

**CALIFORNIA COASTAL COMMISSION**

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**STAFF REPORT AND RECOMMENDATION****ON CONSISTENCY DETERMINATION**

Consistency Determination No. **CD-106-01**  
Staff: MPD-SF  
File Date: 12/7/2001  
60th Day: 2/5/2002  
75th Day: 2/20/2002  
Commission Meeting: 2/8/2002

**FEDERAL AGENCY:** U.S. Air Force

**PROJECT**  
**LOCATION:**

El Rancho Road Bridge over San Antonio Creek,  
Vandenberg Air Force Base, Santa Barbara County  
(Exhibits 1-3)

**PROJECT**  
**DESCRIPTION:**

Demolition of an existing bridge and construction of a new  
bridge in the same linear location but at a higher elevation  
above the creek (Exhibits 4-5).

**SUBSTANTIVE**  
**FILE DOCUMENTS:**

See page 18.

**EXECUTIVE SUMMARY**

The Air Force has submitted a consistency determination for the replacement of the El Rancho Road bridge across San Antonio Creek. On October 14, 1992, the Commission concurred with an Air Force consistency determination for a previous replacement of the El Rancho Road bridge across San Antonio Creek (CD-70-92). Since that replacement bridge was constructed, continuing flooding and sedimentation in the creek have resulted in waterflows that have overtopped the replacement bridge and reduced the elevation of the bridge above the ground.

The proposed new bridge is needed both to maintain Air Force mission defense needs (i.e., missile transport) and to protect wetlands and endangered species habitat. San Antonio Creek provides habitat for a federally and state listed endangered fish species, the unarmored threespine stickleback. This species is limited to only two locations (San Antonio Creek and Honda Creek), and its area of greatest abundance is a 4 kilometer stretch of San Antonio Creek centered around the immediate project area. The species is sensitive to sedimentation; thus, by exacerbating flooding and sedimentation, the existing bridge threatens the species.

The new bridge would be raised above 100 year flood elevations, which would reduce sedimentation and benefit the species. In addition, by removing existing wetland fills at the existing bridge abutments, the project would result in an overall increase in permanent wetland acreage. The wetland fill from the new bridge pilings would be 0.02 acres (twenty 6-8 ft. diameter piles); the increase in acreage from removing the fills is 1.54 acres, for a net permanent increase in wetland acreage of 1.52 acres. Temporary wetland impacts (2.75 acres) would occur from a parallel, 60 ft. wide (at the base) gravel (over geofabric) construction equipment access road. This road would not cross the active part of the creek, and it would be removed and the affected area restored to pre-project conditions upon completion.

In 1992, the Commission found the replacement bridge was an allowable use for wetland fill under the Coastal Act as an incidental public service (it supported important national defense missions and was needed to maintain existing road capacity). The Commission also found the proposal to be the least damaging feasible alternative at that time, that the Air Force had provided adequate mitigation, and that the project was consistent with the wetland policies of the Coastal Act. The current bridge replacement proposal is an allowable use for the same reasons as the previous bridge, alternatives to the project are infeasible and/or more environmentally damaging, and habitat protection, minimization, and monitoring measures are included to mitigate project impacts to wetland and sensitive species, as well as to protect water quality.

The wetland mitigation measures include construction measures designed to minimize creek, wetland, and special species impacts, including prohibiting activities within the creek bed, minimizing concrete and fuel spills, maintaining a biological monitor at the site, controlling erosion and turbidity, minimizing native species removal, and developing a habitat restoration and monitoring plan. This plan will address complete restoration of native and wetland habitats affected, and will include monitoring, performance criteria and contingency remediation measures to assure the success of the revegetation efforts. At the request of the Commission staff, the Air Force has agreed to submit this plan to the Commission staff for its review and approval, prior to the commencement of construction.

The special status species mitigation measures include: pre-project surveys by qualified biologists, biological monitors during construction, flagging sensitive areas, inspecting equipment for fuel leaks, monitoring water quality, placing barriers two days before construction to keep unarmored threespine sticklebacks and California red-legged frogs out of the affected area, monitoring and capturing and relocating unarmored threespine sticklebacks and California red-legged frogs that remain within the fenced/netted area, specifically monitoring these species in particular in the greater project area during construction, avoiding earthwork within the riparian corridor area of the creek during the breeding and egg development season of the California red-legged frog (December 1 through April 15), maintaining the normal flow of the creek to the maximum extent possible, installing and maintaining sediment curtains downstream of the project to minimize turbidity, avoiding creation of barriers to upstream fish migration, developing contingency plans in the event of fuel or other hazardous spills or dewatering of unarmored threespine stickleback habitat, and implementing any other measures required by the USFWS or NMFS developed through "Section 7" consultation over critical habitat and special-status species.

Thus, the project is an allowable use, is the least environmentally damaging feasible alternative, provides, through the above-described measures, adequate mitigation for wetland and sensitive habitat impacts, and is consistent with the water quality, wetland, and environmentally sensitive habitat policy policies (Sections 30231, 30233, and 30240) of the Coastal Act.

The Air Force has also included measures to protect archaeological sites CA-SBA-704, CA-SBA-1172, CA-SBA-1037 and CA-SBA-1165, including coordinating with the State Office of Historic Preservation and construction monitoring by a qualified archaeologist and a Native American. The project is consistent with the archaeological resource policy (Section 30244) of the Coastal Act.

The project will not affect public access, and this part of Vandenberg AFB is off limits to the public due to military security needs. The project is therefore consistent with the public access and recreation policies (Sections 30210-30212) of the Coastal Act.

#### **STAFF SUMMARY AND RECOMMENDATION:**

**I. Project Description.** The Air Force proposes to replace the El Rancho Road Bridge across San Antonio Creek in northern Vandenberg Air Force Base (VAFB) in Santa Barbara County. Winter storms and corresponding sedimentation over the past decade have raised the creek elevation and reduced flood flow capacity under the bridge. Flooding that has occurred has closed the bridge at times, and the low bridge has further exacerbated sedimentation in the creek. The project is needed to provide reliable, year-round transportation across the creek, on a road which provides vehicular access for vital defense and mission needs (including missile transport) between north- and south-VAFB. El Rancho Road is one of only two north-south transportation links (the other is San Antonio Road West), and both the available roads are

threatened by flooding on San Antonio Creek. The project would also benefit wildlife habitat, by elevating the bridge above creek and flood elevations, providing additional areas for the re-establishment of riparian habitat adjacent to the creek, and eliminating the need for current maintenance activities at the bridge.

The project consists of construction a 2,100 ft., precast "T" girder bridge (Exhibits 4-5), spanning the creek and providing a flood-free crossing for up to 100 year flood events. Twenty bridge piles, 6-8 ft. in diameter and made of steel encased concrete, would be constructed down to bedrock. The bridge piles would be 100 ft. apart. The bridge deck would be 35 ft. wide, and its height would be 11 ft. higher than the existing bridge (Exhibit 4), which would be removed. Approximately 9,390 cu. yds. of excavation and 205 cu. yds. of back would be needed for the bridge itself, while raising the bridge approaches to above flood elevations would involve an additional 14,225 cu. yds. of cut and 20,926 cy. yds. of fill.

The project includes a temporary access road to support construction traffic. It would be located on the west side of the existing bridge, and would be installed during the dry season prior to construction, and removed during the dry season of the following year. The temporary road (see schematic profile, Exhibit 5) would be 40 ft. wide at the top, 60 ft. wide at the base, and 10 ft. high. Constructed of gravel (placed atop geotextile fabric or geogrids), it would span the creek except for within the active channel, which would be crossed by a temporary bridge or the existing bridge. The bridge and a portion of El Rancho Rd. would be closed during construction. Overall bridge construction would last approximately 18 months. Construction work within wetlands would be limited to the dry season (April 15-November 30) to avoid impacts to the California red-legged frog breeding season.

**II. Background/History.** In 1992 the Commission concurred with the Air Force's consistency determination for a previous replacement of the El Rancho Road bridge across San Antonio Creek (CD-70-92). That replacement bridge, an 80 ft., single span concrete and steel bridge clear-spanning the creek, replaced a previous timber bridge that was 11 ft. lower in elevation. Flooding and sedimentation have continued since that time, and during severe flooding in the 1997-98 winter season, the bridge was underwater and sediment deposited across the roadway. The sediment was cleared, but the sedimentation problem remains. The low-lying Lompoc Casmalia road to the east (Exhibits 2, 6, & 7) is now impassible and has been closed for some time. The Air Force maintains that "access to mission-critical facilities cannot be achieved without improving the crossing at San Antonio Creek."

**III. Status of Local Coastal Program.** The standard of review for federal consistency determinations is the policies of Chapter 3 of the Coastal Act, and not the Local Coastal Program (LCP) of the affected area. If an LCP that the Commission has certified and incorporated into the California Coastal Management Program (CCMP) provides development standards that are applicable to the project site, the LCP can provide guidance in applying

Chapter 3 policies in light of local circumstances. If the Commission has not incorporated the LCP into the CCMP, it cannot guide the Commission's decision, but it can provide background information. The Commission has certified Santa Barbara County's LCP and incorporated it into the CCMP.

**IV. Federal Agency's Consistency Determination.** The U.S. Air Force has determined the project to be consistent to the maximum extent practicable with the California Coastal Management Program.

**V. Staff Recommendation.** The staff recommends that the Commission adopt the following motion:

**MOTION:** I move that the Commission **concur** with consistency determination CD-106-01 that the project described therein is fully consistent, and thus is consistent to the maximum extent practicable, with the enforceable policies of the California Coastal Management Program (CCMP).

**STAFF RECOMMENDATION:**

Staff recommends a **YES** vote on the motion. Passage of this motion will result in a concurrence with the determination and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

**RESOLUTION TO CONCUR WITH CONSISTENCY DETERMINATION:**

The Commission hereby **concurs** with the consistency determination by the U.S. Air Force, on the grounds that the project described therein is fully consistent, and thus is consistent to the maximum extent practicable, with the enforceable policies of the CCMP.

**VI. Findings and Declarations:**

The Commission finds and declares as follows:

A. **Wetlands.** Section 30233(a) of the Coastal Act provides that:

*(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to... [eight allowable uses, including]:*

(5) *Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*

...

(7) *Restoration purposes.*

...

(c) *In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. ...*

San Antonio Creek is the second largest water course on Vandenberg Air Force Base. It is 28 miles long and drains about 154 square miles. The creek supports 324 acres of riparian woodlands, 227 acres of freshwater marsh, and 7 acres of coastal marsh, which provide habitat for a wide variety of birds in the willow habitat, and several fish, reptile, amphibian and mammal species in the wetland and adjacent upland habitats. San Antonio Creek is one of the two remaining streams that support a self-sustaining population of the unarmored threespine stickleback, a federally listed endangered species. Other sensitive species regularly found in or near San Antonio Creek include the tidewater goby, California tiger salamander, California red-legged frog, and western pond turtle. The corridor surrounding the creek in the immediate project area consists of wetland habitat (Exhibits 7-8), primarily willow riparian woodland habitat, with freshwater marshes on either side. The following discussion from the Commission's previously adopted findings on the 1992 El Rancho Road Bridge replacement summarizes the wetland values in the project area:

*Like most wetlands, riparian habitat provides a transition between the aquatic environment and upland habitat. The plant communities that make up this transitional area range from predominately obligate wetland species to predominately upland species depending on hydrologic nature of the habitat. Thus, some riparian areas may be classified as wetlands, whereas others may defined as upland. Therefore, the wetland values of a riparian habitat must be determined by a specific review of the area in question. Like all wetlands, the value of a riparian wetland should be based on an evaluation of the hydrologic, vegetative, and substrate conditions of the site.*

*With respect to the riparian habitat affected by this bridge project, the [1992] environmental assessment provides some insight into the wetland values of the area. It describes the riparian vegetation of the San Antonio River corridor as being dominated by willow species including arroyo willow, red willow, and yellow willow. (Environmental Assessment, 1992, p. 8.) In addition, the environmental assessment states that species affected by this project include willow, cattail, bulrush, mock heather, and nettle. (Environmental Assessment, 1992, p. 9.) Willows, cattails, and*

*bulrush are all identified in the Classification of Wetlands and Deepwater Habitats of the United States as wetland plants. (Cowardin, et al., pp. 37-39.) ... [B]ased on the information in the environmental assessment, the Commission finds that the riparian habitat affected by this project includes the appropriate wetland vegetation and hydrology in order to conclude that this area is also a wetland.*

*The riparian ecosystems of California are far more productive than any other of the State's plant communities, and their maximum productivity approaches that of eastern deciduous forests during the summer season and tropical rain forests all year long. Though riparian corridors constitute approximately two per cent of the State's total vegetative cover, they provide habitat for more than fifty per cent of its indigenous species. For example, of the 502 native species and subspecies of land mammals in California, approximately twenty-five percent (133 taxa) are limited to or largely dependent upon riparian and other wetland communities (Williams, et al, 1984). Additionally, half of California's reptile and three-quarters of its amphibian species are associated with riparian systems. These riparian forests are also noted for their abundance and diversity of bird fauna.*

The Air Force's Draft EIS for the current proposal updates and elaborates upon this information, including an updated wetland delineation and a current list of threatened, endangered, and sensitive species potentially affected (which is discussed in greater detail in the following section of this report). The species list includes the unarmored threespine stickleback, tidewater goby, California red-legged frog, Southwestern pond turtle, Two-striped garter snake, Southern steelhead, and black-flowered figwort.

The proposed project would result in the removal of previously-constructed bridge support structures from the creek's riparian habitat and 100-year flood plain, and as such, would improve creek and wetland habitat on a permanent basis. The project would increase wetland acreage on a permanent bases through the restoration of 1.54 acres of wetlands resulting from the removal of the existing bridge; this acreage would be reduced slightly by the 0.02 acre impact from the bridge's support piles, to 1.52 acres of increased wetlands. The temporary impacts would total 2.75 acres of wetlands due to the need for a construction road on the west side of the bridge, which would be restored upon project completion (see chart below). Due to the temporary (2.75 acre) and permanent (0.02 acre) fills within riparian wetland habitat, the project must be reviewed under the 3-part test of Section 30233(a) for projects involving wetland fill: (a) the allowable use test; (b) the alternatives test; and (c) the mitigation test.

