PRELIMINARY REPORT ON THE HEADLANDS INSTITUTE CAMPUS LANDSCAPE

FORT CRONKHITE, MARIN HEADLANDS

GOLDEN GATE NATIONAL RECREATION AREA
SAUSALITO, CALIFORNIA

PRELIMINARY ANALYSIS & EVALUATION

TREATMENT GUIDELINES

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Cover Photo: View looking east into Headlands Institute campus at Fort Cronkhite, November 2007. (SUNY ESF)

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INTRODUCTION

The Marin Headlands, renowned for their spectacular natural setting overlooking the Golden Gate and the city of San Francisco, have a rich cultural landscape consisting of an extensive system of military fortifications and related infrastructure spread across 2,279 acres at the south end of the Marin Peninsula. Previously used for hunting and gathering by Native Americans and for dairy ranching by Portuguese settlers, the land was extensively developed for military purposes from the mid-nineteenth through the mid-twentieth century. In 1974, soon after the property was listed in the National Register of Historic Places as the Forts Baker-Barry-Cronkhite Historic District, the property was transferred to the National Park Service. The historic district largely corresponds with the same area as the Marin Headlands unit of Golden Gate National Recreation Area.

Over the years, the park has worked with its partners organizations to adaptively reuse the extensive infrastructure within the historic district and to make improvements for public accessibility and interpretation. One area that has become a focus of public use and partner involvement is the Fort Cronkhite cantonment, a World-War II-era Army post and Nike Missile-era administrative facility along Mitchell Road overlooking Rodeo Lagoon and the Pacific Ocean. Fort Cronkhite also includes the massive World War II-era Battery Townsley, located northwest of the cantonment, as well as portions of two Cold War-era Nike Missile sites. The turn-of-the-century Fort Barry cantonment is situated a short distance to the east, at the head of the lagoon.

Fort Cronkhite is typical of the once-ubiquitous 700-Series World War II mobilization cantonments, and is considered the best-preserved example of its type in the nation. The cantonment originally consisted of a largely orthogonal arrangement of wood-frame barracks, mess halls, and supply buildings arranged in two wings to either side of a central post headquarters. The interior portion of the eastern wing was demolished in c.1964 for construction of an administration complex for Nike Missile base SF-87, including four standard concrete-block buildings housing offices, a mess hall, and barracks. This Nike complex today serves as the main campus for the Headlands Institute, a National Park Service partner organization that provides environmental education programs. The Headlands Institute began operation at Fort Cronkhite in 1977, and soon thereafter made a number of changes to the Nike complex, including redesign of the roads and walks, modification to the buildings, and addition of plantings and a gathering area. Over the years, the Institute has also used several World War II-era buildings elsewhere in Fort Cronkhite, including the adjoining central

administration building, historically the post headquarters. The existing campus, particular the core at the Nike complex, has become inadequate for the Institute not only due to lack of facilities, but also due to aging of the 1970s development and a landscape character that does not illustrate its core message of natural and cultural resource stewardship.

To develop a long-term plan for the management of the cultural landscape that will address these and other issues, park is entering into an agreement for development of a Cultural Landscape Report (CLR) for the entire Forts Baker-Barry-Cronkhite Historic District, including the Headlands Institute campus. A CLR is the principal treatment document and the primary tool in the National Park Service for long-term management of cultural landscapes. The report establishes preservation goals for a cultural landscape grounded in research, inventory, documentation, analysis, and evaluation of landscape characteristics and associated features. [1]

This preliminary report is intended to provide initial guidance for the Headlands Institute Campus Improvement & Expansion Plan project, which is presently in the public review and conceptual design phase of a National Environmental Policy Act (NEPA) process. The project may encompass historic building rehabilitation, new construction, improvements to circulation, and relocation of parking.[2] Improving interpretation of natural systems and the cultural history of Fort Cronkhite are also objectives of the project. This report provides general treatment guidelines to frame such improvements and site changes in a manner that is compatible with the historic character of the landscape, based on preliminary identification of landscape characteristics and associated features that contribute to the historic significance of the site. The need for this preliminary report is driven by the schedule for the campus improvement project, anticipated for implementation prior to completion of the CLR for Forts Baker-Barry-Cronkhite. The findings of this report will be incorporated into the CLR.

This preliminary report is based on a site visit and workshop held on November 14, 2007 attended by a staff from Golden Gate National Recreation Area and the Headlands Institute, and project designers and planners. Also attending was staff from the Olmsted Center for Landscape Preservation and its partner, the Department of Landscape Architecture at the State University of New York, College of Environmental Science and Forestry.[3] The workshop team spent a morning looking over the site, and then in the afternoon identified defining characteristics of the landscape and treatment issues and guidelines. The body of this report is based on these workshop discussions and the group knowledge of the site. Due to the limited nature of available documentation, the preliminary

findings in this report are subject to revision in the forthcoming Cultural Landscape Report.

The study area for this preliminary report is the Fort Cronkhite cantonment, with a focus on the core Headlands Institute campus at the Nike Missile administrative complex.

Endnotes, documenting information not covered in the workshops, are at the end of the text. Representative existing conditions photographs and historic plans are included as general reference at the end of the report, along with a list of sources.

PRELIMINARY ANALYSIS & EVALUATION

This section provides an overview of the historic significance of the Fort Cronkhite cantonment landscape and a working definition of its historic character. Based on these findings, the landscape is evaluated for its defining landscape characteristics and associated features. Landscape characteristics are aspects that give a landscape its overall historic character and aid in the understanding of its historic significance, while features are the individual components that comprise the overall characteristic.[4]

HISTORIC SIGNIFICANCE

The existing National Register documentation for the Forts Barry-Baker-Cronkhite historic district identifies significance of the property in the area of military history with an overall period of significance extending from 1866 to 1945, although the later Nike structures are listed as contributing resources. Since this documentation was approved in 1974, the park has identified 1974 as a revised date for the end of the period of significance, marking the deactivation of the Nike missile defense systems and transfer of most of the district to the National Park Service. Within an overall 1866-1974 period of significance, the historic resources at the Fort Cronkhite fall within a period beginning in 1940 with the initial construction of the cantonment, continuing through construction of the Nike administration complex (SF-87A) in the east wing of the cantonment in c.1964-66, and ending with decommissioning of the fort and its Nike systems in 1974. The Nike administration complex at Fort Cronkhite was part of a system of three interrelated installations that typically comprised a Nike site: a radar station (SF-87C) on Hill 129, also known as Hawk Hill on the Fort Barry/Baker boundary; and a missile launch area at Fort Cronkhite (SF-87L) that has been redeveloped as the Marine Mammal Center.

