

Appendix B

Section 4(f) Evaluation

APPENDIX B
Final
SECTION 4(F) EVALUATION

Golden Gate Bridge Physical Suicide Deterrent System Project
City and County of San Francisco and County of Marin, California

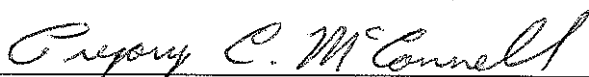
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The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

December 2009

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1.0 INTRODUCTION

1.1 SECTION 4(f)

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S.C. 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation land, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- 1) there is no prudent and feasible avoidance alternative to the use of the land from the Section 4(f) property; and
- 2) the program or project includes all possible planning to minimize harm to the Section 4(f) property resulting from the use.

Section 4(f) further requires consultation with Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture (USDA) and Housing and Urban Development (HUD) in developing transportation projects and programs, which use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

Consultation with the USDA would occur whenever a project uses Section 4(f) land from the National Forest System. Consultation with HUD would occur whenever a project uses Section 4(f) land for/on which certain HUD funding had been utilized. Since neither of these conditions applies to the proposed project, consultation with USDA and HUD is not required.

In general, a Section 4(f) "use" occurs when: 1) Section 4(f) land is permanently incorporated into a transportation facility; 2) there is a temporary occupancy of Section 4(f) land that is adverse in terms of the Section 4(f) preservationist purposes as determined by specified criteria (23 CFR §774.13[d]; and 3) Section 4(f) land is not incorporated into the transportation project, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired (constructive use) (23 CFR §774.15[a]).

1.2 SECTION 4(f) AND SECTION 106

One of the issues addressed in this evaluation concerns the application of Section 4(f) to historic resources. The consideration of historic resources under Section 4(f) differs from their consideration under Section 106 of the National Historic Preservation Act. Section 4(f) applies only to programs and projects undertaken by the U.S. Department of Transportation and only to publicly owned public parks, recreation areas, and wildlife refuges, and to historic sites on or eligible for the National Register for Historic Places (NRHP). For protected historic sites, Section 4(f) is triggered by the "use" or occupancy of an historic site by a proposed project. There is also the situation in which a project does

not actually permanently incorporate land from an historic site, but because of its proximity impacts to the historic site, is determined by the U.S. Department of Transportation to substantially impair the qualities that made the historic site eligible for the NRHP. This is referred to as a "constructive use." In addition, when a temporary occupancy of Section 4(f) land meets specified conditions (23 CFR §774.15[a]), the occupancy is considered so minimal that it does not constitute a "use" within the meaning of Section 4(f).

Section 106 is a different requirement that applies to any federal agency and addresses direct and indirect "effects" of an action on historic properties. Section 106 evaluates "effects" on an historic site, while Section 4(f) protects an historic site from "use" by a project. Therefore, even though there may be an "adverse effect" under Section 106 because of the effects upon the site, the provisions of Section 4(f) are not triggered if the project would not result in an "actual use" (permanent or certain temporary occupancy of land) or a "constructive use" (substantial impairment of the features or attributes which qualified the site for the NRHP).

2.0 DESCRIPTION OF THE PROPOSED PROJECT

The Golden Gate Bridge (Bridge) is owned and operated by the Golden Gate Bridge, Highway and Transportation District. It is located within the San Francisco Bay Area. The proposed project is located in the City and County of San Francisco and Marin County (see Figure 1). The project proposes to construct a physical suicide deterrent system along both sides of the Golden Gate Bridge (Bridge). As shown on Figure 1, the project limits are from the San Francisco Abutment to the Marin Abutment of the Bridge. The following section discusses the need for the project and provides a description of project alternatives.

2.1 PURPOSE AND NEED FOR PROJECT

The purpose of the proposed project is to consider a physical suicide deterrent system on the Bridge in order to reduce the number of injuries and deaths associated with jumping off the Bridge. The need for the project stems from the fact that the 4-foot height of the outside handrail does not sufficiently deter individuals who are not using the sidewalk for its intended purposes from climbing over the outside handrail, and there is no other physical barrier beyond the outside handrail preventing an individual from jumping once the outside handrail is scaled.

The existing non-physical measures to deter suicides on the Bridge still result in approximately two dozen deaths per year from individuals jumping off the Bridge. The non-physical measures have stopped approximately two-thirds of those individuals with the intent to commit suicide at the Bridge; despite these measures one-third are not prevented.

A complete discussion of the purpose and need for the project is provided in Chapter 1 of the Final Environmental Impact Report/Environmental Assessment (Final EIR/EA).

2.2 PROJECT DESCRIPTION

Several build alternatives were developed that meet the purpose and need for the project and additional criteria established by the Golden Gate Bridge, Highway and Transportation District (District). The following describes alternatives under consideration.

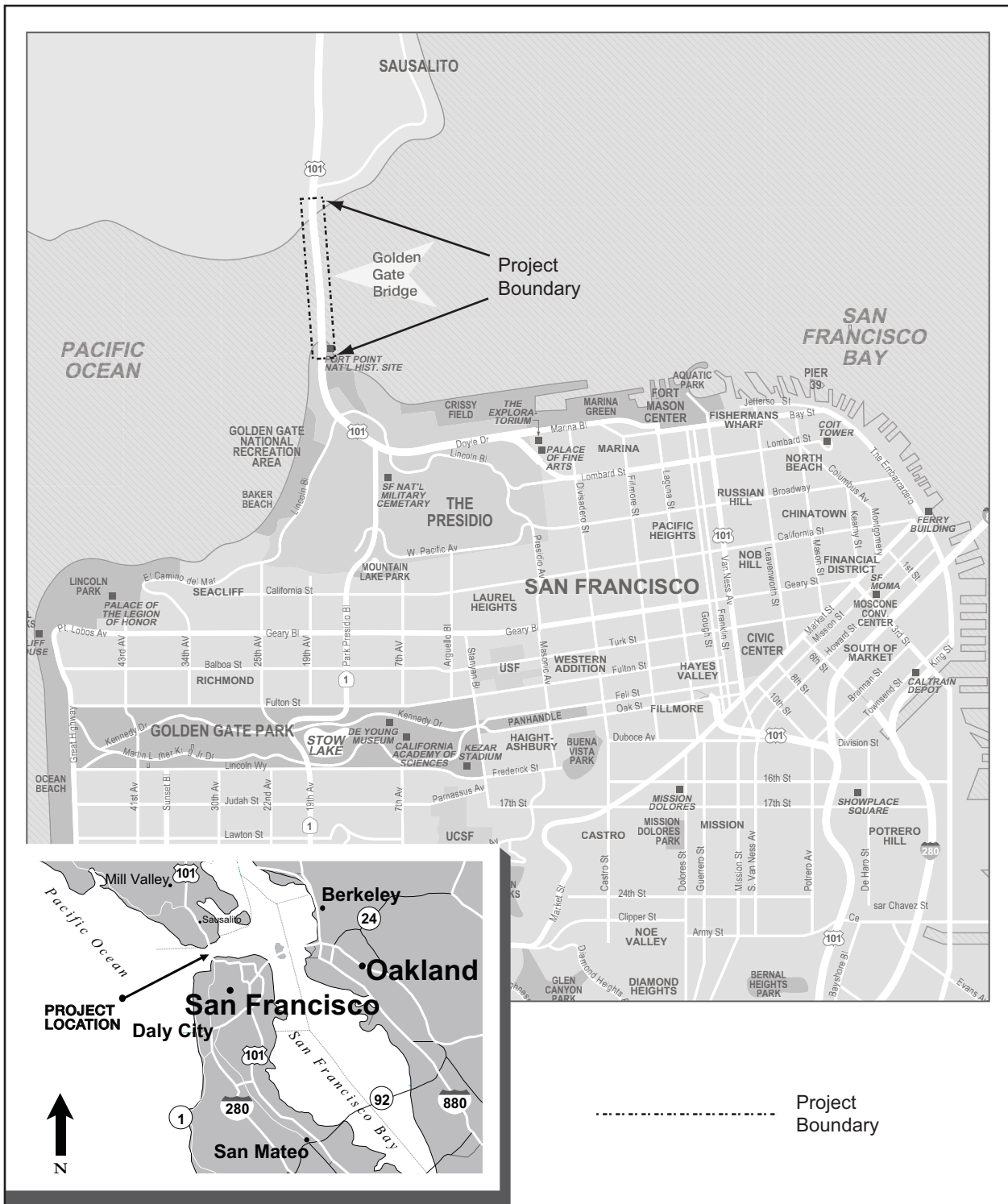


Figure 1 - Golden Gate Bridge Project Location

Source: CirclePoint, 2008

A more detailed discussion of the project alternatives, including exhibits, is provided in Chapter 1 of the Final EIR/EA.

The alternatives were developed after the first phase of the project, wind tunnel testing, was completed. Wind tunnel testing on the generic concepts was performed first in order to determine the limiting characteristics of each concept with respect to wind. The wind tunnel testing and analysis determined that any physical addition to the Bridge would adversely affect the Bridge's aerodynamic stability. However, testing also determined that wind devices could be installed to mitigate the adverse effects associated with the additions.

All of the build alternatives developed and included in this document require the addition of one of two different types of wind devices. The first type of wind device is called a fairing and consists of a curved element placed at two locations below the sidewalk on the top chord of the west stiffening truss. The second type of wind device is called a winglet and consists of a curved element placed above the sidewalk at the top of the alternative posts.

Previous projects at the Bridge, such as the Public Safety Railing Project (completed in December 2003) and the Seismic Retrofit Project (currently underway) were subject to Section 106 and Section 4(f) evaluations and CEQA environmental analysis. The FHWA is the lead agency under NEPA and the District is the lead agency under CEQA for both projects. The wind fairing device and modifications to the outside handrail were previously evaluated as part of the District's seismic retrofit program. No adverse Section 106 effects or Section 4(f) uses were identified for either project. An Environmental Assessment/Initial Study prepared in November 1995 and a Finding of No Adverse Effect prepared in January 1995 for the Seismic Retrofit Project and the Categorical Exemption/Categorical Exclusion prepared for the Public Safety Railing Project documented that the projects would have no impacts, no adverse effects, and no adverse cumulative effects. Therefore, this report will not discuss the wind fairing device. The winglet is a new feature that has not been evaluated and, as such, will be discussed in this report.

2.2.1 Build Alternatives

The District's Board discussed the selection of a Preferred Alternative at its October 10, 2008 Board Meeting. At the meeting, District staff gave presentations regarding the comments received on the Draft EIR/EA and the operation maintenance, and emergency response impacts of the alternatives. Public comment was also heard during the meeting.

The District's Board commented that Alternative 3 was the most humane, aesthetic and visionary approach and an "elegant solution," and recalled that in other locations where a suicide deterrent net system has been installed, there was a marked decrease in suicides and suicide attempts.¹ The District's Board concluded that Alternative 3 was the Preferred Alternative to be further evaluated in the Final EIR/EA document. In the letter dated July 29, 2009, the California Department of Transportation (Department) concurred with the

¹ Association of Suicidology, *Securing a Suicide Hot Spot: Effects of a Safety Net at the Bern Muenster Terrace*, August 2005; National Institute for Mental Health in England, *Guidance on Action to be Taken at Suicide Hotspots*, October 2006.

identification of Alternative 3 as the Preferred Alternative. Therefore, Alternative 3 has been identified as the Preferred Alternative in the Final EIR/EA. Alternative 3 meets the Purpose and Need for a physical suicide deterrent system and has fewer environmental impacts as compared to the other build alternatives.

Alternative 1A-Add Vertical System to Outside Handrail

Alternative 1A would construct a new barrier on top of the outside handrail (and concrete rail at north anchorage housing and north pylon). The barrier would extend 8 feet vertically from the top of the 4-foot-high outside handrail for a total height of 12 feet. The barrier's vertical members would be comprised of ½-inch diameter vertical rods spaced at 6 ½ inches on center, leaving a 6-inch clear space between rods. The existing rail posts would be replaced with new 12-foot-high outside rail posts at the same locations and of the same cross-section, size, material, and color of the original posts. The top horizontal header would consist of a chevron-shaped member matching the top element of the outside handrail. The vertical rods would be attached to the horizontal header and outside handrail. The entire system would be constructed of steel that would be painted International Orange to match the material and color of the outside handrail. Transparent panels would be installed at the belvederes (widened areas located on both the east and west sidewalks) and towers on both sides of the Bridge. Transparency would be preserved through ongoing maintenance of the panels. The modification to the outside handrail on the west side of the Bridge between the two main towers and the installation of the wind fairings would be completed as part of the previously approved Seismic Retrofit Project, prior to installation of Alternative 1A.

Because maintenance workers would no longer be able to climb over the outside handrail to reach the below-deck maintenance traveler, gates would be located at a spacing of 150 feet on center to generally match the locations of the existing light posts and gates on the public safety railing. The gates would be 8 feet wide and 8 feet high (two 4-foot-wide by 8-foot-high panels), and match the appearance of the vertical system. The frame for each gate door would be constructed of 2-inch by 2-inch steel members. The gates would be located on top of the outside handrail. The outside handrail would be reconstructed.

Alternative 1B – Add Horizontal System to Outside Handrail

Alternative 1B would construct a new barrier on top of the outside handrail (and concrete rail at north anchorage housing and north pylon) consisting of ¾-inch diameter horizontal steel cables at 6 inches on center leaving 5 ⅝ inches clear space between cables. The cable diameter matches the cables on the public safety railing. The new barrier would extend 8 feet above the top of the 4-foot-high outside handrail for a total height of 12 feet. The existing rail posts would be replaced with new 12-foot-high outside rail posts at the same locations and of the same cross-section, size, material, and color of the original posts. The entire system would be constructed of steel that would be painted International Orange to match the material and color of the outside handrail. Transparent panels would be installed at the belvederes and towers on both sides of the Bridge. Transparency would be preserved through ongoing maintenance of the panels. The modification to the outside handrail on the west side of the Bridge between the two main towers and the installation of the wind fairings would be completed as part of the previously approved Seismic Retrofit Project, prior to installation of Alternative 1B.

A transparent winglet would be placed on top of the outside rail posts to ensure aerodynamic stability and impede climbing over the barrier. The winglet would be a transparent 42-inch-wide panel with a slight concave curvature extending approximately 2 feet over the sidewalk. The transparent winglet would run the length of the suicide deterrent barrier, except at the north and south towers. The transparent winglet would be notched at the suspender ropes and light posts.

Because maintenance workers would no longer be able to climb over the outside handrail to reach the below-deck maintenance traveler, gates would be located at a spacing of 150 feet on center to generally match the locations of the existing light posts and gates on the public safety railing. The gates would be 8 feet wide and 8 feet high (two 4-foot-wide by 8-foot-high panels), and match the appearance of the horizontal system. The frame for each gate door would be constructed of 2-inch by 2-inch steel members. The gates would be located on top of the outside handrail. The outside handrail would be reconstructed.

Alternative 2A – Replace Outside Handrail with Vertical System

Alternative 2A would replace the existing outside handrail with a new vertical 12-foot-high barrier consisting of ½-inch diameter vertical steel rods spaced at 4 ½ inches on center, leaving a 4-inch clear space between rods. A rub rail would be installed at the same height as the public safety railing (4 feet 6 inches). The existing rail posts would be replaced with new 12-foot-high outside rail posts at the same locations and of the same cross-section, size, material, and color of the original posts. The top horizontal header would consist of a chevron-shaped member matching the top element of the outside handrail to be removed. The vertical rods would be attached to the header and bottom barrier element. The entire system would be constructed of steel that is painted International Orange to match the material and color of the outside handrail. Transparent panels would be installed along the upper 8 feet at the belvederes and towers on both sides of the Bridge. Transparency would be preserved through ongoing maintenance of the panels. The installation of the wind fairings would be completed as part of the previously approved Seismic Retrofit Project, prior to installation of Alternative 2A. The modification to the outside handrail on the west side of the Bridge between the two main towers would not occur, as the outside handrail would be replaced with a new vertical barrier.

Because maintenance workers would no longer be able to climb over the outside handrail to reach the below-deck maintenance traveler, gates would be located at a spacing of 150 feet on center to generally match the locations of the existing light posts and gates on the public safety railing. The gates would be 8 feet wide (two 4-foot-wide panels) and 12 feet high, and match the appearance of the vertical system. The frame for each gate door would be constructed of 2-inch by 2-inch steel members. A rub rail would be located at a height of 4 feet 6 inches, matching the height of the public safety railing.

Alternative 2B – Replace Outside Handrail with Horizontal System

Alternative 2B would replace the existing outside handrail with a new 10-foot-high barrier consisting of ⅜-inch diameter steel horizontal cables. The cables in the lower 3 ½ foot section would be spaced at 4.4 inches on center, while the cables in the upper 6 ½ foot section would be spaced 6 inches on center. A rub rail would be installed at the same height as the public safety railing (4 feet 6 inches). The existing rail posts would be replaced with new 10-foot-high outside rail posts at the same locations and of the same

cross-section, size, material, and color of the original posts. The entire system would be constructed of steel that would be painted International Orange to match the material and color of the outside handrail. Transparent panels would be installed along the upper 6½-foot portion at the belvederes and towers on both sides of the Bridge. Transparency would be preserved through ongoing maintenance of the panels.

A transparent winglet would be placed on top of the rail posts to ensure aerodynamic stability and impede climbing over the barrier. The winglet would be a clear 42-inch-wide transparent panel with a slight concave curvature extending approximately 2 feet over the sidewalk. The transparent winglet would run the length of the suicide deterrent barrier, except at the north and south towers. The transparent winglet would be notched at the suspender ropes and light posts. The installation of the wind fairings would be completed as part of the previously approved Seismic Retrofit Project, prior to installation of Alternative 2B. The modification to the outside handrail on the west side of the Bridge between the two main towers would not occur, as the outside handrail would be replaced with a new horizontal barrier.

Because maintenance workers would no longer be able to climb over the outside handrail to reach the below-deck maintenance traveler, gates would be located at a spacing of 150 feet on center to generally match the locations of the existing light posts and gates on the public safety railing. The gates would be 8 feet wide (two 4-foot-wide panels) and 10 feet high, and match the appearance of the horizontal system. The frame for each gate door would be constructed of 2-inch by 2-inch steel members. A rub rail would be located at a height of 4 feet 6 inches, matching the height of the public safety railing.

Alternative 3 – Add Net System (Preferred Alternative)

Alternative 3 would construct a horizontal net approximately 20 feet below the sidewalk and approximately 5 feet above the bottom chord of the exterior main truss. Use of such net installations for suicide prevention on other facilities have resulted in greatly reduced fatalities and suicide attempts.² Should individuals jump, they would be expected to survive the fall and could be rescued. The net would extend horizontally approximately 20 feet from the Bridge and be covered with stainless steel cable netting incorporating a grid between 4 and 10 inches. The horizontal net would consist of independent sections that could be rotated vertically against the truss to allow the maintenance travelers to be moved. The horizontal support system would connect directly to the exterior truss and be supported by cables back to the top chord of the truss. The support system for the netting would include cables that would pre-stress the netting to help keep it taut and not allow the wind to whip the netting. Alternative 3 would not include the use of transparent panels.

The modification to the outside handrail on the west side of the Bridge between the two main towers and the installation of the wind fairings would be completed as part of the previously approved seismic retrofit project, prior to installation of Alternative 3.

² Association of Suicidology, Securing a Suicide Hot Spot: Effects of a Safety Net at the Bern Muenster Terrace, August 2005; National Institute for Mental Health in England, Guidance on Action to be Taken at Suicide Hotspots.

Refinements to Alternative 3

Some of the public comments received on the Draft EIR/EA suggested that the District consider other colors for the net material. In response to those comments, the District prepared renderings depicting different colors of netting material, including black and unpainted and uncoated stainless steel. Based on these renderings, as well as consultation with the State Historic Preservation Officer (SHPO) and other interested parties, including Advisory Council on Historic Preservation (ACHP), the Golden Gate National Recreation Area (GGNRA), the National Trust for Historic Preservation, Docomomo, and the San Francisco Architectural Heritage, following the close of the public comment period, Alternative 3 has been refined to modify the color of the net material from International Orange to unpainted and uncoated stainless steel and it was determined that the stainless steel net would have the least affect or minimize affects of the proposed project on cultural resources. The steel horizontal support system for the net would be painted International Orange to match the color of the Bridge.

Through consultation with the SHPO and Advisory Council on Historic Preservation (ACHP), it was also determined that at the North Anchorage Housing, the net should be replaced by a vertical barrier along the North Anchorage Housing. Rather than extending the net around the North Anchorage Housing, a vertical barrier painted International Orange would be installed along the 300-foot length of the North Anchorage Housing, representing approximately 3 percent of the 1.7-mile Bridge span. The barrier would extend 8 feet vertically from the top of the 4-foot high concrete wall of the North Anchorage Housing for a total height of 12 feet, similar to the 8-foot vertical barrier extension under Alternative 1A. The barrier's vertical members would be comprised of 1/2-inch thick diameter vertical rods spaced at 6 ½ inches on center. Alternative 3 was therefore refined to replace the extension of the net around the North Anchorage Housing with the vertical barrier.

No-Build Alternative

The No-Build Alternative represents an alternative and a baseline for future year conditions if no other actions are taken in the study area beyond what is already in place. Under this alternative, the Bridge's sidewalks would remain open to the public, with the existing outside railing remaining four (4) feet high. The No-Build Alternative would continue the existing non-physical suicide deterrent programs at the Bridge, which include emergency counseling telephones, public safety patrols, and employee training. These programs are more fully described in Chapter 1 of the EIR/EA.

Individuals of varying heights, weights, ages, and sexes, not using the Bridge sidewalks for their intended purpose, could climb over the existing railing and jump to their death. There would be no other physical barrier preventing an individual from jumping, if the railing were to be scaled. Suicide rates under this alternative would likely follow historical trends as indicated below.

- In 2005, there were 622 known suicides in the nine Bay Area counties, of which 23 were estimated to occur at the Bridge. Further, in that same year, 58 persons contemplating suicide were successfully stopped. In 2006, 31 suicides are known to have occurred at the Bridge, while 57 individuals were stopped. Similarly, in 2007, 39 suicides occurred and 90 were stopped. The individuals taken off of the

Bridge are transported to a local hospital for a psychiatric evaluation pursuant to Section 5150 of the California Welfare and Institutions Code.

- A variety of non-physical measures to deter suicides on the Bridge have been in place for many years. However, there are still approximately two dozen deaths that occur each year as a result of individuals jumping off the Bridge. The non-physical measures have stopped approximately two-thirds of those individuals with the intent to commit suicide at the Bridge; despite these measures one-third are not prevented.
- Although official figures have not been maintained through the years, since 1937 it is estimated that approximately 1,300 individuals have committed suicide by jumping off of the Bridge.

2.2.2 Construction Activities

Construction of any of the physical suicide deterrent system build alternatives would be performed in sections, beginning on the west side of the Bridge and ending on the east side of the Bridge. It is anticipated that it would take 12 to 18 months per side to complete installation of any of the alternatives. Construction operations would be staged to minimize effects on pedestrians, cyclists and motor vehicles using the Bridge.

The work on the west sidewalk would be specified to be performed weekdays during the hours when the sidewalk is not open to the public, so as not to affect the commuter and recreational use on the west sidewalk. The work on the east sidewalk would be specified to be performed primarily at night. Should it be necessary to perform work during the day on the east sidewalk, a 6-foot wide minimum clear passageway would be maintained through the work area with appropriate traffic control and other protective measures in place. These provisions have been successfully used on the seismic retrofit project, the Public Safety Railing project and during the District's on-going maintenance and operations activities.

Anticipated equipment needed during construction of the alternatives would include a boom truck for delivery of material, a crane, welding equipment, a generator, lighting for night work, and general power hand tools.

3.0 DESCRIPTION OF SECTION 4(f) PROPERTIES

The Golden Gate Bridge Physical Suicide Deterrent System Project is located in proximity to several publicly owned parks and recreational facilities of national and international prominence and local value. Additionally, the Section 106 area of potential effects (APE) contains several historic properties, including the Golden Gate Bridge (Bridge) (project site). The following description of Section 4(f) properties includes properties within the General APE and parks and recreational facilities within approximately one-half mile of the project site.

The properties within the General APE include the Bridge, Doyle Drive and the Roundhouse Gift Center. Properties within one-half mile of the project include recreational facilities that are part of the Presidio of San Francisco, Golden Gate National Recreation Area and East Fort Baker. Figures 2 and 3 show the location of these

resources relative to the project site. Exhibit 3-1 lists the Section 4(f) resources in proximity to the project.

