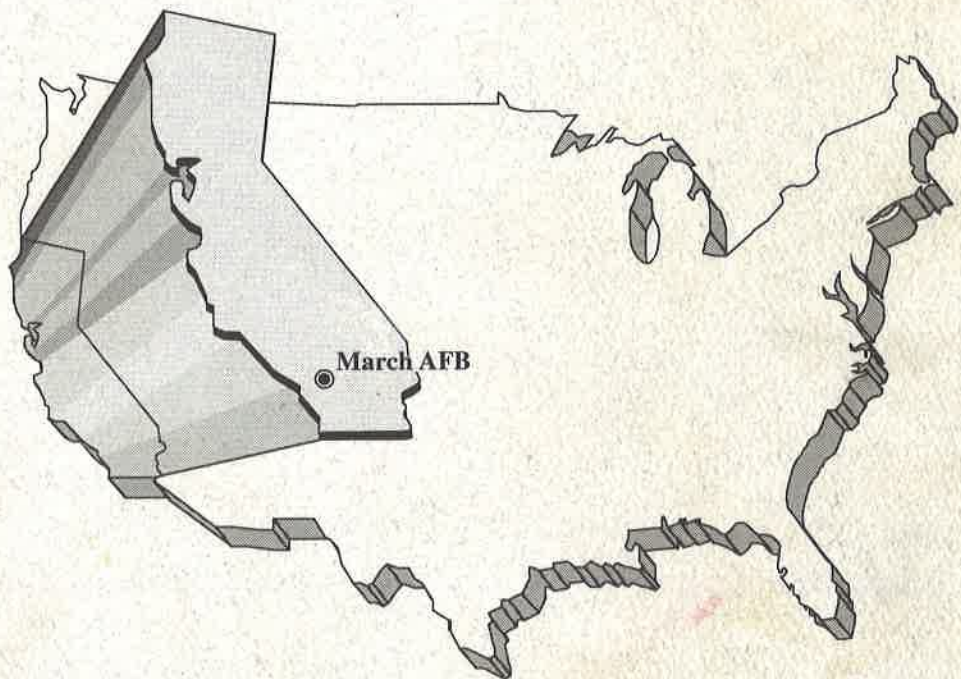




**FINAL
ENVIRONMENTAL IMPACT STATEMENT
February 1996**

Volume I



**DISPOSAL OF PORTIONS OF
MARCH AIR FORCE BASE, CALIFORNIA**

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ENVIRONMENTAL IMPACT STATEMENT

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CALIFORNIA**

FEBRUARY 1996

VOLUME I

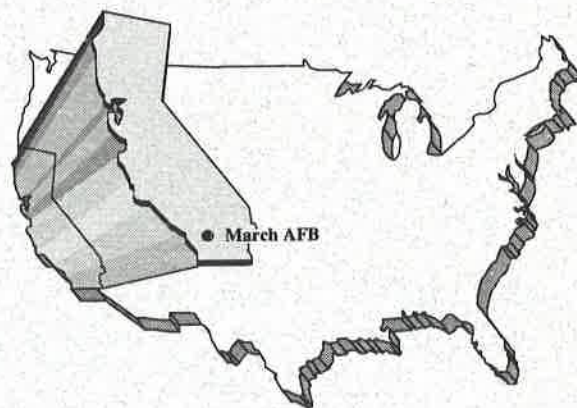
COVER SHEET

FINAL ENVIRONMENTAL IMPACT STATEMENT DISPOSAL OF PORTIONS OF MARCH AIR FORCE BASE, CALIFORNIA

- a. Responsible Agency: U.S. Air Force
- b. Cooperating Agency: Federal Aviation Administration (FAA)
- c. Proposed Action: Disposal of Portions of March Air Force Base, Riverside County, California
- d. Inquiries on this document should be directed to: Mr. Jonathan D. Farthing, Chief, Environmental Analysis Division, HQ AFCEE/ECA, 3207 North Road, Brooks Air Force Base, Texas, 78235-5363, (210) 536-3668
- e. Designation: Final Environmental Impact Statement (FEIS)
- f. Abstract: Pursuant to the Base Closure and Realignment Act of 1990, March Air Force Base is scheduled for realignment to an Air Force Reserve base in March 1996. This FEIS has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of the disposal and reasonable alternatives for reuse of base property to be disposed. The document includes analyses of community setting, land use and aesthetics, transportation, utilities, hazardous materials and hazardous waste management, geology and soils, water resources, air quality, noise, biological resources, cultural resources, and environmental justice. A Proposed Action and three alternatives for civilian reuse of the disposal property were examined, as well as a No-Action Alternative that entails no civilian reuse. All alternatives include a retained military cantonment to be used by the Air Force Reserve and federal tenant units. The Proposed Action and two of the alternatives feature joint military-civilian use of the airfield.

Under all alternatives, reuse-related increases in population and employment, and associated traffic (including roadway level of service, noise, and air emissions) and utility effects, would be very small in comparison to projected baseline growth in the region of influence. Civilian aircraft operations would result in little additional noise. Increased aircraft-related pollutant emissions would not affect the regional progress toward attainment of any air quality standard; however, increased traffic could result in localized elevated carbon monoxide levels at nearby intersections. Increased runoff and erosion could be reduced through use of proper construction practices and compliance with permit requirements. However, runoff from reuse development would exceed the planned capacity of local area drainage plans. New owners may have to coordinate drainage studies and design and construction of additional facilities, including detention basins. Remediation of Installation Restoration Program sites is and will continue to be the responsibility of the Air Force. Wetland areas could be affected by ground disturbance during redevelopment, but ample nonwetland acreage is present to avoid wetlands and support the proposed disturbance. A land exchange for suitable habitat elsewhere would mitigate potential impacts to the federally listed endangered Stephen's kangaroo rat. Because cultural resources could be impacted by conveyance of the property to a non-federal entity, mitigation measures will be developed in coordination with the State Historic Preservation Officer to eliminate or reduce these effects to a non-adverse level. Potential environmental justice impacts to low-income and/or minority populations could occur from increased aircraft and surface traffic noise. Because the Air Force is disposing of property, some of the mitigation measures are beyond the control of the Air Force.

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SUMMARY

SUMMARY

PURPOSE OF AND NEED FOR ACTION

March Air Force Base (AFB), California, was one of the bases recommended by the 1993 Defense Base Closure and Realignment Commission for realignment. The Commission's recommendations were accepted by the President and submitted to Congress on July 2, 1993. As Congress did not disapprove the recommendations in the time given under the Defense Base Closure and Realignment Act (DBCRA) of 1990 (Public Law 101-510, Title XXIX), the recommendations have become law. March AFB is scheduled to be realigned to an Air Reserve Base (ARB) on March 31, 1996.

The Air Force is required to comply with the National Environmental Policy Act (NEPA) in the implementation of base disposal and reuse. The Air Force must now make a series of interrelated decisions concerning the disposition of excess base property. This environmental impact statement (EIS) has been prepared to provide information on the potential impacts resulting from disposal and proposed reuse of the base property. The Federal Aviation Administration (FAA) is a cooperating agency in the preparation of this EIS, and it will make decisions on its own and assist the Air Force in making related decisions concerning March AFB property. Several alternative reuse concepts are studied to identify the range of potential direct and indirect environmental consequences of disposal and reuse.

After completion and consideration of this EIS, the Air Force will prepare decision documents stating the terms and conditions under which the dispositions will be made. These decisions may affect the environment by influencing the nature of the future use of the disposal property.

ALTERNATIVES INCLUDING THE PROPOSED ACTION

March AFB encompasses more than 6,700 acres, including the airfield, aviation support, industrial, institutional (medical and educational), commercial, residential, and public facilities/recreation areas. Surplus property will be available for disposal for civilian reuse, and a cantonment area that includes the airfield will be retained by the Air Force Reserve (AFRES). The Proposed Action and alternatives evaluated in this EIS consider all of the area within the prerealignment base boundary.

A Proposed Action and four alternatives are assessed in this EIS for the purpose of evaluating potential environmental impacts resulting from the subsequent use of this land. The Air Force has based the Proposed Action on the draft land use plan presented by the March Joint Powers Authority (JPA), the designated reuse authority. The March JPA consists of representatives from the local jurisdictions adjacent to March AFB: Riverside

County and the cities of Riverside, Moreno Valley, and Perris. To encompass the range of possible reuses, the Air Force developed four other alternatives, including the No-Action Alternative, for analysis.

Proposed Action. The Proposed Action, which is based on the preferred alternative in the JPA's draft land use plan, features joint military-civilian use of the airfield. Under the Proposed Action, over 97,000 aircraft operations are expected by 2016. Of these, approximately 41,000 would be military; the remainder would be commercial passenger and air cargo operations. The plan also incorporates aviation support, industrial, business park, institutional (medical), commercial, mixed use, residential, and public facilities/recreation land uses on those portions of the base to be disposed. The Proposed Action was prepared under the assumption that all Stephens' kangaroo rat (SKR) (a federally listed endangered species) habitat areas on March AFB would be exchanged for other suitable habitat within Riverside County to allow the communities affected by the realignment to realize the full benefits of economic redevelopment of disposal property.

The following alternatives to the Proposed Action are also being considered:

- The **SKR/Aviation Alternative** would include joint military-civilian use of the airfield, with aviation support land uses to accommodate commercial passenger and air cargo services. Under this alternative, approximately 125,000 aircraft operations would be expected by 2016. Non-aviation civilian uses would include industrial, commercial, institutional (medical), mixed use, residential, public facilities/recreation, and agriculture. Some SKR habitat areas would continue to be protected, others would be exchanged to allow civilian development.
- The **SKR/Cargo Alternative** would include joint military-civilian use of the airfield, with approximately 75,000 military and civilian air cargo flight operations projected by 2016. All areas that have been designated as SKR habitat would continue to be protected. Other non-aviation civilian uses would include industrial, business park, institutional (educational), commercial, residential, public facilities/recreation, and agriculture.
- Under the **Military Aviation Alternative**, the airfield would be operated and utilized solely by the military. The property available for disposal would be redeveloped for non-aviation uses, including industrial, business park, institutional (educational), commercial, residential, and public facilities/recreation. All SKR habitat on West March would be exchanged to allow civilian redevelopment.

- Under the **No-Action Alternative**, AFRES operations would continue within the military cantonment. The airfield would continue to be used by the 452nd Air Mobility Wing (AFRES), tenant organizations, and transient aircraft. The remainder of the base would be placed in **caretaker status with no civilian reuse**. All SKR management and open space areas would continue to be protected.

Other Land Use Concepts. Seven other land use concepts have been identified as being possible components of the Proposed Action and alternatives under consideration. The SKR habitat concept would involve maintaining SKR habitat areas currently protected under a 1993 Biological Opinion. The U.S. Department of Agriculture (USDA) Forest Service has requested property and facilities to support emergency services activities conducted by the Forest Service, the Federal Emergency Management Agency, the California Office of Emergency Services, the California Department of Forestry and Fire Protection, the National Weather Service, and the Bureau of Land Management. The Department of Veterans Affairs has requested property on West March to support expansion of the Riverside National Cemetery, adjacent to March AFB. The U.S. Navy and Marine Corps Reserve Forces have requested several facilities for administrative and classroom uses. The Army and Air Force Exchange Service (AAFES) has requested several facilities to be used to provide services and merchandise to authorized Air Force personnel (active duty, reserve, and retired) and their dependents. The U.S. Army Reserve has requested three facilities for administrative and classroom training purposes. The California Army National Guard has requested 15 acres of land to construct a multi-unit armory for administrative and classroom purposes.

SCOPE OF STUDY

The Notice of Intent to prepare an EIS for the disposal and reuse of March AFB was published in the Federal Register on October 28, 1993. Issues related to the disposal and reuse of March AFB property were identified during an ensuing scoping period. A public scoping meeting was held on April 20, 1994 at the Senior Center in Moreno Valley, California. The comments and concerns expressed at this meeting and in written correspondence received by the Air Force, as well as information from other sources, were used to determine the scope and direction of studies and analyses required to accomplish this EIS.

This EIS discusses the potential environmental impacts associated with the Proposed Action and alternatives as well as with interim activities (e.g., interim outleases). In order to establish the context in which these environmental impacts may occur, potential changes in population and employment, land use and aesthetics, transportation, and utility services are discussed as reuse-related influencing factors. Issues related to current and future management of hazardous materials and wastes are also discussed. Potential impacts to the natural environment are evaluated for geology and

soils, water resources, air quality, noise, biological resources, and cultural resources. Potential environmental justice impacts to low-income and/or minority populations could occur from increased aircraft and surface traffic noise. These impacts may occur as a direct result of disposal and reuse actions or as an indirect result of changes to the local communities.

The baseline against which the Proposed Action and alternatives are analyzed consists of the conditions projected at base realignment in 1996. Although the baseline assumes a realigned base with a military cantonment, a reference to prerealignment conditions is provided in several sections (e.g., air quality and noise) to allow a comparative analysis over time. This reference will assist the Air Force decision maker and other agencies that may be making decisions relating to disposal and reuse of the properties to be excessed at March AFB in understanding potential long-term trends in comparison to historic conditions prior to realignment.

