and 1890, the south-facing slopes between the Citadel and the area of Batteries 10 and 11 was reduced from a height of 125 feet, at its summit, down to 60 feet and a large level area was created. (Martini 1990: 76-77 and Thompson 1979: 182)

The spoils from the excavations that were dumped over the sides extended and altered the island's shores. Pirates Cove, on the northwest side of the island, was partially filled. On the south end, the spoils covered the 1850s stone defensive walls and the remains of the South Caponier and filled in the small "nooks and crannies on the shoreline at the southern end" (Delgado et al. 1991: 11). This gave the south face of the island a more uniform semi-circular appearance. (Thompson 1979: 182; Martini 1990: 67, 76-77)

The other important component of the redesign of the batteries involved placing soil in front of the batteries. Large loads of soil were brought, mostly, from Angel Island, and used on Alcatraz to create artificial slopes in front of the batteries. (Hart 1996: 10)

3. Circulation

The basic road system from the pre-Civil War era remained in place.

4. Major Areas

Wharf Area

The wharf located on the southeast side of the island remained the main access point to the island. (A dock located on the northwest side below the quarry operations was only used for loading rock.) At the wharf area, work was undertaken during the mid-1880s to repair the wharf and add additional structures related to the operations of the wharf, such as coals sheds and a boathouse.

Work began on the construction of the Bomb Proof Barracks, located against the hillside on the west side of the wharf area, in 1865 but was suspended in 1867. In the fall of 1874, a new barracks was completed at this location. In 1905-1906, a new concrete block barracks (Building 64) was built on top of the Bomb Proof Barracks. (Martini 1990: 152)

The level area behind (to the west) of the Bomb Proof Barracks is shown as having planting beds in a 1905 map (Daly 1905).

Lower Prison

In 1863, a wood-frame, prison building was constructed on the hillside on the west side of the road, just north of the guardhouse. Then in 1867, this building was removed and replaced with a brick building. Over the next decade, a group of buildings were built that housed the various functions of the prison. This complex was known as the Lower Prison after the construction of the Upper Prison complex in 1900. (Martini 1990: 154)

New Parade Ground

At the second switchback on the main road, the section of the road that continued to the south end of the island provided access to the Parade Ground terrace. Mendell intended this area to be a parade ground and the site for permanent quarters. This area remained open from ca. 1890-1900. Then in 1900, the Upper Prison complex of buildings was built here since this provided the only large level site available for new construction. It was expanded in 1904. This complex consisted of a collection of wood-frame buildings (three cellblocks, a washhouse, a mess hall and kitchen, and a workshop) surrounded by a 12-foot-high wood stockade fence that had a raised guards' walkway attached to the outside. A guardhouse was located just outside the fence on the southeast edge of the parade ground. (Daly 1905, Turner 1909, Martini 1990: 90-91, and Martini 2002; 44)

Southwest Cluster

On the southwest side of the island, the group of clusters of "temporary" wood buildings, from the pre-Civil War construction period, remained in place. Three of these buildings burned (stables, laborers' quarters and laundress's quarters) in 1888. (Thompson 1979: 188)

Hospital and NCO Quarters

At the third switchback of the main road, a hospital, built in 1882 and expanded in ca. 1900, was located on a terrace below the row of three NCO quarters (Nos. 12-14). The level area around the NCO's quarters was enlarged in the early 1870s, during the excavation work for the masonry fortifications, and by the late 1890s, a gymnasium and house for the hospital steward were located at the north end of this area. A new section of road was built, after 1867 and by 1879 that led up the hill on the west side of these buildings to the northwest corner of the Citadel. (Ernst 1867 and Presidio 1879)

Officers' Row

During the work for the earthen fortifications, a level area had been created below and east of the Citadel. A row of three officers' quarters was built here in 1881.

Summit

The lighthouse and Citadel remained in place on the top level of the island. During the 1860s, several small wood buildings (including a bowling alley and bakery) were built on the slope to the southeast of the lighthouse. This slope was removed during the excavation work on the south end of the island between 1870 and 1890.

North End of Island

In addition to the topographic changes that resulted from the excavations related to Mendell's plan, rock was also quarried from the northwest side of the island. This quarrying operation seems to have been established in conjunction with the "never-ending punishments for the soldier-prisoners" of quarrying and breaking rock rather than in response to any specific plan for construction on the island. After 1876, when construction on the batteries ended, the northwest side of the island had been abandoned. The rock from the quarry was used as crushed rock for paving materials on Alcatraz and on other military posts in the area. Rock was being quarried from this area by 1902, and the operations continued until the 1930s. (Martini 2002: 32-33) (The quarrying in this area probably began after the completion of the excavations of the Parade Ground on the south end of the island when a new location was needed for the prisoners who were assigned to quarry and break up rock.) At some point a dock was built on the northwest side of the island to provide access for the boats that came to the island to be loaded with the rock. This dock is shown on the 1933 map of the island that was prepared just before the Army relinquished control of the island the Bureau of Prisons. (U.S. Army 1933)

5. Garden and Vegetation Features

General Garden and Vegetation Characteristics During This Era

Gardens and small lawns were created on the flat areas of land that were adjacent to the Citadel and to the various quarters on the island. In order to be able to plant these spaces, pits were blasted or dug out of the rock and soil was brought in. Garden areas also needed to be sheltered from the strong westerly winds, and they had to be convenient to water sources (water from the residences or by canvas hoses from the underground cisterns at the Citadel). Due to the great effort that was required to establish and maintain these gardens, and probably partly due to the prevailing Victorian garden styles, they were generally well defined spaces often delineated by wood picket fences or low walls. The gardens were subdivided by small paths into rectangular planting beds. The beds were planted with grass and with

irregular groupings of plants. Based on photographs from the era, the gardens had plants typical to the Victorian era in San Francisco. Some of these plants probably included agave, heliotrope, mirror plant, roses, and fuchsia. The gardens also had amenities typical to gardens of the era—benches or wood trellises. These were vernacular gardens, created not from a specific design or by a specific designer but in an attempt to create a more hospitable and familiar-looking place to live.

In addition to the planting beds, the garden spaces on the east and south of the Citadel and that to the east of the lighthouse also had large specimen shrubs planted at the corners or entrances. A photograph from this era (Martini 1990: 57) also shows large shrubs pruned into oval, pyramidal, and columnar shapes.

Cannon balls were ubiquitous on Alcatraz and in addition to their functional purpose, they served a decorative function on the post. They were used to define the parade ground space in front (south) of the Citadel and were stacked in long pyramidal rows. (A row of Rodman cannons are lined up behind one of these stacks in one photograph.) These rows are shown in photographs of the era, and the row on the east side of the parade ground was shown in maps from 1867-1894. (Ernst 1867, Presidio 1879, U.S. Army ca. 1870s, Rodgers 1894) The cannon balls were also placed in smaller stacked pyramids next to guns in fortifications. Photographs of the era show the cannon balls lined in rows on the tops of walls, such as in the planter that bordered the west side of the Officers' Row houses and along the low retaining wall that defined the south edge of the garden area in front (south) of the Citadel. They were set individually on the ends of steps or levels of retaining walls (used much like a pot of flowers to define the change of levels and transition from the public to private space of the house or porch). They were used as ornaments in the planting beds, stuck on top of short pipes to create something that resembled a gazing ball.

The introduction of imported soil to cover the face of the new 1870s batteries resulted in the introduction of the seeds of various plants found on Angel Island such as coyote bush, blue elderberry, blackberry, and California poppies and of various insects and rodents. (Hart 1996: 11) In order to help to control erosion, the new slopes of the 1870s fortifications were covered with sod (sod was cut from the vicinity of Fort Point and Lime Point in 1872 [Thompson 1979: 175]), or planted with various herbaceous plants such as clover (Mendell bought 25 pounds of clover seed in 1872 [Thompson 1979: 175]), alfalfa, or barley. (Hart 1996: 11 and Delgado et al. 1991: 12) It was difficult to maintain the sod and grasses on the slopes, with the limited on-site water and during the half-year-long dry season. In an inspection report from January 1887, Mendell reported that the slopes of the batteries did not have sod and that this made it "impossible . . . to maintain lines and surface [of the batteries] in their exact form . . ." (Thompson 1979: 188).

In addition to the attempt to establish grass on the slopes of the fortifications, the Army made periodic attempts to maintain grass and lawns on the island. In 1904, 50 pounds of clover and bluegrass seed was planted around the barracks and officers' quarters. (Thompson 1979: 239) However, the choice of these types of plants for the lawn would have required ongoing irrigation and was probably not very successful.

A description of the garden development on the summit and in the Officers' Row area, the two areas with gardens during this era, is provided below.

Summit

One of the earliest planted areas on the island was a small area on the east half of the south side of the engineer's office building, that was located on the north end of the old parade ground on the island's summit. (Ernst 1867) (An addition to the engineer's office that was used as a school room was located on the west half of the building.) In a photograph from 1864, this garden area was enclosed by a waist-high

white picket fence and had large shrub (or a small tree) located in the southwest corner. (Martini 1990: 48) This garden area was probably short-lived since, by the late 1870s, the engineer's office building had been moved south closer to the Citadel.

The largest and most public of the island's garden spaces was located on the south side of the Citadel. The garden extended all the way across the south façade of the Citadel. This garden was probably first laid out in the late 1860s. It appeared in Eadweard Muybridge's 1869 photographs and was labeled on maps from the 1870s as a "garden." Thompson made a reference to the "formal flower gardens" being "laid out on top of the water cisterns on the southeast side of the building" after the remodeling of the Citadel in 1881. So it may be that the garden was remodeled or enlarged around 1881. (U.S. Army 1870s; Rodgers 1894; Daly 1905; Thompson 1979: 188)

The area along the east side of the Citadel was also an ornamental space that provided a transition between the Citadel and the row of officers' houses located across the roadway on the terrace below. Cannon balls were stacked into long pyramidal rows on the south third of this space. There were formal planting beds along the middle part of this area and a small square garden with formal planting beds located on the north end. (Rodgers 1894 and Daly 1905)

There was a tennis court located south of the garden on the south side of the Citadel. It was probably installed around the same time as the garden (ca. 1881). (Rodgers 1894 and Daly 1905) Due to the lack of level ground, this was one of the few outdoor recreational facilities on the island. (This lack of outdoor space for sports and for drilling was a concern of the post's surgeons. [Thompson 1979: 222]) When the lowering and leveling of the south end of the island was finally completed in the early 1890s, there was finally enough space for the men to play baseball. (Thompson 1979: 222)

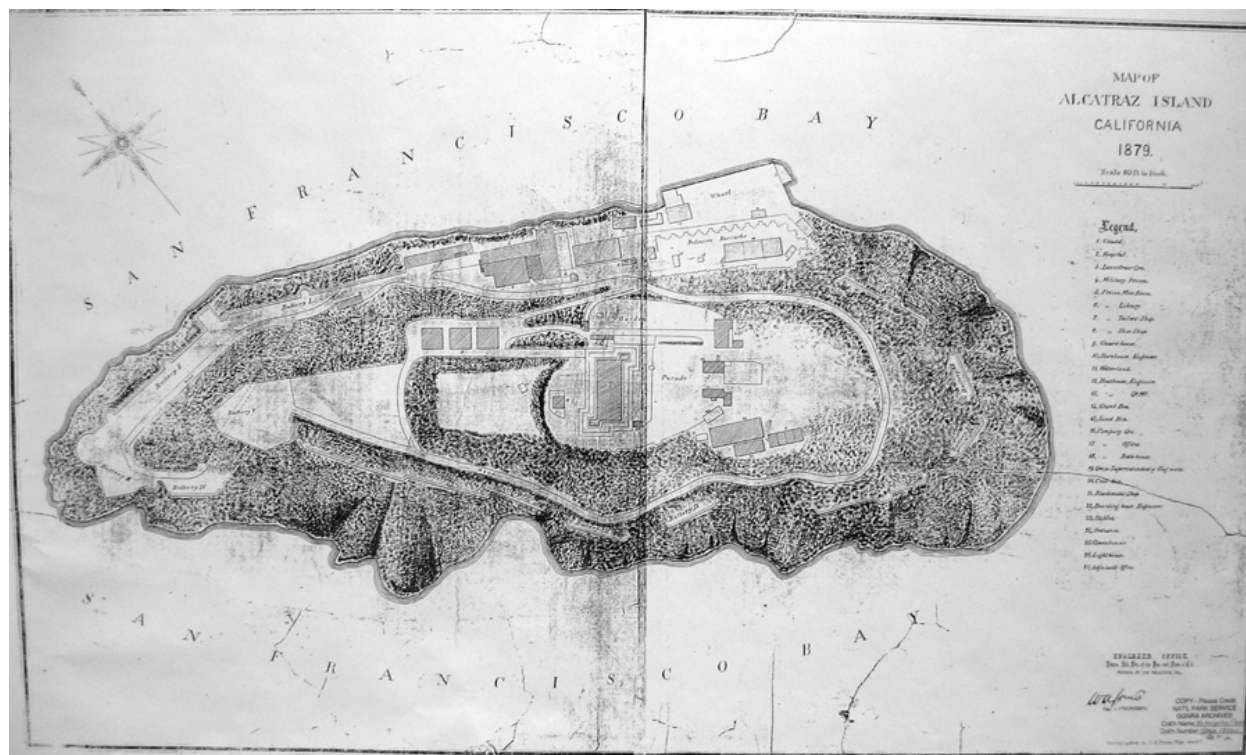
To the southwest of the tennis court was a building that is labeled as either a greenhouse (1870s and 1879) or a conservatory (Rodgers 1894). This structure does not appear on the 1905 map of the post.

The area around the Alcatraz lighthouse was maintained by the lightkeeper. In the mid-1880s, the lighthouse at Alcatraz obtained a long-term lightkeeper, Captain Leeds. He took an interest in developing and maintaining the garden area and put up lattice fencing and planted flower beds. (Martini 1990: 32) This garden space was destroyed when the original lighthouse was torn down and the current one was built in 1909.

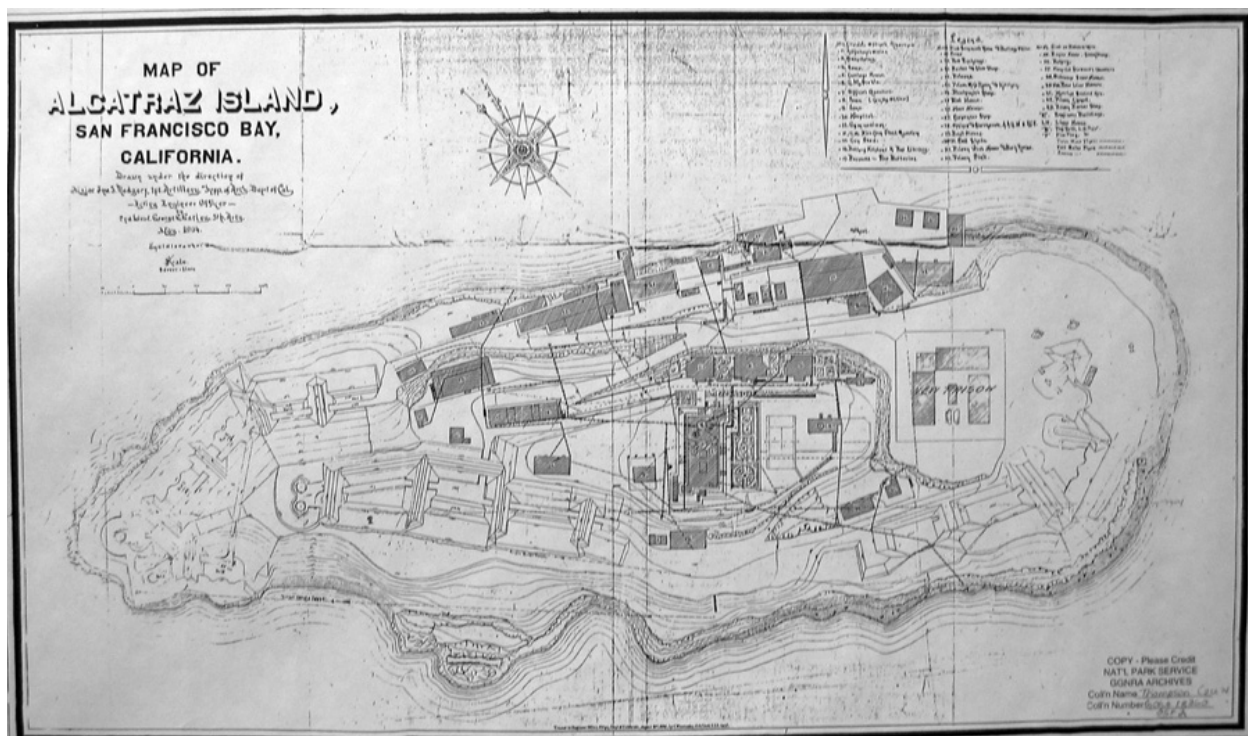
During this era, the location of the parade ground seems to have sifted between the areas north and south of the Citadel. In a photograph from 1864, the parade ground is on the north side (Martini 1990: 48); during the 1870s, it appears on maps on the south side (Presidio 1879, U.S. Army ca. 1870s); after the garden and tennis court were built on the north side, in ca. 1881, the north side of the plateau was again used as a parade ground (Daly 1905).

Officers' Row

During the work for the earthen fortifications, a level area was created below and east of the Citadel. This area was labeled as a "Garden" on an 1879 map (Presidio 1879). This garden area was removed when the row of three officers' houses (Nos. 7-9) was built in 1881. However, new garden areas were added on the north and south ends and between each of the three houses in this row. (Rodgers 1894 and Daly 1905) Additionally, these houses had window boxes. There was a wall that bordered the west side of this area and separated Officer's Row from the road. By the early 1900s, pots with flowering plants were placed on top of this wall. (Hart 1996: 10)



Map Of Alcatraz Island California 1879, Engineer Office, Presidio of San Francisco, CAL. (Presidio 1879). See Supplemental Information for larger copy.



Map of Alcatraz Island, San Francisco Bay, California. (Rodgers 1894) (This map shows the features of the island in the mid-1890s during the latter part of the earthen fortifications era [1868—1907].) See Supplemental Information for a larger copy.

MILITARY PRISON ERA (1907-1933)

Summary of History

The first commander of the Pacific Branch, U.S. Military Prison was Major Reuben B. Turner, who was appointed “because of his abilities as a construction engineer” (Martini 1990: 96). He was charged with designing and building a “state of the art” prison since the existing facilities on the island were inadequate to meet the needs of the military prison. The two prison complexes –the Lower Prison located on the lower east side and the Upper Prison located on the Parade Ground on the southeast end of the island –were separated from each other. Security was compromised. Sanitation was inadequate. Additionally, the wood buildings –some of which dated to the Army’s earliest years at Alcatraz and had been intended to be “temporary” –were a fire hazard.

The actions required to meet the needs of the military prison complex resulted in major changes to the island’s cultural landscape. In addition to the new prison, Turner’s plans included “centralized work facilities for the convicts and an up-dated utility system for the entire island. His plans called for modernizing the island. Old wood frame residences and support buildings (including the Citadel, much of the Lower Prison complex, Upper Prison, 1854 Alcatraz Lighthouse, the carriage shed and stable) were replaced by “concrete structures of a harmonious architectural style” (Martini 1990: 96). New buildings included the new lighthouse (1909), new cellhouse (1912), Post Exchange (1910), Quartermaster Waterhouse and Powerhouse (1912), Commandant’s House (1921), Model Industry’s Building (early 1920s).

Despite the Army’s investment in the prison infrastructure at Alcatraz, “there remained considerable dissatisfaction within the army about this role for the island” (Thompson 1979: 245). The judge advocate general addressed this concern after visit he made to Alcatraz:

“[Alcatraz] lies directly in the path of commerce, and surmounted as it is with the rather conspicuous new prison building is perhaps more prominent in the view of the incoming passenger and more the subject of his inquiry and that of residents and visitors generally than any other object in the harbor. The answer they receive, that it is a prison for the confinement of our military defenders, gives an impression of the character of our enlisted personnel and of the discipline of our Army which is unfair and unjust to the service” (Thompson 1979: 245-246).

In 1913, the Army negotiated with the Department of Labor to transfer the property to the Immigration and Naturalization Service, and a bill was introduced into Congress in October 1913 to authorize this change. However, it was never acted upon, and the Army continued to operate the prison at Alcatraz for another 20 years.

By the early 1930s, the Army was seriously reevaluating its need for a prison at Alcatraz. In May 1933, the Army began negotiations to transfer Alcatraz to the Department of Justice. This transfer satisfied the Army’s desire to rid itself of the costly operations at Alcatraz and the Justice Department’s need for a new maximum security prison. (There had been “a huge increase in the population of the country’s federal penitentiaries during the previous decade, partly resulting from crackdowns on organized crime and bootleggers” [Martini 1990: 120]). On 13 October 1933, Alcatraz was transferred, in an initial five-year lease, to the Federal Bureau of Prisons.

Changes to the Cultural Landscape (1907-1933)

1. Summary

The changes to the cultural landscape features during this era (1907-1933) were related to meeting the needs of the military prison and army post. Major changes included the following:

The Citadel and 1854 lighthouse were torn down to make way for the new concrete cellhouse complex (No. 68) that was built on the island's summit.

The Upper Prison complex, located on the terrace of the Parade Ground, was torn down after the new cellhouse complex was completed, and the Parade Ground remained largely open space during this period.

The north end of the island was developed, and a new powerhouse (No. 67), the quartermaster storehouse (No. 79), shops, and the model industries building (No. 82) were built in this area.

"The island's appearance changed drastically in the early 20th century when permanent concrete buildings replaced earlier [wood] structures' (Martini 2002: 49). The square corners and high walls of the cellhouse and Recreation Yard dominated the top of the island. "The power house smokestack and lighthouse tower gave the appearance of a ship's masts flanking the 'superstructure' of the main prison building" (Martini 1990: 100). The island began to have a more unified look with its new buildings and the addition of amenities such as concrete light posts, (electricity was available after the powerhouse complex was completed) concrete guardrails along the paved roads, and concrete sidewalks.

The garden spaces and many of the plant materials that exist today were added during this era by inmates from Alcatraz's military prison.

The following sections provide a more detailed description of the key cultural landscape features on the island during the military prison era (1907-1933).

2. Circulation

The road system basically remained largely unchanged during this era. However, as part of the reconstruction efforts for the new prison, the batteries on the north end of the island were graded down and filled in. This allowed the road to be extended around the north end so that it went completely around the island. By 1909, the roads had been paved with macadam, and there were concrete sidewalks. (Turner 1909) Sometime during this era, the main roads were paved with concrete. However, the roads around the north end of the island and along the west side remained macadam. (U.S. Army 1933 and Martini 1990: 118)

The construction of paths around the lower perimeter of the island was undertaken around 1917-1918. An article in the March 1918 issue of "The Rock" noted that:

"A board walk, a few feet above the water at high tide and encircling the Island, has been in process of construction for sometime and is now nearing completion. Practically all of the lumber used in its construction has been picked up out of the Bay. Part of the walk has been cut out of the solid rock. In some places it overhangs the water and rests on timbers that have been driven deep into the rocks" (Mayer 1918).

The path from the wharf along the south edge of the island and the path up the hillside to the Parade Ground were shown on a map prepared just before the transfer of the facilities to the Bureau of Prisons in

1933 (U.S. Army 1933). The path along the east edge of the island also appears on this same map.

3. Major Areas

Summit

The changes to the summit of the island were the most dramatic and visible. The Citadel, while highly visible, had occupied only a limited portion of the south end of the summit. “The new prison was a self-contained facility with all of the necessary functions in one structure: cellblocks, kitchen, mess hall, wash areas, hospital, morgue, and recreations yard” (Delgado et al. 1991: 15), and the new building with its walled recreation yard took up most of the ground on the top level of the island. The Citadel was torn down to make way for the construction of this new Cellhouse building; although, the foundations of the Citadel and the dry moat were included in the basement of the new prison building. Work on the new prison began in 1908 and was completed by 1912. When it was completed, the building was the largest reinforced concrete building in the world.

The two 1870s batteries located below and west of the new Cellhouse were filled in to create a level area. The new Recreation or Stockade Yard was built over the foundation of these 1870s earthwork batteries. As a part of this, the traverses between the gun pits were filled and the connecting tunnels were blocked by concrete.

The northwest end of the summit was leveled, and two large, underground water cisterns were built there.

The new prison building was going to be taller than the existing 1854 lighthouse and was going to obstruct its light to the northwest. Also, the existing lighthouse would be visible in front of the new prison building in views from San Francisco, and Major Turner considered this existing complex to be unsightly. He did not want it detracting from the visual statement of the new prison building, and he proposed the relocation of the light to the top of the new prison. Instead, the Lighthouse Board demolished the existing lighthouse and built a new 84-foot-high, reinforced concrete light tower with a new attached quarters, for a lightkeeper and two assistants. The lighthouse was completed in late 1909, and the new light was lit on 1 December 1909. (Thompson 1979: 462)

Wharf Area

The main access to the island remained the wharf that was located on the southeast side of the island. (The dock located on the northwest side of the island was used to load rock from the quarry operations located on that side of the island.)

A new barracks was built, on the southeast side of the island, on top of the ca. 1867 Bomb Proof casemates, that had never been completed. The new barracks (Building 64) was completed in 1908. (Thompson 1979: 248)

There was a handball court located to the southeast of the wharf complex. (U.S. Army 1933 and Thompson 1979: 250)

Lower Prison Area

By the end of this era, the Lower Prison buildings, along the east side of the road north of guardhouse, had been removed. The Post Exchange, completed in 1912, was built on the east side of the road, across

from the first switchback. This building was constructed of reinforced concrete in the Mission Revival style.

East Side of the Island

The area along the east side of the island remained relatively unchanged during this era. The hospital, NCO quarters (Nos. 12-14), and Officers' Row (Nos. 7-9) remained. Between 1919 and 1921, a new house was built for the Commandant, right at the southeast edge of the summit, at the south end of the row of 1881 officers' houses.

Parade Ground

After the completion of the new cellhouse, the wooden buildings of Upper Prison complex were torn down. In 1929, a row of four officers' quarters (Nos. 72-75) were built along the southeast edge of the Parade Ground, and a large officer's quarters (No. 83) was built at the south edge of the Parade Ground, on top of "old Three Gun Battery (or Battery Prime and Battery 12). (Thompson 1979: 507-508)

The wall that defines the outer edge of the Parade Ground area (today known as the sea wall) was in place by the end of the era. The road located along the inside of this wall was also in place. (There had been a road here before but the alignment of the road became more distinct or defined after the Upper Prison complex was removed.) There were small lawn areas around the two groups of quarters; a tennis court in the northwest corner; and a playground, in the southwest, for the children who lived on the island. (Turner 1909, U.S. Army 1933, Thompson 1979: 250) At the very end of this period, the Parade Ground was paved. (Eleey 1998: 5)

There was a tool house located at the northwest corner of the Parade Ground, at the base of the cliff. The fog signal remained located just below the Parade Ground on the south end of the island.

Southwest Cluster

At the beginning of this era, there were still two small clusters of wood-frame buildings on the southwest slope of the island. The corral, stables, and carriage shed (located in the West Lawn area) were present in 1909 but by 1933 had been removed (motor vehicles had replaced the mules on the island). Two buildings (Nos. 15 and 43) remained on a terrace that was below the southwest side of the summit but above the elevation of the Parade Ground; these were used for married officers' and civilian quarters and remained in place in 1933.

North End of the Island

The north end of the island was not as visible from San Francisco, as was the south end of the island, and during this era, a complex of industrial buildings was developed that included the Quartermaster Warehouse and Powerhouse complex, completed in 1912, and the Model Industries Building, built during the early 1920s. The new powerhouse was built on top of the 1870s earthen batteries, which had themselves been built on the scarp walls of the 1857 North Battery. (Martini 1990: 98) The Model Industry's Building was built as part of the prison's refocus on rehabilitation of the soldier incarcerated on Alcatraz.

The quarry operations, that supplied rock that was used as paving materials for the island and to other military facilities in the bay area, continued to operate on the northwest side of the island. There was a dock on this side of the island that was used to load the rock onto boats.

4. Garden and Vegetation Features

San Franciscans had long been displeased with having a military prison in such a highly visible place. During the nineteenth century, Alcatraz's rocky shores, barren slopes, and collection of wood-frame buildings perched on the sides of the slopes were not pleasing to the eyes of San Franciscans. The lack of visible green vegetation (trees, green lawns, and plants that did not go dormant during half of the year) on the island contributed to Alcatraz's poor public image.

Up until this time, given the general lack of soil of any depth on the island and the limited water, ornamental plants were not widely planted on the island. The Army's earlier attempts to plant the slopes with sod or grass or clover were not very successful –mainly because these plants were not suited to the conditions on Alcatraz. There were garden spaces around the homes of residents on the island and in front of the Citadel (the most formal and public space for the post and the community on the island). However, these features were not very visible at a distance, and the public perceived the island to be rather ugly. After the construction of the new prison facilities and the modernization efforts on the island, this issue was finally addressed by the Army

The Army undertook a concerted effort to plant the slopes of the island in an attempt to both control erosion and to "beautify" the island. The plant materials used (such as agave, ivy, ice plant, eucalyptus) were better adapted to the growing conditions on Alcatraz, than the types of plants previously used (such as bluegrass), and so survived and altered the appearance of the island..

The Army was eager to promote its efforts to beauty the island and invited reporters out to see what was happening. (Hart 1996: 14) In an article in the island's newspaper, "The Rock," the author, Edward Mayer, wrote about the Army's efforts to "improve the Rock" so that "its own beauty shall be in harmony with that of its surroundings." He noted the roses, sweet peas, lilies, and "a large variety of other flowers" that were on the island and the efforts made to establish these plantings:

" . . . deep holes are cut into the hard rock and filled with rich, black soil. In these the seeds are planted. In this way barren wastes are converted into garden spots, and ugliness is transformed into beauty" (Mayer 1918).

He also noted that the progress of "boardwalk" that was nearing completion around the lower perimeter of the island. Whatever the intended utility of this path, it also appears to have viewed as adding to the beauty and recreational aspects of the island. He noted that:

"Flowers and shrubbery have been planted on both sides of the walk wherever possible, and in course of time it will be as fine a 'lovers lane' as there is in the country" (Mayer 1918).

In 1915, Alcatraz was renamed the "Pacific Branch, United States Disciplinary Barracks" and programs was implemented that focused on providing education, training, and rehabilitation for the soldiers incarcerated in the prison. One of the 25 training programs offered was gardening. The number of men working and studying as gardeners varied, but there seems to have been about 12-15 gardeners during the early years of this program. (The Rock 1917-1918)

Another major planting effort took place in the spring of 1924, using plants donated by the California Spring Blossom and Wild Flower Association. The prisoners on the island planted 300 trees and shrubs, "100 pounds of nasturtium seeds, many pounds of Shirley poppy, three mallow and cobaea scanderis" provided by the association (San Francisco Chronicle 1924). (A picnic with entertainment by the

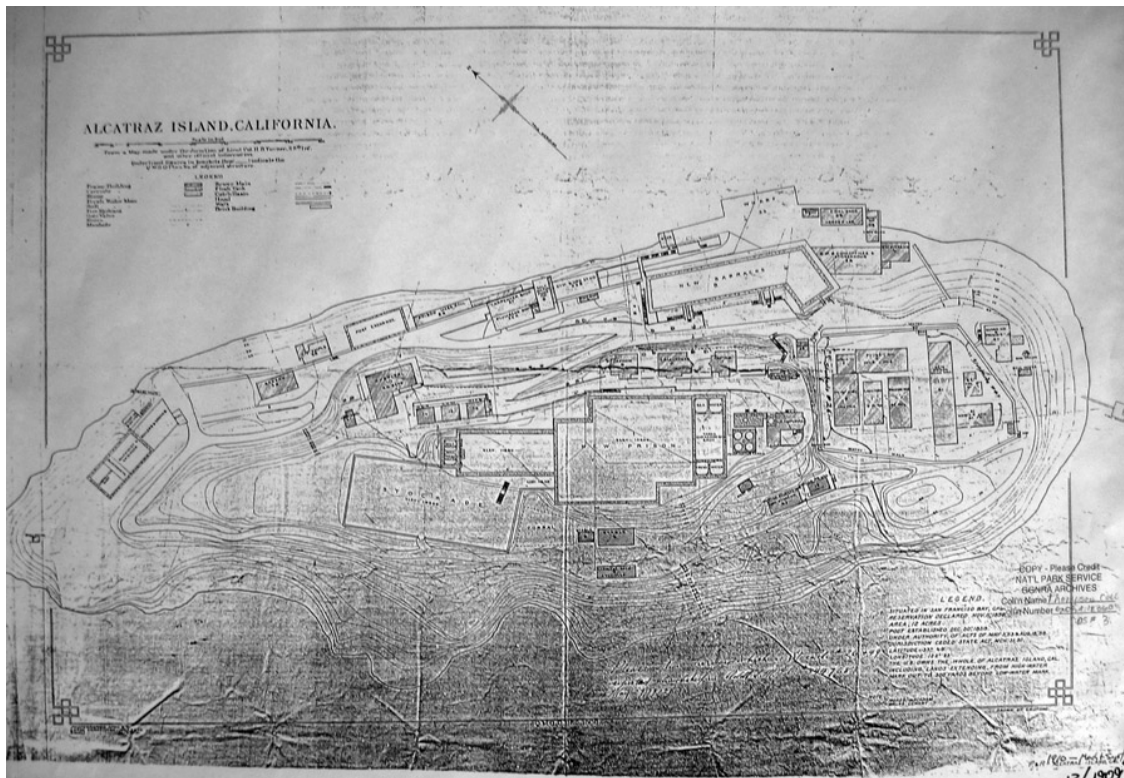
Alcatraz band was planned for later in the spring.)