While the cantonment overall retains sufficient integrity to convey its historic significance, the center and west wings retain a much higher level of integrity and are indeed considered one of the best surviving examples of their type in the country. The Nike administration complex has undergone considerably more change since the end of the historic period through its adaptive reuse at the Headlands Institute campus.

HISTORIC CHARACTER

The Fort Cronkhite cantonment is situated in a broad valley on the west end of the Marin Headlands overlooking Rodeo Lagoon and the Pacific Ocean. The seasonally wet and dry, expansive landscape is often subject to high winds and heavy fog. It is framed in the distance by cliffs along the ocean and hills to the north and south, with panoramic views of the ocean to the west. The cantonment landscape is defined within this larger setting by its compact and neatly aligned concentration of buildings. When asked about the character of this landscape, workshop participants described it as being overall uniform, utilitarian, uncluttered, simple, isolated, and having an open setting; with a terraced landform, a southern exposure, buildings set close to and facing asphalt roads, scattered specimen trees, and a clear military order.

While sharing these common qualities, the Fort Cronkhite cantonment has two distinct character areas, corresponding to two different periods of development. These character areas are differentiated largely by architectural style and density. As initially built between 1940 and 1941, the original World War II development is characterized by painted, two-story wood-frame buildings, dominated by barracks, set close together and in repeating patterns with some buildings of different size and scale for specialized uses. The buildings are a standardized design that features pent and gable roofs with open eaves, multi-paned double-hung sash windows, and flushboard siding, and are set above grade on concrete posts. Overhead utility lines, concrete walks and frame steps, concrete curbs with local stone aggregate, and a central area with a headquarters building further characterize the landscape. An open field at the west end of the cantonment served as a parade ground, but is now a parking lot. The plan of the cantonment was roughly symmetrical with two wings flanking a central area, but the east wing was removed in large part during the historic period. Ornamental plantings were originally restricted to the front of the central administration building, but shortly after the war, specimen trees were planted within the central area, with a few scattered along the peripheral roads.

The second character area is the Nike Missile administration complex built between c.1964-1966 within the east wing of the cantonment. This development required the removal of approximately twenty-five of the World War II-era

buildings and two roads, leaving several buildings that framed the new complex to the north and south. As initially developed, the Nike complex was characterized by four long, horizontal one-story buildings set in two parallel rows. These buildings, originally aligned along a single asphalt road and set on terraces, are a standardized design built of painted, unsurfaced concrete block with low shed roofs, overhanging eaves, double-hung sash windows with horizontal muntins, and projecting central entrance porches. The complex included two parking lots and was originally enclosed by a fence, probably chain-link. Plantings of trees, foundation shrubs, and ground cover were designed but apparently never implemented.[5] In contrast to the World War II development, the Nike Missile administration complex was less dense, smaller, and isolated.

Since the end of the historic period in 1974, the character of the west wing and central area of the cantonment has remained largely unchanged aside from the removal of four in the lower row of buildings along Mitchell Road, and creation of a parking lot on the former parade ground. In the east wing, the line of buildings along Mitchell Road was removed, along with several more World War II-era buildings along Kirkpatrick Street, creating additional open space around the Nike complex and increasing its isolation from the original cantonment. A greenhouse and nursery area were also added north of Kirkpatrick Street in recent decades. Within the Nike complex, the landscape has been altered since the end of the historic period with removal of central drive, reduction in the size of the large parking lot, alteration of the terraces, removal of the perimeter fence, and addition of a sunken amphitheater, new shrubs and trees, and a wing on the mess hall. These changes were made after 1977 as part of the Headlands Institute campus development.

LANDSCAPE EVALUATION

The following evaluation pertains to the overall Fort Cronkhite cantonment landscape, with emphasis on the Nike Missile administration complex (Headlands Institute core campus) where applicable.

Natural Systems & Features

Natural systems and features, defined as natural aspects that influence appearance and form, contribute to the historic character of the Fort Cronkhite cantonment landscape in its overall setting, which remains largely intact since the end of the historic period. Although much of the ecosystem was altered for construction of the cantonment beginning in 1940, it remained a defining characteristic of the landscape through the historic period and continues to be a defining characteristic today.

The natural systems and features that define the historic character of Fort Cronkhite cantonment include the landform adjoining Rodeo Lagoon and steep hills to the north and south, geology dominated by a ruddy-colored Franciscan mélange, hydrology consisting of perennial streams draining into the lagoon, coastal scrub, riparian willow, and windy and foggy conditions. Within the cantonment, the natural landform with its gentle grade parallel to the shore of Rodeo Lagoon influenced the pattern of development with road and buildings oriented along the slope. Two spring-fed streams were piped underground as part of the World War II development and therefore were not part of the cantonment landscape after 1939. The thickets along the stream ravines above the cantonment continued to exist during the historic period and remain today.[6]

A number of non-native plants have spread since the historic period, including Monterey pine and cypress, Cape ivy, and Kikuyu grass, although some of the Monterey pine and cypress are historic plantings. The lake riparian corridors and upland areas are habitat for the Red legged frog; the lagoon is habitat for the Tidewater goby.

Spatial Organization

Spatial organization, defined as arrangement of features creating the ground, vertical, and overhead planes, contributes to the historic character of the Fort Cronkhite cantonment landscape. The landscape retains its overall organization dating to the initial World War II construction, defined by a largely orthogonal plan consisting of two wings extending from a central area. The central area consists of several widely-spaced buildings within a triangular area, shaded by mature trees. The west wing consists of parallel rows of closely spaced buildings, creating dense, partially enclosed corridors along the roads. An open field used as a parade ground existed at the west end of the west wing. The east wing, which originally had an extra northern row, was changed with construction of the Nike Missile administration complex with its low, widely spaced buildings that create a less dense spatial character. Since the end of the historic period in 1974, the spatial organization of the cantonment has been altered with removal of the lower rows of World War II-era buildings in both the east and west wings along Mitchell Road, and the removal of several more World War II-era buildings in the east wing along Kirkpatrick Street north of the Nike complex. These changes have overall set the cantonment apart from Mitchell Road, and have changed the character of the Nike complex from a space set within the east wing, to more of a separate, distinct space that has further opened the spatial character of the landscape.