Exhibit 3-1 - Section 4(f) Resources in Project Vicinity

PROPERTY	HISTORIC AND RECREATION RESOURCES IN PROXIMITY TO THE GOLDEN GATE BRIDGE PHYSICAL SUICIDE DETERRENT SYSTEM PROJECT
Golden Gate Bridge	Roundhouse Gift Center Toll Plaza Undercrossing
Presidio of San Francisco	Fort Point National Historic Site Battery East Road and Bike Turnouts (formerly Battery East Area) Marine Drive Doyle Drive Crissy Field Coastal Trail (south) Golden Gate Promenade / SF Bay Trail Overlook at Fort Scott (off Coastal Trail)
GGNRA	Bluff Road Bridge Road Conzelman Road Coastal Trail (north) Bay Trail Battery Spencer
East Fort Baker	Vista Point and Trail Lime Point Moore Road (Lime Point Trail) Horseshoe Cove Point Cavallo Bay Trail

Golden Gate Bridge Physical Suicide Deterrent System



FIGURE 2
 SECTION 4(f) RESOURCES: SAN FRANCISCO APPROACH

Source: GEOGRAFIKA, 2008; Imagery - NAIP 2005/2006; NPS Website; GGNRA Website

Environmental Impact Report / Environmental Assessment

Golden Gate Bridge Physical Suicide Deterrent System

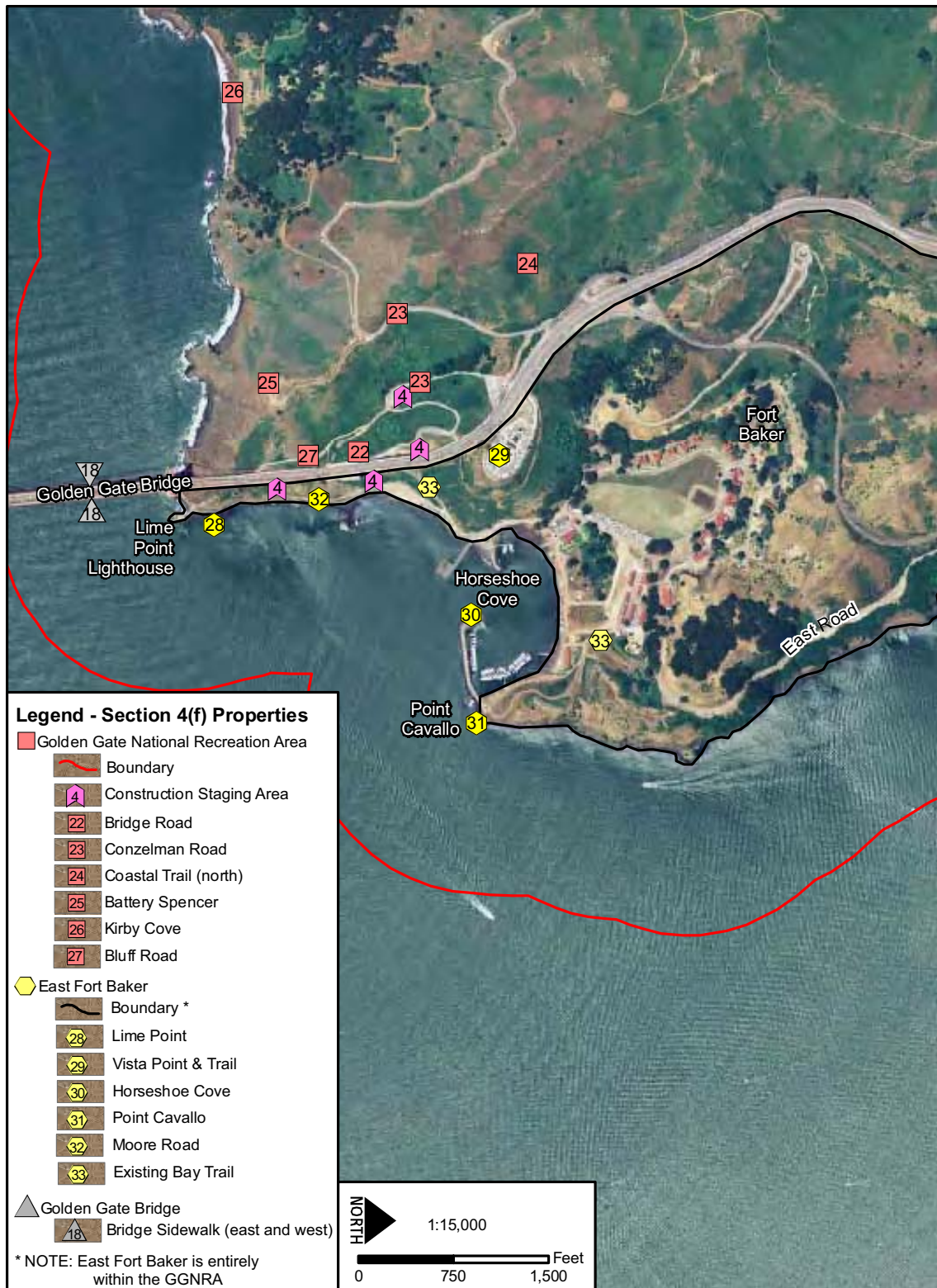


FIGURE 3
SECTION 4(f) RESOURCES: MARIN APPROACH

Source: GEOGRAFIKA, 2008; Imagery - NAIP 2005/2006; NPS Website; GGNRA Website

Environmental Impact Report / Environmental Assessment

3.1 GOLDEN GATE BRIDGE

3.1.1 The Golden Gate Bridge

The Bridge is a Section 4(f) resource because it is a publicly owned historic resource and a recreation resource with uses occurring on and around the Bridge. It is a multi-component historic structure that has been determined eligible for listing in the National Register of Historic Places (NRHP), is California State Historic Landmark No. 974, and is on the California Register of Historical Resources. It is also San Francisco City Landmark No. 222. Historic resources that are listed on the NRHP and resources that are eligible for it are viewed similarly under the provisions of Section 4(f) in that all such resources are protected by Section 4(f). Listing on the NRHP, while conferring a certain distinction, does not result in additional protections to historic resources under the provisions of Section 4(f).

The Bridge provides recreational function through visitor serving facilities, lookout areas, and use of the Bridge sidewalks by bicyclists, joggers, and sightseers. It is one of the most well-known, frequently visited, and internationally recognized suspension bridges in the world, spanning the Golden Gate Strait at the mouth of the San Francisco Bay and connecting San Francisco and Marin Counties (see Figure 1), and receiving approximately 10 million visitors yearly. The Bridge has been recognized by the American Society of Civil Engineers on at least three occasions: as one of the Seven [Engineering] Wonders of the World in 1955, as a National Civil Engineering Landmark in 1984, and as a Monument of the Millennium in 2001.

The Bridge is widely considered one of the most beautiful examples of bridge engineering, both as a structural design challenge and for its aesthetic appeal. It was the largest suspension bridge in the world when it was completed in 1937 and has become an internationally recognized symbol of San Francisco. The Bridge is distinctive because of its striking design reflected by its unique and distinguishing architectural qualities and characteristics. It represents the great period of suspension bridge engineering of the 1920s and 1930s, with never-before-seen suspension bridge aesthetics that emphasized light and simplicity, rather than solidity and complexity. The Bridge embodies new shapes and forms that transcend previous bridge designs and showcase its tremendous scale and beauty.

Combining Art Deco and Streamline Moderne design with advanced engineering technologies, and situated against a dramatic coastal backdrop, the Bridge has been described as an environmental sculpture and is widely noted for its harmonious blending of the natural and built environment. The extraordinary setting intensifies the visual power of the Bridge. From its north-south alignment, the Bridge provides panoramic views of the rugged beauty and urban diversity that surround it, encompassing the Marin hills, the Presidio of San Francisco Historic Landmark District, the skyline of San Francisco, Alcatraz and Angel Islands of San Francisco Bay, and the wide expanse of the Pacific Ocean and coastline. It is one of the most photographed places in the world, with views of the Bridge typically taken from Golden Gate National Recreation Area (GGNRA) beaches and trails southwest of the Bridge, San Francisco Bay, the Presidio, Fort Point, Fort Baker, the Marin Headlands, and from the air. The setting and the views contribute to the popularity of the sidewalks and to people's affection toward the structure.

Character-Defining Features of the Bridge

The primary character-defining elements and decorative features of the Bridge and its contributing elements are its major structural elements (the suspension Bridge anchorages, pylons, towers, main cables, suspender ropes, main span, and side spans), the plate girder bridge, arch bridge, and truss bridges of the approaches, the southern approach roadway, Round House, and Toll Crossing Underpass.

The Art Deco / Moderne design of these structures is a high-ranking character-defining feature of all of these structures and their use within the overall Bridge. The outside handrail from the original construction and outside handrail replicated to match original, as well as the layout of the sidewalks – width and construction around towers and pylons – that allow pedestrian use of Bridge, are essential character-defining features of the property (see Exhibit 3-2). The sidewalks have been extended and widened, and serve as important, human-scale features of the Bridge that make it readily accessible to the commuting and visiting public.

Pedestrians have access to the eastern pathway during daylight hours (from 5:00 a.m. to 6:00 p.m. or 9:00 p.m. depending on the season). Bicyclists have toll-free 24-hour access to either the eastern or the western pathways depending on the day, hour, and season.

Other character-defining features that are important in conveying the artistic value of the property are the electroliers (light posts), the International Orange paint color, and remaining concrete railings. The outside handrails are simplified modest, uniform elements placed far enough apart to allow motorists an unobstructed view. The electroliers (light posts) have a lean, angled form and the portal bracing of the main towers have decorative cladding.

Contributing Elements of the Bridge

The basic components of the main suspension span and side spans, the pylons, approach viaducts, and Fort Point Arch, are also interconnected with the other contributing elements: the Presidio Approach Road, the Roundhouse, and the Toll Plaza Undercrossing (Bridge Number 34 0069). The bridge number is the official structure number assigned by the Department to track structure maintenance. The underpass is an original component of the Bridge that appears to be eligible as a contributing element of the Bridge, but was not individually evaluated in the 1993 or 1997 survey.

Exhibit 3-2
Bridge Sidewalk (eastside)



3.1.2 The Roundhouse Gift Center

The Roundhouse Gift Center (see Exhibit 3-3) is a Section 4(f) resource because it is a contributing element of the Golden Gate Bridge historic property (MacDonald, 1993) and was determined eligible for the NRHP (MacDonald, 1995). The Roundhouse Gift Center is part of a complex of buildings designed and built as part of the original Bridge project. It was designed and built in 1939. It was remodeled in 1955 and again in 1987. Although the interior was completely altered, the exterior of the building has changed very little.



3.1.3 Toll Plaza Undercrossing

The Toll Crossing Underpass (Bridge Number 34 0069) is a Section 4(f) resource because it is a contributing element of the Golden Gate Bridge. It is an original component of the Bridge, completed in 1936. The tunnel-like undercrossing is a single span concrete tee beam structure designed to allow vehicular traffic and pedestrians to cross from one side of the roadway to the other underneath the Toll Plaza using surface streets. Department bridge logs indicate that the undercrossing is about 33 feet long and 291 feet wide, and that it has not undergone major widening or extension since it was completed.

3.2 PRESIDIO OF SAN FRANCISCO

The Presidio of San Francisco (the Presidio) is a Section 4(f) resource because it is a publicly owned recreation area and historic property and a unit of the GGNRA national park. It is also listed in the NRHP (register # 66000232) and is a National Historic Landmark District (NHLD). It is located in the northwesternmost point of the San Francisco peninsula, bordered in the north and the west by the San Francisco Bay and the Pacific Ocean, respectively (see Figure 2). The property is approximately 600-hectares (1,491 acres) and includes several significant historic sites and recreation areas. In 1998, management of the Presidio was divided between two federal agencies: the Presidio Trust manages the inland 1,168 acres of the Presidio and the National Park Service retains management of the 323 waterfront acres. The Trust's mission is to preserve and enhance the natural, cultural, scenic, and recreation resources of the Presidio for public use in perpetuity, and to achieve long-term financial sustainability.

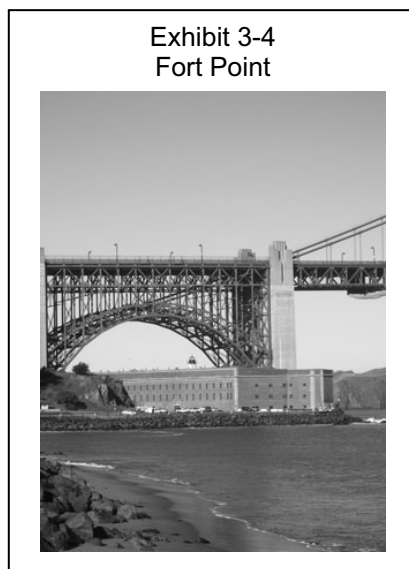
The Presidio's diverse points of interest include historic military forts and batteries, forests, beaches, and spectacular vistas. Along the approximately 37 miles of trails within the Presidio, recreational activities include walking, jogging, biking, camping, sightseeing, and bird watching. On the waterfront, visitors can surf and windsurf, sail, fish, and swim. The Presidio Trails and Bikeways Plan is the guide for directing a network of trails and bikeways that would enhance the public's exploration and experience of the Presidio, while also protecting its natural and cultural resources. The plan identifies three basic trail classifications: pedestrian trails, multi-use trails, and on-street bikeways. The Presidio also includes the following recreational facilities: a golf course; swimming pool; volleyball,

basketball, and tennis courts; gymnasium; bowling center; several small playgrounds, athletic fields, and picnic areas; and a group camping area. More than five million visitors enjoy the Presidio annually.

Pedestrian, bicycle, and vehicular access to the Presidio is provided at the following locations: Lincoln Boulevard (at the southwest), Arguello Boulevard (at the south), Presidio Boulevard and Broadway (at the southeast), Lombard Street and Gorgas Avenue (at the east), and Marina Boulevard (at the northeast). Vehicular access to the Presidio is also available from Doyle Drive via the off-ramp to Merchant Road at the Golden Gate Bridge Toll Plaza. Highway 101 crosses through the northern part of the Presidio, from the Toll Plaza to the eastern boundary of the Presidio. Veterans Boulevard carries Highway 1 on a north-south alignment through the Presidio NHLD and intersects with Doyle Drive just northwest of the Cavalry Stables buildings. In addition, the Presidio provides 11 miles of pedestrian trails and 14 miles of bicycle access including The Coastal Trail, the Golden Gate Promenade, and the Presidio trail system.

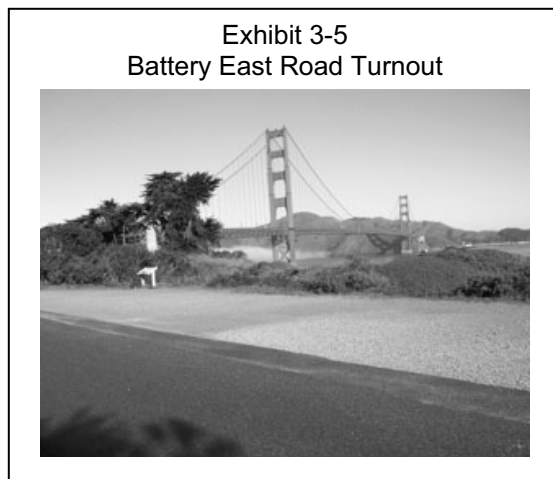
3.2.1 Fort Point National Historic Site

Fort Point (see Exhibit 3-4) is a publicly owned historic and recreation resource, is listed on the NRHP, is a part of the Presidio NHLD and is, therefore, a Section 4(f) resource. It is also a National Historic Site (CA-SFr-48H). The fort is located under the Fort Point Arch of the Bridge on the eastern side. The fort is a Civil War-era structure built between 1853 and 1861 and is the only brick casemated coastal defense fort on the Pacific Coast of its kind. It is listed on the California Register of Historical Resources and is a Civil Engineering Landmark (Garaventa, 1993). The fort is an important educational resource and provides recreational opportunities including, fishing, surfing, and views of the Bay.



3.2.2 Battery East Road Bike and Pedestrian Turnouts

The Battery East Road Bike and Pedestrian Turnouts are used for recreational purposes, are a part of the GGNRA, and are thus considered a Section 4(f) resource (see Exhibit 3-5). The area includes a collection of Civil War-era batteries, which extend along the area parallel to Battery East Road. The area provides views of the Bridge, the Bay, and downtown San Francisco. It also includes picnic tables available for public use and interpretive signs describing the historic value of the batteries.



3.2.3 Marine Drive

Marine Drive is a Section 4(f) resource because it is a publicly owned road within the GGNRA with significant recreational function. It runs concurrently with the Golden Gate Promenade/SF Bay Trail (see Figure 2) from the Bridge until just before Torpedo Wharf, offering visitors walking, jogging, biking, and sightseeing opportunities.

3.2.4 Doyle Drive

Doyle Drive is a publicly owned historic resource eligible for the NRHP and is considered a Section 4(f) property. It is the south approach to the Golden Gate Bridge carrying Route 101 through the general area of potential effects (APE). Doyle Drive is also a contributing element of the Golden Gate Bridge and of the Presidio NHLD because it was originally constructed in conjunction with the Bridge.

3.2.5 Crissy Field

Crissy Field is a Section 4(f) resource because it is a publicly owned recreation area within the Presidio NHLD. It is a beach and public walkway located east of the Bridge (see Number 14, Figure 2). During the Presidio's military use, Crissy Field was an important airfield. Today it consists of a 22-acre tidal marsh restoration area, a promenade, and a beach area. Recreational opportunities include walking, jogging, and biking along the promenade trail, waterfront and beach activities, picnicking, bird watching, and sightseeing, including views of the Bridge.

3.2.6 The Coastal Trail (South of Bridge)

The Coastal Trail is a Section 4(f) resource because it is a publicly owned trail within the GGNRA national park and the Presidio NHLD. It runs through the Presidio west of Lincoln Boulevard, along the windswept Coastal Bluffs, past historic batteries, down to Baker Beach, and farther south to Ocean Beach.

3.2.7 The Golden Gate Promenade/SF Bay Trail

The Golden Gate Promenade/SF Bay Trail is a Section 4(f) resource because it is a publicly owned paved pedestrian walkway and a recreational resource within the Presidio NHLD and the GGNRA national park (see Exhibit 3-6). It is located to the east of the Bridge, and runs east from Fort Point to Fort Mason and on to Aquatic Park, hugging the Bay's edge (see Number 17, Figure 2). This bicycle and pedestrian path also connects the Bay Bridge Bay Trail segment with the east and west sidewalks of the Golden Gate Bridge and provides views of the Bridge and the Bay.

Exhibit 3-6
G.G. Promenade / SF Bay Trail



3.2.8 Overlook at Fort Scott (off Coastal Trail)

The overlook at Fort Scott is a Section 4(f) resource because it is a publicly owned overlook located within the Presidio NHL. It is located west of Lincoln Boulevard off the Coastal Trail and offers recreational sightseeing opportunities including views of the Pacific Ocean and the Marin Headlands.

3.3 GOLDEN GATE NATIONAL RECREATION AREA

The Golden Gate National Recreation Area (GGNRA) is a Section 4(f) resource because it is a publicly owned national park. It is the world's largest urban national park and covers a total area of 75,500, acres of land and water, including approximately 28 miles of coastline. It is used extensively by the public for a variety of recreational uses and has numerous trails and vista points on the Marin and San Francisco portions bordering the Bay. The GGNRA receives 17 million recreational visitors annually. The area also includes several historically significant sites.

There is a broad range of recreational opportunities available on GGNRA lands, including camping, hiking, visiting historic structures, visiting natural area, sightseeing, bird watching, participating in public programs, beach activities, water sports, and fishing, among others. Recreational facilities include the Crissy Field Center, Alcatraz Island Visitor Center, Fort Point Bookstore, Marin Headlands Visitor Center, Muir Woods Visitor Center, Presidio Visitor Center, and many other smaller facilities.

Access to the GGNRA is provided by Highways 1, 101, and 280 from the north and south San Francisco Bay Area, and by Highway 880 from the East Bay. Pedestrian and bicycle access points are numerous, and include local streets and trail networks.

All land immediately surrounding the Bridge and its approaches (including the Presidio and East Fort Baker) is part of the GGNRA. The Golden Gate Bridge, Highway and Transportation District (District) was granted a right-of-way easement across the Presidio of San Francisco and Fort Baker Military Reservation in 1931 for construction, operation, and maintenance of the Bridge (Payne, 1931). This right still exists and is administered by the GGNRA. The proposed construction staging areas are located on GGNRA lands (refer to Number 4 in Figures 2 and 3).

3.3.1 Bluff Road

Bluff Road (see Exhibit 3-7) is a Section 4(f) resource because it is a publicly owned road within the GGNRA national park. It is located in the Marin Headlands, west of Hwy 101 (see Number 21, Figure 3). Currently this road is not open to the public due to security needs.

3.3.2 Bridge Road

Bridge Road (the lower road shown in Exhibit 3-7) is a Section 4(f) resource because it is a publicly owned road within the GGNRA national park. It is located in the Marin Headlands, west of Hwy 101 (see Number 22,

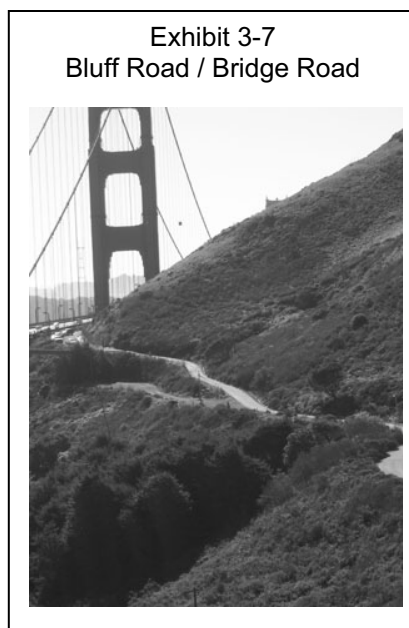


Figure 3). Currently this road is not open to the public due to security needs.

3.3.3 Conzelman Road

Conzelman Road is a Section 4(f) resource because it is a publicly owned road with recreational function within the GGNRA national park. It runs beneath Hwy 101 just south of Vista Point, connecting East Fort Baker and the Marin Headlands (see Number 23, Figure 3), and providing lookouts and views of the Bridge, the San Francisco Skyline, and the Pacific Ocean.

3.3.4 The Coastal Trail (North)

The Coastal Trail (Exhibit 3-8) is a Section 4(f) resource because it is a publicly owned trail with significant recreational function, located within the GGNRA national park. The trail, accessible from the Conzelman Road lookout parking lot on the west side of the Bridge, runs northwest through the Marin Headlands and connects with a system of other trails, including the Dipsea Trail (see Number 24, Figure 3). Following the Coastal Trail north, it leads to Muir Beach, Fort Cronkhite, and Stinson Beach (via the Dipsea Trail) and continues north. The Coastal Trail and connecting trail system provide hiking and sightseeing opportunities including visual access to the Bridge, the San Francisco Skyline, the surrounding coastal bluffs, and the Pacific Ocean. The Coastal Trail is part of a larger statewide system of trails designed to offer visual and physical access to the state's coastal resources.



3.3.5 The Bay Trail

The Bay Trail is a Section 4(f) resource because it is a publicly owned trail with significant recreational function, located within the GGNRA national park, East Fort Baker and the Presidio (see number 33, Figure 3). The trail segment within the GGNRA provides a connection from the pedestrian and bicycle paths on the Bridge to the trail alignment proposed within East Fort Baker. It extends from the northern end of the Bridge sidewalks and loops around following Conzelman Road before extending beneath the Bridge and into East Fort Baker.

3.3.6 Battery Spencer

Battery Spencer is a Section 4(f) resource because it is a publicly owned historic site and a part of the GGNRA national park. It is located in the Marin Headlands, west of the Bridge and is accessible by a trail off Conzelman Road (see Number 25, Figure 3). Completed in 1897, the battery provided important protection to the Golden Gate; it was disarmed by 1943. Today it remains a popular point of public and historic interest.

3.4 EAST FORT BAKER

East Fort Baker is a Section 4(f) resource because it is a publicly owned historic and recreation resource, is part of the GGNRA national park, and is listed on the NRHP. It is a 335-acre property at the center of the GGNRA system located in Marin County at the northeast foot of the Bridge (see Figure 3). It includes the Horseshoe Cove waterfront area with over a mile of rocky bay shoreline, Lime Point, Cavallo Point, many historic army buildings, and several historic batteries. The Army acquired Fort Baker in 1866. Forts Baker, Barry, and Cronkhite Military Reservations, dating back to the mid-1800s, functioned as important coastal defense elements. Between 1872 and 1876, barbette batteries were constructed at Point Cavallo (Battery Cavallo) on the ridge above Lime Point (Cliff and Ridge Batteries), and on Gravelly Beach to the west (Gravelly Beach Battery). The NRHP lists the forts together (USNPS 1992a:12/12/73, #73000255) due to their significant architecture, landscape architecture, and part in the history of the U.S. Army for the period 1850-1960. The forts are also included on the California Register of Historical Resources (CAL/OHP 1976:150,185).

Recreational activities at Fort Baker include active land-based activities such as bicycling, dog activities, and jogging/ running; water-based activities like fishing/crabbing, boating/kayaking, and wind surfing; and passive land-based activities such as hiking/walking, sightseeing, photography, and picnicking. Other activities include flying model planes and kites, beach play, roller-blading, and wading.

A comprehensive Fort Baker Reuse Plan is currently being implemented at the fort; its goal is to enhance the recreational opportunities available to the public and add additional visitor serving resources. The fort's projected reopen date is the summer of 2008.