There are not many details available on the continuing planting and garden work that was carried out on the island under the Army during this period, but Fred Reichel, the first secretary to the Warden, provided a description of the island in 1933 when the facilities were transferred from the Army to the Bureau of Prisons:

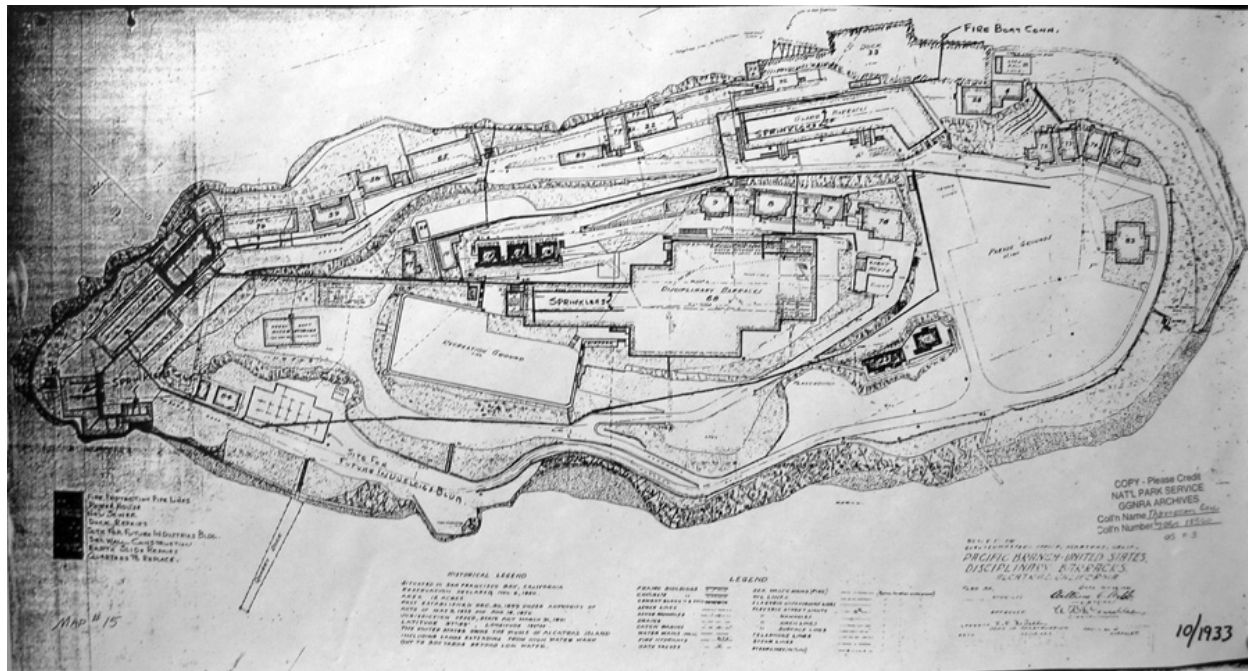
“I was very much impressed by the thousands of hours of hard labor which had gone into its beautification. True, from the mainland it appears mostly rock. However, though much trial and error many plants had become naturalized there and were quite happy. One of the banks was bristling with those inaccurate time keepers –the century plants –and there were blankets of the lavender flowered mesembryanthemum . . . There were many sturdy trees, particularly on the leeward [east] side of the island . . . But perhaps the most unexpected were the terraces which had been formed from the ever present rock and filled in with soil from the sacks carried back by the returning day laborers from Angel Island. Then these terraces had been supplied with various bedding plants which on that February day made me feel that life there would not be as bleak as I might have feared” (Reichel ca. 1974: 1)

The Army also built a simple system that used the recycled or gray water from the prison showers to irrigate the lawn areas and terraced beds on the west side of the island. The water from the showers drained down into tanks (or a pool) where it was stored until it was used. (Reichel, the source of this information, did not say how the water was applied to these areas.) (Reichel Unedited Draft Transcript: 24; Reichel ca. 1974: 2 in Lutsko 1992; Reichel ca. 1978: 1 in Lutsko 1992)

During the military prison era, there is specific documentation or reference (historical maps, historical photographs, and interviews/letters from Fred Reichel) to the following plant materials and planted areas: roses, sweet peas, lilies, nasturtium, poppies, “mallow” (a common name that could have indicated a plant from the *Malva*, *Lavatera*, or *Alcea* genera), “cobaea scanderis” (a misspelling of *Cobaea scandens*), trees on the east side of the island, and on east side of road on the road from the wharf up to the Guardhouse, between the ca.1881 officers’ quarters (the terraces, walls, and steps that exist today in this area were in place by 1933 when the Army transferred the property to the Bureau of Prisons [U.S. Army 1933]). In addition to these, Fred Reichel found the following Army-era garden spaces, when he arrived on the island in February 1934: agave and “*Mesembryanteumum*” (a misspelling of *Mesembryanthemum* that could have referred to plants in different genera including *Carpobrotus*, *Drosanthemum*, *Aptenia*, and *Malephora* –all of which were listed in a 1992 plant inventory [Lutsko 1992]) on the slopes, a “small flat garden near the Post Exchange,” a rose garden and small green house in the level area of the ca. 1859 NCO’s quarters or on the next lower level (site of the hospital), lawn in the flat areas on either side of the road on the terrace below and west of the cellhouse; and terraces on the west side of the island. (Reichel Unedited Draft Transcript, ca. 1974, and ca. 1978)



Alcatraz Island, California From a map made under the direction of Lieut. Col. R. B. Turner, 29th Inf. Drawn by C.H. Stone December 1909. (This map shows the layout of the island at the beginning of the military prison era.) See Supp. Info. For larger copy



Quartermasters Officer, Alcatraz, Calif., Pacific Branch - United States Disciplinary Barracks, Alcatraz, California, 1933 (This map shows the layout of the island at the end of the military prison era.) See Supplemental Information for a larger copy.

FEDERAL PRISON ERA (1933-1963)

Summary of History

Although, the Bureau of Prisons intended to utilize the existing Army-era facilities at Alcatraz, certain repairs and changes were needed to retrofit the island to meet the federal prison system's needs. In November 1933, a report was prepared by Robert Bunge, a consulting engineer who made recommendations on alterations that were needed at Alcatraz. Many of the initial alterations to the facilities at Alcatraz were made inside the prison building. However, exterior features –fences, guardhouses, guard towers, and metal detectors –were added to the landscape to accommodate the Bureau of Prison's security requirements. (Thompson 1979: 353, 361, 368) The costs associated with this initial period of construction were provided by funds from the Public Works Administration, under the direction of the Department of the Interior. Contracts were awarded to civilian companies for the major projects, and the retrofit work began in late 1933.

The majority of the military prisoners were transferred off of Alcatraz in early 1934 (Martini 1990: 122), and the Bureau of Prisons officially took charge of the 32 military prisoners who the Army had chosen to transfer to the federal system on 1 July 1934. On 11 August 1934, the first group of federal prisoners arrived. (Thompson 1979: 380, 381)

During its 30 years at Alcatraz, the Bureau of Prisons faced the same problems and costs related to maintaining and operating Alcatraz as had the Army. The facility also faced the same hostility from the civilian community who, although fascinated by the lore of “The Rock,” did not necessarily appreciate having J. Edgar Hoover’s “super prison” in their midst. “In his annual report for fiscal year 1952, Dir.

James V. Bennett said that Alcatraz should be replaced with an institution that was more centrally located and less difficult to operate administratively” (Thompson 1979: 413). Then in 1961, an engineering survey of the island’s facilities found that the buildings “were dangerously deteriorated and that \$ 5,000,000 would be required to repair and rebuild them” (Thomson 1979: 413). The federal prison operations at Alcatraz were closed on 21 March 1963. (Thompson 1979: 414)

After the closure of the federal prison in March 1963, the General Services Administration (GSA) screened other federal agencies to determine if any had an interest in the island, and none did. Alcatraz became surplus federal government, and GSA assumed custody of Alcatraz in July 1964. (Thompson 1979: 466)

Changes to the Cultural Landscape During the Federal Prison Era (1933-1963)

1. Summary

The changes to the cultural landscape features between 1933 and 1963 were related to meeting the needs of operating a high security federal prison on the island, and the Bureau of Prisons added new fences, guardhouses, guard towers, and metal detectors.

The infrastructure of the road system basically remained largely unchanged during this era. However, the circulation patterns on the island were altered and movement was restricted by the fences erected on the island.

The Bureau of Prisons concentrated the housing for the corrections officers and their families on the south end of the island. Three reinforced concrete apartment complexes (Nos. A, B, C) were built on the Parade Ground. The Bureau then demolished a number of 19th century quarters: the ca. 1859 quarters (Nos. 12-14) that were located in the Water Tank area; two of the three ca. 1881 quarters (Nos. 8 and 9) in Officers’ Row; and two wood-frame buildings (Nos. 15 and 43) located on the southwest side of the island. On the north end of the island, the New Industries Building (No. 84) was built, and older shop buildings, located between the Model Industries Building and the Powerhouse complex, were removed.

The people who lived on Alcatraz during the federal prison era –prisoners, employees of the prison, and the families of the employees –continued the tradition of gardening and utilized the garden spaces that had been developed by the Army. Although many individuals gardened on the island, several people, in particular, contributed to the garden areas during this period. One was Fred Reichel, secretary to the Warden between 1934-1941, who took a personal interest in the gardens and plantings at Alcatraz. He maintained gardens; obtained, cultivated and planted new species of plants; convinced the Warden to allow inmates to work as gardeners; provided plants and horticultural advice to inmate gardeners; and helped to expand the extent of the island that was maintained as gardens. The gardens on the west side of the island were expanded through the efforts of a number of inmate gardeners, in particular that of Elliott Michener, who work there from 1941-1948.

The following sections provide a more detailed description of the key cultural landscape features on the island during the federal prison era (1933-1963).

2. Changes Related to Security Requirements of the Prison

Under the Army, there had been few restrictions on the movement of the inmates. Under the Bureau of Prisons, parts of the island were designated as restricted to the prison operations and other parts to the administrative and residential functions. These changes were made based on the recommendations from

the Bunge report:

“In contrast to the army regime, prisoners are now to be restricted to only the area containing the prison, the utility building at the northwest of the island, and the laundry shops adjacent to the power plant. The entire eastern side of the island from the powerhouse to and including the southeastern end of the island would be off-limits to the convicts” (Thompson 1979: 354).

The north end of the island was enclosed with new fencing (metal “cyclone type with barbed wire protectors at the top” [Thompson 1979: 361]). The fencing began on the west side at the incinerator, went along the west edge of the island, to the Model Industries Building (No. 82), along the north edge enclosing the fog siren station, along the edge of the shops area (that was between the Model Industries Building and the Powerhouse), and then back of the Powerhouse. (Thompson 1979: 361-362 and Towill 1961). “Where it passes the shops building, which was built on the high scarp wall of the original fortifications, a steel walk was provided to get around the building, so that dogs patrolling the area might pass between the fence and the building” (Thompson 1979: 362).

A guardhouse was installed on the dock and the dock was fenced off “to allow for a receiving station at which all persons going or coming were identified” (Thompson 1979: 371).

The tunnel that ran from the powerhouse complex west to the old quarry area (location of Building 84), powder magazines, and underground storage rooms, left over the 19th century fortifications, were sealed to prevent them from being used as hiding places in the event of escape by prisoners. (Thompson 1979: 354)

Guard towers were built at key locations including: at the wharf; on the north end of the top level of the island, on the Recreation Yard walls; on top of the old North Caponier (fuel storage area); and on the Model Industries Building. (Thompson 1979: 405 and Towill 1961)

There were two metal detectors located outside: one on the wharf where the prisoners arrived to the island via boat and one at the rear entrance to the prison (at the base of the stairs leading up to the Recreation Yard) where the prisoners passed through on their way to jobs at the shops area. (Thompson 1979: 367)

Large signs were posted at the perimeter of the island –on the northwest side of the Model Industries, west side of the island on the wall between the upper and lower roads, southeast end of the island, and at the registration office on the dock –proclaiming a series of warnings, announcing the limits of access to the waters off the island, and emphasizing the Bureau of Prison’s control and authority over the island. (The “ALCATRAZ” that was painted on the slopes of the roof on the Quartermaster Storehouse may have been painted earlier by the Army as a landmark for early planes flying into Crissy Field.) (Thompson 1979: 378-379)

3. Circulation

The infrastructure of the road system basically remained largely unchanged during this era. However, the circulation patterns on the island were altered and restricted by the fences erected on the island.

4. Changes to the Major Areas

On the east side of the island, the Bureau of Prisons demolished: the hospital, the row of three ca. 1859 NCO’s quarters (Nos. 12-14) (located at the Water Tank area); two of the three ca. 1881 officers’ houses

(Nos. 8 and 9) in Officers' Row. The hospital functions were now located inside the Cellhouse building, and after the construction of the new apartment buildings, there was no longer any need for the quarters and their removal opened up the views in these areas (which was desirable due to security concerns).

On the Parade Ground area, three concrete apartment buildings (Apartments A, B, and C) were built in 1940. The Army-era handball court, that had been located at the south end of the wharf, was relocated to the Parade Ground. A recreation building was located on the northern edge of the Parade Ground, and the handball court was on one side of the building and a children's play area on the other. The paved area, that under the Army had had a tennis court, was used for baseball. (Thompson 1979: 403, 406)

On the southwest side of the island, the two wood-frame buildings (Nos. 15 and 43), on the terrace that was located slightly above the Parade Ground, were removed after the construction of the three apartment buildings on the Parade Ground. (Thompson 1979: 402-403, 411 and Delgado et al. 1991: 17)

On the north industrial end of the island, the New Industries was built around 1940. The quarry dock was in place, but not in use in 1937 (Thompson 1979: 407). By the end of the federal prison era, it had been torn down or had simply disappeared, although the steps down to the dock still appeared on a map from 1961. (Towill 1961) Riprap was added to the seawall on west side around 1935. (Thompson 1979: 407) During this period a seawall around the north end of the island (from pump house to quarry dock and then 300 feet south of quarry dock) was proposed in 1937. (Thompson 1979: 408)

Work was done throughout the island to shore up the sides of hills to prevent earth slides. By 1937, the following work had been completed: concrete buttresses on the cliff on east side of wharf and in the industrial area using concrete blocks manufactured by the inmates; 200 feet of retaining wall south of the Cellhouse; retaining wall north of Quarters No. 9 and small pilasters between Quarters Nos. 7 and 8; and two large pilasters southeast of the lighthouse. (Thompson 1979: 408)

5. Garden and Vegetation Features

The people who lived on Alcatraz during the federal prison era –prisoners, employees of the prison, and the families of the employees –continued the tradition of gardening that had existed on Alcatraz since the military fortifications era in the 1860s. (Oral histories and photographs from this era provide more details about the garden and vegetation features than is available from earlier eras.)

Freddie Reichel

Freddie Reichel lived on Alcatraz and worked as the secretary to the Warden from January 1934 to August 1941. During his seven and a half years on the island, he took a personal interest in the garden areas and plants on Alcatraz and served as their unofficial overseer. He maintained gardens; obtained, cultivated and planted new species of plants; convinced the Warden to allow inmates to work as gardeners; provided plants and horticultural advice to inmate gardeners; and helped to expand the extent of the island that was maintained as gardens. Through his horticultural activities, Reichel helped to foster the garden community that existed on Alcatraz during the federal prison years. As the secretary to the Warden, he was one of the few people on the island who had access to the entire island. He was able to see all of the garden spaces on Alcatraz and to have an impact on the landscape in a way that guards' families, whose access was limited to the public part of the island, and the various inmate gardeners, whose access was limited to particular parts of the prison, could not. (Reichel undated oral history; ca. 1974; and ca. 1978)

When Reichel arrived on the island in January 1934, he was "very much impressed by the thousands of

hours of hard labor which had gone into its beatification” (Reichel ca. 1974: 1). Soon after his arrival on the island, he began maintaining several of the existing garden spaces: the rose garden and greenhouse (located in the Water Tank area), the “terraced garden behind my quarters and extending down to the bay” (Reichel ca. 1978: 1) (he is referring to the Lower Terraces and/or Tool Shed Terraces), and a garden near the Post Exchange. (Reichel ca. 1974: 2)

He first activities on the island were growing and then planting annuals and perennials for planting beds, but he was very aware that these types of plants were not necessarily the best suited to the conditions on the island. There was a limit to the amount of labor that was available to water, weed, and care for plants; there were limits on the areas that inmate gardeners were allowed into due to security concerns; and there was a limit to where plants that relied on irrigation could be planted due to the limited availability of water. He wanted to use plant that could “tough it out with the poor soil and the weeds on the slopes” and ones that did not require a lot of water. Succulents were one of the first types of plants that he grew; he started these in boxes of sand and then transplanted them.

He experimented through his years on the island to see which plants survived and thrived:

“I kept no records of my failures, for I had many –the main thing was to assure some success by trying many things and holding on to those plants which had learned that life is worth holding on to even at its bitterest” (Reichel ca. 1974: 3).

Among the plants that he noted as surviving were white-flowered poppy (*Carpenteria californica*), flannel bush (*Fremontodendron californicum*), Pride of Madeira (*Echium fastuosum*), New Zealand Christmas tree, aeonium, aloe, sedum, ice plant, agave, and bulbs including gladiolus, narcissus, and watsonia. (Beatty 1996: 34-35 and Reichel undated oral history; ca. 1974; and ca. 1978) (The white-flowered poppy and flannel bush were not found during the 1992 plant inventory [Lutsko 1992] and so it is not clear how long these plants survived on the island.)

He corresponded with various people he knew through his involvement with the California Horticultural Society, seeking advice and receiving cuttings from them to try out on Alcatraz. In his reminiscences of his time on the island, Reichel mentioned receiving cuttings of succulents, “a wide range of mesembryanthemums” (ice plant), and possibly other plants from Kate Sessions, a well-known and influential horticulturist in San Diego; one plant of *Echium fastuosum* (Pride of Madera) from Hugh Evans, a nurseryman in Los Angeles, in the late 1940s from which all of the echium that have naturalized the island have descended; and seeds of “*Carpobrotus ciraciniformis*” from Bloem Erf Gardens of Stellenbosch, located outside of Cape Town, South Africa. (Reichel undated oral history; ca. 1974; and ca. 1978)

Reichel left Alcatraz in August 1941 to go to work in Montevideo, Uruguay.

Inmate Gardeners

There was no official civilian gardener at Alcatraz, and the use of prisoners to maintain the gardens grew out of the practical need to “keep prisoners occupied” (Reichel ca. 1978: 2). (Although Reichel admitted that he “thought it would be prudent to try to turn a pleasant face toward San Francisco and as we had a really capable and dedicated gardener [Elliott Michener] available for the west lawn, a great deal of attention was given to that area” [Reichel ca. 1978: 2].) The security practices at the prison limited the location of gardens that could be maintained and the horticultural practices of the inmate gardeners.

At the beginning of the federal prison era, no inmates were assigned the job of gardener, and “. . . the

authorities were fearful of allowing any ‘resident’ loose on the island, even though under the custody of a gun tower officer” (Reichel ca. 1974: 1 in Lutsko 1992). So a limited amount of work was done by the inmate crew assigned to garbage collection and cleanup. Fred Reichel, the Warden’s secretary who had a personal interest in horticulture, provided them with “young plants” that he grew in the greenhouse on the east side of the island (Lower Water Tank area). After the prison was up and running, Reichel succeeded in getting an inmate “assigned to the west lawn.” This person was assigned “not on the basis of his horticultural ability but rather because the other residents would have nothing to do with him” (Reichel ca. 1974: 4).

Inmate gardeners are known to have worked in the gardens or planting beds at the dock area (Reichel oral history: 21); greenhouse and rose garden on the terrace(s) known today as the “Water Tank” garden area (Reichel oral history: 24 and Michener 1995b: 1); the garden and greenhouse at the Warden’s house (Michener 1995a: 2, Beatty 1995: 2-3); the West Lawn area; the Tool Shed terraces; the Recreation Yard slope and Greenhouse area; and the Lower Terraces. During this period, the garden areas on the west side of the prison were expanded through the efforts of individual inmate gardeners, in particular that of Elliott Michener (1941-1950).

While the names of all of the inmates who worked as gardeners are not known, information is available on these three: Dick Franseen (prisoner no. 387; at Alcatraz from 1937-1948), Elliott Michener (prisoner no. 578; at Alcatraz from 1941-1950), and Jack Giles (prisoner no.250; at Alcatraz from 1935-?). These three gardeners knew each other and were friends before they were “reunited” at Alcatraz. It seems that Franseen was the first to work as a gardener, and it may have been that he was able to suggest one or both of his friends as gardeners, when a position came open. They shared information, seed catalogs, and plants while working as gardeners on the island. Michener described himself and his two friends as “accomplices in all we did” (Michener 1995c: 2).

Franseen seems to have started out working on the west side of the island and was later “promoted” to the small garden area and greenhouse in the Water Tank area on the east side of the island. (He may have also worked in the gardens in Officers’ Row). He also helped Reichel with the practice of cutting flowers that were placed out on the dock area for the island’s families to pick up on Sundays (Michener 1995c: 1). Franseen was the inmate who had direct contact with Fred Reichel and received plants, seed catalogs, and valuable horticultural advice from him. Franseen, in turn, provided Elliott Michener, a lifelong friend who he first met as an adolescent at “reform school,” with seed catalogs and plants.

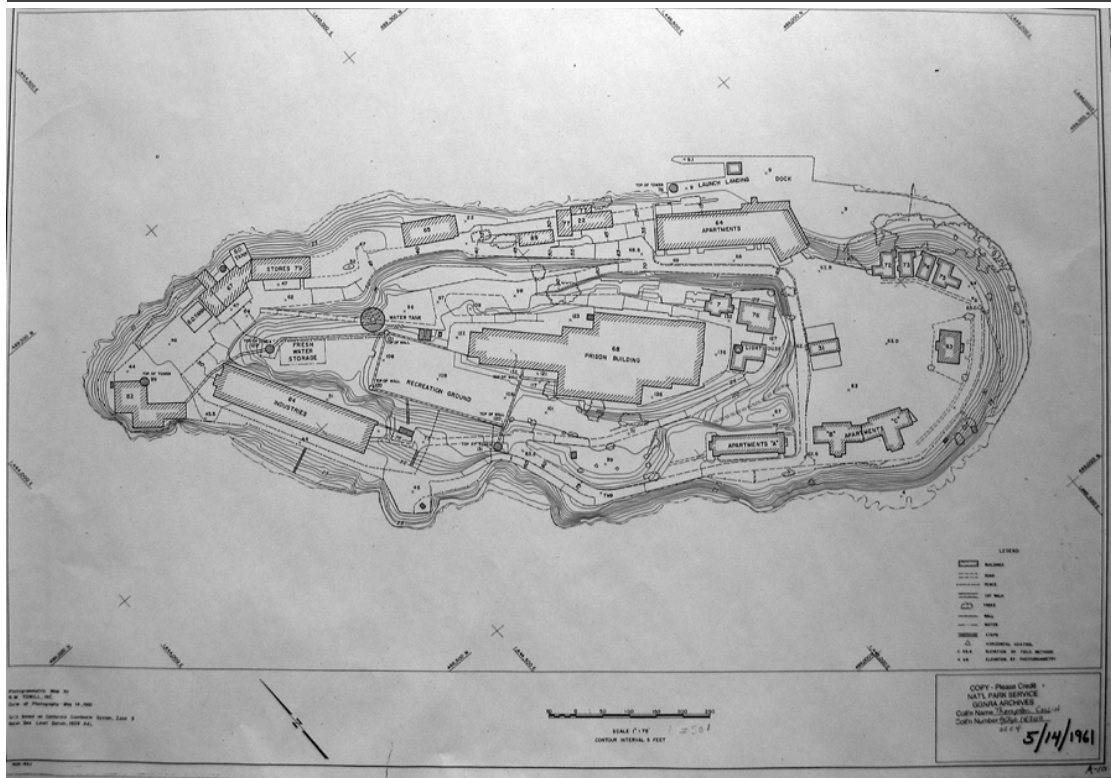
Elliott Michener worked as a gardener on the west side of the island for seven years (from 1941-ca. 1949) and then cared for the gardens and greenhouse at the Wardens house for his last two years (from ca. 1949-1951) at Alcatraz. He arrived at Alcatraz in the summer of 1941 and was assigned to work on the weekends “to retrieve softballs hit over the exercise yard wall to the slope below” (Beatty 1995: 1). A few months later, he “was assigned to be gardener on the east side of the fence on a full time basis, seven days a week” (Beatty 1995: 1). At some point, the areas under his care expanded, and he was responsible for the West Lawn, Tool Shed terraces, Recreation Slope and Greenhouse area, and Lower Terraces.

After receiving the permission of one of the corrections officers, Captain Weinhold, Michener undertook a two-year-long project of improving the beds on the Recreation Slope and Greenhouse area. When he began caring for these spaces on the west side, the soil was only four to five inches deep. He broke up the underlying “solid yellow hardpan” to a depth of two and a half feet, shifted it through a home-made screen, and then added “thousands upon thousands of five-gallon pails of garbage” that he “lugged up from the incinerator and disposal area” to create a suitable medium for planting. He planted the area with “Iceland poppies, stock, and snapdragon” that he got from Dick Franseen. He also planted “picture-beds

of delphinium, chrysanthemum, dahlias, and iris” after he received permission from the Warden to “send out for seeds and plants.” (Michener 1995a: 1-2)

Michener described working on the hillside as providing “a refuge from the disturbances of the prison.” The work was a “release;” it became an “obsession” with him; and provided him with a “lasting interest in creativity” (Michener 1995a: 1). The gardening position provided Michener with a relative amount of autonomy: he seems to have chosen the plants and laid out the planting beds; he planned and implemented the expansion of the beds in the areas under his care. However, given the restrictions of the prison regulations, he had to get permission just to begin his arduous expansion project on the Recreation Yard slope, and he also had to receive special permission from the Warden to order seeds and bulbs from catalogs. (Michener 1995a: 2) (There was no mention on who paid for these plant materials.) Working in the garden probably also helped to ease some of the isolation inherent in the Alcatraz prisoners’ lives. He was a part of an informal community of people on Alcatraz whose interactions aided his gardening efforts: other prisoners, guards, the Warden, the Warden’s wife, and indirectly Fred Reichel. He relied on his friendship with the prisoner assigned to the incinerator detail to get the pails of organic garbage he used for compost in his planting beds. He received plants, seed catalogs, and valuable information from his friend Dick Franseen. He was able to build a small potting shed, located on the south edge of the upper west side terrace area from old windows that were salvaged by Captain Weinhold. (Beatty 1995: 1) Weinhold also bought him a pair of gloves after noticing that his hands were blistered from digging. (Beatty 1995: 1) Other guards (and possibly Weinhold) would buy him seeds and plants on their trips into the city. Mrs. Swope, the Warden’s wife, provided him with plants and seeds. (Michener 1995a: 2)

After Michener was transferred to the Warden’s house, Jack Giles took over the responsibilities of caring for the west side garden areas. (Although, Michener was allowed to visit the west side gardens and Giles on Saturdays [Beatty 1995: 2], he never saw Franseen’s garden area since it was on the east side of the prison and Michener did not have access to this area. [Michener 1995a: 1]) Jack Giles was probably recommended for the west side gardening position by Michener. Giles met Franseen and Michener in 1926, when they were all in the Oregon State Penitentiary. Giles, who was the boss of the print shop there, got the two jobs in the print shop after their failed escape attempt. After Franseen and Michener had served their sentences, they “came back and helped Jack escape” (Michener 1995b: 2) in 1934. (Giles was famous for his 1945 escape attempt. He worked as a stevedore at the dock and stole an Army Staff Sergeant’s uniform as he unloaded laundry that came to the island to be cleaned. On 31 July 1945, he put on the uniform and boarded the Army boat leaving the island; he was captured 20 minutes later.)



Photogrammetric Map of Alcatraz Island, R.M. Towill Inc., 1961 (This map shows the built features of the island at the end of the federal prison era.) See Supplemental Information for a larger copy.

PUBLIC LANDS ERA (1963 to Present)

Summary of History

For the five years following the closure of the federal prison on Alcatraz in March 1963, the island was vacant except for the presence of GSA security personnel.

There was ongoing public debate about what to do with the island. Included in this debate were ideas to develop housing, a resort, or a casino on the island. There was also a growing constituency to use the island for outdoor recreation or to create some type of commemoration related to the island's history. San Francisco's city council voted to accept Lamar Hunt's proposal to totally redevelopment Alcatraz in July 1969, and by doing this, inadvertently energized the efforts for preserve the island. A campaign to "Save Alcatraz" was started by a local citizen, Alvin Duskin, when he took out one-page advertisements in two local newspapers, and the Department of Interior became involved in the issue and began to formally explore the options of using the island for recreation. (Thompson 1979: 467)

Also during this period, a group of Native Americans were pursuing claims to the island that would evolve into the 19-month Indian Occupation. A group of five Sioux Indians briefly occupied the island on 8 March 1964 for four hours. "This short occupation is significant because the demands for the use of the island for a cultural center and an Indian university would resurface almost word for word in the larger, much longer occupation of 1969" (Johnson). In September 1965, a claim was filed in the U.S. District Court of Northern California that tried to establish the Indian's right to the island and sought to prevent the federal government from selling the land or to award the Indians \$2,500,000 in settlement for loss of the land. The suit was dismissed in July 1968.

Then, during the night and early morning of 9-10 November 1969, a group of four Native Americans arrived on Alcatraz via a rented boat to “symbolically claim the island for the Indian people” (Johnson). That morning, the GSA regional administrator came to the island and asked them to leave. They did but returned on 20 November as the “Indians of All Tribes” and issued a press release stating their intention to stay and occupy the island. While the Indians’ claims during the previous five years had attracted little public attention, this action became national news. The Indians continued to occupy the island until 11 June 1971, when the last of the group, now only 10 adults and 5 children, were removed from the island by federal marshals. “The underlying goals of the Indians on Alcatraz were to awaken the American public to the reality of the plight of the first Americans and to assert the need for Indian self-determination. As a result of the occupation, either directly or indirectly, the official government policy of termination of Indian tribes was ended and a policy of Indian self-determination became the official US government policy” (Johnson).

In May 1971, GSA announced that it planned to transfer Alcatraz to the Department of the Interior. (Thompson 1979: 471) In 1972, Golden Gate National Recreation Area (GGNRA) was created, and Alcatraz was added to the properties included in the park. The island was opened by the National Park Service (NPS) for public tours beginning in October 1973.

Changes to the Cultural Landscape During the Public Lands-Era (1963-present)

Alcatraz was basically uninhabited and vacant from the end of March 1963, when the last prisoners were removed from the island, through November 1969, at the beginning of the 19-month-long Indian Occupation. The government’s main investment on the island during this period was to provide security, and the main impacts to the cultural landscape were ones related to inaction rather than action. The lack of maintenance combined with harsh environmental conditions adversely impacted the condition of the island’s buildings. The lack of maintenance on the island also meant that plants and gardens on the island received no care or water; garden areas on Alcatraz naturalized; plants that could survive the conditions on Alcatraz remained and those that could not disappeared.

Birds began to return to Alcatraz to nest during these years, and this pattern has continued to the present. Western gulls re-colonized the island around 1973. Black-crowned night herons were there in 1975. Pigeon guillemots have been on the island since 1982; pelagic cormorants since 1986; Brandt’s cormorants since 1991; snowy egrets since 1997; and one pair of black oystercatchers since 1997. (Hellwig 2005)

During the Indian Occupation, the quarters for the Lighthouse, the Warden’s house, and the Post Exchange burned. After the Indians left the island in June 1971, GSA demolished all of the quarters on the Parade Ground. A brick arch in the Sallyport was damaged by a bulldozer during this demolition. (Thompson 1979: 474) GSA also installed metal fences along the east and west shores.