Land Use

Land use, defined as the current Headlands Institute, other park partners, and park administration functions among others, does not contribute to the historic character of the Fort Cronkhite cantonment landscape. Indeed, Marine Mammal Center changes over the years have caused the nearby Nike launch area to be delisted from the National Register. While the Headlands Institute uses have resulted in incompatible changes to the landscape since their introduction in 1977, overall the uses are compatible with the historic character of the landscape. A nursery located along Kirkpatrick Road includes shade houses and an outdoor propagation area. While this use is not consistent with the historic character of the landscape due to the features it requires, its location along the northern edge of the cantonment is inconspicuous.

Circulation

Circulation, defined as systems of movement, contributes to the historic character of the Fort Cronkhite cantonment. The main access road to the fort is two-lane Mitchell Road, which predates construction of the cantonment. Vehicular circulation within the cantonment, named after veterans, consists of World War II-era asphalt roads with concrete curbs and gutters made with local ruddy-colored aggregate. These roads are oriented parallel to the slope and organize the landscape orthogonally, except at the central area where two short diagonal roads form a triangular space. The east wing of the cantonment retains one World War II-era road on its north side, Kirkpatrick Street, and portions of the road through the center of Nike Missile administration complex that replaced two earlier roads. This road followed the same orientation as the earlier roads, but was wider and branched into three parking areas along the south side of the Nike complex. Since the end of the historic period in 1974, the roads have undergone few changes, except for removal of approximately two-thirds of the road through the Nike complex and a portion of the western parking lot as part of Headlands Institute campus development begun in c.1977. The road was replaced with walks and planted areas.

The central area of the World War II cantonment originally contained a parking area in front of the administration building, and a larger parking area along Mitchell Road. The Nike complex included a large parking lot at its west end, as well as two service lots between buildings. These lots remain, but have been reconfigured since the end of the historic period. The park constructed a new visitor parking lot on the old parade grounds west of the west wing of the cantonment at some point after 1974.

In addition to roads and parking lots, the Fort Cronkhite cantonment has a system of sidewalks and building entrance steps dating to the World War II and Nike eras. The sidewalks were originally specified to be asphalt and run parallel to the roads, with several running perpendicular between the rows of buildings. It appears that many of these sidewalks, particularly those running parallel to the roads, were never built. Others were built in concrete. Nearly all World War II-era building entrances required steps due to the slopes and raised foundations. These were specified to be wooden open-riser steps with wood or asphalt treads, which appears to be how they were built.[7] The Nike complex also contained concrete sidewalks, but used concrete steps. Since the end of the historic period, some of the wood steps have been replaced with ramps at the World War II-era buildings. The Nike sidewalks have been partially removed as part of the Headlands Institute campus improvements begun in c.1977.

Topography

Topography, defined as built land forms, contributes to the historic character of the Fort Cronkhite cantonment landscape. The site, chosen for its gentle slopes, nonetheless required grading to accommodate roads and buildings. The site was graded into a series of stepped terraces, five in the west wing and seven in the east wing. The topography was changed historically in c.1964 when the two middle terraces in the east wing of the cantonment were regraded to accommodate the Nike Missile administration complex. Since the end of the historic period in c.1974, the topography within the Nike complex has been altered with the removal of the central roadway and addition of a sunken amphitheater. The terraces where buildings have been removed, such as along Kirkpatrick Street and Mitchell Road, provide recognizable traces of the World War II-era development patterns.

Vegetation

Vegetation, defined as intentional, managed plant material, contributes overall to the historic character of the Fort Cronkhite cantonment. The primary vegetation was turf grass, used to stabilize the terraces. While the landscape was mostly devoid of ornamental plantings during World War II, shortly thereafter the grounds around the post headquarters building in the center of the cantonment were planted with specimen trees, including Monterey pine and cypress, and ornamental shrubs. A few trees were also planted along the roads in the west and east wings, but overall these areas remained devoid of trees. Initial plans for the Nike Missile administration complex made in 1964 called for ornamental plantings around the concrete-block buildings, including foundation plantings of India hawthorn, Mexican orange, Australian tea, Pink excallonia, cocculus, Pfitzer juniper, mirror plant, and Tam juniper; and trees along the road and ends of the complex, including bishop pine, blackwood acacia, camphor tree, and saw-leaf zelkova. The area surrounding the buildings, parking lots, and drive was to be

planted in ice plant and English ivy.[8] It is not believed that these plantings were implemented as specified. Another proposed planting plan drawn in 1970 showed a similar scheme.[9] Monterey pine may also have been planted to the east of the Nike complex, to either side of the entrance road.

After the end of the historic period in 1974, the planting scheme at the Nike complex was changed by the Headlands Institute, although some of the existing older plantings outside of the removed roadbed through the center of campus may be historic. Further analysis of the historic plans and existing conditions is needed to determine the historic integrity of the vegetation. Outside of the Nike complex, changes since the end of the historic period include removal of hazardous specimen trees in the central area around the administration building.

Buildings & Structures

Buildings and structures, defined as three-dimensional constructs, contribute to the historic character of the Fort Cronkhite cantonment. The character of the World War II-era development is defined in large part by the primarily two-story frame buildings with pent and gable roofs, multi-paned double-hung sash windows, and wood siding, all painted in a matching scheme. Several variations on the dominant type include the two-story central post headquarters building and various service buildings that are mostly one-story. The Nike Missile administration complex buildings, which replaced approximately twenty-five World War II era buildings, are a stark contrast in their use of concrete block, one-story height, shed roofs, and horizontal massing. Since the end of the historic period, approximately eleven World War II-era buildings have been removed from along Mitchell Road, and six from along Kirkpatrick Road. The remaining buildings, however, remain little altered on the exterior, except for the fire station in the central area, which has been expanded. The Nike buildings have undergone more change, including additions and window replacements, although their overall character remains largely intact. The only new building is an office/nursery/shadehouse along Kirkpatrick Road.