**Draft EIS Table 4.2-3  
 Temporary and Permanent Wetland Area Impacted for Proposed Action**

<b>Description</b>	<b>Calculations</b>	<b>Number of Acres*</b>
Area of road removed (wetland area regained)	<u>Existing road and fill</u> = (Wetland floodplain width – existing bridge length) x road width = (2,000 feet – 80 feet) x 35 feet = 67,200 square feet	1.54
Area that will not revert back to wetland habitat (permanent loss)	<u>Area occupied by 20 piles</u> = number of piles x area of each pile (area= $\pi r^2$ =50 square feet) = 20 x 50 square feet = 1,000 square feet	0.02
Temporary wetland impacts (includes impacts to willow riparian woodland and woodland freshwater marsh)	<u>Access road area</u> = Length of road x width of road = 2,000 feet x 60 feet = 120,000 square feet	2.75
Net wetland area regained	<u>Area occupied beneath proposed bridge</u> = Existing road and fill – area occupied by 20 piles = 67,200 square feet – 1,000 square feet = 1.54 acres – 0.02 acre	1.52

**Note:** \*Acres = total square feet x 0.000022976.  
 Piles have a diameter of 8 feet, area of each pile= $\pi r^2=\pi \times 4^2=50$  square feet.

**Source:** United States Air Force. 2001. Draft Environmental Impact Statement for the El Rancho Road Bridge Project, Vandenberg Air Force Base, California. December 27.

**Allowable Use.** Under the first of these tests, a project must qualify as one of the eight stated uses allowed under Section 30233(a). Since the other allowable uses do not apply, the Commission must determine whether the proposed project can be permitted under Section 30233(a)(5), which authorizes fill for “Incidental public service purposes.” In 1992, the Commission previously found an Air Force replacement bridge involving wetland fill in the same location and for a similar purpose to constitute an allowable use under this section, and the “allowable use” conclusions for the proposed bridge replacement follows essentially the same analysis.



In past non-binding regulatory guidance as well as in its permit decisions the Commission has considered the circumstances under which fill associated with the expansion of an existing "roadbed or bridge" might be allowed under Section 30233(a)(5). In such cases the Commission has determined that the expansion of an existing road or bridge may constitute an "incidental public service purpose" when no other alternative exists and the expansion is necessary to maintain existing traffic capacity.

In 1981, the Commission adopted as non-binding regulatory guidance the "Statewide Interpretive Guidelines for Wetlands and Other Wet Environmentally Sensitive Habitat Areas" (hereinafter, the "Guidelines"). The guidelines analyze the allowable uses in wetlands under Section 30233 including the provision regarding "incidental public service purposes." The Guidelines state that fill is allowed for:

*Incidental public service purposes which temporarily impact the resources of the area, which include, but are not limited to, burying cables and pipes, inspection of piers, and maintenance of existing intake and outfall lines (roads do not qualify).*

A footnote (no. 3) to the above-quoted passage further states:

*When no other alternative exists, and when consistent with the other provision of this section, limited expansion of roadbeds and bridges necessary to maintain existing traffic capacity may be permitted.*

The Court of Appeal has recognized the Commission's interpretation in the Guidelines' of the term "incidental public service purposes" as a permissible one. In the case of *Bolsa Chica Land Trust et al., v. The Superior Court of San Diego County* (1999) 71 Cal.App.4<sup>th</sup> 493, 517, the court found that:

*... we accept Commission's interpretation of sections 30233 and 30240... In particular we note that under Commission's interpretation, incidental public services are limited to temporary disruptions and do not usually include permanent roadway expansions. Roadway expansions are permitted only when no other alternative exists and the expansion is necessary to maintain existing traffic capacity.*

In its permit decisions the Commission has interpreted section 30233(a)(5) in a manner that is consistent with the interpretation of that section in the Guidelines. For example, the Commission previously found that a bridge project proposed by the California Department of Parks and Recreation constituted an allowable use under this interpretation (CDP No. 4-82-605). The Commission recently granted to the Cities of Seal Beach and Long Beach a coastal development permit for the construction of bridge abutments and concrete piles for the Marina Drive Bridge located on the San Gabriel River (CDP No. 5-00-321). The Commission found

that the project involved the fill of open coastal waters for an incidental public service purpose because the fill was being undertaken by a public agency in pursuit of its public mission, and because it maintained existing road capacity.

More specifically concerning the previous El Rancho Road Bridge replacement (CD-70-92), the Commission found the project allowable under Section 30233(a)(5) as an incidental public service, because the Air Force was undertaking the fill in the pursuit of a public service mission and because the "permanent fill [was] associated with a bridge replacement project [that] would not result in an increase in traffic capacity of the road." The Commission found:

*The Commission recognizes that some roads and bridges will require repair, maintenance, or improvements that require wetland fill. The Commission's past policy, as adopted in the Wetland Guidelines, allows for fill associated with road work, if that work does not result in an increase in traffic capacity of the road. (Guidelines, p. 39, fn. 3). According to the Air Force, the proposed project will not increase the capacity of the road. In its revised consistency determination, the Air Force states that:*

*Pursuant to Section 30233 (a)(5) of the Act, maintenance of the El Rancho Road Bridge is necessary in order to restore the public service functions provided by El Rancho Road. A structural analysis by Vandenberg Air Force Base Civil Engineering, Civil Design Unit indicates that El Rancho Road Bridge cannot safely support standard trailers carrying full loads or emergency vehicles. The proposed project would restore the public service functions of: material transport, emergency vehicle access, and daily traffic use. (El Rancho Road Bridge Replacement Project Supplemental Information Requested For Coastal Consistency Determination, p. 1.)*

*Based on this analysis, the Commission agrees that the permanent fill associated with this project will not result in an increase in traffic capacity of the road. Therefore, the Commission finds that the proposed road is an incidental public service, and thus an allowable use pursuant to Section 30233(a)(5) of the Coastal Act.*

For the Air Force's current proposal, the proposed two-lane bridge would continue to involve the same number of traffic lanes as the existing bridge. Thus, based on past interpretations, including a previous two-lane bridge replacement project in the same location as the proposed project, the Commission finds the proposed bridge serves the same public service defense mission and is necessary to maintain existing road capacity, and therefore constitutes an allowable use as an incidental public service under Section 30233(a)(5).

**Alternatives.** The "alternatives" test requires the Commission to determine whether the proposed project is the least environmentally damaging feasible alternative. In its Draft EIS, the Air Force evaluated seventeen alternatives, three of which were examined in greater detail: the proposed alternative (called the "Precast 'I' Girder Bridge"), an alternative bridge design

(called the "Cast-in-place Concrete Box Girder Bridge"), and the "No Project" alternative. Cross sections for the two "build" alternatives are depicted in Exhibits 4-5.

The No Project alternative would not be environmentally preferable, due to the flooding and sedimentation problems in the creek, which are exacerbated by the existing bridge. The Air Force estimates that under current conditions, the area under the bridge would completely silt in within 5 years. In addition, the proposed project would result in a net increase in permanent wetland acreage and would improve habitat values for the endangered unarmored threespine stickleback. The Commission therefore agrees with the Air Force's conclusions that in terms of both wetlands and environmentally sensitive habitat impacts, the proposed project is less damaging than the No Project alternative. In addition, in considering a variation of the No Project alternative, including eliminating the use of the El Rancho Rd. Bridge altogether (i.e., removing the existing bridge but not replacing it, and using an alternative route between north- and south VAFB), the Commission previously found this to be an infeasible alternative, as it risks military safety by forcing missile transport to exit VAFB. In CD-70-92 the Commission found:

*The Commission agrees with the Air Force's decision to keep the transportation of these missiles within Vandenberg Air Force Base, and therefore, the Commission finds that this alternative is not feasible.*

In reviewing CD-70-92 the Commission also rejected an alternative of modifying the railroad bridge across the creek to the west for missile transport purposes; the Commission found:

*In addition to the alternatives evaluated by the Air Force, the Commission has previously requested assessment of other alternatives. These alternatives include use of existing railroad bridge, lowering the height of new bridge, and eliminate rip-rap from project design. The railroad bridge alternative would use the existing railroad bridge over San Antonio Creek. That alternative was originally suggested by the Air Force in its environmental assessment for the Peacekeeper In Rail Garrison and Small ICBM Flight Test Program. That environmental assessment described that alternative as follows:*

*A possible route to return the HML [Hard Mobile Launcher] to the ITF is Ranch Road via the bridge crossing San Antonio Creek. The structural adequacy of the bridge is being studied. Should the HML loads exceed the bridge capacity, then alternative routes will be developed. An alternate route would be to place the HML on a rail car at the RTF, using Southern Pacific tracks to transport the HML across San Antonio Bridge back to the main base, off load and drive the HML to the ITF (emphasis added). (Peacekeeper/Small ICBM Environmental Assessment, 1987, p. 21.)*

*In its supplemental information, the Air Force evaluated this alternative. The Air Force describes the feasibility of that alternative as follows:*

*The "Rail-Garrison Alternative" was proposed to transport equipment required for the Peacekeeper in Rail-Garrison project across San Antonio Creek by rail. This alternative was found to be logistically incompatible for that project. The Peacekeeper in Rail-Garrison program has since been canceled. The El Rancho Bridge provides service to a much larger function than the Rail-Garrison project. It provides such public services as access for material movement, emergency vehicles, and daily traffic movement to about one quarter of Vandenberg Air Force Base. A structural analysis accomplished by Vandenberg Air Force Base Civil Engineering, Civil Design Unit indicates that El Rancho Road Bridge cannot safely support fully loaded standard transport trailers or larger emergency vehicles. (El Rancho Road Bridge Replacement Project Supplemental Information Requested For Coastal Consistency Determination, p. 3.)*

*The information supplied by the Air Force, demonstrates that the bridge improvements are necessary to restore normal traffic to this road. The Commission agrees with the Air Force in concluding that the railroad bridge alternative would not accomplish the function of the bridge. Therefore, the Commission finds that the railroad bridge alternative is not feasible.*

The Air Force Draft EIS states that the "Cast-in-place Concrete Box Girder Bridge" alternative is more environmentally damaging than the proposed project, as it entails a greater amount of wetland fill acreage and threats to environmentally sensitive and wetland habitat from construction practices and the one third longer construction period. This alternative would be built at roughly the same elevation (i.e., also out of the flood plain, and up to 0.5 ft. higher in elevation than the proposed alternative). Piles for this alternative would be spaced at 150 ft. intervals (rather than 100 ft. for the proposed alternative), and fewer in number (13 as opposed to 20), but each pile would be larger (8-12 ft. in diameter), resulting in 0.03 acres of permanent fill (as opposed to 0.02 acres for the proposed alternative). This alternative would include a narrower access road on the west side (44 ft. wide, as opposed to 60 ft. wide for the proposed project); however it would necessitate 8 ft. wide temporary fills on the east side (Exhibit 5) for access bridges and "falsework" to supplement construction from the main access road on the west side. This falsework (i.e., a temporary bridge under the to-be-constructed bridge) would involve temporary fills (932 cu. yds.), which would be moved along as the construction proceeds.

This alternative would also extend the construction period by ½ year, to 2 years, during which the bridge would be closed and both the existing bridge and construction activities for the new bridge adversely affecting sensitive habitat for a longer duration. Thus, while the gravel access road for this alternative would have a smaller base (Exhibit 5), this would be more than offset

by the additional moving temporary fills needed for the falsework, the longer construction period, and the larger permanent wetland footprint from the bridge piles. The Air Force also maintains that this alternative type of construction tends to increase the potential for concrete spills) into creek and wetland habitats, when compared to the proposed construction plan. The Commission agrees that the "Cast-in-place Concrete Box Girder Bridge" would not be a less environmentally damaging alternative.

The Air Force's Draft EIS (DEIS) also considered additional "design" as well as non-structural alternatives (see DEIS pp. 2-11-2-15 (Exhibit 11)), but rejected them due to infeasibility and greater environmental damage. Included in this discussion are variations of the proposed and the Cast-in-place Concrete Box Girder Bridge alternative, but with elimination of the temporary access road. The Air Force rejected these alternatives on environmental, timing, and cost grounds: these alternatives lengthen the construction period to 3 years, during which and both the existing bridge and construction activities for the new bridge would adversely affect sensitive habitat for a longer duration; foundation work for these alternatives would require extensive dewatering and would be more environmentally damaging; and foundation work would be greater in area (and would involve more wetland fill). In response to the Commission staff's request for specifics on the alternative of moving the proposed bridge alignment slightly, so that construction could occur from the existing bridge (thus eliminating the need for a temporary access road), the Air Force elaborated that it would be economically infeasible (doubling the project cost from \$11 million to \$22 million), would double the project duration (causing the adverse effects described in the previous sentence), would necessitate the permanent filling of freshwater marsh areas (especially on the southeast side), would have much greater impacts on archaeological sites SBA 1036, 1565 and 1172 on the northern end of the bridge, and would substantially increase the need for landform alteration (i.e. would involve much more cutting into the bluff (to the east) and hills (to the west) due to unstable slopes on either side of the southern approach).

Based on the above analysis, the Commission concludes that the proposed project is the least environmentally damaging feasible alternative, and thus that the project is consistent with the "alternatives" test of Section 30233(a).