Under NPS management, two new restroom buildings have been constructed (one at the wharf and one on Officers’ Row). The deterioration of historic buildings and structures continued, and in 2001, a multi-year Historic Preservation and Safety Construction Program was begun. Work that has been completed, to date, under this program has included the dock repair, cell house seismic strengthening, and Building 64 balcony repair projects. (Lehman 2005) The naturalization of the garden areas and the reclamation of portions of these areas by nesting birds have continued.

In late 2003, Golden Gate National Park Conservancy staff and volunteers began clearing out plant debris from a number of garden areas (Sallyport bed, Electric Shop bed, Officers’ Row, Tool Shed Terraces, portion of the West Lawn along the east side of the road, and portions of the Greenhouse area).

Planning for treatment options for the historic garden areas is currently underway.



Alcatraz Island NHL. South side. View to NW. (215_3A_0049, D. Bradley, 2004)

Analysis And Evaluation

Summary

Alcatraz Island was listed on the National Register of Historic Places (NRHP) in 1976 and was designated a National Historic Landmark (NHL) in 1986. This island was the site of the first lighthouse on the Pacific Coast (1854), served as a Civil War bastion, and became the nation's first official army prison. "Uncle Sam's Devil's Island" was transferred to civilian authority in 1934 and became infamous as a place of incarceration for the nation's most hardened criminals. The prison this was closed in 1963, and ten years later the iron-hulled island was opened to the public as the first unit of the Golden Gate National Recreation Area.

The cultural landscape of Alcatraz Island includes features from all of the periods of development that occurred on the island over the course of the period of significance: Military Defense (1847-1907), Military Prison (1907-1933), Federal Penitentiary (1933-1963), and public lands (1963-1971). The cultural landscape features contribute to the island's significance in the areas of military history, social history (penology), and maritime commerce. Nine landscape characteristics contribute to the cultural landscape: buildings and structures, spatial organization, circulation, small scale features, topography, vegetation, natural systems and features, archeological sites, and land use.

The cultural landscape retains integrity of location, design, materials, workmanship, setting, association, and feeling. Two areas of concern related to the integrity of the island are the condition of the buildings and structures on the island and the lack of maintenance for the planted areas on the island. NPS's Historic Preservation and Safety Construction Program is a multi-year effort that is currently underway to address the condition of buildings and structures. Work began in 2003 to clear overgrown garden areas, and the staff and volunteers of the Parks Conservancy will continue these efforts. Also work has begun on a series of treatment plans to address the preservation of existing vegetation features and to prepare rehabilitation plans for key garden areas.

Buildings and Structures

The buildings and structures were the main type of feature identified as contributors in the Alcatraz NHL district nomination, and they continue to be an important component to the district. There are examples of buildings and structures from the historic periods during which there was major construction on the island: the masonry fortifications (1853-1868); earthen fortifications (1869-1907); and military prison (1907-1933). There are examples of the wide range of construction types: 19th century fortifications, 19th century wood-frame buildings, concrete buildings, metal structures, retaining walls, and constructed water features. There are examples that were altered or buried in subsequent construction actions during the period of significance, such as much of the surviving examples of the 19th century fortifications, and these now exist as underground archeological features rather than as standing structures. There are also buildings that were damaged or torn down during the period of significance that now exist as above ground archeological features or "ruins," such as the remains of Apartment A, B, and C on the Parade Ground and the burned-out shells of the Warden's House and the Post Exchange.

There have been few changes to the buildings and structures since the end of the period of significance (1971). The condition of above-ground buildings and structures continues to deteriorate due to the harsh climatic conditions on the island and impacts the integrity of materials and workmanship of the Alcatraz NHL district. In an effort to address this problem, a multi-year Historic Preservation and Safety Construction Program is underway. Work that has been completed, to date, under this program, includes the dock repair, cell house seismic strengthening, and Building 64 balcony repair projects. Only a few

buildings or structures have been added since the end of the period of significance. These noncontributing buildings include the restroom building at the wharf and the restroom building located to the north of the Warden's House in the Officers' Row area. As a whole, the buildings and structures contribute to the integrity of the Alcatraz NHL district.

Spatial Organization

The buildings and structures on the island were clustered into six areas: on the summit; at the wharf; along the main road on the east side of the island; on the Parade Ground on the south end of the island; in a cluster on the southwest side of the island; and on the north end of the island. These areas reflect how the functional needs of the Army and Bureau of Prisons were arranged and accommodated within the spatial (topographic) limitations of the island. All but the cluster on the southwest side continue to exist today and are contributing characteristics to the Alcatraz NHL district's significance. The spatial organization of the island that existed at the end of the period of significance continues to exist today and contributes to the integrity of Alcatraz Island.

Circulation

Most of the circulation features were built by the Army during the military fortifications (1847-1907) and military prison (1907-1933) eras and then used by the Bureau of Prisons during the federal prison (1933-1963) era. The circulation system on Alcatraz consists of the wharf, a road system that accommodates both vehicular and pedestrian traffic, pedestrian paths, and stairs that facilitate pedestrian movement between the different features on the island that are located next to each other but at different elevations. There have not been had any major alterations since the end of the period of significance (1971). The circulation features on the island are contributing features to the significance and integrity of Alcatraz Island.

Small Scale Features

The major types of small scale features on Alcatraz include decorative fences, security fences, light fixtures, utility-related features, signs, and hardscape features in the gardens. Generally these are associated with the military prison (1907-1933) and federal prison (1933-1963) eras. Although, undoubtedly there has been a loss of some of the small scale features since the end of the period of significance (1971), there continue to be a critical mass that contribute to the significance and integrity of Alcatraz Island.

Topography

The topography of the entire island was shaped in a series of projects undertaken by the Army during the military fortifications (1847-1907) and military prison eras (1907-1933) in order to accommodate the defense and prison needs. Topographic features that reflect those changes include graded roadbeds, slopes, and retaining walls; Terraces for buildings, open space, and gardens; scarp walls; pits for planting beds; and various cut and fill areas. The topography of the island has remained largely unaltered since the completion of the military prison in the early twentieth century, and today contributes to the cultural landscape.

Vegetation

Although, there were garden areas and portions of the island was planted as early as the 1860s and throughout the military fortification (1847-1907) era, all of these features appear to have disappeared or

to been removed as a result of subsequent reconstruction efforts on the island. The plant materials and planted areas on the island that exist today are reflections of the actions of the people who lived and worked on the island during the military prison (1907-1933) and federal prison (1933-1963) eras and, as such, are contributing features to the significance of the Alcatraz Island.

The planted areas on the island can be divided into two categories. The first are areas that were initially planted and then not maintained. Generally, these are the east, south, and west shoreline areas of the island (and includes the stand of eucalyptus trees on the southeast slope).

The second category includes areas that were planted and maintained during the military and federal prison eras as ornamental gardens. The Sallyport beds, Electric Shop beds, Lower Water Tank Terrace, trough planter and Officers' Row gardens, Warden's House garden, Eagle Plaza and the planting bed on the east side of the Cellhouse, the seawall and planting strip at the Parade Ground, the West Lawn areas, the Tool Shed Terraces, the Greenhouse area, the Recreation Yard slope, and the Lower Terraces are examples of this category.

The development of the vegetation features on the island (plant materials, planted areas, and gardens) are vernacular reflections of: the Army's attempt to beautify the island during the military prison era; the popular vegetation preferences and styles during the military and federal prison eras; the attempts by those who lived on the island to create a more familiar and hospitable environment; and individual's self expressions through gardening. The extant gardens also are associated with both the Army and the Bureau of Prisons use of inmates to maintain garden spaces (both as a practical labor solution and as a reward for good behavior).

Following the closure of the federal prison in 1963 the plants and gardens on Alcatraz received no maintenance and no irrigation. As a result, some species of plant materials have disappeared. The features of the gardens (both plants and hard features, such as paths and borders) were obscured under 40-years worth of plant growth. Plants that were able to survive these conditions often spread outside of their original areas. This has threatened the integrity of design, materials, workmanship, and feeling in relation to this group of contributing features. However, recent efforts to remove overgrown plants and clean out garden areas, begun in 2003, will help to stop this erosion of integrity. Also, the planning efforts underway to provide treatment plans for specific gardens will help to support the preservation and restoration of the integrity of design, materials, workmanship, and feeling of these areas.

Some vegetation features were added to the island after the end of the period of significance, including a group of California native plants in 1983; it is not clear if any of these plants survive. Additionally, the built features of the Agave Trail that was redesigned and reconstructed in the early 1990s are not contributing features. The plant materials growing on the south shoreline around the Agave Trail, however, are contributing features.

Natural Systems and Features

The development of Alcatraz Island through all periods was strongly influenced by the natural systems and features present on and around the island. The island's location in the middle of the entrance to San Francisco Bay made it a prime location for both a lighthouse and defensive fortifications. While San Francisco was the most important port on the Pacific coast in the years following the 1849 Gold Rush, San Francisco Bay and its entrance through the Golden Gate were among the most dangerous waters to ply. The lighthouse guided ships through the treacherous currents, shallow sandbars, dense fog, and heavy wind that so often plagued the waters of the bay. Likewise, the batteries of guns that ringed the island combined with the guns at Fort Point and Lime Point to effectively defend against ships

approaching San Francisco through the Golden Gate or from the north through Riley Channel. The steep cliffs, high prospects, and dangerous waters were assets for the military fort as well as for the prisons, making it equally difficult for enemy troops to land as for prisoners to escape.

The island's natural systems and features, including the rock substrate, steep terrain, climate, and hydrology, influenced the design of the structures and landscape of the military fortifications and the prisons. The terraces and retaining walls, switch-back roads, and planting bed pits were all responses to the extreme terrain. The lack of fresh water on site affected the choice and survival of the vegetation and necessitated the construction of water tanks. The high winds and frequent fog not only influenced the location of facilities on the island, but also created an atmosphere of gloom that added to the mystique and legend of the place. Today, the natural systems and features that shaped Alcatraz Island are the same as they were during the period of significance and contribute to the integrity of location, setting, and association.

Archeological Sites

No prehistoric archeological sites have been identified on Alcatraz. Historic archeological sites are located throughout the island. Sites which have been identified as having integrity include the basement and dry moat of the citadel; various buried building remnants; buried portions of batteries; fragments of defensive walls; and dumping sites. Several other sites may potentially have integrity and contribute to the cultural landscape.

Land Use

Alcatraz Island, via the lighthouse and two fog signals, continues to serve as a navigational aid for ships entering San Francisco Bay. This land use contributes to the integrity of the landscape. The other historic uses – military fortifications, military prison, federal prison, and abandoned public land – do not retain integrity. The current primary use of the island as a public park is not historic and does not contribute to the cultural landscape.

Landscape Characteristics And Features

Buildings And Structures

The Cultural Landscape Inventory defines buildings as those “elements primarily built for sheltering any form of human activity” and structures as the “functional elements constructed for purposes other than sheltering human activity.”

The buildings and structures on Alcatraz can be divided into major construction groups or types including 19th century fortifications, 19th century wood-frame buildings, concrete buildings, metal structures, retaining walls, and constructed water features. The characteristics of each of these types are discussed below.

Fortifications

The earliest structural types remaining on Alcatraz are parts of the fortifications from the initial development of the island in 1847-1859. These structures were constructed with vertical walls rising to heights of thirty feet or more and were made of either brick or sandstone. (Delgado et al. 1991: 38)

The remodeling or reconstruction of the fortifications after the Civil War (1868-1876) buried most of the

masonry walls under excavated rock spoil or imported soil, and simple earthworks with masonry revetments were constructed on top of the old parapets. These new fortifications had high earth traverses with subterranean vaults of brick and concrete used as magazines. Exposed brick surfaces were left unpainted. It was only in the 20th century that exterior brick walls and structures were painted. After 1912, all of the traverses and gun pits at the north and south ends of the island were buried and the earth from the remaining positions was removed. (Delgado et al. 1991: 38)

Substantial remains of the original fortifications survive around the island; some of them integrated into later buildings and structures; others buried and surviving as archaeological sites. Remaining examples of the fortification structures include: the Guardhouse/Sallyport (No. 22 and 77); the Dock Defensive Wall; the portion of the Defensive Wall located along the east side of the island between the Guardhouse/Sallyport and the north end of the island; a tunnel and powder magazines in the bank of the hillside west of the Quartermaster Warehouse and Powerhouse buildings; the lower story of the North Caponier at the Powerhouse complex; and the communication tunnel located on the north end of the island. Beneath the Cellhouse (No. 68) is the entire basement level of the defensive barracks or Citadel. The Model Industries Building (No. 82) covers the scarp wall of the North Battery's 15 inch Rodman positions in its basement. The remains of the earthwork batteries, with magazines, are beneath the Recreation Yard of the Cellhouse complex. (Delgado et al. 1991: 43)

19th Century Wood-Frame Buildings

The 19th century wood-frame buildings and structures were varied in their designs. The first buildings were quickly constructed sheds with board and batten exteriors. Many of these were intended to be "temporary" but remained in use through the early 20th century (such as the complex located on the southwest side of the island that included a stables, carriage shed, and several barracks). The more permanent structures were almost universally designed with clapboard siding and peaked, shingled roofs. The first prison buildings (Lower Prison) followed these general lines but with flat roofs and skylights. These buildings were without ornamentation and were left unpainted or in some cases stained. (Delgado et al. 1991: 38) The Electric Repair Shop (No. 89) is an example of a surviving wood-frame building.

Many of the permanent wood-frame buildings, such as the officer's quarters, were built in a style known as "military gothic." They had details such as bargeboard treatments under their eaves, clapboard exteriors, shutters and, in the higher ranking officers' quarters, partially arched cathedral windows. All of these buildings were apparently painted with light colored walls and dark contrasting trim. (Delgado et al. 1991: 38) None of these permanent wood-frame quarters are extant.

Concrete Buildings

The first concrete structure constructed on Alcatraz was the three-story barracks (Building 64), completed in 1906, atop the brick casemates of the incomplete bombproof barracks. The latter was built with precast hollow concrete blocks scored on the exterior face to resemble rough-hewn stone. The barracks originally had a flat roof with an open fretwork railing around the parapet. This railing and the original roof were replaced in the 1920s with the pitched sheet metal roof visible today. Originally unpainted, the concrete walls of Building 64 have been painted since at least 1934. (Delgado et al. 1991: 38)

After 1907, reinforced concrete became the standard construction material on Alcatraz. Reinforced concrete was not in common use until after the 1906 San Francisco earthquake and fire, when it was quickly and widely adopted throughout California as a construction material (as a result of its superior performance during that event). The new prison building matched other buildings then under

construction or just completed at Fort Mason and the Presidio; they were stripped down, or utilitarian versions of the Spanish Colonial, or Mission Revival style. The Cellhouse, said to be the largest reinforced concrete building in the world when it was completed, was constructed in a utilitarian style, with a few Greek Revival touches, such as squared columns and capitals. Other, later-built reinforced concrete buildings, such as the Model Industries Building and Quartermaster's Warehouse, were also designed in this utilitarian style. The last concrete buildings constructed on the island, the three apartment buildings on the Parade Ground, were given a streamlined, or 'Moderne,' look, then popular, with a few ornamental touches such as glass block walls, corner windows and vertical cartouches. All concrete buildings erected on Alcatraz after 1910 were painted at the time of their completion. (Delgado et al. 1991: 39) Concrete buildings that remain extant include: the Main Cellhouse (No. 68) and Recreation Yard; the Lighthouse; the Quartermaster Storehouse, Commissary, and Garage (No. 79); the Electric Power Plant and Shops (No. 67); the Model Industries Building (No. 82); and the New Industries Building (No. 84); The remains of the Warden's House (No. 76) and the Post Exchange/Officers' Club (No. 65), both burned in 1970, also remain extant.

Metal Structures

The guard tower at the dock and the water tower, located north of the Recreation Yard, are surviving examples of metal structures that were built during the federal prison era. Additionally, there are a number of small utilitarian metal structures (such as oil tanks) that are related to the industrial functions of the island.

Retaining Walls

The rock on Alcatraz is not stable, and the need for retaining walls became evident during the first months of the construction of the masonry fortifications in 1853 when the rock along the main road crumbled after blasting. A retaining wall was built to stabilize the roadbed and the hillside. During this and each subsequent phase of new construction on the island, retaining walls were built to stabilize the vertical cuts in the rock, the sides of terraces, cliffs, and the shoreline and to prevent rock slides. The retaining walls contribute to the island's characteristic blocky appearance. Construction materials have included brick, natural stone, cut stone, dry-laid and mortar-laid rock, cast-in-place concrete, and concrete block.

There is a low wall along the north side of the Agave Trail; part of this wall may date from the period of significance but a major portion dates from the 1990 Agave Trail project (and is not historic). There is a low stone wall around the west side of the Apartment B/C rubble pile; this wall was built around 1990 and is not historic. However, the concrete curbing around this area appears to be from the period of significance.

Constructed Water Features

The only natural sources of fresh water on the island are rain and fog. (A well was dug during the summer of 1913, but no fresh water was found, and the well was abandoned. [Thompson 1979: 242-243]) Historically, fresh water was brought to the island on a boat and stored in a series of tanks and cisterns. Historic constructed water features include: the Citadel's cisterns that are located under Building 68; the water tower located to the north of the Recreation Yard; and the underground water tanks that are located on the north end of the top level of the island (northwest of the Recreation Yard). These are contributing features to the Alcatraz NHL district.

While potable water was one concern, water for firefighting was another. During the 19th century most

of the buildings were constructed of wood and were fire hazards. A pumphouse was built on the wharf to pump water from the bay for use in a saltwater firefighting system. In 1933, the prison was protected by a thousand gallon per minute 250 foot head driven centrifugal pump that delivered saltwater to a storage tank on the cellhouse roof. By dosing a valve, water could be diverted to fire mains. The Bureau of Prisons felt that the system was inadequate and initial recommendations called for a new system of fire mains. An improved saltwater firefighting system was installed in 1940 as part of WPA funded repairs and renovations to the powerhouse complex. (Delgado et al. 1991: 24)

Ruins

The draft 1991 Cultural Landscape Report discussed the public's perception or classification of certain of the island's historic built features as ruins and the aesthetic and emotional appeal of these ruins:

"Alcatraz's current appearance tends to range toward that of a series of ruins, particularly in the industrial cluster and complex at the northern end of the island, officer's row, the parade ground, and the burned-out shells of the recreation hall, warden's residence, and lighthouse keeper's quarters. Corroding metal, spalling concrete, crumbling cliffs, mossy surfaces, peeling paint, broken windows, and overgrown vegetation also combine to create ruinous atmosphere on the island . . ." (Delgado et al. 1991: 49).

"There is an appeal to ruins, in the late 18th and early 19th centuries, visitors to ancient lands marveled at the ruins of Egypt, Greece and Italy, drawn to their aesthetic appeal. John Ruskin, writing in *Modern Painters*, stated that "broken stone has necessarily more various forms in it than a whole one; a bent roof has more various curves in it than a straight one; every excrescence or deft involves some additional complexity of light and shade, and every stain or moss on eaves or wall adds to the delightfulness of color. David Lowenthal, writing in *The Past is a Foreign Country*, points out that "wear and tear confirms as well as adorns antiquity . . . The marks of age peeling paint, cracked putty, corroded metal . . . are held to confirm . . . authenticity and yield a sense of the past . . ." (Delgado et al. 1991: 49-50).

In particular, the remains of the Post Exchange (No. 65) and the Warden's House (No. 76) have taken on the aura of ruins during the 30 years since they burned. The reinforced concrete walls of both buildings survived the 1970 fire and continue to convey a sense of the scale of these buildings. Both now have vines growing up the walls and vegetation growing inside the shell of the building.

The rubble piles of the three apartment buildings (Nos. A, B, C) on the Parade Ground are also perceived as ruins. The jagged concrete and steel fragments evoke both the buildings and the process of their destruction. A portion of the lower wall along the west side of Apartment B is visible and provides a sense of the Moderne detailing and color of the building. However, vegetation is growing on all of these piles and over time will probably totally obscure the remains of these buildings (as has happened with the Assistant Warden's House and the four quarters on the southwest edge of the Parade Ground).

These ruins, also classified as historic archaeological features, are contributing features to the Alcatraz NHL district.

Summary

The buildings and structures were the main type of feature identified as contributors in the Alcatraz NHL district nomination, and they continue to be an important component to the district.

There are examples of buildings and structures from the historic periods during which there was major construction on the island: the masonry fortifications (1853-1868); earthen fortifications (1869-1907);

and military prison (1907-1933). There are examples of the wide range of construction types: 19th century fortifications, 19th century wood-frame buildings, concrete buildings, metal structures, retaining walls, and constructed water features. There are examples that were altered or buried in subsequent construction actions during the period of significance, such as much of the surviving examples of the 19th century fortifications, and these now exist as underground archaeological features rather than as standing structures. There are also buildings were damaged or torn down during the period of significance that now exist as above ground archaeological features or “ruins,” such as the remains of Apartment A, B, and C on the Parade Ground or the burned-out shells of the Warden’s House or the Post Exchange.

There have been few changes to the buildings and structures since the end of the period of significance (1971). No historic buildings have been torn down. The condition of above-ground buildings and structures continues to deteriorate due to the harsh climatic conditions on the island. In an effort to address this problem, a multi-year Historic Preservation and Safety Construction Program is underway. Work that has been completed, to date, under this program, includes the dock repair, cell house seismic strengthening, and Building 64 balcony repair projects.

Only a few buildings or structures have been added since the end of the period of significance. These noncontributing buildings include the restroom building at the wharf and the restroom building located to the north of the Warden’s House in the Officers’ Row area.



View of No. 79 (right side), brick retaining wall of fortifications (left side), and tunnel of fortifications (background). View to N. (935_12A_0043, D. Bradley, 2004)



Cellhouse (No. 68) and front terrace. View to W. (115_22_0139, D. Bradley, 2004)



Planting bed terraces in Officers' Row and Trough Planter (on right). View to E/SE. (116_17A_0162, D. Bradley, 2004)



View of north end of island – from left to right (east to west) watertower, No. 84, view of San Francisco in background, No. 82. View to SE. (115_12_0129, D. Bradley, 2004)

Characteristic Feature	Type Of Contribution	LCS Structure Name	IDLCS Number	Structure Number
Alcatraz Cellhouse	Contributing	Alcatraz Cellhouse	010060	AL068
Alcatraz Citadel Retaining Wall & Steps	Contributing	Alcatraz Citadel Retaining Wall & Steps	021287	AL225
Alcatraz Defensive Barracks	Contributing	Alcatraz Defensive Barracks	010050	AL064
Alcatraz Detector Shed	Contributing	Alcatraz Detector Shed	010049	AL008
Alcatraz Firebox No. 1	Contributing	Alcatraz Firebox No. 1	217462	AL214
Alcatraz Firebox No. 2	Contributing	Alcatraz Firebox No. 2	217466	AL215
Alcatraz Firebox No. 3 and Equipment Storage	Contributing	Alcatraz Firebox No. 3 And Equipment Storage	217472	AL216
Alcatraz Foghorn (N)	Contributing	Alcatraz Foghorn (N)	217429	AL004
Alcatraz Foghorn (S)	Contributing	Alcatraz Foghorn (S)	217430	AL005

Alcatraz Fortification Tunnel	Contributing	Alcatraz Fortification Tunnel	021282	AL207
Alcatraz Fortification Tunnel and Bombproof	Contributing	Alcatraz Fortification Tunnel And Bombproof	010063	AL202
Alcatraz Fortification Tunnel and Magazines	Contributing	Alcatraz Fortification Tunnel And Magazines	010064	AL203
Alcatraz Fortification Wall	Contributing	Alcatraz Fortification Wall	010056	AL209
Alcatraz Fortification Wall (East Side Access Rd)	Contributing	Alcatraz Fortification Wall (East Side Access Rd)	010067	AL206
Alcatraz Fortification Wall (West Side Access Rd)	Contributing	Alcatraz Fortification Wall (West Side Access Rd)	010066	AL205
Alcatraz Fortification Walls and Magazine	Contributing	Alcatraz Fortification Walls And Magazine	010065	AL204
Alcatraz Greenhouse	Contributing	Alcatraz Greenhouse	217476	AL219
Alcatraz Guard Tower	Contributing	Alcatraz Guard Tower At Wharf	010054	AL014
Alcatraz Guardhouse	Contributing	Alcatraz Guardhouse	217446	AL077
Alcatraz Lighthouse	Contributing	Alcatraz Lighthouse	021281	AL003
Alcatraz Maintenance Garage	Contributing	Alcatraz Maintenance Garage	217456	AL213
Alcatraz Model Industries Building	Contributing	Alcatraz Model Industries Building	010062	AL082
Alcatraz Morgue	Contributing	Alcatraz Morgue	217433	AL012
Alcatraz New Industries Building	Contributing	Alcatraz New Industries Building	217450	AL084
Alcatraz North Caponier	Contributing	Alcatraz North Caponier	010058	AL208
Alcatraz Officers Quarters #7	Contributing	Alcatraz Officers Quarters #7	021283	AL221
Alcatraz Officers Quarters #8	Contributing	Alcatraz Officers Quarters #8	021284	AL222
Alcatraz Officers Quarters #9	Contributing	Alcatraz Officers Quarters #9	021285	AL223

Alcatraz Oil Tank No. 1	Contributing	Alcatraz Oil Tank No. 1	217474	AL217
Alcatraz Oil Tanks No. 2	Contributing	Alcatraz Oil Tanks No. 2	217481	AL220
Alcatraz Old Cell House	Contributing	Alcatraz Old Cell House	010057	AL089
Alcatraz Parade Ground	Contributing	Alcatraz Parade Ground	010051	AL210
Alcatraz Post Exchange	Contributing	Alcatraz Post Exchange	217439	AL065
Alcatraz Power Plant	Contributing	Alcatraz Power Plant	217445	AL067
Alcatraz Ranger Office	Contributing	Alcatraz Ranger Office	217452	AL212
Alcatraz Sallyport and Guardhouse	Contributing	Alcatraz Sallyport & Guardhouse	010061	AL022
Alcatraz Shops and Storage Buildings	Contributing	Alcatraz Shops And Storage Building	010059	AL079
Alcatraz South Battery	Contributing	Alcatraz South Battery	021286	AL224
Alcatraz Stockade	Contributing	Alcatraz Stockade	010053	AL201
Alcatraz Storage Vault	Contributing	Alcatraz Storage Vault	217475	AL218
Alcatraz Three Gun Battery	Contributing	Alcatraz Three Gun Battery	021290	AL229
Alcatraz Toolshed	Contributing	Alcatraz Toolshed	217432	AL006
Alcatraz Warden's Residence	Contributing	Alcatraz Warden's Residence	010052	AL076
Alcatraz Water Tower	Contributing	Alcatraz Water Tower	217422	AL001
Alcatraz Wharf	Contributing	Alcatraz Wharf	010055	AL211

Spatial Organization

The Cultural Landscape Inventory defines spatial organization as “the three-dimensional organization of physical forms and visual associations in the landscape including the articulation of ground, vertical, and overhead planes that define and create spaces.”

Alcatraz is a prominent landmark in the San Francisco Bay and is visible from: San Francisco, located south of the island; the Golden Gate Bridge, located west of the island; Marin located to the northwest; the East Bay communities, located to the east; and the Bay Bridge, located to the southeast. There are views to all of these places and to the two bridges from different vantage points on the island.

During the period of significance, the buildings and structures on the island were clustered into six areas: on the summit; at the wharf; along the main road on the east side of the island; on the Parade Ground on the south end of the island; in a cluster on the southwest side of the island; and on the north end of the island. All but the cluster on the southwest side continue to exist today.

Summit

The top terrace of Alcatraz is located basically in the center of the island, and this summit is the part of the island that is the most visible externally. Through the different periods of development on Alcatraz, the most important or key buildings and functions have been located on the south end of the summit facing south toward San Francisco. During the initial development of masonry fortifications (1853-1859), the Army modified the summit’s topography to create a large level area or plateau and built the post’s barracks, known as the Citadel, there. From this location, sentries had an unobstructed view of the waters surrounding Alcatraz and could defend the entire perimeter of the island. In acknowledgement of its connection to San Francisco, the Citadel faced south toward San Francisco. When Alcatraz was redesignated as a military prison in 1907, the Army demolished the Citadel and built the new Cellhouse building (No. 68) on the south end of the summit, again with the front or public face of the building facing south toward San Francisco. After 1933, when Alcatraz was transferred to the Bureau of Prison, the Cellhouse was used to house the prison and the main administrative functions. Today, this building remains in place and provides the central interpretive experience for park visitors. The lighthouse and the remains of the warden’s house (the Commandant’s house under the Army) are located on the south edge of the summit, both visible from San Francisco.

Recreation Yard

Located on the west side of the north end of the Cellhouse, the Recreation Yard was built by the Army in 1912, at the same time as Cellhouse Building (No. 68). During the military prison era, prisoners were allowed unrestricted access to the island and Recreation Yard provided a level area for games such as baseball. However, after the Bureau of Prisons took over Alcatraz in 1934, the prisoners’ movement and access to the island was strictly controlled. During the federal penitentiary era, the Recreation Yard provided the only outdoor space that the vast majority of the inmates were allowed into and in which they had relative freedom of movement. Although located on the summit, during this era it was experienced as a separate space due to its walls and the Bureau’s security and access policies.

The Bureau of Prisons constructed the concrete steps that are located in the corner against the Cellhouse Building after they took over in 1934. (Up until then, this area was an earthen hill.) These steps provided a connection from the cellblock down into the yard. This area remains much the same as it was during the federal penitentiary era. The yard is paved with concrete, except for an unpaved section on the north end, which was used as a baseball diamond. There are two, raised concrete shuffleboard courts

on the east side of the yard at the bottom of the steps. There are four small spaces along the west edge of the yard that are cut out of concrete and filled with dirt (used for horseshoes?). From the top of the steps, there are views to San Francisco, the Golden Gate Bridge, and Marin. These views afforded the inmates a glimpse and visual connection of the world outside of the prison. There is a door on the west wall of Recreation Yard that was used by the inmates to go down steps (located on the slope to the west and outside of the Recreation Yard wall) to their jobs in the New Industries and Model Industries buildings.

Wharf

As an island, transportation to and from Alcatraz has always been by boat. The wharf located at the southeast end of the island has always provided the main access or entry point to the island. Because of the bay's currents and tides, the fog, and the topography of the island, this was the only real option for the location of a wharf. This site was also protected from prevailing winds. In the 19th century, this location had the advantage of being out of sight of the Golden Gate (and enemy ships and fire from this direction).

The wharf area had both functional and symbolic features. Historically, small service buildings (i.e. boat house, coal sheds, water tanks, etc.) were located in this area. After, the Bureau of Prisons took control of Alcatraz in 1934 access to and movement on the island were highly restricted, and the administrative buildings (related to security) were located in this area. (The restroom at the wharf is not a historic feature of this area.) The main road system began at the wharf.

The wharf was a highly visible, public space. All people and goods entered and left the island at this location, and as such, it provided a common or shared experience for people visiting, living, and working on Alcatraz. The Army was conscious of this function of the wharf area, and in the early 20th century made an effort to create a positive image of the island by creating a series of planting beds and ornamental feature in this area.

Along the Main Road

The connection from the wharf to the summit is provided by a road that climbs the east side of the island via a series of three switchbacks. Since this was the route to the summit, the main road corridor was a highly visible and public space. Some of the ornamental plant features (Sallyport bed, Electric Shop bed, and Officers' Row Trough Planter) continue to exist as examples of how the Army and Bureau of Prisons treated the area along the main road in an effort to present a positive public image of the island.

The road climbed the east side of the island via a series of three switchbacks. Historically, buildings that provided support functions were located along the sides of this main road. Buildings and retaining walls or rock slopes defined the edges. The alignment of the road and the retaining walls and slopes remain in place. Buildings remain between the wharf and the first switchback of the main road (Barracks and Apartments [No. 64]; Guard Tower; Guardhouse and Sallyport [No. 22/No. 77]; Electric Repair Shop [No. 89], and the remains of the Post Exchange/Officers' Club [No. 65]) and these buildings provide a sense of the historic spatial organization of the main road.

A row of three ca. 1859 officers' quarters and the 1904 hospital were located on the two terraces to the north of the third switchback of the main road (Upper and Lower Water Tank areas). The Bureau of Prisons demolished these buildings around 1939-1940. No evidence of these buildings, other than the two terraces, remains visible. Today, the water tank (built in 1940) is located at the north end of the upper terrace. During, both the military and the federal prison eras, there was a rose garden (located on the upper terrace?) and a greenhouse (on the lower terrace). Most of the roses from this area were moved

by the Bureau of Prisons (some to the west side of the island). However, a few plants remained in the upper terrace until January 2005, when they were buried under construction rubble that was spread out over this area. The greenhouse is not extant.