9/08/1
In addition to preparation of this EIS, the Air Force conducts other studies in support of base disposal and reuse. The Basewide Environmental Baseline Survey (EBS) for March AFB (U.S. Air Force, 1994a), accomplished in 1994, provides information on the condition of property to be disposed, in compliance with the federal Community Environmental Response Facilitation Act (Public Law 102-42, 42 U.S.C. Section 9620[h]). An EBS is required by Department of Defense policy before any property can be sold, leased, transferred, or acquired. The Socioeconomic Impact Analysis Study (SIAS) (U.S. Air Force, 1995g) describes the economic impacts expected in the region as a result of the disposal of portions of March AFB. This document, although not required by NEPA, will assist the local community in planning for the transition of portions of the base property from military to civilian use.

SUMMARY OF ENVIRONMENTAL IMPACTS

This EIS considers environmental impacts of the Air Force's disposal of excess base property and portrays a variety of potential land uses to cover reasonable future uses of the property and facilities by others. Alternative scenarios, including the community's draft land use plan, were used to group reasonable land uses and to examine the reasonably foreseeable environmental effects of likely reuse of March AFB disposal property.

Potential environmental impacts of the Proposed Action and reasonable alternatives are briefly described below. Reuse-related factors include projections of the reuse activities that would likely influence the biophysical environment, including ground disturbance, socioeconomic factors, and infrastructure demands, and are summarized in Table S-1. The employment and population trends are depicted in Figures S-1 and S-2. Under all alternatives, reuse-related increases in population and employment and associated traffic (including roadway level of service, noise, and air

Table S-1. Summary of Reuse-Related Influencing Factors

Factor	Proposed Action			SKR/Aviation Alternative			SKR/Cargo Alternative			Military Aviation Alternative			No-Action Alternative		
	2001	2006	2016	2001	2006	2016	2001	2006	2016	2001	2006	2016	2001	2006	2016
Ground Disturbance (acres, by phase)	540	291	533	394	259	503	366	171	310	411	219	399	0	0	0
Aircraft Operations (annual)	68,189	77,520	97,531	79,860	94,419	125,405	52,265	59,565	74,895	40,950	40,950	40,950	40,950	40,950	40,950
Direct Employment	12,155	20,778	38,619	8,903	14,848	27,204	5,862	9,351	16,214	5,510	9,830	17,839	1,661	1,661	1,661
Secondary Employment	8,090	13,531	24,704	6,319	10,413	18,556	4,006	6,114	10,268	4,008	7,006	12,751	951	951	951
On-Site Population	381	561	922	1,442	2,683	5,166	894	1,789	2,646	1,135	2,284	4,568	0	0	0
Site-Related Trips (average daily vehicular traffic)	66,150	108,450	194,550	51,000	88,100	160,600	32,900	51,600	86,300	32,250	51,650	89,050	10,100	10,100	10,100
Water Consumption (MGD)	2.0	2.2	3.2	1.6	2.0	3.2	1.7	2.0	2.4	1.9	2.3	3.1	1.2	1.2	1.2
Wastewater Treatment (MGD)	0.6	1.0	1.6	0.6	1.0	1.7	0.5	0.7	1.1	0.5	0.8	1.5	0.2	0.2	0.2
Solid Waste Disposal (tons/day)	50.6	91.2	174.4	36.0	63.0	115.1	28.1	46.4	76.7	26.3	47.1	87.0	7.3	7.3	7.3
Electricity Consumption (MWH/day)	165.3	263.4	463.2	131.1	206.5	353.3	108.7	157.5	245.2	110.7	172.4	292.0	52.8	52.8	52.8
Natural Gas Consumption (MMCF/day)	1.3	2.2	4.1	0.9	1.6	3.0	0.7	1.1	2.0	0.7	1.3	2.3	0.2	0.2	0.2

MGD = million gallons per day

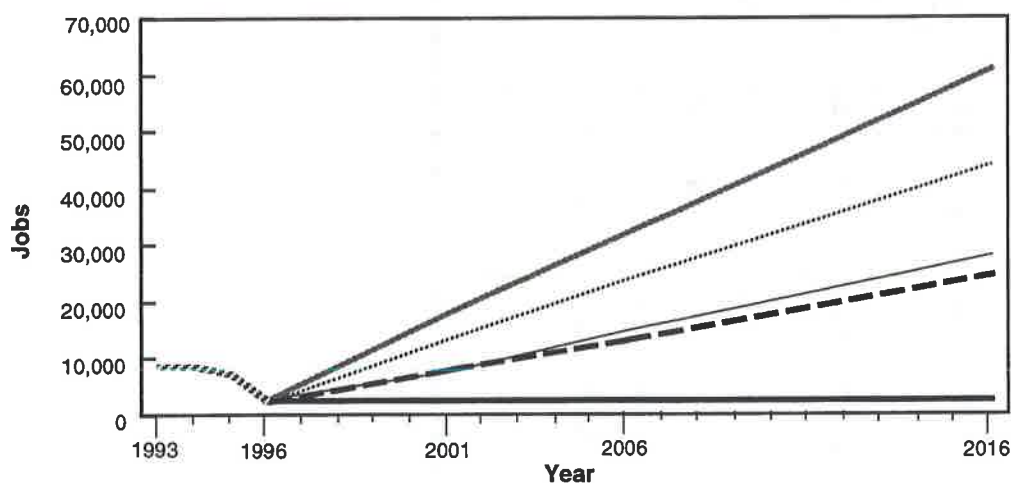
MMCF = million cubic feet

MWH = megawatt-hours

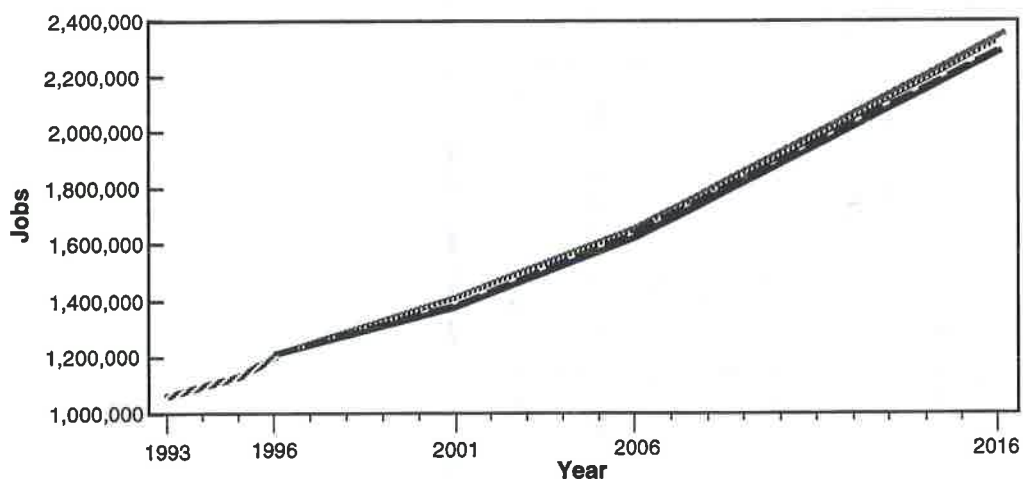
SKR = Stephens' kangaroo rat

ALTERNATIVE	1996 (a)	2001	2006	2016
Proposed Action	2,612	18,144	32,225	61,239
SKR/Aviation Alternative	2,612	12,977	23,017	43,516
SKR/Cargo Alternative	2,612	7,511	13,092	24,110
Military Aviation Alternative	2,612	7,249	14,494	28,069

**Reuse-Related
Employment
Effects (b)**



**Reuse-Related
Employment
Effects (b)**



**Total Region of
Influence (ROI)
Employment
Including
Reuse Effects**

EXPLANATION

- ////// Prerealignment
- Proposed Action
- SKR/Aviation Alternative
- SKR/Cargo Alternative
- Military Aviation Alternative
- No-Action Alternative

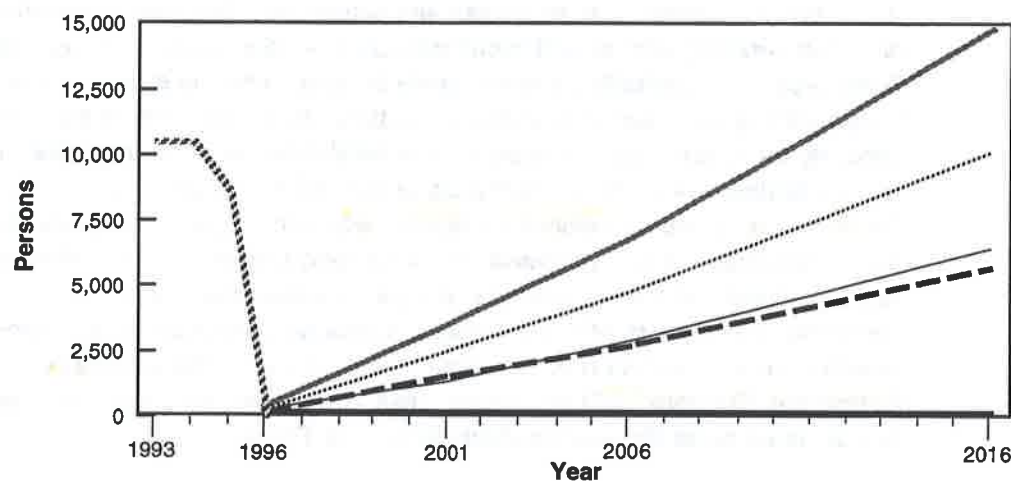
- (a) The 1996 values represent total base-related employment under the No-Action Alternative.
- (b) Employment effects represent the change in employment relative to the No-Action Alternative.

**Reuse-Related
Employment Effects**

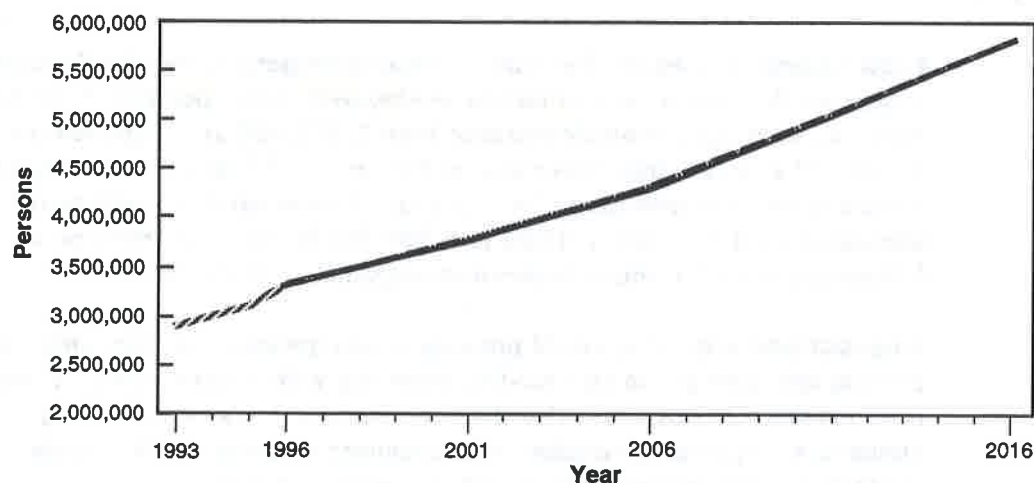
Figure S-1

ALTERNATIVE	1996 (a)	2001	2006	2016
Proposed Action	0	3,475	6,712	14,535
SKR/Aviation Alternative	0	2,407	4,650	10,083
SKR/Cargo Alternative	0	1,397	2,703	5,721
Military Aviation Alternative	0	1,291	2,889	6,407

**Reuse-Related
Population
Effects (b)**



**Reuse-Related
Population
Effects (b)**



**Total Region of
Influence (ROI)
Population
Including
Reuse Effects**

EXPLANATION

- ////// Prerealignment
- Proposed Action
- SKR/Aviation Alternative
- SKR/Cargo Alternative
- Military Aviation Alternative
- No-Action Alternative

**Reuse-Related
Population Effects**

- (a) 1996 represents realignment conditions.
 (b) Reuse (migratory)-related population effects are the persons who would move into the ROI solely as a result of reuse.

Figure S-2

emissions) and utility effects would be very small in comparison to projected baseline growth in the region of influence (ROI). Potential impacts of the Proposed Action and reasonable alternatives over the 20-year study period are summarized in Table S-2.

Mitigations and Pollution Prevention. Options of mitigating potential environmental impacts that might result from the Air Force disposing of property or from the implementation of the Proposed Action or alternatives by property recipients are presented and discussed. Since most potential environmental impacts would result directly from the reuse by others, the Air Force would not typically be responsible for implementing such mitigations. Responsibility for these suggested mitigations, therefore, would be borne primarily by future property recipients or local governmental agencies. In a few exceptional cases (e.g., wetlands or cultural resources protection), the Air Force could impose mitigation requirements on property recipients by lease restrictions or deed covenants. Mitigation suggestions for affected resource areas, where appropriate, are summarized along with the environmental impacts of the Proposed Action and alternatives in Table S-2. However, the remediation of contaminated sites under the Installation Restoration Program (IRP) and other applicable regulatory programs is and will continue to be the responsibility of the Air Force.

PROPOSED ACTION

Local Community. Redevelopment of disposal property under the Proposed Action would result in an increase in employment and population in the ROI. Total ROI employment would increase from 1,209,100 at realignment to 2,335,871 in 2016; this represents an increase of 2.7 percent over the No-Action Alternative projections for that year. Population in the ROI would increase from 3,306,623 in 1996 to 5,794,381 in 2016, an increase of 0.3 percent over No-Action Alternative projections for that year.