**Mitigation.** Section 30233(a) also requires the Commission to find that the proposed project includes feasible mitigation where appropriate. The DEIS acknowledges that the temporary gravel (underlain by fabric) construction access road across all but the active portion of the creek will temporarily fill 2.75 acres of wetland habitat (mostly willow riparian woodland, with some freshwater marsh) for up to 18 months. However, these impacts will be temporary, as once the new bridge has been completed, the Air Force has committed to removing the temporary access road and revegetating the disturbed area with appropriate native wetland vegetation, with performance criteria, monitoring and remediation efforts to be pursued until restoration is successful. In addition, the Air Force has committed to minimizing turbidity and sedimentation in surrounding wetlands through the establishment of Best Management Practices to control water quality. In the long term, the removal of the existing bridge now

located within riparian wetlands would increase permanent wetland habitat by 1.52 acres (1.54 acres of new wetland, minus 0.02 acres of wetland fill from the new bridge piles), thus providing a long-term net gain in wetland acreage.

Appendix C of the DEIS details the Air Force's mitigation commitments. The biological mitigation measures include construction measures designed to minimize creek, wetland, and special species impacts, including prohibiting activities within the creek bed, minimizing concrete and fuel spills, maintaining a biological monitor at the site, controlling erosion and turbidity, minimizing native species removal, and developing a habitat restoration and monitoring plan (Exhibit 10). This plan will address complete restoration of native and wetland habitats affected, will include monitoring, performance criteria and contingency remediation measures to assure the success of the revegetation efforts. Furthermore, at the request of the Commission staff, the Air Force has agreed to submit this plan to the Commission staff for its review and approval, prior to the commencement of construction.

In addition to these overall measures, the DEIS includes specific measures addressing special status species impacts (Exhibit 10), including: surveying and monitoring by qualified biologists, identifying and protecting sensitive areas, water quality measures, timing the project to minimize effects to red-legged frogs (i.e., avoiding Dec. 1-Apr. 15 for construction in riparian areas, and continuing coordination with the U.S. Fish and Wildlife Service and National Marine Fisheries Service. These measures are discussed in greater detail in the following section of this report (and shown in Exhibit 10). The Commission finds that with the above protection measures and the permanent net gain of 1.52 acres of wetlands, the Air Force has provided adequate mitigation for wetland impacts.

**Conclusion.** In conclusion, based on the above discussion, the Commission finds that the project is consistent with Section 30233(a) of the Coastal Act, because is an allowable use, the least damaging feasible alternative, and includes adequate mitigation for the project's wetland impacts. The Commission further finds that project will also enhance the functional capacity of the wetland/riparian corridor, and is therefore consistent with Section 30233(c). The Commission therefore concludes that the project is consistent with the wetland protection policy (Section 30233) of the Coastal Act.

**B. Environmentally Sensitive Habitat Areas.** Section 30240 of the Coastal Act provides that:

*(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.*

*(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which*

*would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.*

San Antonio Creek and the surrounding riparian and upland habitat provide habitat for the following threatened, endangered, or sensitive species:

- unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), a federally listed endangered species
- tidewater goby (*Eucyclogobius newberryi*), a federally listed endangered species (proposed for delisting)
- California red-legged frog (*rana aurora draytonii*), a federally listed threatened species
- Southwestern pond turtle (*Clemmys marmorata pallida*), a federal species of concern
- Two-striped garter snake (*Thamnophis hammondi*), a federal species of concern
- Southern steelhead (*Oncorhynchus mykiss*), a federally listed endangered species
- black-flowered figwort (*Scrophularia atrata*), a federal species of concern

Of greatest concern for the project area is the endangered unarmored threespine stickleback, because it is limited to only two locations, San Antonio Creek (a 13.4 kilometer (km) stretch from the creek mouth upstream to Barka Slough) (Exhibit 6), and Canada Honda Creek (also on VAFB, to which it has been transplanted from San Antonio Creek). Its area of greatest abundance is a 4 kilometer area of San Antonio Creek, the center point of which is the El Rancho Rd. Bridge. Historically, this species was reported as abundant in the river systems of the Los Angeles basin; however its range has been decimated by dams, stream alteration, competition with non-native fish, pollution, siltation from agriculture and development, groundwater pumping. While the project will provide overall benefits to sensitive species from removing the bridge, which now acts as a sediment trap, the Air Force still needs to address concerns for these species during construction activities. Accordingly, the Air Force has incorporated specific measures to protect sensitive wildlife species during construction activities (Exhibit 10), including:

- pre-project surveys by qualified biologists;
- biological monitors during construction;
- flagging sensitive areas;

- inspecting equipment for fuel leaks;
- monitoring water quality;
- placing barriers (fences and nets) two days before construction to keep unarmored threespine sticklebacks and California red-legged frogs out of the affected area;
- monitoring and capturing and relocating unarmored threespine sticklebacks and California red-legged frogs (all life stages) that remain within the fenced/netted area;
- specifically monitoring these species in particular in the greater project area during construction;
- avoiding earthwork within the riparian corridor area of the creek during the breeding and egg development season of the California red-legged frog (December 1 through April 15);
- maintaining the normal flow of the creek to the maximum extent possible;
- installing and maintaining sediment curtains downstream of the project to minimize turbidity;
- avoiding creation of barriers to upstream fish migration;
- developing contingency plans in the event of fuel or other hazardous spills or dewatering of unarmored threespine stickleback habitat; and
- and implementing any other measures required by the USFWS or NMFS developed through "Section 7" consultation over critical habitat and special-status species.

The Air Force has consulted with the U.S. Fish and Wildlife Service, which agrees with the Air Force's conclusions that removing the existing bridge from the flood plain will reduce sedimentation and water quality effects caused by the bridge, thereby improving creek and riparian habitat and benefiting the unarmored threespine stickleback species, red-legged frog, and other sensitive species in the area. With the commitments listed above, and due to the overall project benefits on sensitive species, the Commission concludes that the project will avoid significant disruption of environmentally sensitive habitat and is therefore consistent with Section 30240 of the Coastal Act.



**C. Water Quality.** Section 30231 of the Coastal Act provides that:

*The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

As noted in the previous two sections of this report, the proposed bridge replacement will improve water quality in the creek in the long term, due to its elimination of the sediment trap caused by the existing bridge. Construction impacts will still need to be designed to address short term water quality needs. The Air Force's DEIS for the project states that the project would have negligible effects on water quality; nevertheless the Air Force has committed to the implementation of spill prevention measures and erosion and turbidity controls during construction, through the use of Best Management Practices as part of an NPDES permit and a Storm Water Pollution Prevention Plan. The Air Force states that water quality measures to be contained in this plan will include construction measures designed to minimize creek, wetland, and special species impacts, including prohibiting activities within the creek bed, minimizing concrete and fuel spills, maintaining a biological monitor at the site, controlling erosion and turbidity, minimizing native species removal, developing a habitat restoration and monitoring plan, and installing and maintaining sediment curtains downstream of the project to minimize turbidity.

In addition, at the request of the Commission staff, the Air Force has agreed to submit all water quality plans to the Commission staff for its review and approval, prior to the commencement of construction. With this commitment, and due to the overall project benefits on water quality, the Commission finds that the proposed project will restore more natural creek flows, protect water quality, and be consistent with Section 30231 of the Coastal Act.

**D. Archaeological Resources.** Section 30244 provides for the protection of archaeological resources:

*Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.*

The Air Force's Draft EIS notes extensive historic and prehistoric archaeological remains at Vandenberg Air Force Base, dating back 11,000-12,000 years. Specifically for the project area, the DEIS examined an Area of Potential Effect (APE) 60 ft. on either side of a 110 ft. corridor centered along the bridge and its north and south approaches (3,030 ft. long). At least

20 cultural surveys have been conducted within 1 mile of the APE, and four identified archaeological sites are found within or partially within the APE (CA-SBA-704, CA-SBA-1172, CA-SBA-1037 and CA-SBA-1165). Sites CA-SBA-704, CA-SBA-1172 can be protected by construction monitoring and data recovery. Site CA-SBA-1037 can be protected by fencing and monitoring by a qualified archaeologist and a Native American. Site CA-SBA-1165 can be protected by monitoring by a qualified archaeologist and a Native American. The monitors would also oversee any development within the Juan Batista de Anza National Historic Trail.

The archaeological mitigation measures are provided in greater detail in Exhibit 10 (pp. 6-7). The Air Force's DEIS notes that it is coordinating with the State Office of Historic Preservation (SHPO) and with Native Americans, and that it will enter into a Memorandum of Agreement with SHPO if any further mitigation measures are needed. With these proposed mitigation and avoidance measures, the Commissions finds the proposed project will protect archaeological and paleontological resources and is consistent with Section 30244 of the Coastal Act.

**E. Public Access and Recreation.** Section 30210 and 30212 of the Coastal Act provides for the maximization of public access and recreational opportunities, except where it would be inconsistent with, among other things, "... public safety, military security needs, or the protection of fragile coastal resources..." (Section 30212(a)(1)).

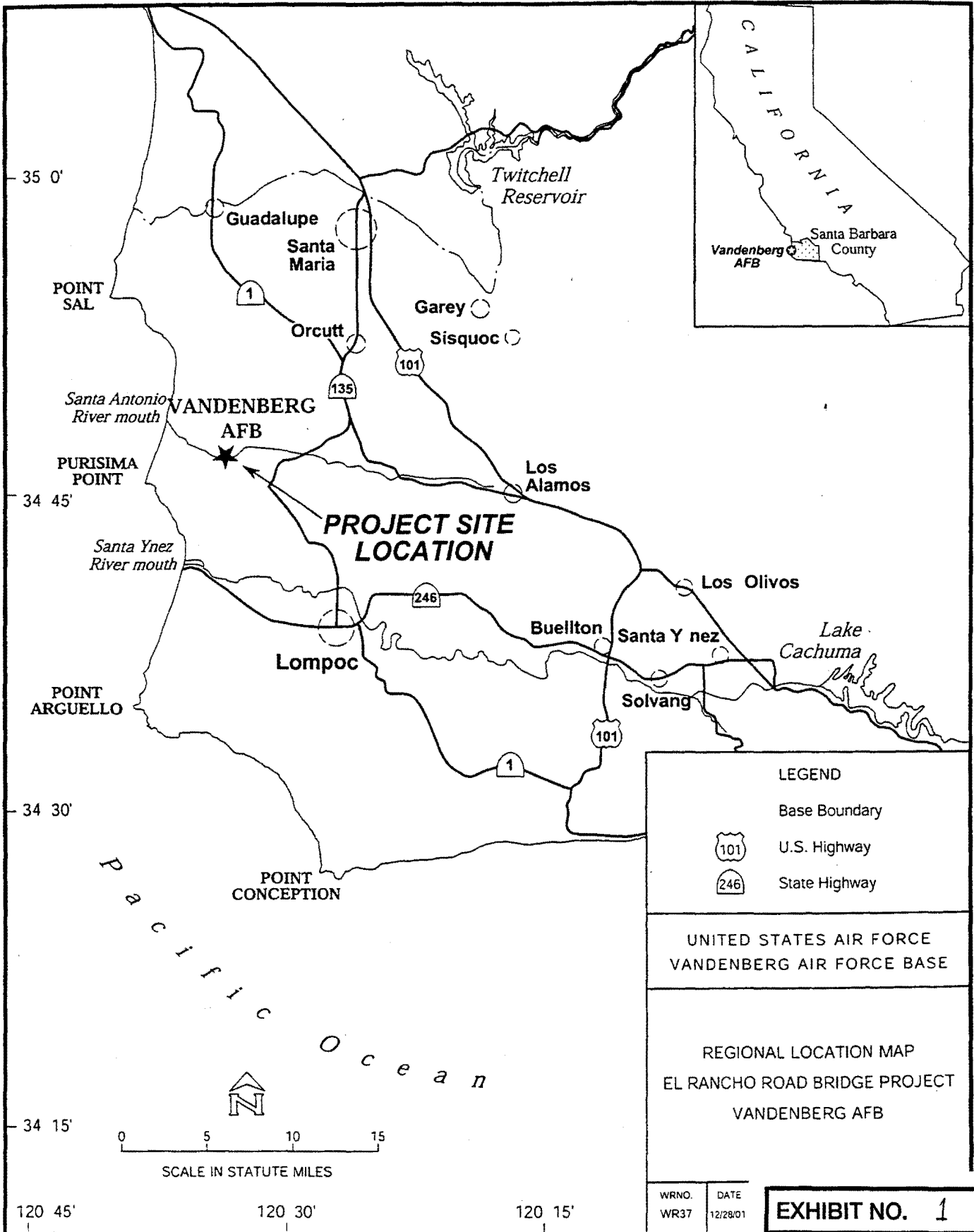
The proposed project is located on a portion of Vandenberg Air Force Base that is off limits to the public for military security reasons. The Air Force has, however, provided significant shoreline access opportunities within the base. The public is allowed to use the shoreline north of Jalama County Beach and north and south of Ocean Beach State Park (except where seasonal limits have been enacted due to the need to protect snowy plovers). Since the proposed project will replace an existing bridge on a road that is limited to military uses, the proposed project will not affect the public access to or along the shoreline. Therefore, the Commission finds that the project poses no public access burdens and is consistent with the public access and recreation policies (Section 30210-30212) of the Coastal Act.

## **VII. SUBSTANTIVE FILE DOCUMENTS:**

1. Draft Environmental Impact Statement for El Rancho Rd. Bridge Project, Vandenberg Air Force Base, California, U.S. Air Force, December 27, 2001.
2. Consistency Determinations: CD-70-92 (Air Force, El Rancho Rd. Bridge Replacement).
3. El Rancho Road Bridge Replacement, Environmental Assessments, U.S. Air Force, May 1992 and October 1989.

4. Peacekeeper In Rail Garrison and Small ICBM Flight Test Program, Environmental Assessment, U.S. Air Force, November 1987.
5. Classification of Wetlands and Deepwater Habitats of the United States, U.S. Fish and Wildlife Service (Cowardin, et al.), December 1979.
6. Wetlands Delineation Report for San Antonio Creek, Vandenberg Air Force Base, California, U.S. Air Force, November 22, 2000.