Many of the buildings that were located along the main road at and above the third switchback (and that defined its spatial organization) are no longer present. The row of three ca. 1859 NCO quarters and the 1904 hospital, located on the two terraces to the north of the third switchback of the main road (Upper and Lower Water Tank areas), are not extant.

A row of three ca. 1881 officers houses (No. 7-9) were located on the terrace below and east of the main road, between its third switchback and the summit. Two of these houses were torn down by the Bureau of Prisons around 1940. The third burned in 1970 during the Indian Occupation and was torn down by GSA in 1971. The foundations and parts of the basement walls of these buildings, retaining walls, paths, and steps remain in this location and provide some sense of the spatial organization of this area. The retaining wall/planter trough along the west side of the road remains and helps to define the western edge of the Officers' Row area. However, the vertical plane and sense of enclosure that the west side of the houses created no longer exists. After the demolition of these buildings, this area was used as a garden space and is commonly called the Officers' Row Garden.

The Warden's House (No. 76) was located at the south end of this row of houses. It burned in 1970 during the Indian Occupation, and all that remains of this building are the exterior walls. (The restroom building located north of the Warden's House is not historic.)

Parade Ground

The completion of the excavations for the Parade Ground terrace around 1890 provided a much needed large level area suitable for the construction of a group of buildings. From 1900-1912, the Upper Prison Complex was located on the Parade Ground. This was one of the few clusters of buildings that was not oriented linearly along a road.

In 1929, four quarters (No. 72, 73, 74, 75) were built in a row on the east edge of the Parade Ground, and a duplex (No. 83) was built over the old Three-Gun Battery in the south central portion of the Parade Ground (this later became the Assistant Warden's house). In 1940, three apartment buildings (Nos. A, B, C) were built on the southwest edge of the Parade Ground. The Parade Ground was the focus of the residential community on Alcatraz during the federal prison era. In 1971, GSA demolished all of these buildings. The piles of rubble from these buildings remain on the Parade Ground, although they are now obscured by plants that have grown over them.

The Parade Ground continues to be distinguishable as a distinct area due to its topographic characteristics—a level terrace carved out of the south end of the island. The sheer natural rock cliffs on the north sides and retaining wall (sea wall) around the edges of the other sides help to define this area. However, all of the buildings that were located on the Parade Ground at the end of the federal penitentiary era have been demolished. The remaining piles of rubble of these buildings (although contributing features) are becoming obscured as they are overgrown with vegetation and have an ever lessening value in defining the spatial organization of the Parade Ground.

Industrial Complex

The north end of the island is less visible from San Francisco, than the south end, and over time the industrial functions for the island developed in this area. A rock quarry was established by 1902 on the

northwest side (location of New Industries Building). The buildings for this area were located along the north edge of the level area that wraps around this end of the island. From east to west, the remaining buildings in this area include: the Quartermaster Storehouse, Commissary, and Garage (No. 79); the Electric Power Plant and Shops (No. 67); the Model Industries Building (No. 82); and the New Industries Building (No. 84). The remains of the incinerator area are located south of the New Industries Building. The Fog Bell House (No. 4) is located on the edge of the island, behind (north) of the Model Industries Building.

Complex of 19th Century Buildings on the Southwest Slope

During the 19th century, there was a cluster of wood-frame buildings located on the southwest slope of the island. These buildings included quarters, stables, and various shops. Most of these were removed in the early 20th century by the Army, during the reconstruction efforts associated with the new Cellhouse; some burned; and the Bureau of Prisons removed the last two (Nos. 15 and 43) around 1940. Today, the only visible evidence of this cluster of buildings is the rock terrace upon which Buildings 15 and 43 were built.

The Parade Ground (Structure No. AL 210; LCS ID 10051) and the Wharf (Structure No. AL 211; LCS ID 10055) are listed on the LCS.



Recreation Yard. View to E. (752_17A_0020, D. Bradley, 2004)



Overview of north end of island – Model Industries Building (No. 82) (background) and New Industries Building (No. 84) (left). View to W. (935_4A_0035, D. Bradley, 2004)

Circulation

The Cultural Landscape Inventory defines circulation as “the spaces, features, and applied material finishes which constitute systems of movement in a landscape.”

The circulation system on Alcatraz consists of the wharf, a road system that accommodates both vehicular and pedestrian traffic, pedestrian paths, and stairs that were needed to accommodate pedestrian movement between the various levels on the island.

Wharf

Transportation to and from Alcatraz is by boat, and the island’s one wharf is located on the southeast side of the island. A wharf has been located here since the initial development of the island in 1853. This location was chosen because it was one of the few places on Alcatraz where a boat could land, out of sight from the Golden Gate (that is protected from the view of enemy ships) and protected from prevailing winds. The wharf is a highly visible and public area that serves as the “front door” for the island since everyone who enters the island comes via boat and disembarks at the wharf. Alcatraz’s other circulation systems begin here and provide connections to other parts of the island (main road, perimeter path that leads to the east and west shoreline, steps up to Parade Ground, Agave Trail that provides access along the south shoreline and up to the Parade Ground). While the wharf structure has been reconstructed several times, this area still serves its historic circulation function.

(The quarry dock that was located on the northwest side of the island until the 1930s [?] no longer exists. This dock was used to load rock and not as an access point to the island.)

Road System

The fortifications and support facilities on Alcatraz are connected via a road system that begins at the wharf complex. There are basically three sections of road in this system: the main part of the road scales the eastern slope of the island via a series of three switchbacks; the section of the road that provides access to the north end and along the lower west side of the island; and another road that provides access to the Parade Ground area on the south end of the island.

1. Main Road

The main road (identified in the LCS as the “Alcatraz Road from Guardhouse to Citadel; Structure No. AL228; LCS ID No. 21289) begins at the wharf and continues in a northwest direction, uphill, and through the Guardhouse/Sallyport (Nos. 22/77). Construction began on this section of the road in 1853 during the initial development of the island.

The first of three switchbacks on the road is located just above the Guardhouse/Sallyport (No. 22/77) where the road first divides into the main road that continues up the east side of the island and a secondary branch that continues to the northwest.

At the first switchback, the main road continues uphill in a southeast direction for approximately 340 feet to the second switchback. This section of the road was built during the construction of the pre-Civil War masonry fortifications (1853-1859).

At the second switchback of the main road, the road divides (and a secondary section continues to south to the Parade Ground). The main road continues up the slope in a northwest direction for approximately

250 feet to the third switchback. This section of the road was built during the construction of the pre-Civil War masonry fortifications (1853-1859).

(At the third switchback, there is a short secondary road or driveway (approximately 240 feet) that provides access to the northwest corner of the Building 68. This road was in place by the 1870s.)

From the third switchback, the main road continues in a southeast direction for approximately 500 feet to the uppermost level of the island, where the Citadel and lighthouse are located. This section of the road was built during construction of the pre-Civil War masonry fortifications (1853-1859).

The main road up to the summit is approximately 15 feet wide and is concrete. (The main road was paved with concrete during the military prison era and before then was macadam.)

The road continues around the south edge of the summit, in front (south) of the lighthouse. It then goes down the hill in a northwest direction for approximately 450 feet. This section of the road was in place by the 1890s. The road is approximately 10 feet wide in this section and is concrete.

At this location, there is a switchback. From there, a short section of the road continues northwest for about 150 feet to the base of the Recreation Yard wall. This section of the road is approximately 10 feet wide and is concrete.

The main part of the road continues down the slope in a southeast direction for approximately 200 feet. It is approximately 10 feet wide and is concrete. At that point, it joins the road that is located on the lower level of the west side of the island, which is graveled and is approximately 10-12 feet wide. These two sections of the road were probably laid out during the construction of the new Cellhouse in 1909-1912. (They both appear on a 1933 military map of the island.)

All sections of this road are contributing circulation features.

2. Road to North End of Island

The road to the north end of the island (identified in the LCS as the "Alcatraz Road to Northwest Side of island; Structure No. AL227; LCS ID No. 21288) begins at the first switchback on the main road and then continues to the northwest, along the east side of the island, and provides access to industrial area. (During the 19th century, this route provided access to the northern batteries.) This portion of the road is concrete (paved during the military prison era) and is approximately 15 feet wide. The road continues around the north end of the island and then along the west side of the New Industries Building (No. 84). From there, it continues southeast, between the terraced gardens on the east side and the incinerator area on the west, and then connects to the road that goes up to the West Lawn area. These sections of the road were laid out during the military prison era (1907-1933). The portions of the road along the west side of the island are not paved (they may have originally been macadam) and are approximately 10 feet wide (although the road bed is difficult to distinguish in some places.) This road is a contributing circulation feature.

3. Road to Parade Ground

There is a secondary section of the road system that begins at the second switchback of the main road and then continues in a southeast direction to the Parade Ground. This section of concrete road, which varies in width from 15 to 20 feet, was probably laid out after the excavations for the Parade Ground were completed in 1890. The road continues around the outside edge of the Parade Ground to the

southwest side of the island. This section of the road is often difficult to distinguish from the concrete paving of the Parade Ground. However, along the section in front (south and west) of the Assistant Warden's and Apartment B and C rubble piles, there is a concrete sidewalk that is slightly raised above the roadbed. From there, this road connects to the portion of the road system that continues along the west side of the island. The present alignment of these roads was in place by the end of the military prison era in 1933. The road was probably paved in the early 1930s when the Parade Ground was paved in concrete, at the end of the military prison era. This road is a contributing circulation feature.

4. Path to Water Tower

Across the road from Building 67, there is a small service road or path that begins at the base of the hillside on west side of the road. It provides a service access to the north end of the top level of the island. This road goes up the hill in a southeast direction for approximately 200 feet. It ends just below the northwest side of the water tower and was in place by 1961, before the end of the federal prison era. It is concrete and about 5 feet wide. There are concrete posts (but the railing is missing) along the east side of the path. This path is a contributing feature.

Pedestrian Circulation

1. Sidewalks

Due to the limited amount of vehicular traffic on the island, the roads are also used by pedestrians. Additionally, there are sidewalks located along the east side of the portion of the road below the Sallyport, and along portions of the main road above the second switchback. These sidewalks probably date from the military era. (Although, the exact date for construction for these sidewalks is not known, there were plans in 1898 to build sidewalks along sections of the main road.)

There is a sidewalk along the inside (north side) of the road that goes around the edge of the Parade Ground. This sidewalk provided a pedestrian connection to the quarters (No. 72-75), Assistant Warden's House (No. 83) and Apartment Buildings (A, B, C).

There is a pedestrian walk along the east shore of the island that begins at the wharf guard tower and continues to the Powerhouse complex. This path was laid out in late 1910s by the Army. It was conceived as a "boardwalk" and was planted with "flowers and shrubbery" (Mayer 1918). This coincided with a period when the Army became more concerned with the public image of Alcatraz and undertook a number of projects to "beautify" the island. The portion of the walkway north of the Powerhouse no longer exists, and the unpaved path now continues up the hillside to a locked gate in the chain link fence that is located along the north edge of the island. After the Bureau of Prisons took over the island in 1933, a metal walkway was added to the outside of the Model Industries Building to extend the perimeter path so that this portion of the island could be patrolled. A remnant of that walkway is still visible on the west side of the building.

The path along the south shore of the island and the staircase up to the Parade Ground have been located here since the late 1910s. It was built during the same period as was the path along the east shoreline. This system of paths was meant to eventually encircle the island and was located just a few feet about the high tide line. (Mayer 1918) In 1990, this area was rebuilt with new paving materials, a new retaining wall, a new railing, and new benches and is now known as the Agave Trail.

There is a remnant of a concrete walk located to the east of the terrace where Buildings 15 and 43 were located.

During the federal penitentiary era (1933-1963), there were raised walkways around the top of the wall of the Recreation Yard, along the top of the Cellhouse, and connecting to the guard towers. This raised walkway was part of the security system for the island during this period. Only fragments of this walkway exist today along portions of the Recreation Yard Wall and the west side of the Cellhouse.

All of these sidewalks are contributing circulation features.

2. Stairs

There are changes in vertical elevation between the various levels on the island. Stairs facilitate pedestrian movement between the different features on the island that are located next to each other but at different elevations.

Key locations for stairs on the east side of the island include: on the south end of Building 64 providing access from the wharf area to the Parade Ground; a raised concrete walkway and staircase across the main road at the north end of Building 64; at the south side of the Sallyport providing access from the main road down to the perimeter path along the east shoreline; from the Upper Water Tank terrace down to the Lower Water Tank area; from the main road down to the terraces of the Officers' Row area; from the main road up to the entrance on the east side of Building 68; and on the south end of the island from the Agave Trail up to the Parade Ground.

Key locations for stairs on the west side of the island include: stairs on the west side of the West Lawn providing access from the lawn to the road; stairs down the Recreation Yard slope to the paved area at the metal detector shed; stairs from this level there is a sloping sidewalk and stairs that provide access to the Lower Terraces; and a staircase that provides access through the Lower Terraces down to the incinerator area located at the base of the slope. All of these stairs are contributing circulation features.

Summary

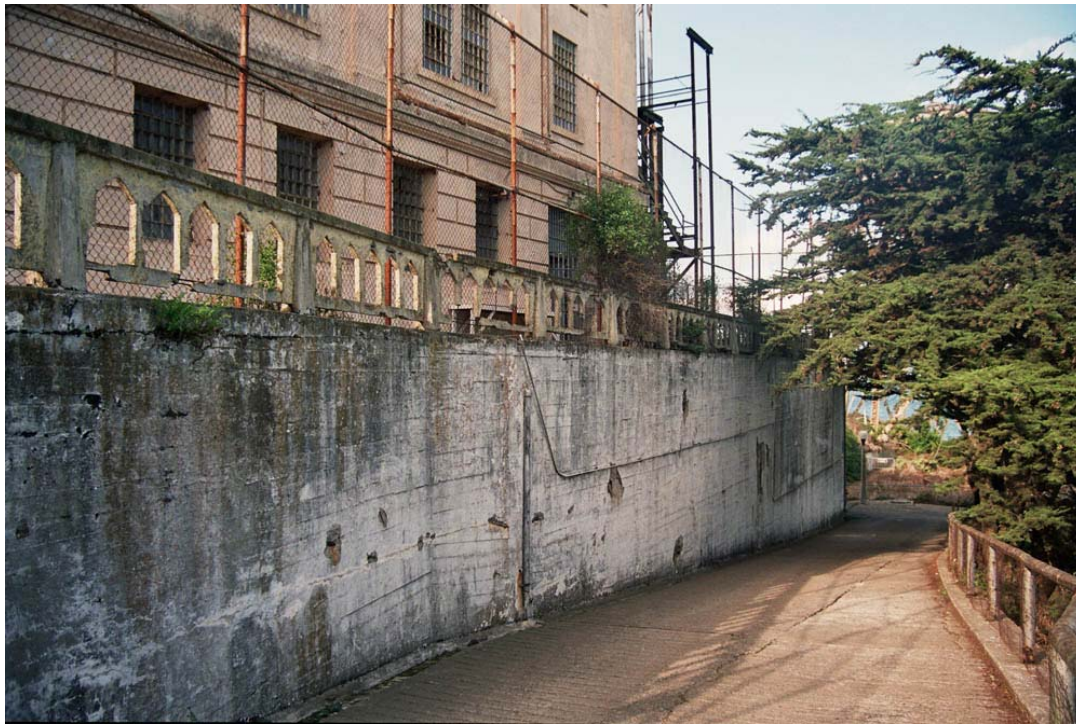
The various components of the circulation system on Alcatraz as described above are contributing features. These include the wharf, roads, pedestrian paths, and stairs. The circulation features were built by the Army or Bureau of Prisons during the period of significance to provide for access to and within the island. There have not been had any major alterations since the end of the period of significance.



Dock on southeast side. View to NW. (215_5A_0051, D. Bradley, 2004)



Road to Sallyport (in background) with view of raised concrete overpass (in foreground). View to N. (113_15_0077, D. Bradley, 2004)



Secondary entrance road, leading from Cellhouse down to Upper Watertank area. View to NE. (116_5A_0150, D. Bradley, 2004)



View of the perimeter walk on the east side of island, taken from the Building 79. View to SE. (115_4_0121, D. Bradley, 2004)



View of the dock with newly planted (eucalyptus) trees on the hillside, during the Military Prison Era. (Source: Chuck Stucker, Photographs in the Golden Gate Parks Conservancy collection)

Characteristic Feature	Type Of Contribution	LCS Structure Name	IDLCS Number	Structure Number
East Side Stairs	Contributing	Alcatraz East Side Stairs	461307	
Path to Water Tower	Contributing	Alcatraz Path To Water Tower	460998	
Pedestrian Path 1	Contributing	Alcatraz Pedestrian Path 1	454060	
Pedestrian Path 2	Contributing	Alcatraz Pedestrian Path 2	461294	
Pedestrian Path 3 (Agave Trail)	Contributing	Alcatraz Pedestrian Path 3	461297	
Pedestrian Path 4	Contributing	Alcatraz Pedestrian Path 4	461300	
Road from Guardhouse to Citadel	Contributing	Alcatraz Road From Guardhouse To Citadel	021289	AL228
Road to Northwest Side of Island	Contributing	Alcatraz Road To Northwest Side Of Island	021288	AL227

Road to Parade Ground	Contributing	Alcatraz Road To Parade Ground	460633
West Side Stairs	Contributing	Alcatraz West Side Stairs	461312

Small Scale Features

Small scale features are “elements which provide detail and diversity for both functional needs and aesthetic concerns in the landscape” (86). The major types of small scale features on Alcatraz include: fences, light fixtures, utility-related features, signs, and garden bed edging.

Fences

1. Decorative Fences

During the 19th century there were a number of styles of fences including: wood picket and lattice fences around garden areas; decorative wrought iron fences around the dry moat of the Citadel; and black-painted pipe rail fencing along the edges of walls and staircases. None of these fences are extant.

During the construction projects in the military prison era (1907-1933), concrete was used for fences as well as for the buildings. The pipe rail fences that had been located along the edges of walls were replaced with concrete fencing. Many examples of concrete fencing remain in place today throughout the island. There are two styles of the concrete fences. One has straight posts with a straight cap rail. Examples of this type of fence are located: on the east side of the main road between the Guardhouse/Sallyport (No. 22/77) and the Post Exchange (No. 65) and on the east side of the main road, above the first switchback, between the Electric Shop (No. 89) and the Barracks/Apartments (No. 64). The other style of concrete fencing is more decorative; it has a straight cap rail, and the vertical components resemble cut-out panels. There are numerous examples of this style of fencing. Some locations include: on the concrete walkway and stairs that cross the main road at the north end of the Barracks/Apartments (No. 64); along the east side of the main road above the second switchback; along the east edge of the concrete terrace in front of the Cellhouse (No. 68); and at the Warden’s House (No. 76). In some places new fencing that recreates this historic design has been installed to replace fencing that was in poor condition. The

There is one short remnant of wood-slat fencing located in the area adjacent to the remains of Apartment A on the Parade Ground. This fence probably dates from late in the federal prison era.

Along the sides of the steps that go down to the lower garden terraces on the west side, there are the remains of square concrete posts. During the federal prison era, a wood board was placed along the top of these posts to make the handrail. Another example of this style of handrail is located along the inclined concrete path that leads down from the metal detector shed to the Lower Terraces. A short section of the wood board handrail is still in place at the top of this path.

There are metal piperail guardrails installed on the top of concrete walls and along concrete steps on the island. Most of these piperails were probably installed by NPS after 1972 (and are not contributing features); however some locations may have been in place earlier (for example, down the steps that lead from the Upper Water Tank terrace to the Lower Water Tank terrace).

The various sections of concrete fences, the remaining portion of the wood-slate fence next to Apartment A, and the concrete posts at the Lower Terraces are all contributing small scale features.

2. Security Fences

The Bureau of Prisons installed new security fences in 1933 when Alcatraz became a federal penitentiary. These were metal cyclone fences with barbed wire protectors at the top, angled inward to

prevent inmates from climbing over. The fencing began on the west side at the incinerator, went along the west edge of the island, to the Model Industries Building (No. 82), along the north edge enclosing the fog siren station, along the edge of the shops area (that was between the Model Industries Building and the powerhouse), and then back of the powerhouse. Where the fence passed the Model Industries Building, a steel walkway was bolted to the outside wall to allow dogs that patrolled the area between the building and fence to pass. There are a few remaining examples of the poles of this fencing (identified by the remains of the top bar angling inward) in the areas on the west side of the island: around the incinerator, along the lower road south of the incinerator, along the west side of the New Industries Building, and on top of portions of the Recreation Yard wall. There are also examples on the north end of the island.

The dock was also fenced off to create a receiving station so that all persons coming and going could be identified. Concertina wire was also strung atop some of the buildings. This coiled barbed wire prevented inmates from scaling the walls and reaching the roof, or from climbing down the walls having reached the roof from inside the structure. Another fence was erected to separate the parade ground and residential area from the prison to make the area secure for the families of the correctional officers. These fences no longer exist.

After the end of the Indian Occupation in June 1971, GSA installed cyclone fencing with barbed wire protectors along the southern and eastern shores of the island; these areas had previously not been fenced. This fencing is distinguishable from the Bureau of Prisons fences because the barbed wire protectors angled out (to keep intruders away), rather than angling in as did the federal prison-era fences (keep people in). There are remaining examples of this fencing along the eastern shore.

The remaining portions of the federal prison era metal fencing is a contributing small scale feature.

Light Fixtures

There are concrete light standards that date from the military prison era (1907-1933) located along the roads on the east side of the island, in front of the Cellhouse (No. 68) and along the road at the summit, and along the edge of the Parade Ground (these no longer have globes).

There may also be some examples of the steel-pole-mounted security lights that were installed by the Bureau of Prisons in 1933.

The concrete light standards and any federal prison era steel-pole-mounted security lights, that may exist, are contributing small scale features.

Utility-Related Features

There are number of types of utility-related small scale features on the island. These include: fire hydrants; metal manhole covers; above-ground pipes; and concrete-covered utility trenches in the concrete roads. These various types of utility-related features that were in place before the end of the period of significance are contributing small scale features.

Signs

Two of the signs that the Bureau of Prisons installed in 1933 remain in place: the one on the west side of the island on the wall between the upper and lower roads and the one of the southeast end of the island along the Agave Trail. These two signs are contributing small scale features.

Hard-Scape Features in the Gardens

Within the planted areas on the island, there are various small scale features that were associated with the development of the ornamental gardens. These include materials (concrete blocks, rubble, brick edging, concrete paving stones) that were used to: create the edges of planting beds; create pathways; and as mentioned in the discussion of retaining walls under “Buildings and Structures,” low walls built to create shallow planting terraces. These features are generally associated with the military and federal prison eras and are contributing features.

Characteristic Feature	Type Of Contribution	LCS Structure Name	IDLCS Number	Structure Number
"Warning Keep Off" sign on the west side of the island	Contributing			
Above-ground utility pipes	Contributing			
Concrete fence posts on lower garden terraces and wooden handrail	Contributing	Alcatraz Concrete Fence Posts	461358	
Concrete fences with cut-out panels and straight cap rail	Contributing	Alcatraz Concrete Fences W/ Cut-Out Panels	461361	
Concrete fences with straight posts and straight cap rail	Contributing	Alcatraz Concrete Fences W/ Straight Posts	461369	
Concrete light standards	Contributing			
Concrete-covered utility trenches	Contributing			
Fire hydrants	Contributing			
Metal fencing from federal prison era	Contributing	Alcatraz Federal Prison Metal Fencing	461372	
Metal manhole covers	Contributing			
Planting bed edging material	Contributing			
Planting terrace walls	Contributing			
Warning sign on Agave Trail	Contributing			
Wood slat fence near ruins of Apartment A	Contributing	Alcatraz Wood Fence	461374	

Topography

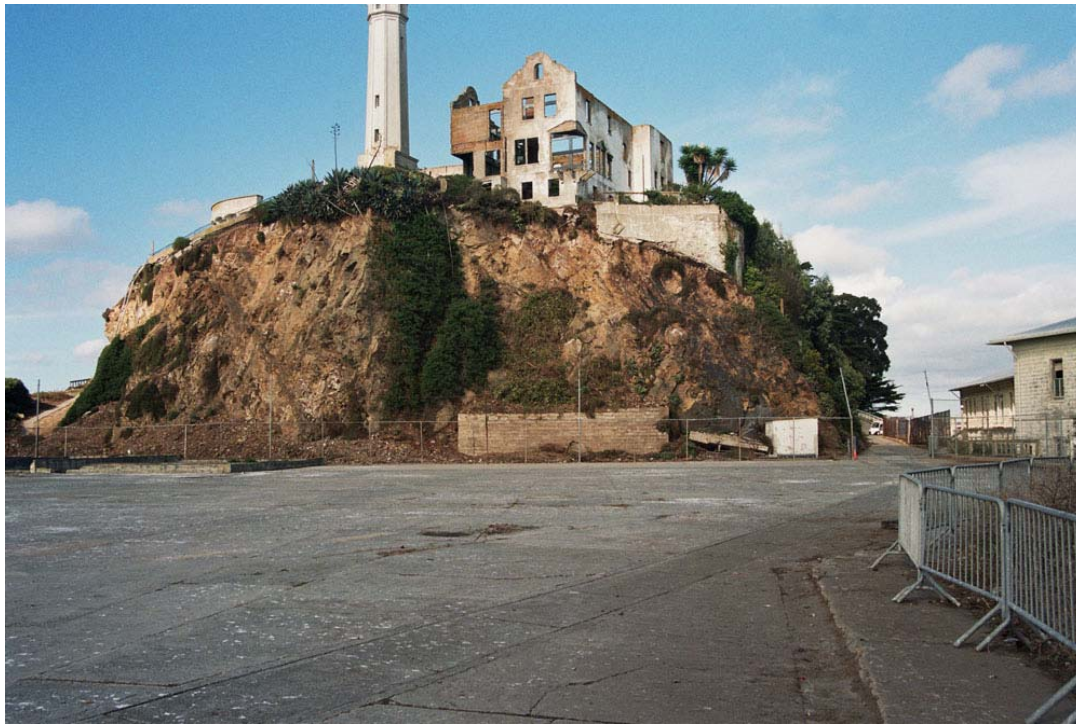
Topography is defined in the Cultural Landscape Inventory as “the three dimensional configuration of the landscape surface characterized by features (such as slope and articulation) and orientation (such as elevation and solar aspect).”

The existing topography of Alcatraz is a result of projects undertaken by the Army to reshape the original topography of the island to meet its defense and prison needs. These projects were undertaken during four periods: 1853-1859, actions related to the initial development of the island and the construction of masonry fortifications; 1868-1976, actions related to the reconstruction of the pre-Civil War batteries to meet the Plan of 1870 specifications; ca. 1870-ca. 1890, the excavation of the Parade Ground on the south end of the island; and ca. 1902-ca. 1930s, quarry operations on the northwest end of the island (the site of New Industries Building).

The topography of the island was altered in order: to construct roadbeds; to create the large level plateau on the top of the island; to create linear level areas or platforms that were required for the construction of the batteries (these have been altered and built over); to create the terrace that is to the east and below the Building 68 (location of Officers' Row); to create the two terraces that are northeast of the Building 68 (Upper and Lower Water Tank areas); to create the Parade Ground terrace; to lower and level the north end of the island; and to alter smaller areas of the island's slopes to accommodate the construction of the support buildings and structures (a very obvious one of these is located on the northwest side of the Parade Ground and was the location of Buildings 15 and 43, both of which were demolished around 1940). Smaller excavations were undertaken to create: the dry moat of the guardhouse/Sallyport; the dry moat, cisterns, and storage rooms of the Citadel (now located under the Building 68); and pits within which to place soil so that plants could be grown. The creation of level areas (for batteries, buildings, roads, living space, gardens) required removing the natural rock of the island and resulted in steep or vertical slopes that often required retaining walls. The rock that was removed during the excavations projects was used as fill on the island or was thrown over the cliffs, altering and extending the island's shoreline.

By 1890, the various excavation projects had resulted in the original topography of the island being modified to the extent that “nearly every square yard of ancient island surface had either been cut away or buried in fill” (Hart 1996: 10). The original sloping topography of the island, that gave it a rounded or humpback appearance, was gone, and the basic topography of the island that exists today, with its blocky appearance, was in place.

The topography of Alcatraz Island in its entirety was shaped to accommodate the island's various historic uses. Today the terraces, slopes, cliffs, and road grades of the island reveal those uses and help convey the significance of the landscape. The landscape characteristic of topography contributes to the integrity of Alcatraz Island.



View of Parade Ground (foreground) and summit with Warden's House and Lighthouse. View to NW. (934_8a_0012, D. Bradley, 2004)



Steps on Recreation Yard slope. View to N. (752_15A_0018, D. Bradley, 2004)



West Lawn and Tool Shed Terraces in ca. 1960 during the Federal Prison Era. (Source: Fischetti Photographs in GOGA Archives No. 18352-049)

Characteristic Feature	Type Of Contribution	LCS Structure Name	IDLCS Number	Structure Number
Altered portions of the shoreline	Contributing			
Building terraces throughout the island	Contributing	Alcatraz Building Terraces	461376	
Dry Moat of the Guardhouse/Sallyport	Contributing	Alcatraz Dry Moat At Guardhouse/Sallyport	461380	
Eastern shoreline path grade	Contributing			
Garden terraces on the west side of the island	Contributing	Alcatraz Garden Terraces	461378	
Lower Water Tank terrace	Contributing			
Officers' Row terrace	Contributing			
Pits excavated in the rock for planting beds	Contributing			

Road grades, cut/fill slopes, and retaining walls	Contributing
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Summit terrace	Contributing
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Terrace at the north end of the island	Contributing
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Upper Water Tank terrace	Contributing
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Vegetation

The Cultural Landscape Inventory defines vegetation as “deciduous and evergreen trees, shrubs, vines, ground covers and herbaceous plants, and plant communities, whether indigenous or introduced in the landscape.” The discussion of the vegetation features on Alcatraz is divided into an overview of the plant materials, an overview of the development of the gardens, and a description of extant planted areas.

Plant Materials

Originally, Alcatraz Island was covered by a very thin layer of soil that would have supported “species native to the central Californian coastal prairie and coastal scrub plant communities” (LSA 1993: 8). Nearly all of the plant materials on Alcatraz today have been introduced; some intentionally by man; some unintentionally in soil that was brought to the island or possibly by birds. The native plant communities that did exist were probably adversely affected (and possibly eliminated) by the blasting and building during the initial phase of construction (1853-1859) on the island.

1. Military Fortifications Era (1847-1907)

New plants were inadvertently introduced to the island in the 1870s when the Army brought in soil and sod to cover the face of batteries. These plants included coyote bush, blue elderberry, blackberry, and California poppies. The Army planted areas with various herbaceous plants such as clover, alfalfa, barley, or bluegrass in an effort to control erosion and to provide the batteries with a typical Army appearance. These plants did not survive.

Ornamental plants were first introduced to the island in the 1860s and continued throughout the military fortification era as a part of the creation of gardens. Photographs of these early ornamental gardens indicate that the residents used plant materials that were popular at the time, such as roses, agave, heliotrope, mirror plant, fuchsia, and calla lilies. Roses, agave, mirror plant, fuchsia, and calla lilies all continue to exist on the island; however, most likely, they are specimens that were planted during the military or federal prison eras.

2. Military Prison Era (1907-1933)

During the military prison era, the Army planted the slopes of the island in an effort to control erosion. The Army began to use more drought tolerant and Mediterranean-climate plants in their planting efforts during this era. This was a change from the plants that had been planted on the slopes previously –plants, such as bluegrass and clover, that were traditionally used on posts in the east but which were unsuited to Alcatraz’s growing conditions. Additionally, the Army became more conscious of the image of Alcatraz and made various attempts to “beautify” the island. These efforts coincided with the introduction of a garden training program for inmates in the late 1910s, part of the change in prison philosophy adopted by the Army in 1915. Inmates, training as gardeners, supplied the labor for these efforts. A major planting effort occurred in 1924 when the California Spring Blossom and Wild Flower Association donated 300 trees and shrubs (unspecified) and nasturtium and poppy seeds that were planted by the prisoners. Army personnel and their families also maintained gardens and probably contributed to types of plant materials found on the island. Written references or photographs show that there were nasturtium, poppies, roses, sweet peas, ice plant, agave, geraniums, fuchsias, cypress, and eucalyptus. Many of these species continue to exist on the island.