Proposed land uses on disposal property would generally be compatible with existing land uses in the surrounding areas and with regional plans. Local communities may have to revise their comprehensive plans and zoning ordinances. Appropriate civilian redevelopment planning would visually integrate the disposal property into the surrounding area.

The Proposed Action would incorporate nine new access points to improve circulation and integrate the disposal property with the surrounding road network. By 2016, seven road segments would deteriorate to a level of service (LOS) below that defined as unacceptable conditions by the appropriate regional planning agencies, as a result of reuse-generated traffic. Implementation of roadway improvements could improve the LOS to meet transportation planning standards. An increase of 56,581 civilian aircraft operations annually is projected by 2016, in addition to continuing military aircraft operations. No airspace conflicts or air transportation impacts are expected.

**Table S-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
Page 1 of 14

Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Local Community <ul style="list-style-type: none"> Land Use and Aesthetics 	Conditions: Continued activities within retained military cantonment and airfield. Other portions of the base property placed under caretaker status	<ul style="list-style-type: none"> Impacts: The JPA will develop its land use plan to preclude any land use incompatibilities, and buildings will be sited to visually integrate the base property with the surrounding area 	<ul style="list-style-type: none"> Impacts: Local comprehensive plans and zoning ordinances may need to be updated, and buildings will be sited to visually integrate the base property with the surrounding area 	<ul style="list-style-type: none"> Impacts: Local comprehensive plans and zoning ordinances may need to be updated, and buildings will be sited to visually integrate the base property with the surrounding area 	<ul style="list-style-type: none"> Impacts: Local comprehensive plans and zoning ordinances may need to be updated, and buildings will be sited to visually integrate the base property with the surrounding area 	<ul style="list-style-type: none"> Impacts: Placing the majority of the base property in caretaker status would be inconsistent with policies for efficient growth in the Western Riverside Subregional Comprehensive Plan
	Conditions: 10,100 daily trips Eleven road segments operating at LOS below applicable standards	<ul style="list-style-type: none"> Mitigation: None required Impacts: Increase of 184,450 daily trips. Nine new access points provided. By 2016, seven road segments would deteriorate to an LOS below applicable standards as a result of reuse-generated traffic 	<ul style="list-style-type: none"> Mitigation: None required Impacts: Increase of 150,500 daily trips. Seven new access points provided. By 2016, eleven road segments would deteriorate to an LOS below applicable standards as a result of reuse-generated traffic 	<ul style="list-style-type: none"> Mitigation: None required Impacts: Increase of 76,200 daily trips. Seven new access points provided. By 2016, two road segments would deteriorate to an LOS below applicable standards as a result of reuse-generated traffic 	<ul style="list-style-type: none"> Mitigation: None required Impacts: Increase of 78,950 daily trips. Ten new access points provided. By 2016, three road segments would deteriorate to an LOS below applicable standards as a result of reuse-generated traffic 	<ul style="list-style-type: none"> Mitigation: None required Impacts: 10,100 daily trips. By 2016, 14 road segments and Interstate 215 would be operating at an LOS below applicable standards as a result of regional growth

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

JPA = Joint Powers Authority
 LOS = level of service
 SKR = Stephens' kangaroo rat

**Table S-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
Page 2 of 14

Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Local Community (Continued)						
• Transportation	Conditions: 40,950 annual military aircraft operations	• Impacts: Increase of 56,581 annual aircraft operations No airspace conflicts or air transportation impacts	• Impacts: Increase of 84,455 annual aircraft operations No airspace conflicts or air transportation impacts	• Impacts: Increase of 33,945 annual aircraft operations No airspace conflicts or air transportation impacts	• Impacts: No change in annual aircraft operations No airspace conflicts or air transportation impacts	• Impacts: 40,950 annual military aircraft operations No airspace conflicts or air transportation impacts
• Airspace		• Mitigation: The RCTC and local jurisdictions could implement road improvements	• Mitigation: The RCTC and local jurisdictions could implement road improvements	• Mitigation: The RCTC and local jurisdictions could implement road improvements	• Mitigation: The RCTC and local jurisdictions could implement road improvements	• Mitigation: None required
• Utilities Use	Conditions: Water: 1.2 MGD Wastewater: 0.2 MGD Solid Waste: 7.3 tons/day Electricity: 52.8 MWH/day Natural Gas: 0.2 MMCF/day	• Impacts: Less than 3 percent increase in ROI utility use as a result of reuse activities	• Impacts: Less than 3 percent increase in ROI utility use as a result of reuse activities	• Impacts: Less than 2 percent increase in ROI utility use as a result of reuse activities	• Impacts: Less than 2 percent increase in ROI utility use as a result of reuse activities	• Impacts: Same as realignment baseline. Increased utility use in the ROI associated with regional growth would require additional capacity in local water and wastewater treatment systems between 2006 and 2016.

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

MGD = million gallons per day
MMCF = million cubic feet
MWH = megawatt-hours
RCTC = Riverside County Transportation Commission
ROI = Region of Influence
SKR = Stephens' kangaroo rat

**Table S-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
Page 3 of 14

Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Local Community (Continued) • Utilities Use (Continued)		With planned improvements, utility systems would be able to accommodate increased demand • Mitigation: None required	With planned improvements, utility systems would be able to accommodate increased demand • Mitigation: None required	With planned improvements, utility systems would be able to accommodate increased demand • Mitigation: None required	With planned improvements, utility systems would be able to accommodate increased demand • Mitigation: None required	• Mitigation: None required
Hazardous Materials and Hazardous Waste Management • Hazardous Materials Management	Conditions: Materials used for retained military activities and caretaker activities will be managed in compliance with applicable regulations	• Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required	• Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required	• Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required	• Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required	• Impacts: Same as realignment baseline • Mitigation: None required
	Conditions: Wastes generated by retained military activities and caretaker activities will be managed in accordance with applicable regulations	• Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required	• Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required	• Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required	• Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required	• Impacts: Same as realignment baseline • Mitigation: None required
Hazardous Waste Management						

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.
SKR = Stephens' kangaroo rat

**Table S-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**

Page 4 of 14

Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued) <ul style="list-style-type: none"> • Installation Restoration Program 	Conditions: IRP activities will proceed until complete regardless of base realignment and reuse. IRP remediation activities will continue in accordance with applicable regulations	<ul style="list-style-type: none"> • Impacts: Delays in redevelopment and land use restrictions could result from remediation activities on disposal property • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Delays in redevelopment and land use restrictions could result from remediation activities on disposal property • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Delays in redevelopment and land use restrictions could result from remediation activities on disposal property • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Delays in redevelopment and land use restrictions could result from remediation activities on disposal property • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline
	Conditions: Storage tanks used by retained military activities will be managed in accordance with applicable regulations. Unused tanks will be removed or maintained in place in accordance with applicable regulations	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

IRP = Installation Restoration Program

SKR = Stephens' kangaroo rat

**Table S-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
Page 5 of 14

Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued) <ul style="list-style-type: none"> Asbestos Pesticide Usage Polychlorinated Biphenyls Radon 	Conditions: Asbestos will be managed in accordance with Air Force policy	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Same as realignment baseline Mitigation: None required Impacts: Same as realignment baseline
	Conditions: Pesticides used by retained military activities and caretaker activities will be managed in compliance with applicable standards	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Same as realignment baseline Mitigation: None required Impacts: Same as realignment baseline
	Conditions: All federally and state-regulated PCBs have either been removed and properly disposed of or are below federal and state action levels	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Same as realignment baseline Mitigation: None required Impacts: Same as realignment baseline
<ul style="list-style-type: none"> Radon 	Conditions: Radon levels are below 4 pCi/l	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> Impacts: Same as realignment baseline Mitigation: None required Impacts: Same as realignment baseline

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

PCB = polychlorinated biphenyls

pCi/l = picocuries per liter

SKR = Stephens' kangaroo rat

**Table S-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued) <ul style="list-style-type: none"> • Medical/Biohazardous Waste 	Conditions: Existing wastes removed prior to realignment; small amounts generated by continuing military activities would be managed in accordance with applicable regulations	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline
	Conditions: Ordnance stored will be managed in accordance with applicable regulations	<ul style="list-style-type: none"> • Mitigation: None required • Impacts: Compliance with applicable regulations and appropriate maintenance activities would reduce the potential for impacts 	<ul style="list-style-type: none"> • Mitigation: None required • Impacts: Compliance with applicable regulations and appropriate maintenance activities would reduce the potential for impacts 	<ul style="list-style-type: none"> • Mitigation: None required • Impacts: Compliance with applicable regulations and appropriate maintenance activities would reduce the potential for impacts 	<ul style="list-style-type: none"> • Mitigation: None required • Impacts: Compliance with applicable regulations and appropriate maintenance activities would reduce the potential for impacts 	<ul style="list-style-type: none"> • Mitigation: None required • Impacts: Same as realignment baseline
	Continued use of small arms range by military personnel will be in accordance with applicable regulations	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.
SKR = Stephens' kangaroo rat

**Table S-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued) <ul style="list-style-type: none"> • Lead-Based Paint 	Conditions: Lead-based paint may exist at all facilities constructed prior to or during 1978. Facilities within the military cantonment containing lead will be managed according to applicable regulations	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline
	Conditions: No ground disturbance	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required
Natural Environment <ul style="list-style-type: none"> • Geology and Soils 		<ul style="list-style-type: none"> • Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for erosion effects from construction activities 	<ul style="list-style-type: none"> • Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for erosion effects from construction activities 	<ul style="list-style-type: none"> • Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for erosion effects from construction activities 	<ul style="list-style-type: none"> • Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for erosion effects from construction activities 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline
		<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

NPDES = National Pollutant Discharge Elimination System

SKR = Stephens' kangaroo rat

**Table S-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Natural Environment (Continued) <ul style="list-style-type: none">Water Resources	Conditions: No ground disturbance. Adequate water supply for limited on-base demand	<ul style="list-style-type: none">Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for surface water impactsRunoff would exceed the planned capacity of local area drainage plans, and impact downstream facilitiesAir Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains. New development in floodplains subject to review by appropriate local jurisdictions	<ul style="list-style-type: none">Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for surface water impactsRunoff would exceed the planned capacity of local area drainage plans, and impact downstream facilitiesAir Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains. New development in floodplains subject to review by appropriate local jurisdictions	<ul style="list-style-type: none">Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for surface water impactsRunoff would exceed the planned capacity of local area drainage plans, and impact downstream facilitiesAir Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains. New development in floodplains subject to review by appropriate local jurisdictions	<ul style="list-style-type: none">Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for surface water impactsRunoff would exceed the planned capacity of local area drainage plans, and impact downstream facilitiesAir Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains. New development in floodplains subject to review by appropriate local jurisdictions	<ul style="list-style-type: none">Impacts: Minimal ground disturbance from AFRES renovation activities. Minor erosion and runoff effectsAir Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

AFI = Air Force Instruction
 EO = Executive Order
 NPDES = National Pollutant Discharge Elimination System
 SKR = Stephens' kangaroo rat

**Table S-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Natural Environment (Continued)		<ul style="list-style-type: none"> Mitigation: New owners may have to coordinate with RCFCWCD regarding drainage studies and design and construction of additional facilities. Construction of detention basins in accordance with local jurisdiction requirements 	<ul style="list-style-type: none"> Mitigation: New owners may have to coordinate with RCFCWCD regarding drainage studies and design and construction of additional facilities. Construction of detention basins in accordance with local jurisdiction requirements 	<ul style="list-style-type: none"> Mitigation: New owners may have to coordinate with RCFCWCD regarding drainage studies and design and construction of additional facilities. Construction of detention basins in accordance with local jurisdiction requirements 	<ul style="list-style-type: none"> Mitigation: New owners may have to coordinate with RCFCWCD regarding drainage studies and design and construction of additional facilities. Construction of detention basins in accordance with local jurisdiction requirements 	<ul style="list-style-type: none"> Mitigation: None required
<ul style="list-style-type: none"> Air Quality 	<p>Conditions:</p> <p>CO: 1,422 tpy NO_x: 286 tpy PM₁₀: 36 tpy SO₂: 14 tpy VOC: 877 tpy</p> <p>Air pollutant emissions generated from retained military and caretaker activities</p>	<ul style="list-style-type: none"> Impacts: Total reuse-related emissions in 2010: CO: 10,113 tpy NO_x: 2,490 tpy PM₁₀: 939 tpy SO₂: 185 tpy VOC: 2,217 tpy Increased emissions during construction and operations, but would not delay regional progress toward attainment of any standard 	<ul style="list-style-type: none"> Impacts: Total reuse-related emissions in 2010: CO: 7,707 tpy NO_x: 2,171 tpy PM₁₀: 657 tpy SO₂: 147 tpy VOC: 1,724 tpy Increased emissions during construction and operations, but would not delay regional progress toward attainment of any standard 	<ul style="list-style-type: none"> Impacts: Total reuse-related emissions in 2010: CO: 4,886 tpy NO_x: 1,628 tpy PM₁₀: 361 tpy SO₂: 94 tpy VOC: 1,452 tpy Increased emissions during construction and operations, but would not delay regional progress toward attainment of any standard 	<ul style="list-style-type: none"> Impacts: Total reuse-related emissions in 2010: CO: 4,668 tpy NO_x: 1,051 tpy PM₁₀: 438 tpy SO₂: 83 tpy VOC: 1,384 tpy Increased emissions during construction and operations, but would not delay regional progress toward attainment of any standard 	<ul style="list-style-type: none"> Impacts: Total emissions in 2010: CO: 987 tpy NO_x: 258 tpy PM₁₀: 33 tpy SO₂: 12 tpy VOC: 775 tpy Increased emissions of ozone precursors, but would not delay regional progress toward attainment of any standard