3.4.1 Vista Point and Trail

As a publicly owned recreation area, Vista Point is considered a Section 4(f) resource. Vista Point is a scenic overlook area and visitor turnout from the highway on the northern approach to the Bridge, accessible from northbound US 101 only. It is located in Marin County at the northern end of the Bridge (see Number 28, Figure 3), also known as the Golden Gate Observation Area. The Department designed and built this facility adjacent to the North Abutment in 1961-1962. It was not part of the original Bridge design and construction project and is not a contributing element of the Bridge property.

It is, however, a popular visitor attraction because of its views of the Bridge and the San Francisco skyline. It also provides a parking area, free up to four hours, and restroom facilities for persons who walk on the Bridge or the nearby trails and sightseers.

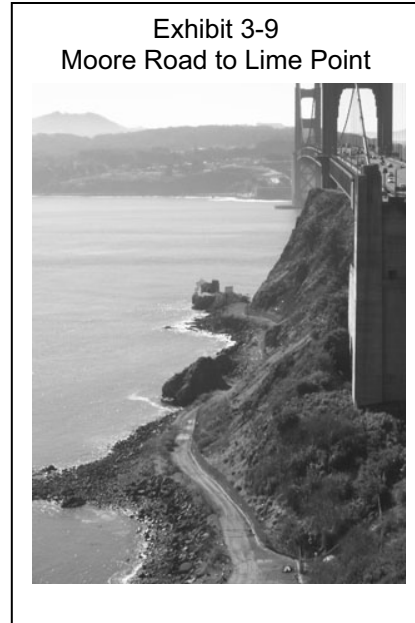
Vista Point is also the location of the Lone Sailor Naval Memorial, dedicated on April 14, 2002, to all of the Sea Services – Navy, Marine Corps, Coast Guard, and Merchant Marine. A memorial was constructed and dedicated on the scenic overlook with a replica of *The Lone Sailor*®. Improvement to Vista Point included statue placement, the creation of a memorial, and other site enhancements.

3.4.2 Lime Point

Lime Point is a Section 4(f) resource because it is a recreational resource that is part of the core area of East Fort Baker (see Exhibit 3-9; Number 27, Figure 3). Lime Point is one of the first peninsulas of land seen when traveling under the Bridge by water. It houses the U.S. Coast Guard Light Station, established in 1883. The trail along this peninsula is currently closed to the public due to security needs.

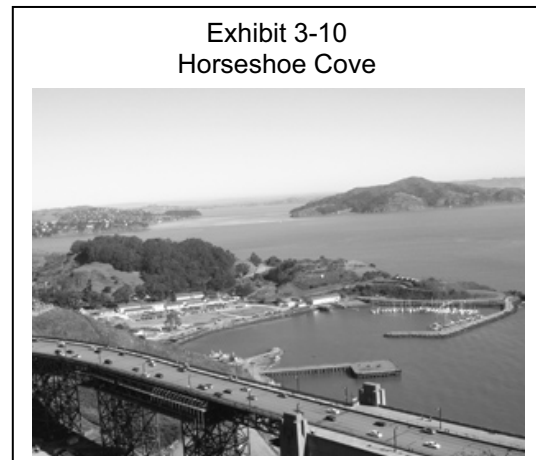
3.4.3 Moore Road (Lime Point Trail)

Moore Road is a Section 4(f) resource because it is a publicly owned road and trail within East Fort Baker and the GGNRA (see Exhibit 3-9). It is located east of Hwy 101 and runs along a small peninsula between Lime Point and the core area of East Fort Baker (see Number 31, Figure 3). Moore Road was constructed to connect Lime Point with Horseshoe Cove and the developed area of East Fort Baker. Today it provides a recreational trail from the Lime Point Lighthouse along the Bay's edge to Horseshoe Cove and into East Fort Baker, with views of the Bridge looking south. Currently this road is closed to the public due to security needs.



3.4.4 Horseshoe Cove

Horseshoe Cove is a Section 4(f) resource because it is a publicly owned recreation resource and a part of East Fort Baker and the GGNRA national park (see Exhibit 3-10). The cove and associated waterfront extend around the shoreline between Lime Point on the west and Point Cavallo on the east. It is a core area of the fort and offers recreational functions including, walking, biking, jogging, waterfront activities, and sightseeing, with views of the Bay and the Bridge.



3.4.5 Point Cavallo

Point Cavallo is a Section 4(f) resource because it is a publicly owned recreation resource within East Fort Baker and the GGNRA national park (see Exhibit 3-11). The point is the peninsula to the east of Horseshoe Cove (see Number 29, Figure 3). Its recreational functions include walking, hiking, and sightseeing opportunities, with views of the Bay and the Bridge.



3.4.6 The Bay Trail

The Bay Trail is a Section 4(f) resource because it is a publicly owned trail with significant recreational function, located within the GGNRA national park, East Fort Baker and the Presidio (see number 33, Figure 3). The trail segment within East Fort Baker consists of existing and proposed segments. The proposed segments will connect with the trail segment extending beneath the Bridge and follow the edge of Horseshoe Cove before continuing north towards Sausalito.

4.0 IMPACTS TO SECTION 4(F) PROPERTIES

Potential Section 4(f) uses by the project are discussed below as they relate to the Golden Gate Bridge (Bridge), its contributing structures and properties within the general area of potential effects (APE), and within one-half mile of the Bridge.

4.1 GOLDEN GATE BRIDGE

4.1.1 The Golden Gate Bridge

No-Build Alternative

The No-Build Alternative would not use this Section 4(f) resource.

Alternative 1A: Add Vertical System to Handrail

This alternative would add an 8-foot-high vertical rod system to the outside handrail for a total height of 12 feet. The addition of an 8-foot-high barrier would affect the character of the Bridge because of introduced visual elements at the east and west sidewalks, the physical change of the outside handrail on the sidewalks, and changes to pedestrian, bicycle, and motorist views.

Evaluation of Section 4(f) Use by Alternative 1A

While Alternative 1A would not remove the outside handrail, it would alter the outside handrail. The placement of an 8-foot barrier on top of the outside handrail would substantially alter the pedestrian experience from the sidewalk and obscure views of the main suspension ropes, which are also character-defining features of the Bridge. Alternative 1A would result in a permanent Section 4(f) use of the Bridge because it would substantially alter character-defining elements of the Bridge, including its relationship to the setting (the views), which contribute to the integrity of the Bridge's significant historic features and its eligibility for NRHP listing.

The physical alteration of the Bridge through the installation of the 8-foot high barrier on top of the outside handrail would alter the recreational experience of pedestrians and cyclists on the sidewalks because structural changes created by the barrier would physically alter the views from the sidewalks. This would represent a permanent Section 4(f) use.

Alternative 1B: Add Horizontal System to Handrail

This alternative would add an 8-foot-high horizontal cable system and transparent winglet to the outside handrail for a total height of 12 feet. The addition of an 8-foot-high barrier on top of the outside handrail would affect the character of the Bridge because of introduced visual elements at the east and west sidewalks, the physical change of the outside handrail on the sidewalks, and changes to pedestrian, bicycle, and motorist views.

Evaluation of Section 4(f) Use by Alternative 1B

While Alternative 1B would not remove the outside handrail, it would alter the outside handrail. The placement of an 8-foot horizontal cable barrier on top of the outside handrail supported by vertical posts would substantially alter the pedestrian experience from the sidewalk and obscure views of the main suspension ropes, which are also character-defining features of the Bridge. Alternative 1B would result in a permanent Section 4(f) use of the Bridge because it would substantially alter the character-defining elements of the Bridge, including its relationship to the setting, which contribute to the integrity of the Bridge's significant historic features and its eligibility for NRHP listing.

The physical alteration of the Bridge through the installation of the 8-foot high barrier on top of the outside handrail would alter the recreational experience of pedestrians and cyclists on the sidewalks because structural changes created by the barrier would physically alter the views from the sidewalks. This would represent a permanent Section 4(f) use.

Alternative 2A: Replace Outside Handrail with Vertical System

This alternative would replace the outside handrail with a 12-foot-high vertical barrier constructed of ½-inch diameter vertical steel rods. A rub rail would be installed at the same height as the public safety railing (4 feet 6 inches). The construction of a 12-foot-high barrier would affect the character of the Bridge because of introduced visual elements at the east and west sidewalks, the physical change of the outside handrail on the sidewalks, and changes to pedestrian, bicycle, and motorist views.

Evaluation of Section 4(f) Use by Alternative 2A

Alternative 2A would replace the outside handrail with a 12-foot-high vertical barrier. The removal of the outside handrail (a character-defining element of the Bridge), would significantly alter the pedestrian experience along the sidewalks (another character-defining element) and obscure views of the main suspension ropes, which are also character-defining features of the Bridge. Alternative 2A would result in a permanent Section 4(f) use of the Bridge because it would remove or substantially alter the character-defining elements of the Bridge, including its relationship to the setting, which contribute to the integrity of the Bridge's significant historic features and its eligibility for NRHP listing.

The physical alteration of the Bridge through the installation of a 12-foot high vertical barrier would alter the recreational experience of pedestrians and cyclists on the sidewalks because structural changes created by the barrier would physically alter the views from the sidewalks. This would represent a permanent Section 4(f) use.

Alternative 2B: Replace Outside Handrail with Horizontal System

This alternative would replace the outside handrail with a 10-foot-high horizontal cable system and transparent winglet. The construction of this barrier would affect the character of the Bridge because of introduced visual elements at the east and west sidewalks, the physical change of the outside handrail on the sidewalks, and changes to pedestrian, bicycle, and motorist views.

Evaluation of Section 4(f) Use by Alternative 2B

Alternative 2B would replace the outside handrail with a 10-foot-high horizontal barrier and transparent winglet. The removal of the outside handrail (a character-defining element of the Bridge), would significantly alter the pedestrian experience along the sidewalks (another character-defining element) and obscure views of the main suspension ropes, which are also character-defining features of the Bridge. Alternative 2B would result in a permanent Section 4(f) use of the Bridge because it would remove or substantially alter the character-defining elements of the Bridge, including its relationship to the setting, which contribute to the integrity of the Bridge's significant historic features and its eligibility for NRHP listing.

The physical alteration of the Bridge through the installation of the 10-foot high barrier would alter the recreational experience of pedestrians and cyclists on the sidewalks because structural changes created by the barrier would physically alter views from the sidewalks. This would represent a permanent Section 4(f) use.

Alternative 3: Add Net System

This alternative would construct a horizontal net approximately 5 feet above the bottom chord of the exterior main truss and approximately 20 feet below the sidewalk. The net would project approximately 20 feet from the Bridge and be covered with an uncoated and unpainted stainless steel 4-inch to 10-inch grid cable netting. The horizontal support system would connect directly to the exterior truss and be supported by cables back to the top chord of the truss. A vertical barrier, painted International Orange, would be installed along the 300-foot length of the North Anchorage Housing, rather than extending the net around the structure. Alternative 3 would result in impacts to the character of the Bridge because of the introduced visual elements.

Evaluation of Section 4(f) Use by Alternative 3

With the exception of the International Orange vertical barrier that would be installed along approximately 3 percent of the 1.7 mile Bridge span, Alternative 3 would not affect the character-defining elements of the Bridge seen from the Bridge sidewalk and roadway, or alter the pedestrian experience along the sidewalks. The vertical barrier along the North Anchorage Housing would interrupt motorists' views from the Bridge for approximately 5 seconds and pedestrian views for approximately 1 to 1 1/2 minutes. The net would be visible to pedestrians at the Bridge towers. From this viewpoint on the Bridge, the net would be visible across the lower portion of the pedestrian's viewshed but would not block views of the surrounding landscape. It would, however, substantially alter the exterior main truss (a character-defining feature of the Bridge), which contributes to the integrity of the Bridge's significant historic features, and its eligibility for NRHP listing. It would also introduce the use of non-historic materials – the cable netting and vertical rods –

diminishing the Bridge's historic integrity. Alternative 3 would therefore result in a permanent Section 4(f) use of the Bridge because it would substantially alter character-defining elements of the Bridge, including its relationship to the setting, which contribute to the integrity of the Bridge's significant historic features and its eligibility for NRHP listing.

The physical alteration of the Bridge through the installation of the net system along the lower portion of the pedestrian viewshed would alter the recreational experience of pedestrians and cyclists at the Bridge towers. The extension of the net horizontally from the Bridge creates a physical barrier to views from this location. This would represent a permanent Section 4(f) use.

4.1.2 The Roundhouse Gift Center

The proposed build alternatives would not result in a Section 4(f) use of the Roundhouse because they would not permanently incorporate land into the project, nor would they temporarily occupy any land within the resource. The proposed alternatives would not substantially impair the historic quality of this resource. The proposed project would not cause a constructive use of the Roundhouse Gift Center because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic resource.

4.1.3 Toll Plaza Undercrossing

The proposed build alternatives would not result in a Section 4(f) use of the Toll Plaza Undercrossing because they would not permanently incorporate land into the project, nor would they temporarily occupy any land within the resource. The proposed alternatives would not substantially impair the historic quality of this resource. The proposed project would not cause a constructive use of the Toll Plaza Undercrossing because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic resource.

4.2 THE PRESIDIO OF SAN FRANCISCO

4.2.1 Merchant Road Parking Lot

The construction staging area located on GGNRA lands within the Presidio along Merchant Road at the south side of the Bridge may be used under all build alternatives for a portion of the construction period. This staging area is within the control of the District and is currently a District parking lot that includes 25 publicly available stalls. The closure of this parking lot during construction would eliminate public access to the parking spaces, which would represent a temporary occupancy of the Section 4(f) land.

Per 49 CFR Section 774.13, the following five criteria were considered in determining temporary occupancy.

- Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;

- Scope of the work must be minor, i.e., both the nature and magnitude of the changes to the Section 4(f) property are minimal;
- There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;
- The land being use must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and
- There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

Refer to Section 9.3.1, Golden Gate National Recreation Area (Five Areas), for a discussion of the construction staging areas on GGNRA lands.

During this period of time construction equipment may be stored at the parking lot. Storage of construction equipment would not physically change the land and would be temporary. All construction equipment would be removed prior to completion of construction.

Although the public parking stalls would not be available during construction of the project, there are several other areas near the Bridge that offer public parking, including the District's east parking lot below the Roundhouse Gift center and the NPS parking lot off Lincoln Boulevard and Battery East Road. On weekends and after 3:30 p.m. during the week, the District's west parking lot adjacent to the Toll Plaza is also available for public use. The available parking supply should be sufficient to compensate for the temporary loss of 25 stalls. Signage would be provided to direct the public to other parking areas, including areas accessible to individuals with disabilities, during project construction.

4.2.2 Fort Point National Historic Site

The proposed build alternatives would not result in a Section 4(f) use of Fort Point because they would not permanently incorporate land into the project, nor would they temporarily occupy any land within this historic site. The alternatives would not have severe impacts that substantially impair the historic quality of this resource, nor would they substantially alter views of the Bridge from Fort Point because of the distance and upward viewing angle of the Bridge from Fort Point. The proposed project would not cause a constructive use of the Fort Point National Historic Site because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic resource.

4.2.3 Battery East Road Bike and Pedestrian Turnouts

The project build alternatives would not result in a Section 4(f) use of this property because no land would be permanently incorporated into the project, nor would any land be temporarily occupied by it. Views of the Bridge from the turnouts would not be substantially altered by the build alternatives and the alternatives would not result in severe impacts that would substantially impair the quality the recreational resource. The proposed project would not cause a constructive use of the Battery East Road Bike and

Pedestrian Turnouts because the proximity impacts would not substantially impair the protected activities, features, or attributes of the recreational resource.

4.2.4 Marine Drive

The project build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any land be temporarily occupied by it. Views of the Bridge enjoyed by people using the drive recreationally would not be substantially altered by the build alternatives, and the alternatives would not substantially impair the quality of this recreational resource. The proposed project would not cause a constructive use of Marine Drive because the proximity impacts would not substantially impair the protected activities, features, or attributes of the recreational resource.

4.2.5 Doyle Drive

The project build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any land be temporarily occupied by it. The build alternatives would not have a severe impact that substantially impairs the historic quality of the Section 4(f) resource, nor would the views enjoyed by drivers on Doyle Drive be substantially altered. The proposed project would not cause a constructive use of Doyle Drive because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic resource.

4.2.6 Crissy Field

The project build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any land be temporarily occupied by it. There are distant views of the Bridge from Crissy Field, which would not be substantially altered by any of the build alternatives, nor would the alternatives cause severe impacts that would substantially impair the quality of this resource in any other way. The proposed project would not cause a constructive use of Crissy Field because the proximity impacts would not substantially impair the protected activities, features, or attributes of the recreational resource.

4.2.7 Coastal Trail (South)

The project build alternatives would not result in a Section 4(f) use of this trail because no land would be permanently incorporated into the project nor would any be temporarily occupied by it. The build alternatives do not have the potential to substantially impair the quality of the trail: views of the Bridge from the trail would not change substantially. The proposed project would not cause a constructive use of the Coastal Trail because the proximity impacts would not substantially impair the protected activities, features, or attributes of the recreational resource.

4.2.8 The Golden Gate Promenade/SF Bay Trail

The project build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any land be temporarily occupied by it. Views of the Bridge from this trail would not be substantially altered by the build alternatives, nor would the alternatives substantially impair the quality

of this recreational resource. The proposed project would not cause a constructive use of the Golden Gate Promenade/SF Bay Trail because the proximity impacts would not substantially impair the protected activities, features, or attributes of this recreational resource.

4.2.9 Overlook at Fort Scott (off Coastal Trail)

The project build alternatives would not result in a Section 4(f) use of this property because no land would be permanently incorporated into the project, nor would any land be temporarily occupied by it. Views of the Bridge would not be substantially altered by the build alternatives nor would they result in severe impacts that would substantially impair the quality of this recreational resource. The proposed project would not cause a constructive use of the Overlook at Fort Scott because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic and recreational resource.

4.3 GOLDEN GATE NATIONAL RECREATION AREA

4.3.1 Bluff Road

The project build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any land be temporarily occupied by it. Because the roadway is closed to the public, alteration of the views from this roadway would not affect recreation users at this time. Should the roadway be reopened to the public in the future, it can be anticipated that changes to views of the Bridge from the road would be noticeable to users of this resource. Changes to these views, however, would not be anticipated to severely impair the quality of this resource that would be used for a variety of recreational activities. The proposed project would not cause a constructive use of Bluff Road because the proximity impacts would not substantially impair the protected activities, features, or attributes of the recreational resource.

4.3.2 Bridge Road

The project build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any land be temporarily occupied by it. Because the roadway is closed to the public, alteration of the views from this roadway would not affect recreation users at this time. Should the roadway be reopened to the public in the future, it can be anticipated that changes to views of the Bridge from the road would be noticeable to users of this resource. Changes to these views, however, would not be anticipated to severely impair the quality of this resource that would be used for a variety of recreational activities. The proposed project would not cause a constructive use of Bridge Road because the proximity impacts would not substantially impair the protected activities, features, or attributes of the recreational resource.

4.3.3 Conzelman Road

The project build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any land be temporarily occupied by it. Views of the Bridge enjoyed by people using the road

recreationally would not be substantially altered by the build alternatives. The alternatives would not result in severe impacts that substantially impair the quality of this resource. The proposed project would not cause a constructive use of Conzelman Road because the proximity impacts would not substantially impair the protected activities, features, or attributes of the recreational resource.

4.3.4 Coastal Trail (North)

None of the project build alternatives would result in a Section 4(f) use of this trail because no land would be permanently incorporated into the project nor would any be temporarily occupied by it. The build alternatives do not have the potential to substantially impair the quality of the trail: views of the Bridge from the trail would not change substantially. The proposed project would not cause a constructive use of the Coastal Trail because the proximity impacts would not substantially impair the protected activities, features, or attributes of the recreational resource.

4.3.5 The Bay Trail

The project build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any land be temporarily occupied by it. Views of the Bridge from this trail would not be substantially altered by the build alternatives, nor would the alternatives substantially impair the quality of this recreational resource. The proposed project would not cause a constructive use of the Bay Trail because the proximity impacts would not substantially impair the protected activities, features, or attributes of this recreational resource.

4.3.6 Battery Spencer

The proposed build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any be temporarily occupied by it. The build alternatives would not have any severe impacts that would substantially impair the historic quality of the post. The proposed project would not cause a constructive use of Battery Spencer because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic resource.

4.4 EAST FORT BAKER

4.4.1 Vista Point and Trail

No-Build Alternative

The No-Build Alternative would not use this Section 4(f) resource.

Alternative 1A: Add Vertical System to Handrail

This alternative would add an 8-foot-high vertical rod system to the outside handrail for a total height of 12 feet. The addition of an 8-foot-high barrier would alter the views toward the Bridge from Vista Point and Trail because of introduced visual elements at the east and west sidewalks. Alternative 1A would be visible in the foreground of views toward the Bridge from Vista Point due to proximity and would elevate the height of the exterior railing on the Bridge, resulting in the encroachment of the vertical rod system into a small area of

the existing viewshed towards the Bridge and Marin Headlands. The barrier would not alter the views of the Bay and San Francisco east and southeast of the viewpoint. Views of the Bay and San Francisco would remain unobstructed due to the location of the Bridge south of the Vista Point and Trail.

Evaluation of Section 4(f) Use by Alternative 1A

The Bridge and Alternative 1A would be located south of Vista Point and would only encompass a small portion of the southern viewshed from Vista Point. No substantial change to the easterly and southeasterly views of the Bay and San Francisco would occur from Vista Point, as the Bridge and Alternative 1A would be located south of the viewpoint and would not intrude across the viewshed. Alternative 1A would not result in a Section 4(f) constructive use of Vista Point and Trail: the proximity impacts of this alternative would not substantially impair the activities, features, and attributes for visitors to this scenic overlook.

Alternative 1B: Add Horizontal System to Handrail

This alternative would add an 8-foot-high horizontal cable system and transparent winglet to the outside handrail for a total height of 12 feet. The addition of an 8-foot-high barrier on top of the outside handrail would impact the views towards the Bridge from Vista Point and Trail because of introduced visual elements at the east and west sidewalks.

Alternative 1B would be visible in the foreground of views toward the Bridge from Vista Point due to proximity and would elevate the height of the exterior railing on the Bridge, resulting in the encroachment of the horizontal cable system into a small area of the existing viewshed towards the Bridge and Marin Headlands. The barrier would not alter the views of the Bay and San Francisco from the viewpoint, as views of the Bay and San Francisco to the east and southeast would remain unobstructed due to the location of the Bridge south of the Vista Point and Trail.

Evaluation of Section 4(f) Use by Alternative 1B

The Bridge and Alternative 1B would be located to the south of Vista Point and would only encompass a small portion of the southern viewshed from Vista Point. No substantial change to the easterly and southeasterly views of the Bay and San Francisco would occur from Vista Point, as the Bridge and Alternative 1B would be located south of the viewpoint and would not intrude across the viewshed. Alternative 1B would not result in a Section 4(f) constructive use of Vista Point and Trail: the proximity impacts of this alternative would not substantially impair the activities, features, and attributes for visitors to this scenic overlook.

Alternative 2A: Replace Handrail with Vertical System

This alternative would replace the outside handrail with a 12-foot-high vertical barrier constructed of ½-inch diameter vertical steel rods. A rub rail would be installed at the same height as the public safety railing (4 feet 6 inches). The construction of a 12-foot-high barrier would affect the views of the Bridge from Vista Point and Trail because of introduced visual elements at the east and west sidewalks. Alternative 2A would be visible in the foreground of views toward the Bridge from Vista Point due to proximity and would elevate the height of the exterior railing on the Bridge, resulting in the encroachment of the vertical rod system into a small area of the existing viewshed

towards the Bridge and Marin Headlands. The barrier would not alter the views of the Bay and San Francisco from the viewpoint, as views of the Bay and San Francisco to the east and southeast would remain unobstructed due to the location of the Bridge south of the Vista Point and Trail.

Evaluation of Section 4(f) Use by Alternative 2A

The Bridge and Alternative 2A would be located to the south of Vista Point and would only encompass a small portion of the southern viewshed from Vista Point. No substantial change to the easterly and southeasterly views of the Bay and San Francisco would occur from Vista Point, as the Bridge and Alternative 2A would be located south of the viewpoint and would not intrude across the viewshed. Alternative 2A would not result in a Section 4(f) constructive use of Vista Point and Trail: the proximity impacts of this alternative will not substantially impair the activities, features, and attributes for visitors to this scenic overlook.

Alternative 2B: Replace Handrail with Horizontal System

This alternative would replace the outside handrail with a 10-foot-high horizontal cable system and transparent winglet. The construction of this barrier would affect the views of the Bridge from Vista Point and Trail because of introduced visual elements at the east and west sidewalks. Alternative 2B would be visible in the foreground of views toward the Bridge from Vista Point due to proximity and would elevate the height of the exterior railing on the Bridge, resulting in the encroachment of the horizontal cable system into a small area of the existing viewshed towards the Bridge and Marin Headlands. The barrier would not alter the views of the Bay and San Francisco from the viewpoint, as views of the Bay and San Francisco to the east and southeast would remain unobstructed due to the location of the Bridge to the south of the Vista Point and Trail.

Evaluation of Section 4(f) Use by Alternative 2B

The Bridge and Alternative 2B would be located south of Vista Point and would only encompass a small portion of the southern viewshed from the viewpoint. No substantial change to the easterly and southeasterly views of the Bay and San Francisco would occur from Vista Point, as the Bridge and Alternative 2B would be located south of these views and would not intrude across the viewshed. Alternative 2B would not result in a Section 4(f) constructive use of Vista Point and Trail: the proximity impacts of this alternative would not substantially impair the activities, features, and attributes for visitors to this scenic overlook.