3. Federal Prison Era (1933-1963)

After the island became a federal prison in 1933, the plants on the slopes and outside of specific gardens were left to naturalize due to the difficulty of maintaining them and because the inmate gardeners were not allowed in these areas due to security regulations. The practice of using both Mediterranean-climate plants (suited to growing conditions) and more traditional bedding plants continued. Fred Reichel, the secretary to the Warden, was keenly interested in horticulture and was responsible for planting a number of native and Mediterranean-climate plants including: white-flowered poppy (*Carpenteria californica*), flannel bush (*Fremontodendron californicum*), Pride of Madeira (*Echium fastuosum*), New Zealand Christmas tree, aeonium, aloe, sedum, ice plant, agave, and bulbs including gladiolus, narcissus, and watsonia. He cultivated a variety of annuals and perennials that were used as cut flowers (that were given to the corrections officers or put in the prison chapel. Elliott Michener, who worked as an inmate gardener for nine years, reported planting poppies, stock, snapdragons, delphinium, chrysanthemum, dahlias, iris, and ice plant. Additionally, families on the island gardened and undoubtedly added plants to the island.

4. Public Lands Era (1963-present)

After the federal prison closed in 1963, the planted areas on Alcatraz received no maintenance and no irrigation. The garden areas on Alcatraz naturalized; the plants that remain on the island today are those that were able to survive these conditions; those that were not have disappeared.

In 1983, California native plants were planted on the island by a group of volunteers. A letter from Robert C. Crabb dated 14 January 1984 provided a list of these plants. (Lutsko 1992: 2). However a copy of this letter was not found during the research for this CLI. According to the plant inventory undertaken by Lutsko Associates in 1992, only *Iris douglasiana*, *Rhamnus californica*, and *Zauschneria cana* survived from this effort. The Lutsko report did not provide information on the full list of plants from the 1984 project or the location of the plantings. (Lutsko 1992: 2)

An inventory of plant materials was undertaken by Lutsko Associates in 1992. The list of the plant materials that they identified and a series of maps is contained in their report *Historical Gardens of Alcatraz* (Lutsko 1992). In 1998, the Olmsted Center, assisted by Lutsko Associates, updated the information in this inventory for the following areas: Sallyport bed, Officers' Row area, and west side terraced gardens. (Eleey 1998)

In 2003, the volunteers under the direction of the Golden Gate National Parks Conservancy (Conservancy) began doing maintenance on the planting beds at the Sallyport, Electric Shop, Officers' Row, and west side terraces. As the maintenance progresses, plants and garden details that were obscured by the overgrown vegetation are being revealed. The Conservancy is in the process of updating the 1992 plant inventory and of mapping the various garden areas.

5. Summary

Most of the plant materials that exist on the island today were either introduced or planted during the military prison (1907-1933) and federal prison (1933-1963) eras of the first half of the 20th century. They represent the types of plant materials that were popular in California during these periods and those that were able to survive the growing conditions on the island. They are contributing vegetation features. A table is attached at the end of the CLI that provides a draft list of the existing vegetation on Alcatraz (Annuals, Perennials, Grasses; Ferns; Bulbs; Succulents; Shrubs; and Trees). This list and maps showing the general location of plant species in the garden areas is still being updated by the Conservancy staff and volunteers.

Garden Development

1. Fortifications Era (1847-1907)

During the initial period of development on the island (1847-1859), Alcatraz lacked the types of vegetation features that would normally be found on an Army post –native plant communities, areas used for grazing, vegetable gardens or orchard, or ornamental vegetation. The additions of garden areas and the introduction of new ornamental plants to the island –alterations that would soften the harsh environment of the island and make it more livable for residents –did not begin until the 1860s, after the basic facilities of the Army post had been constructed. By the 1860s, the people who lived on Alcatraz had started creating small gardens. However, the extent of garden development was controlled by a number of factors including the lack of soil, need to be protected from wind, and need to be near water sources (water from the residences or by canvas hoses from the underground cisterns at the Citadel). Both public and private gardens were added to the landscape of Alcatraz during this era. Formal gardens were created on the south and east sides of the Citadel, on the terrace that was below the east side of the Citadel (area that is known today as Officers’ Row), and on the west side of Building 64. There were also more informal spaces or small lawns next to residences. The spaces devoted to gardens and ornamental plants during this era were generally well defined often delineated by wood picket fences or low walls. This was partly due to the great effort that was required to establish and maintain these spaces, and partly to the prevailing Victorian garden preferences and styles. These were vernacular gardens, created not from a specific design or by a specific designer but in an attempt to create a more hospitable and familiar-looking place to live. Based on photographs from the era, the gardens had plants typical to the Victorian era in San Francisco. Some of these plants probably included agave, heliotrope, mirror plant, roses, and fuchsia. The gardens also had amenities typical to gardens of the era –benches or wood trellises. None of these garden areas are extant.

2. Military Prison Era 1907-1933

Until the late 1910s, garden spaces on the island were limited to those around the homes of residents on the island and by the Citadel (the most formal and public space for the post and the community on the island). However, these features were not very visible at a distance. The Army’s previous attempts at addressing this issue –planting the slopes with sod or grass or clover –were not very successful, mainly because these plants were not suited to the growing conditions on Alcatraz.

After the completion of the new prison facilities, the Army began to address the issue of how to improve Alcatraz’s public image and undertook a concerted effort to plant the slopes of the island in an attempt to both control erosion and to “beautify” the island. The plant materials used (such as agave, ivy, ice plant, eucalyptus) were better adapted to the growing conditions on Alcatraz, than the types of plants previously used (such as bluegrass), and so survived and altered the appearance of the island.

As had been the case in the Army’s efforts to transform the topography of the island, inmates provided the source of the labor for the planting program. In 1915, Alcatraz was renamed the “Pacific Branch, United States Disciplinary Barracks” and programs were implemented that focused on providing education, training, and rehabilitation for the soldiers incarcerated in the prison. One of the 25 training programs offered was gardening. The inmates that were training as gardeners expanded the planted areas and gardens on the island. Areas were planted along the new shoreline trail on the east and south sides of the island, along the main road (at the wharf, Sallyport beds, Electric Shop beds, in planters placed along the road, at the Water Tank area, in the seawall at the Parade Ground, in front of the Cellhouse, on the slopes immediately around the Cellhouse on the south and west sides, on the west lawn, and on the Recreation Yard slope. A greenhouse was built on just at the base of the Recreation Yard slope.

Additionally, the inmates built shallow terraces to create planting beds in the Toolshed Terrace area and in the Lower Terraces. The gardens around the officers' residences undoubtedly continued, although there is little recorded information on these. As were the gardens from the 19th century, the garden spaces created during the military prison era were vernacular gardens. Although it seems likely that the Army personnel associated with the gardening program would have made decisions related to the new plantings, no record has been found of this.

3. Federal Prisons Era (1933-1963)

The people who lived on Alcatraz during the federal prison era –prisoners, employees of the prison, and the families of the employees –continued the tradition of gardening and used the garden spaces that had been developed by the Army. A record of the gardens and gardening efforts during this era is available through photographs and oral histories of some of the gardeners on the island. Although many individuals gardened on the island, several people, in particular, contributed to the garden areas during this period including Freddie Reichel, the Warden's secretary from 1934-1941 and inmate gardeners Dick Franseen and Elliott Michener. Reichel was responsible for persuading the Warden to allow the use of inmates as gardeners. Without their labor (from 1933-1963), the gardens at Alcatraz would have disappeared. Reichel also was an avid gardener himself and cared for certain areas, added to species to the island's plant palette, and provided inmates with plants. Franseen and Michener both became expert gardeners through their work on Alcatraz. Franseen worked on the east side of the island and appears to have maintained the gardens in the Water Tank area and possibly Officers' Row. Michener was responsible for the care of the gardens on the west side from around 1941-1949. He worked in the Warden's garden from 1949-1951. (Additional research may provide information on additional individuals who undoubtedly contributed to the gardening during this era.)

The garden areas from the military prison era remained in place and were in some cases expanded. Michener expanded the garden areas on the west side of the island. When the officers' quarters in the Upper Water Tank area and in Officers' Row were torn down, gardens were added to these areas. Additionally, there were new planting beds on the Parade Ground around the new apartment buildings (Nos. A, B, and C). The gardens of Alcatraz during the federal prison era were vernacular and reflected the prevailing preferences and styles of the 1930s-1950s. As had been the case throughout Alcatraz's history, the gardens were created not from a specific design or by a professional designer but in an attempt to create a more hospitable and familiar-looking place to live.

4. Public Lands Era (1963-present)

Systematic care of the garden spaces on Alcatraz ended when the federal prison closed in March 1963. Since that time the garden areas on Alcatraz have naturalized; plants that could survive the conditions on Alcatraz remained and those that could not disappeared. In late 2003, Golden Gate National Park Conservancy staff and volunteers began clearing out plant debris from a number of garden areas (Sallyport bed, Electric Shop bed, Officers' Row, Tool Shed Terraces, portion of the West Lawn along the east side of the road, and portions of the Greenhouse area). Planning for treatment options for the historic garden areas is currently underway.

Description of the Existing Planted Areas

1. Sallyport Beds

There is a narrow planting bed on the east side of the main road to the south of the Guardhouse/Sallyport (No. 22/77). It is defined by the curb of the road on the west side and the top of the slope on the east

side. This area was first planted by the Army, probably in the early 20th century after the demolition of the Lower Prison buildings when the Army was undertaking this type of project in an effort to beautify the island and improve its public image. Since this bed is located just north of the wharf and is on the main road, it would have been one of the first areas encountered on the island. Its appearance contributed to the public image of the Army on Alcatraz. The bed was most likely planted and maintained by military inmates. The Bureau of Prisons continued the maintenance of this bed during the federal penitentiary era.

As with most planting beds on the island, the species of plants used here have probably varied over time. However, the plants were those commonly used as bedding plants during the early 20th century. In 2003, Conservancy staff and volunteers began to clean out plant debris from this area and to maintain the plants that remain. They are in the process of updating the inventory of plants in these areas, and this information (a list of plants and a map of general locations) will be appended to the CLI after it is updated. However, a partial list of plants in this area includes: acanthus, agapanthus, aeonium, chasmanthe, several specimens of *Cordyline australis*, crassula, crocosmia, fuchsia, iris, ivy, kniphofia, leptospermum, ivy, muscari, narcissus, pelargonium, roses, vinca, watsonia, and zantedeschia.

The presence of a planting bed in this location is a contributing vegetation feature that is associated with both the military and federal prison eras.

2. Electric Shop Bed

There is a planting bed to the north of the Electric Shop (No. 89). This bed is defined by a brick retaining wall on the east, the curb of the road on the west, and the Electric Shop building on the south. This area was first planted by the Army, probably in the early 20th century after the demolition of the Lower Prison buildings (including the one that would have covered this site). As with the Sallyport Bed, this area is in a highly visible, public area, on the main road and contributed to the public image of Alcatraz. The bed was most likely planted and maintained by military inmates. The Bureau of Prisons continued the maintenance of this bed during the federal penitentiary era.

As with most planting beds on the island, the species of plants used here have probably varied over time. However, the plants included those commonly used as bedding plants during the early 20th century. In 2003, Conservancy staff and volunteers began to clean out plant debris from this area and to maintain the plants that remain. They are in the process of updating the inventory of plants in these areas, and this information (list of plants and map of general locations) will be appended to the CLI after it is updated. However, a partial list of plants in this area includes: aeonium, an apple tree, fuchsia, ivy, leucojum, narcissus, tropaeolum, and watsonia. There are the stumps of large eucalyptus trees in this bed.

The presence of a planting bed at the Electric Shop is a contributing vegetation feature that is associated with both the military and federal prison eras.

There is another small planting bed above (southeast) of the Electric Shop that is defined by the curbing of the main road (on the west side) and a retaining wall (on the east side). This area appears on a 1961 map. Some plants that are currently here were transplanted from the Upper Water Tank Garden area several years ago, in order to save them during construction activities in that area. Plants in this bed include: centranthus, iris, narcissus, and zantedeschia. Photographs from the military and federal prison eras show that this area, as well as the narrow beds at the base of the retaining walls along the road, was planted during the period of significance.

3. Water Tank Garden

The flat area located to the north of the third switchback of the main road is known as the Water Tank Garden. There are two levels to this garden area. The first (Upper Water Tank Garden) is roughly defined by the road's pavement on the southeast side, by the wall of the Recreation Yard on the west side, by the Water Tank on the northwest side, and by a retaining wall on the northeast side. This area is currently overgrown. Plants in the Upper Water Tank Garden include: aeonium, blackberry, chasmanthe, ice plant, ivy, mirror plant, pelargonium, roses, vinca, watsonia, and yucca.

The second level (Lower Water Tank Garden) is located below and northeast of the first level. A retaining wall defines its southwest side, and the other sides are defined by the sloping grade and overgrown vegetation. There is a set of concrete steps, at the north end of the area, that connects the two levels. This area is currently overgrown and not maintained. Plants in the Lower Water Tank Garden include: at least two fruit trees (an apple [?] and a *Prunus* spp.) on the north side of the stairs, aeonium, albizia, baccharis, blackberry, chasmanthe, eleagnus, fuchsia, ivy, roses, vinca, and watsonia.

As the Lutsko report noted in 1992: "This garden has been neglected for so long that it is difficult to determine the original intent" (Lutsko 1992: 12), and the chronology of its development needs to be refined. However, until 1940, three ca. 1859 NCO quarters were located in the area of the Upper Water Tank Garden. The terrace for the Lower Water Tank Garden would have been related to access to the hospital. What is known is that a greenhouse and rose garden were located here in 1933 when the Army transferred Alcatraz to the Bureau of Prisons. The greenhouse, no longer extant, was located on the lower level (Lower Water Tank Garden). The location of the roses is not known. This area continued to be used as a garden during the federal penitentiary era. Fred Reichel used the greenhouse for his gardening activities during the time he was on Alcatraz (1934-1941). This area was probably also the one that was maintained by Richard Franseen, an inmate gardener who worked with Reichel on the east side of the island. According to Reichel, the Bureau of Prisons stopped watering the roses in this area when they had to start paying for the water. Some of the roses were then moved to the west side garden area. (He says "some of the [rose] bushes were transferred over to where the incinerator is" [Reichel unedited draft transcript: 24]). However, a few rose plants remained in the Upper Terrace until January 2005, when they were buried under construction rubble (from a 2002-2003 project) that was spread out over this area. However, the location of an ornamental garden area in the Upper and Lower Water Tank areas is a contributing vegetation feature. Some type of garden was present in the Upper Water Tank area during the military fortification, military prison, and federal prison eras. There was some type of garden development in the Lower Water Tank area during the military and federal prison eras.

Conservancy staff and volunteers have updated the inventory of plants in these areas, and this information (list of plants and map of general locations) will be appended to the CLI.

To the south of the Upper Water Tank Garden area is an island between the main road (on the northeast) and the road/drive that provides access to the back of the Cellhouse (No. 68) (on the southwest). Plants in this island include: three Monterey cypress trees, amaryllis, baccharis, *Centranthus ruber*, *Hebe* spp., ivy, mirror plant, *Polystichum munitum*, and *Rhamnus californica*. This area also has several prominent rock outcroppings. Little is known about the development of the plantings in this area, but it would appear, based on the age of the plant materials, that this is a contributing vegetation feature.

4. Trough Planter

There is a narrow planter (commonly referred to as the Trough Planter) located on top of the retaining wall that defines the west side of the Officers' Row Garden and the east side of the main road to the Cellhouse. A wall was built in this location in 1881 as part of the construction of the three officers'

quarters (Nos. 7-9). At some point the planter, which was originally lower, was raised to its current height. Currently, this planter is empty. However, photographs from the military prison era show the planter with vegetation. The Bureau of Prisons continued to maintain this planter during the federal penitentiary era; photographs from this era show it planted with pelargonium (ivy geranium). This planter is in a highly visible, public area, and its appearance contributed to the public image of Alcatraz. The trough planter is a contributing vegetation feature that is associated with both the military and federal prison eras. (It is also a contributing structure.)

5. Officers' Row Garden

The terrace known as Officers' Row is located on the east side of the main road just below and east of the Cellblock Building (No. 68). This area was developed by the Army. During the 1870s, it was a formal garden. Three officers' quarters (Nos. 7-9) were built here in 1881, and the 1870s garden was removed at that time. Between 1881-1940, there were small garden areas located at the ends and between the houses in this row. The Bureau of Prisons demolished the first two quarters (Nos. 8 and 9) in 1940. During the remainder of the federal penitentiary era, from 1940-1963, the terraces (defined by the remaining military-era foundation walls, retaining walls, and steps) were planted with a variety of bedding plants including varieties of annuals and perennials in general use during this time, fuchsias, and roses. Reichel and Michener both refer to the practice of cutting flowers each week and providing them to the staff, and this was probably one of the locations from which flowers were cut. (Reichel also provided flowers for the prison chapel.) Photographs from this era show both inmate gardeners and correctional staff family members in the garden.

Conservancy staff and volunteers began to clean out plant debris from this area during the fall of 2004. Details in the planting beds (such as bricks or stones used to outline paths or define beds) were uncovered and plants that had been dormant began to emerge. They are in the process of updating the inventory of plants in these areas, and this information (list of plants and map of general locations) will be appended to the CLI after it is updated. However, a partial list of plants in this area includes: calla lily, chasmanthe, ferns (*Polypodium californicum* and *Polystichum munitum*), fuchsia, hyacinthoides, iris, lathyrus, mirror plant, muscarri, narcissus, oxalis, and pelargonium. There is a large Monterey cypress tree located north of the remains of Building No. 9 and one is the area of the remains of Building No. 8.

As described above, there has been some type of garden in this area during the military fortification, military prison, and federal prison eras. This garden area is representative of the importance of ornamental gardens and gardening in the lives of the people who lived on Alcatraz. It is an example of a garden maintained by inmate gardeners during the federal penitentiary era and illustrates a practice on Alcatraz of adapting the features from previous eras to new uses.

The garden space that exists today is associated with the federal penitentiary era and is a contributing vegetation feature.

6. Warden's House Garden

A house for the Commander of the Army post was built between 1919 and 1921 on the site of an earlier building. It became the Warden's house after Alcatraz became a federal prison. The garden area around this house is called the Warden's House Garden and is located around three sides of the house. It is defined by the concrete fence (along the edge of the summit) on the south and east sides, by a retaining wall on the northwest side, and by the main road's pavement on the west. There was a small greenhouse located against the south-facing wall of the house; today only the foundations of this greenhouse are extant. During the federal penitentiary era, this garden was maintained by an inmate assigned to the

Warden's house. This was one of the few garden spaces on the island that was solely for the use of an individual (the Warden) and represents, with the house, the status of the Warden (and during the Army era, the Commandant) on the island.

Conservancy staff and volunteers began to clean out plant debris from this area during the fall of 2004. They are in the process of updating the inventory of plants in these areas, and this information (list of plants and map of general locations) will be appended to the CLI after it is updated. However, plants that remain include: agave, albizia, baccharis, fuchsia, ivy, nothoscodum, pelargonium, rose, and a large yucca, located in the east corner of the garden.

There was a garden at the Warden's house during both the military and federal prison eras, and it is a contributing vegetation feature.

7. Cellhouse Building

There is a raised concrete terrace (known as Eagle Plaza) on the front (southeast) side of the Cellhouse Building (No. 68) that dates from the construction of the building by the Army in 1912. This is the main or formal entry to the administrative portion of the Cellhouse Building. There is a set of concrete steps on the east end of the terrace; there are concrete light standards on either side of the steps; there is a section of concrete railing, with "cut-out" concrete panels, across the east end of the raised terrace. . Between the steps and the west side of the terrace, there is a rectangular bed that contains grass. The grass was replanted by NPS in the late 1990s, to be compatible with the appearance of this area during the period of significance. This area is a contributing vegetation feature that is associated with both the military and federal prison eras.

There is a narrow bed (East Cellhouse Bed) that is located to the north of door on the east side of the Cellhouse Building. A set of steps connects the main road to this side entry. This bed is currently not maintained. However, plants that remain in this bed include: agapanthus, agave, blackberry, grasses, iris, and narcissus. Conservancy staff and volunteers are in the process of updating the inventory of plants in this area, and this information (list of plants and map of general locations) will be appended to the CLI after it is updated. This area was a feature of the Cellhouse Building during both the military prison and federal penitentiary eras (although, very little is known about its development), and it is a contributing vegetation feature.

Below the Cellhouse to the west is a steep vegetated bank (Cellhouse Slope) between the plaza and the west road. This bed is currently not maintained and covered with bird exclusion netting. This area was not identified and surveyed as a garden area in the original 1992 garden inventory or in the 2004-05 inventory update. Vegetation remaining on this slope appears to be a typical mix of naturalized slope plantings, including some garden species. However, photographs from the military prison and federal penitentiary eras show that this slope was once covered with a carpet of brilliant purple iceplant used by the military for erosion control on steep slopes. This area was a feature of the Cellhouse Building during both the military prison and federal penitentiary eras and it is a contributing vegetation feature.

8. Parade Ground

Between 1870-1890, the terrace for the Parade Ground was excavated by inmates at the military prison on Alcatraz. The Upper Prison complex was located here from 1900-1912. In 1929, the Army built four officers' quarters, along the east edge, and a duplex, in the south central area, on the Parade Ground Area. During the federal penitentiary era (1933-1963), the Parade Ground was the focus of the residential community for the correctional officers' and their families. In 1940, the Bureau of Prisons

built three apartment buildings on the southwest side. In 1971, GSA demolished all of the buildings on the Parade Ground.

The Parade Ground was paved in the early 1930s. There was a tennis court located in the north corner during the military prison era (built sometime after the Upper Prison was removed in 1912). During the federal penitentiary era, this corner of the Parade Ground was used as an informal baseball field. There was also a recreation building located in the center of the northwest edge of the Parade Ground area. During the 1930s, under the Army, the area to the northwest of Apartment A was the location of playground. This may also have been the area where Captain Philip Bergen, an associate warden who lived on Alcatraz from 1939 to 1955, started a garden for the island's children. Bergen expressed a sentiment about this garden that explains the importance of all the gardening efforts to those who lived on Alcatraz: "Planting flowers in rocks and tending them like a baby was helpful to the general morale of people living on the island" (Bergen quoted in Brown 2001).

A rock wall, called the seawall, runs along the outside edge of the Parade Ground. There is a road along the outside edge of the Parade Ground; the alignment for this road was in place by the end of the military prison era in 1933; it served as a "main street" for the Parade Ground residential complex. Between the seawall and the road, there is a narrow strip of ground. During the federal penitentiary era, this planting strip and the planter on top of the seawall had annuals or perennials. Today, the planting strip between the road and seawall is overgrown with blackberries and other plants, and the seawall planter is empty.

The only grass on the Parade Ground was in the small lawn that surrounded the Assistant Warden's house. (There may have been grass between Buildings 72-75 and on the south side of Building 75.) There were narrow planting beds around the three apartment buildings. These features were removed during the demolition of these buildings by GSA in 1971

Today, the rubble piles of the four quarters (Cottage Rubble area) on the east edge and of the Assistant Warden's House are overgrown with vegetation (blackberry, ivy, and mirror plant), and the remains of these buildings are not visible. (There is also a large specimen of fuchsia in the Assistant Warden's house area.)

The areas around the remains of Apartments B and C and Apartment A are overgrown with vegetation (including agave, aeonium, aloe, ice plant, pelargonium, echium, ivy, agapanthus, and nasturtium); however, the remains or rubble of the buildings are still visible. A low retaining wall was built around a portion of the Apartments B and C rubble pile around 1990 when the Agave Trail project was undertaken; the wall has the same stone as the Agave Trail.

Conservancy staff and volunteers are in the process of updating the inventory of plants in these areas, and this information (list of plants and map of general locations) will be appended to the CLI after it is updated.

Although, the features of the Parade Ground are contributors to the Alcatraz NHL district for other reasons (spatial organization, circulation system, archaeological features), in relation to vegetation features only the sea wall and narrow planting strip between this wall and the road are contributors. These features are associated with both the military and federal prison eras. The remaining vegetation features are no longer extant or have developed after the end of the period of significance (i.e. overgrowth on the rubble piles).

9. West Lawn Area

There are two level garden areas –commonly referred to as the “West Lawn” –that area located on either side of the road in the area that is west of (below) the Cellhouse Building (No. 68). This area was excavated by the Army during the 19th century. During the late 19th and early 20th centuries, a corral and a number of wood buildings (stables, carriage shed) were located in this area. Sometime after the construction of the new Cellhouse in 1912, the Army removed these features and planted the area with grass. During the federal penitentiary era, this area was maintained by inmate gardeners. There was a grass lawn in the level area and a three-foot planting bed, edged with concrete masonry units, along both sides of the road that was planted with a variety of flowers. This area has not received regular maintenance since the federal penitentiary closed in 1963, and so, plants that remain are those that were able to survive without irrigation or maintenance

The West Lawn area east of the road is defined by the steep slope below the Cellhouse on the east, by the wall of the Recreation Yard on the north, and by the West Road on the west. Plant materials in this area include: aeonium, agave, albizia, aloe, chasmanthe, coprosma, cotoneaster, echium, fuchsia, two species of iris, ivy, metrosideros, narcissus, two species of oxalis, and pelargonium. GGNPC volunteers are in the process of updating the inventory of plants in these areas, and this information (list of plants and map of general locations) will be appended to the CLI after it is updated. The Conservancy staff and volunteers began cutting back overgrown vegetation along the road during the fall of 2004 and uncovered portions of the concrete masonry unit border, from the federal penitentiary era, that defined the planting bed.

The West Lawn area on the west of the West Road is defined by the road on the east and steep rocky slopes on the other sides. Today, this area is completely overgrown and obscured by a dense thicket of plants (that includes albizia, blackberry, coprosma, cotoneaster, fig, and ivy).

The West Lawn represents one of the areas maintained by inmate gardeners during the military and federal prison eras. It also represents how the Army used plants in its efforts to improve the appearance of the island. Although, this area was marginally visible from San Francisco, according to Fred Reichel its main purpose during the federal penitentiary era was as a safe place to employ inmate gardeners.

The West Lawn area is a vegetation feature that is associated with both the military and federal prison eras, and it is a contributing vegetation feature. However, the current condition of these areas, particularly on the east side of the road (overgrown with plants) has developed since the end of the period of significance and has lessened the integrity design, materials, workmanship, and feeling of these areas. (The integrity of the portion of the West Lawn west of the road is more severely compromised.)

10. Tool Shed Terraces

To the north of the portion of the West Lawn area on the west side of the West Road is a garden area commonly referred to as the “Tool Shed Terraces.” This triangular-shaped area is defined by the low retaining wall and curb of the West Road on the east and west sides and the steep slope (up to the west side of the West Lawn area) on the south side. Sometime after the construction of the new Cellhouse Building, in 1912, the Army, using inmate laborers, built a series of shallow terraces, using both rock rubble and concrete masonry unit block, in this area. During the federal penitentiary era, these beds were maintained by inmate gardeners. Elliot Michener built the small tool shed that is located at the top of the slope sometime between 1941-1948, when he was the gardener for the west side gardens. This area has not received regular maintenance since the federal penitentiary closed in 1963, and so, plants that remain are those that were able to survive without irrigation or maintenance. Plants remaining in this area include: aeonium, artichoke, echium, ice plant, lonicera, metrosideros, pelargonium, and roses (possibly some of the roses that were moved by the Army from the Upper Terrace area). Conservancy staff and

volunteers are in the process of updating the inventory of plants in these areas, and this information (list of plants and map of general locations) will be appended to the CLI after it is updated. Conservancy volunteers began cutting back overgrown vegetation in this area during fall 2004 and uncovered the terraces. Elliott Michener's tool shed is extant.

The Tool Shed Terraces represent one of the areas maintained by inmate gardeners during the military and federal prison eras. It also represents an example of the shallow garden terraces built by the Army during the military prison era and how the Army used plants in its efforts to improve the appearance of the island. Although, this area was marginally visible from San Francisco, its main purpose during the federal penitentiary era was as a safe place to employ inmate gardeners. The tool shed, although rebuilt by NPs in the 1980s (?), also represents the work of Elliot Michener, an inmate who worked as a gardener on Alcatraz between 1941-1950. The Tool Shed Terraces are a contributing vegetation feature.

11. Greenhouse Area

To the north of the West Lawn area is the "Greenhouse Area" on the both sides of the road in the flat area at the base of the Recreation Yard slope. Sometime after the construction of the new Cellhouse Building and Recreation Yard, in 1912, the Army, using inmate laborers, began planting this area. The military inmate laborers also built a small greenhouse in the level area west of the road. In an interview in the 1970s, Fred Reichel remembered this greenhouse as being gone when he arrived in 1934. However, photographs, taken during the federal penitentiary era, show a greenhouse in this area. (Reichel may not have remembered correctly or the greenhouse may have been rebuilt.) Elliot Michener cared for this area during his years as a gardener on the west side of the island (1941-ca.1948). He worked for two years to improve the conditions of this area (breaking up the hardpan, adding organic compost, planting ice plant). This was one of the few garden areas that the general prison population was able to see. Prisoners walked through this area on their way to jobs in the New Industries building.

During the federal penitentiary era, the Greenhouse Area was maintained by inmate gardeners. This area has not received regular maintenance since the federal penitentiary closed in 1963, and so the plants that remain are those that were able to survive without irrigation or maintenance.

The planting beds located on the east and north sides of the metal detector building are divided into sections (probably for different types of bedding plants) using bricks and rock in concrete. On the west side of the metal detector building is a ligustrum hedge. These features date from the federal penitentiary era. These areas were overgrown and in the fall of 2004, NPS and Conservancy staff and volunteers cut back overgrown plants and removed debris.

Conservancy volunteers began cutting back overgrown vegetation in the portion of the Greenhouse Area on the east and west sides of the road during the fall of 2004. These efforts uncovered the foundations of the greenhouse and paths outlined in brick and stone rubble in the area west of the road. Plants in the area east of the road include: acanthus, aloe, ice plant, fig trees, pelargonium, roses, and walnut trees. Plants in the area west of the road include: acanthus, apple trees, fuchsia, ivy, the privet hedge, roses, walnut trees, and watsonia. Conservancy staff and volunteers are in the process of updating the inventory of plants in these areas, and this information (list of plants and map of general locations) will be appended to the CLI after it is updated.

The Greenhouse Area represents the garden areas created by inmate gardeners during the military prison era and then maintained by inmate gardeners—in particular by Elliot Michener, an inmate gardener on Alcatraz between 1941-1950—during the federal penitentiary era. It is a contributing vegetation feature.

12. Recreation Yard Slope

The slope below the west Recreation Yard wall was planted by the Army, using inmate laborers, sometime after 1912, and this practice continued during the federal prison era. This slope was one of the first that Elliot Michener worked on during his years as a gardener on the west side of the island (1941-ca.1948). He worked for two years to improve the conditions of this area (breaking up the hardpan, adding organic compost, planting ice plant). One of his concerns about the planting for his area was to plant “mesembryanthemum, so that all of the hillside would be the same –pink, laced with oxalis” (Michener 1995: 1). This area, along with the plants at the base of the slope (Greenhouse Area) was one of the few garden spaces that the general prison population was able to see. Prisoners walked down the steps of the slope on their way to jobs in the New Industries building and then returned to the prison via these steps at the end of the day.

Plants on the Recreation Yard Slope include: acanthus, aloe, coprosma, ice plant, lonicera, lathyrus, narcissus, pelargonium, roses, and zantedeschia. GGNPC volunteers are in the process of updating the inventory of plants in this area. This information (list of plants and map of general locations) will be appended to the CLI after it is updated.

The Recreation Yard Slope is associated with both the military and federal prison eras and is a contributing vegetation feature.

13. Lower Terraces

On the slope below and west of the Greenhouse Area is a garden area known as the “Lower Terraces.” Sometime after the construction of the new Cellhouse Building, in 1912, the Army, using inmate laborers, built a series of shallow terraces, using rock rubble and concrete masonry unit blocks, in this area. During the federal penitentiary era, these beds were maintained by inmate gardeners. This was one of the areas that Elliot Michener was responsible for during his years as an inmate gardener on the west side of the island (1941-ca. 1948).

The Lower Terraces have not received regular maintenance since the federal penitentiary closed in 1963, and so the plants that remain are those that were able to survive without irrigation or maintenance. There are a variety of plants growing in the terraces including: agave, aeonium, chasmanthe, coyote bush, fuchsia, iris, mirror plant, pelargonium, roses (possibly some of the roses that were moved by the Army from the Upper Terrace area), and watsonia. On the west side of the road, there are two stands of mirror plant, one each on the north and south sides of the incinerator area.

The Lower Terraces represent one of the areas created by inmate gardeners during the military prison era and then maintained by inmate gardeners during the federal penitentiary era. It is a contributing vegetation feature.