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

CO = carbon monoxide
NO_x = nitrogen oxides
PM₁₀ = particulate matter equal to or less than 10 microns in diameter
RCFCWCD = Riverside County Flood Control and Water Conservation District
SKR = Stephens' kangaroo rat
SO₂ = sulfur dioxide
tpy = tons per year
VOC = volatile organic compound

**Table S-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Natural Environment (Continued) <ul style="list-style-type: none"> Air Quality (Continued) 	Potential exceedance of 1-hour and 8-hour CO standards at six intersections	<p>Increase in 8-hour CO exceedances at two intersections and decrease in exceedance at one intersection</p> <ul style="list-style-type: none"> Mitigation: Residential and commercial/industrial developers could control fugitive dust and combustion emissions from construction activities 	<p>Increase in 8-hour CO exceedances at two intersections and decrease in exceedance at one intersection. Exceedance of 8-hour CO standards at one additional intersection</p> <ul style="list-style-type: none"> Mitigation: Residential and commercial/industrial developers could control fugitive dust and combustion emissions from construction activities 	<p>Increase in 8-hour CO exceedances at two intersections and decrease in exceedance at one intersection</p> <ul style="list-style-type: none"> Mitigation: Residential and commercial/industrial developers could control fugitive dust and combustion emissions from construction activities 	<p>Increase in 8-hour CO exceedances at two intersections and decrease in exceedance at one intersection</p> <ul style="list-style-type: none"> Mitigation: Residential and commercial/industrial developers could control fugitive dust and combustion emissions from construction activities 	<p>No exceedance of 1-hour CO standards in 2010; exceedances of 8-hour standards at three intersections in 2010</p> <ul style="list-style-type: none"> Mitigation: Application of SCAQMD-approved control measures by residential and commercial/industrial developers, such as land use or transportation planning and management measures, to reduce motor vehicle pollution

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

CO = carbon monoxide
 SCAQMD = South Coast Air Quality Management District
 SKR = Stephens' kangaroo rat

**Table S-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Natural Environment (Continued)						
<ul style="list-style-type: none"> • Noise 	<p>Conditions:</p> <p>15,213 acres and 16,768 residents exposed to CNEL 60 dB or greater due to continued military aircraft operations</p> <p>3,552 residents exposed to CNEL 60 dB or greater due to surface traffic</p>	<ul style="list-style-type: none"> • Impacts: Increase of 441 acres and 1,357 residents exposed to CNEL 60 dB or greater due to civilian aircraft operations in 2016 779 additional residents exposed to CNEL 60 dB or greater due to increased surface traffic in 2016 	<ul style="list-style-type: none"> • Impacts: Increase of 718 acres and 616 residents exposed to CNEL 60 dB or greater due to civilian aircraft operations in 2016 810 additional residents exposed to CNEL 60 dB or greater due to increased surface traffic in 2016 	<ul style="list-style-type: none"> • Impacts: Increase of 560 acres and 1,104 residents exposed to CNEL 60 dB or greater due to civilian aircraft operations in 2016 382 additional residents exposed to CNEL 60 dB or greater due to increased surface traffic in 2016 	<ul style="list-style-type: none"> • Impacts: No change in aircraft noise levels 297 additional residents exposed to CNEL 60 dB or greater due to increased surface traffic in 2016 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline 6,045 residents exposed to CNEL 60 dB or greater due to increased surface traffic in 2016 as a result of regional growth

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

CNEL = Community Noise Equivalent Level

dB = decibel

SCAQMD = South Coast Air Quality Management District

SKR = Stephens' kangaroo rat

**Table S-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Natural Environment (Continued) • Noise (Continued)		<ul style="list-style-type: none"> Mitigation: Barrier walls installed by the local transportation agency, sound insulation by residential and commercial/industrial developers, and land use planning measures by local jurisdictions to mitigate surface traffic noise 	<ul style="list-style-type: none"> Mitigation: Barrier walls installed by the local transportation agency, sound insulation by residential and commercial/industrial developers, and land use planning measures by local jurisdictions to mitigate surface traffic noise 	<ul style="list-style-type: none"> Mitigation: Barrier walls installed by the local transportation agency, sound insulation by residential and commercial/industrial developers, and land use planning measures by local jurisdictions to mitigate surface traffic noise 	<ul style="list-style-type: none"> Mitigation: Barrier walls installed by the local transportation agency, sound insulation by residential and commercial/industrial developers, and land use planning measures by local jurisdictions to mitigate surface traffic noise 	<ul style="list-style-type: none"> Mitigation: Barrier walls installed by the local transportation agency, sound insulation by residential and commercial/industrial developers, and land use planning measures by local jurisdictions to mitigate surface traffic noise
• Biological Resources Conditions: No ground disturbance Approximately 79 acres of wetlands and 2,200 acres of protected SKR habitat present on base property		<ul style="list-style-type: none"> Impacts: Exchange for suitable SKR habitat elsewhere in Riverside County would eliminate the need for mitigation 	<ul style="list-style-type: none"> Impacts: Relocation of a portion of SKR habitat to suitable habitat elsewhere in Riverside County would eliminate the need for mitigation 	<ul style="list-style-type: none"> Impacts: Potential direct and indirect impacts to 64 acres of wetlands 	<ul style="list-style-type: none"> Impacts: Exchange for suitable SKR habitat elsewhere in Riverside County would eliminate the need for mitigation 	<ul style="list-style-type: none"> Impacts: Same as realignment baseline
		Potential direct and indirect impacts to 79 acres of wetlands	Potential direct and indirect impacts to 51 acres of wetlands		Potential direct and indirect impacts to 77 acres of wetlands	

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.
SKR = Stephens' kangaroo rat

Table S-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Natural Environment (Continued) <ul style="list-style-type: none"> Biological Resources (Continued) 		<ul style="list-style-type: none"> Mitigation: Selective siting of improvements and restriction of operations by developers will avoid direct impacts to wetlands Controlling runoff through design and engineering practices by developers will minimize indirect impacts to wetlands Compliance by federal agencies with Sections 7 and 9 of the Endangered Species Act will minimize impacts to sensitive species Compliance by federal agencies with Section 404 of the Clean Water Act will minimize impacts to wetlands 	<ul style="list-style-type: none"> Mitigation: Selective siting of improvements and restriction of operations by developers will avoid direct impacts to wetlands Controlling runoff through design and engineering practices by developers will minimize indirect impacts to wetlands Compliance by federal agencies with Sections 7 and 9 of the Endangered Species Act will minimize impacts to sensitive species Compliance by federal agencies with Section 404 of the Clean Water Act will minimize impacts to wetlands 	<ul style="list-style-type: none"> Mitigation: Selective siting of improvements and restriction of operations by developers will avoid direct impacts to wetlands Controlling runoff through design and engineering practices by developers will minimize indirect impacts to wetlands Compliance by federal agencies with Sections 7 and 9 of the Endangered Species Act will minimize impacts to sensitive species Compliance by federal agencies with Section 404 of the Clean Water Act will minimize impacts to wetlands 	<ul style="list-style-type: none"> Mitigation: Selective siting of improvements and restriction of operations by developers will avoid direct impacts to wetlands Controlling runoff through design and engineering practices by developers will minimize indirect impacts to wetlands Compliance by federal agencies with Sections 7 and 9 of the Endangered Species Act will minimize impacts to sensitive species Compliance by federal agencies with Section 404 of the Clean Water Act will minimize impacts to wetlands 	<ul style="list-style-type: none"> Mitigation: None required

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.
SKR = Stephens' kangaroo rat

**Table S-2. Summary of Environmental Impacts and Suggested Mitigations
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Natural Environment (Continued) <ul style="list-style-type: none"> Cultural Resources 	Conditions: Historic District, Red Cross building and garage, Building 2605, and prehistoric and historic sites recommended for further evaluation	<ul style="list-style-type: none"> Impacts: Potential impacts from conveyance of historic properties from federal control Historic properties in cantonment managed in accordance with HPP Mitigation: Mitigation measures developed in accordance with Section 106 of the NHPA may include avoidance, stabilization, data recovery, or placing preservation covenants in transfer documents 	<ul style="list-style-type: none"> Impacts: Potential impacts from conveyance of historic properties from federal control Historic properties in cantonment managed in accordance with HPP Mitigation: Mitigation measures developed in accordance with Section 106 of the NHPA may include avoidance, stabilization, data recovery, or placing preservation covenants in transfer documents 	<ul style="list-style-type: none"> Impacts: Potential impacts from conveyance of historic properties from federal control Historic properties in cantonment managed in accordance with HPP Mitigation: Mitigation measures developed in accordance with Section 106 of the NHPA may include avoidance, stabilization, data recovery, or placing preservation covenants in transfer documents 	<ul style="list-style-type: none"> Impacts: Potential impacts from conveyance of historic properties from federal control Historic properties in cantonment managed in accordance with HPP Mitigation: Mitigation measures developed in accordance with Section 106 of the NHPA may include avoidance, stabilization, data recovery, or placing preservation covenants in transfer documents 	<ul style="list-style-type: none"> Impacts: No Impacts Historic properties managed in accordance with HPP Mitigation: None required
HPP = Historic Preservation Plan NHPA = National Historic Preservation Act SKR = Stephens' kangaroo rat						

Utility consumption associated with the Proposed Action would represent an increase of less than 3 percent over No-Action Alternative projections in the ROI. Reuse-related effects on utility systems would be negligible compared to effects of regional growth.

Hazardous Materials and Hazardous Waste Management. The quantities of hazardous materials and waste used and generated under the Proposed Action are expected to be greater than under realignment conditions. The responsibility for managing hazardous materials and wastes would shift from a single user to multiple, independent users. Activities associated with the military cantonment would continue to require use of similar types and quantities of hazardous materials as under realignment conditions.

Reuse activities are not expected to affect remediation under the IRP, which is proceeding according to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) regulations. The Restoration Advisory Board will continue to review and provide comments on proposed remedial actions and act as the liaison between the local community and the Base Realignment and Closure (BRAC) Cleanup Team (BCT) during environmental restoration. However, redevelopment of some properties may be delayed or land use restrictions may be required due to the extent and type of site contamination and by current and future IRP remediation activities. Based on the results of IRP investigations, the Air Force may, where appropriate, place limits on land reuse through deed restrictions on conveyances and use restrictions on leases.

Prior to property disposal, existing underground storage tanks (USTs) not in conformance with current regulations or not required for reuse would be deactivated and removed in accordance with applicable regulations. Unused aboveground storage tanks will be purged, and oil/water separators that would not be reused will be pumped and cleaned of any contents in accordance with applicable regulations. New storage tanks required for reuse would be subject to all federal, state, and local regulations. All federally and state-regulated polychlorinated biphenyls (PCBs) were either removed and properly disposed of prior to realignment, or are below federal and state action levels. All ordnance associated with the explosive ordnance disposal range and spent bullets associated with the small arms range will be cleared prior to disposal. The small arms range would continue to be used under civilian management, with joint use by military personnel at March ARB.

Asbestos-containing material (ACM) in such a condition that it poses a health risk will be abated prior to property disposal. Demolition or renovation of structures with ACM would be subject to applicable federal, state, and local regulations. Management of ACM on disposal property would be the responsibility of the new owner. The Air Force will be responsible for management of ACM within the military cantonment. Reuse-related pesticide usage would be subject to the Federal Insecticide, Fungicide, and

Rodenticide Act (FIFRA) and state guidelines. Radon levels at March AFB are below the U.S. Environmental Protection Agency (EPA) recommended mitigation level of 4 picocuries per liter (pCi/l). Medical/biohazardous waste generated under this alternative would be disposed of in accordance with applicable regulations. Recipients of facilities constructed prior to or during 1978 would be notified that lead-based paint may exist on the premises. Demolition or renovation activities for facilities containing lead-based paint would be subject to all applicable regulations.

Natural Environment. The Proposed Action would result in minor effects on geology and soils from ground disturbance associated with facility construction, renovations, demolition, and infrastructure improvements. Construction-related disturbance of 5 acres or more would be subject to National Pollutant Discharge Elimination System (NPDES) permit requirements to reduce runoff to waters of the United States. Implementation of standard construction practices for highly erodible soils would minimize erosion and runoff effects for all development activities. Runoff from reuse development activities would exceed the planned capacity of local area drainage plans, and could have impacts on downstream facilities. New property owners may have to coordinate with the Riverside County Flood Control and Water Conservation District (RCFCWCD) regarding drainage studies and design and construction of additional facilities. Construction of detention basins would likely be required, in accordance with local jurisdiction requirements.

Air pollutant emissions generated by the Proposed Action would be greater than at realignment; however, the increased emissions would not delay regional progress toward attainment of any standard. The increase in reuse-related traffic on local roads could slightly affect localized carbon monoxide (CO) levels at intersections near the disposal property. Analysis was accomplished for six nearby intersections. Of the three intersections where 8-hour CO ambient air quality standards would be exceeded under the No-Action Alternative, reuse-related traffic under the Proposed Action would slightly increase the exceedances at two and decrease the exceedance at the third. CO standards would not be exceeded at the other three intersections. Implementation of traffic demand management programs and standard construction practices by new owners, in consultation with the local regulatory agency, would reduce emissions.