LEGEND

Base Boundary

U.S. Highway

State Highway

UNITED STATES AIR FORCE  
VANDENBERG AIR FORCE BASE

REGIONAL LOCATION MAP  
EL RANCHO ROAD BRIDGE PROJECT  
VANDENBERG AFB

WRNO. DATE  
WR37 12/28/01

**EXHIBIT NO. 1**

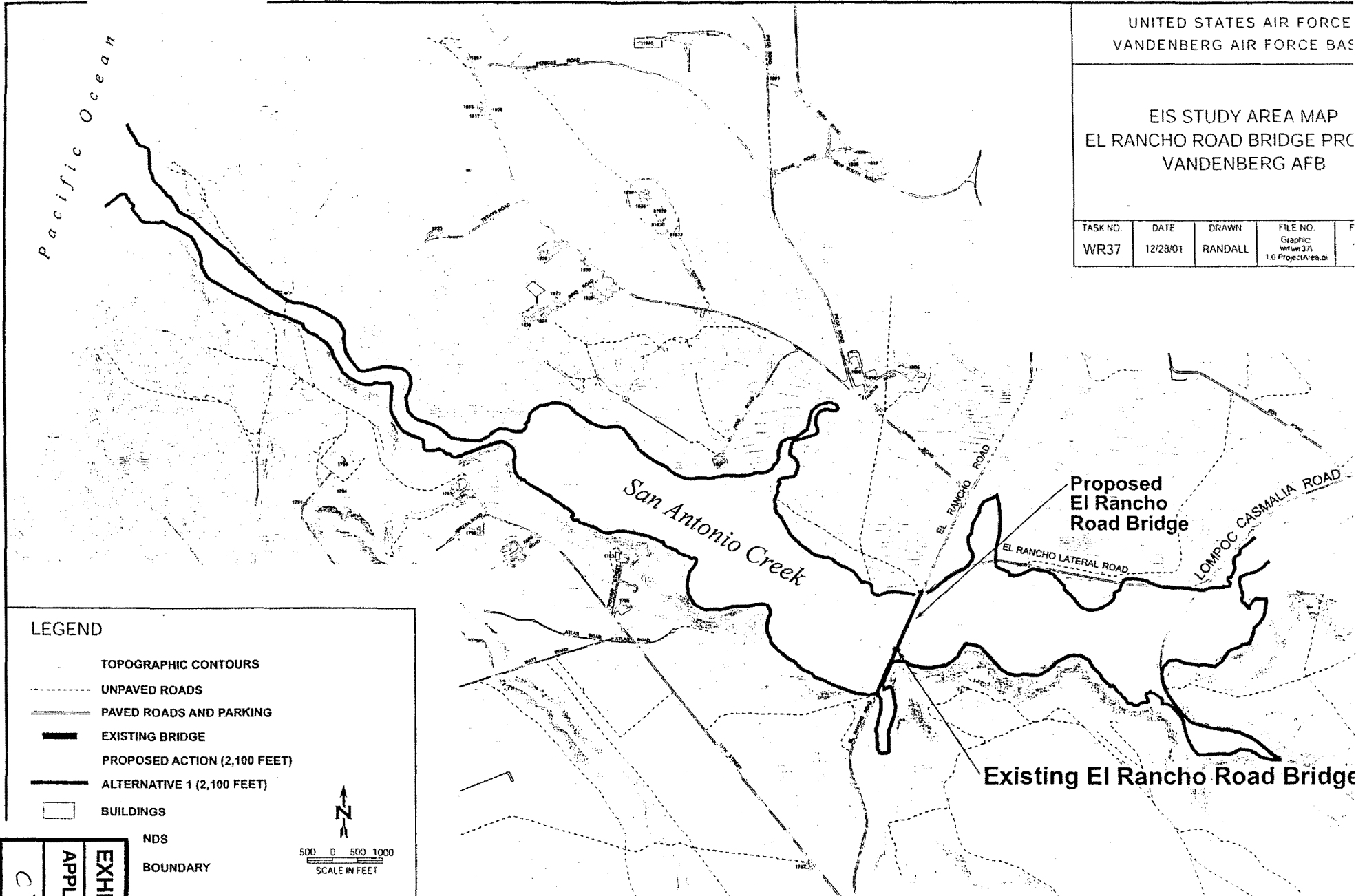
APPLICATION NO.

CD-106-01

EIS STUDY AREA MAP  
EL RANCHO ROAD BRIDGE PRO  
VANDENBERG AFB

TASK NO.	DATE	DRAWN	FILE NO.	F
WR37	12/28/01	RANDALL	Graphic: WVW 371 1.0 ProjectArea.dwg	

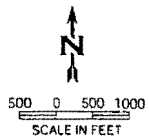
Pacific Ocean



LEGEND

- TOPOGRAPHIC CONTOURS
- - - UNPAVED ROADS
- ==== PAVED ROADS AND PARKING
- EXISTING BRIDGE
- PROPOSED ACTION (2,100 FEET)
- ALTERNATIVE 1 (2,100 FEET)
- BUILDINGS

NDS  
BOUNDARY



Existing El Rancho Road Bridge

Proposed  
El Rancho  
Road Bridge

San Antonio Creek

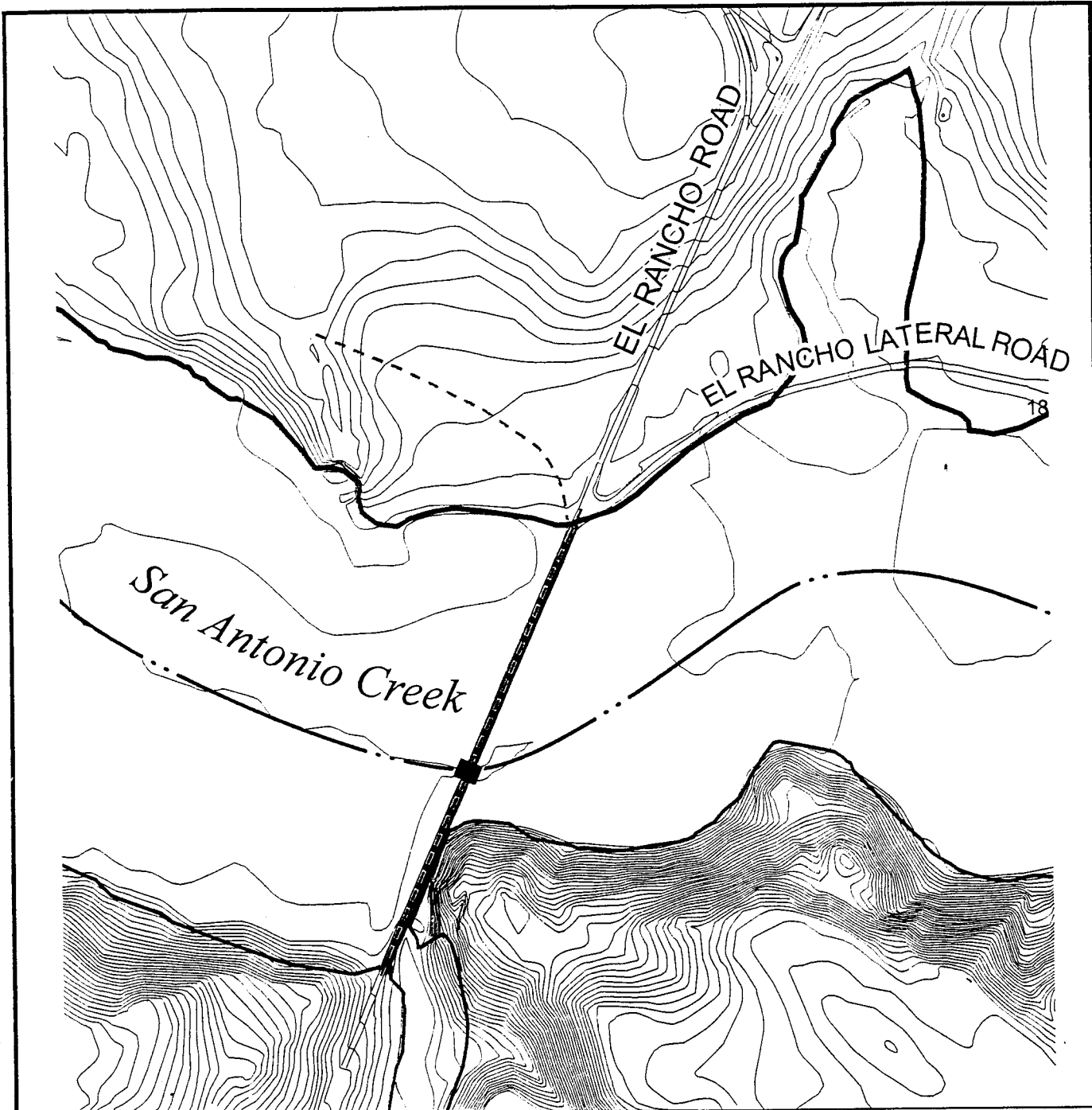
EL RANCHO ROAD

EL RANCHO LATERAL ROAD








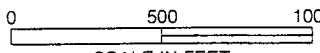

LOMPOC CASMALIA ROAD

EXHIBIT NO. 2  
APPLICATION NO.

CD-106-01



**LEGEND**

- |   |                                     |  |                       |
|---|-------------------------------------|--|-----------------------|
|  | <b>PAVED ROADS AND PARKING</b>      |                   | <b>WETLANDS</b>       |
|  | <b>UNPAVED ROADS</b>                |                   | <b>CREEK CHANNEL</b>  |
|  | <b>EXISTING BRIDGE</b>              |                   | <b>STUDY BOUNDARY</b> |
|  | <b>PROPOSED ACTION (2,100 FEET)</b> | <br>SCALE IN FEET |                       |
|  | <b>ALTERNATIVE 1 (2,100 FEET)</b>   |  |                       |



UNITED STATES AIR FORCE  
VANDENBERG AIR FORCE BASE

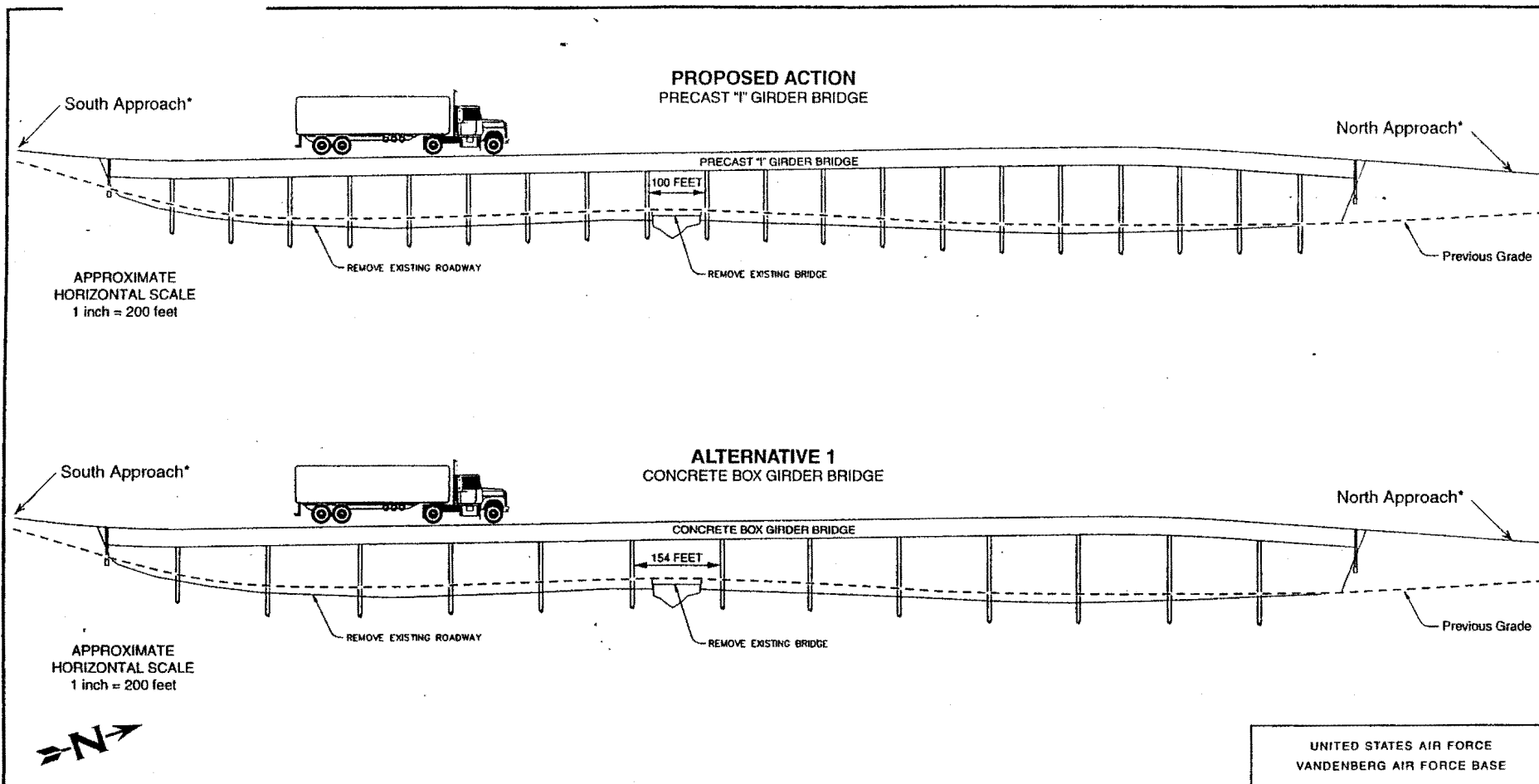
PROPOSED ACTION/ALTERNATIVE 1  
SITE AREA  
EL RANCHO ROAD BRIDGE PROJECT  
VANDENBERG AFB

WR NO	DATE	DR
WR 37	6/20/01	

**EXHIBIT NO. 3**

**APPLICATION NO.**

CD-106-01



10-foot bridge with 20 support column girders and 100-foot spans. Bridge would extend 970 feet south and 1,130 feet north from the center of the existing bridge.  
 154-foot bridge with 13 support column girders and 154-foot spans. Bridge would extend 970 feet south and 1,130 feet north from the center of the existing bridge.  
 100 feet wide.  
 (horizontal exaggeration).