Aside from buildings, historic structures include retaining walls along roads adjoining steep slopes built during World War II. These walls are constructed of native rough-coursed stone similar to the cheek walls at Battery Construction No. 129 and elsewhere at Forts Baker and Barry. There are also concrete culverts that carry the two streams beneath the cantonment, but these are largely invisible in the landscape. Since the end of the historic period in 1974, these structures remain, and a few new structures have been added, including wood retaining walls at the Headlands Institute gathering area in the Nike complex.

Views and Vistas

Views and vistas, defined as uncontrolled or controlled ranges of vision, do not contribute to the historic character of the Fort Cronkhite cantonment landscape. The World War II-era cantonment was a standardized layout designed to fit within any sort of landscape, and the Nike Missile administration complex was inward focused. Neither was designed to capture views out to the landscape or within the cantonment. Existing tenants of the property, in particular the Headland Institute, do value views out to the surrounding landscape for aesthetic and educational purposes.

Small-Scale Features

Small scale features, which include minor furnishings for operational purposes, contribute to the historic character of the Fort Cronkhite cantonment, although most have been lost. Small-scale features relating to the World War II-era are limited primarily to overhead utility lines and wood utility poles. There was most likely a flagpole in front of the central post headquarters building. The Nike Missile administration complex included a perimeter security fence, probably a Cyclone type, with gates. Since the end of the historic period in c.1974, this security fence has been removed, but the overhead utility lines remain. The Headlands Institute added many small-scale features as part of its campus beginning in c.1977, including a flagpole, benches, tables and chairs, dumpsters, and signs. Outside of the Headlands Institute campus, small-scale features added since 1974 include park signs, trash receptacles, benches, and propane tanks (stairs and ramps discussed under circulation).

PRELIMINARY TREATMENT GUIDELINES

Conceptual design of the Headlands Institute Campus Improvement & Expansion Plan project has been developed as a cooperative effort between the Headlands Institute and Golden Gate National Recreation Area (the park). The project is focused on the campus at the Nike Missile administration complex and surrounding portions of the World War II cantonment. As described in the project's Environmental Assessment public scoping notice (2007), this project is intended to enhance the Fort Cronkhite campus to be a teaching model of stewardship and sustainable living with state-of-the-art learning facilities, and to match and make the most of the unique natural and cultural resources of the Marin Headlands. Project objectives include preserving and enhancing the site's layered natural and cultural resources; renovating facilities to enhance sustainability; improve teaching, sleeping, and dining facilities to comfortably and efficiently accommodate students; provide universal accessibility; integrate indoor and outdoor spaces; and minimize environmental impacts to the area and park resources. Preliminary alternatives include historic building rehabilitation,

new construction, or a combination of the two; and improvements to circulation.[10]

The following treatment guidelines are intended to supplement and further inform the project work developed to date, with the goal of enhancing the historic character of the landscape in the context of a rehabilitation treatment that avoids adverse effects to the historic property. Specific treatment tasks are not within the scope of this report. These guidelines, which may also be applied to other future improvements at the Fort Cronkhite cantonment, should be considered preliminary due to the limited amount of research available at this time on the history and existing conditions of the site.

The guidelines are the result of discussions from an on-site workshop held on November 14, 2007 with staff from the park, Pacific West Region, Headlands Institute, and Steve Rasmussen Cancian, landscape architect for the campus improvement project. The guidelines include definition of an overall treatment approach and specific guidelines organized by landscape characteristic, parallel to the structure of the preceding analysis and evaluation.

GENERAL TREATMENT APPROACH

The concept of treatment is defined in National Park Service cultural landscape methodology as a strategy for long-term management based on significance, existing conditions, and use.[11] Treatment of the Fort Cronkhite cantonment landscape is framed by the broad guidelines established in the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, which set forth four primary treatments: Preservation Rehabilitation, Restoration, and Reconstruction. As outlined in the existing park General Management Plan (presently being updated), and with the need of accommodating contemporary uses by the Headlands Institute, the most appropriate primary treatment is Rehabilitation. There are ten treatment standards for Rehabilitation that apply to the landscape (property) as a whole:

> *1. A property shall be used as it was historically or be given a new use that requires minimal change to its distinctive features, spaces, and spatial relationships.*
>
> *2. The historic character of a property is to be retained and preserved. The removal of distinctive materials or alterations of features, spaces, and spatial relationships that characterize a property is to be avoided.*

3. Each property shall be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, shall not be undertaken.

4. Changes to a property that has acquired historic significance in its own right shall be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new shall match the old in design, color, texture and where possible, materials. Replacement of missing features shall be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, shall be undertaken using the gentlest means possible. Treatments that cause damage to historic materials shall not be used.

8. Archeological resources shall be protected and preserved in place. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and shall be compatible with the historic materials, features, size, scale, proportion, and massing to protect the integrity of the property and its environs.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.[12]

Given the working period of significance for the Fort Cronkhite cantonment ending in 1974, the general treatment approach employing the Standards for Rehabilitation should be to manage the landscape for its character at the end of the period of significance, at the end of military occupancy. However, since it appears that certain character-defining features were removed shortly before this

time in anticipation of military decommissioning of Fort Cronkhite, it may be appropriate to back up the treatment period a few years. For example, removal of the rows of World War II-era buildings along Mitchell Road occurred during the early 1970s. Therefore, a treatment period that includes the existence of these character-defining buildings would be appropriate.

While rehabilitation is the primary site-wide treatment, preservation, restoration, and possibly reconstruction should be given the highest priority in treatment of the intact center and west wing of the Fort Cronkhite cantonment given the high level of historic character. Contemporary additions or modifications in these areas should be avoided, and if necessary be designed using a rigorous application of the *Secretary of the Interior Standards*. In the east wing including the Nike administration complex, a more flexible approach toward treatment is warranted given the lower level of historic character in the landscape. For example, construction of new parking areas on historic building pads may not be appropriate in the west wing, while such change may be appropriate in the east wing.