Alternative 3: Add Net System

This alternative would construct a horizontal net approximately 5 feet above the bottom chord of the exterior main truss. The net would project approximately 20 feet from the Bridge and be covered with a stainless steel 4-inch to 10-inch grid cable netting. The horizontal support system would connect directly to the exterior truss and be supported by cables back to the top chord of the truss. A vertical barrier, painted International Orange, would be installed along the 300-foot length of the North Anchorage Housing, rather than extending the net around the structure.

The introduced horizontal elements would change the view of the main truss of the Bridge from Vista Point and Trail. The vertical barrier would not alter the views of East Fort Baker, the Bay, San Francisco and the Marin Headlands from the viewpoint, as these views would remain unobstructed due to the alignment -of the Bridge relative to the Vista Point and Trail.

Evaluation of Section 4(f) Use by Alternative 3

The Bridge and Alternative 3 would be located south of Vista Point and would only encompass a small portion of the total viewshed from the viewpoint due to the alignment of the Bridge with respect to the viewpoint. Views of Fort Baker, San Francisco Bay (including the Bay Bridge and Alcatraz Island), the San Francisco skyline, and the Marin Headlands are available from this viewpoint. No substantial change to these views from Vista Point would occur as the area encompassed by the Bridge- and Alternative 3 would only affect views looking south from the viewpoint, representing less than 5 percent of the entire viewshed. Views of the Presidio and the western edge of San Francisco would be the only directions in which Alternative 3 would be visible from this viewpoint. The proposed project would not cause a constructive use of Vista Point and Trail because the proximity impacts would not substantially impair the activities, features, and attributes for visitors at this scenic overlook.

4.4.2 Lime Point

The proposed build alternatives for the project do not constitute a Section 4(f) use of this resource. No land would be permanently incorporated or temporarily occupied by these alternatives. Lime Point offers views of the Bridge, which, because of the angle of the view, would not be substantially altered by the build alternatives. The alternatives would not result in severe impacts that substantially impair the quality of this resource. The proposed project would not cause a constructive use of Lime Point because the proximity impacts would not substantially impair the protected activities, features, or attributes of the recreational resource.

4.4.3 Moore Road

The project build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any land be temporarily occupied by it. Views of the Bridge enjoyed by people using the road recreationally would not be substantially altered by the build alternatives. The proposed project would not cause a constructive use of Moore Road because the proximity impacts would not substantially impair the protected activities, features, or attributes of the recreational resource.

4.4.4 Horseshoe Cove

Views of the Bridge are available from Horseshoe Cove, but are secondary to its other recreational functions, including walking biking, jogging, and waterfront activities. No substantial change to the views of the Bay and San Francisco east and south of this viewpoint would occur, as the Bridge and build alternatives would be to the west and therefore not intrude across the viewshed. The build alternatives would not substantially impair any of the qualities, which qualify this resource for Section 4(f) protection. In addition, the alternatives would not result in the permanent incorporation or temporary

occupancy of this resource. The proposed project will not cause a constructive use of Horseshoe Cove because the proximity impacts will not substantially impair the protected activities, features, or attributes of the recreational resource.

4.4.5 Point Cavallo

Point Cavallo provides views of the Bay and the Bridge. The proposed build alternatives do not have the potential to result in the substantial impairment of Bridge views from this resource. No land would be permanently incorporated or temporarily occupied by the alternatives. The proposed project would not cause a constructive use of Point Cavallo because the proximity impacts would not substantially impair the protected activities, features, or attributes of the recreational resource.

4.4.6 The Bay Trail

The project build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any land be temporarily occupied by it. Views of the Bridge are available from the proposed trail alignment, but are secondary to its other recreational functions. The alternatives would not substantially impair the quality of this recreational resource. The proposed project would not cause a constructive use of the Bay Trail because the proximity impacts would not substantially impair the protected activities, features, or attributes of this recreational resource.

4.5 SUMMARY OF PROJECT USES OF SECTION 4(F) RESOURCES, BY ALTERNATIVE

The No-Build Alternative would not use any Section 4(f) resources. All of the build alternatives modify the Bridge, which is an historic resource. All of the build alternatives modify existing Bridge components and introduce new elements. Specifically, build alternatives modify either the outside handrails or the main truss. All of the build alternatives would alter the recreational experience of Bridge users. Additionally, all of the build alternatives would require construction staging areas. The temporary closure of the Merchant Road parking lot staging area within the Presidio would remove 25 public parking spaces during a portion of the construction period, which would be a temporary occupancy of the area. The matrix below summarizes the Section 4(f) uses by resource and project alternative.

Table 4-1 Section 4(f) Uses by Alternative

		Alt 1A	Alt 1B	Alt 2A	Alt 2B	Alt 3 (PA)	No Build
Golden Gate Bridge	Golden Gate Bridge	P	P	P	P	P	--
	- Handrail and Sidewalk	P	P	P	P	--	--
	- Main Truss	--	--	--	--	P	--
	- Recreational Use	P	P	P	P	P	--
	Roundhouse Gift Center	--	--	--	--	--	--
	Toll Plaza Undercrossing	--	--	--	--	--	--
Construction Staging Areas	Merchant Road Parking Lot	T	T	T	T	T	--

P = Permanent Section 4(f) Use

T = Temporary occupancy

-- = No Section 4(f) Use

5.0 AVOIDANCE ALTERNATIVES

The feasibility and safety constraints described in Section 6.0 regarding the development and evaluation of project alternatives limited the opportunity to develop alternatives that could completely avoid adverse effects to the Golden Gate Bridge (Bridge) as an historic property. Construction of a physical suicide barrier is an action that clearly would cause adverse direct effects to the Bridge historic property. Every build alternative results in a Section 4(f) use of the Bridge. The Golden Gate Bridge, Highway and Transportation District (District) criteria did require that the project alternatives meet the requirements of state and federal historic preservation laws (Criterion 7). The District designed the alternatives in a manner that would minimize the effect the project may have on the historic property to the extent possible. As part of this effort, the District examined other bridges in California, throughout the United States, and elsewhere in the world to assess potential designs for the barrier on this bridge.

The only alternative that would avoid effects to the Bridge as an historic property and therefore not cause a Section 4(f) use of the property is the No-Build Alternative. Although this alternative would avoid any Section 4(f) use of the Bridge, it is not prudent and feasible because it does not satisfy the purpose and need of the proposed project. In accordance with 23 CFR 774.117, the following six factors were considered when evaluating whether the No-Build Alternative would be prudent.

- Compromises the project so that it is unreasonable given the purpose and need;
- Results in unacceptable safety or operational problems;
- After reasonable mitigation, still causes; severe social, economic, or environmental impacts, severe disruption to established communities; severe environmental justice impacts or severe impacts to other federally protected resources
- Results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
- Causes other unique problems or unusual factors; or

- Involves multiple factors listed above that while individually minor, cumulatively causes unique problems of extraordinary magnitude.

5.1 NO-BUILD ALTERNATIVE

The No-Build Alternative represents conditions if no other actions are taken. The No-Build Alternative would continue the existing non-physical suicide deterrent programs at the Bridge, which include emergency counseling telephones, public safety patrols, and employee training. While the continuance of these programs would avoid any effects to Section 4(f) resources, it would not address the approximately two dozen deaths that continue to occur every year at the Bridge. Therefore, it does not meet the purpose and need of the project, which includes impeding the ability of an individual to jump off the Bridge. As such, it compromises the project so that it is unreasonable given the purpose and need.

6.0 MEASURES TO MINIMIZE HARM

6.1 ALTERNATIVE DEVELOPMENT PROCESS

During the initial screening process, concepts were evaluated for their ability to ensure the continued aerodynamic stability of the Bridge and their responsiveness to the District performance criteria (See Section 1.2 of the EIR/EA for a list of these criteria). Wind tunnel testing was performed to ensure that any design would not cause the Bridge to be unstable in winds. During this phase of the project, conceptual designs were evaluated for their performance during high winds to determine which concepts would and would not affect the aerodynamic stability of the Bridge. It was found that very small changes in the shape of the Bridge cross-sections (including the spacing and design of rail and fence elements) could have a significant impact on the Bridge's aerodynamic stability during high winds. Conceptual designs that significantly affected the aerodynamic stability of the Bridge under high winds were eliminated from further consideration.

Other concepts were eliminated for their inability to impede individuals from jumping from the Bridge or could create a hazard to sidewalk users. For example, Short Fence Systems below 6 feet in height were considered ineffective as a deterrent to climbing based on the ease with which an individual could jump over such a height. Similarly, systems that utilized barbed wire or electric shock transmission would create a hazard to sidewalk users and lead to injury to someone coming in contact with the system. Other groups of concepts eliminated during initial screening included enclosed walkways, chain link fence, electric fences, barbed wire, short systems, and lasers.

The three groups of concepts carried forward into the environmental document included 1) vertical rods 2) horizontal cables, and 3) horizontal net. Design criteria were established at a sufficient level to define the overall limits and basic forms of physical suicide deterrent system concepts. The design criteria included considerations to ensure the aerodynamic stability of the Bridge, a barrier height range depending on whether the existing outside handrail was retained (12-foot height) or removed (10-foot height), barrier top treatment to impede climbing, and spacing of barrier members (4 inches to 6 inches) in accordance with codes (buildings 4 inches and bridges 6 inches) for pedestrian outside handrails. Section 1.7 of the EIR/EA provides a detailed discussion of the alternative development process.

6.2 ALTERNATIVE FEATURES THAT MINIMIZE HARM

The constraints associated with the development of project alternatives in accordance with the intent of the purpose and need to impede the ability of individuals to jump from the Bridge, limited the opportunity to design alternatives that could completely avoid affecting the appearance of the Bridge. Construction of a physical suicide deterrent barrier is an action that would physically alter the visual appearance of the Bridge. There would be no visual impacts associated with the No Build Alternative.

The range of alternatives was developed to minimize the visual changes to the Bridge to the maximum extent possible, while providing feasible concepts that responded to the established criteria. Architectural considerations included developing a physical suicide deterrent system compatible with the existing structural and ornamental forms, as well as with the exterior and safety railings. Because the predominant forms of the Bridge are oriented either horizontally or vertically, the primary elements of the physical suicide barrier system were positioned in horizontal or vertical arrays. The other significant aesthetic concern was related to minimization of the various view perspectives of the Bridge. These perspectives include driver, pedestrian, and panoramic. It was determined that any new feature or element must be in visual harmony with the existing Bridge and must minimize impacts to Bridge user view perspectives.

The selection of the spacing, sizing and shape of elements maintained the existing architectural themes of the Bridge and maintained views through the designs, either through the vertical or horizontal elements, or through the transparent panels located at the belvederes. All of the build alternatives also utilize the existing material and International Orange color of the Bridge.

Measures incorporated into the design of Alternatives 1A and 2A are the use of ½ inch vertical rods which remain consistent with the strong vertical line form created by the Bridge towers, suspender ropes, and light posts. Measures incorporated into the design of Alternatives 1B and 2B are the use of 3/8-inch horizontal cables, which are consistent with the design of the public safety railing and the horizontal line form established by horizon of the blue-green waters of the San Francisco Bay. These alternatives also include transparent panels at the belvederes and around the Bridge towers so as to continue to provide unobstructed viewing opportunities from the sidewalks.

Alternative 3, the horizontal net system, represents the strongest contrast with the strong verticality of the Bridge but provides unobstructed views across the San Francisco Bay from the Bridge sidewalks. The net would disrupt a small portion of the views towards the San Francisco Bay looking down from the Bridge sidewalks.

Maintaining the public access to the Bridge during construction was also an important consideration, as well as maintaining emergency vehicle access. The measures to be implemented (see Sections 6.5 and 6.6) ensure continued access to the Bridge.

6.3 MEASURES TO MINIMIZE EFFECTS TO HISTORIC PROPERTY

The project has included on-going consultation with the Advisory Council on Historic Preservation (ACHP), the Office of Historic Preservation (OHP), the Department, and other consulting parties, including the GGNRA, the National Trust for Historic Preservation, Docomomo, and the San Francisco Architectural Heritage, to develop ways

to avoid, minimize, and mitigate project effects on the Bridge historic property. This consultation identified potential design detail options that will help minimize the potential indirect adverse effects of Alternative 3 (Preferred Alternative), which would have included construction of the horizontal net structure across the North Anchorage Housing exterior wall (Adverse Effect (36 CFR 8000.5 (a)(2)) (ii) and (v)). This design detail developed through consultation proposes installation of about 300 linear feet of a vertical barrier, painted International Orange, at the top of the North Anchorage Housing, instead of constructing the horizontal net structure along the face of the housing. This design detail option will help minimize the adverse effects of the alternative by using a much less visually intrusive vertical barrier for this portion of the project, leaving the solid surface of the housing wall unchanged. Minimization of potential adverse effects is consistent with continued consultation requirements under 36 CFR 800.6 (a) and (b), Resolution of Adverse Effects.

This consultation also considered the color of the net and the steel horizontal support system. While the support system will be International Orange to match the existing Bridge structure, the net will be unpainted and uncoated stainless steel. This design detail option will help minimize the adverse effects of the alternative by selecting a net color that is less visually intrusive. Minimization of potential adverse effects is consistent with continued consultation requirements under 36 CFR 800.6 (a) and (b), Resolution of Adverse Effects.

A Memorandum of Agreement (MOA) has been executed to implement mitigation identified during consultation that will address the adverse effects of the build alternatives on the historic property (36 CFR 800.6 (c), MOA). The No-Build Alternative would have no adverse effects on the historic property.

The MOA stipulates various activities that will be conducted to address adverse effects the build alternatives would have on the Bridge. These measures will provide a visual and historic record of the Bridge that will be available to researchers, the public, and users of the Bridge. The Department will be responsible for carrying out these measures, insuring that: a) the Bridge is properly recorded through photography, written documentation, and educational/interpretive material; b) this documentation and educational/interpretive material is appropriately distributed; and c) other portions of the historic property within the project study are protected and monitored. Prior to the start of any work that could adversely affect any characteristics that qualify the Bridge as a historic property, the Department shall ensure that the recordation measures specified are completed.

The Bridge has been the subject of partial recordation by the Historic American Engineering Record (HAER) Program and the recordation conducted for mitigation for this project will be designed to augment this previous work.

- Large-format (four- by five-inch, or larger, negative size) black-and-white photographs will be taken showing the Bridge in context, as well as details of its historic engineering features, contributing elements, and character-defining features. The photographs will specifically include the existing east and west outside railings, concrete railing at the north pylon (North Anchorage Housing), and exterior trusses of the Bridge.

The Department will ensure that the photographs will be processed for archival permanence in accordance with Historic American Engineering Record (HAER)

photographic specifications. The recordation will follow the NPS HAER Guidelines, and the report format, views, and other documentation details will be coordinated with the Western Regional Office of the NPS, Oakland, California. Oblique aerial photography will be considered as a photographic recordation option in these coordination efforts. It is anticipated that the recordation of the Bridge will be completed to Level I or Level II HAER written data standards, and will include archival and digital reproduction of historic images, plans, and drawings.

- The Department will ensure that copies of the documentation will be offered to the San Francisco Public Library, Marin County Free Library, Environmental Design Archives (UC Berkeley), GGNRA, Presidio Trust, and the Department's Transportation Library and History Center at Department Headquarters in Sacramento.
- During the project approval process, the Department will ensure that within one year of project implementation, the District will complete and submit a National Historic Landmark nomination for the Bridge to the National Historic Landmarks Program at the NPS.
- The Department will ensure that an educational brochure will be prepared presenting information on the historic elements of the Bridge affected by the proposed project, prefaced by an explanation of the need for the barrier installation. The brochure will be made available on-site at the Bridge, Presidio National Historic Landmark, select GGNRA locations, and online at the District Web site (www.goldengate.org) during the construction period.
- The Department will ensure that copies of The Golden Gate Bridge Report of the Chief Engineer, Volume II (2007) will be provided to libraries and repositories at the San Francisco Architectural Heritage, California Historical Society, San Francisco Public Library, Marin County Free Library, Environmental Design Archives at U.C. Berkeley, GGNRA, Presidio Trust, and the Department Transportation Library and Historic Center at Department Headquarters in Sacramento.
- The Department will ensure that interpretive signs or display panels will be installed at the Round House Gift Center and the Vista Point to describe the project for the duration of construction. Signs will incorporate information from the contextual history prepared for the brochure.
- The Department will ensure the protection of the remainder of the historic property, as well as the Fort Point National Historic Site, located below the Fort Point Arch component of the Bridge. The District will protect against incidental damage to the remainder of the Bridge historic property and the Fort Point property by hiring an independent Environmental Compliance Monitor (ECM) who will periodically monitor the site during construction and will prepare monthly reports documenting compliance and protection. The Department will ensure that these reports will be provided to the District, the SHPO, and GGNRA, the property owner.

6.4 ALTERNATIVES CONSIDERED AND REJECTED

Using the Golden Gate Bridge, Highway and Transportation District (District) criteria, the technically feasible alternatives were evaluated for their ability to meet the criteria. Based on the findings of this evaluation, the following alternatives were withdrawn from further study.

6.4.1 No Public Access to Sidewalks

This alternative would close the Bridge sidewalks to pedestrian and bicycle traffic. It was removed from further consideration because the sidewalks are currently used by approximately 10 million visitors a year and by up to 5,000 bicyclists a day (commuters and recreational users). Their closure to the public would remove this very popular tourist destination. The sidewalks are also an integral link in the California Coastal Trail, the Ridge Trail and the Bay Trail. The closure would eliminate this important link to the state and regional trail systems and would prevent bicycle commuting in this corridor. Therefore, this alternative was removed from further consideration.

6.4.2 Vertical and Horizontal Wire Mesh Added to Railing

This alternative would construct a 10-foot-high barrier of vertical and horizontal wire mesh on top of the railing for a total height of 14 feet. It was removed from further consideration because it would not meet the following project purpose and District criteria.

- Criterion 8. Must have minimal visual and aesthetic impact on the Bridge
- Criterion 3. Must be able to be maintained as a routine part of the District's ongoing Bridge maintenance program and without undue risk of injury to District employees

6.4.3 Curved Top Horizontal Cable Members Replacing Railing

This alternative would construct a 14-foot-high barrier using horizontal cable members and a curved top. It was removed from further consideration because of its excessive height and the visual intrusion from the curved top. It would also impair the ability of maintenance personnel to access the underside of the Bridge. It would not meet the following project purpose and District criteria.

- Criterion 8. Must have minimal visual and aesthetic impact on the Bridge
- Criterion 5. Must continue to allow access to the underside of the Bridge for emergency response and maintenance activities

6.4.4 Curved Top Diagonal Wire Mesh Replacing Railing

This alternative would construct a 12-foot-high diagonal wire mesh barrier with a curved top. It was eliminated because the diagonal wire mesh conflicted with the horizontal and vertical elements of the Bridge. It would also impair the ability of maintenance personnel to access the underside of the Bridge and would not be maintained as a routine part of Bridge maintenance program. It would not meet the following project purpose and District criteria.

- Criterion 3. Must be able to be maintained as a routine part of the District's ongoing Bridge maintenance program and without undue risk of injury to District employees
- Criterion 5. Must continue to allow access to the underside of the Bridge for emergency response and maintenance activities
- Criterion 8. Must have minimal visual and aesthetic impact on the Bridge

6.4.5 Vertical Glass Pickets Replacing Railing

This alternative would construct a 12-foot-high vertical glass barrier along the Bridge. It was eliminated from further consideration because it would introduce a new source of light and glare which could cause safety concerns, it could not be maintained as a routine part of the Bridge maintenance program, it would be difficult to allow access to the underside of the Bridge, and it would not utilize the existing architectural vocabulary of the Bridge. Therefore, it would not meet the following project purpose and District criteria.

- Criterion 2. Must not cause safety or nuisance hazards to sidewalk users, including pedestrians, bicyclists, District staff, and District contractors/security partners
- Criterion 3. Must be able to be maintained as a routine part of the District's ongoing Bridge maintenance program and without undue risk of injury to District employees
- Criterion 5. Must continue to allow access to the underside of the Bridge for emergency response and maintenance activities
- Criterion 9. Must be cost-effective to construct and maintain

6.5 CONSTRUCTION SEQUENCING

Construction of any of the new physical suicide deterrent system build alternatives would be performed in sections, beginning on the west side of the Bridge and ending on the east side of the Bridge. It is anticipated that it would take 12 to 18 months per side to complete construction of any of the barriers. Construction operations would be staged to minimize effects on pedestrians, cyclists and motor vehicles using the Bridge. The Bridge sidewalks would remain open to the public during daytime hours, consistent with current operations.

The work on the west sidewalk would be specified to be performed weekdays during the hours when the sidewalk is not open to the public, so as not to affect the commuter and recreational use on the west sidewalk. The work on the east sidewalk would be specified to be performed primarily at night. Should it be necessary to perform work during the day on the east sidewalk, a 6-foot wide minimum clear passageway would be maintained through the work area with appropriate traffic control and other protective measures in place.

These provisions have been successfully used on the seismic retrofit project, the Public Safety Railing project and during the District's on-going maintenance and operations activities.

6.6 TEMPORARY ROADWAY CLOSURES

Construction activities would not require the closure of the Bridge sidewalks. Construction would be limited to one side of the Bridge at a time. Emergency vehicle access would always be maintained during construction activities. Access would not be affected because project construction activities would not affect traffic volumes or traffic flow on the Bridge. Construction activities may require the periodic closure of vehicle travel lanes. If necessary, work requiring access from the Bridge deck would only be permitted during weekday non-peak Bridge traffic hours; therefore, lane closures would not contribute to any increase in traffic delays. The project work may also require temporary closures of parts of Conzelman Road.

Construction staging areas would be needed. Construction staging areas are located near the San Francisco and Marin Abutments of the Bridge. There are four proposed construction staging areas in the GGNRA. These proposed staging areas are located on the northern side of the Bridge in Marin County below the Marin Approach and Span 4 backspan. One is an existing gravel area located in a switchback of Conzelman Road and the other three are gravel areas located under the northern span of the Bridge, which are currently being used for similar staging, maintenance activities and other Bridge operations.

There is one proposed construction staging area to the south of the Bridge, located adjacent to the Bridge toll plaza within the Presidio. The proposed area is an existing paved employee parking lot with 25 public spaces, located just west of the toll plaza off Merchant Road.

Project-related construction equipment and materials would be stored within one or more of these construction staging areas. A containment plan and Best Management Practices (BMPs) for storage activities would be required in the construction contracts and project specifications and implemented by the construction contractor to ensure that there are no environmental effects related to the storage of these materials and equipment. No expansion of the construction staging areas would be permitted. From the staging areas, workers would access the activity areas on the Bridge with small customized equipment.

7.0 COORDINATION

7.1 PUBLIC INVOLVEMENT PROGRAM OVERVIEW

A public involvement program has been developed to guide the Golden Gate Bridge, Highway and Transportation District (District) through a comprehensive public information and outreach process for the Golden Gate Bridge Physical Suicide Deterrent System Study.

The public involvement program provides a variety of communication methods to educate the public on the current scope of the study, including its impacts and benefits. Thorough information will be provided to educate the public about the study, and at targeted project milestones the study team will solicit input and feedback from the public and agencies as

to their specific needs, issues, concerns, and recommendations. By educating through a variety of informative communication tools, the community and agencies will be well-equipped to provide meaningful public input.

Key elements to the public involvement plan include:

- Educating the public and agencies through effective communication tools
- Providing multiple opportunities for input on study alternatives
- Managing and organizing comments received, and presenting input in a concise manner to decision makers

7.1.1 Public Web site and Public Comment System

On May 11, 2007, public outreach activities were initiated by launching the public Web site (<http://www.ggbsuicidebarrier.com>). The Web site was developed with a fully integrated public comment system and provides a fair and factual presentation of the evaluation process and ongoing opportunities for public input.

The interactive public comment system is designed to provide stakeholders with a Web-based platform for submitting comments on the study and the environmental document. The public comment system was altered at key milestones to solicit input specific to key phases of the project. With the release of the Draft Environmental Impact Report/Environmental Assessment (Draft EIR/EA), an online comment form was created on the project Web site to allow the public to comment on the Draft EIR/EA.

7.1.2 Wind Study Report

On May 24, 2007, a Wind Study Report was released which detailed the effects of wind on long-span bridges, documented the wind testing, summarized the results and provided initial concepts for a physical suicide deterrent system. The report was presented to the Building and Operating Committee of the Board of Directors (Board) at their regularly scheduled meeting at 10:00 a.m. on Thursday, May 24, 2007. A media briefing packet was circulated and the report was posted on the public Web site. For approximately two months following the release of the report, the public comment system was structured to solicit specific feedback on the wind study report and the design concepts presented.

7.1.3 Agency Early Consultation

On June 14, 2007, the Notice of Preparation (NOP) was issued for the environmental document. The NOP was mailed to more than 70 agencies to solicit input on which alternatives and issues should be evaluated in the environmental document. On July 17, 2007, an agency consultation meeting was held to receive comments on the NOP.