For Alternative 1, the northern approach to the bridge would be 120 feet wide and 1000 feet long while the southern approach would be 80 feet wide and 460 feet long.  
 Guard rails would be installed at each end of the bridge for stability.

UNITED STATES AIR FORCE  
 VANDENBERG AIR FORCE BASE

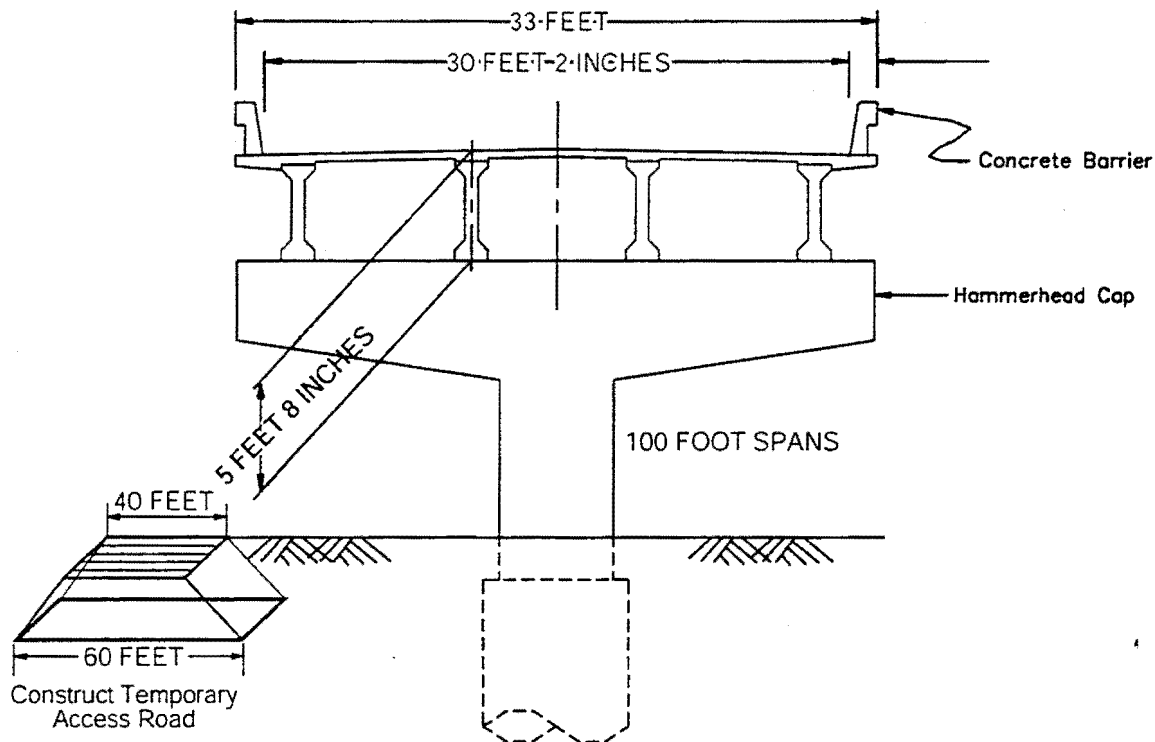
PROPOSED ACTION/ALTERNATIVE 1  
 PLAN AND PROFILE  
 EL RANCHO ROAD BRIDGE PROJECT  
 VANDENBERG AFB

TASK NO.	DATE	DRAWN BY	AI FILE NO.	FIGURE NO.
WR 37	6/20/01	IGE	Graphics:\WR37\WR37\Sec2&DOPPA\2.1-2 Alt 1 Side View.dwg	2.1-2

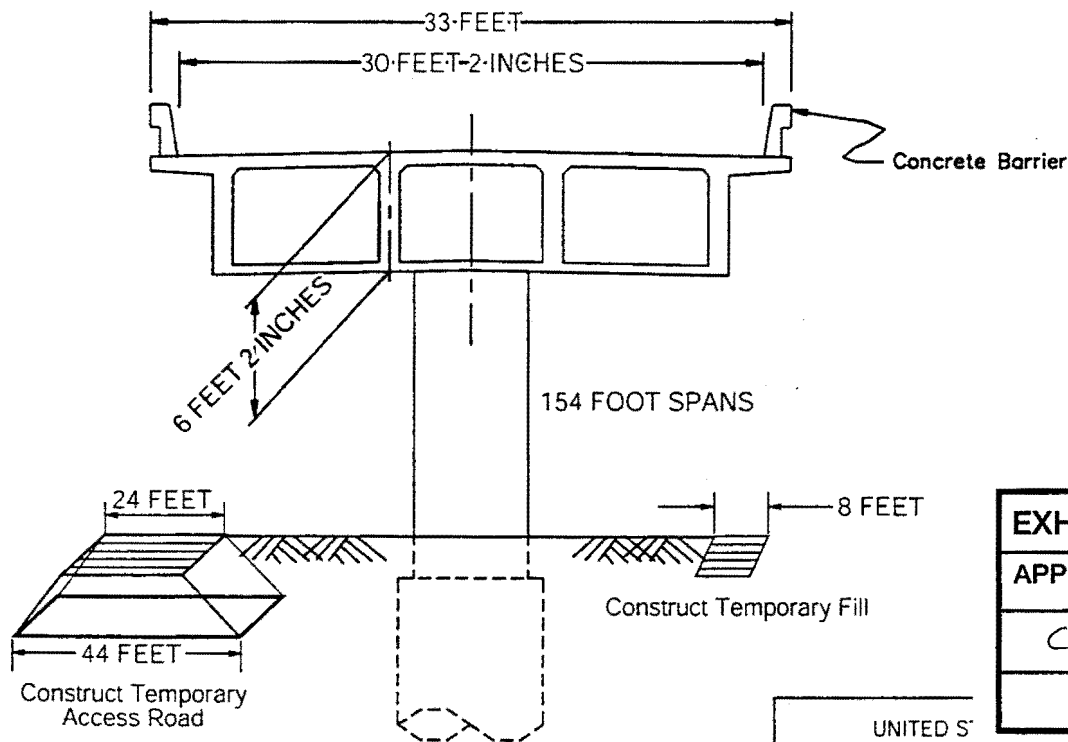
EXHIBIT NO. 4  
 APPLICATION NO.  
 CD-106-01



**PROPOSED ACTION DESIGN: PRECAST CONCRETE "I" GIRDER**



**ALTERNATIVE 1 DESIGN: CAST-IN-PLACE CONCRETE BOX GIRDER**

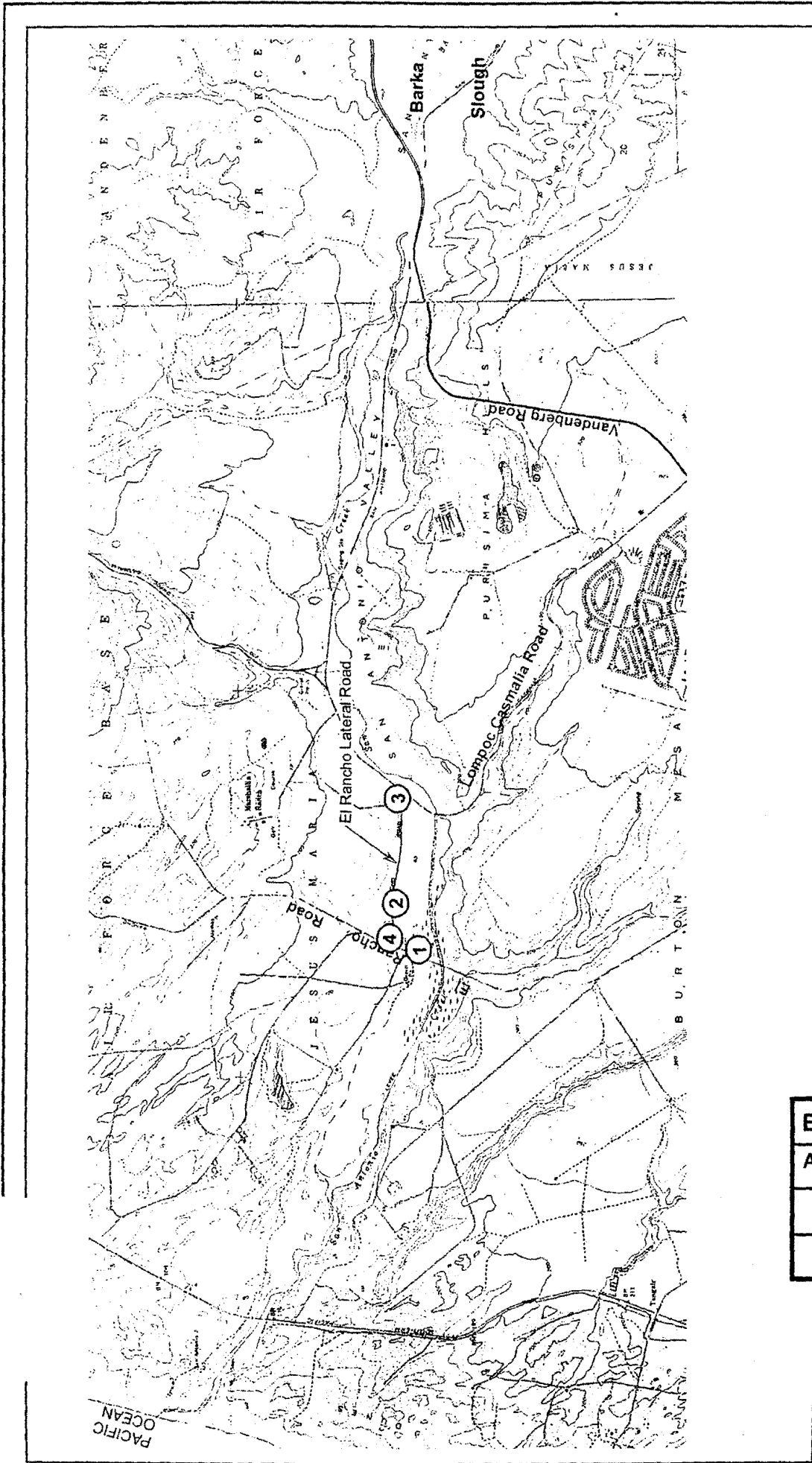


<b>EXHIBIT NO.</b> 5
<b>APPLICATION NO.</b>
CD-106-01

UNITED STATES VANDENBERG AIR FORCE BASE				
PROPOSED ACTION/ALTERNATIVE 1 TYPICAL BRIDGE SECTIONS EL RANCHO ROAD BRIDGE PROJECT VANDENBERG AFB				
TASK NO.	DATE	DRAWN	FILE NO.	FIGURE NO.
WR37	9/4/01	RANDALL	Graphics:WR1 WR37 El Rancho Rd. Section 21 2.1-3 Diagram.a1	2.1-3

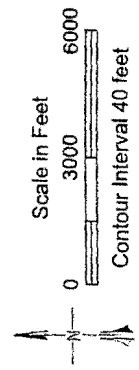
SOURCE: URS Corporation  
1380 Leao Hill Blvd., Suite 100  
Roseville, CA 95661-2997