Within the context of rehabilitation, treatment does not need to recreate a literal historic character in the landscape at any one point during the historic period, but rather preserve and enhance the multiple layers of development through c.1974. A rehabilitation treatment approach raises several general issues:

- Overall Treatment of the Nike Missile Administration Complex: Rehabilitation of this landscape should enhance the overall historic character by revealing or reconstructing character-defining features and removing incompatible non-historic features. Given the new use of the complex, a literal reconstruction of the landscape that existed in c.1974 may not be feasible. However, the overall character of this landscape could be returned through reconstruction of the character-defining features that are now missing or altered, such as roads, sidewalks, perimeter enclosure, and plantings.

- Relationship of World War II and Cold War-era Character: In general, treatment of the landscape should achieve an overall character for the cantonment illustrating its development through c.1974, rather than creating separate treatment that would result in distinct World War II and Cold War-era zones. This treatment should not conflict with interpretation of earlier World War II development because this character remains largely intact outside of the Nike Missile administration complex, with the exception of plantings added around the central administration building. In addition, in the east wing of the

cantonment surrounding the Nike complex, sufficient character remains to interpret the original development of the cantonment. In areas where World War II-era features have been lost, it may be appropriate to enhance interpretation by making visible traces such as building sites and old road alignments, or by adding interpretive waysides.

- Balancing Cultural and Natural Resources: While the restoration of natural habitat, including removal of non-native invasive species, is a priority for the park, treatment at Fort Cronkhite should perpetuate conditions that existed historically, unless there is a documented threat to natural resources. The Fort Cronkhite cantonment was historically a highly developed area that contrasted with its surrounding natural setting. Blurring of this distinction would detract from the historic character of the landscape.

- New Construction: Additions to the landscape, such as buildings, walks, benches, railings, signs, and fences should be designed in a manner compatible with the historic utilitarian and military character of the landscape. All new construction should maintain and enhance the simple, uncluttered character that existed historically. Where new construction is required, priority should be given to reusing existing historic features. New construction should follow the location, style, materials, and massing of features found historically in the landscape while being distinguishable. Care should be taken to make new construction reversible without permanent impact to historic fabric.

- Non-Historic Features: Given the extent of non-historic features within the Nike Missile administration complex, they should be removed when possible. Removal may be especially warranted if the features are incompatible with the historic character of the landscape in terms of location, design, and materials, and where there is a need to reinforce historic spatial patterns and circulation.

TREATMENT GUIDELINES

The following guidelines expand upon the *Secretary of the Interior's Standards* as they relate to each landscape characteristic at the Fort Cronkhite cantonment. Overall, the primary guideline is to preserve all features, and traces of features, dating to the historic period, with repair given preference over replacement. Preservation is the default treatment where no guidelines are described for an individual landscape feature.

Natural Systems and Features

Treatment of natural systems and features should maintain and enhance native systems as they existed by the end of the historic period. In general, natural features are part of the setting of Fort Cronkhite, rather than part of the developed landscape within the cantonment. While the coastal scrub and riparian communities adjoined the cantonment historically, they did not extend into it. Introduction of natural communities into historically managed landscapes may be appropriate if there is a strong reason to enhance ecological health, or where there is a lack of historic integrity in the cultural landscape. Where non-native species, such as Monterey pine and cypress, have spread since the end of the historic period, it would be appropriate to remove them to enhance the historic character of the landscape. Treatment of these trees should also take into consideration contemporary park needs, such as the need for shade and shelter. (See also vegetation guidelines).

Spatial Organization

Treatment should overall retain and enhance the historic spatial organization of the landscape. Within this characteristic, a primary objective is to enhance the historic limits of the Nike complex, which was defined by a perimeter fence. Reconstruction of this fence would be one means of returning this historic spatial character, but it could also be achieved through addition of plantings or small-scale features that indicate the limits of the complex. Compatible new construction for the Headlands Institute campus should also reinforce these historic spatial limits. Another spatial objective may be to return the broader enclosure to the Nike complex created by the surrounding World War II-era buildings along Mitchell and Kirkpatrick Roads. This objective could be achieved through new construction, or by making visible the site and massing of the lost buildings.

Land Use

Future uses should be limited to activities that require minimal change to historic features. However, uses that require restoration or reconstruction of lost features, such as reconstruction of buildings removed since the end of the historic period, may be appropriate if they enhance the historic character of the landscape.

Circulation

Treatment of circulation features should generally retain and repair existing historic features, and introduce new features based on historic precedent. Priority should be given to reestablishing the character-defining circulation spine through the center of the Nike complex, notably its alignment and dimensions

(see also topography). While this was historically a vehicular drive, it would not need to maintain this function in order to enhance the historic character of the landscape. Use of alternative materials of a similar character may also be appropriate. Along with the drive, the related system of sidewalks should also be returned. Existing curved walks should be replaced with straight walks to reflect the historic orthogonal layout of the complex.

The campus improvement project has identified the need to redesign the existing parking at the Nike complex. While the existing parking lots at the east and west end of the complex may be incompatible with the sustainability theme desired in the campus improvements, consideration should be given to retaining them in a more ecologically sustainable manner, such as through use of alternative pavement materials. In addition, the historic character of the parking lots could be maintained under alternative, non-vehicular uses. If new parking lots are required, they should be placed in inconspicuous locations, or be placed where they can reestablish historic spatial patterns, such as on building footprints.

Topography

Treatment of topography should maintain existing features and return grades lost since the end of the historic period. This guideline is primarily applicable to the center of the Nike complex, where the historic terracing was altered through removal of the road, and addition of planted areas, and a sunken amphitheater. The historic terracing should also be revealed where it is now obscured, notably by vegetation on the lower terrace along Mitchell Road. Minor alteration of the historic topography to address drainage or accessibility may be appropriate if compatible with the historic character of the landscape.

Vegetation

Treatment of vegetation should maintain the turf, shrubs, and trees that existed through the end of the historic period, and replant in kind those that have been lost or require removal due to condition. Aged historic trees and shrubs should be maintained to the extent feasible to retain historic plant materials that a living, tangible connection to the past. Keeping trees at their historic size is usually not appropriate since the trees were intended to grow, unless they are causing damage to historic structures or conflict with other historic characteristics of the landscape. If a large percentage of individuals in a formal grouping have been lost, such as the trees surrounding the central administration building, it may be appropriate to replant the entire grouping to return the historic uniformity of the feature.