Aircraft noise from the Proposed Action civilian aviation operations would result in an increase of 441 acres and 1,357 residents exposed to Community Noise Equivalent Level (CNEL) of 60 decibels (dB) or greater by 2016, compared to realignment conditions. As a result of reuse-generated surface traffic, 779 additional residents would be exposed to CNEL 60 dB or greater. Construction of barrier walls, use of sound-insulating materials, and appropriate land use planning by local jurisdictions would reduce traffic noise to acceptable levels.

Effects to biological resources would be minor under the Proposed Action. The proposed land exchange of SKR habitat would mitigate potential impacts to that species. Development could result in direct impacts on up to 79 acres of wetlands on West March. Minimal impacts are expected, however, because ample nonwetland acreage is available to support proposed development. No federally or state-listed threatened or endangered species are expected to be impacted by the Proposed Action.

Historic properties, which are properties listed or are potentially eligible for listing on the National Register of Historic Places (NRHP), within the cantonment will be managed in accordance with the Historic Preservation Plan (HPP). Conveyance of historic properties on disposal property to a non-federal entity may have adverse effects. The Air Force will consult with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (Council) regarding appropriate mitigation measures, which may include avoidance, stabilization, data recovery, or placing preservation covenants in the transfer documents. The SHPO has concurred that construction of the AFRES security fence through the March Field Historic District will have no adverse effect.

SKR/AVIATION ALTERNATIVE

Local Community. Redevelopment of disposal property under the SKR/Aviation Alternative would result in an increase in employment and population in the ROI. Total ROI employment would increase from 1,209,100 at realignment to 2,318,148 in 2016; this represents an increase of 1.9 percent over the projected 2016 employment without reuse. Population in the ROI would increase from 3,306,623 in 1996 to 5,789,929 in 2016, an increase of 0.2 percent over No-Action Alternative projections for that year.

Proposed land uses on disposal property would generally be compatible with existing land uses in the surrounding area and with regional plans. Local communities may have to revise their comprehensive plans and zoning ordinances. Appropriate civilian redevelopment planning would visually integrate the disposal property into the surrounding area.

The SKR/Aviation Alternative would incorporate seven new access points to improve circulation and integrate the disposal property with the surrounding road network. By 2016, eleven road segments would deteriorate to an LOS below applicable standards as a result of reuse-generated traffic. Implementation of roadway improvements could improve the LOS to meet transportation planning standards. An increase of 84,455 civilian aircraft operations annually is projected by 2016, in addition to 40,950 continuing military aircraft operations. No airspace conflicts or air transportation impacts are expected under the SKR/Aviation Alternative.

Utility consumption associated with the SKR/Aviation Alternative would represent an increase of less than 3 percent of No-Action Alternative projections in the ROI. Reuse-related effects on utility systems would be negligible.

Hazardous Materials and Hazardous Waste Management. The quantities of hazardous materials and waste used and generated under the SKR/Aviation Alternative are expected to be greater than at realignment and similar to the Proposed Action. IRP site remediation could cause some delays in redevelopment or require some land use restrictions. Remediation of IRP sites within SKR habitat would continue to be conducted in accordance with the 1993 Biological Opinion. Other aspects of hazardous materials and waste management associated with this alternative would be similar to those discussed under the Proposed Action.

Natural Environment. The SKR/Aviation Alternative would result in minor effects on geology and soils from ground disturbance associated with facility construction, renovations, demolition, and infrastructure improvements. Compliance with NPDES permit requirements and use of standard construction practices would minimize erosion and runoff effects. Runoff from reuse development activities would exceed the planned capacity of local area drainage plans, and could have impacts on downstream facilities. New property owners may have to coordinate with the RCFCWCD regarding drainage studies and design and construction of additional facilities. Construction of detention basins would likely be required, in accordance with local jurisdiction requirements.

Air pollutant emissions generated by the SKR/Aviation Alternative would be greater than at realignment; however, the increased emissions would not delay regional progress toward attainment of any standard. The increase in reuse-related traffic on local roads could slightly affect localized CO levels at intersections near the disposal property. Of the three intersections where 8-hour CO standards would be exceeded under the No-Action Alternative, reuse-related traffic under the SKR/Aviation Alternative would slightly increase the exceedances at two and decrease the exceedance at the third. Reuse-related traffic would also result in exceedance of the 8-hour CO standards at one additional intersection. CO standards would not be exceeded at the other two intersections. Implementation of traffic demand management programs and standard construction practices by new owners, in consultation with the local regulatory agency, would reduce emissions.

Aircraft noise associated with the SKR/Aviation Alternative civilian aviation operations would result in an increase of 718 acres and 616 residents exposed to CNEL 60 dB or greater by 2016. As a result of reuse-generated surface traffic, 810 additional residents would be exposed to CNEL 60 dB or greater. Construction of barrier walls, use of sound-insulating materials, and appropriate land use planning by local jurisdictions would reduce traffic noise to acceptable levels.

Effects to biological resources under the SKR/Aviation Alternative would be minor. Much of the wetland acreage is within the protected SKR habitat areas, where disturbance would be restricted. Development in other areas of West March could result in direct impacts on up to 51 acres of wetlands. Minimal impacts are expected, however, because ample nonwetland acreage is available to support proposed development. No federally or state-listed threatened or endangered species are expected to be impacted by the SKR/Aviation Alternative.

Historic properties within the cantonment will be managed in accordance with the HPP. Conveyance of historic properties on disposal property to a non-federal entity may have adverse effects. The Air Force will consult with the SHPO and the Council regarding appropriate mitigation measures, which may include avoidance, stabilization, data recovery, or placing preservation covenants in the transfer documents. The SHPO has concurred that construction of the AFRES security fence through the March Field Historic District will have no adverse effect.

SKR/CARGO ALTERNATIVE

Local Community. Redevelopment of disposal property under this alternative would result in an increase in employment and population in the ROI. Total ROI employment would increase from 1,209,100 at realignment to 2,298,742 in 2016; this represents an increase of 1.1 percent over the projected 2016 employment without reuse. Population in the ROI would increase from 3,306,623 in 1996 to 5,785,567 in 2016, an increase of 0.1 percent over No-Action Alternative projections for that year.

Proposed land uses on disposal property would generally be compatible with land uses in the surrounding area and with regional plans. Local communities may have to revise their comprehensive plans and zoning ordinances. Appropriate civilian redevelopment planning would visually integrate the disposal property into the surrounding area.

The SKR/Cargo Alternative would incorporate seven new access points to improve circulation on base and integrate the disposal property with the surrounding road network. By 2016, two road segments would deteriorate to an LOS below applicable standards as a result of reuse-generated traffic. Implementation of roadway improvements could improve the LOS to meet transportation planning standards. An increase of 33,945 civilian aircraft operations annually is projected by 2016, in addition to 40,950 continuing military aircraft operations. No airspace conflicts or air transportation impacts are expected under the SKR/Cargo Alternative.

Utility consumption associated with the SKR/Cargo Alternative would represent an increase of less than 2 percent of No-Action Alternative projections in the ROI. Reuse-related effects on utility systems would be negligible.

Hazardous Materials and Hazardous Waste Management. The quantities of hazardous materials and waste used and generated under the SKR/Cargo Alternative would be greater than realignment conditions but less than the Proposed Action or the SKR/Aviation Alternative. IRP site remediation could cause some delays in redevelopment or require some land use restrictions. Remediation of IRP sites within SKR habitat would continue to be conducted in accordance with the 1993 Biological Opinion. The small arms range would continue to be used by AFRES and military tenants, and would be managed under applicable Air Force regulations. Other aspects of hazardous materials and waste management associated with this alternative would be similar to those discussed under the Proposed Action.

Natural Environment. The SKR/Cargo Alternative would result in minor effects on geology and soils from ground disturbance associated with facility construction, renovations, and demolition and infrastructure improvements. Compliance with NPDES permit requirements and use of standard construction practices would minimize erosion and runoff effects. Runoff from reuse development activities would exceed the planned capacity of local area drainage plans, and could have impacts on downstream facilities. New property owners may have to coordinate with the RCFCWCD regarding drainage studies and design and construction of additional facilities. Construction of detention basins would likely be required, in accordance with local jurisdiction requirements.

Air pollutant emissions generated by the SKR/Cargo Alternative would be greater than at realignment; however, the increased emissions would not delay regional progress toward attainment of any standard. The increase in reuse-related traffic on local roads could slightly affect localized CO levels at intersections near the disposal property. Of the three intersections where 8-hour CO standards would be exceeded under the No-Action Alternative, reuse-related traffic under the SKR/Cargo Alternative would slightly increase the exceedances at two and decrease the exceedance at the third. CO standards would not be exceeded at the other three intersections. Implementation of traffic demand management programs and standard construction practices by new owners, in consultation with the local regulatory agency, would reduce emissions.

Aircraft noise associated with the SKR/Cargo Alternative civilian aviation activities would result in an increase of 560 acres and 1,104 residents exposed to CNEL 60 dB or greater by 2016. As a result of reuse-generated surface traffic, 382 additional residents would be exposed to CNEL 60 dB or greater. Construction of barrier walls, use of sound-insulating materials, and appropriate land use planning by local jurisdictions would reduce traffic noise to acceptable levels.

Effects to biological resources under the SKR/Cargo Alternative would be minor. Much of the wetland acreage is within the protected SKR habitat areas, where development would be restricted. Development in other areas

of West March could result in direct impacts on up to 64 acres of wetlands. Minimal impacts are expected, however, because ample nonwetland acreage is available to support proposed development. No federally or state-listed threatened or endangered species are expected to be impacted by the SKR/Cargo Alternative.

Historic properties within the cantonment will be managed in accordance with the HPP. Conveyance of historic properties on disposal property to a non-federal entity may have adverse effects. The Air Force will consult with the SHPO and the Council regarding appropriate mitigation measures, which may include avoidance, stabilization, data recovery, or placing preservation covenants in the transfer documents. The SHPO has concurred that construction of the AFRES security fence through the March Field Historic District will have no adverse effect.

MILITARY AVIATION ALTERNATIVE

Local Community. Redevelopment of disposal property under this alternative would result in an increase in employment and population in the ROI. Total ROI employment would increase from 1,209,100 at realignment to 2,302,701 in 2016; this represents an increase of 1.2 percent over the projected 2016 employment without reuse. Population in the ROI would increase from 3,306,623 in 1996 to 5,786,253 in 2016, an increase of 0.1 percent over No-Action Alternative projections for that year. Proposed land uses on disposal property would generally be compatible with land uses in the surrounding areas and with regional plans. Local communities may have to revise their comprehensive plans and zoning ordinances. Appropriate civilian redevelopment planning would visually integrate the disposal property into the surrounding area.

The Military Aviation Alternative would incorporate ten new access points to improve circulation and integrate the disposal property with the surrounding road network. By 2016, three road segments would deteriorate to an unacceptable LOS as a result of reuse-generated traffic. Implementation of roadway improvements could improve the LOS to meet transportation planning standards. Because there would be no civilian use of the airfield, there would be no increase in annual aircraft operations compared to realignment conditions. No airspace conflicts or air transportation impacts are expected under the Military Aviation Alternative.

Utility consumption associated with the Military Aviation Alternative would represent an increase of less than 2 percent over No-Action Alternative projections in the ROI. Reuse-related effects on utility systems would be negligible.

Hazardous Materials and Hazardous Waste Management. The quantities of hazardous materials and waste used and generated would be greater than under realignment conditions but less than for the Proposed Action and other

reuse alternatives. IRP site remediation could cause some delays in redevelopment or require some land use restrictions. Other aspects of hazardous materials and waste management associated with this alternative would be similar to those discussed under the Proposed Action.

Natural Environment. The Military Aviation Alternative would result in minor effects on geology and soils from ground disturbance associated with facility construction, renovations, demolition, and infrastructure improvements. Compliance with NPDES permit requirements and use of standard construction practices would minimize erosion and runoff effects. Runoff from reuse development activities would exceed the planned capacity of local area drainage plans, and could have impacts on downstream facilities. New property owners may have to coordinate with the RCFCWCD regarding drainage studies and design and construction of additional facilities. Construction of detention basins would likely be required, in accordance with local jurisdiction requirements.

Air pollutant emissions generated by the Military Aviation Alternative would be greater than at realignment; however, the increased emissions would not delay regional progress toward attainment of any standard. The increase in reuse-related traffic on local roads could slightly affect localized CO levels at intersections near the disposal property. Of the three intersections where 8-hour CO standards would be exceeded under the No-Action Alternative, reuse-related traffic under the Military Aviation Alternative would slightly increase the exceedances at two and decrease the exceedance at the third. CO standards would not be exceeded at the other three intersections. Implementation of traffic demand management programs and standard construction practices by new owners, in consultation with the local regulatory agency, would reduce emissions.

Aircraft noise associated with the military aviation activities would result in no change over realignment conditions. As a result of reuse-generated surface traffic, 297 additional residents would be exposed to CNEL 60 dB or greater. Construction of barrier walls, use of sound-insulating materials, and appropriate land use planning by local jurisdictions would reduce traffic noise to acceptable levels.