7.1.4 Bridge District Board Meetings

As all Board meetings are open to the public, public comments received during formal comment period at the August 22, 2008 meeting are part of the public record and have been incorporated into the process and the environmental document. In addition, all comments received at District Board meetings will be reviewed by the project team for

consideration as they may relate to the Golden Gate Bridge Physical Suicide Deterrent System Study.

The Board considered public comments at its October 10, 2008 meeting. At the meeting, District staff gave presentations regarding the comments received on the Draft EIR/EA and the operation, maintenance, and emergency response impacts of the alternatives. Public comment was also heard during the meeting. Following the presentations and comments, the Board selected Alternative 3 (Net System) as the Preferred Alternative to be carried forward into the Final EIR/EA and to be considered for project approval. Directors commented that Alternative 3 was the most humane, aesthetic and visionary approach and an “elegant solution.”

Some of the public comments received on the Draft EIR/EA suggested that the District consider other colors for the net material. Based on these further considerations and through subsequent consultation with the State Historic Preservation Office (SHPO) and other interested parties following the close of the public comment period, it was determined that the unpainted and uncoated stainless steel net materials would have the least affect or minimize affects of the proposed project on cultural resources. Through the same consultation, it was also determined that at the North Anchorage Housing, the net should be replaced by a vertical barrier, painted International Orange, along the approximately 300-foot length of the North Anchorage Housing.

7.1.5 Release of the Draft EIR/EA

On July 7, 2008, the District and Department released the Draft EIR/EA for public review and comment. Copies of the Draft EIR/EA were distributed to state agencies, local governments, elected officials, groups, and individuals. Two open house public meetings were held in San Rafael, Calif. and San Francisco on July 22, 2008 and July 23, 2008, respectively, to receive comments on the accuracy and the adequacy of the information contained in the Draft EIR/EA. The Draft EIR/EA also was posted on the project Website (www.ggbsuicidebarrier.org) so that people/public were able to comment directly at any time during the comment period.

The release of the Draft EIR/EA was a major opportunity for public involvement and education. With the release of the document, the environmental impacts of the alternatives, including visual, historic, and cultural resources, were disclosed. Two public open houses were held to provide information about the project alternatives and to allow the public, agencies and organizations to provide comments. Informational materials, including a Citizens’ Guide and a fact sheet, were developed to help the public digest the complex technical data contained in the environmental document. These tools aided the public in understanding the study and helped solicit focused comments on the facts of the environmental document.

The Draft EIR/EA comment period closed on August 25, 2008.

7.1.6 Public Open-House Meetings

Two open house public meetings were conducted by the District to provide an overview of the project, the alternatives that have been developed and the key environmental considerations that would result from the project. The District held the meetings at 3:30PM on July 22 and 23, 2008 in San Rafael and San Francisco, respectively. A total of

approximately 225 people attended the two open houses. At the open houses, 13 comment forms and 9 letters were submitted.

The open houses included a looping PowerPoint presentation with highlights from the environmental documents, boards detailing the purpose and content of the environmental documents, and District staff, architects, engineers, and environmental and historical specialists on hand to answer questions from the public regarding the project. At each open house, six computers were connected to an online comment form on the project Website to allow the public to submit their comments on the alternatives and Draft EIR/EA process. Written comments were also accepted at the open houses and by the District via mail, fax and email until the August 25 comment deadline. The Draft EIR/EA Citizen's Guide and Draft EIR/EA were available for the public to take home in hardcopy format and on CD. Hardcopy visual reference sheets of the six Alternatives were also available. Interested citizens also had the opportunity to sign up for project e-mail updates.

7.1.7 Media Relations

The District Public Information Officer conducted media communications, created media packets, and attended both public open-house meetings and well as the Board meetings held after the document was released. The project and the availability of the document for review were extensively publicized.

7.1.8 Release of the Final EIR/EA

This Final EIR/EA incorporates the responses to public comments on the Draft EIR/EA. Prior to project approval, the District and the Department must certify that the Final EIR/EA adequately discloses the environmental effects of the proposed project, that the Final EIR/EA has been completed in conformance with CEQA and NEPA, respectively, and that the decision-making body of the District independently reviewed and considered the information contained in the Final EIR/EA. Certification of the Final EIR/EA would not mean that the District is approving the project or any of the alternatives described in the Final EIR/EA. Rather, certification of the Final EIR/EA would indicate that the District's determination that the Final EIR/EA adequately evaluates the environmental impacts that could be associated with the project. The Final EIR/EA will be circulated to all responsible agencies that commented on the Draft EIR/EA within at least ten days of certification. Similar to the Draft EIR/EA, the Final EIR/EA will also be on the project website (www.ggbsuicidebarrier.org). While the public has an opportunity to comment on the Final EIR/EA, the District is not required to submit a formal response to comments received on the Final EIR/EA.

7.2 HISTORIC RESOURCES

The District, in conjunction with the Department, has consulted with SHPO and ACHP following 36 CFR 800.6, to arrive at a resolution of the adverse effect. The Department, in accordance with Stipulation XI of the Section 106 PA, has prepared a Memorandum of Agreement (MOA) to memorialize measures that would mitigate the adverse effect this undertaking would have on the historic property. The MOA signatory parties are the Department, SHPO, and ACHP. The District sent a letter to interested parties in April 2008 notifying interested individuals and organizations that the project is anticipated to have an adverse effect on the Golden Gate Bridge and to solicit their input.

8.0 LEAST HARM ANALYSIS AND CONCLUDING STATEMENT

Under 23 CFR 774.3(c), when there exists no feasible and prudent alternative to the use of a Section 4(f) property, FHWA may approve only the alternative that:

- Causes the least overall harm in light of the statute's preservation purpose. The least overall harm is determined by balancing the following factors, as applicable:
 - a) The ability to mitigate adverse impacts to each Section 4(f) property;
 - b) The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
 - c) The relative significance of each Section 4(f) property;
 - d) The views of the officials with jurisdiction over each Section 4(f) property;
 - e) The degree to which each alternative meets the purpose and need for the project;
 - f) After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); -and
 - g) Substantial differences in costs among the alternatives.
- The alternative selected must include all possible planning, as defined in Section 774.17, to minimize harm to Section 4(f) property.

Implementation of the Preferred Alternative – Add Net System would result in the use of the Bridge, which is a historic resource and Section 4(f) property. Implementation of the net would alter the main truss of the Bridge, a character defining feature of the Bridge, since the net supports would be attached to the main truss elements. It would also alter the recreational experience of the Bridge users looking down from the sidewalks at the Bridge towers. From this viewpoint on the Bridge, the net would be visible across the lower portion of the pedestrian's viewshed, but would not block views of the surrounding landscape. Alternative 3, although it alters a character defining element of the Bridge, would generally not affect views towards Section 4(f) resources seen from the Bridge sidewalk and roadway.

The Preferred Alternative has been identified as such because it would meet the purpose and need of the project and the District identified criteria while minimizing the effects upon the recreational experience of the Bridge users and modifications to the above-deck Bridge features. The District, Department, SHPO, ACHP, and other participating agencies, including the GGNRA, the National Trust for Historic Preservation, Docomomo, and the San Francisco Architectural Heritage, worked to develop an alternative that would result in the least overall harm to Section 4(f) resources as demonstrated below. The Preferred Alternative includes all possible planning to minimize harm, and after balancing all the different aspects to this project, there is no "feasible and prudent alternative", as defined in 23 CFR 774.17.

8.1 COMPARATIVE EVALUATION OF FACTORS

a) Ability to mitigate adverse effects

Adverse historic and recreational effects identified in Sections 2.2 and 2.3 of the EIR/EA included adverse effects to the character defining features of the Bridge, and adverse effects to the recreational experience of the Bridge users. Mitigations were included in the design of the alternatives and were further developed through consultation with various agencies and organizations, including the SHPO, ACHP, GGNRA, the National Trust for Historic Preservation, Docomomo, and the San Francisco Architectural Heritage.

Technical studies prepared to document impacts and mitigations included a Visual Impact Assessment and an Historic Property Survey Report, Historic Resource Evaluation Report, and Finding of Effect.

Effects to Historic Resources

The focused APE for historic architectural resources encompassed the Bridge historic property. The Bridge historic property includes the Round House Gift Center and the Toll Plaza Undercrossing, which are contributing elements. None of the project alternatives were determined to have an adverse effect on either of the contributing elements within the focused APE. As discussed in Section 4.0 of this document, all of the build alternatives modify the Bridge, which is an historic resource. All of the build alternatives modify existing Bridge components and introduce new elements. Specifically, build alternatives modify either the outside handrails or the main truss, which are character defining features of the Bridge. All of the build alternatives were determined to cause adverse effects to Bridge character-defining features.

Effects to Recreation Experience of Bridge Users

As described in Section 6.0 of this document, the range of alternatives was developed to minimize the visual changes to the Bridge to the maximum extent possible, while providing feasible concepts that met the purpose and need for the project and responded to the established District Board criteria. Another consideration incorporated into the development of the alternatives related to minimization of the various view perspectives from the Bridge, which represented the primary recreational experience by users of the Bridge. A detailed visual analysis was provided in Section 2.2 of the Final EIR/EA and was reflected in the discussion of recreational impacts provided in Section 2.1.4 of the Final EIR/EA.

The selection of the spacing, sizing and shape of elements for Alternatives 1A, 1B, 2A, 2B and 3 (the build alternatives) maintained the existing architectural themes of the Bridge and maintained views through the designs, either through the vertical or horizontal elements, or through the transparent panels located at the belvederes, Bridge towers and mid-span. All of the build alternatives also utilized the existing material and the International Orange color of the Bridge.

Measures incorporated into the design of Alternatives 1A and 2A included the use of ½ inch vertical rods to remain consistent with the strong vertical line form created by the Bridge towers, suspender ropes, and light posts. Measures incorporated into the design of Alternatives 1B and 2B included the use of 3/8-inch horizontal cables, to be consistent with the design of the public safety railing and the horizontal line form established by the

horizon of the blue-green waters of the San Francisco Bay. These alternatives also included transparent panels at the belvederes, mid-span and around the Bridge towers so as to continue to provide unobstructed viewing opportunities from the sidewalks at these locations.

Measures incorporated into the design of Alternative 3 included the use of a horizontal net system to minimize any interruption to views from the Bridge sidewalks and roadways. With the exception of a small length of the Bridge at the North Anchorage Housing, there were no modifications with this alternative to the above-deck Bridge features enabling retention of unobstructed panoramic public views from—approximately 97 percent of the sidewalk areas for users of the Bridge.

b) Relative severity of remaining harm after mitigation

Effects to Historic Resources

The Preferred Alternative has included on-going consultation with the ACHP, OHP, the Department, and other consulting parties to develop ways to avoid, minimize, and mitigate project effects on the Bridge historic property. Through consultation with the SHPO impacts to the Section 4(f) resource have been further reduced by removing the horizontal netting from the North Anchorage Housing and using a much less visually intrusive vertical barrier for this portion of the project, leaving the solid surface of the housing wall unchanged. Additionally, the net material would no longer be painted International Orange, but would be a less visually intrusive unpainted and uncoated stainless steel. A Memorandum of Agreement (MOA) has been executed to implement mitigation identified during consultation that will address the adverse effects of the Preferred Alternative on the historic property (36 CFR 800.6 (c), MOA). A copy of the executed MOA is provided in Appendix G of the Final EIR/EA.

Effects to Recreational Experience of Bridge Users

Alternatives 1A, 1B, 2A, and 2B

While the mitigation measures employed for these alternatives minimized observable changes to the Bridge's appearance from views towards the Bridge, as documented in Sections 2.1.4 and 2.2.3 of the Final EIR/EA, the experience of the viewers on the Bridge sidewalks was substantially altered because of the modifications to the above deck features and resulting obstruction of views from the Bridge. The recreational experience of these viewers was adversely impacted by these changes.

Alternative 3 – Add Net System (Preferred Alternative)

While Alternative 3 would contrast with the strong verticality of the Bridge, because of the distance and angle of most views towards the Bridge, this contrast was only evident at viewpoints looking across or downward from the Bridge, as documented in Section 2.2.3 of the Final EIR/EA. Nevertheless, Alternative 3 was determined to have the least impact upon the recreational experience of the users because overall it would not change the above deck features of the Bridge when viewed from the sidewalks and roadway, and would continue to provide unobstructed views across the San Francisco Bay from the majority of the Bridge span. Through consultation with the SHPO and ACHP, it was also determined that the net should be replaced by a vertical barrier along the North Anchorage Housing, representing approximately 3 percent of the 1.7 mile Bridge span, to

minimize the adverse visual effects for views of the Bridge by using a much less visually intrusive vertical barrier, leaving the solid surface of the housing wall unchanged. Alternative 3 was selected as the Preferred Alternative. The District's Board commented that Alternative 3 was the most humane, aesthetic and visionary approach and an "elegant solution."

c) Significance of Section 4(f) Properties

As previously described, the Bridge is a Section 4(f) resource because it is a publicly owned historic resource and a recreation resource with uses occurring on and around the Bridge. It is a multi-component historic structure that has been determined eligible for listing in the National Register of Historic Places. The Bridge is surrounded by Section 4(f) properties that are part of the Presidio of San Francisco (a publicly owned recreation area and historic property), Golden Gate National Recreational Area (a publicly owned national park), and East Fort Baker (a publicly owned historic and recreation resource). Section 3.0 of this document provides detailed descriptions of these Section 4(f) resources.

All the build alternatives would be implemented along both sides of the Bridge, between the San Francisco Abutment and the Marin Abutment. The relative significance of this property would be the same for all build alternatives. The surrounding Section 4(f) properties would be the same for all build alternatives and would not be physically impacted by the project. The relative significance of these properties would also be the same for all build alternatives.

As discussed in Section 4 of this document, the project impact to Section 4(f) resources would generally be limited to the Bridge and would not incorporate land from surrounding resources into the project, would not substantially impair any historic qualities of these resources, and not have proximity impacts that would substantially impair the protected activities, features, or attributes of the historic and recreational resources.

d) Views of officials with jurisdiction over Section 4(f) properties

The following agencies with regulatory oversight on the Section 4(f) properties in the area submitted comments on the Draft EIR/EA wherein they expressed views regarding the alternatives.

San Francisco Planning Department – The Planning Department recommended expanding nonphysical measures to deter suicides at the Bridge. The Planning Department also stated that if a build alternative is selected, it preferred the net, but recommended a detailed color study for the netting material.

San Francisco Bay Trail/Association of Bay Area Governments – The San Francisco Bay Trail commented that Alternatives 1A, 1B, 2A and 2B would have serious, unmitigable visual, cultural, and recreational impacts and should not go forward. The net would have the least egregious impacts to views and aesthetics from the Bridge.

Department of the Interior, Golden Gate National Recreation Area (GGNRA) – Considering all factors, cultural, scenic and biological, the Department of the Interior supported Alternative 3, the net system.

Bay Conservation and Development Commission – BCDC expressed concern about the potential impacts that a suicide barrier may have on the appearance, design and

scenic views of the Bay from the Bridge. It noted that Alternative 3, the net, and the no-build would be the alternatives most consistent with the goals and objectives of BCDC's regulations and Bay Plan.

Golden Gate Bridge, Highway and Transportation District – To assess the relative safety risk of the build alternatives to District employees, a Maintenance and Operations Report was prepared and presented to the Board at their October 10, 2008 meeting. Based on the findings in the Maintenance and Operations Report, the Director of Risk Management and Safety, the Bridge Manager and the District Engineer concurred that among the build alternatives, Alternative 3's net system offered the least risk of injury to District employees.

e) Meeting the Purpose and Need

All of the Build Alternatives meet the purpose and need for the project, which is to consider a physical suicide deterrent system that reduces the number of injuries and deaths associated with individuals jumping off the Bridge. The Build Alternatives also generally satisfy the eleven criteria set forth by the District as shown in Table 1.1 of the Final EIR/EA.

f) Magnitude of adverse impacts after mitigation to resources not protected by Section 4(f)

Adverse effects to views from the Bridge and sensitive biological resources were identified in Sections 2.2 and 2.4 of the Final EIR/EA. Mitigations in the design of Alternatives 1A, 1B, 2A, and 2B to minimize view obstruction included the provision of transparent panels at the belvederes, mid-span and the Bridge towers. The majority of Alternative 3 – Add Net System did not modify any of the above deck features, which allowed the retention of uninterrupted panoramic public views from the majority of the Bridge. Technical studies prepared to address impacts and mitigations included a Visual Impact Assessment, Natural Environmental Study (NES), and Avian Impact Study.

Visual Impacts

As documented in Section 2.1 of the Final EIR/EA, the visual impacts of the various alternatives on views towards the Bridge and views from the Bridge were evaluated. A total of 14 viewpoints were considered, selected through consultation with the Department and SHPO, with visual simulations illustrating each alternative as viewed from each viewpoint.

While the mitigation measures incorporated into the design of Alternatives 1A, 1B, 2A, and 2B minimized observable changes to the Bridge's appearance from views towards the Bridge, as documented in Section 2.2.3 of the Final EIR/EA, the public views from the Bridge were significantly obstructed except at the belvederes, mid-span and the Bridge towers where transparent panels would be installed. Impacts to views from the Bridge at the 6 viewpoints were determined to be adverse to strongly adverse for these alternatives.

While Alternative 3 represented a contrast with the strong verticality of the Bridge, because of the distance and angle of most view towards the Bridge, this contrast was only evident at viewpoints looking across or downward from the Bridge, as documented in Section 2.2.3 of the Final EIR/EA. Nevertheless, Alternative 3 was determined to have a negligible visual impact to views from the Bridge at 6 of the 7 viewpoints because it would

not change the appearance of the Bridge when viewed from the sidewalks and roadway, and would continue to provide unobstructed panoramic public views across the San Francisco Bay from the majority of the Bridge. At one viewpoint, looking down from the sidewalks at the Bridge towers, the visual impact was determined to be adverse.

Biological Impacts

The NES and Final EIR/EA found that the project would not include the development or disturbance of plant communities or aquatic habitats, because of the developed condition of the Bridge and the denuded characteristics of the staging areas. Potential indirect impacts to special-status plant species and other sensitive biological resources from construction activities associated with the use of staging areas within the GGNRA lands would be from unauthorized intrusion into habitat bordering the staging area. Avoidance measures currently being implemented by the District would continue to be implemented during construction of the suicide deterrent system as documented in Section 2.4 of the Final EIR/EA.

Following circulation of the Draft EIR/EA, an Avian Impact Study was prepared to further evaluate the potential adverse effects to avian (bird) species from installation of a physical suicide deterrent system. The study documented bird flight patterns and behavior within the vicinity of the Bridge. During standardized surveys, observations were recorded for 3,797 birds between December 19, 2008 and February 20, 2009. Of the birds observed, 73 percent of the birds utilizing the area around the Bridge were gulls, which are accustomed to flying around the Bridge structure. Gulls are also common avian species and their populations are not likely to be affected by any hazards introduced by the Bridge structure. However, a small percentage (1 percent) of sensitive avian species were documented regularly during the surveys, including peregrine falcon (a state Endangered species (and Candidate for Delisting)), double-crested cormorant, red-tailed hawk, and brown pelican. These sensitive avian species are considered likely residents of the area.

The build Alternatives proposed either a vertical extension above the existing handrail (Alternatives 1A & 1B) or replacement of the existing handrail (Alternatives 2A & 2B) with a higher barrier, creating a 10 to 12 foot vertical barrier. Transparent panels would be placed at viewing belvederes located on both sidewalks, around the towers and at the mid-span of the Bridge. In addition to being taller than the current 4 foot outside handrails, the proposed transparent panel barriers would present new hazards for birds to strike the panels as they attempt to fly through the panels since they would not be visible. In addition, the reflective nature of the transparent panels when hit by the sun may disorient or "blind" birds. The Preferred Alternative would install a vertical barrier along the 300-foot length of the North Anchorage Housing, representing approximately 3 percent of the 1.7-mile Bridge span. Transparent panels would not be installed as part of the Preferred Alternative. Because of the small portion of the Bridge span affected by the vertical barrier and the absence of transparent panels, bird collisions would be more prevalent with the implementation of Alternatives 1A, 1B, 2A or 2B than with implementation of the net system chosen as the Preferred Alternative.

g) Costs among the Alternatives

As noted in Chapter 1, Section 1.4 of the Final EIR/EA, conceptual costs for all of the build alternatives, including design, construction management, materials and equipment costs, are estimated to be \$50 million (escalated to year 2013).

As documented in the October 10, 2008 staff report to the Board, conceptual costs for maintenance of the deterrent systems would range from approximately \$425,000 to \$465,000 per year for Alternatives 1A, 1B, 2A, and 2B, and \$78,000 per year for Alternative 3 – Net (Preferred Alternative).

8.2 PLANNING TO MINIMIZE HARM

Section 6 of this document details the alternative development, design, and consultation processes undertaken as part of this project to minimize harm. The following summarizes the specific elements of these processes:

8.2.1 Design Considerations to Minimize Harm

- Evaluating concepts to ensure that they did not affect the aerodynamic stability of the Bridge and performing wind tunnel testing to ensure that any design would not cause the Bridge to be unstable in winds.
- Evaluating concepts for their responsiveness to the District performance criteria and eliminating concepts that were not responsive (see Section 6.1 of this document for a discussion of alternatives considered and rejected).
- Developing alternative designs compatible with the existing structural and ornamental forms of the Bridge, as well as with the exterior and safety railings.
- Maintaining public views through the vertical or horizontal elements, or through the transparent panels.
- Where appropriate, utilizing the existing materials and International Orange color of the Bridge.

8.2.2 Measures to Minimize Effects to the Historic Property

The project has included on-going consultation with the ACHP, OHP, the Department, and other consulting parties, including GGNRA, the National Trust for Historic Preservation, Docomomo, and the San Francisco Architectural Heritage, to develop ways to avoid, minimize, and mitigate project effects on the Bridge historic property. Consultation with the SHPO, following release of the Draft EIR/EA, resulted in the following design refinements to help minimize the potential indirect adverse effects of Alternative 3 (Preferred Alternative), which would have included construction of the horizontal net structure across the North Anchorage Housing exterior wall (Adverse Effect (36 CFR 800.5 (a)(2)) (ii) and (v)).

- Install a 300 foot long vertical barrier, painted International Orange, at the North Anchorage Housing, instead of constructing the horizontal net structure along the face of the housing as shown in the Draft EIR/EA. This design refinement minimizes the adverse effects of the alternative by using a much less visually intrusive vertical barrier for this portion of the project, leaving the solid surface of the housing wall unchanged. Minimization of potential adverse effects is consistent with continued consultation requirements under 36 CFR 800.6 (a) and (b), Resolution of Adverse Effects.

- Change the color of the net material from International Orange to unpainted and uncoated stainless steel. Maintain the International Orange color for the steel horizontal support system. This design refinement will help minimize the adverse effects of the Preferred Alternative by selecting a net color that is less visually intrusive. Minimization of potential adverse effects is consistent with continued consultation requirements under 36 CFR 800.6 (a) and (b), Resolution of Adverse Effects.

8.2.3 Measures to Minimize Harm During Construction

- Construction operations would be staged to minimize effects on pedestrians, cyclists and motor vehicles using the Bridge. The Bridge sidewalks would remain open to the public during daytime hours, consistent with current operations.
- The work on the west sidewalk would be specified to be performed weekdays during the hours when the sidewalk is not open to the public, so as not to affect the commuter and recreational use on the west sidewalk. The work on the east sidewalk would be specified to be performed primarily at night.
- Emergency vehicle access would always be maintained during construction activities.
- Periodic closure of vehicle travel lanes would only be permitted during weekday non-peak Bridge traffic hours.
- A containment plan and Best Management Practices (BMPs) for storage activities would be required in the construction contracts and project specifications and implemented by the construction contractor to ensure that there are no environmental effects related to the storage of these materials and equipment.

8.3 CONCLUDING STATEMENT

Some individuals, who are not using the sidewalks on the Bridge for their intended purposes, climb over the existing outside handrail and jump off the Bridge resulting in injury or death. The construction of a physical barrier to impede these individuals necessitates physical modifications to the Bridge, a Section 4(f) resource. There is no alternative to the use of this Section 4(f) resource (the Bridge) that meets the purpose and need for the project.

The Preferred Alternative –Add Net System as described in Chapter 1 of this Final EIR/EA is the alternative that minimizes impacts to the Bridge by providing a design that preserves the recreational elements and historic features of the Bridge. In addition this alternative would have the least impact to views from the Bridge, would minimally alter the above-deck Bridge features, would have the lowest maintenance costs, and provide the least safety risk to District employees, while meeting the purpose and need for the project. The implementation of a physical suicide deterrent system under the Preferred Alternative is consistent with the expressed preferences of the agencies having jurisdiction over Section 4(f) properties. Measures have been incorporated into the project to minimize harm to the Section 4(f) property, including those agreed to in the executed Memorandum of Agreement (MOA).

8.3.1 Section 4(f) Determination

It is determined that there is no feasible and prudent alternative to the use of the Section 4(f) properties required for the Preferred Alternative –Add Net System. It is also determined that implementing the Preferred Alternative includes all possible planning to minimize harm resulting from such use as these terms are defined in 23 CFR 774.14. As discussed in Sections 4.1.1 of this document, the Bridge is the only 4(f) property that would be used for the Preferred Alternative.