Department of the Army  
Army Corps of Engineers  
Sacramento District



PAVED ROADS  
 UNPAVED ROADS  
 INUNDATION LOCATIONS

**EXHIBIT NO. 6**  
**APPLICATION NO.**  
 CD-106-01



Base map USGS (William Associates) Nov. 1999

**INUNDATION LOCATIONS**  
**EL RANCHO ROAD BRIDGE PROJECT**  
**VANDENBERG AFB**

DATE	8/20/00	DRAWN BY	Vance Hoyt	DATE	8/20/00	GIS FILE #	3-1-1
WORK	WJ37	SCALE	1" = 100'	DATE	8/20/00	PROJECT	3-1-1

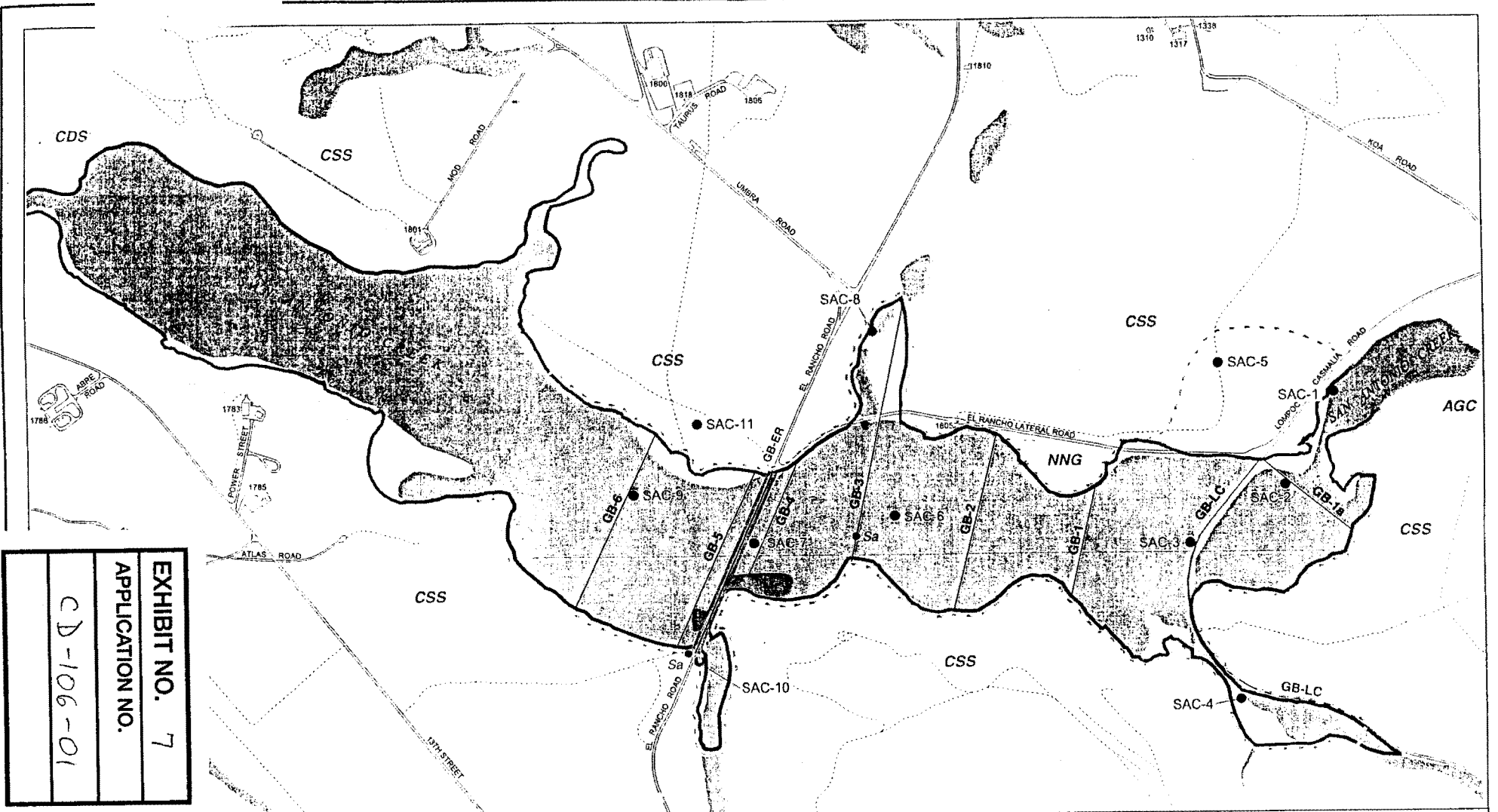
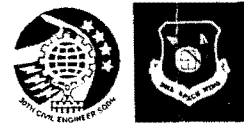
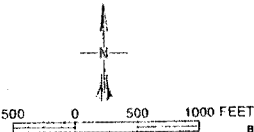


EXHIBIT NO. 7  
 APPLICATION NO.  
 CD-106-01

LEGEND	
	UNPAVED ROADS
	PAVED ROADS AND PARKING
	BUILDINGS
	FRESHWATER MARSH
	RIPARIAN (Source: Vandenberg AFB Vegetation & Habitat Types 1999)
	GENERAL BIOLOGICAL SURVEY AREA
	GB-1 SURVEY TRANSECT
	SAC-1 1999 BIRD SURVEY POINT
	FRESHWATER MARSH
	WETLAND (Source: Cal Poly 1999 following Cowardin, et al. 1979)

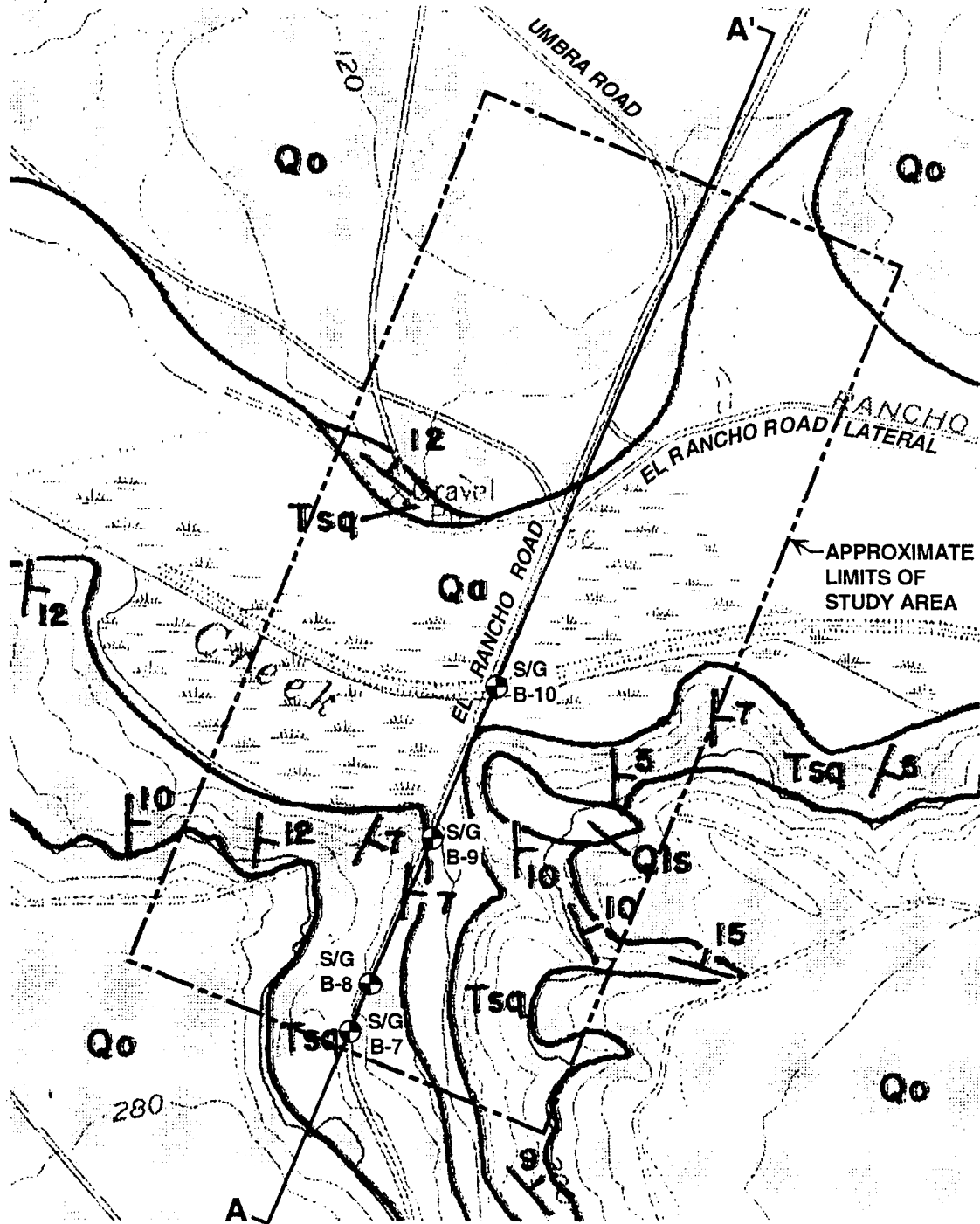
AGC Agricultural Cropland  
 CDS Coastal Dune Scrub  
 CSS Coastal Sage Scrub  
 NNG Nonnative Grassland



GENERAL BIOLOGICAL SURVEY LOCATIONS  
 EL RANCHO ROAD BRIDGE PROJECT  
 VANDENBERG AFB

WT/NO.	DATE	DRAWN BY	MADE FROM	GIS FILE #	FIGURE
WR37	6/13/01	Vance Hoyt IGE	VAFB	Graphics: WR3737 D:\GIS\Projects\0106\01	3.2-1

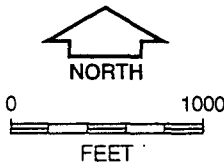
Base map from 30th CES CEGB Base Planning, April 1999



BASE MAP: Geologic Map of the Casmalia and Orcutt Quadrangles (Dibblee, 1989).

LEGEND

- |     |                           |            |  |
|-----|---------------------------|------------|--|
| Qa  | Alluvial Deposits         | A — A'     | Cross Section (See Plate 4)            |
| Qls | Landslide Debris          | S/G<br>B-8 | S/G (1977) Approximate Boring Location |
| Qo  | Orcutt Sand               |            |  |
| Tsq | Sisquoc Formation         |            |  |
| —   | Geologic Contact          |            |  |
| 12  | Strike and Dip of Bedding |            |  |



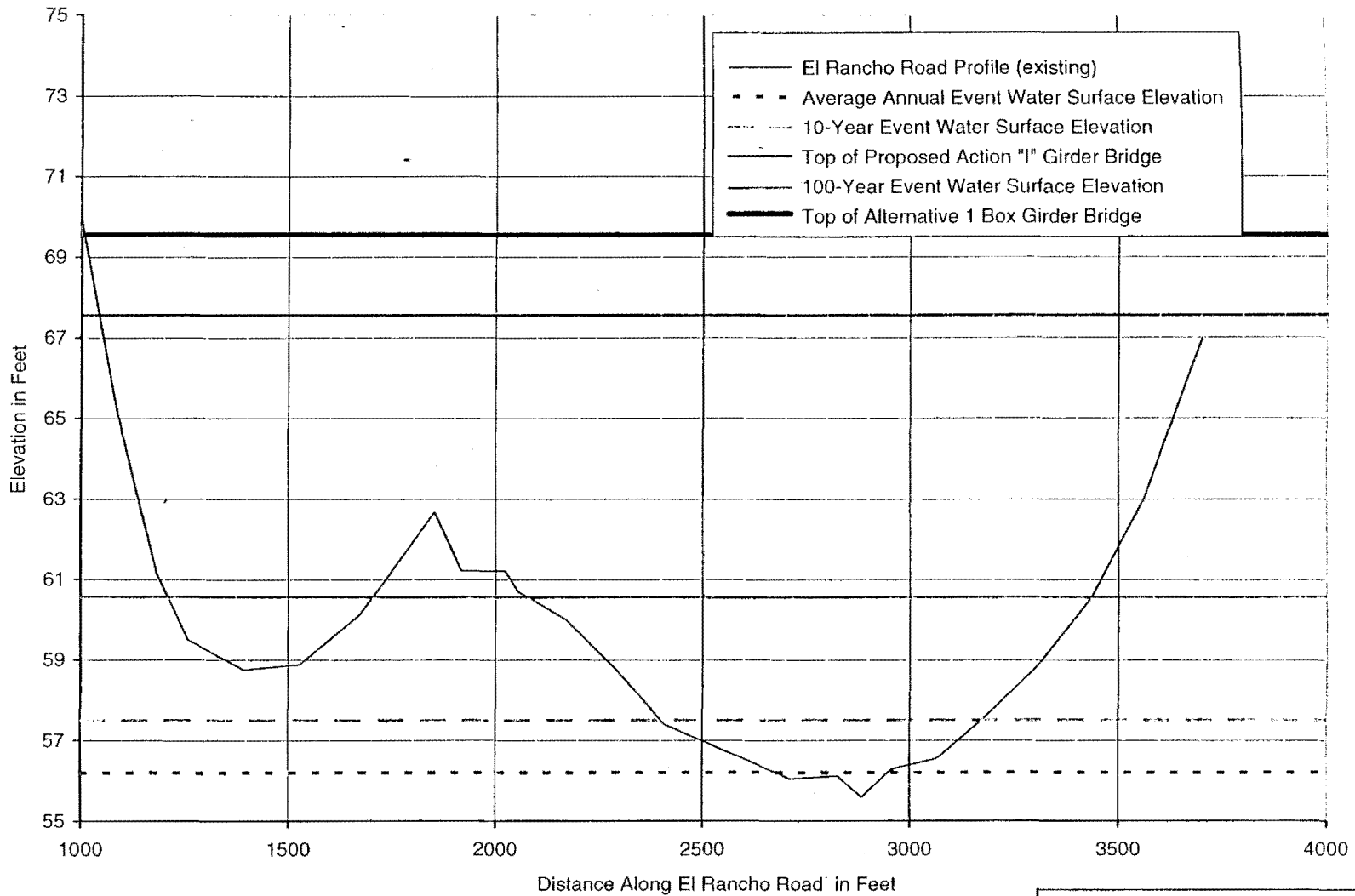
UNITED STATES AIR FORCE  
 VANDENBERG AIR FORCE BASE

REGIONAL GEOLOGIC MAP  
 EL RANCHO ROAD BRIDGE PROJECT  
 VANDENBERG AFB

EXHIBIT NO. 8  
 APPLICATION NO.