Treatment of vegetation should recognize that non-native species were part of the historic landscape. If certain non-native species are determined to be invasive

and a threat to surrounding natural areas, consideration should then be given to using substitute plant species with a similar character.

New plantings of trees and shrubs should generally reestablish specimens lost since the historic period, as well as those that may have been unintentionally lost during the historic period. Establishment of new plantings in the Nike complex as part of the campus improvement program should be based on the character of the historic plantings, following the overall location, massing, and species extant toward the end of the historic period. If new plantings are introduced into the historic core of the Nike complex, it would be appropriate to refer to the design intent of the 1964 and 1970 proposed planting plans.

Buildings & Structures

Buildings and structures should generally be maintained to retain and enhance their historic character at the end of the historic period in 1974, including modifications made up until that time. It is appropriate to retain non-historic additions where they are compatible with the historic character of the landscape, such as the cafeteria wing in the Nike complex.

Construction of new buildings, such as is being considered in alternatives for the campus improvement program, should reinforce the historic spatial character of the landscape by occurring on historic building sites on the lower terrace along Mitchell Road and the upper terrace along Kirkpatrick Street. In these locations, new construction should follow the World War II architectural character in terms of overall massing, style, and materials, but be distinguishable from historic buildings. In addition, buildings constructed under a comprehensive program should share a unified style to read as a new layer in the landscape. If new construction is required within the historic limits of the Nike complex, it should maintain the spatial character of the landscape and be compatible with the architectural style of the Nike buildings.

Small-Scale Features

Existing historic small-scale features should be retained and reused where feasible. Overhead utility lines, while often considered intrusive, are in this case an historic feature that conveys the utilitarian character of the landscape. A character-defining small-scale feature that has been lost in the Nike complex is the perimeter fencing. While addition of a reconstructed chain-link fence and gates entrances would be appropriate to enhance historic character, these features would probably not be compatible with the existing campus uses. If desirable for interpretive or educational purposes, other small-scale features

could be used to reestablish a sense of this perimeter, such as posts or a different type of fence.

The campus improvement program will most likely include replacement of existing small-scale features within the Nike complex. Design of new features should follow historic precedent where applicable. New features that do not have historic precedent on the site, such as interpretive signs and benches, should follow a compatible, contemporary design that is distinguishable but employs materials, massing, and the general utilitarian military style found historically in the landscape. These new features should recede visually, unless they reinforce historic spatial organization (such as the location of a building or fence).The features should also follow a unified design, rather than a variety of styles. The Park's *Historic Furnishings Guidelines* should be consulted first regarding the design of site furnishings.

ENDNOTES

[1] Robert R. Page, Cathy A. Gilbert, and Susan A. Dolan, *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques* (Washington, DC: National park Service, 1998), 3-4.

2 National Park Service, "Headlands Institute Campus Improvement Program," Environmental Assessment notice on People, Environment, and Public Comment website, fall 2007, online at http://parkplanning.nps.gov/projectHome.cfm?parkID=303&projectId=15288.

[3] Staff attending the November 14, 2007 workshop and site visit are identified in the list of sources at the back of this report.

[4] *A Guide to Cultural Landscape Reports*, 53.

[5] U. S. Army Engineer District, "SF-87 Fort Cronkhite…Battery Facilities Landscape Plan" (January 27, 1964), GGNRA Archives.

[6] Aerial photograph of Forts Barry and Cronkhite, MRN 39-205, c.1964, GGNRA Archives.

[7] U. S. Army, Office of the Constructing Quartermaster, "Fort Cronkhite, Calif Sidewalks for Temp. Housing Plot Plan and Walk Details" (July 23, 1941), GGNRA Archives.

[8] Fort Cronkhite landscape plan, 1964.

[9] U. S. Army Engineer District Sacramento, "Air Defense Missile Site SF-87 Future Development Plans—Planting Plan" (March 1970), GGNRA, drawing 246, folder 2. The planting key for this plan was not available at time of writing.

[10] Headlands Institute and Golden Gate National Recreation Area, "Public Scoping Notice, Headlands Institute Campus Improvement & Expansion Plan Environmental Assessment" (2007).

[11] *A Guide to Cultural Landscape Reports*, 81.

[12] Charles Birnbaum and Christine Capella Peters, editors, *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* (Washington, D.C.: National Park Service, 1996), 49.

GRAPHICS

Figure 1: Current aerial view of Fort Cronkhite showing the project area focused on the east wing of the cantonment, 2006. This area contains the former Nike Missile administration complex, currently the core campus of the Headlands Institute. (Golden Gate National Recreation Area)