Additional information on the development of the Preferred Alternative and the measures that were taken to minimize harm to Section 4(f) resource is provided in Section 6 of this document and Chapter 1 of the Final EIR/EA. Section 7 of this document describes the coordination and consultation that occurred throughout development and evaluation of this project.

The following discussion provides the findings for this determination for the Bridge.

The Preferred Alternative would alter the exterior main truss through the attachment of the net support elements to the main truss elements. The exterior main truss is a character-defining feature of the Bridge, which contributes to the integrity of the Bridge's significant historic features, and its eligibility for NRHP listing. It would also introduce the use of non-historic materials – the netting material – diminishing the Bridge's historic integrity. The Preferred Alternative would also affect the North Anchorage Housing through installation of a 8-foot high vertical barrier along its 300 foot length (approximately 3 percent of the total Bridge length), which is a character-defining element of the Bridge. Because this change would affect such a small portion of the Bridge, it would only minimally alter the pedestrian experience along the sidewalks. Alternative 3 would result in a permanent Section 4(f) use of the Bridge because it would substantially alter character-defining elements of the Bridge, including its relationship to the setting, which contribute to the integrity of the Bridge's significant historic features and its eligibility for NRHP listing.

The net would be visible to pedestrians at the Bridge towers looking down towards the water. From this viewpoint on the Bridge, the net would be visible across the lower portion of the pedestrian's viewshed, but would not block views of the surrounding landscape. The physical alteration of the Bridge through the installation of the net system along the lower portion of the pedestrian viewshed would alter the recreational experience of pedestrians and cyclists at the Bridge towers. The extension of the net horizontally from the Bridge creates a partial obstruction to views from this location. This would represent a permanent Section 4(f) use.

9.0 OTHER PARK, RECREATIONAL FACILITIES, AND HISTORIC PROPERTIES EVALUATED RELATIVE TO THE REQUIREMENTS OF SECTION 4(f)

This section of the document discusses parks, recreational facilities, and historic properties found within or adjacent to the project area that do not trigger Section 4(f) protection either because: 1) they are not publicly owned; 2) they are not open to the public; 3) they are not eligible historic properties; 4) the project does not permanently use the property and does not hinder the preservation of the property; or 5) the proximity impacts do not result in constructive use.

9.1 PUBLIC PARK AND RECREATION FACILITIES

9.1.1 The Presidio Golf Course

The Presidio Golf Course is a 4(f) resource because it is a publicly owned recreation area located within the Presidio National Historic Landmark District (NHLD). It is located south of the Golden Gate Bridge (Bridge) between Park Presidio Boulevard and Arguello Avenue (see Number 13, Figure 2). Founded in 1885 as a course for military officers, today it provides recreational function as a public golf course and visitor serving area.

This resource's primary recreational function is as a golf course. The project build alternatives would not result in a Section 4(f) use of this property as the project would not result in the permanent incorporation or temporary occupancy of any land within this resource. Views of the Bridge would not be substantially altered by the build alternatives nor would the build alternatives result in severe impacts that would substantially impair the quality of the overlook. The proposed project would not cause a constructive use of Presidio Golf Course because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic and recreational resource.

9.1.2 Eagles Point Overlook

The Eagles Point Overlook is a Section 4(f) resource because it is a publicly owned overlook located within the GGNRA national park. It is located south of the Presidio along the Coastal Trail. Recreational opportunities include views of the Pacific Ocean and the Marin Headlands.

The project build alternatives would not result in a Section 4(f) use of this property because no land would be permanently incorporated into the project, nor would any land be temporarily used by it. Views of the Bridge would not be substantially altered by the build alternatives nor would they result in severe impacts that would substantially impair the quality of the overlook. The proposed project would not cause a constructive use of the Eagles Point Overlook because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic and recreational resource.

9.1.3 Baker Beach

Baker Beach is a Section 4(f) resource because it is a publicly owned recreation area and a part of the Presidio NHLD. It is a mile-long beach located south of Fort Scott and west of Lincoln Boulevard (see Exhibit 9-1; Number 2, Figure 2). Recreational opportunities at the beach include sunbathing, wading, fishing, picnicking, and sightseeing; the beach provides panoramic views of the Bridge and the Marin Headlands.

The project build alternatives would not result in a Section 4(f) use of this property because they would not permanently incorporate land into the project, nor would they temporarily



occupy any land within the resource. Views of the Bridge from the beach would not be substantially altered by any of the build alternatives, nor would the alternatives produce severe impacts that would substantially impair the quality of this nearby resource. The proposed project would not cause a constructive use of the Baker Beach because the proximity impacts would not substantially impair the protected activities, features, or attributes of the recreational resource.

9.1.4 China Beach

China Beach is a Section 4(f) resource because it is a publicly owned recreation area and an element of the GGNRA national park. This small wind-protected cove lies on the Pacific Ocean between Baker Beach and Lands End (see Number 21, Figure 2). During the late 19th century, Chinese fisherman utilized the cove's protection to anchor boats and camped on its shores. Today it provides recreational opportunities including picnicking, sunbathing, surf play, and views of the Marin Headlands and the Bridge.

The project build alternatives would not result in a Section 4(f) use of this property because they would not permanently incorporate land into the project, nor would they temporarily occupy any land within the resource. Views of the Bridge from the beach would not be substantially altered by any of the build alternatives, nor would the alternatives produce severe impacts that would substantially impair other qualities of this nearby resource. The proposed project would not cause a constructive use of China Beach because the proximity impacts would not substantially impair the protected activities, features, or attributes of the recreational resource.

9.1.5 Kirby Cove

Kirby Cove is a Section 4(f) resource because it is a publicly owned recreation area and a part of the GGNRA national park. It is located at the foot of the Marin Headlands just west of the Bridge (see Number 26, Figure 3). Recreational opportunities including secluded campsites, hiking trails, and waterfront activities.

None of the project build alternatives would result in the Section 4(f) use of this area because no land would be permanently incorporated into the project, nor would any be temporarily occupied by it. Among the many recreational functions of Kirby Cove, distant views of the Bridge are provided from this resource. No proposed build alternatives would substantially impair this or any other quality of the resource. The proposed project would not cause a constructive use of Kirby Cove because the proximity impacts would not substantially impair the protected activities, features, or attributes of the recreational resource.

9.2 HISTORIC RESOURCES

9.2.1 The Marina Viaduct

The Marina Viaduct is a Section 4(f) resource because it is a publicly owned historic resource. The viaduct was determined to be individually eligible for the NHRP in 1987 and is listed in the state Bridge maintenance system (Bridge 34 0014). This structure is a part of Doyle Drive



and a contributing element of the Golden Gate Bridge and the Presidio NHLD (see Exhibit 9-2; Number 9, Figure 2).

The project build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any land be temporarily occupied by it. The build alternatives would not have a severe impact that substantially impairs the historic quality of resource. The proposed project would not cause a constructive use of the Marina Viaduct because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic resource.

9.2.2 The Presidio Viaduct

The Presidio Viaduct is a Section 4(f) resource because it is a publicly owned historic resource. The viaduct was determined to be individually eligible for the NHRP in 1987 and is listed in the state bridge maintenance system (Bridge 34 0019). This structure is a part of Doyle Drive and a contributing element of the Bridge and the Presidio NHLD (see Exhibit 9-3; Number 10, Figure 2).



The project build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any land be temporarily occupied by it. The build alternatives would not have a severe impact that substantially impairs the historic quality resource. The proposed project would not cause a constructive use of the Presidio Viaduct because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic resource.

9.2.3 Fort Winfield Scott

Fort Winfield Scott is a Section 4(f) resource because it is an historic resource of the Presidio NHLD. It is located west of Hwy 101 off Lincoln Boulevard, near the gun batteries and the coastal bluffs in the western portion of the Presidio (see Number 1, Figure 2). It was established in 1912 to house the Coastal Artillery Corps of the San Francisco Bay Area. It became a sub-post of the Presidio in 1946 when World War II ended. Today it remains a point of public and historic interest. Its historic buildings and barracks built in the Mission Revival architectural style, contribute to the Presidio's status as a NHLD.

The proposed build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any be temporarily occupied by it. The build alternatives would not have any severe impacts that substantially impair the historic quality of the fort. The proposed project would not cause a constructive use of Fort Winfield Scott because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic resource.

9.2.4 Main Post

The Main Post is a Section 4(f) resource because it is a publicly owned historic resource within the Presidio NHL. It is located in the center of the Presidio south of Crissy Field (see Number 15, Figure 2). It is the founding spot of the original Spanish garrison established there in 1776. The Post includes many historic buildings, and therefore contributes to the status of the Presidio as a NHL.

The proposed build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any be temporarily occupied by it. The build alternatives would not have any severe impacts that substantially impair the historic quality of the post. The proposed project would not cause a constructive use of the Main Post because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic resource.

9.2.5 Fort Cronkhite

Fort Cronkhite is a Section 4(f) resource because it is a publicly owned historic and recreation resource and a part of the GGNRA national park. It is located in the Marin Headlands, west of the Bridge, on the northern edge of the Rodeo Lagoon. The Pacific Ocean and Rodeo Beach are just west of the fort. Built between 1939 and 1945 as a military mobilization post, it continues to provide visitors a well-preserved example of typical post architecture, and offer access to hiking trails and nearby waterfront activities.

The proposed build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any be temporarily occupied by it. The build alternatives would not have any severe impacts that substantially impair the historic quality of the fort, nor would the alternative substantially impact the recreational function of the fort. The proposed project would not cause a constructive use of the Fort Cronkhite because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic and recreational resource.

9.2.6 West Fort Miley

West Fort Miley is a Section 4(f) resource because it is a publicly owned historic resource, listed on the NRHP and an element of the GGNRA national park. It is located along the Pacific Coast near the Cliff House. It offers views of the Pacific Ocean, Sutro Heights Park, and Ocean Beach.

The proposed build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any be temporarily occupied by it. The build alternatives would not have any severe impacts that substantially impair the historic quality of the fort. The proposed project would not cause a constructive use of the West Fort Miley because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic resource.

9.2.7 Palace of Fine Arts

The Palace of Fine Arts is a Section 4(f) resource because it is a publicly owned historic resource and recreation area; it is a designated San Francisco Historic Landmark and is

eligible for the NHRP by the SHPO. Recreational opportunities include walking along the lagoon, viewing the Palace's unique architecture, and use of the surrounding lawns.

The proposed build alternatives would not result in a Section 4(f) use of the Palace of Fine Arts because they would not permanently incorporate land into the project, nor would they temporarily use any land within the resource. The alternatives would not have severe impacts that substantially impair the historic or recreational quality of this resource. The proposed project would not cause a constructive use of the Palace of Fine Arts because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic and recreational resource.

9.2.8 Battery Chamberlin

The Battery Chamberlin is a Section 4(f) resource because it is a publicly owned historic resource located within the Presidio NHL. It is located north of Baker Beach and is accessible from the Coastal Trail (see Number 11, Figure 2). Completed in 1904, today the battery still holds a gun and disappearing carriage similar to the ones originally used at the battery. Visitors can view a gun demonstration and visit the small underground cartridge room.

The proposed build alternatives would not result in a Section 4(f) use of this resource. No land would be permanently incorporated into the project, nor would any be temporarily occupied by it. The build alternatives would not have any severe impacts that substantially impair the historic quality of the battery. The proposed project would not cause a constructive use of Battery Chamberlin because the proximity impacts would not substantially impair the protected activities, features, or attributes of the historic resource.

9.3 CONSTRUCTION STAGING AREAS

All of the build alternatives would result in the temporary occupancy of one or more of the five construction staging areas discussed below. The No-Build Alternative would not occupy these Section 4(f) resources. Due to the temporary nature of the occupancy, they do not result in a Section 4(f) use. Construction staging areas are located near the San Francisco and Marin Abutments of the Bridge, as shown on Figures 2 and 3 of this report.

Per 49 CFR Section 774.13, the following five criteria were considered in determining whether temporary occupancy applies to the five proposed construction staging areas.

- Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
- Scope of the work must be minor, i.e., both the nature and magnitude of the changes to the Section 4(f) property are minimal;
- There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;
- The land being use must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and

- There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

9.3.1 Golden Gate National Recreation Area (Five Areas)

There are five proposed construction staging areas within GGNRA lands. Four staging areas would be located on the north side of the Bridge. One of the staging areas on the south side of the Bridge is an existing gravel area located in a switchback of Conzelman Road. The other three are gravel areas located under the northern span of the Bridge, which are currently being used for similar staging and maintenance activities (See Exhibit 9-4). These proposed areas, in their existing conditions, provide no inherent historic or recreational function. They would be



occupied temporarily during the construction of the project. Such occupancy would have no adverse impact on the preservationist purpose of Section 4(f), nor would it produce severe impacts that would substantially impair the quality of surrounding Section 4(f) resources.

The fifth proposed construction staging area located on GGNRA lands is within the Presidio, located just west of the toll plaza off Merchant Road. The proposed area currently provides employee and public parking (25 parking stalls are available for public use). This proposed area provides no inherent historic function. It would be occupied temporarily during the construction of the project. The temporary occupancy would have no adverse impact on the preservationist purpose of Section 4(f), nor would it produce severe impacts that would substantially impair the quality of surrounding Section 4(f) resources.

The five staging areas would be restored to conditions prior to commencement of construction of the project.

10.0 LETTERS AND OTHER CORRESPONDENCE

The following agencies and organizations provided comments on the Draft EIR/EA relating to this Section 4(f) Evaluation. The letters and responses are included as part of this Section 4(f) Evaluation. The full set of public comments from the agencies, organizations, and individuals on the Draft EIR/EA are included in Appendix H of the Final EIR/EA.

United States Department of Interior, August 25, 2008

San Francisco Planning Department, August 25, 2008

San Francisco Bay Trail, August 22, 2008

Docomomo, August 25, 2008

Citizens for a Safe Golden Gate Bridge, July 7, 2008

Creegan & D'Angelo, August 21, 2008

Marilyn Duffey, August 19, 2008

Additionally, attached are the letters dated June 18, 2008 and December 21, 2009 from Jeffrey Y. Lee, PE, to Greg McConnell regarding temporary occupancy of project staging areas and the letter from the Department to the Department of Interior transmitting the Draft Section 4(f) Evaluation for their review and comment.

Letters and Other Correspondence

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United States Department of the Interior

NATIONAL PARK SERVICE
Golden Gate National Recreation Area
Fort Mason, San Francisco, California 94123

*Sent by fax
3:00 PM 8-25-2008*

IN REPLY REFER TO:

L30 (GOGA-PLAN)

August 25, 2008

Physical Suicide Deterrent System Project
Golden Gate Highway Bridge and Transportation District
Box 9000 Presidio Station
San Francisco, CA 94129

2008 AUG 27 PM 1:47
SECRETARY OF
THE DISTRICT
GOLDEN GATE BRIDGE
HIGHWAY AND
TRANSPORT DISTRICT

Dear Sir or Madam:

Thank you for providing the Golden Gate National Recreation Area with the Draft Environmental Impact Report/Environmental Assessment for the Golden Gate Bridge Physical Suicide Barrier Project dated July 2008.

As an adjacent land managing agency we work in partnership to ensure the safety of our visitors. The attempted and actual suicide by individuals at the Golden Gate Bridge is a serious concern to the park. We encourage you in your efforts to effectively deter suicides in such a way that will suit the diverse needs of visitors and users that experience the bridge each day.

The National Park Service Mission is to preserve unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. In support of the National Park Service (NPS) Mission, the NPS provides the following comments.

We agree with the Bridge District's finding that the Build Alternatives will have *substantial adverse effects* on 1) the Scenic Vistas from the bridge and from the surrounding GGNRA lands, 2) on the Historic Property, historic design integrity and physical material of the bridge structure, and 3) on Biological Resources including migratory birds, Mission Blue Butterfly habitat, and Peregrine Falcon nesting.

Visitor experience and scenic vistas: Of the Build Alternatives, the Golden Gate National Recreation Area (GGNRA) believes that Alternative 3, the horizontal net, as having the least impact to visitor and user experience, and to the scenic and historic vistas from the bridge.

1a

Cultural Resources: Acknowledging that all of the action alternatives will have an adverse effect on the Golden Gate Bridge due to the addition of a conspicuous new element, GGNRA

1a-1

finds that Alternative 1B of the Build Alternatives is the most sensitive to, and compatible with, the historic character of the Bridge.

1a-1

Natural Resources: For all Build Alternatives, GGNRA supports the need for further research on potential bird impacts and will work with the District and US Fish and Wildlife to ensure protection of the Peregrine Falcon, Mission Blue Butterfly and their respective habitats. We will coordinate with the District to support Best Management Practices to protect the environment.

1b

Considering all factors, cultural, scenic and biological, the GGNRA supports Alternative 3, the Net System. The Golden Gate Bridge is recognized as a significant international icon. Visitors come to view and experience the thrilling environs and views of the San Francisco Bay and to marvel at the engineering beauty of the bridge itself.

1c

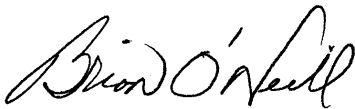
On balance, and looking at all components, what stands out is the key importance of the unobstructed views, the soaring heights of the towers, the exhilaration for visitors leaning on the railing, feeling the wind, experiencing open vistas of water, the City, Alcatraz, and the Marin Headlands.

Alternative 3, the Net System, contributes less impact to these key aspects of the bridge than do the vertical railing extensions. With the net, the view is maintained unobstructed, and the original experience is kept unspoiled by avoiding looking out through bars or glass windows. The look, view and design of the Golden Gate Bridge would continue uninterrupted as it has been since the conception and construction over 70 years ago.

Please keep us informed about measures that might be included to reduce the substantial impacts consistent with a finding of no significant impact. Additional detailed comments are included as an attachment below.

Thank you for inviting our agency to comment and for continuing to provide information on the project to the NPS at the Golden Gate Recreation Area. For review and coordination issues, please contact Andrea Lucas, Landscape Architect, GGNRA at andrea_lucas@nps.gov or 415/561-2878.

Sincerely,



Brian O'Neill
General Superintendent

[attachment]

ATTACHMENT:

Physical Suicide Deterrent System Project
SPECIFIC COMMENTS from Golden Gate National Recreation Area
August 25, 2008

- | | |
|--|------|
| 1. NPS concerns about the potential suicide deterrent system include potential physical impacts to the historic bridge, and the visual and experiential impacts to drivers, cyclists and pedestrians on the bridge, | 1d |
| 2. The NPS is concerned about potential construction impacts that should be addressed include physical danger, such as from falling objects at Fort Point; continuous visitor access; visitor experience relative to noise, construction barriers, particulate matter; and issues concerning the control and effects of lead paint removal. Staging areas and construction access, parking and materials storage and movement need to be coordinated with the NPS. | 1e |
| 3. The alternatives that best achieve compatibility and meet historic preservation objectives are Alternatives 1A and 1B which preserve the historic railing while adding to it compatibly. | 1e-1 |
| 4. Alternative 1B is preferred over 1A as it is consistent in design with the safety railing added to the bridge between the promenade and roadway in the recent past and achieves a better balance between compatibility and distinction from the original bridge design. It is less visually intrusive, and maintains panoramic views in its open spaces while the vertical alternative breaks up all views. | 1e-2 |
| 5. For historic preservation we do not recommend employment of Alternatives 2A and 2B, as they remove the original railing, destroy historic fabric and completely change the promenade's design and appearance. | 1e-3 |
| 6. For historic character we do not recommend Alternative 3, Netting, as it introduces a new design element to the bridge. | 1f |
| 7. The District should construct a mock-up of the chosen alternative to be painted both in international orange and in a receding color to be able to judge mitigation of visual impacts. Consider leaving the constructed deterrent in unpainted stainless steel. | 1g |
| 8. The DEIR states that the Golden Gate Bridge is a contributing feature of the Presidio of San Francisco National Historic Landmark (NHL). While certain features of the Bridge, such as Doyle Drive, contribute to the Presidio NHL, the span of the Bridge itself is not a contributing feature of the Presidio NHL. | 1h |

- 9. Figure 2.1-1 Correct the GGNRA boundary to include all of Presidio Area A (Crissy Field area is not shown as GGNRA on current version; Lobos Creek is not shown as GGNRA on current version). City property along the Marina is shown as GGNRA. Show the true boundary of GGNRA including waters under state lands lease. 1 i
- 10. Figure 2.1-2 Correct GGNRA offshore boundary. Show Fort Baker as part of GGNRA. 1 j
- 11. Show Construction Staging Areas (item 4) in a separate color and symbol. 1 k
- 12. Table 2.1-1 Add certain land uses which are missing for various properties: Golden Gate Bridge = Public Road; Marine Drive = Historic Resource; Fort Point and Battery Spencer = Recreational Resources; Much of the GGNRA lands and San Francisco Bay surrounding the project are also Natural Resources, open space, and habitat. 1 l
- 13. Table 2.1-2 Update information on this table. 1 m
- 14. p. 2-6 The description of the development at Fort Baker needs to be edited. 1 n
- 15. p. 2-6 Update the Doyle Drive project status. 1 o
- 16. p. 2-10 Project Consistency. 2nd paragraph states that the project would not affect the natural environment. Add wind impacts and potential bird impacts to this section. 1 p
- 17. Table 2.1-3 Show Fort Baker as part of GGNRA 1 q
- 18. p. 2-13 Fort Baker is open now. 1 r
- 19. p. 2-13 and 2-14 Clarify that the Merchant Road staging area is also within GGNRA. Confirm that alternative public parking will be available during project construction. Coordination with GGNRA remediation and trail construction would occur. 1 s
- 20. Table 2.2-1 The Presidio landscape unit also includes expanses of coastal scrub (much of the bluff area previously covered with cypress is being converted to scrub, and views have been substantially opened). The Marin Headlands landscape includes historic military elements. 1 t
- 21. The transparent panels; Alternatives 1 and 2 should incorporate an alternative treatment that is entirely cables or bars, including at the belvederes to modify potential impacts caused by the transparent panels.
- 22. p. 2-130 Affected Environment. See comment above regarding the staging area on Merchant Road (in GGNRA, Presidio Area A). 1 u
- 23. p. 2-138 Energy – The increased energy and resource use required for frequent cleaning of the transparent panels (e.g., the increased demand for fresh water or cleaning products) should be described and included in this analysis.

24. 2.6.8 Measure 1: Clarify that the Biological ECM would work in consultation with GGNRA Natural Resources Staff. Any chemical weed control must be approved by the GGNRA IPM Specialist.	1v
25. 2.6.8. Measure 2: Erosion and dust control plan will be reviewed and approved by GGNRA Natural Resources.	1w
26. p. 3-15 Potential Impacts to Climate Change. The final sentence states that "...the project...would contribute to cumulative increases in the sources of greenhouse gases." It appears that this was intended to state "...would <i>not</i> contribute..."	1x
27. p. 3-15 Potential Impacts to Climate Change. It would be appropriate to evaluate the difference in maintenance among alternatives that could affect the amount of greenhouse gases contributed over the life of the project.	1y
28. 3.3.3 and Appendix F (NES report) See comments on 2.6.8.	1z

United States Department of Interior, GGNRA Response to Comments

Comment (1a; 1c):

The United States Department of Interior, GGNRA prefer non-physical deterrents, but believe Alternative 3 (Net System) has the least impact to the visitor experience, scenic and historic resources, and all other key aspects of the Bridge and is preferred over other build alternatives.

Response (1a; 1c):

Over the years the District has evaluated and implemented a variety of non-physical suicide deterrent measures. The non-physical measures that are in place stop approximately two-thirds of those individuals who come to the Bridge to injure themselves. However, approximately two dozen individuals jump from the Bridge each year. The project purpose is to consider a physical deterrent system that reduces the number of injuries and deaths associated with jumping off the Bridge. Non-physical alternatives do not satisfy the purpose and need of the proposed project.

The Board has selected Alternative 3 (Net System) as the Preferred Alternative. The commenter's support for this alternative is noted.

Comment (1a-1; 1e-1; 1e-2):

The United States Department of Interior, GGNRA states that Alternatives 1A and 1B best achieve compatibility and meet historic preservation objectives. Alternative 1B is preferred over Alternative 1A due to its design consistency with the outside handrail, and compatibility with the original design. It is less visually intrusive, and maintains panoramic views in its open spaces.

Response (1a-1; 1e-1; 1e-2):

While Alternatives 1A and 1B would retain the outside handrail, with some modification, the Finding of Effect prepared for this project concluded that Alternative 3 not only retained the outside handrail, it would not reduce the integrity of design, setting, and feeling of the outside handrail and sidewalk elements of the Bridge because Alternative 3 would not add any structure(s) to the top of the outside handrail.

The Finding of Effect concluded that Alternatives 1A, 1B, 2A, and 2B would all result in direct and indirect adverse effects to the original outside handrails and pedestrian experience of the Bridge. Alternative 3 does not have these same adverse effects.

The Finding of Effect document concluded that Alternative 3 would have the least adverse effect to the historic property.

Comment (1b):

The United States Department of Interior, GGNRA support the need for further research into potential bird impacts and expressed concerns for birds in general, especially threatened and endangered species.