14. Agave Trail

The path along the south shoreline of the island is known as the Agave Trail. This path was established by the Army during the military prison era, probably in the late 1910s. It begins at the dock area, continues along the shoreline, and then connects, via a long flight of steps, up the slope to the Parade Ground. In 1990, this path and steps were rebuilt with new paving materials, a new railing, and new benches and called the “Agave Trail.” The plants on the slope above the Agave Trail probably date from the late 19th or early 20th century and were planted by the Army or naturalized from plants in other adjacent areas. The plants have not been maintained for at least 40 years (since 1963 when the federal

prison closed) and due to their location on this steep slope may never have received much attention. The area has naturalized with plants from adjacent areas on the island and has a variety of plants growing among the rocky cliffs including: agave, aloe, albizia, ice plant, ivy, and eucalyptus. The built features of the Agave Trail are not contributing features since post-date the period of significance. However, the plant materials on the slopes in this area are associated with plantings from the military and federal prison eras and are contributing vegetation features.

There is a stand of eucalyptus trees located along the slopes above the Agave Trail, between the dock area and the large “Warning” sign. These trees were planted by the Army, probably during the military prison era. Some of the trees donated in 1924 by the California Spring Blossom and Wildflower Association were probably planted in this area. (Large stand of eucalyptus were commonly planted in San Francisco (and California) during the late 19th and early 20th centuries. They were chosen for their fast growth rate and ability to survive almost any growing condition [other than freezing].) This stand of eucalyptus trees is a contributing vegetation feature.

15. Shoreline

The area along the east shore of the island has a variety of plants including: agave, albizia, ferns, ice plant, ivy, nasturtium, pelargonium, and roses. The Army planted this area to control erosion and for ornamental purposes. The path along the east shore was built by the Army around 1918 and “flowers and shrubbery” (Mayer 1918) were planted. Fred Reichel also mentions a “small flat garden near the Post Exchange” (Reichel ca. 1974: 2) that may refer to the area that is next to the entrance on the south side of this building. Reichel maintained this area while he was at Alcatraz (1934-1941). However, the rest of the east shore was not maintained during the federal penitentiary era, since inmates would not have been allowed in this area due to security concerns. Basically, the plant materials that exist there today have continued to persist (and naturalize) without any intervention (maintenance, watering, etc.) over the past 40 (since 1963 when the federal prison closed) to 70 (since 1933 when the Army transferred control of Alcatraz to the Bureau of Prisons) years. This area is associated with both the military and federal prison eras and is a contributing vegetation feature.

The area along the rocky west shore of the island has a variety of plants including: aeonium, agave, echium, and ice plant. The Army may have planted some of this area during the late 19th or early 20th century for erosion control. However, basically this area has naturalized with plants from adjacent areas on the island. The plants in these areas are contributing vegetation features.



Planting bed on north end of Officers' Row. Built on foundations of Officers' Quarters No.9. View to NE. (116_15A_0160, D. Bradley, 2004)



Remains of the greenhouse foundation on south side of Warden's house (No. 79). View to E. (112_11_0049, D. Bradley, 2004)



Garden area on northwest side of Warden's house (No. 79). View to E. (112_9_0047, D. Bradley, 2004)



Plant materials on cliffs at south end of island. View from Agave Trail to N. (934_14A_0018, D. Bradley, 2004)



Muybridge's 1869 photograph of the garden area on the east side of the Citadel during the Military Fortifications Era. (Source: CA Heritage Collection, Bancroft Library [<http://ark.cdlib.org>])

Characteristic Feature	Type Of Contribution	LCS Structure Name	IDLCS Number	Structure Number
Agave Trail	Contributing			
Cellhouse Building Vegetation	Contributing			
Electric Shop Bed	Contributing			
Greenhouse Area	Contributing			
Lower Terraces	Contributing			
Officers' Row Garden	Contributing			
Recreation Yard Slope	Contributing			
Sallyport Beds	Contributing			
Seawall Planter	Contributing			
Shoreline	Contributing			

Tool Shed Terraces	Contributing
Trough Planter	Contributing
Warden's House Garden	Contributing
West Lawn Area	Contributing
Water Tank Garden	Undetermined

Natural Systems And Features

Natural systems and features are defined in the Cultural Landscape Inventory as those “natural aspects that have influenced the development and physical form of a landscape.” The key natural systems and features (location, terrain, climate, and hydrology) that have effected the development of Alcatraz’s cultural landscape are discussed below.

Location

The island of Alcatraz is a 22.5-acre sandstone mass that “rises abruptly from 90-foot depths three miles east of the Golden Gate” (Delgado et al. 1991: 6). Until the construction of the Golden Gate Bridge in 1937, the island dominated the entrance to the San Francisco Bay. The first developments on the island were related to its location in relationship to the entrance to the bay and to San Francisco. Alcatraz was strategically located to provide for the defense of the bay and San Francisco during the mid-19th century, and a series of fortifications were built on the island between 1853-1859 and 1868-1876. Alcatraz’s location and the height of its landform made it a landmark that could be used for navigation. A lighthouse, the first on the West Coast, was built on the south end of the island and began operations in 1854.

Steep Terrain and Rock

The island’s original sloping topography did not provide any level areas for the construction of batteries or buildings. Since, Alcatraz basically had no soil (to grade to create level areas), the only way to create level areas for construction was to cut or blast away the island’s rock outcroppings. The rock that was removed during the excavations was used for fill on the island or was thrown over the cliffs, altering the island’s shoreline.

The steep island grades and the limited space on the island compelled the Army engineers to build the network of original roads with switchbacks.

Alcatraz’s sandstone is friable. This made it easy to cut, but the rock walls created from these excavations were not stable. Retaining walls were constructed to stabilize cuts and to prevent rock slides.

The lack of soil has meant that utility systems that would usually have been buried underground were often located above ground in pipes.

In order to create the original 19th century ornamental gardens, pits were dug out of the rock, and imported soil was placed in the pits. This importation of soil had the unintended consequence of introducing seeds of various plants (such as coyote bush, blue elderberry, blackberry, and California poppies), insects, and rodents. During the military prison (1907-1933) and federal prison (1933-1963) eras, prison gardeners created new ornamental garden spaces by building shallow terraces on top of slopes –such as those located on the west side of the island. Soil for these new garden areas was imported from the Presidio and possibly Angel Island by military prisoners. Additionally, both the military and federal prison era gardeners relied on composting to create soil for these new garden areas.

Climate

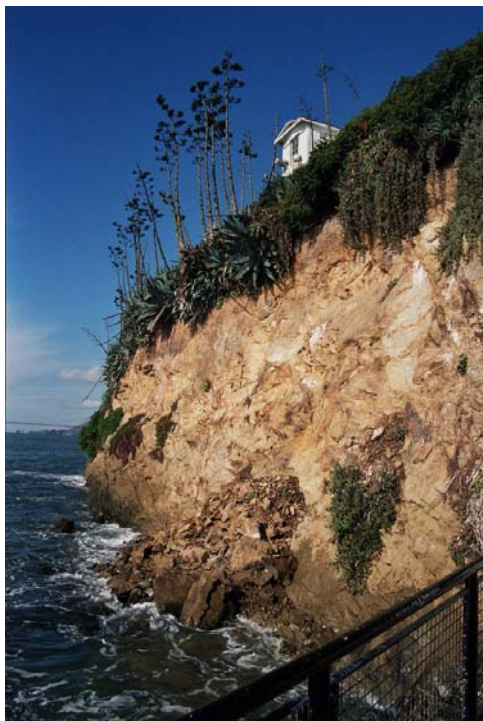
The wind blows predominantly from the west. The east side of the island is more protected from this wind than the west side. For this reason, the wharf and most of the Army’s quarters were located on the

east side of the island, and until the 1910s, most of the plantings were on the east side of the island. The presence of the wind has been one of the factors that have contributed to the island's image as a harsh environment.

Hydrology

The only natural sources of fresh water on the island are rain and fog. (A well was dug during the summer of 1913, but no fresh water was found, and the well was abandoned. [Thompson 1979: 242-243]) Historically, fresh water was brought to the island on a boat and stored in a series of tanks and cisterns. This need to import water added to the costs of operating the facilities on the island. Gray water was used during the military and federal prison eras to water portions of the garden areas on the west side of the island.

The limited availability of fresh water influenced the types of vegetation that flourished on the island. Irrigation was used to a limited extent –mainly in ornamental garden areas –until 1963 (when the federal prison closed). Those plants that remain on the island today are the ones that were able to survive without irrigation (that ended in 1963) and to adapt to the seasonal limits of the natural fresh water supply (fog or rain).



Alcatraz Island NHL. Cliff at south end of island. View from Agave Trail to W. (934_11A_0015, D. Bradley, 2004)

Archeological Sites

A base map of archaeological resources on the island was prepared by Regional Archaeologist Roger E. Kelly and places archaeological resources within three categories. Category One resources are known resources with integrity that have been documented. Category Two resources are suspected to exist with high potential. Category Three resources are those with their integrity gone, or those that have been compromised or displaced (Delgado et al. 1991: 40).

The eight category one resources are listed in the list of contributing features at the end of this section.

There are 20 category two sites, notably possible refuse and foundations of the original commandant's quarters and the original gardens, the pre-1867 engineer's barracks, laundry, stable commissary, shops, temporary barracks, and batteries McPherson and McClellan, as well as debris and buried rubble associated with several other removed structures such as the quarters on Officer's Row (Delgado et al. 1991: 41).

Kelly lists 15 category three sites, most of them rubble and refuse sites, a historic dumping slope, and the submerged remains of dumped materials off the island's southern shore. The submerged cultural resources are actually category one resources. Rather than view them as displaced resources from the island with relic value, their disposition in the bay represents a significant behavior and cultural tradition inherent to the island lifestyle (Delgado et al. 1991: 41).

The historic archaeological sites that have been identified and those that may be identified in the future are contributing features to the cultural landscape.

Characteristic Feature	Type Of Contribution	LCS Structure Name	IDLCS Number	Structure Number
Buried components of Battery Halleck and portions of the North Caponier	Contributing			
Buried portions of batteries Rosecrans and Halleck	Contributing			
Citadel basement, with its sewer tunnels, cisterns, graffiti, and technological elements	Contributing			
Defensive walls buried behind spoil near the recreation hall ruins and the model industry building	Contributing			
Dry guardhouse moat	Contributing			
Dumping sites along the cliffs, notably in the area of the incinerator	Contributing			

Sandstone walls of the South Battery and the South Caponier buried beneath the parade ground Contributing

Traverse tunnels, including magazines that were blocked and filled with earth in 1909 and 1910 Contributing

Land Use

Land use is defined in the Cultural Landscape Inventory as “The principal activities that have formed, shaped, or organized the landscape as a result of human interaction.”

Alcatraz was officially part of the harbor and coastal defense system from 1850-1907; a military prison from 1861-1933; and a federal prison from 1933-1963. It has been the location of navigational aids (lighthouse and fog signals) since 1854. Historic land uses included those related to defensive fortifications, the military or federal prison, and the administrative, support, and residential functions that supported these operations on the island. The current land use is as a public park. The only historic land use to remain today is the aids to navigation (lighthouse and the two fog signals). This use of the island as an aid to navigation contributes to the integrity of the landscape.



Aerial photograph of Alcatraz in 1959 during the Federal Prison Era. (Source: Chuck Stucker, Photographs in the Golden Gate Parks Conservancy collection)



Aerial view of the east side of Alcatraz in 1927, during the Military Prison Era. (Source: Golden Gate National Parks Conservancy collection)

Management Information

Descriptive And Geographic Information

Historic Name(s):	Post on Alcatraz Island (The military post on Alcatraz never received a formal name. [Thompson 1979: 181]) Isla de los Alcatraces (Thompson 1979: 3) Bird Island (Delgado et al. 1991: 9) Guana Island (Delgado et al. 1991: 9) Pacific Branch, U.S. Military Prison, Alcatraz Island (Thompson 1979: 309) Pacific Branch, United States Disciplinary Barracks (Martini 1991: 109) United States Penitentiary at Alcatraz Island (Thompson 1979: 349) The Rock White Island (Delgado et al. 1991: 9)
Current Name(s):	Alcatraz Island National Historic Landmark Alcatraz The Rock Alcatraz Island
Management Unit:	
Tract Numbers:	
State and County:	San Francisco County, CA
Size (acres):	22.50

Boundary UTM

Boundary UTM(s):	Source	Type	Datum	Zone	Easting	Northing
	USGS Map 1:24,000	Point	NAD 83	10	550715	4186870
	USGS Map 1:24,000	Point	NAD 83	10	551185	4186500
	USGS Map 1:24,000	Point	NAD 83	10	550545	4186655
	USGS Map 1:24,000	Point	NAD 83	10	551025	4186285

GIS File Name:

GIS File Description:

National Register Information

National Register Documentation: Entered -- Documented

Explanatory Narrative:

In 1976, Alcatraz Island was listed as a district in the National Register of Historic Places at the national level of significance under criterion A. Commerce, engineering, military, and social/humanitarian themes were designated as the areas of significance. (National Register Information System Website and Delgado et al. 1991: 2) The NRHP registration form was prepared before cultural landscape concepts had been developed and implemented into the NRHP guidelines, and so the NRHP nomination did not adequately address the cultural landscape.

In 1986, Alcatraz Island was designated a National Historic Landmark. Its period of significance was 1847-1971. In terms of the National Historic Landmarks Program, the history of the Island is nationally significant under: Theme 5 (political and Military Affairs), subtheme 5b (1830-1860), and subtheme 5c (1865-1914); Theme 7 (American at work), subtheme 7j (Engineering), facet 5 (Military Fortifications); Theme 9 (Society and social Conscience), subtheme 6b (Social and Humanitarian Movements), facet 2 (Humanitarian Movements), and subfacet c (Prison Reform) (Haller 1986). The NHL registration form was prepared before cultural landscape concepts had been fully integrated into NPS procedures, and so the NHL nomination did not adequately address the cultural landscape.

NRIS Information:

NRIS Number:	76000209
Primary Certification:	Listed In The National Register
Primary Certification Date:	6/23/1976
Other Certifications:	Designated National Landmark
Other Certification Date:	1/19/1986
Name In National Register:	Alcatraz
Other Names In National Register:	Alcatraz Island National Historic Landmark;Pacific Branch, U;Alcatraz Island National Historic Landmark;Pacific Branch,

National Register Classification: District

Significance Level: National

Contributing/Individual: Individual

Significance Criteria: A -- Inventory Unit is associated with events that have made a significant contribution to the broad patterns of our history

Area Of Significance:

Category:	Military
Priority:	1
Category:	Social History
Priority:	2
Category:	Maritime History
Priority:	3

National Historic Landmark Information

National Historic Landmark Status:	Yes
Date Determined Landmark:	1/1/1986
Landmark Theme:	Theme 5 (political and military affairs); Theme 7 (America at work); and Theme 9 (Society and social conscience).

World Heritage Site Information

World Heritage Site Status:	No
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Cultural Landscape Type and Use

Cultural Landscape Type:	Historic Site
Current and Historic Use/Function:	
Use/Function Category:	Commerce/Trade
Use/Function:	Commerce/Trade-Other
Detailed Use/Function:	Commerce/Trade-Other
Type Of Use/Function:	Historic
Use/Function Category:	Recreation/Culture
Use/Function:	Monument (Marker, Plaque)
Detailed Use/Function:	Monument (Marker, Plaque)
Type Of Use/Function:	Current
Use/Function Category:	Government
Use/Function:	Correctional Facility (Jail)
Detailed Use/Function:	Correctional Facility (Jail)
Type Of Use/Function:	Historic
Use/Function Category:	Government
Use/Function:	Monument (Building)
Detailed Use/Function:	Monument (Building)
Type Of Use/Function:	Current

Ethnographic Information

Ethnographic Survey Conducted: No Survey Conducted

Adjacent Lands Information

Do Adjacent Lands Contribute? No

Adjacent Lands Description:

General Management Information

Management Category: Must Be Preserved And Maintained

Management Category Date: 8/1/2005

Explanatory Narrative:

As a National Historic Landmark (NHL), Alcatraz falls under “Must Be Preserved and Maintained (Category A).”

Condition Assessment And Impacts

The criteria for determining the condition of landscapes is consistent with the Resource Management Plan Guideline definitions (1994) and is decided with the concurrence of park management. Cultural landscape conditions are defined as follows:

Good: indicates the landscape shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The landscape'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 landscape 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 character-defining elements will cause the landscape to degrade to a poor condition.

Poor: indicates the landscape 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: Not enough information available to make an evaluation.

Condition Assessment: Fair

Assessment Date: 01/01/2004

Date Recorded: 08/08/2005

Park Management Concurrence: Yes **Concurrence Date:** 8/29/2005

Level Of Impact Severity: Moderate

Stabilization Measures:

The overall condition of the buildings and landscape features of Alcatraz Island is fair. Many of the features are deteriorating to some degree as a result of deferred maintenance, natural elements, and visitation wear-and-tear. Specific features that have been identified as needing immediate repair or replacement to stabilize them include the toolshed; the toolshed terrace

wall; the west side terrace wall, stairs, and railing; Officers' Row stairs, wall, and railing; and the birdbath.

For the historic garden areas, the best stabilization is an on-going regular maintenance under the supervision of an experienced historic landscape gardener. The garden areas are currently being maintained by a volunteer program. The cost of this volunteer maintenance program should be considered a stabilization cost.

Impact:

Type of Impact:	Deferred Maintenance
Internal/External:	Internal
Description:	
Type of Impact:	Earthquakes
Internal/External:	Both Internal and External
Description:	
Type of Impact:	Erosion
Internal/External:	Internal
Description:	
Type of Impact:	Exposure To Elements
Internal/External:	Internal
Description:	
Type of Impact:	Microclimate
Internal/External:	Internal
Description:	
Type of Impact:	Neglect
Internal/External:	Internal
Description:	
Type of Impact:	Other -- Bird nesting restricts access and limits mainten
Internal/External:	Internal
Description:	
Type of Impact:	Structural Deterioration
Internal/External:	Internal
Description:	
Type of Impact:	Vegetation/Invasive Plants
Internal/External:	Internal
Description:	

Agreements, Legal Interest, and Access

Management Agreement: Cooperative Agreement

Expiration Date: UNKNOWN

Explanatory Narrative:

GGNRA has a cooperative agreement with the Golden Gate National Parks Conservancy who provides support in preservation projects throughout GGNRA.

NPS Legal Interest: Fee Simple

Explanatory Narrative:

Public Access: Other Restrictions

Alcatraz is only accessible by a ferry operated by a concessionaire.

Treatment

Approved Treatment: Rehabilitation
Approved Treatment Document: Development Concept Plan
Document Date: January 1, 1993

Explanatory Narrative:

The Alcatraz Development Concept Plan and Environmental Assessment (LSA 1993) recognized that:

“All of Alcatraz is a cultural landscape. Planning to preserve the cultural landscape means not only preserving major structures, but also entire ensembles of structures and small-scale elements, including vegetation, as well as patterns of use and ephemera . . . All periods of the development of Alcatraz are important. The NPS will seek to maintain the interrelationship of the clusters, structures and elements of each era, and through preservation and interpretation highlight key concepts from each period” (LSA 1993: 22).

This report specified three treatment levels –preservation, rehabilitation, and restoration –for the cultural landscape. Pages 23-25 of this report provided general guidelines for buildings and structures, circulation patterns and systems, site details and materials, collections/archaeology, and vegetation.

Approved Treatment Completed: No

Approved Treatment Cost

LCS Structure Approved

Treatment Cost:

Landscape Approved

Treatment Cost:

Cost Date:

Level of Estimate:

Cost Estimator:

Explanatory Description: There are currently no approved treatment costs.

Stabilization Costs

LCS Structure Stabilization Cost: \$20,000
Landscape Stabilization Costs: \$91,000
Cost Date: September 8, 2005

Level Of Estimate:

C - Similar Facilities

Cost Estimator:

Other Center

Explanatory Description:

Stabilization of Alcatraz historic garden areas began in 2003, with establishment of a volunteer garden crew under the supervision of an experienced historic landscape gardener. The crew carries out landscape maintenance and documentation as recommended in the Landscape Stabilization and Maintenance Guidelines (Eleey, 1998), as well as treatment actions as they are approved. The current cost of the volunteer program is a minimum of \$40,000 per year, including crew leader, arborist fees, supplies, equipment and research and documentation expenses.

Emergency stabilization projects outside the scope of the volunteer garden maintenance include:

Toolshed repair (\$20,000)

Toolshed terrace wall repair (\$10,000)

West side terrace stair, wall and railing repair (\$15,000)

Officer's Row stair, wall and railing repair (\$25,000)

Birdbath repair/replacement (\$1,000)

Documentation Assessment and Checklist

Documentation Assessment: Fair

Documentation:

Document: General Management Plan

Year Of Document: 1980

Adequate Documentation: No

Explanatory Narrative:

The GOGA General Management Plan (1980) was prepared before cultural landscape concepts had been developed and implemented into NPS procedures, and so the GMP does not adequately address the cultural landscape.

Document: Historic Resource Study

Year Of Document: 1979

Adequate Documentation: No

Explanatory Narrative:

The Rock: A History of Alcatraz Island, 1847-1972, Historic Resource Study, Golden Gate National Recreation Area, California (1979) discusses various aspects of the cultural landscape development as part of the history of the island, and the text provides a great deal of valuable information. However, this report was prepared before cultural landscape concepts had been developed and implemented into NPS procedures, and so the HRS does not systematically address the cultural landscape.

Document: Cultural Landscape Report

Year Of Document: 1991

Adequate Documentation: No

Explanatory Narrative:

The Alcatraz Cultural Landscape Report (Delgado et al. November 1991, second draft) provided a history, description, and analysis of the cultural landscape features; however this report was never finalized or officially adopted.

Document: Historic Grounds Report

Year Of Document: 1992

Adequate Documentation: No

Explanatory Narrative:

The Historic Gardens of Alcatraz (1992) was the first survey of the island's historic garden areas and their surviving plants. The maps and plant lists developed for this report provide the baseline for monitoring plant survival and the condition of the gardens. Due to either the limitations of access related to the bird nesting season or other project constraints, the northern half of the island and portions of the lower terraces on the western side were not documented, and treatment recommendations were not provided for these areas. In addition, because there was no ability to clear overgrowth prior to the inventory, garden features such as walls, walks, fences, structures and some plants were not visible and were not recorded on the report's maps.

Document: Development Concept Plan

Year Of Document: 1993

Adequate Documentation: Yes

Explanatory Narrative:

The Alcatraz Development Concept Plan and Environmental Assessment (July 1993) defined a general historic preservation ethic for the island which called for a series of specific cultural resource management actions including preservation, rehabilitation, and restoration. It recognized the cultural landscape as one of the island's historic resource components. One of the four key objectives of the DCP was "To preserve the cultural landscape and the National Historic Landmark, while adapting it for new uses" (p. 2). The DCP relied on information in the Historic Gardens of Alcatraz report (Lutsko 1992) and the draft Alcatraz Cultural Landscape Report (Delgado et al. 1992) for the documentation of the cultural landscape. The DCP provided general treatment guidelines related to specific areas of the NHL district (buildings and structures, circulation patterns and systems, site details and materials, collections and archaeology, and vegetation).

Document: Other

Year Of Document: 1998

Amplifying Details: The Landscape Stabilization and Maintenance Guidelines for Alcatraz Island, Golden Gate National Recreation Area (1998)

Adequate Documentation: Yes

Explanatory Narrative:

The Landscape Stabilization and Maintenance Guidelines for Alcatraz Island, Golden Gate National Recreation Area (1998) focused on updating the 1992 plant inventory (Lutsko 1992) and recommending stabilization actions for the Sallyport, Officers' Row, and Terraced Gardens areas. Other areas and features of the cultural landscape were not addressed in this report.

Appendix

Bibliography

Supplemental Information

Title: Alcatraz Plant Inventory and Characteristics

Description: May 2005

Title: Existing Conditions and Historic Maps

Description: Seven Maps (one Existing Conditions and six historic maps) follow.

Title: Field and Research Information

Description: The field work for the CLI inventory was done by Denise Bradley (consulting landscape historian) during the fall of 2004. The Golden Gate National Parks Conservancy (GGNPC) is updating the inventory and mapping of the garden areas and plant materials; the work on these tasks was in-progress during the time the CLI text was being prepared (September 2004 through January 2005).

Historic maps from the GGNRA Archives were reviewed. Of particular value were the historical maps that were assembled by Erwin Thompson as part of his historic resource study of Alcatraz (Thompson 1979). (Some of these maps are reproduced at a reduced scale in his report.) Of particular value in preparing the CLI were the following:

Field Map of Isla de los Alcatrazes, San Francisco Harbor, Surveyed by Lieut. W. H. Warner U. S. Topo. Engr. Assisted by Wm. N.L. Beston, Washington D.C., May 1847. This map shows the original topography of the island.

Map of Alcatraz Island From A Survey By Capt. O.H. Ernst U.S. Engrs. under the direction of Major G.H. Mendell U.S. Engrs. Bvt. Col. USA 1867. This map of Alcatraz, before the implementation of the Plan of 1870, represents the layout of the island during the era of masonry fortifications (1853-1868).

Map Of Alcatraz Island California 1879, Engineer Office, Presidio of San Francisco, CAL. (Presidio 1879). This map illustrates the extent of work that was done on the earthen batteries prior to the ending of coastal defense appropriations in 1876.

Map of Alcatraz Island, San Francisco Bay, California. (Rodgers 1894) This map shows the features of the island in the mid-1890s during the latter part of the fortifications era.

Map of Alcatraz Island, San Francisco Bay, Cal., Revised From Official Map to Jan. 1, 1905 Under Direction of 2nd Lieut. Beverly C. Daly, B.Q.M. -C.A. 13th Infantry. (Daly 1905) This maps show the features of the island right before reconstruction efforts began in 1908. It provides a good comparison with the map prepared by Turner (see below) that documented the initial changes to the island during the military prison era.

Alcatraz Island, California From a map made under the direction of Lieut. Col. R. B. Turner, 29th Inf. And other official information. Drawn by C.H. Stone December 1909. (Turner 1909) This map shows the layout of the island at the beginning of the military prison era (1907-1933).

Quartermasters Officer, Alcatraz, Calif., Pacific Branch - United States Disciplinary Barracks, Alcatraz, California, 1933. This map shows the layout of the island at the end of the military prison era.

Photogrammatic Map of Alcatraz Island (R.M. Towill Inc.1961). This map shows the built features of the island at the end of the federal prison era.

Historic photographs that are included in the CLI were selected from those that were available electronically and that did not have use restrictions. However, there a number of valuable sources of historic photographs of Alcatraz including the following:

Historic photographs from the GGNRA Archives were reviewed.

Historic photographs from the San Francisco Public Library were reviewed, and these are available online at the library's website <http://sfpl.lib.ca.us>, were reviewed.

The Parks Conservancy has assembled a collection of historic photographs, many from former residents at the island during the federal prison era.

The J. Porter Shaw Library at the San Francisco Maritime National Historical Park has a collection of photographs of Alcatraz.

The Bancroft Library at the University of California, Berkeley also has historic photographs of Alcatraz. Some of the Bancroft's historic photographs are available online through the California Heritage Collection at <http://sunsite.berkeley.edu/CalHeritage>. Included in these photographs are those by Eadweard Muybridge taken in 1869 which provide an excellent record of the cultural landscape during the Masonry Fortifications Era.

Copies of some of the historic photographs are available in a number of the secondary resources on Alcatraz (Babyak 1988, Cameron 1974, Martini 1990, Martini 2002).

Several written sources provided valuable first-person descriptions of the island at various periods including:

In the appendix of *The Historical Gardens of Alcatraz Island*, Research for the Golden Gate National Park Association (Lusko Associates 1992), there is a letter (ca. 1978) from Fred Reichel to Evelyn Strong (Site Supervisor at Alcatraz) and an unreferenced letter (no date) that was probably to the editor of the *California Horticulture Journal* (probably in conjunction to the article in the journal in 1974 [Bryan and MacInnis 1974]). Reichel was the secretary to the warden from January 1934 to August 1941 and was a key individual in the creation and maintenance of garden features on Alcatraz during this period. He describes his horticultural work at Alcatraz in these two letters. He also mentions the gardens and his work in a portion of his oral interview (see pages 21-25 of the unedited draft transcript [GOGA 18715] that is available at the

GGNRA Archives).

Three letters (14 and 26 August 1995 and ca. September 1995) written to Russell Beatty from Elliott Michener, a prisoner who worked on the gardens at the Warden's residence and on the west side of the island from 1941-1950, provided valuable information on the gardens and the contributions of inmate gardeners. Beatty also prepared a written record of his oral interview with Michener that was valuable (Beatty 1995). Copies of these documents are available at the GGNRA Archives (Beatty Collection GOGA 2357). There is also an oral history tape and a written summary that provides some information on the garden (GOGA 18696/2030.199).

This CLI relied on the invaluable research, synthesis, and writing in a number of secondary sources including the following:

Erwin Thompson provided critical information on the cultural landscape features in the course of telling the history of the development of the island in *The Rock: A History of Alcatraz Island, 1847-1972*, Historic Resource Study, Golden Gate National Recreation Area, California (Thompson 1979). Thompson reviewed a wide range of primary records, including those at the National Archives. As have others, I relied heavily on his synthesis of these records to provide crucial information (dates of construction, description, and context). At the time that Thompson was preparing this report, cultural landscape concepts had been not been developed and implemented into NPS procedures, and so the report does not systematically address the cultural landscape. This, along with the lack of an index, can make it difficult to locate information within this large and detailed report.

The various publications of John Martini on Alcatraz (including *Fortress Alcatraz: Guardian of the Golden Gate* [1990], "Search and Destroy" in *American Heritage* [1992], and *Alcatraz At War* [2002]) were valuable in providing dates, description, and context. Martini's publications also provide valuable historical photographs. Additionally, he provided an unpublished timeline "Alcatraz Physical Changes Timeline" (2003) to GGNPC that was helpful.

The Cultural Landscape Report, Alcatraz Island, Golden Gate national Recreation Area, San Francisco, Second Draft (Delgado et al. 1991) synthesized the historic information provided in *The Rock: A History of Alcatraz Island* (Thompson 1979) and *Fortress Alcatraz: Guardian of the Golden Gate* (Martini 1990) to provide a history of the development of the cultural landscape. This report also provided the first analysis of the development of the cultural landscape features. Information in this report was reviewed in preparing this CLI and relevant portions were incorporated into the CLI text.

The Historical Gardens of Alcatraz Island, Research for the Golden Gate National Park Association (Lusko Associates 1992) provided a list of

plant materials and maps of garden areas. This report was the first to undertake a systematic survey of the plant materials on the island and to provide some context on the history of the introduction of individual species.

The essays by John Hart, Russell Beatty, and Michael Boland in *Gardens of Alcatraz* (1996) all provided valuable analysis on the development of the cultural landscape and gardens at Alcatraz.

The *Seacoast Fortifications Preservation Manual* (Freeman et al. 1999) provided contextual information on the development of the seacoast fortification system in the San Francisco Bay area.

America's Lighthouses, An Illustrated History (Holland 1972), *Lighthouses of the Pacific* (Gibbs 1986), *Western Lighthouses* (Jones and Roberts 1993) provided contextual information on the development of the two Alcatraz lighthouses.