WRNO. DATE  
 WR37 11/22/01

CD-106-01



WATER SURFACE ELEVATIONS FOR  
 PROPOSED ACTION AND ALTERNATIVE 1  
 ALONG EL RANCHO ROAD  
 EL RANCHO ROAD BRIDGE PROJECT  
 VANDENBERG AFB

WR NO.	DATE	DRAWN BY	AI FILE NO.	FIGURE NO.
WR 37	6/13/01	IGE	Graphics\WR37\Section4\4.1-1WaterElev.ai	4.1-1

EXHIBIT NO. 9  
 APPLICATION NO.  
 CD-106-01

**RESOURCE AREA:** Biological Resources  
**LOCATION:** El Rancho Road Construction Site  
**MAP REFERENCES:** C-Tab Maps 9, 14, 15, 16, 17, 18  
**FUNDING SOURCE:** U.S. Air Force  
**TIMING:** Pre-Construction, Construction Phase, and Post-Construction Phase  
**MITIGATION MONITORING:** Vandenberg AFB Project Engineer and 30 CES/CEVPN, Natural Resources  
**MITIGATION ACTIVITIES:** (Responsible Party)  
**REQUIRED MITIGATION MEASURES:**

*Construction/Maintenance Techniques*

- BR-1 No maintenance of the creekbed will occur at the bridge (e.g., removal of debris or sediment from the creekbed).  
(Civil Engineering, Operations Personnel)
- BR-2 All construction equipment and holding tanks will be staged, repaired, and maintained (e.g., oil changes) at least 500 feet outside of the willow riparian woodland corridor and wetlands of San Antonio Creek. For equipment that must be fueled or that requires additional oil/fluids, this must take place on paved surfaces only and spill containment material must be placed around the equipment before fuels (or other hazardous substances such as oil of brake fluid) are brought in. If repairs are necessary within the riparian woodland corridor, repair will not begin without the presence of a qualified biological monitor on the project site.  
(Engineering Planners, Construction Contractor, and 30 CES/CEVPN, Natural Resources).
- BR-3 Precast bridge components will be used to the extent possible to minimize the duration of the project, reduce the possibility of a concrete spill in San Antonio Creek, and reduce noise impacts to wildlife.  
(Engineering Planners and 30 CES/CEVPN, Natural Resources)
- BR-4 Construction will be conducted from the temporary access road. Intrusion into the willow riparian woodland habitat of San Antonio on either side of El Rancho Road will be minimized.  
(Engineering Planners, Construction Contractor, and 30 CES/CEVPN, Natural Resources)
- BR-5 Implementation of Geology and Soils mitigation measures will control erosion and turbidity and mitigate impacts to biological resources. (See Mitigation Plan, Geology and Soils).
- BR-6 Construction will not begin without the presence of a qualified biological monitor on the project site.  
(Construction Foreman and 30 CES/CEVPN, Natural Resources)

EXHIBIT NO.	10
APPLICATION NO.	
CD-106-01	
Mitigation Measures	

- 
- BR-7 One point of contact from the Engineering Planners will be responsible for notifying 30 CES/CEVPN of the construction schedule for each week.  
(Engineering Planners and 30 CES/CEVPN, Natural Resources)

*Botanical Resources*

- BR-8 Removal of native vegetation and plant communities, particularly willow riparian woodland and freshwater marsh vegetation, will be minimized during project implementation to the greatest extent possible.  
(Engineering Planners and 30 CES/CEVPN, Natural Resources, Construction Contractor)
- BR-9 A habitat restoration and monitoring plan will be developed by a qualified biologist for each habitat area affected, approved by the base botanist and appropriate agencies, and implemented prior to the first rainy season following construction. Areas cleared of native vegetation, including populations of the special-status black-flowered figwort, will be restored. Implementation of the habitat restoration and monitoring plan will be designed to replace the functions and values of the habitat areas being removed. Long-term maintenance (e.g., weeding and plant replacement) and monitoring will ensure the successful restoration of native plant communities and wetland habitats to the maximum extent possible. The habitat restoration plan will include maintenance, monitoring, success criteria, and contingency measures to ensure restoration success.  
(Engineering Planners and 30 CES/CEVPN, Natural Resources)

*Wildlife Resources*

- BR-10 Implementation of mitigation measures for special-status wildlife will also serve to reduce impacts on wildlife in the area.  
(Engineering Planners and 30 CES/CEVPN, Natural Resources)

*Special-Status Plant Species*

- BR-11 Implementation of mitigation measures for botanical resources will also serve to reduce impacts to the black-flowered figwort.  
(Engineering Planners and 30 CES/CEVPN, Natural Resources)

*Special-Status Wildlife Species*

- BR-12 Qualified biologist(s), approved by 30 CES/CEVPN and USFWS, will conduct pre-project surveys one-half mile downstream and one-quarter mile upstream of the project area to determine the presence or absence of listed species and other special-status species potentially affected by construction. Qualified biological monitors, approved by 30 CES/CEVPN and USFWS and who are familiar with and possessing necessary permits to capture, handle, and release each listed species, will monitor construction activities throughout project implementation in the riparian corridor of San Antonio Creek to minimize impacts to all special-status plant and wildlife species, jurisdictional wetland resources, and other plant communities found in the project area. The biological monitor(s) will be responsible for flagging areas where special-status species are located or concentrated, relocating special-status species in jeopardy of being killed or injured by construction or dewatering activities, inspecting equipment and equipment staging areas for gas and oil leaks (especially during repair of equipment), and monitoring water quality (i.e.,

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temperature, dissolved oxygen, and turbidity) immediately upstream and downstream of the project area.

(Engineering Planners and 30 CES/CEVPN, Natural Resources)

- BR-13 Two days before beginning project construction activities within the riparian corridor of San Antonio Creek, exclusion nets and a drift fence will be installed to exclude unarmored threespine stickleback, tidewater goby, California red-legged frog, and other special-status aquatic species from the project area. Block nets will be set up within the main channel of San Antonio Creek 50 feet upstream and 50 feet downstream of the project area (i.e., 150 feet upstream and downstream of the bridge crossing of San Antonio Creek) to exclude unarmored threespine stickleback, tidewater goby, larval California red-legged frogs, and other aquatic special-status species from the project area. Each block net should have a one-eighth-inch mesh so that these species do not swim through or get caught in the net. Silt fencing or other similar material will be used to construct a drift fence around the entire perimeter of the project area to exclude adult and subadult California red-legged frogs from the project area. The drift fence will be set back 50 feet from the boundaries of the project area and it will be securely anchored at the bottom. After the nets and drift fence are installed and within the two days prior to construction, unarmored threespine stickleback, tidewater goby, all life stages of the California red-legged frog (including any remaining egg masses found), and other aquatic special-status species within the exclusion zone will be collected and relocated downstream of the project area. The main channel of San Antonio Creek, as well as all side channels and isolated pools within the exclusion zone will be searched for these species. Monitoring will also occur during all days that construction activities occur within the stream. Collecting and releasing of fish and California red-legged frog tadpoles and any egg masses will take place 1 to 2 hours before use of construction equipment begins. Collecting and releasing of adult and subadult California red-legged frogs must be conducted each night before construction, between 1 hour after sunset and midnight, during the period when California red-legged frogs are most active. Qualified biologists, approved by 30 CES/CEVPN and USFWS, will conduct relocation and monitoring within the exclusion zones for these species before and during construction as specified by the USFWS.
- (Engineering Planners and 30 CES/CEVPN, Natural Resources)

- BR-14 Unarmored threespine stickleback, tidewater goby, and California red-legged frog populations located within one-half mile downstream and one-quarter mile upstream of the project area will be monitored by a qualified biologist intermittently during construction to avoid potential upstream and downstream impacts to these species.
- (Engineering Planners and 30 CES/CEVPN, Natural Resources)

- BR-15 No earthwork will take place in the riparian corridor of San Antonio Creek or in other aquatic habitats in the project area during the breeding and egg development season for California red-legged frog (December 1 through April 15). In addition, no project activities will take place during rainstorms, when California red-legged frogs are mobile and are present outside of aquatic habitats.
- (Engineering Planners and 30 CES/CEVPN, Natural Resources, Construction Contractor)

- BR-16 Earthwork in the riparian corridor of San Antonio Creek or in other aquatic habitats in the project area will begin no later than April 15 and end no later than November 30 to minimize impacts on breeding and nesting birds (e.g., detract birds from selecting breeding or nesting sites near the construction zone) and special-status fish species (e.g., prevent construction during fish breeding seasons).
- (Engineering Planners and 30 CES/CEVPN, Natural Resources, Construction Contractor)



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- BR-17 The main flow channel and stream segments of San Antonio Creek will be maintained in their present condition to the extent possible. Any temporary diversion of the main flow channel or stream segments for construction purposes will allow water to flow unobstructed to downstream channels and stream segments. All ponds and the connectivity between wetland areas will be maintained. The main flow channel and stream segments will be restored to their previous conditions to the extent possible after construction is completed.  
(Engineering Planners and 30 CES/CEVPN, Natural Resources, Construction Contractor)
- BR-18 Excavations for bridge supports will be surrounded with dikes or other obstructions to prevent sudden loss or diversion of water from San Antonio Creek to avoid stranding aquatic fauna.  
(Engineering Planners, Construction Contractor, and 30 CES/CEVPN, Natural Resources)
- BR-19 Ponding of water during and after construction and removal of canopy vegetation (largely willows) in the project area will be avoided or minimized to prevent an increase in stream temperatures.  
(Engineering Planners and 30 CES/CEVPN, Natural Resources)
- BR-20 Sediment curtains will be installed in active channels downstream of the project to eliminate or reduce turbidity of San Antonio Creek. Sediment curtains will be maintained daily.  
(Engineering Planners, Construction Contractor, and 30 CES/CEVPN, Natural Resources)
- BR-21 Permanent barriers to upstream fish migration in San Antonio Creek (i.e., vertical drops of more than 7.5 to 10 centimeters [3 to 4 inches]) will not be created.  
(Engineering Planners and 30 CES/CEVPN, Natural Resources, Construction Contractor)
- BR-22 All project personnel will be required to receive training by qualified biologists prior to participating in project implementation activities. At a minimum, the training will include a description of the listed species occurring in the area, the general provisions of the ESA and the necessity of adhering to the provisions of the ESA, the penalties associated with violations of the ESA, the general measures that are being implemented to conserve these species in the project area, and the specific measures and restrictions regarding project implementation.  
(Engineering Planners and 30 CES/CEVPN, Natural Resources, Construction Contractor)
- BR-23 A contingency plan will be developed by qualified biologists familiar with the species for the recovery and salvage of unarmored threespine stickleback, tidewater goby, and California red-legged frog in the event of a local toxic spill or accidental dewatering of unarmored threespine stickleback, tidewater goby, or California red-legged frog habitat.  
(Engineering Planners and 30 CES/CEVPN, Natural Resources)

*Waters of the United States and Wetlands*

- BR-24 Mitigation measures required through the Section 404 permit process with the ACOE and through the Section 401 Water Quality Certification from the CCRWQCB will be implemented to reduce impacts to waters of the United States and wetlands.  
(Engineering Planners and 30 CES/CEVPN, Natural Resources)

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*Critical Habitat*

BR-25 Mitigation measures listed for special-status wildlife species above and any additional mitigation measures required through the Section 7 consultation and Section 7 conference with the NMFS and USFWS, respectively, will be implemented to minimize impacts to designated and proposed critical habitat and special-status species.

(Engineering Planners and 30 CES/CEVPN, Natural Resources)

BR-26 Implementation of the Habitat Restoration Plan (Botanical Resources measure BR-9) will ensure functions and values of waters of the United States and wetlands are restored.

(Engineering Planners and 30 CES/CEVPN, Natural Resources)

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**RESOURCE AREA:** Cultural Resources  
**LOCATION:** El Rancho Road Construction Site  
**MAP REFERENCES:** C-Tab Map 15  
**FUNDING SOURCE:** U.S. Air Force  
**TIMING:** Pre-Construction Phase and Construction Phase  
**MITIGATION MONITORING:** Vandenberg AFB Project Engineer and 30 CES/CEVPC Cultural Resources  
**MITIGATION ACTIVITIES:** (Responsible Party)

**REQUIRED MITIGATION MEASURES:**

The following mitigations are required:

- CR-1 Equipment staging will be limited to the existing roadbed to avoid impacts. A small triangular area immediately north of the intersection of El Rancho and El Rancho Lateral roads may also be used for staging. Exclusionary fencing will be installed to ensure that vehicles and personnel stay within the established staging areas.  
(Engineering Planners, Construction Contractor, and 30 CES/CEVPC, Cultural Resources)
- CR-2 Archaeological testing will occur at CA-SBA-704/1172 to evaluate the significance of the deposit relative to the NRHP, and assess potential adverse effects from the Proposed Action per Section 106 of the NHPA and 36 CFR 800.  
(Engineering Planners and 30 CES/CEVPC, Cultural Resources)
- CR-3 At CA-SBA-1037 and CA-SBA-1565, both within the District, testing will be sufficient to meet the requirements of site evaluation per the HPP (Tetra Tech 1988). Specifically, testing will determine horizontal and vertical extent, integrity, and site type. Testing will also gather sufficient data to determine if either site contains a protohistoric component that would link the site with the Portola and Anza expeditions.  
(Engineering Planners and 30 CES/CEVPC, Cultural Resources)
- CR-4 The NRHP eligibility of the portion of the Juan Bautista de Anza Historic Trail on Vandenberg AFB will be evaluated, and the potential adverse effects from the Proposed Action will be assessed per Section 106 of the NHPA and 36 CFR 800.  
(Engineering Planners and 30 CES/CEVPC, Cultural Resources)
- CR-5 Per Vandenberg AFB policy (Lebow and Moratto 1999), an archaeologist and a Native American will monitor all ground-disturbing activities during construction in the vicinity of CA-SBA-704/1172, CA-SBA-1037, CA-SBA-1565, and the Juan Bautista de Anza Historic Trail.  
(Engineering Planners and 30 CES/CEVPC, Cultural Resources)

*Construction activities and the cultural resources mitigation measures listed above for the Proposed Action (both within and outside the District) will be coordinated with the SHPO in accordance with*

Section 106 of the NHPA and AFI 32-7065. Coordination with SHPO typically involves identification and evaluation of historic properties, assessment of adverse effects, and resolution of adverse effects. Consultation with Native Americans and other interested parties is required. During resolution of adverse effects, a Memorandum of Agreement (MOA) with the SHPO is developed which outlines the agreed upon mitigation measures. An MOA will be developed for the Proposed Action if adverse effects are identified.

(see Section 2.1.1). Certain pieces of equipment would be used for a longer duration such as the small crane to set falsework and more rebar, and the concrete pump.

### 2.2.2 Construction Requirements

The construction of Alternative 1 would be completed in two years encompassing two dry seasons. The road and bridge would be closed during both construction seasons. As with the Proposed Action, alternate routes would be established. The road would be open during the second half of the last construction period and minimal construction would take place. At that time, activities would consist of removing utility poles, temporary access road, and falsework fill, and re-vegetating disturbed areas. The number of personnel needed during construction would be a maximum of 15 to 20 at any one time. Staging areas and sources of fill required for Alternative 1 would be the same as those for the Proposed Action.

### 2.2.3 Operation and Maintenance

Traffic would not increase due to the implementation of Alternative 1. No maintenance of the creek channel would be required under Alternative 1. Minimal maintenance of the road and bridge would be required as needed.