Response (1b):

The United States Department of Interior, GGNRA support for further research in to impacts of the Preferred Alternative on bird species is noted. An Avian Impact Study was prepared for the Preferred Alternative and has been incorporated into the discussion of animal species in the biological environment section of the document. As requested in comment 1b, the District will coordinate with GGNRA Natural Resource staff to ensure the protection of the environment.

Appendix E includes the Department's informal consultation with the USFWS indicating that the project, including implementation of the avoidance, minimization, and mitigation measures, would not affect listed species. Appendix E also includes a letter from the District documenting that the project would not result in the take of a special-status species and Appendix F provides a list of special-status species documented in the project area for which the project would have no effect.

Comment (1d):

The United States Department of Interior, GGNRA expresses concern that deterrent system may include physical impacts to historic elements, and the visual and visitor experience for drivers, cyclists, and pedestrians on the Bridge.

Response (1d):

The project has thoroughly identified and evaluated the potential impacts and effects to the Bridge under Section 106 of NHPA under NEPA, and as an historical resource under CEQA, and will continue to follow NEPA and CEQA procedures as they pertain to historic properties.

Comment (1e):

The United States Department of Interior, GGNRA expressed concern about potential construction impacts including: falling objects at Fort Point; visitor access; visitor experience (noises); construction barriers; particulate matter (air quality); control of lead paint during removal; staging access/parking and storage.

Response (1e):

Proposed mitigation measures are under development as part of the Section 106 process that will include protection of the Fort Point Property along with coordination with GGNRA/NPS.

For the duration of construction, the District will ensure the protection of the Fort Point National Historic Site, located below the Fort Point Arch component of the Bridge. The drawings and specifications for the construction contract will provide safeguards to prevent falling objects arising from the construction of the netting. The District will further ensure against incidental damage to the Fort Point property by hiring an independent Environmental Compliance Monitor (ECM) who will periodically monitor the site during construction and will prepare monthly reports documenting compliance and protection. These reports will be provided to the District and the GGNRA. Additionally, the construction of the net will provide additional protection to the Fort from objects landing on the Fort from the Bridge above.

Work directly over the Fort, which is an approximately 330 foot long segment of netting, out of a total length of approximately 18,000 feet of netting, will only occur when the Fort is otherwise closed to the public. This will provide for continued, safe visitor access to the Fort.

The noise associated with the construction of the netting is similar to the noise associated with routine Bridge maintenance activities, so it will not represent a changed condition. Plus the work directly above the Fort will only occur when the Fort is otherwise closed to visitors, thus ameliorating any noise impacts to Fort visitors arising from the construction of the net above the Fort.

The removal of any lead based paints will comply with all applicable laws and regulations. The specifications for the construction contract will require that the contractor provide for the full containment of all paint removal operations. All contaminated paint and abrasive blast materials will be removed from the site and disposed of in accordance with state and federal requirements, protecting the environment and GGNRA visitors.

Comment (1e-3):

The United States Department of Interior, GGNRA does not recommend Alternative 2A and Alternative 2B because they remove the historic outside handrail, destroy the historic fabric of the Bridge, and completely change the promenade's design and appearance.

Response (1e-3):

These effects were identified in the Finding of Effect document. Alternative 3 has been selected as the Preferred Alternative.

Comment (1f):

The United States Department of Interior, GGNRA does not recommend Alternative 3 as it introduces a new design element to the Bridge.

Response (1f):

This effect was identified in the Finding of Effect document and will be subject to mitigation during the Section 106 process. Section 2.3, Cultural Resources, provides a discussion of potential impacts to historic resources which could potentially result from the implementation of the Preferred Alternative.

Comment (1g):

The United States Department of Interior, GGNRA request that the District do a detailed study of the color of the Preferred Alternative. The commenter suggests constructing a mock up painted in both International Orange and a receding color to be able to judge the mitigation of visual impacts, and suggests painting the net itself a darker color, such as the color of the water, so as to be less visible.

Response (1g):

The visual impacts of the Preferred Alternative are addressed in the Draft EIR/EA and the accompanying Visual Analysis Report. Visual simulations were developed at 14 different viewpoints to evaluate the impacts to views towards the Bridge and views from the

Bridge. The two viewpoints from which the net was most visible were from Vista Point and at the towers looking over the outside handrail (Figures 2.2-53 and 2.57 of the Draft EIR/EA). Additional visual simulations were prepared for these two viewpoints to evaluate different color netting material. Based on these simulations and on subsequent consultation with the State Historic Preservation Office (SHPO) and other interested parties following the close of the public comment period, it was determined that the unpainted and uncoated stainless steel net materials would have the least affect or would minimize affects of the proposed project on visual resources as it would reduce the visual intrusion of Alternative 3, the Preferred Alternative. The unpainted and uncoated stainless steel would visually blend with the color of the San Francisco Bay and skyline.

A series of visual simulations were prepared as part of the Visual Impact Assessment to consider the impacts to visitors, drivers, cyclists and pedestrians on the Bridge. A Section 4(f) Study was conducted to ascertain the impact of the alternatives upon the publicly owned parklands surrounding the Bridge.

Comment (1h):

The United States Department of Interior, GGNRA states that while certain features of the Bridge, such as Doyle Drive, contribute to the Presidio National Historic Landmark (NHL), the span of the Bridge itself is not a contributing feature of the Presidio National Historic Landmark Designation (NHLD).

Response (1h):

The Bridge property was identified by the National Park Service (NPS) as a contributing element of the Presidio NHLD. While the Bridge span may not be directly related to the Presidio NHLD, the Doyle Drive element of the Bridge property passes through the Presidio NHLD. The two properties, the Bridge and the Presidio NHLD, are linked through this intersection.

Comment (1i; 1k):

The United States Department of Interior, GGNRA requests a correction be made to Figure 2.1-1 to show the legislative boundary of the GGNRA including waters under state lease. The commenter also requests that construction staging areas shown on this figure have a distinct color and symbol.

Response (1i; 1k):

Figure 2.1-1 has been updated as requested; see page 2-3 and Appendix B, page 10, of the Final EIR/EA.

Comment (1j; 1k):

The United States Department of Interior, GGNRA requests a correction be made to Figure 2.1-2 to show the legislative boundary of the GGNRA and to show all of East Fort Baker as part of the GGNRA. The commenter also requested that construction staging areas shown on this figure have a distinct color and symbol.

Response (1j; 1k):

Figure 2.1-2 has been updated accordingly; see page 2-4 and Appendix B, page 11, of the Final EIR/EA.

Comment (1l):

The United States Department of Interior, GGNRA requests that Table 2.1-1 be expanded to add certain land uses and land use classifications to specific properties.

Response (1l):

This table has been updated accordingly; see page 2-5 of the Final EIR/EA.

Comment (1m):

The United States Department of Interior, GGNRA requests that Table 2.1-2 be updated to reflect the current status of some of the projects.

Response (1m):

The table has been updated accordingly; see page 2-5 of the Final EIR/EA.

Comment (1n, 1o):

The United States Department of Interior, GGNRA requests descriptions of the Fort Baker and Doyle Drive projects provided on page 2-6 of the Draft EIR/EA be updated to reflect their current status.

Response (1n, 1o):

The text has been updated accordingly; see page 2-15 of the Final EIR/EA.

Comment (1p):

The United States Department of Interior, GGNRA requests that the Project Consistency discussion on page 2-10 of the Draft EIR/EA be expanded to include a discussion of wind impacts and potential bird impacts.

Response (1p):

The text has been expanded accordingly; see page 2-11 of the Final EIR/EA.

Comment (1q):

The United States Department of Interior, GGNRA requests a correction be made to Table 2.1-3 to show Fort Baker as part of the GGNRA.

Response (1q):

The table has been updated accordingly; see page 2-14 of the Final EIR/EA.

Comment (1r):

The United States Department of Interior, GGNRA requests that the Fort Baker discussion on page 2-13 of the Draft EIR/EA be updated to state that Fort Baker is now open to the public.

Response (1r):

The text has been updated accordingly; see page 2-15 of the Final EIR/EA.

Comment (1s; 1u):

The United States Department of Interior, GGNRA requests a clarification be made to pages 2-13 and 2-130 to state that the Merchant Road staging area is also within GGNRA lands. Commenter also requests confirmation that public parking will be available during project construction and that coordination with the nearby GGNRA remediation and trail project will occur.

Response (1s; 1u):

The text has been updated to identify the Merchant Road staging area, which is within the District's permitted area, as within the GGNRA, Presidio Area A. Public parking will be available during project construction as identified on page 2-14 of the Draft EIR/EA and page 2-16 of the Final EIR/EA. The District will coordinate all construction with the GGNRA projects.

Comment (1t):

The United States Department of Interior, GGNRA notes that the Presidio landscape unit in Table 2.2-1 also includes expanses of coastal scrub and the Marin Headlands landscape unit includes historic military elements.

Response (1t):

Table 2.2-1 has been updated accordingly; see page 2-21 of the Final EIR/EA.

Comment (1v; 1z):

The United States Department of Interior, GGNRA requests that Section 2.6.8 Measure 1 be clarified to note that the Biological ECM will work in consultation with the GGNRA Natural Resources Staff and that any chemical weed control must be approved by the GGNRA IPM Specialist. Comment also applies to Section 3.3.3.

Response (1v; 1z):

The text has been updated to indicate that the Biological ECM will work in consultation with GGNRA Natural Resources staff, see pages 2-164 and 3-22 through 3-26 of the Final EIR/EA. The District's Environmental Compliance Monitor will coordinate with and work with GGNRA staff. No chemical weed control will be used without first obtaining a permit from the GGNRA.

Comment (1w):

The United States Department of Interior, GGNRA requests that Section 2.6.8, Biological Environment, Measure 2 be updated to include "Erosion and dust control plan will be reviewed and approved by GGNRA Natural Resources Staff."

Response (1w):

The text has been updated to include this information, see page 2-155 of the Final EIR/EA.

Comment (1x):

The United States Department of Interior, GGNRA notes that the final sentence on page 3-15 states "the project ... would contribute to cumulative increase..." it appears that it was intended to state "would not contribute."

Response (1x):

The text has been corrected, see page 3-18 of the Final EIR/EA.

Comment (1y):

The United States Department of Interior, GGNRA notes that on page 3-15, Potential Impacts to Climate Change, it would be appropriate to evaluate the difference in maintenance among the alternatives.

Response (1y):

Approximately 115,000 vehicles use the Bridge each day. When viewed in relation to the traffic volumes on the Bridge, the climate impacts of the maintenance activities would be negligible. Emissions associated with maintaining the net are related to the frequency of net maintenance activities. The District prepared the Golden Gate Bridge Suicide Deterrent System Operations, Maintenance and Emergency Response Report in order to evaluate the effects of the proposed alternatives on maintenance, operations and emergency response activities. This report, which discusses the impacts and associated costs, is available on the project website:

<http://www.ggbsuicidebarrier.org/studydocuments.php>



SAN FRANCISCO PLANNING DEPARTMENT

August 25, 2008

Physical Suicide Deterrent System Project
Golden Gate Bridge Highway and Transportation District
PO Box 9000
San Francisco, CA 94129

To Whom It May Concern:

On behalf of the Planning Department of the City and County of San Francisco, I am pleased to submit comments on the Environmental Impact Report for the Physical Suicide Deterrent System Project.

The comments in this letter were informed by the input of an Advisory Panel assembled by the Planning Department at the request of Mayor Newsom. The Mayor has expressed strong interest in this project and requested that the department carefully analyze the alternatives and provide comments to the Golden Gate Bridge Highway and Transportation District.

The Advisory Panel was made of five members with expertise in architecture, engineering, preservation and the arts. Members were:

Boris Dramov, Architect, ROMA; John Eddy, Principal and bridge engineer, ARUP; John Kriken, Architect, SOM; Amy Trachtenberg, Artist; and Andrew Wolfram, Preservation Architect, SMWM. City staff included Kyri McClellan from the Mayors Office of Economic and Workforce Development; Mark Luellen, Preservation Program Manager for the Planning Department; Craig Nikitas, Urban Designer for the Planning Department; and John Rahaim, Planning Director.

On August 13, we heard a detailed presentation by Denis Mulligan, Golden Gate Bridge District Engineer, and John Eberle, Supervising Civil Engineer. The presentation

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covered the five alternatives currently under consideration in the EIR, the results of the wind analysis, and information about current suicide prevention methods on the bridge. We complimented Mr. Mulligan and Mr. Eberle on the thorough, detailed analysis and expertise that they have developed on this topic. We were also impressed by the efforts currently underway on the Bridge to deter suicides through training of staff and direct intervention.

The Panel and staff again convened on August 23, with Mr. Mulligan in attendance, to finalize our comments found in this letter.

We agreed that the current situation presents a continuing tragedy for the region that should be addressed. We also agreed that the bridge is a world class icon and one of the most important examples of 20th century design in the world. Given the iconic nature of the bridge, the most important principle of the project should be to minimize the visual impact of any alterations. Further, we believe that this principle should apply both to views from the bridge, seen as a pedestrian or from a vehicle, and the views of the bridge from surrounding areas.

We believe that the bridge design and location are fundamental to its iconic nature. Specifically, as noted in your report, Historic Property Survey Report, May 2008, the primary character defining elements and decorative features of the bridge and the contributing elements are the major structural elements (the suspension bridge anchorages, pylons, piers, towers, main span and side spans), the plate girder bridge, arch bridge, and truss bridges approaches and the southern approach roadway (Doyle Drive), main suspension cables, Round House, and Toll Plaza Undercrossing. The Art Deco/Moderne design is a character-defining feature of all of these structures and their use within the overall bridge. The railings from the original construction and railings replicated to match original, as well as the layout of the sidewalks – width and construction around piers and pylons -- that allow pedestrian use of the bridge are essential character defining features of the property. Although the sidewalks have been extended and widened, they continue to serve as important, human scale features of the bridge that make it readily accessible to the commuting and visiting public.

Other character defining features that are important in conveying the artistic value of the bridge are the electroliers, or light standards, the International Orange paint color, and remaining concrete railings.

2a-1

Further, the location of the bridge, at one of the most dramatic natural locations in the US contributes to its important status. The Golden Gate is one of the most spectacular “entrances” to any urban location the world.

In total, the design, color and specific location of the bridge form a unified ensemble with the environment, and a melding of the natural and man-made that is found almost nowhere else. The visual aspects of all components of this ensemble are critically important to maintain.

To be most sensitive to the bridge design, we suggest that the District should first consider non-physical alternatives beyond those currently employed. We recognize the current, successful efforts in place that indeed prevent a number of suicides, and we commend the District on these important efforts. Further, we fully recognize that the mission of the Golden Gate Bridge Highway and Transportation District does not necessarily include a social service component.

2a-2

Nonetheless, we suggest that the revenues that would be spent on a physical barrier could be derived from a source other than that which could fund a physical alternative. Such revenues could theoretically be invested to provide a more robust, ongoing prevention program. Given the visibility of the bridge and the current public health issue, this program could attract volunteers to the effort. Specifically, and to be most successful, the patrols should be quite visible and be trained in suicide prevention techniques, much like the current staff is so trained. In sum, the program could result in the bridge being known not only for its design and location, but as an international symbol of the humanity of this region.

While we prefer a non-physical solution, we also recognize that the environment review underway is necessary should the District choose to construct a physical barrier or other physical solution. If such a solution is to proceed, we unanimously recommend Alternative 3, the Horizontal Net System. We believe this alternative would have the least visual impact on both the view of the bridge and the experience of the view from the bridge.

2b

With this alternative, we recommend a detailed study of the color of the net. While the netting structure should match the International Orange color of the bridge, we believe that the net itself may be more appropriately a darker color such as the color of the water, so as to be less visible. If painted International Orange, we believe that the net

2c

would become more visually opaque, and may be seen as an “orange haze” over the water.

2c

In addition, the net and the struts should be placed in different plains to the greatest extent possible. This would avoid the creation of a solid visual platform when seen at a distance, especially from the observation areas on the north and south sides of the bridge.

2d

Further, we recommend that the netting material be as lightweight as possible and immediately usable after an event. We agree with the District staff that a material and design involving minimal maintenance is preferred.

2e

The Panel and staff carefully considered the other four alternatives in our analysis. In all cases with Alternatives 1A, 1B, 2A, and 2B, we believe the additional height of a railing would cause a tunnel-like effect when viewed from the bridge, both as a pedestrian and auto occupant. A railing above normal eye level would eliminate the open, unobstructed views that are a hallmark of the experience of being on the bridge. Further, alternatives 2A and 2B present a more drastic solution with the removal of the original railing. These alternatives would seriously undermine the integrity of the original design.

2e-1

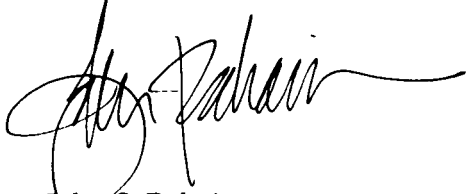
We also recommend that the transparent panels proposed for the belvederes and other locations not be used anywhere on the bridge. We believe that these would become scratched or discolored, and would cause reflections that are distracting from the design of the bridge and the views. In addition, they would likely require continual maintenance on both surfaces, creating additional costs.

In sum, the Advisory Panel and San Francisco Planning Department first recommend a non-physical solution to deter suicides on the Golden Gate Bridge, and secondarily, Alternative 3 with the recommendations noted above.

2f

We strongly commend the District Board and staff for addressing this important public health issue and for your current program to address this regional tragedy. We hope that our comments aid your efforts to develop a successful solution.

Sincerely,

A handwritten signature in black ink, appearing to read "John S. Rahaim". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

John S. Rahaim

Planning Director

Presented on behalf of the Planning Department of the City and County of San Francisco, and the Department's Advisory Panel on the Golden Gate Bridge Suicide Deterrent Project

Cc: Mayor Gavin Newsom
Kyri McClellan
Boris Dramov
John Eddy
John Kriken
Amy Trachtenberg
Andrew Wolfram
Denis Mulligan
John Elberle
Crain Nikitas
Mark Luellen

San Francisco Planning Department Response to Comments

Comment (2a-1):

The San Francisco Planning Department states that the Bridge design and character defining elements are fundamental to its iconic nature and summarizes elements of the Historic Property Survey Report prepared for the project.

Response (2a-1):

The commenter's support and concerns for historic preservation are noted. The project has thoroughly identified and evaluated the potential impacts and effects to the Bridge under Section 106 of NHPA under NEPA, and as an historical resource under CEQA, and will continue to follow NEPA and CEQA procedures as they pertain to historic properties.

Comment (2a-2):

The San Francisco Planning Department suggests the District reconsider using non-physical alternatives beyond those currently employed at the Bridge, including a specific suggestion of having full-time staff at sidewalk entrances to make eye contact with users and help reduce suicide attempts.

Response (2a-2):

Over the years the District has evaluated and implemented a variety of non-physical suicide deterrent measures. The non-physical measures that are in place stop approximately two-thirds of those individuals who come to the Bridge to injure themselves. However, approximately two dozen individuals jump from the Bridge each year. The project purpose is to consider a physical deterrent system that reduces the number of injuries and deaths associated with jumping off the Bridge. Non-physical alternatives do not satisfy the purpose and need of the proposed project.

Comment (2b; 2f):

The San Francisco Planning Department prefer non-physical deterrents, but believe Alternative 3 (Net System) has the least impact to the visitor experience, scenic and historic resources, and all other key aspects of the Bridge and is preferred over other build alternatives.

Response (2b; 2f):

Over the years the District has evaluated and implemented a variety of non-physical suicide deterrent measures. The non-physical measures that are in place stop approximately two-thirds of those individuals who come to the Bridge to injure themselves. However, approximately two dozen individuals jump from the Bridge each year. The project purpose is to consider a physical deterrent system that reduces the number of injuries and deaths associated with jumping off the Bridge. Non-physical alternatives do not satisfy the purpose and need of the proposed project.

The Board has selected Alternative 3 (Net System) as the Preferred Alternative. The commenter's support for this alternative is noted.

Comment (2c):

The San Francisco Planning Department requests that the District do a detailed study of the color of the Preferred Alternative. The commenter suggests constructing a mock up painted in both International Orange and a receding color to be able to judge the mitigation of visual impacts, and suggests painting the net itself a darker color, such as the color of the water, so as to be less visible.

Response (2c):

The visual impacts of the Preferred Alternative are addressed in the Draft EIR/EA and the accompanying Visual Analysis Report. Visual simulations were developed at 14 different viewpoints to evaluate the impacts to views towards the Bridge and views from the Bridge. The two viewpoints from which the net was most visible were from Vista Point and at the towers looking over the outside handrail (Figures 2.2-53 and 2.57 of the Draft EIR/EA). Additional visual simulations were prepared for these two viewpoints to evaluate different color netting material. Based on these simulations and on subsequent consultation with the State Historic Preservation Office (SHPO) and other interested parties following the close of the public comment period, it was determined that the unpainted and uncoated stainless steel net materials would have the least affect or would minimize affects of the proposed project on visual resources as it would reduce the visual intrusion of Alternative 3, the Preferred Alternative. The unpainted and uncoated stainless steel would visually blend with the color of the San Francisco Bay and skyline.

Comment (2d):

The San Francisco Planning Department recommends that the net and the struts of Alternative 3 be placed in different planes to avoid creating a solid visual platform when seen at a distance.

Response (2d):

Since the struts structurally support the netting, they will need to remain in the configuration illustrated in the Draft EIR/EA. As shown by the visual simulations and discussed on page 2-92 of the Draft EIR/EA and page 2-94 of the Final EIR/EA, Alternative 3 (Net System) would not be visible from many viewpoints looking towards the Bridge. It would have an adverse visual impact only from Viewpoint 4, Vista Point, as the net would be visible across the total field of view. Additional visual simulations of Alternative 3 have been prepared from Vista Point to depict the associated visual impacts for different colored netting coupled with international orange colored struts.

Comment (2e):

The San Francisco Planning Department recommend netting material be as lightweight as possible with minimal maintenance and that netting not be firm with minimal spacing of the net mesh no closer than 6 to 8 inches across to prevent person from crawling across the net to the edge.

Response (2e):

The District agrees that the netting material should be as lightweight as possible, immediately usable after an event and easy to maintain. Marine-grade stainless steel wire netting satisfies all of these criteria. The net will incorporate a grid between 4 and 10 inches, the actual size to be determined during final design.

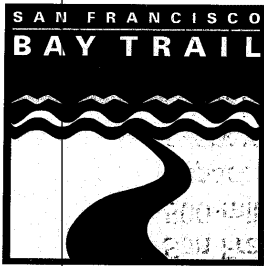
The District prepared the Golden Gate Bridge Suicide Deterrent System Operations, Maintenance and Emergency Response Report in order to evaluate the effects of the proposed alternatives on maintenance, operations and emergency response activities. This report, which discusses the impacts and associated costs, is available on the project website: <http://www.ggbsuicidebarrier.org/studydocuments.php>

Comment (2e-1):

The San Francisco Planning Department states that Alternatives 1A, 1B, 2A and 2B would seriously undermine the integrity of the Bridge's original design.

Response (2e-1):

The Finding of Effect document identified these effects and came to similar conclusions regarding Alternatives 1A, 1B, 2A, and 2B.



GOLDEN GATE BRIDGE
HIGHWAY AND
TRANSPORT DISTRICT

2008 AUG 26 PM 2:17

SECRETARY OF
THE DISTRICT

August 22, 2008

Suicide Deterrent Project
Golden Gate Bridge
P.O. Box 9000
San Francisco, CA 94129

Subject: Draft EIR for Golden Gate Bridge Physical Suicide Deterrent System Project

To Whom It May Concern:

The Bay Trail Project is a nonprofit organization administered by the Association of Bay Area Governments (ABAG) that plans, promotes and advocates for the implementation of a continuous 500-mile bicycling and hiking path around San Francisco Bay. When complete, the trail will pass through 47 cities, all nine Bay Area counties, and cross seven toll bridges. To date, slightly more than half the length of the Bay Trail alignment has been developed.

The San Francisco Bay Trail crosses the Golden Gate Bridge connecting Marin County to San Francisco and represents one of the most traveled segments of trail in the entire 500-mile regional system. The proposed project would have a substantial adverse impact on the Bay Trail and the ten million cyclists and pedestrians that cross the bridge every year. Our specific comments on the draft environmental impact report (DEIR) are listed below.

Bay Trail Plan

While the presence of San Francisco Bay Trail on the Golden Gate Bridge is acknowledged several times in the DEIR, a discussion of the Bay Trail Plan and its policies regarding views and aesthetics are not addressed. It is also important to note that, as a regional trail system connecting all nine Bay Area counties, the Bay Trail has both proposed and currently existing segments at Fort Baker in Marin County. These portions of the Bay Trail are not referenced in the document. Please see the attached map of the Bay Trail in the project vicinity and ensure that a thorough and comprehensive discussion of the Bay Trail Plan, and of segments on both sides of the Bridge is included in the Final EIR.

4a

Impacts of the Proposed Project

All of the alternatives with the exception of the No Build Alternative have negative impacts on the Bay Trail. **Alternatives 1A, 1B, 2A, and 2B have serious,**

4a-1

unmitigateable visual, cultural, and recreational impacts and should not be allowed to move forward. Impacts to views and aesthetics will in no way be mitigated by documenting the existing conditions through photography or other means as part of a Section 106 Consultation as suggested in the DEIR.