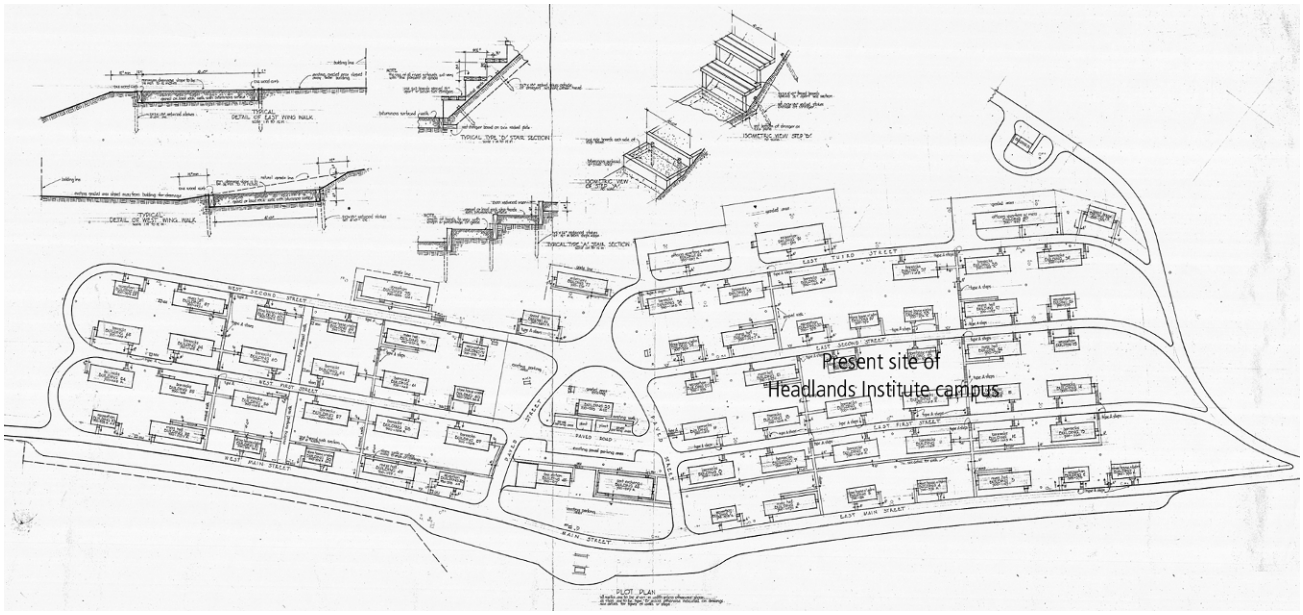

Figure 2: Site plan of the entire Fort Cronkhite cantonment during World War II. The existing core of the Headlands Institute campus is located in the east (right) side of the cantonment. Office of the Constructing Quartermaster, "Fort Cronkhite, Calif. Sidewalks for Temp. Housing," June 3, 1941. Golden Gate National Recreation Area.

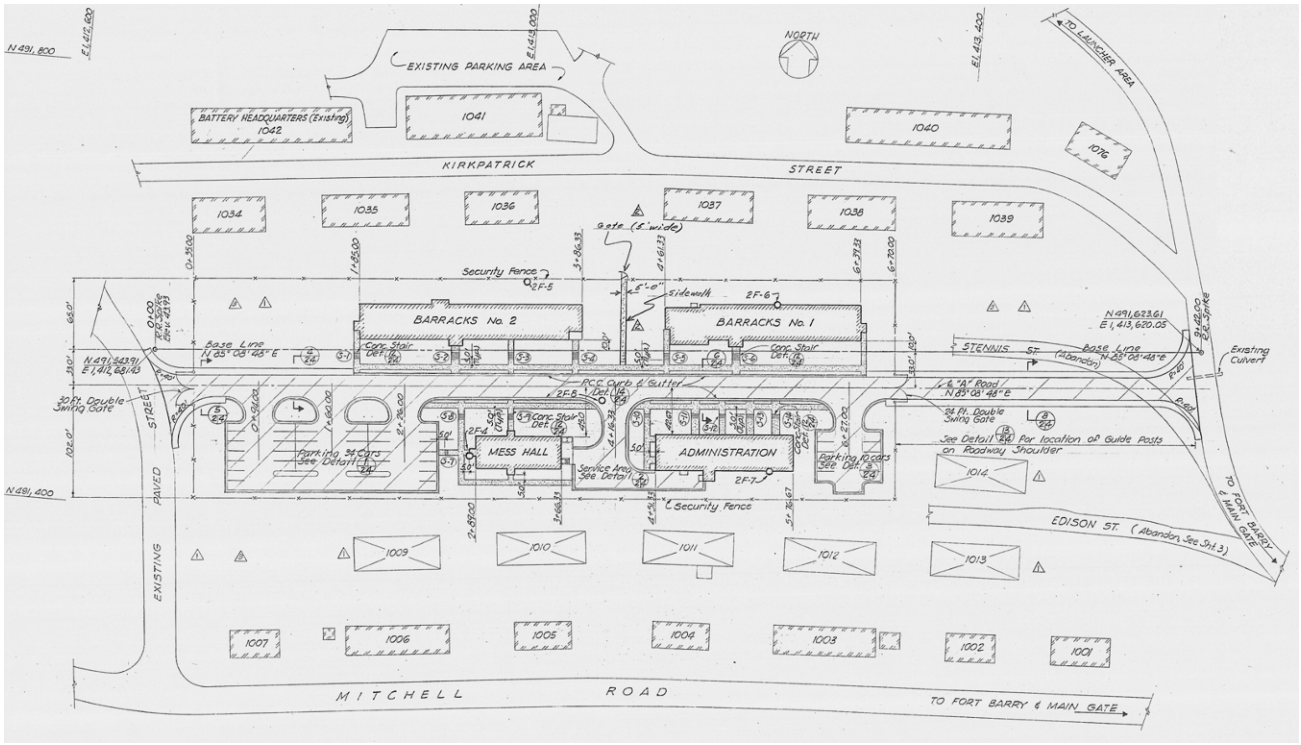

Figure 4: As-built site plan of changes to the east wing of the Fort Cronkhite cantonment for construction of the Nike administration complex, begun in c.1964. This area is the existing Headlands Institute campus. The buildings with an "x" were demolished, while the row of buildings along Mitchell Road and three of the six along the south side of Kirkpatrick Street were removed at a later date. U. S. Army District Engineer, "SF-87 Fort Cronkhite, California Battery Facilities Site Plan-Test Boring Logs," January 27, 1964, revised April 8 1966. (Golden Gate National Recreation Area)