Appendix

Bibliography

Citations:

Citation Title: The Rock
Citation Author:
Year of Publication: 1917-1918
Citation Publisher:
Source Name: Other
Citation Number: CRMM-01-02, Box 3 of 5
Citation Type: Narrative
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Sketch of proposed cement walks at Alcatraz Island, Cal.
Citation Author: (from NA RG 92, OQMG, Gen. Corresp., 1890-1914, Lt. Chas. M. ?, QM, Alcatraz, Ja. 4, 1921, to ?)
Year of Publication: ca.1898
Citation Publisher:
Source Name: Other
Citation Number: Thompson Collection, GOGA 18360 O5 F2
Citation Type: Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Historical maps of Alcatraz from the National Archives used in Thompson's Historic Resource Study, 1847-1974
Citation Author:
Year of Publication:
Citation Publisher:
Source Name: Other
Citation Number: 1442/18360
Citation Type: Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Geology Map of Alcatraz Island
Citation Author: Armstrong, Charles and Kathy Gallagher
Year of Publication: 1976
Citation Publisher:
Source Name: Other
Citation Number: War Room Drawer, Alcatraz Folder
Citation Type: Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Record of Interview with Elliott Michener
Citation Author: Beatty, Russell A.
Year of Publication: 20 September 1995
Citation Publisher:
Source Name: Other
Citation Number: Beatty Collection, GOGA 2357
Citation Type: Narrative
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: "Long, Enduring Patterns: Gardens and Their Plants" in Gardens of Alcatraz
Citation Author: Beatty, Russell A.
Year of Publication: 1996
Citation Publisher: San Francisco: Golden Gate National Parks Association Chronicle
Source Name: Other
Citation Number:
Citation Type: Narrative and Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: "Paradise Reclaimed: A New Perspective on the Gardens of Alcatraz" in Gardens of Alcatraz
Citation Author: Boland, Michael
Year of Publication: 1996
Citation Publisher: San Francisco: Golden Gate National Parks Association Chronicle
Source Name: Other
Citation Number:
Citation Type: Narrative and Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: The plant men of Alcatraz left a garden legacy behind
Citation Author: Brown, Patricia Leigh
Year of Publication: 23 June 2001
Citation Publisher: San Francisco Chronicle
Source Name: Other
Citation Number:
Citation Type: Narrative
Citation Location: online at <http://www.sfgate.com>

Citation Title: A Visit to Alcatraz, an Island of Contrasts
Citation Author: Bryan, John E. And Lynn A. MacInnis
Year of Publication: 1974
Citation Publisher: California Horticultural Journal
Source Name: Other
Citation Number: Vol. 35, No. 3, July 1974
Citation Type: Both Graphic and Narrative
Citation Location: Helen Crocker Russell Library, San Francisco Botanical Gardens

Citation Title: Alcatraz Island Vegetation Map
Citation Author: Crabb, Robert C.
Year of Publication: 17 August 1983
Citation Publisher:
Source Name: Other
Citation Number: War Room Drawer, Alcatraz Folder
Citation Type: Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Map of Alcatraz Island, San Francisco Bay, Cal., Revised From Official Map to Jan. 1, 1905 Under Direction of 2nd Lieut. Beverly C. Daly, B.Q.M. -C.A. 13th Infantry
Citation Author: Daly, 2nd Lieut. Beverly C.
Year of Publication: 1905
Citation Publisher: (U.S. Army)
Source Name: Other
Citation Number: Thompson Collection, GOGA 18360 O5 F3
Citation Type: Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Cultural Landscape Report, Alcatraz Island, Golden Gate national Recreation Area, San Francisco, Second Draft
Citation Author: Delgado, James P., John A. Martini, and Nicholas Weeks
Year of Publication: 1991
Citation Publisher:
Source Name: Other
Citation Number: MERT-99-1
Citation Type: Both Graphic and Narrative
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Landscape Stabilization and Maintenance Guidelines for Alcatraz Island, Golden Gate National Recreation Area
Citation Author: Eleey, Patrick I. (Olmsted Center for Landscape Preservation) in collaboration with Golden Gate National Parks Association and Golden Gate National Recreation Area
Year of Publication: 1998
Citation Publisher: National Park Service, Boston, MA
Source Name: Other
Citation Number:
Citation Type: Both Graphic and Narrative
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Map of Alcatraz Island From A Survey By Capt. O.H. Ernst U.S. Engrs. under the direction of Major G.H. Mendell U.S. Engrs. Bvt. Col. USA 1867

Citation Author: Ernst, Capt. O. H.

Year of Publication: 1867

Citation Publisher: (U.S. Army)

Source Name: Other

Citation Number: Thompson Collection, GOGA 18360 O5 F1

Citation Type: Graphic

Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Seacoast Fortifications Preservation Manual

Citation Author: Freeman, Joe, Stephen A. Haller, David Hansen, John A. Martini, Karen J. Weitze

Year of Publication: July 1999

Citation Publisher: Golden Gate National Recreation Area

Source Name: Other

Citation Number:

Citation Type: Both Graphic and Narrative

Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Lighthouses of the Pacific

Citation Author: Gibbs, Jim A.

Year of Publication: July 1986

Citation Publisher: Schiffer Publishing Ltd, West Chester, PA

Source Name: Other

Citation Number:

Citation Type: Both Graphic and Narrative

Citation Location: San Francisco Public Library

Citation Title: Alcatraz Island National Register of Historic Landmarks Nomination Form

Citation Author: Haller, Stephen A.

Year of Publication: 1985

Citation Publisher:

Source Name: Other

Citation Number: CRMM-01-02, Box 2 of 5

Citation Type: Graphic and Narrative

Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Demolition/Repair Plan, The Agave Walk, Phase One of the Perimeter Trail, Alcatraz Island, G.G.N.R.A., Sheets No. LD 1.01 and LD 1.02

Citation Author: Halprin, Lawrence and Befe Donan Associates

Year of Publication: December 1989

Citation Publisher:

Source Name: Other

Citation Number: War Room Draw, Alcatraz Folder

Citation Type: Graphic

Citation Location: Golden Gate National Recreation Area Archives

Citation Title: The Agave Walk, Phase One of the Perimeter Trail, Alcatraz Island, Golden Gate National Park Assoc., Lawrence Halprin Landscape Architect, Befu Donan Associates Assoc. Landscape Architect

Citation Author: Halprin, Lawrence and Befu Donan Associates

Year of Publication: December 1989

Citation Publisher:

Source Name: Other

Citation Number: War Room Draw, Alcatraz Folder

Citation Type: Graphic

Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Landscape Site Plan, The Agave Walk, Phase One of the Perimeter Trail, Alcatraz Island, G.G.N.R.A., Sheets No. 1.01 and 1.02

Citation Author: Halprin, Lawrence and Befu Morris Scardina

Year of Publication: September 1990

Citation Publisher:

Source Name: Other

Citation Number: War Room Draw, Alcatraz Folder

Citation Type: Graphic

Citation Location: Golden Gate National Recreation Area Archives

Citation Title: "The Rock Garden: The Curious Greening of Alcatraz" in Gardens of Alcatraz

Citation Author: Hart, John

Year of Publication: 1996

Citation Publisher: San Francisco: Golden Gate National Parks Association

Source Name: Other

Citation Number:

Citation Type: Both Graphic and Narrative

Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Email communication

Citation Author: Hellwig, Christian (Biologist, Alcatraz Island)

Year of Publication: 2005

Citation Publisher:

Source Name:

Citation Number:

Citation Type: Narrative

Citation Location:

Citation Title: Wrecking Old Naval Guns With Dynamite
Citation Author: Hogg, John Edwin
Year of Publication: Vol. 33, No. 3 (March 1920/1926), pp. 418-19
Citation Publisher: Popular Mechanics
Source Name: Other
Citation Number: GOGA 3291 (3284)
Citation Type: Both Graphic and Narrative
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: America's Lighthouses, An Illustrated History
Citation Author: Holland, Francis Ross, Jr.
Year of Publication: 1972
Citation Publisher: Dover Publications, New York
Source Name: Other
Citation Number:
Citation Type: Narrative and Graphic
Citation Location:

Citation Title: The Alcatraz Indian Occupation
Citation Author: Johnson, Troy
Year of Publication: NA
Citation Publisher: NA
Source Name: Other
Citation Number:
Citation Type: Narrative
Citation Location: NPS Web site <http://www.nps.gov/alcatraz/indian.html>

Citation Title: Western Lighthouses, Olympic Peninsula to San Diego
Citation Author: Jones, Ray (Text) and Bruce Roberts (Photographs)
Year of Publication: 1993
Citation Publisher: The Globe Pequot Press, Old Saybrook, CT
Source Name: Other
Citation Number:
Citation Type: Both Graphic and Narrative
Citation Location: San Francisco Public Library

Citation Title: Email communication
Citation Author: Lehman, Jane (Historical Architect, GGNRA)
Year of Publication: 2005
Citation Publisher:
Source Name:
Citation Number:
Citation Type: Narrative
Citation Location:

Citation Title: Alcatraz Development Concept Plan and Environmental Assessment
Citation Author: LSA Associates Inc.
Year of Publication: 1993
Citation Publisher:
Source Name: Other
Citation Number:
Citation Type: Both Graphic and Narrative
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: The Historical Gardens of Alcatraz Island, Research for the Golden Gate National Park Association
Citation Author: Lusko Associates
Year of Publication: 1992
Citation Publisher:
Source Name: Other
Citation Number:
Citation Type: Both Graphic and Narrative
Citation Location: Golden Gate National Parks Conservancy

Citation Title: Fortress Alcatraz: Guardian of the Golden Gate
Citation Author: Martini, John A.
Year of Publication: 1990
Citation Publisher: Pacific Monograph, Kailua, Hawaii
Source Name: Other
Citation Number:
Citation Type: Both Graphic and Narrative
Citation Location: San Francisco Public Library

Citation Title: "Search and Destroy" in American Heritage
Citation Author: Martini, John
Year of Publication: November 1992
Citation Publisher: American Heritage
Source Name: Other
Citation Number: Box 1 of 8, CRMM-02-01
Citation Type: Both Graphic and Narrative
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Alcatraz At War
Citation Author: Martini, John A.
Year of Publication: 2002
Citation Publisher: Golden Gate National Parks Association, San Francisco
Source Name: Other
Citation Number:
Citation Type: Both Graphic and Narrative
Citation Location:

Citation Title: Alcatraz Physical Changes Timeline
Citation Author: Martini, John
Year of Publication: 2003
Citation Publisher:
Source Name: Other
Citation Number:
Citation Type: Narrative
Citation Location: Golden Gate National Parks Conservancy

Citation Title: "The Beauty of Alcatraz" in The Rock
Citation Author: Mayer, Edward
Year of Publication: March 1918
Citation Publisher:
Source Name: Other
Citation Number:
Citation Type: Narrative
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Alcatraz
Citation Author: Mensch, F. Cromwell
Year of Publication: 1937
Citation Publisher: F. Cromwell Mensch, San Francisco, California
Source Name: Other
Citation Number: "San Francisco Islands, Alcatraz, Prison" Clippings File
Citation Type: Both Graphic and Narrative
Citation Location: San Francisco Historical Center, San Francisco Public Library

Citation Title: Elliott Michener, Oral History Tape Summary
Citation Author: Michener, Elliott
Year of Publication: ca. 1974-75
Citation Publisher:
Source Name: Other
Citation Number: GOGA 18696
Citation Type: Narrative
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Elliott Michener, Oral History
Citation Author: Michener, Elliott
Year of Publication: ca. 1974-75
Citation Publisher:
Source Name: Other
Citation Number: GOGA 18696
Citation Type: Oral
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Letter to Russell Beatty from Elliott Michener
Citation Author: Michener, Elliott
Year of Publication: 26 August 1995
Citation Publisher:
Source Name: Other
Citation Number: Beatty Collection, GOGA 2357
Citation Type: Narrative
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Letter to Russell Beatty from Elliott Michener
Citation Author: Michener, Elliott
Year of Publication: ca. September 1995
Citation Publisher:
Source Name: Other
Citation Number: Beatty Collection, GOGA 2357
Citation Type: Narrative
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Map Of Alcatraz Island California 1879
Citation Author: Engineer Office, Presidio of San Francisco, CAL.
Year of Publication: 1879
Citation Publisher: Engineer Office, Presidio of San Francisco, CAL.
Source Name: Other
Citation Number: Thompson Collection, GOGA 18360 O5 F2
Citation Type: Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Unedited Draft Transcript of Oral History
Citation Author: Reichel, Fred
Year of Publication: NA
Citation Publisher:
Source Name: Other
Citation Number: 18715
Citation Type: Both Narrative
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: ca. 1974 letter from Fred Reichel to the editor of California Horticultural Society Journal (?) found in the appendix to Historical Gardens of Alcatraz (Lutsko 1992).
Citation Author: Reichel, Fred
Year of Publication: NA
Citation Publisher:
Source Name: Other
Citation Number:
Citation Type: Narrative
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: ca. 1978 letter from Fred Reichel to Evelyn Strong found in the appendix to Historical Gardens of Alcatraz (Lutsko 1992).

Citation Author: Reichel, Fred

Year of Publication: NA

Citation Publisher:

Source Name: Other

Citation Number:

Citation Type: Narrative

Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Map of Alcatraz Island, San Francisco Bay, California, Drawn under the direction of Major [?; not legible] J. Rodgers, 1st Artillery, [?; not legible], Dept. Of Cal.

Citation Author: Rodgers, Major [?; not legible] J.

Year of Publication: May 1894

Citation Publisher: (U.S. Army)

Source Name: Other

Citation Number: Thompson Collection, GOGA 18360 O5 F2

Citation Type: Graphic

Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Trees Were Planted

Citation Author: San Francisco Chronicle

Year of Publication: 1924

Citation Publisher: San Francisco Chronicle

Source Name: Other

Citation Number: 8 February 1924, page 8, column 3

Citation Type: Narrative

Citation Location: San Francisco Public Library

Citation Title: The Exiles of the Golden Gate

Citation Author: Sydenham, Alvin H.

Year of Publication: Vol. 17, No. 3 (19 January 1895), pages 66-68

Citation Publisher: The Illustrated American

Source Name: Other

Citation Number: GOGA 3291

Citation Type: Both Graphic and Narrative

Citation Location: Golden Gate National Recreation Area Archives

Citation Title: The Rock: A History of Alcatraz Island, 1847-1972, Historic Resource Study, Golden Gate National Recreation Area, California
Citation Author: Thompson, Erwin N.
Year of Publication: 1979
Citation Publisher: Denver, CO: Denver Service Center, Historic Preservation Division, National Park Service
Source Name: Other
Citation Number: GOGA 40044
Citation Type: Both Graphic and Narrative
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: (Photogrammatic Map of Alcatraz Island)
Citation Author: R.M. Towill Inc.
Year of Publication: 14 May 1961
Citation Publisher: R.M. Towill Inc.
Source Name: Other
Citation Number: Thompson Collection, GOGA 18360 O5 F4
Citation Type: Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Sketch of Alcatraz Island From the North East Showing Proposed Military Prison And Stockade Wall And Proposed Lighthouse
Citation Author: Turner, R.B., 8th (Inf. U.S.A., Constructing Quartermaster)
Year of Publication: 22 May 1908
Citation Publisher: Board of Government of United States Military Prison
Source Name: Other
Citation Number: Thompson Collection, GOGA 18360 O5 F5
Citation Type: Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Alcatraz Island, California From a map made under the direction of Lieut. Col. R. B. Turner, 29th Inf. And other official information.
Citation Author: Turner, Lieut. Col. R. B.
Year of Publication: Drawn by C.H. Stone December 1909
Citation Publisher: (U.S. Army)
Source Name: Other
Citation Number: Thompson Collection, GOGA 18360 O5 F3
Citation Type: Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Quartermasters Officer, Alcatraz, Calif., Pacific Branch - United States
Disciplinary Barracks, Alcatraz, California
Citation Author: (U.S. Army)
Year of Publication: 1933
Citation Publisher: (U.S. Army)
Source Name: Other
Citation Number: Thompson Collection, GOGA 18360 O5 F3
Citation Type: Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Alcatraz Island, CAL.
Citation Author: (U.S. Army, Surgeon General)
Year of Publication: ca. post-1872
Citation Publisher: (U.S. Army, Surgeon General)
Source Name: Other
Citation Number: Thompson Collection, GOGA 18360 O5 F2
Citation Type: Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Structures & Site Hazards, Alcatraz Island, GGNRA, Western Region, San
Fran. County, Calif.
Citation Author: United States, Department of Interior, National Park Service, Denver
Service Center
Year of Publication: 1 July 1979
Citation Publisher: United States, Department of Interior, National Park Service, Denver
Service Center
Source Name: Other
Citation Number: Thompson Collection, GOGA 18360 O5 F4
Citation Type: Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: List of Classified Structures, Alcatraz Isl., GGNRA, Western Region, SF
County, Calif.
Citation Author: United States, Department of Interior, National Park Service, Denver
Service Center
Year of Publication: 9 December 1978
Citation Publisher: United States, Department of Interior, National Park Service, Denver
Service Center
Source Name: Other
Citation Number: Thompson Collection, GOGA 18360 O5 F4
Citation Type: Graphic
Citation Location: Golden Gate National Recreation Area Archives

Citation Title: Field Map of Isla de los Alcatrazes, San Francisco Harbor, Surveyed by Lieut. W. H. Warner U. S. Topo. Engr. Assisted by Wm. N.L. Beston, Washington D.C., May 1847

Citation Author: Warner, Lieut. W. H.

Year of Publication: 1847 (Copy Made in Engr. Dept. March 20, 1879 from the original on file in R& H Drawer)

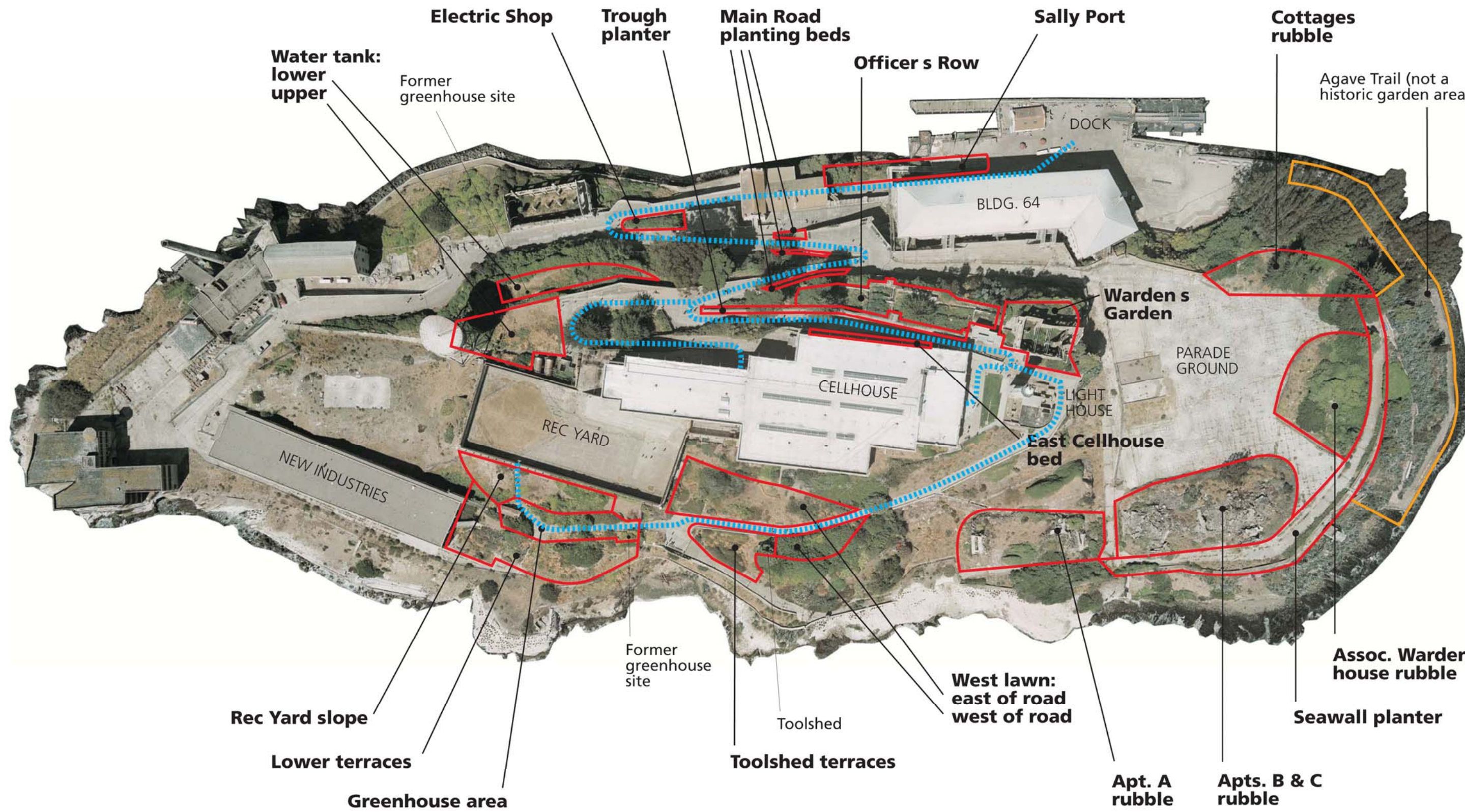
Citation Publisher: (U.S. Army)

Source Name: Other

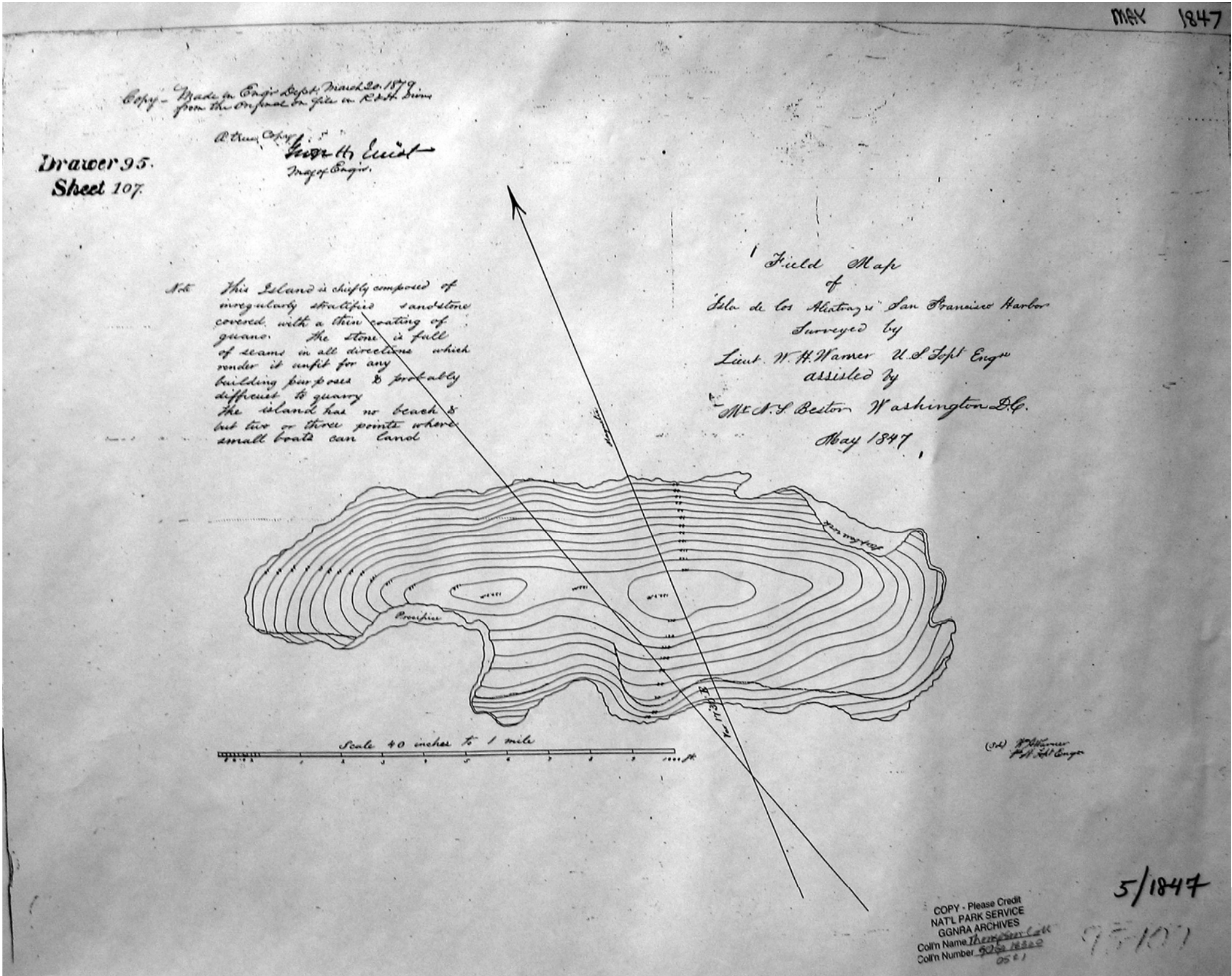
Citation Number: Thompson Collection, GOGA 18360 O5 F1

Citation Type: Graphic

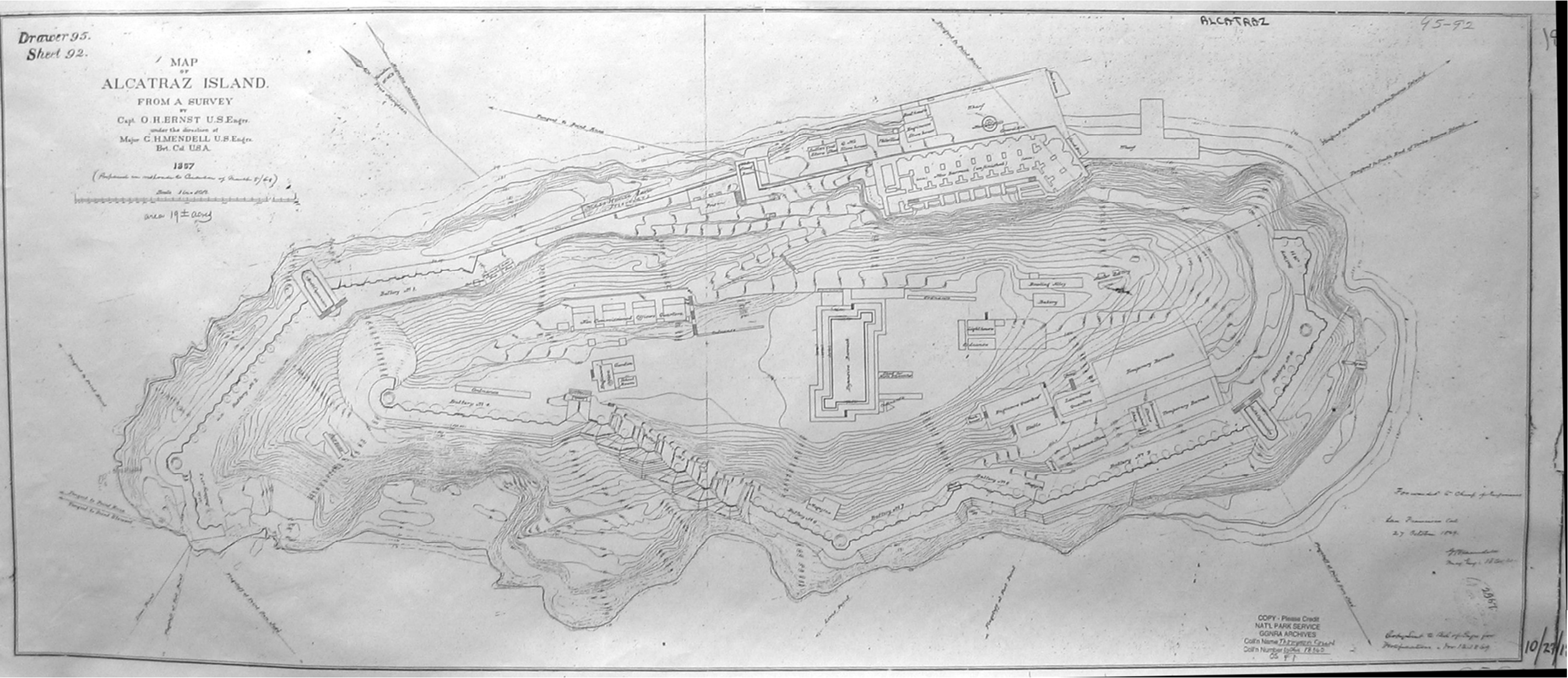
Citation Location: Golden Gate National Recreation Area Archives



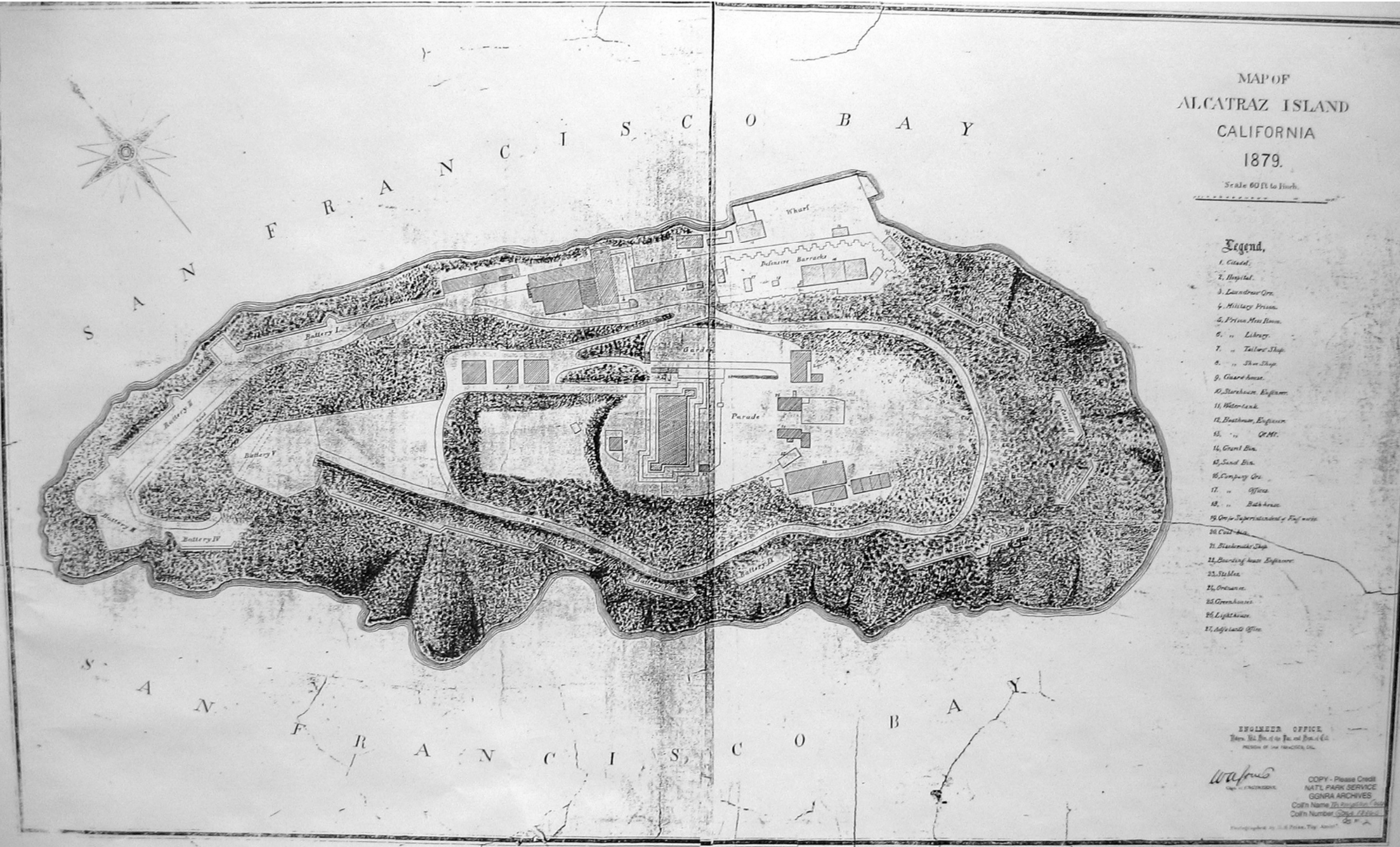
Existing Conditions Map



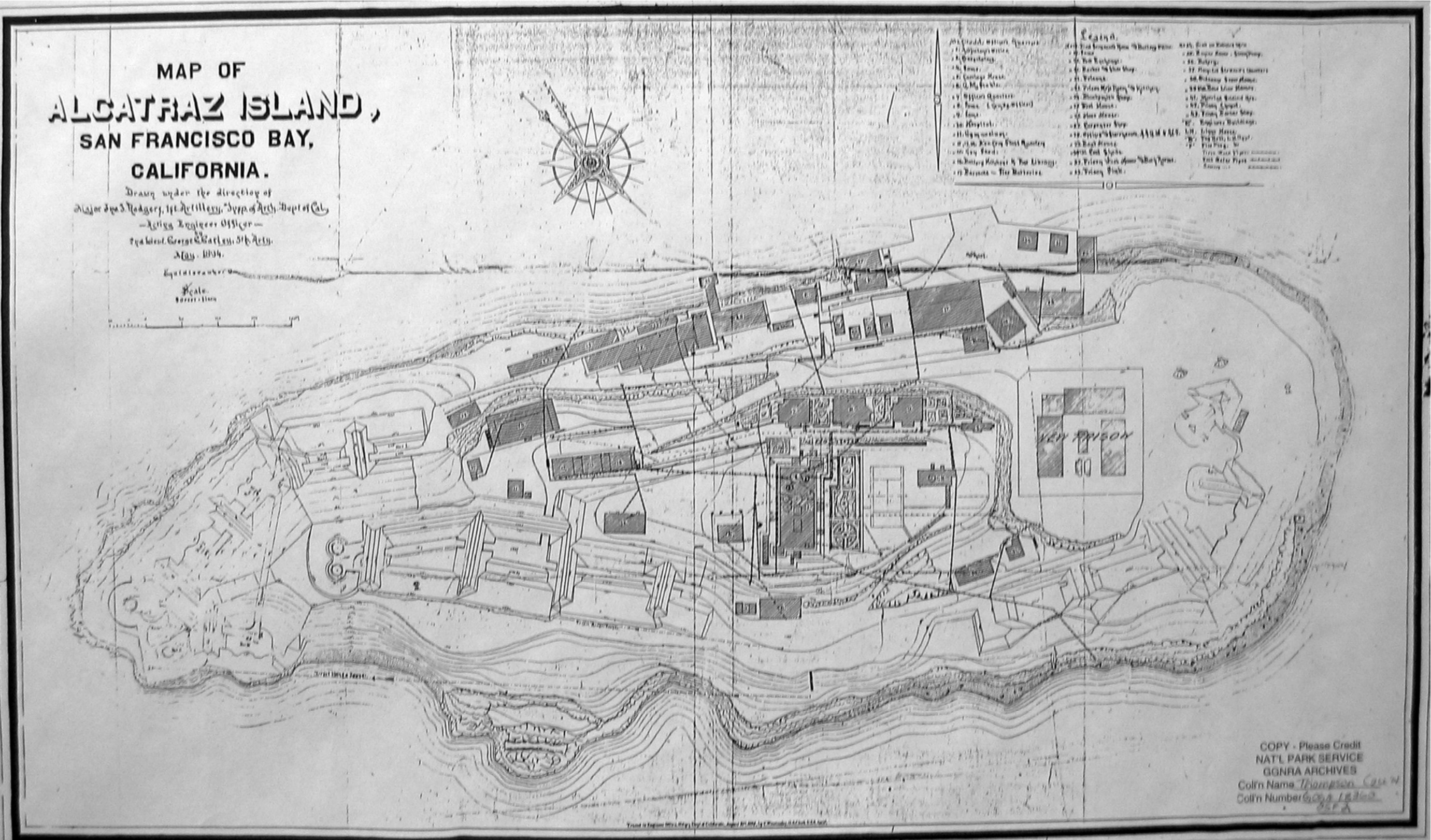
Field Map of Isla de los Alcatrazes, San Francisco Harbor, Surveyed by Lieut. W. H. Warner U. S. Topo. Engr. Assisted by Wm. N.L. Beston, Washington D.C., May 1847 (This map shows the original topography of the island.)