Impacts to biological resources under the Military Aviation Alternative would be minor. Development could result in direct impacts of up to 77 acres of wetlands on West March. Minimal impacts are expected, however, because ample nonwetland acreage is available to support proposed development. No federally or state-listed threatened or endangered species are expected to be impacted by the Military Aviation Alternative.

Historic properties within the cantonment will be managed in accordance with the HPP. Conveyance of historic properties on disposal property to a non-federal entity may have adverse effects. The Air Force will consult with the SHPO and the Council regarding appropriate mitigation measures, which

may include avoidance, stabilization, data recovery, or placing preservation covenants in the transfer documents. The SHPO has concurred that construction of the AFRES security fence through the March Field Historic District will have no adverse effect.

NO-ACTION ALTERNATIVE

Local Community. Under the No-Action Alternative, AFRES and tenant units would continue to operate within the military cantonment. The remainder of the base would be put to no further use and placed under long-term caretaker status and maintained by the Air Force Base Conversion Agency Operating Location (OL). Caretaker activities would generate approximately 1,661 direct and 951 secondary jobs throughout the 20-year analysis period. By 2016, total employment in the ROI is projected to reach 2,274,632 and total population is expected to be 5,779,846.

There would be no land use impacts from the No-Action Alternative. Upon realignment, all navigation aids will remain functional; AFRES will provide air traffic control. The number of military aircraft operations is projected to remain constant at approximately 40,950 throughout the 20-year analysis period. By 2016, 14 road segments and Interstate-215 (northbound and southbound) would deteriorate to an unacceptable LOS as a result of traffic related to regional growth. No increase in annual aircraft operations is expected. The increase in utility use associated with regional growth would necessitate additional capacity in water and wastewater systems and landfills in the ROI.

Hazardous Materials and Hazardous Waste Management. Small quantities and various types of hazardous materials and pesticides would still be used. Hazardous materials and waste and IRP site remediation within the cantonment and outside it would be managed and controlled by AFRES and the OL, respectively, in accordance with applicable regulations. Remediation of IRP sites within SKR habitat will continue to be coordinated with the U.S. Fish and Wildlife Service (USFWS) in accordance with the 1993 Biological Opinion. Storage tanks not needed after realignment would be removed or maintained in place according to applicable regulations. AFRES would be responsible for operation and maintenance of remaining storage tanks and oil/water separators, the Bulk Fuels Storage Area, and the two hydrant fueling systems. The small arms range would continue to be used by AFRES and other military tenants, and would be managed under applicable Air Force regulations. ACM would be managed in accordance with Air Force policy to protect human health and the environment. Pesticide usage would continue to be managed in accordance with FIFRA and state guidelines. Medical/biohazardous waste generated by AFRES and tenant activities would be managed in accordance with applicable regulations. Facilities that were constructed during or prior to 1978 may contain lead-based paint and would be managed in accordance with Air Force policy.

Natural Environment. The No-Action Alternative would not cause adverse effects on geology or soils, water resources, noise, biological resources, or cultural resources. There would be no construction and, therefore, no erosion or runoff effects resulting from ground disturbance. Increased traffic resulting from regional growth would produce localized 8-hour CO concentrations that would exceed standards at three intersections near the base. Aircraft-related pollutant emissions and noise levels would be reduced from prerealignment conditions because of the reduction in military flight operations associated with realignment. This alternative could have overall beneficial effects on biological resources as a result of the reduction in human activity and ground disturbance compared to prerealignment conditions. All SKR habitat would continue to be protected under the terms of the 1993 Biological Opinion. The SHPO has concurred that construction of the AFRES security fence through the March Field Historic District will have no adverse effect. Historic properties on base would be managed in accordance with the HPP.

OTHER LAND USE CONCEPTS

Other independent land uses are analyzed in terms of their effects on employment, population, and the environment when combined with the Proposed Action and alternatives. The seven independent land use concepts analyzed in this EIS are briefly described in the following paragraphs. Impacts on the local community and the environment if these proposals are implemented are summarized in Table S-3.

SKR Habitat. The SKR habitat concept would involve preservation of SKR management and open space areas established and managed in accordance with a 1993 Biological Opinion issued by the USFWS. The SKR habitat outside of the military cantonment (1,879 acres) would likely be transferred to another federal agency that would manage the property for habitat conservation. SKR habitat within the cantonment would continue to be managed by the Air Force. Minimal ground disturbance, involving demolition of existing facilities in the weapons storage area and west of Air Force Village West, would occur. By 2016, implementation of the SKR habitat land use concept would result in no changes to the SKR/Cargo Alternative. When combined with the Proposed Action, the SKR/Aviation Alternative, or the Military Aviation Alternative, a decrease in disturbed acreage, facility construction, employment, population, and vehicle trips would result, because less acreage would be available for redevelopment.

Remediation of IRP sites would continue to be coordinated with the USFWS in accordance with the Biological Opinion. Wetlands within the SKR habitat would remain undisturbed and potentially significant cultural resource sites in these areas would remain under federal protection.

U.S. Department of Agriculture Forest Service Operations Coordination Center. The Forest Service has requested property and facilities to support

Table S-3. Summary of Impacts from Other Land Concepts
Page 1 of 5

Resource Category	SKR Habitat	USDA Forest Service Operations	Riverside National Cemetery Expansion	Navy and Marine Corps Reserve Center	AAFES	Army Reserve	California Army National Guard
Local Community							
Land Use and Aesthetics	Likely under federal control. Consistent with WRCOG Subregional Comprehensive Plan. Preserves visual sensitivity	Consistent with WRCOG Subregional Comprehensive Plan	Consistent with WRCOG Subregional Comprehensive Plan. Local jurisdiction would need to update zoning ordinances. Preserves visual sensitivity	Consistent with WRCOG Subregional Comprehensive Plan	Consistent with WRCOG Subregional Comprehensive Plan	Consistent with WRCOG Subregional Comprehensive Plan	Consistent with WRCOG Subregional Comprehensive Plan
Transportation	Net reduction in total trips when combined with any reuse alternative except SKR/Cargo Alternative	No impact	No impact	No impact	No impact	No impact	No impact
Utilities	Some new access points proposed for reuse may not be needed Decrease in utility use	Minimal utility use	Minimal utility use	Minimal utility use	Minimal utility use	Minimal utility use	Minimal utility use

AAFES = Army and Air Force Exchange Service
SKR = Stephens' kangaroo rat
USDA = U.S. Department of Agriculture
WRCOG = Western Riverside Council of Governments

Table S-3. Summary of Impacts from Other Land Concepts
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Resource Category	SKR Habitat	USDA Forest Service Operations	Riverside National Cemetery Expansion	Navy and Marine Corps Reserve Center	AAFES	Army Reserve	California Army National Guard
Hazardous Materials and Hazardous Waste Management							
Hazardous Materials Management	No impact	Management in accordance with applicable regulations	No impact	Management in accordance with applicable regulations	Management in accordance with applicable regulations	Management in accordance with applicable regulations	Management in accordance with applicable regulations
Hazardous Waste Management	No impact	Management in accordance with applicable regulations	No impact	Management in accordance with applicable regulations	Management in accordance with applicable regulations	Management in accordance with applicable regulations	Management in accordance with applicable regulations
Installation Restoration Program	Remediation would continue in accordance with 1993 Biological Opinion	Short-term interruptions in daily activities or land use restrictions could occur	Redevelopment delays and land use restrictions could occur	No impact	Short-term interruptions in daily activities or land use restrictions could occur	Short-term interruptions in daily activities or land use restrictions could occur	No impact
Storage Tanks	No impact	No impact	No impact	No impact	No impact	No impact	No impact
Asbestos	Demolition in accordance with applicable regulations	Management in accordance with applicable regulations	No impact	Management in accordance with applicable regulations	Management in accordance with applicable regulations	Management in accordance with applicable regulations	No impact
Pesticide Usage	No impact	Management in accordance with applicable regulations	Management in accordance with applicable regulations	No impact	No impact	No impact	No impact

AAFES = Army and Air Force Exchange Service

SKR = Stephens' kangaroo rat

USDA = U.S. Department of Agriculture

Table S-3. Summary of Impacts from Other Land Concepts
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Resource Category	SKR Habitat	USDA Forest Service Operations	Riverside National Cemetery Expansion	Navy and Marine Corps Reserve Center	AAFES	Army Reserve	California Army National Guard
Hazardous Materials and Hazardous Waste Management (Continued)							
Polychlorinated Biphenyls	No impact	No impact	No impact	No impact	No impact	No impact	No impact
Radon	No impact	No impact	No impact	No impact	No impact	No impact	No impact
Medical/Biohazardous Waste	No impact	No impact	No impact	No impact	No impact	No impact	No impact
Ordnance	No impact	No impact	No impact	No impact	No impact	No impact	No impact
Lead-Based Paint	No impact	Disclosure of the possible presence of lead-based paint for buildings constructed prior to or during 1978 will be provided	No impact	Disclosure of the possible presence of lead-based paint for buildings constructed prior to or during 1978 will be provided	Disclosure of the possible presence of lead-based paint for buildings constructed prior to or during 1978 will be provided	Disclosure of the possible presence of lead-based paint for buildings constructed prior to or during 1978 will be provided	No impact
Natural Environment							
Geology and Soils	Limited ground disturbance and reduced erosion effects	Minimal ground disturbance	No impact when combined with Proposed Action	Minimal ground disturbance	No impact	Minimal ground disturbance	Minimal ground disturbance

AAFES = Army and Air Force Exchange Service
SKR = Stephens' kangaroo rat.
USDA = U.S. Department of Agriculture

Table S-3. Summary of Impacts from Other Land Concepts
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Resource Category	SKR Habitat	USDA Forest Service Operations	Riverside National Cemetery Expansion	Navy and Marine Corps Reserve Center	AAFES	Army Reserve	California Army National Guard
Natural Environment (Continued) Water Resources	Minor runoff impacts	Potential runoff impacts	No impact when combined with Proposed Action	Minor runoff impacts	No impact	No impact	Construction activities controlled and monitored under NPDES permit requirements and through standard construction practices
	Less water usage	Construction activities controlled and monitored under NPDES permit and through standard construction practices	Minimal increase in runoff and water use when combined with other reuse alternatives				Compliance with EO 11988 and AFI 32-7064 to control development in floodplain
Air Quality	Short-term elevated concentrations of particulates during demolition. Net reduction in CO, SO ₂ , and PM ₁₀ emissions associated with decrease in surface traffic	Short-term elevated concentrations of particulates during ground-disturbing activities and emergency operations	Short-term elevated concentrations of particulates during ground-disturbing activities	Short-term elevated concentrations of particulates during ground-disturbing activities	No impact	Short-term elevated concentrations of particulates during ground-disturbing activities	Short-term elevated concentrations of particulates during ground-disturbing activities
		No impact from aircraft operations					

AAFES = Army and Air Force Exchange Service

AFI = Air Force Instruction

CO = carbon monoxide

EO = Executive Order

NPDES = National Pollutant Discharge Elimination System

PM₁₀ = particulate matter equal to or less than 10 microns in diameter

SKR = Stephens' kangaroo rat

SO₂ = sulfur dioxide

USDA = U.S. Department of Agriculture

Table S-3. Summary of Impacts from Other Land Concepts
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Resource Category	SKR Habitat	USDA Forest Service Operations	Riverside National Cemetery Expansion	Navy and Marine Corps Reserve Center	AAFES	Army Reserve	California Army National Guard
Natural Environment (Continued)	Noise	No impact	No impact	No impact	No impact	No impact	No impact
	Biological Resources	Potential impacts to SKR on West March parcel	Potential impacts to SKR from ground-disturbing activities	No impact	No impact	No impact	No impact
Cultural Resources	Reduction in amount of surface traffic	Potential impact to wetland area	No impact	No impact	No impact	No impact	No impact
	No impact when combined with SKR/Cargo Alternative	No impact	No impact	No impact	No impact	No impact	No impact
	Continued federal control and protection when combined with other reuse alternatives	No impact	No impact	No impact	No impact	No impact	No impact
	Continued federal protection when combined with Proposed Action or Military Aviation Alternative	No impact	No impact	No impact	No impact	No impact	No impact
	No impact when combined with other reuse alternatives	No impact	No impact	No impact	No impact	No impact	No impact

AAFES = Army and Air Force Exchange Service
SKR = Stephens' kangaroo rat
USDA = U.S. Department of Agriculture

an operations coordination center for federal and state agencies providing emergency services. The center would support 60 full-time employees who would be engaged in administrative functions. In times of emergency (e.g., wildfires), the number of employees could double temporarily. Facilities would include offices and communications equipment. A large open area would be used for mobilization of emergency crews, equipment, and supplies. Light aircraft and helicopters would land and take off from the AFRES airfield to support emergency activities. Environmental impacts are expected to be minimal.

Riverside National Cemetery Expansion. The Department of Veterans Affairs has requested property for expansion of the Riverside National Cemetery. Development would include grading, landscaping, irrigation, and addition of roadways and gravesites. It is anticipated that 50 percent of the property would be developed by 2016. No new construction is proposed and no increase in employment or traffic would be associated with this expansion. Because a portion of the property is within identified SKR open space area, some mitigation, such as a land exchange, would be required to develop this property. Environmental impacts are expected to be minimal.