## 2.3

### DISMISSED ALTERNATIVES

The following alternatives were evaluated but eliminated from further consideration based on the project specific selection criteria established for the proposed project (Section 1.1) as described in the following text.

### 2.3.1

#### Alternative 2

Alternative 2 would consist of constructing a 2,100-foot precast concrete slab girder causeway bridge on El Rancho Road over San Antonio Creek. This bridge would span the San Antonio Creek wetlands and provide a flood-free crossing for flows up to the 100-year flood level. Bridge support structures would consist of piles, pile caps, piers, and girders. Pile caps (footing) would be approximately 45 feet wide, 12 feet long, and 3 feet deep. They would be embedded in the streambed to a maximum depth of 5 feet for a total excavation depth of 8 feet. Each pile cap would cover three large-diameter piles. Piles would be drilled to a maximum depth of 130 feet. Pile caps would be positioned at 50-foot intervals.

The height, width, roadway approaches, bridge and road demolition, and utilities would be similar to the Proposed Action. Before the existing roadway and bridge deck were demolished and the new causeway constructed, cofferdams would be installed and the area would be dewatered in phases via a sump pump. The bridge would be constructed from the existing bridge and road and a temporary construction access road would not be built.

Without an equipment access road, construction of Alternative 2 would take approximately three years and the road and bridge would be closed for the duration. Impacts from the length of construction would be significant resulting from prolonged disturbance of the wetland area and its biological inhabitants. This type of bridge foundation would have an adverse, short-term, impact on the wetlands because of the need for dewatering the area around each pile cap (footing) and the need for more than one piling. It would also have a greater long-term impact on the wetlands because this type of foundation requires more area. The amount of foundation work required by this alternative would also make it infeasible. Therefore Alternative 2 was dismissed from further study.

EXHIBIT NO.	11
APPLICATION NO.	
	CD-106-01
	Rejected Alternatives

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### 2.3.2 Alternative 3

Alternative 3 would consist of constructing a causeway bridge on El Rancho Road that would span the entire San Antonio Creek floodplain (2,600 linear feet) and would provide a flood-free crossing for flows up to the 100-year flood level. The bridge height, width, roadway approaches, bridge and road demolition, utilities, staging areas and sources of fill would be similar to the Proposed Action. The bridge structure, dewatering procedure, and lack of a temporary access road would be identical to Alternative 2.

Without an equipment access road, construction of Alternative 3 would also take approximately three years and the road and bridge would be closed for the duration. Impacts from the length of construction would be significant resulting from prolonged disturbance of the wetland area and its biological inhabitants. This type of bridge foundation would have an adverse, short-term, impact on the wetlands because of the need for dewatering the area around each pile cap (footing) and the need for more than one piling. It would also have a greater long-term impact on the wetlands because this type of foundation requires more area. The amount of foundation work required by this alternative would also make it economically infeasible. If a temporary equipment access road were constructed for this alternative the length of construction would decrease. However, there would be much greater impacts to wetlands due to the length of access road needed. Therefore Alternative 3 was dismissed from further study.

### 2.3.3 Alternative 4

Alternative 4 would be a 90-foot-long culvert bridge system consisting of eight reinforced concrete box culverts that would span the existing creek channel and bridge area. Piles and three pile caps would be used to support the 35-foot-wide culvert bridge deck. The maximum height of the culvert bridge and roadway would be approximately 9 feet above the existing bridge. Complete demolition of the existing bridge would be required to accommodate the culvert bridge system. Prior to demolition of the existing bridge and construction of the new culvert bridge, a cofferdam would be installed and the area would be dewatered. Fill material would be required on both the northern and southern approaches to raise the road to the proposed height of the culvert system. Construction of Alternative 4 would be completed in approximately one year. The bridge and a portion of El Rancho Road would be closed during construction.

Alternative 4 would impact the hydraulics, floodplain limits and depths, and sediment accumulation in the project area. Sediment deposition would continue at the current rate for 36 to 74 years, which would cause the culverts to gradually lose flow capacity. Long-term, significant impacts would occur to biological resources. A large area would be required to accommodate fill material. Debris would have to be removed periodically from the culverts and would cause additional impacts to biological resources. Impacts would be significant, therefore Alternative 4 was dismissed from further study.

### 2.3.4 Alternative 5

Alternative 5 would involve dredging (via tractor or other heavy equipment) a 100-foot-wide channel from a point upstream of Lompoc-Casmalia Road to the San Antonio Creek lagoon, a distance of approximately 4.5 miles, and excavating a channel 4.5 feet deep. This alternative would impact at least 50 acres of wetlands. Impacts to biological resources would have been significant if this alternative had been chosen. In addition, hydrologic reference data show that dredging would not serve to reduce flooding and would disturb archaeological sites. This alternative would not reasonably achieve the desired outcome and has been dismissed from further consideration.

### 2.3.5 Alternative 6

Alternative 6 would involve clearing (via mowing) willows and vegetation along a 100-foot-wide area of the San Antonio Creek channel from the upper end of Lompoc-Casmalia marsh to the San Antonio Creek lagoon, a distance of approximately 4.5 miles. This would affect at least 50 acres of wetlands. As with the dredging alternative, impacts to biological resources would be significant. In addition, hydrologic reference data show that willow clearing would not serve to reduce flooding and would disturb archaeological sites. This alternative would not reasonably achieve the desired outcome and has been dismissed from further consideration.

Dredging or clearing vegetation speeds the passage of water by increasing the cross-sectional area of the stream and reduces obstructions (roughness) so that more water can be carried at a faster rate. This allows for efficient transport of flood waters through the dredged channel, but disrupts the balance between the water, vegetation, and sediment within the creek. Increasing the creek's velocity would increase its energy flow. With vegetation and debris removed from the channel, high-velocity storm flows would scour the denuded creekbed and lower the creek bottom. The creek would begin "headcutting" the creekbed upstream until the creek reestablished its equilibrium, causing a more incised creekbed with steep banks. Downstream, where water velocity would slow, the sediment load would be deposited at the point where dredging or clearing was terminated. Increases in deposited sediment at this point would bury existing vegetation, altering wildlife habitats. Deposited sediment would also reduce creek capacity, resulting in increased flooding downstream of the dredged or cleared channel.

### 2.3.6 Alternative 7

Alternative 7 would involve constructing a sediment trap basin that would halt or minimize the volume of sediment deposited in the vicinity of the El Rancho Road crossing. The road would be raised 10 feet above its present level. Raising the road by this height would accommodate sediment deposition over a 25-year design life. However, if larger floods occur the life of the basin could be shortened. In addition, sediment deposited from a 50-year flood could overwhelm the basin.

In addition, the impacts to biological resources under this alternative would be greater than under the Proposed Action. The "footprint" of the road fill on either side of the pavement would be increased, resulting in long-term wetland and riparian habitat loss. There is a greater potential for incidental take of listed species under this alternative. Vegetation patterns may be altered by the prolonged inundation of riparian habitat. If the basin had to be excavated, additional long-term habitat loss and potential for take of endangered species would occur. If maintenance dredging was required it would cause additional habitat disturbance and additional potential for take of endangered species. Finally, a dredged basin may favor introduced species and warm water fishes, which may negatively impact listed species and favor the establishment of invasive plant species.

### 2.3.7 Alternative 8

Alternative 8 would involve lining the creek banks with a material that would prevent erosion and would eliminate one source of sediments at the two downstream bridges. Although this plan would reduce future siltation at the El Rancho Road crossing, by itself it would not solve the current flood problems at the El Rancho Road crossing. This alternative is expensive and does not guarantee a large reduction in future sedimentation at the bridges.

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### 2.3.8 Alternative 9

Under this alternative, a different route would be used to cross the creek. The route from the main base would be northward on Vandenberg Road (Highway 1) to San Antonio Road; westward on San Antonio Road, crossing the creek on San Antonio Road bridge, north on Lompoc-Casmalia Road; then west to the Titan Gate, onto Curly Road, and finally to El Rancho Road. This route would be flood-free during floods up to the 100-year level. Under this plan, the El Rancho Road and Lompoc-Casmalia Road crossings would be subject to the same flooding conditions as they are now. In addition, sedimentation at the El Rancho Road bridge would continue, resulting in more frequent overflow of the crossing. When that occurs, conditions will be similar to those at Lompoc-Casmalia bridge, with sediment, vegetation, and standing water encroaching onto the roadway. Any surface runoff would flood the roadway.

Besides not preventing flooding of the El Rancho Road bridge, this route would not be feasible due to the safety and security issues of missiles being transported on a public highway. Traffic would need to be blocked so that military vehicles could cross the southbound lane of Highway 1 to San Antonio Road West. Additionally, this alternative would increase by approximately 4 miles the distance emergency vehicles would have to travel to reach most of the facilities on North Base.

### 2.3.9 Alternative 10

Under Alternative 10, a new bridge would be constructed across San Antonio Creek downstream of the El Rancho Road bridge that would connect 13th Street with Mod Road. This alternative was dismissed because environmental impacts associated with construction and maintenance of a new bridge at this location would be greater than those under the Proposed Action and Alternative 1. Costs associated with constructing the bridge and new road system at this location would also be greater than replacing the El Rancho Road bridge at its current location.

### 2.3.10 Alternative 11

Alternative 11 would be similar to Alternative 12 however the new bridge crossing would be located downstream of El Rancho Road where the San Antonio Creek floodplain becomes constricted. This route would be designed to connect Watt and Umbra Roads. This alternative was dismissed because of the steep topography of the channel banks at this location, and the environmental impacts and costs associated with constructing and maintaining a new bridge at this location and constructing a connector road across the sand dunes on San Antonio Terrace. Impacts under this alternative would be greater than those under the Proposed Action and Alternative 1.

### 2.3.11 Alternative 12

Alternative bridge alignments to the east and west were evaluated but dismissed from further study due to potential archaeological impacts and significant impacts to biological resources.

### 2.3.12 Alternative 13

The construction of a cast-in-place box girder type of bridge without a construction access road or roads (on each side) was also considered but dismissed due to unacceptable construction risks associated with the falsework and potential for concrete spills. This bridge type would be approximately double the cost of the Proposed Action without the access road or roads. Construction time would also be double unless both sides of the bridge were built at the same time using two full construction crews and twice the amount of equipment.



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**2.3.13****Alternative 14**

The construction of an "I" girder type bridge without a construction access road was also considered but dismissed because the construction cost would be approximately double that of the Proposed Action. Construction time would also be doubled unless both sides of the bridge were built at the same time using two full construction crews and twice the amount of equipment.

Because Alternatives 2 through 14 have been dismissed from further consideration, their environmental impacts are not discussed in this EIS.

**2.4****NO-ACTION ALTERNATIVE**

Under the No-Action Alternative a new bridge would not be constructed and the existing bridge and roadway would remain in place. The No-Action Alternative would be to continue current maintenance of El Rancho Road by clearing debris and sediment from the road after and/or during flooding. Under this alternative, the risk of road closure during and after the rainy season would increase due to continued sedimentation at the existing bridge and throughout the San Antonio Creek floodplain. At the present rate of sedimentation, the bridge opening would be filled within approximately 5 years. There would also be increased degradation in the integrity of the existing road's subgrade and base due to water infiltration from seasonal floods.

Should flooding occur, traffic would be rerouted, as has historically been the case. Traffic and personnel supporting North Vandenberg AFB launches would use an alternate route to access the launch area. This route would require leaving the base via the main gate, traveling along State Highway 1 to San Antonio Road West, then connecting with Lompoc-Casmalia Road to Curly Road and finally to the El Rancho Road North access route. In addition, San Antonio Road West could potentially be inaccessible during the rainy season due to eroding creek banks and lack of drainage, thereby eliminating access to North Vandenberg AFB. The No-Action Alternative would require repeated clearing of El Rancho Road, would not serve to reduce flooding, and, during the rainy season, would limit access to mission-critical facilities located on North Vandenberg AFB. In addition, the No-Action Alternative could cause incidental mortality to wildlife species that may be present on the existing roadway during periods of flooding.

Besides not preventing the flooding of the El Rancho Road Bridge, the No-Action Alternative would not be feasible if the road were to close and traffic was detoured off base because of the safety and security issues of missiles being transported on a public highway. Traffic would need to be blocked so that military vehicles could cross the southbound lane of Highway 1 to San Antonio Road West. This would also increase by approximately 4 miles the distance emergency vehicles would have to travel to reach most of the facilities on North Base.

**2.5****IMPACT SUMMARY**

A summary of potential environmental impacts of the Proposed Action, Alternative 1, and the No-Action Alternative is presented in Table 2.5-1. The summary table identifies both short- and long-term impacts for each resource area analyzed in the EIS.

**Table 2.5-1**  
**Summary of Potential Environmental Impacts from the Proposed Action and Alternatives**  
**El Rancho Road Bridge Replacement Project, Vandenberg AFB**

Resource Issue Area	Proposed Action and Alternative 1		No-Action	
	Short-term	Long-term	Short-term	Long-term
Water Resources	LS	LS	N	LS
Biological Resources	SM	SM	N	SM
Cultural Resources	SM	SM	N	N
Land Use	LS	LS	LS	S
Recreational Resources	LS	LS	LS	LS
Visual Resources	LS	LS	N	LS
Utilities	N	N	N	S
Transportation/Circulation	LS	N	S	S
Noise	LS	N	LS	LS
Health and Safety	LS	N	S	S
Air Quality	LS	N	N	N
Geology and Soils	SM	SM	N	S
Pollution Prevention	N	N	N	N
Hazardous Materials/Waste Management	LS	N	N	N
Solid Waste Management	SM	LS	N	N
Socioeconomics	N	N	N	N
Cumulative Impacts	SM	SM	N	S
Environmental Justice	N	N	N	N

**Notes:** Some issue areas may have multiple impacts with different impact levels; this table displays the highest level of impact for each issue area.  
 N – No impact.  
 LS – Less than significant impact.  
 SM – Significant but mitigable impact.  
 S – Significant impact.