4a-1

Of the 5 proposed options, Alternative 3 appears to have the least egregious impacts to views and aesthetics from the Bay Trail on the Golden Gate Bridge. However, this alternative still blocks important downward views of San Francisco Bay from all points along both north and south sidewalks. It is unclear why table 2.2-13 on page 2-100 of the DEIR states that from Viewpoints 12 and 13, visual impacts would be "negligible". From any point along the north or south sidewalk, views looking downward will be impeded by the presence of the net.

4b

Construction Impacts

Page 2-141 of the document states that "There is no continuous system of sidewalks, bike trails or bike lands..." on the roads within the project vicinity that would be impacted by the construction staging areas. There are three regional trail systems within the vicinity of the project: the San Francisco Bay Trail, the Bay Area Ridge Trail, and the Coastal Trail. For the Final EIR, please review the attached map showing proposed and existing Bay Trail in the project vicinity and describe in detail the impacts that will result from construction equipment that will be operating in the area. The Final EIR should include mitigations for these impacts.

4c

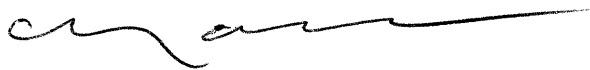
BCDC Jurisdiction

Page 2-8 of the DEIR states that "A portion of the project (construction staging areas) may be located within BCDC's jurisdiction and could, therefore, require a permit from BCDC." It is our understanding that the entirety of the bridge is within BCDC jurisdiction, and that changes of this magnitude would require a permit for the entire project, not solely the construction staging areas.

4d

We appreciate the opportunity to comment on this project. If you have any questions regarding the Bay Trail Project or our alignment in San Francisco or Marin Counties, please do not hesitate to contact me at (510) 464-7909 or via e-mail at maureeng@abag.ca.gov.

Sincerely,



Maureen Gaffney
Bay Trail Planner

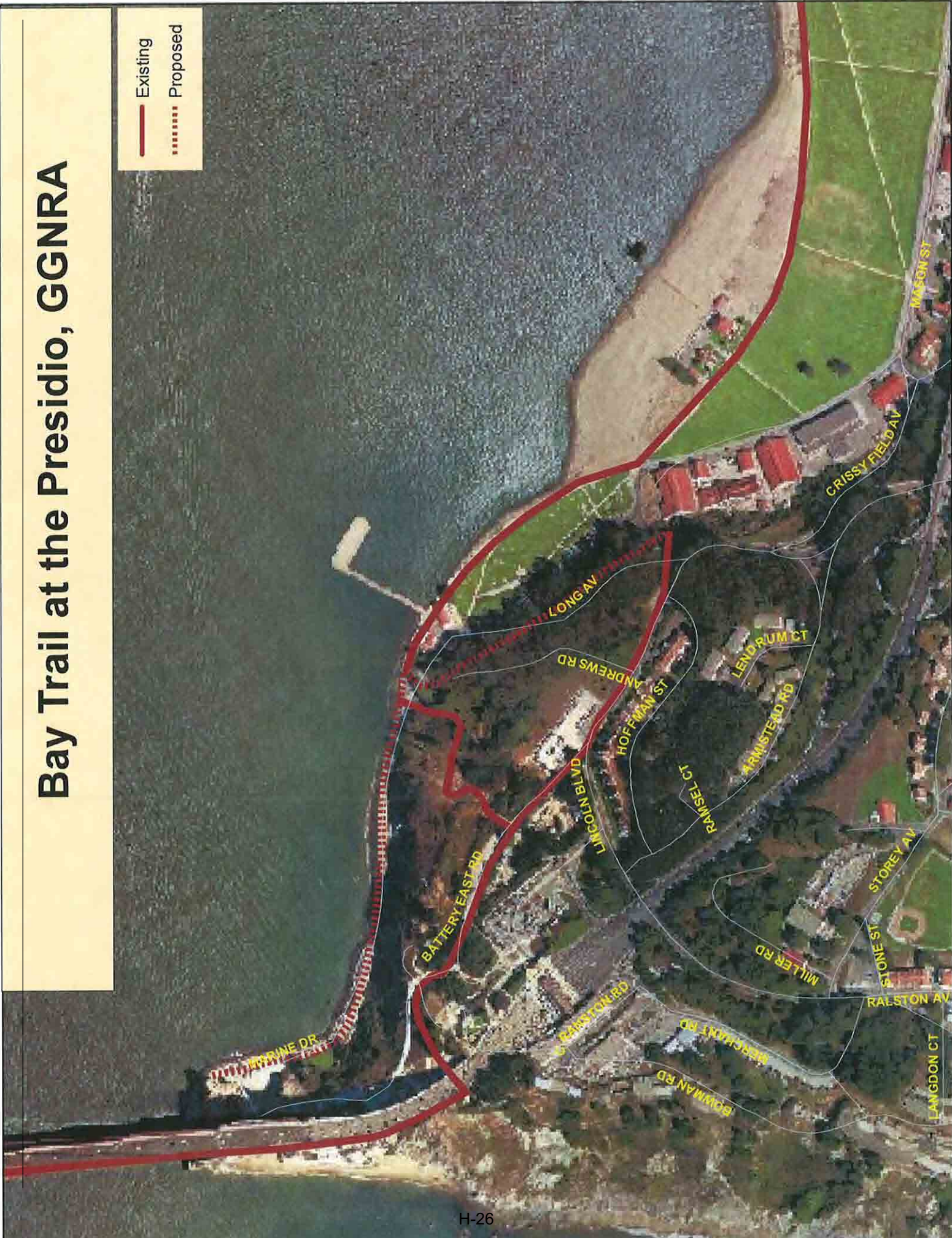
Encl: 1

Bay Trail at Fort Baker, GGNRA



Bay Trail at the Presidio, GGNRA

- Existing
- Proposed



San Francisco Bay Trail Response to Comments

Comment (4a):

The San Francisco Planning Department notes that the Bay Trail and its policies regarding views and aesthetics are not addressed in the Draft EIR/EA. The Bay Trail segments at Fort Baker are also not referenced.

Response (4a):

The Bay Trail segments at Fort Baker have been added to Figures 2.1-1 and 2.1-2. A discussion of the Bay Trail policies has been added to Section 2.1.2 of the Final EIR/EA.

Comment (4a-1):

The San Francisco Planning Department states that Alternatives 1A, 1B, 2A and 2B would have unmitigateable visual, cultural and recreational impacts which cannot be mitigated by photography documentation or other means as part of Section 106 Consultation as suggested in the Draft EIR/EA.

Response (4a-1):

Alternative 3 has been selected as the Preferred Alternative.

Comment (4b):

The San Francisco Planning Department prefer non-physical deterrents, but believe Alternative 3 (Net System) has the least impact to the visitor experience, scenic and historic resources, and all other key aspects of the Bridge and is preferred over other build alternatives. The San Francisco Planning Department also states it is unclear why Table 2.2-13 on page 2-100 of Draft EIR/EA states that from viewpoints 12 and 13, visual impacts would be negligible. From any point along the north of the sidewalks views looking down will be impeded.

Response (4b):

Over the years the District has evaluated and implemented a variety of non-physical suicide deterrent measures. The non-physical measures that are in place stop approximately two-thirds of those individuals who come to the Bridge to injure themselves. However, approximately two dozen individuals jump from the Bridge each year. The project purpose is to consider a physical deterrent system that reduces the number of injuries and deaths associated with jumping off the Bridge. Non-physical alternatives do not satisfy the purpose and need of the proposed project.

The Board has selected Alternative 3 (Net System) as the Preferred Alternative. The commenter's support for this alternative is noted.

Viewpoints 12 and 13 are taken from a location along the sidewalk looking across the outside handrail towards the San Francisco skyline and Marin County hillsides, illustrative of the views from pedestrians walking along the Bridge sidewalk. Existing views from these viewpoints are shown throughout the Draft EIR/EA and Final EIR/EA on Figures 2.2-15, 2.2-16, 2.2-26, 2.2-27, 2.2-37, 2.2-38, 2.2-48, and 2.2-49. The horizontal net would be located approximately 20 feet below the sidewalk, so the installation of the horizontal net would have a negligible affect on views from these viewpoints. Viewpoint 14 was selected to illustrate the affect to viewers looking down from the outside handrail (as identified by the commenter) and the resulting visual impact was identified as adverse.

Comment (4c):

The San Francisco Planning Department requests that page 2-141 be updated to acknowledge the existing trails systems in the area and provide mitigation for any identified impacts to these resources during construction.

Response (4c):

The text has been updated to include this information, see page 2-150 of the Final EIR/EA. There will be no impact to the trails from the construction staging areas.

Comment (4d):

The San Francisco Planning Department notes that not only the staging areas but the entire project falls within BCDC's permitting jurisdiction and therefore requires a permit.

Response (4d):

The District is not aware of any previous BCDC or District action that indicates that the entirety of the Bridge is within BCDC jurisdiction.

do.co.mo.mo_us

documentation and conservation
of buildings, sites and neighborhoods of the
modern movement

Northern California Chapter
PO Box 29226
San Francisco CA
Docomomo.noca@gmail.com

August 25, 2008

Physical Suicide Deterrent System Project
Golden Gate Bridge
Highway and Transportation District
PO Box 9000
San Francisco, CA 94129

To Whom It May Concern:

Docomomo is an international organization dedicated to the documentation and conservation of the architecture and engineering works of the modern movement. The Northern California chapter of Docomomo was established in 1996 as a non profit 501(c)3 organization, and its mission has been to promote education and awareness of the modern movement in the Bay Area.

The Golden Gate Bridge is one of the most iconic engineering structures of the Modern Movement, and has invaluable historic, cultural and architectural significance. Its significance is due in large part to the cohesive characters of its design and siting. One of its principal character defining features is the design of the existing railing system and the open feeling one experiences on the bridge itself, as either a pedestrian or when viewed from a vehicle. The approach to the bridge from the Marin side is one of the most breathtaking experiences anywhere in the world of a bridge passage – starting from the feeling of compression in the Waldo tunnel, the sighting of the bridge towers as one exits the tunnel, the rapid and curved descent to the bridge and the sudden expansive feeling of openness, with amazing views of the bridge and the bay that one experiences on the bridge itself.

The Northern California chapter of Docomomo strongly recommends that physical changes not be made to the bridge that impact its character defining features, and are not related to required seismic or transportation improvements. We believe that the funds used for creating a physical suicide barrier could be better spent on non-physical suicide prevention means, such as more mental health treatment programs and increased bridge patrols.

If the Bridge District were to move forward with a physical suicide barrier, we believe the only alternative that does not negatively impact the character of the bridge deck and the experience for most visitors to the bridge is Alternative 3, the net solution. If this solution were to be chosen significant attention should be paid to the design of the netting to minimize its visual impact. We do not believe International Orange would be the appropriate color of the netting, but that a darker color would have less impact.

110

In summary, Docomomo Noca recommends that no physical suicide barrier be built. If the Bridge District were to proceed with a physical barrier, we recommend that a solution be selected, such as Alternative 3, which has minimal impact on the character of the railings and minimal visual impact for pedestrians and those in vehicles on the bridge deck.

Sincerely Yours,



Andrew Wolfram
President, Docomomo Noca

**Docomomo
Response to Comments**

Comment (110):

Docomomo states that the Bridge is historically significant and that the existing railing system is a character defining feature of the property. The organization “strongly recommends” against physical changes to the character-defining features of the Bridge. The commenter states that among the build alternatives, Alternative 3 is the only alternative that does not impact the character of the Bridge deck and visitor experience of the Bridge.

Response (110):

Because the project goals are to provide a physical deterrent to suicide, the feasible alternatives developed each involve some physical change to the Bridge. The Draft EIR/EA includes a No-Build Alternative as required by CEQA and NEPA. The Finding of Effect document came to a similar conclusion that, of the build alternatives, Alternative 3 would cause the fewest adverse effects because it causes less impact to the design of the pedestrian areas of the Bridge.

Citizens For a Safe Golden Gate Bridge



Director John P. Ehlen, P.E.
Director Frank Schweiger
Director Eric J. Schmidt

Robert M. Guernsey
Founder/Chairman of the Board

Director Alexandra F. Ehlen
Director Danna Kirkbride
Director Lucille Dandeleit

Monday, July 7, 2008

Golden Gate Bridge
Highway & Transportation District
Mr. Denis J. Mulligan, District Engineer
Box 9000, Presidio Station
San Francisco, CA. 94129-0601

RECEIVED
JUL 11 5 2008
GOLDEN GATE BRIDGE
ENGINEERING DEPARTMENT
each
8/11/08
CD

Subject: Suicide Deterrent Barrier System.

Dear Mr. Mulligan:

Back in February 24, 2005 you laid-out a "project plan" during a Building & Operation meeting for the suicide deterrent barrier system.

You called it the 106 process! You called for a various plan involving the State and or federal participation, as well as public involvement in raising the funds needed for this suicide deterrent barrier system. You also suggested that CEQA and NEPA reports by ordered. Enclosed a letter sent to you, requesting information on the CEQA and NEPA reports ordered, as well as the wind tunnel test of both systems. "Pedestrian/Bicycle Hand Rail, which you never sent to us.

111

Where do we stand on the 106 process that you very in a classy manner back in February of 2005 for both the suicide deterrent system as well as the movable median traffic barrier as well as the wind tunnel test of both systems - with or with out the barriers? I would think by after defer operating costs, and off setting other projects that now this 106 process would be complete.

Please response to our request for the information at your earliest time.

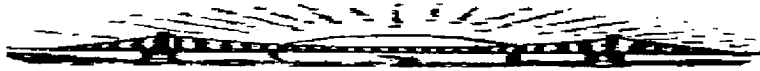
Respectfully submitted,

Robert M. Guernsey

Robert M. Guernsey
Founder/Chairman of the Board

CD
ED
W.M.D.

Citizens for a Safe Golden Gate Bridge



Robert M. Guernsey
Founder & Board Chairman

Director John P. Ehlen, PE
Director Frank Schweiger

Director Alexandra F. Ehlen
Director Danna Kirkbride

Thursday, March 17, 2005

Denis J. Mulligan, District Engineer
Box 9000 Presidio Station
San Francisco, CA. 94129

RE: Feasibility Study and Report, CEQA and NEPA reports for the Pedestrian/Bicycle Hand Rail

Dear Mr. Mulligan;

I was pleased to see you at the Building and Operating meeting of February 24, 2005. As always, it is a pleasure to listen to your informative reports of engineering safety issues as the 'Suicide and Movable Median Barriers.

If you would not mind sending me a copy of the feasibility study & report, CEQA and NEPA reports for the pedestrian/bicycle hand rail installed on the east and west sides of the span.

Thank you for your time and effort in making the Golden Gate Bridge the world's safest bridge.

Respectfully submitted,

Robert M. Guernsey

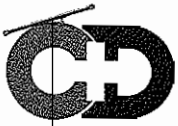
**Citizens for a Safe Golden Gate Bridge
Response to Comments**

Comment (111):

Citizens for a Safe Golden Gate Bridge request information regarding the status of the Section 106 process. Would think that would now be complete.

Response (111):

The Section 106 process refers to the regulations implementing the National Historic Preservation Act of 1966 (36 CFR Part 800 – Protection of Historic Properties), which has been concluded for this project. Please see Section 2.3, Cultural Resources, and Appendix G, Memorandum of Agreement.



Creogan + D'Angelo
INFRASTRUCTURE
ENGINEERS

ENGINEERING YOUR SUCCESS

August 21, 2008

Physical Suicide Deterrent System Project
Golden Gate Bridge, Highway & Transportation District
P.O. Box 9000
San Francisco, CA 94129

Attn: Jeffery Lee, Project Manager

Subject: Golden Gate Bridge - Suicide Barrier

Dear Jeff,

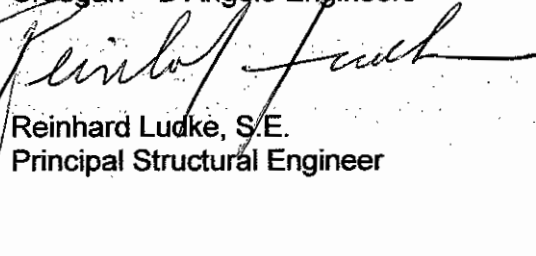
The Golden Gate Bridge is a landmark bridge structure that is recognized around the world. The engineering and design of the bridge in the 1930's created a monument, a sculpture, a piece of art that demonstrates the vision and pinnacle achievement of bridge engineering in America. As I told Denis Mulligan, I think the bridge is the best design of a suspension bridge in the world, and it is a shame and crime to change it unless necessary to protect it. Any changes and additions to the bridge structure diminish the value and do not respect this icon of man's technical and aesthetic capability. I support the no-build alternative.

112

I understand the serious and devastating impact of suicide on family and society. I believe that the solution to suicide is not building physical barriers. The solution for suicide prevention is mental health intervention by family and professionals. Why not build cars that will survive impacts?, put locks on all guns?, and make drug overdose impossible by dispensing one tablet at a time? – cars, guns, and drugs result in many more deaths than jumping from the Golden Gate Bridge.

Adding tall barriers to the bridge is another example of a minority issue, bridge suicides generating a "solution" that is a major impact on everybody. A comprehensive suicide prevention study should be performed that includes other non-physical barrier solutions, given that there is \$50 million dollars to combat the problem. There are better solutions, that help more people, for suicide prevention and mental health counseling.

Respectfully yours,
Creogan + D'Angelo Engineers



Reinhard Ludke, S.E.
Principal Structural Engineer

**Creegan & D'Angelo
Response to Comments**

Comment (112):

Creegan & D'Angelo believe that changes to the Bridge's structure would diminish its value and not respect the icon, and therefore supports the No-Build Alternative.

Response (112):

The project purpose is to consider a physical deterrent system that reduces the number of injuries and deaths associated with jumping off the Bridge. The Preferred Alternative, Alternative 3 (Net System), satisfies this purpose. The project purpose is not tied to lowering the overall suicide rate in the Bay Area. It is outside the scope of this study to consider the effect of this project on the overall regional suicide rate.

August 19, 2008

Physical Suicide Deterrent System Project
Golden Gate Bridge
Highway & Transportation District
P.O. Box 9000
San Francisco, CA 94129

RE: Comment on the Draft EIR/EA and Section 4(f) Evaluation for the Golden Gate Bridge Physical Suicide Deterrent System Project

To: Golden Gate Bridge, Highway and Transportation District and Caltrans (Lead Agencies for CEQA and NEPA):

The Draft EIR/EA clearly describes a direct adverse effect to the Bridge character-defining features under Cultural Resource impacts for all build alternatives, which also have Section 4(f) effects. Adverse visual impacts are also described for views of the bridge from Vista Point for Alternatives 1A, 1B, 2A, and 2B, which does not meet the District Board criteria to "have minimal visual and aesthetic impacts on the Bridge".

11

The historic resource and Section 4(f) effects of each of the Build Alternatives, in addition to the visual impacts to this internationally prominent historic structure, should render a decision in favor of the No Build Alternative. Deterring suicide attempts on the Golden Gate Bridge would not have prevented the other 599 suicides in the Bay Area in 2005, and will not prevent suicides in the future in the Bay Area.

Sincerely,



Marilyn Duffey
Environmental Consultant
1172 Greenwich Street
San Francisco, CA 94109

Marilyn Duffey
Response to Comments

Comment (11):

Marilyn Duffey states that the impacts to historic resources, Section 4(f) and visual impacts of all of the build alternatives should render a decision in favor of the No-Build Alternative.

Response (11):

The stated goal of the project is to provide a physical deterrent system that reduces the number of injuries and deaths associated with individuals jumping off the Bridge, which is not met by the No-Build Alternative. The project purpose and District criteria require that the system satisfy the requirements of state and federal historic preservation laws and have minimal visual and aesthetic impacts on the Bridge. Alternative 3 (Net System) has been selected by the District as the Preferred Alternative. This alternative meets the project purpose and District criteria.

June 18, 2008



GOLDEN GATE BRIDGE
HIGHWAY & TRANSPORTATION DISTRICT

Environmental Studies and
Preliminary Design for a Physical
Suicide Deterrent System on the
Golden Gate Bridge
Contract No. 2006-B-17

Mr. Greg McConnell, District Branch Chief,
Environmental Analysis
CALTRANS, Office of Environmental Analysis
Mail Station 8-B
P.O. Box 23660
Oakland, CA 94623-0660

Re: Project Staging Areas – Temporary Occupancy

Mr. McConnell:

The Golden Gate Bridge, Highway and Transportation District's (District) Physical Suicide Deterrent System Project proposes five build alternatives and one no-build alternative. Should one of the build alternatives be chosen as the preferred alternative and should the project go forward to construction, staging areas will be required.

The District has identified five potential staging areas for the project: four on the north side and one on the south side of the Golden Gate Bridge (Bridge). The four potential north side staging areas are not open to the public. The one potential staging area on the south side of the Bridge is a District parking lot that was recently constructed and has 24 parking stalls available for public use. If this parking lot were to be used for staging, the 24 parking stalls would not be available for public use. Since the parking area is relatively new (two years) and there are other parking areas available closer to the Bridge, the public parking stalls have never been fully utilized.

The public will be able to park in other areas that are closer to the Bridge that will not be impacted by the project. These include the District's east parking lot below the Roundhouse gift center and the National Park Service (NPS) parking lot off Lincoln Boulevard and Battery East Road. In addition, on weekends and holidays, the District's west parking lot adjacent to the Toll Plaza is available for public parking.

All of the proposed build alternatives have estimated project durations of 24 to 36 months during which time the staging areas may be occupied.

Should you have further questions, I can be reached at (415) 923-2023.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Lee', written over a large, stylized flourish.

Jeffrey Y. Lee, P.E.
Project Manager

JYL/crh

c: Ms. Sylvia Fung, Caltrans
Steve Morton, DMJM Harris
Phyllis Potter, Circle Point
DJMulligan/EZBauer/JREberle/2.18.4.1

HA\ENGINE\RESOURCE\SuicideDeterrentSystem\Agencies\CALTRANS\TempStageArea.doc

From: Jeffrey Y Lee
Sent: Monday, December 21, 2009 2:30 PM
To: 'Greg McConnell'
Subject: Golden Gate Bridge - Suicide Deterrent System Project , 4(f), temporary usage of parking lot

Dear Mr. McConnell:

This is to document that the Golden Gate Bridge Highway & Transportation District (District) concurs that the temporary occupancy of the parking lot would not result in a Section 4(F) use in accordance with the following four criteria per Section 4(f) per 49 CFR Section 774.3:

Duration of occupancy must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
Scope of the work must be minor, i.e., both the nature and magnitude of the changes to the 4(f) resource must be minimal;
There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities or purposes of the resource, on either a temporary or permanent basis; and
The land being used must be fully restored, i.e., the resource must be returned to a condition which is at least as good as that which existed prior to the project.

The District is the agency with jurisdiction over the parking lot. The partial use of the parking lot will be less than the total construction time for the project. There will be no change in ownership of the lot. The parking lot is an already developed site and in current use by employees and the public. This use will continue. The parking lot will be restored to its current use after the temporary occupancy.

Jeffrey Y.F. Lee, PE

Project Manager
Suicide Deterrent System Study
Project 2006-B-17

Golden Gate Bridge Highway & Transportation District
PO Box 9000
San Francisco, CA 94129

Overnight deliveries, specify:
"Toll Plaza Administration Building"

415-923-2023
415-563-6173, FAX

DEPARTMENT OF TRANSPORTATION

111 GRAND AVENUE
P. O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-6216
FAX (510) 286-6374
TTY (800) 735-2929



*Flex your power!
Be energy efficient!*

July 7, 2008

Mr. Willie R. Taylor
Director, Office of Environmental Policy and Compliance
Department of the Interior
Main Interior Building, MS-2342
1849 C Street, NW
Washington, DC 20240

Attn: Ms. Ethel Smith

Dear Mr. Taylor:

As you are aware the Federal Highway Administration (FHWA) has assigned and the California Department of Transportation (Caltrans) has assumed responsibilities for consultation and coordination with resource agencies for most projects within the State of California under the *Memorandum of Understanding (MOU) between the Federal Highway Administration and the California Department of Transportation concerning the State of California's Participation in the Surface Transportation Project Delivery Pilot Program* effective July 1, 2007.

Enclosed for your review please find one hard copy and 12 copies on compact disks of the Draft Environmental Impact Report/Environmental Assessment and Section 4(f) Evaluation for the proposed Golden Gate Bridge Physical Suicide Deterrent System – a Local Assistance Project. The Draft Section 4(f) Evaluation is Appendix B of the document. Caltrans and the Golden Gate Bridge, Highway and Transportation District plan to make this draft document available for review and comment for a period of 45 days beginning on July 8, 2008. Two public information meetings are scheduled, the first on July 22, 2008 in San Rafael and the second on July 23, 2008 in San Francisco.

This document is forwarded for your review and comments pursuant to 23 CFR 771.135(i). We would appreciate your comments by the close of the public review period.

If you have questions, please don't hesitate to contact me at (510) 286-5231, or Gregory McConnell, of my staff, at (510) 286-6216. Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Melanie Brent".

MELANIE BRENT, Chief
Office of Environmental Analysis

Enclosures