Navy and Marine Corps Reserve Center. The U.S. Navy has requested several facilities for a Navy and Marine Corps Reserve Center. These activities would require 77 active duty personnel and a maximum of 557 reserve personnel on base for weekend duty. The facilities would be used for administrative functions, offices, and classrooms. A new parking lot would be constructed adjacent to Building 2670, requiring disturbance of about 2 acres. Environmental impacts are expected to be minimal.

Army and Air Force Exchange Service. The AAFES has requested continued use of several facilities to provide merchandise and services to authorized military personnel. These facilities are a car care center, an automobile workshop, a gas station, Commissary, home and garden store, a Burger King, and the Base Exchange. No new construction would be required. These activities would employ 322 people. Environmental impacts are expected to be minimal.

Army Reserve. Headquarters 63rd Army Reserve Command has requested Facilities 602, 2996, and 2998 for administrative and classroom purposes. About 200 active duty personnel would be employed in these activities. A 4-acre parking lot for tactical military vehicles would be constructed north of Facility 2500, in the military cantonment. Environmental impacts are expected to be minimal.

California Army National Guard. Approximately 15 acres of vacant land has been requested by the California Army National Guard for construction of a multi-unit armory. Forty-two active duty personnel would use this facility daily; a maximum of 450 reserve personnel would be on base one weekend per month. The armory would be used for storage of small arms and vehicle

maintenance supplies, including hazardous materials. Environmental impacts are expected to be minimal.

ENVIRONMENTAL JUSTICE

An environmental justice analysis was conducted pursuant to Executive Order 12898 in order to identify potential disproportionately high and adverse impacts to minority and low-income populations resulting from the disposal and reuse of March AFB property. Potential environmental justice impacts are summarized in Table S-4.

Proposed Action. Reuse-related aircraft noise would affect residential areas within four census tracts having disproportionately high low-income or minority populations. Surface traffic noise impacts could affect residents in seven census tracts having disproportionately high low-income or minority populations. Mitigation measures that could be implemented by the new property owners and/or local planning jurisdictions could include construction of barrier walls along affected roadways, use of sound insulating materials in building design, restricting residential development in areas exposed to high noise levels, and use of techniques such as barrier walls and buffer zones in new development plans.

SKR/Aviation Alternative. Reuse-related aircraft noise would affect residential areas within four census tracts having disproportionately high low-income or minority populations. Surface traffic noise impacts could affect residents in seven census tracts having disproportionately high low-income or minority populations. Mitigation measures that could be implemented by the new property owners and/or local planning jurisdictions could include construction of barrier walls along affected roadways, use of sound insulating materials in building design, restricting residential development in areas exposed to high noise levels, and use of techniques such as barrier walls and buffer zones in new development plans.

SKR/Cargo Alternative. Reuse-related aircraft noise would affect residential areas within three census tracts having disproportionately high low-income or minority populations. Surface traffic noise impacts could affect residents in six census tracts having disproportionately high low-income or minority populations. Mitigation measures that could be implemented by the new property owners and/or local planning jurisdictions could include construction of barrier walls along affected roadways, use of sound insulating materials in building design, restricting residential development in areas exposed to high noise levels, and use of techniques such as barrier walls and buffer zones in new development plans.

Military Aviation Alternative. There would be no civilian aircraft operations; therefore, there would be no reuse-related aircraft noise impacts. Surface traffic noise impacts could affect residents in eight census tracts having disproportionately high low-income or minority populations. Mitigation

Table S-4. Summary of Potential Environmental Justice Impacts and Suggested Mitigations from the Proposed Action and Reasonable Reuse Alternatives

Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative
Conditions: 85 of 124 census tracts in Riverside County have disproportionately high low-income and/or minority populations	<ul style="list-style-type: none"> Potential disproportionately high and adverse impacts: Potential impacts to low-income and minority populations in four census tracts from increased aircraft noise; in seven census tracts from increased surface traffic noise Mitigation: Incorporate noise insulation in building design Install barrier walls along affected roadways Restrict residential development in high-noise areas Use barrier walls and buffer designs in new development plans 	<ul style="list-style-type: none"> Potential disproportionately high and adverse impacts: Potential impacts to low-income and minority populations in four census tracts from increased aircraft noise; in seven census tracts from increased surface traffic noise Mitigation: Incorporate noise insulation in building design Install barrier walls along affected roadways Restrict residential development in high-noise areas Use barrier walls and buffer designs in new development plans 	<ul style="list-style-type: none"> Potential disproportionately high and adverse impacts: Potential impacts to low-income and minority populations in three census tracts from increased aircraft noise; in six census tracts from increased surface traffic noise Mitigation: Incorporate noise insulation in building design Install barrier walls along affected roadways Restrict residential development in high-noise areas Use barrier walls and buffer designs in new development plans 	<ul style="list-style-type: none"> Potential disproportionately high and adverse impacts: Potential impacts to low-income and minority populations in eight census tracts from increased surface traffic noise Mitigation: Incorporate noise insulation in building design Install barrier walls along affected roadways Restrict residential development in high-noise areas Use barrier walls and buffer designs in new development plans

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.
SKR = Stephens' kangaroo rat

measures that could be implemented by the new property owners and/or local planning jurisdictions could include construction of barrier walls along affected roadways, use of sound insulating materials in building design, restricting residential development in areas exposed to high noise levels, and use of techniques such as barrier walls and buffer zones in new development plans.

SUMMARY OF PUBLIC COMMENTS

The Draft EIS (DEIS) for disposal of portions of March AFB was made available for public review and comment in August 1995. A public hearing was held in Moreno Valley, California, on September 14, 1995, at which the Air Force presented the findings of the DEIS. Public comments received both verbally at the public meeting and in writing during the response period have been reviewed and are addressed by the Air Force in Chapter 9 of this EIS. In addition, the text of the EIS itself has been revised, as appropriate, to reflect the concerns expressed in the public comments.

SUMMARY OF CHANGES FROM THE DEIS TO THE FEIS

Based on more recent studies or comments from the public, sections of the EIS have been updated or revised. In addition, a number of clarifications have been made in the text. These text revisions include the following:

- An environmental justice analysis was completed, and text has been added to the EIS.
- Information in Section 3.3, Hazardous Materials and Hazardous Waste Management, has been updated as of January 1996.
- Information on the status of cultural resources identification and evaluation has been updated.
- Information regarding management of burrowing owls on base has been corrected.
- Text has been added to Sections 3.4.2 and 4.4.2, Water Resources, to clarify the status of and potential runoff effects to local drainage plans.
- Disposal of the communications facility has been analyzed in one reuse alternative.
- Text addressing planned and ongoing development in the area around the base, and the potential for cumulative impacts, has been added.
- The traffic analyses has been adjusted to recognize criteria for acceptable conditions established by local planning jurisdictions.

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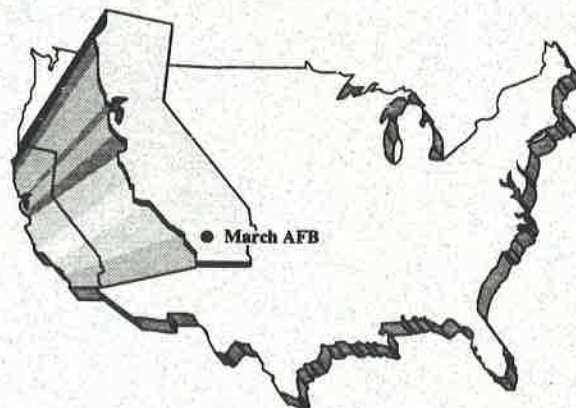


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- C - Final Environmental Impact Statement Mailing List
- D - March AFB Installation Restoration Program Bibliography and Site Descriptions
- E - Methods of Analysis
- F - Environmental Permits Held by March AFB
- G - Noise
- H - Hazardous Substances Information
- I - Air Quality Analysis Methods
- J - Agency Letters and Certifications
- K - Influencing Factors and Environmental Impacts by Land Use Category
- L - Environmental Justice Analysis Methods

ACRONYMS/ABBREVIATIONS

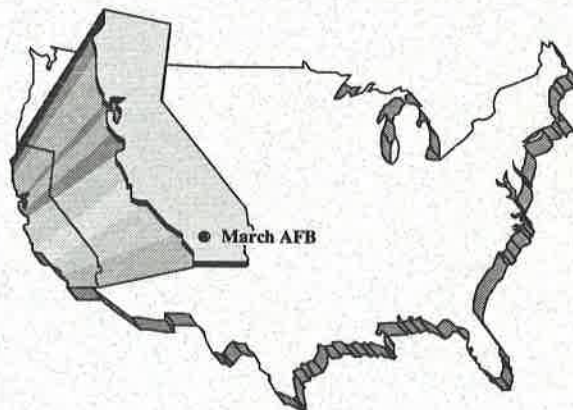
AADT	average annual daily traffic
AAFES	Army and Air Force Exchange Service
ACM	asbestos-containing material
ADT	average daily traffic
AFAA	Air Force Audit Agency
AFB	Air Force Base
AFBCA	Air Force Base Conversion Agency
AFI	Air Force Instruction
AFIS	American Forces Information Services
AFM	Air Force Manual
AFOSI	Air Force Office of Special Investigations
AFRES	Air Force Reserve
ASHERA	Asbestos Hazard Emergency Response Act
AICUZ	Air Installation Compatible Use Zone
ALP	Airport Layout Plan
AMC	Air Mobility Command
AMW	Air Mobility Wing
AOC	area of concern
APE	Area of Potential Effect
APS	aboveground petroleum storage
APZ	Accident Potential Zone
AQMP	Air Quality Management Plan
ARB	Air Reserve Base
ARTCC	Air Route Traffic Control Center
ARW	Air Refueling Wing
ASV	annual service volume
ATC	air traffic control
AT&SF	Atchison Topeka & Santa Fe Railway
AVR	average vehicle ridership
BACT	best available control technology
BARCT	best available retrofit control technology
BMW	Bombardment Wing
B.P.	before present
BRAC	Base Realignment and Closure
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CAANG	California Air National Guard
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act

CERFA	Community Environmental Response Facilitation Act
CERL	Construction Engineering Research Laboratory
CFR	Code of Federal Regulations
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO ₂	carbon dioxide
CPSC	Consumer Product Safety Commission
CSC	California Special Concern
CTP	Comprehensive Transportation Plan
CWA	Clean Water Act
dB	decibel
DBCRA	Defense Base Closure and Realignment Act
°C	degrees Celsius
°F	degrees Fahrenheit
DEIS	draft environmental impact statement
DERP	Defense Environmental Restoration Program
DHS	Department of Health Services
DME	distance-measuring equipment
DNL	day-night average noise level
DOD	Department of Defense
DOI	Department of the Interior
DOT	Department of Transportation
DRMO	Defense Reutilization and Marketing Office
DTSC	Department of Toxic Substances Control
EBS	environmental baseline survey
ECAMP	Environmental Compliance Assessment and Management Program
EDMS	Emission and Dispersion Modeling System
EIAP	environmental impact analysis process
EIS	environmental impact statement
EMWD	Eastern Municipal Water District
EO	Executive Order
EOD	explosive ordnance disposal
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERC	emission reduction credit
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FEIS	final environmental impact statement
FEMA	Federal Emergency Management Agency
FFA	Federal Facility Agreement
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIP	Federal Implementation Plan
FPMR	Federal Property Management Regulations
FY	fiscal year
GCA	Ground Control Approach
GETS	groundwater extraction and treatment system
GSA	General Services Administration
HABS/HAER	Historic American Building Survey/Historic American Engineering Record
HAP	hazardous air pollutant

HHS	Department of Health and Human Services
HMTA	Hazardous Materials Transportation Act
HOV	high-occupancy vehicle
HPP	Historic Preservation Plan
HUD	Department of Housing and Urban Development
HWCL	Hazardous Waste Control Law
I	Interstate highway
IFR	instrument flight rules
ILS	instrument landing system
IRP	Installation Restoration Program
JP-4	jet propulsion fuel, grade 4
JP-8	jet propulsion fuel, grade 8
JPA	Joint Powers Authority
JPC	Joint Powers Commission
LBPPPA	Lead-Based Paint Poisoning Prevention Act
L_{dn}	day-night average noise level
L_{eq}	equivalent noise level
LOA	Letter of Agreement
LOS	level of service
LRA	Local Redevelopment Authority
MACT	maximum achievable control technology
MAP	million annual passengers
MAS	Military Airlift Squadron
MAW	Military Airlift Wing
MCAS	Marine Corps Air Station
MGD	million gallons per day
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
MMCF	million cubic feet
MOA	Memorandum of Agreement
mph	miles per hour
MSDS	material safety data sheet
MSL	mean sea level
MTF	medical treatment facility
MWD	Metropolitan Water District
MWH	megawatt-hours
MWR	Morale, Welfare, and Recreation
NAAQS	National Ambient Air Quality Standards
NAS	National Airspace System
NASA	National Aeronautics and Space Administration
NCO	Noncommissioned Officer
NCP	National Contingency Plan
NDANG	North Dakota Air National Guard
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFA	No Further Action
NHPA	National Historic Preservation Act
nm	nautical miles
NO	nitric oxide
NO_2	nitrogen dioxide