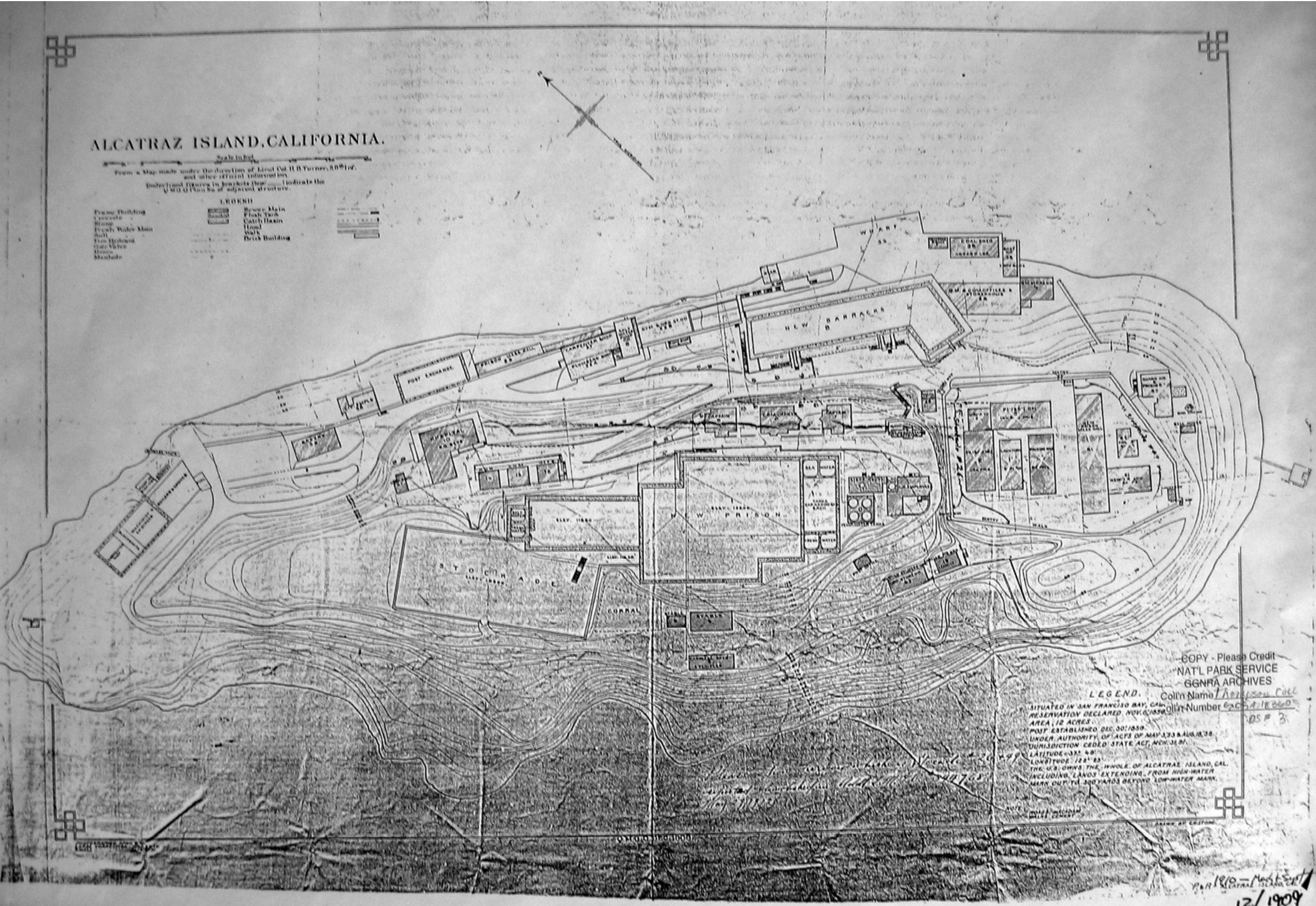
Map of Alcatraz Island From A Survey By Capt. O.H. Ernst U.S. Engrs. under the direction of Major G.H. Mendell U.S. Engrs. Bvt. Col. USA 1867 (This map of Alcatraz, made before the implementation of the Plan of 1870, shows the layout of the island during the era of masonry fortifications [ca. 1853-1859].)



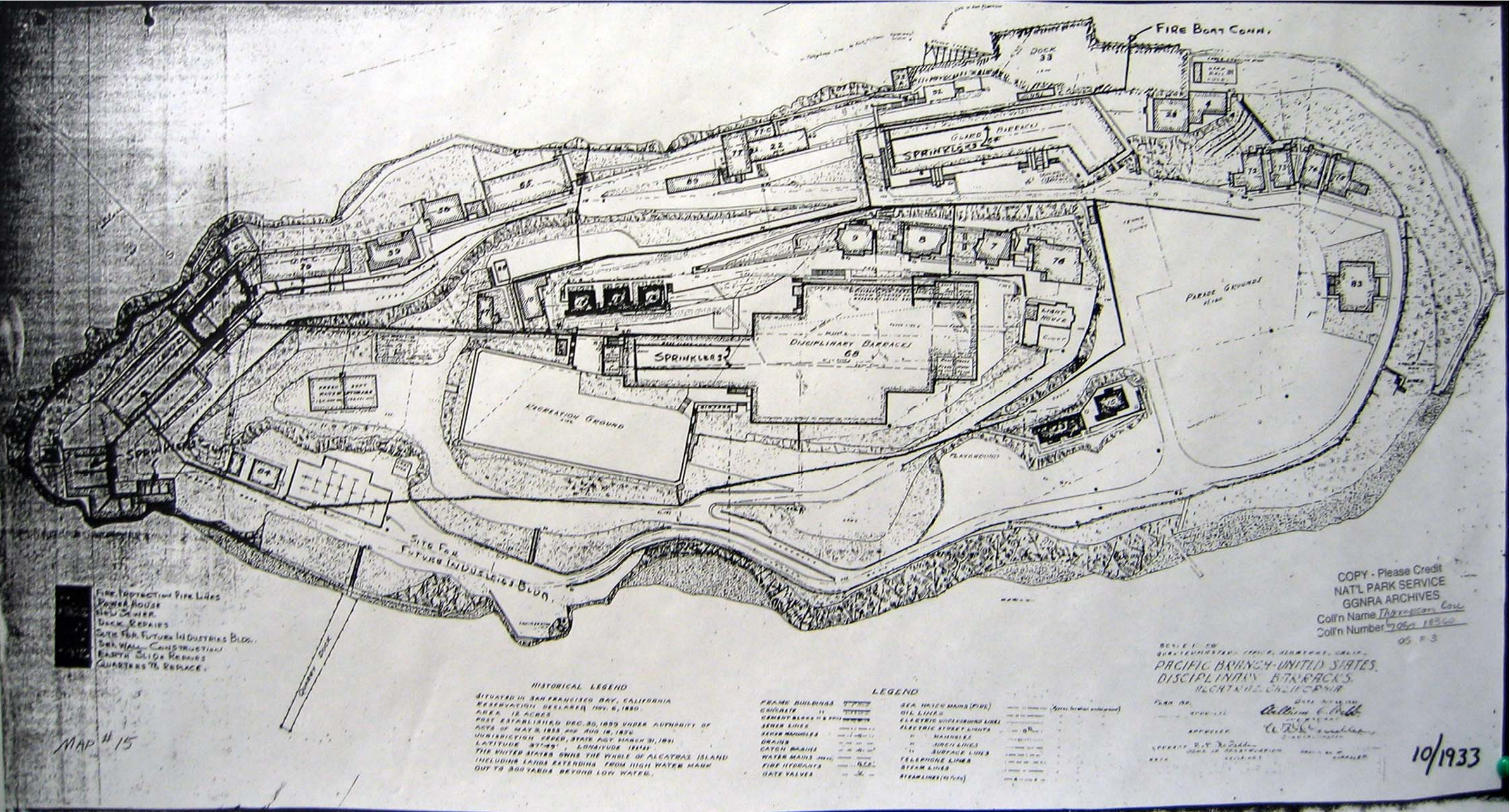
Map Of Alcatraz Island California 1879, Engineer Office, Presidio of San Francisco, CAL. (Presidio 1879) (This map illustrates the extent of work done to construct earthen fortifications after the Civil War and before coastal defense appropriations ended in 1876.)



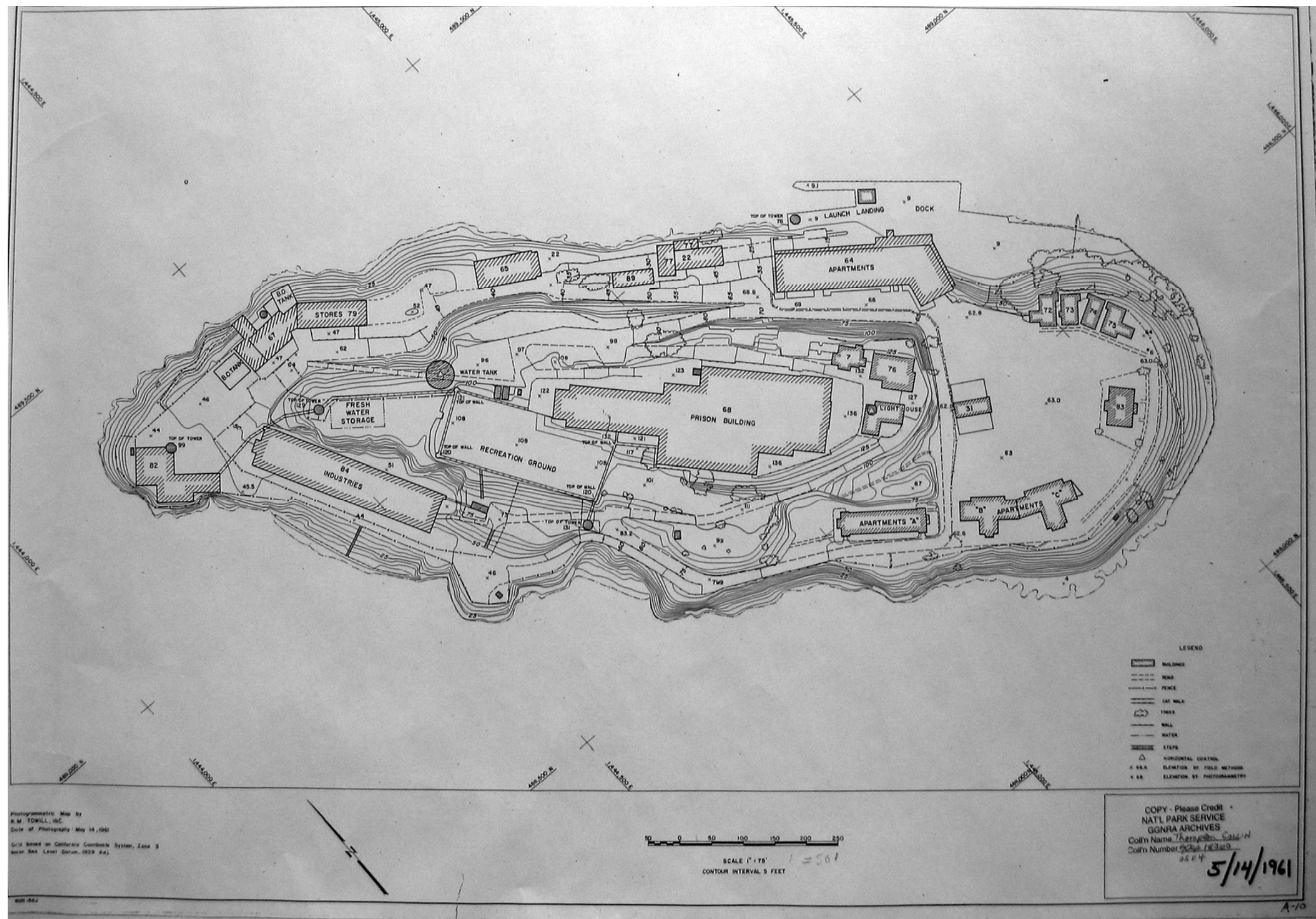
Map of Alcatraz Island, San Francisco Bay, California. (Rodgers 1894) (This map shows the features of the island in the mid-1890s during the latter part of the earthen fortifications era [1868—1907].)



Alcatraz Island, California From a map made under the direction of Lieut. Col. R. B. Turner, 29th Inf. And other official information. Drawn by C.H. Stone December 1909. (This map shows the layout of the island at the beginning of the military prison era.)



Quartermasters Officer, Alcatraz, Calif., Pacific Branch - United States Disciplinary Barracks, Alcatraz, California, 1933 (This map shows the layout of the island at the end of the military prison era.)



Photogrammatic Map of Alcatraz Island, R.M. Towill Inc., 1961 (This map shows the built features of the island at the end of the federal prison era.

ALCATRAZ PLANT INVENTORY AND CHARACTERISTICS
 UPDATED 5/2005

Genus	species	Type	Amount	Health	Planted	Self Sow	Unique	Lifespan	Nat. Regen.
Acacia	longifolia	Tree	Infreq.	Healthy	Yes	No	No	Long-lived	No
Acanthus	mollis	Ann, Perr, Gr	Freq.	Healthy	Yes	No	No	Long lived	Rhizomes
Aeonium	arbozeum	Succulent	Abund.	Healthy	Yes	No	No	Long-lived	Pieces
Aeonium	sp. and hybrids	Succulent	Abund.	Healthy	Yes	No	No	Long-lived	Pups or pieces
Agapanthus	orientalis	Ann, Perr, Gr	Freq.	Healthy	Yes	No	No	Long lived	No
Agave	americana	Succulent	Abund.	Healthy	Yes	Yes	No	Long-lived	Seed or pups
Agave	americana 'Marginata'	Succulent	Infreq.	Healthy	Yes	Yes	No	Long-lived	Seed or pups
Agave	lecheguilla	Succulent	Infreq.	Healthy	Yes	Yes	No	Long-lived	No
Agave	sp.	Succulent	Occas'l	Healthy	Yes	Yes	Yes	Long-lived	Pups
Albizia	distachya	Tree	Abund.	Healthy	Yes	No	No	Short-lived	Yes
Aloe	arborescens	Succulent	Infreq.	Healthy	Yes	No	No	Long-lived	Pups
Aloe	sladeniana (tentative id)	Succulent	Occas'l	Healthy	Yes	No	Yes	Long-lived	Pups
Amaryllis	belladona	Bulb	Occas'l	Healthy	Yes	No	No	Long-lived	No
Ambrosia	chamissonis	Ann, Perr, Gr	Infreq.	Healthy	No	Yes	Yes	Average	Potential
Aptenia	cordifolia	Succulent	Infreq.	Healthy	Yes	No	No	Short-lived	Potential
Aptenia	sp.	Succulent							
Arundo	donax	Ann, Perr, Gr	Infreq.	Healthy	?	?	No	Long lived	Rhizomes
Baccharis	sp.	Shrub	Freq.	Fair	No	Yes	No	Long-lived	Yes
Calystegia	occidentalis	Ann, Perr, Gr	Occas'l	Healthy	No	Yes	No	Long	Yes
Carpobrotus	chilensis	Succulent	1 plant	Healthy				Long-lived	Potential, by pieces
Carpobrotus	edulis	Succulent	Abund.	Healthy	Yes	Yes	No	Long-lived	Pieces
Carpobrotus	sp.	Succulent							
Centranthus	ruber	Ann, Perr, Gr	Freq.	Healthy	Yes	Yes	No	Long lived	Seed
Chasmanthe	floribunda	Bulb	Abund.	Vigorous	Yes	Yes	No	Long-lived	Yes
Chenopodium	sp.	Ann, Perr, Gr	Abund.	Vigorous	No	Yes	No	Annual	Yes
Cistus	x hybridus	Shrub	Not found 05		Yes				
Coprosma	repens	Shrub	Abund.	Healthy	Yes	Yes	No	Short-lived	Yes
Cordyline	australis	Tree	Infreq.	Fair	Yes	No	No	Long-lived	No
Cortaderia	jubata	Ann, Perr, Gr	Infreq.	Healthy	Yes	Yes	No	Long lived	Yes
Cotoneaster	pannosus	Shrub	Infreq.	Healthy	Yes	No	No	Long-lived	Potential
Cotoneaster	sp.	Shrub							Yes
Crassula	ovata	Succulent	Occas'l	Healthy	Yes	No	No	Long-lived	No
Crassula	sp.	Succulent							
Crataegus	sp.	Tree	1 plant	Poor	?	?	?	Long-lived	No
Crocsmia	x crocosmiflora	Bulb	Occas'l	Healthy	Yes	Yes	No	Long-lived	Yes
Cupressus	macrocarpa	Tree	Occas'l	Healthy	Yes	No	No	Long-lived	Potential
Cymbalaria	muralis	Ann, Perr, Gr	Abund.	Healthy	Yes	Yes	No	Short lived	Yes
Cynara	scolymus	Ann, Perr, Gr	Infreq.	Healthy	Yes	No	No	Long lived	Yes
Dichondra	micrantha	Ann, Perr, Gr	Infreq.	Healthy	No	Yes	No	Long lived	Yes

ALCATRAZ PLANT INVENTORY AND CHARACTERISTICS
 UPDATED 5/2005

Genus	species	Type	Amount	Health	Planted	Self Sow	Unique	Lifespan	Nat. Regen.
Drosanthemum	floribunda	Succulent	Abund.	Healthy	Yes	Yes	No	Average	Yes
Drosanthemum	sp.	Succulent							
Echium	candicans	Shrub	Abund.	Healthy	Yes	Yes	No	Short-lived	Seed
Echium	pininana	Shrub	Infreq.	Healthy	Yes	Yes	Yes	Average	Seed
Elymus	triticoides	Ann, Perr, Gr	Abund.	Vigorous	No	Yes	No	Long lived	Yes
Epilobium	cana	Ann, Perr, Gr	Not found 05						
Epilobium	sp.	Ann, Perr, Gr							
Erodium	cicutarium	Ann, Perr, Gr	Abund.	Healthy	No	Yes	No	Annual	Yes
Eschscholzia	californica	Ann, Perr, Gr	Infreq.	Healthy	Yes	Yes	No	Annual	Yes
Eucalyptus	camaldulensis	Tree	Not found 05		Yes	No	No	Long-lived	No
Eucalyptus	globulus	Tree	Occas'l	Healthy	Yes	No	No	Long-lived	No
Eucalyptus	sp.	Tree	Infreq.	Healthy	Yes	No	No	Long-lived	No
Eucalyptus	tereticornis	Tree	Not found 05		Yes	No	No	Long-lived	No
Euonymus	japonicus	Shrub	Infreq.	Healthy	Yes	No	No	Long-lived	No
Ficus	carica	Tree	Occas'l	Healthy	Yes	No	No	Long-lived	yes
Fuchsia	denticulata (tentative id)	Shrub	Infreq.	Healthy	Yes	No	Yes	Long-lived	No
Fuchsia	magellanica	Shrub	Infreq.	Healthy	Yes	No	No	Long-lived	No
Fuchsia	magellanica 'Alba'	Shrub	Infreq.	Healthy	Yes	No	Yes	Long-lived	No
Fuchsia	Mrs. Lovell Swisher' (new plant)	Shrub	Infreq.	Healthy	Yes	No	Yes	Long-lived	No
Fuchsia	'Riccartonii'	Shrub	Infreq.	Healthy	Yes	No		Long-lived	No
Fuchsia	'Rose of Castile'	Shrub	Occas'l	Healthy	Yes	No		Long-lived	No
Fuchsia	sp.	Shrub							
Fuchsia	SP2	Shrub	Infreq.	Poor	Yes	No		Long-lived	No
Fuchsia	WH2	Shrub	Infreq.	Healthy	Yes	No		Average	No
Galium	aparine	Ann, Perr, Gr	Abund.	Good	No	Yes	No	Annual	Yes
Gladiolus hybrid		Bulb	Gone		Yes				
Gnaphalium	sp.	Ann, Perr, Gr							Yes
Hebe	salicifolia	Shrub	Infreq.	Mixed	Yes	No	No	Average	No
Hebe	sp.	Shrub	Occas'l	Mixed	Yes	No	No	Average	No
Hebe	x franciscana	Shrub	Infreq.	Mixed	Yes	No	No	Average	No
Hirschfeldia	incana	Ann, Perr, Gr							Yes
Homeria	collina	Bulb	Infreq.	Healthy	Yes	Yes		Average	Seed
Hyacinthoides	hispanica	Bulb	Abund.	Healthy	Yes	No	No	Long-lived	Yes
Hydrangea	macrophylla	Shrub	Gone		Yes				
Hymenolepis	parviflora	Shrub	Infreq.	Healthy	Yes	?	No	Long-lived	?
Iris	douglasiana	Bulb	Infreq.	Healthy	Yes	No	No	Average	Potential
Iris	orientalis	Bulb	Infreq.	Healthy	Yes	No	No	Average	Potential
Iris	spuria	Bulb	Abund	Healthy	Yes	No	No	Long-lived	Yes
Iris	sp. Tall Bearded (several color	Bulb	Abund.	Healthy	Yes	No	No	Long-lived	No

ALCATRAZ PLANT INVENTORY AND CHARACTERISTICS
 UPDATED 5/2005

Genus	species	Type	Amount	Health	Planted	Self Sow	Unique	Lifespan	Nat. Regen.
Kniphofia	sp.	Ann, Perr, Gr							
Kniphofia	uvaria	Ann, Perr, Gr	Infreq.	Healthy	Yes	No	No	Long lived	No
Lathyrus	latifolius	Ann, Perr, Gr	Abund.	Vigorous	?	Yes	No	Long lived	Yes
Lavatera	arborea	Ann, Perr, Gr	Infreq.	Poor	No	Yes	No	Short lived	Potential
Lavatera	assurgentiflora	Shrub	Not found 05		Yes	No	No	Short-Aver	
Leptospermum	laevigatum	Tree	Infreq.	Healthy	Yes	No	No	Long-lived	No
Leucojum	aestivum	Bulb	Infreq.	Healthy	Yes	No	No	Long-lived	Potential
Ligustrum	japonicum	Shrub	Infreq.	Healthy	Yes		No	Long-lived	Potential
Ligustrum	sp.	Shrub							
Lobularia	maritima	Ann, Perr, Gr	Abund.	Healthy	Yes	Yes	No	Short lived	Seed
Lonicera	japonica	Ann, Perr, Gr	Abund.	Healthy	Yes	No	No	Long lived	Rooting
Lupinus	arboreus	Shrub	Not found 05		No	Yes	No	Short-lived	
Lupinus	sp.	Shrub						Potential	
Malephora	crocea	Succulent	Occas'l	Healthy	Yes	No	No	Long-lived	
Malephora	sp.	Succulent							
Malus	sp.	Tree	Infreq.	poor	Yes	No	No	Long-lived	No
Malva	parviflora	Ann, Perr, Gr	Abund.	Healthy	No	Yes	No	Annual	Yes
Marah	fabaceus	Ann, Perr, Gr	Abund.	Healthy	No	Yes	No	Long lived	Yes
Melilotus	indica	Ann, Perr, Gr	Occas'l	Healthy	No	Yes	No	Long lived	Yes
Mentha	piperata	Ann, Perr, Gr	Not found 05		Yes	No	No	Long lived	Rhizomes
Mentha	sp.	Ann, Perr, Gr							
Metrosideros	excelsus	Tree	Infreq.	Healthy	Yes	No	No	Long-lived	No
Muscari	armeriacum	Bulb	Infreq.	Healthy	Yes	No	No	Long-lived	No
Narcissus	papyraceus	Bulb	Occas'l	Healthy	Yes	No	No	Long-lived	No
Narcissus	sp. (several forms)	Bulb	Occas'l	Healthy	Yes	No	No	Long-lived	No
Nothoscordum	gracile	Bulb	Abund.	Vigorous	Yes	Yes	No	Long-lived	Bulblets, seed
Olearia	sp.	Shrub	Infreq.	Healthy	Yes	No	No	Long-lived	No
Olearia	traversii	Shrub	Infreq.	Vigorous	Yes	No	No	Long-lived	No
Oxalis	pes-caprae	Bulb	Abund.	Vigorous	Yes	No	No	Long-lived	Bulblets
Oxalis	sp. (pink)	Bulb	Infreq.	Healthy	Yes	No	No	Long-lived	Bulblets
Pelargonium	California Brilliant'	Ann, Perr, Gr	Gone		Yes	No	No	Average	No
Pelargonium	quercifolium	Ann, Perr, Gr	Infreq.	Healthy	Yes	No	Yes	Average	No
Pelargonium	x domesticum	Ann, Perr, Gr							
Pelargonium	x domesticum 'Mrs. Langtry'	Ann, Perr, Gr	Infreq.	Healthy	Yes	No	No	Average	No
Pelargonium	x domesticum 'Our Frances'	Ann, Perr, Gr	Gone	Healthy	Yes	No	No	Average	No
Pelargonium	x domesticum 'Prince Bismarck'	Ann, Perr, Gr	Freq.	healthy	Yes	Yes	No	Average	Yes
Pelargonium	x domesticum 'San Antonio'	Ann, Perr, Gr	Infreq.	Healthy	Yes	No	No	Average	No
Pelargonium	x hortorum 'Alphonse Ricard'	Ann, Perr, Gr	Freq.	Healthy	Yes	No	No	Average	No
Pittosporum	crassifolium	Tree	Infreq.	Healthy	Yes	No	No	Long-lived	No

ALCATRAZ PLANT INVENTORY AND CHARACTERISTICS
 UPDATED 5/2005

Genus	species	Type	Amount	Health	Planted	Self Sow	Unique	Lifespan	Nat. Regen.
Pittrogramma	triangularis	Fern	Not found 05		No	Yes	No	Short-lived	Yes
Plantago	coronopus	Ann, Perr, Gr	Occas'l	Healthy	No	Yes	No	Short lived	Seed
Plantago	lanceolata	Ann, Perr, Gr	Abund.	Healthy	No	Yes	No	Long lived	Seed
Plantago	sp.	Ann, Perr, Gr							
Polypodium	californicum	Fern	Freq	Healthy	No	Yes	No	Long-lived	Spores
Polypodium	scouleri	Fern	Infreq.	Healthy	No	Yes	Yes	Long-lived	Potential
Polypogon	interruptus	Ann, Perr, Gr	Abund.	Healthy	No	Yes	No	Annual	Yes
Polystichum	munitum	Fern	Infreq.	Healthy	No	Yes	No	Long-lived	Yes
Prunus	cerasifera	Tree	Infreq.	Healthy	Yes	No	No	Long-lived	Potential
Prunus	persica	Tree	Infreq.		Yes	No			No
Pyracantha	coccinea	Shrub	Infreq.	Vigorous	Yes	No	No	Long-lived	Potential
Pyracantha	sp.	Shrub	Infreq.	Healthy	Yes	No	No	Long-lived	No
Raphanus	sativus	Ann, Perr, Gr	Abund.	Vigorous	No	Yes	No	Long lived	Yes
Rhamnus	californica	Shrub	Infreq.	Healthy	Yes	No	No	Long-lived	Potential
Rosa	Blaze'	Shrub	Not found 05		Yes	No	No	Long-lived	No
Rosa	'Dorothy Perkins'	Shrub	Infreq.	Poor	Yes	No	No	Long-lived	Suckers
Rosa	'Excelsa'	Shrub	Infreq.	Poor	Yes	No	No	Long-lived	No
Rosa	'Felicite et Perpetue'	Shrub	Abund.	Vigorous	Yes	No	No	Long-lived	Tip roots
Rosa	'Gardenia'	Shrub	Infreq.	Vigorous	Yes	No	No	Long-lived	Tip roots
Rosa	'General MacArthur'	Shrub	Infreq.	Poor	Yes	No	Yes	Long-lived	No
Rosa	Gloire des Rosomanes'	Shrub	Not found 05		Yes	No	No	Long-lived	No
Rosa	'Russeliana'	Shrub	Infreq.	Healthy	Yes	No	Yes	Long-lived	Tip roots
Rosa	wichuraiana	Shrub	Abund.	Vigorous	Yes	No	No	Long-lived	Tip roots
Rubus	discolor	Ann, Perr, Gr	Abund.	Vigorous	?	yes	no	Long lived	Yes
Rubus	sp.	Ann, Perr, Gr							
Rubus	vitifolius	Ann, Perr, Gr							Yes
Rumex	crispus	Ann, Perr, Gr	Abund.	Vigorous	No	Yes	No	Long lived	Seed
Rumex	sp.	Ann, Perr, Gr							
Schinus	sp.	Tree	Infreq.	Healthy	Yes	No	No	Long-lived	No
Scrophularia	californica	Ann, Perr, Gr							
Sedum	dendroideum	Succulent	Occas'l	Healthy	Yes	Yes		Average	
Sedum	praealtum	Succulent							
Sedum	sp.	Succulent							
Senecio	milkanioides	Ann, Perr, Gr	Infreq.	Healthy	No	Likely	No	Long lived	Yes
Sidalcea	malviflora	Ann, Perr, Gr	Occas'l	Healthy	No	Yes	No	Long lived	Yes
Solanum	americanum	Ann, Perr, Gr	Abund.	Healthy	No	Yes	No	Average	Yes
Solanum	marginata	Ann, Perr, Gr	Infreq.	healthy	?	?	yes	average	Seed
Solanum	sp.	Ann, Perr, Gr							
Sonchus	oleraceus	Ann, Perr, Gr							

ALCATRAZ PLANT INVENTORY AND CHARACTERISTICS
 UPDATED 5/2005

Genus	species	Type	Amount	Health	Planted	Self Sow	Unique	Lifespan	Nat. Regen.
Stachys	bullata	Ann, Perr, Gr	Freq.	Healthy	No	Yes	No	Average	Yes
Stachys	sp.	Ann, Perr, Gr			Yes				
Stellaria	media	Ann, Perr, Gr	Abund.	Healthy	No	Yes	No	Annual	Yes
Triteleia	laxa	Bulb	Infreq.	Healthy	No	Yes	No	Average	Yes
Tropaeolum	majus	Ann, Perr, Gr	Abund.	Healthy	Yes	Yes	No	Short lived	Seed
Tulipa	sp.	Bulb	Not found 05		Yes				
Vicia	coronilla	Ann, Perr, Gr	Occas'l	Healthy	No	Yes	No	Short lived	Seed
Vinca	major	Ann, Perr, Gr	Abund.	Healthy	Yes	No	No	Long lived	Rooting
Watsonia	borbonica	Bulb	Occas'l	Vigorous	Yes	No	No	Long-lived	No
Watsonia	'Mrs. Bullard's White'	Bulb	Occas'l	Healthy	Yes	No	No	Long-lived	
Watsonia	species 1 (soft orange)	Bulb	Occas'l	Healthy	Yes	No	Yes	Long-lived	Yes
Watsonia	species 2 (brilliant orange)	Bulb	1 plant	Healthy	Yes	No	Yes	Long-lived	No
Yucca	aloifolia	Tree	1 plant	Healthy	Yes	No	No	Long-lived	No
Yucca	gloriosa	Tree	Infreq.	Fair	Yes	No	No	Long-lived	No
Yucca	sp.	Tree							
Zantedeschia	aethiopica	Bulb	Abund.	Vigorous	Yes	No	No	Long-lived	Rhizomes