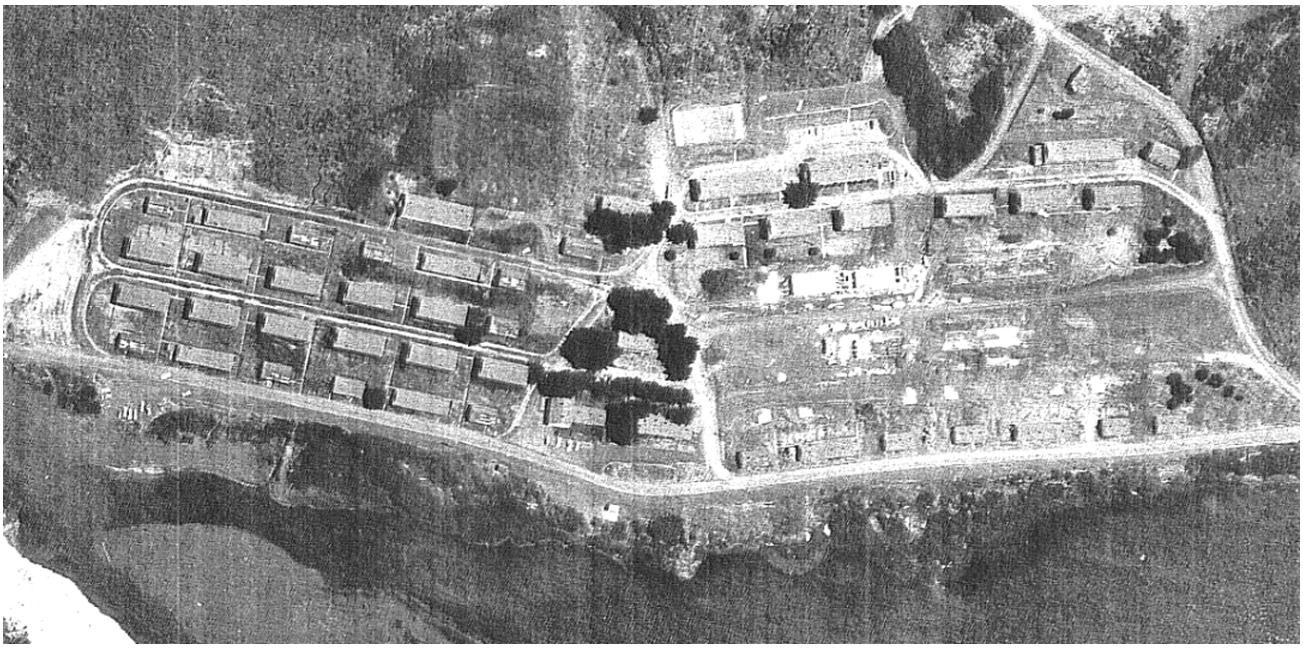

Figure 3: Aerial view of Fort Cronkhite at the time of the construction of the Nike Missile administration complex, c.1964. Note the tree and shrub cover at the central area of the cantonment and on the upland riparian corridors. (Golden Gate National Recreation Area)

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Figure 5: Looking southwest across the east wing of the Fort Cronkhite cantonment, 2007. This photograph shows the natural setting and site of buildings on lower terrace along Mitchell Road, south of the Headlands Institute campus. (SUNY ESF)

Figure 6: Looking north at west end of west wing of the Fort Cronkhite cantonment, 2007. This photograph shows natural scrub and grassland, and the existing character of World War II-era roads, gutters, and retaining walls. (SUNY ESF)

Figure 7: Looking east through the west wing of Fort Cronkhite cantonment toward the central area, 2007. This photograph shows the existing character of buildings, roads, vegetation, topography, and small-scale features that remain largely intact from the World War II era. (SUNY ESF)

Figure 8: The central area of the Fort Cronkhite cantonment, looking northeast at central administration building and surrounding lawn and specimen trees, 2007. (SUNY ESF)

Figure 9: The core of the Headlands Institute campus at the former Nike Missile administration complex looking west showing Nike buildings and changes to circulation, 2007. (SUNY ESF)

Figure 10: The core of the Headlands Institute campus looking east, 2007. This photograph shows the mulch, shrubs, flagpole, sidewalks, and gathering area that have been added on former roadbed that ran through the center of the Nike complex. (SUNY ESF)

Figure 11: Service area at the south side of the Headlands Institute showing location of parking, dumpsters, and seating placed to take advantage of ocean views, 2007. In the background are World War II-era buildings within the central area of the cantonment. The lower terrace contained a row of World War II-era buildings at the end of the historic period. (SUNY ESF)

Figure 12: The north side of the Headlands Institute campus showing conditions along Kirkpatrick Street looking west, 2007. This photograph shows a terrace that is the site of a World War II-era building that matched the ones in the background. Note the contrast in massing with the Nike administration buildings at left. (SUNY ESF)

SOURCES

Aerial photograph of Forts Barry and Cronkhite, MRN 39-205. c.1965. GGNRA Archives.

Headlands Institute and Golden Gate National Recreation Area. "Public Scoping Notice, Headlands Institute Campus Improvement & Expansion Plan Environmental Assessment." 2007.

National Park Service. "Fort Cronkhite History Walk." Unpublished booklet, Golden Gate National Recreation Area, c.2006.

U. S. Army Engineer District Sacramento, "Air Defense Missile Site SF-87 Future Development Plans—Planting Plan" March 1970. GGNRA, drawing 246, folder 2.

U. S. Army Engineer District Sacramento. "SF-87 Fort Cronkhite…Battery Facilities Landscape Plan." January 27, 1964. GGNRA Archives.

U. S. Army, Presidio of San Francisco. "Air Defense Missile Site SF-87, General Site Map." June 29, 1970, drawing E-759.

U. S. Army, Office of the Constructing Quartermaster. "Fort Cronkhite, Calif. Sidewalks for Temp. Housing Plot Plan and Walk Details." July 23, 1941. GGNRA Archives.

Page, Robert R., Cathy A. Gilbert, and Susan A. Dolan. *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques*. Washington, DC: National Park Service, 1998.

Site visit and workshop (held at Headlands Institute campus, Fort Cronkhite) November 15, 2007. Attendees:

John Auwaerter, Historical Landscape Architect, SUNY College of Environmental Science and Forestry, principal author, Marin Headlands Cultural Landscape Report
Steve Rasmussen Cancian, Landscape Architect and Project Manager, Headlands Institute Campus Improvement Program.
Carey Feierabend, architect and environmental compliance consultant, Golden Gate National Parks Conservancy
Sue Fritzke, Supervisory Vegetation Ecologist, Golden Gate National Recreation Area
Steve Haller, Senior Historian, Golden Gate National Recreation Area and project manager, Marin Headlands Cultural Landscape Report

(continued)

Craig Kenkel, Chief, Division of Cultural Resources and Museum Management, Golden Gate National Recreation Area
Kimball Koch, Cultural Landscape Program Manager, Pacific West Region, National Park Service
Mia Monroe, Supervisory Park Ranger, Golden Gate National Recreation Area
Bob Page, Director, Olmsted Center for Landscape Preservation
Aaron Rich, Program Director, Headlands Institute
Joanne Wilkins, Historical Architect, Golden Gate National Recreation Area and park liaison for the Fort Baker Retreat and Conference Center project.