N ₂ O	nitrous oxide
NOI	Notice of Intent
NOISEMAP	Noise Exposure Model
NORAD	North American Air Defense
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRHP	National Register of Historic Places
O ₃	ozone
OL	Operating Location
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PA/SI	Preliminary Assessment/Site Inspection
PCB	polychlorinated biphenyl
PCE	tetrachloroethylene
pCi/l	picocuries per liter
PHV	peak-hour volume
P.L.	Public Law
PM ₁₀	particulate matter equal to or less than 10 microns in diameter
POL	petroleum, oil, and lubricants
ppm	parts per million
PPMP	Pollution Prevention Management Plan
PRL	potential release location
PSD	Prevention of Significant Deterioration
RAB	Restoration Advisory Board
RACT	reasonably available control technology
RCFCWCD	Riverside County Flood Control and Water Conservation District
RCRA	Resource Conservation and Recovery Act
RCTC	Riverside County Transportation Commission
RD/RA	Remedial Design/Remedial Action
RECLAIM	Regional Clean Air Incentives Market
RFA	RCRA Facility Assessment
RI/FS	Remedial Investigation/Feasibility Study
ROC	Region of Comparison
ROD	Record of Decision
ROG	reactive organic gas
ROI	region of influence
RPU	Riverside Public Utility
RTA	Riverside Transit Agency
RWQCB	Regional Water Quality Control Board
SAC	Strategic Air Command
SARA	Superfund Amendments and Reauthorization Act
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SEL	Sound Exposure Level
SHPO	State Historic Preservation Officer
SIAS	Socioeconomic Impact Analysis Study

SIP	State Implementation Plan
SKR	Stephens' kangaroo rat
SO ₂	sulfur dioxide
SO _x	sulfur oxides
SPCC	Spill Prevention Control and Countermeasures
SR	State Route
STLC	Soluble Threshold Level Concentration
STP	sewage treatment plant
SUA	Special Use Airspace
SWMU	solid waste management unit
SWPPP	Storm Water Pollution Prevention Plan
TAC	Tactical Air Command
TACAN	tactical air navigation
TCE	trichloroethylene
TD	Technology Development
TDS	total dissolved solids
TFG	Tactical Fighter Group
TRACON	terminal radar approach control
TRG	Tactical Reconnaissance Group
TSCA	Toxic Substances Control Act
TSD	treatment, storage, and disposal
TSP	total suspended particulates
UBC	Uniform Building Code
USACE	U.S. Army Corps of Engineers
U.S.C.	U.S. Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
VAQ	visiting airmen's quarters
VFR	visual flight rules
VMC	visual meteorological conditions
VMT	vehicle miles traveled
VOC	volatile organic compound
VOQ	visiting officers' quarters
VOR	very high-frequency omnidirectional range
VORTAC	very high-frequency omnidirectional range tactical air navigation
WADS	Western Air Defense Sector
WMWD	Western Municipal Water District
WRCOG	Western Riverside Council of Governments
WSA	weapons storage area



CHAPTER 1

PURPOSE OF AND NEED FOR ACTION

1.0 PURPOSE OF AND NEED FOR ACTION

This environmental impact statement (EIS) examines the potential for impacts to the environment as a result of the disposal and reuse of portions of March Air Force Base (AFB), California, as well as with interim activities (e.g., interim outleases) that may be allowed by the Air Force before final disposal of base properties. This document has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality (CEQ) regulations implementing NEPA. Appendix A presents a glossary of terms, acronyms, and abbreviations used in this document.

1.1 PURPOSE OF AND NEED FOR

Due to the changing international political scene and the resultant shift toward a reduction in defense spending, the Department of Defense (DOD) must realign and reduce its military forces pursuant to the Defense Base Closure and Realignment Act (DBCRA) of 1990 (Public Law [P.L.] 101-510, Title XXIX). DBCRA established new procedures for closing or realigning military installations in the United States.

DBCRA established an independent Defense Base Closure and Realignment Commission (hereafter "Commission") to review the Secretary of Defense's base closure and realignment recommendations. After reviewing these recommendations, the 1993 Commission forwarded its recommended list of base closures and realignments to the President, who accepted the recommendations and submitted them to Congress on July 2, 1993. Since Congress did not disapprove the recommendations within the time period provided under DBCRA, the recommendations have become law.

The Commission's recommendation that March AFB be realigned is final. The base is scheduled to be realigned on March 31, 1996. The Commission's recommendations included departure of the active duty wing. Air Force Reserve (AFRES) and other federal agency units will remain within a military cantonment and March AFB will be converted to March Air Reserve Base (ARB).

To fulfill the requirement of reducing defense expenditures, the Air Force plans to dispose of excess and surplus real property and facilities at March AFB. DBCRA requirements relating to disposal of excess and surplus property include:

- Environmental restoration of the property as soon as possible with funds made available for such restoration

- Consideration of the local community's reuse plan, if available, prior to Air Force decision-making regarding disposal of the property
- Compliance with specific federal property disposal laws and regulations.

The Air Force action, therefore, is to dispose of March AFB property and facilities not required within the revised boundaries of the reserve base. Usually, this action is taken by the Administrator of General Services. However, DBCRA required the Administrator to delegate to the Secretary of Defense the authorities to utilize excess property, dispose of surplus property, convey airport and airport-related property, and determine the availability of excess or surplus real property for wildlife conservation purposes. The Secretary of Defense has since redelegated these authorities to the respective Service Secretaries.

1.2 DECISIONS TO BE MADE

The purpose of this EIS is to provide information for interrelated decisions concerning the disposition of March AFB property. The EIS is to provide the decision maker and the public the information required to understand the future potential environmental consequences of disposal as a result of reuse options at March AFB.

After completion of this EIS, the Air Force will issue a Record of Decision (ROD) on the disposal of March AFB property. The ROD will determine the following:

- The methods of disposal to be followed by the Air Force
- The terms and conditions of disposal.

The methods of disposal granted by the Federal Property and Administrative Services Act of 1949 and the Surplus Property Act of 1944 and implemented in the Federal Property Management Regulations (FPMR) are:

- Transfer to another federal agency
- Public benefit conveyance to an eligible entity
- Negotiated sale to a public body for a public purpose
- Competitive sale by sealed bid or auction.

In addition, amendments in the National Defense Authorization Act of 1994 (P.L. 103-160), Chapter XXIX, authorize conveyances of surplus property (e.g., economic development conveyances) to local redevelopment authorities at discounted prices when a public benefit will result.

The EIS considers environmental impacts of the Air Force's disposal of base property using all of the above-mentioned procedures and by portraying a variety of land uses to cover reasonable future uses of the property and facilities by others. Several alternative scenarios were used to group reasonable land uses and to examine the environmental effects of redevelopment of March AFB property. This methodology was employed because, although the disposal will have few, if any, direct effects, future use and control of use by others will create indirect effects. This EIS, therefore, seeks to analyze reasonable redevelopment scenarios to determine the potential indirect environmental effects of Air Force decisions.

1.3 DISPOSAL PROCESS AND REUSE PLANNING

DBCRA requires compliance with NEPA (with some exceptions) in the implementation of the base closures and realignments. Among the issues that were excluded from NEPA compliance are:

- The selection of installations for closure or realignment
- Analysis of closure impacts.

The Air Force goal is to dispose of surplus property at March AFB through transfer and/or conveyance to other government agencies or private parties. The draft land use plan prepared by the March Joint Powers Authority (JPA), the officially designated reuse authority, reflects the community's goal for reuse, which is to promote economic development on the disposal property and surrounding area.

The Air Force has adopted the preferred alternative presented in the JPA's draft land use plan as the Proposed Action in this EIS. The Air Force also developed additional reasonable alternatives in order to provide the basis for a broad environmental analysis, thus ensuring that all reasonably foreseeable impacts resulting from potential reuse have been identified and the decision maker has multiple options regarding ultimate property disposition. In all cases, the impacts of long- or short-term leasing have been identified to cover the range of potential reuse options for the disposal property. Subject to the terms of transfer or conveyance, the recipients of the property, planning and zoning agencies, and elected officials will ultimately determine the reuse of the property. Three alternatives to the Proposed Action have been identified, two of which include joint military-civilian use of the runway and one that assumes that only military aviation operations would occur. In addition, a No-Action Alternative, which would not involve reuse of the disposal property, is presented and analyzed.

The Secretary of the Air Force has full discretion in determining how the Air Force will dispose of the property. DBCRA requires the Air Force to comply with federal property disposal laws and federal property management regulations (Title 41 Code of Federal Regulations [CFR] Part 101-47).

Another provision of the Act requires the services to consult with the Governor of California and heads of local governments or equivalent political organizations for the purpose of considering any plan for the use of such property by the local community concerned. Accordingly, the Air Force is working with state authorities and the March JPA to meet this requirement.

In most cases, compliance with environmental laws regarding restoration cleanup would not interfere with reuse of some parts of the base property. Until property can be disposed of by deed, the Air Force may execute interim or long-term leases to allow reuse to begin as quickly as possible. The Air Force would structure the leases to provide the lessees with maximum control over the property, consistent with the terms of the final disposal. Restrictions on reuse and access may be necessary to ensure protection of human health and the environment and to allow implementation of required remedial actions. Environmental analysis in the EIS encompasses those possible interim or long-term leasing decisions.

Certain activities inherent in the development or expansion of an airport constitute federal actions that fall under the statutory and regulatory authority of the Federal Aviation Administration (FAA). The FAA generally reviews these activities through the processing and approval of an Airport Layout Plan (ALP). Goals of the ALP review system are to: (1) determine its effectiveness in achieving safe and efficient utilization of airspace, (2) assess factors affecting the movement of air traffic, and (3) establish conformance with FAA design criteria. The FAA approval action may also include other specific elements, such as preparation of the Airport Certification Manual (Part 139); the Airport Security Plan (Part 107); the location, construction, or modification of an air traffic control (ATC) tower, terminal radar approach control (TRACON) facility, other navigational and visual aids, and facilities; and establishment of instrument approach procedures.

In view of its possible direct involvement with the disposal of March AFB property, the FAA is serving as a cooperating agency in the preparation of the EIS. If surplus property is conveyed to a local agency for airport purposes, the FAA will be the federal agency that would enforce deed covenants requiring the property to be used for airport purposes. Additionally, the FAA may later provide airport improvement program grants to the airport sponsor (local agency taking title). The FAA also has special expertise and the legal responsibility to make recommendations to the Air Force for the disposal of surplus property for airport purposes. The Surplus Property Act (recodified at 49 U.S. Code [U.S.C.] § 47151) authorizes disposal of surplus real and related personal property for airport purposes and requires the FAA to certify that the property is necessary, suitable, and desirable for an airport.

The potential environmental impacts of airport development must be assessed prior to commitment of federal funding, in accordance with NEPA and FAA Orders 1050.1D, Policies and Procedures for Considering

Environmental Impacts, and 5050.4A, Airport Environmental Handbook. Environmental impacts must be assessed prior to authorization of plans by local agencies for the development of the entire area in which the airport is located. Section 4(f) of the Department of Transportation (DOT) Act (recodified at 49 U.S.C., Subtitle I, Section 303) provides that the Secretary of Transportation shall not approve any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance; or land of an historic site of national, state, or local significance as determined by the officials having jurisdiction thereof unless there is no feasible and prudent alternative to the use of such land, and such program or project includes all possible planning to minimize harm resulting from the use. These concerns are treated in this EIS in the appropriate resource sections: 4.2.2, Land Use and Aesthetics; 4.4.5, Biological Resources; and 4.4.6, Cultural Resources.

Compliance with FAA regulations requires the preparation of a proposed airport development plan. This EIS presents the assessment of potential environmental impacts of available plans. If a reuse proponent has developed only conceptual plans for the airport area, the environmental impacts of that conceptual plan are analyzed. The FAA may then use this document to complete their NEPA requirements. This EIS also provides environmental analysis to aid FAA decisions on funding requests for airport development projects. The new owners would be required to prepare a final ALP and submit it to the FAA, as appropriate, for approval.

1.4 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

NEPA established a national policy to protect the environment and ensure that federal agencies consider the environmental effects of actions in their decision making. The CEQ is authorized to oversee and recommend national policies to improve the quality of the environment, and has published regulations that describe how NEPA should be implemented. The CEQ regulations encourage federal agencies to develop and implement procedures that address the NEPA process in order to avoid or minimize adverse effects on the environment. Air Force Instruction (AFI) 32-7061, Environmental Impact Analysis Process (EIAP), addresses implementation of NEPA as part of the Air Force planning and decision-making process.

NEPA, CEQ regulations, FAA Orders 1050.1D and 5050.4A, and AFI 32-7061 provide guidance on the types of actions for which an EIS must be prepared. Once it has been determined that an EIS must be prepared, the proponent must publish a Notice of Intent (NOI) to prepare an EIS. This formal announcement signifies the beginning of the scoping period, during which the major environmental issues to be addressed in the EIS are identified. A Draft EIS (DEIS) is prepared, which includes the following:

- A statement of the purpose of and need for the action

- A description of the Proposed Action and alternatives, including the No-Action Alternative
- A description of the environment that would be affected by the Proposed Action and alternatives
- A description of the potential environmental consequences of the Proposed Action and alternatives, and potential mitigation measures.

The DEIS is filed with the U.S. Environmental Protection Agency (EPA), and is circulated to the interested public and government agencies for a period of at least 45 days for review and comment. During this period, a public hearing will be held so that the proponent can summarize the findings of the analysis and receive input from the affected public. At the end of the review period, all substantive comments received must be addressed. A Final EIS (FEIS) is produced that contains responses to comments, as well as changes to the document, if necessary.

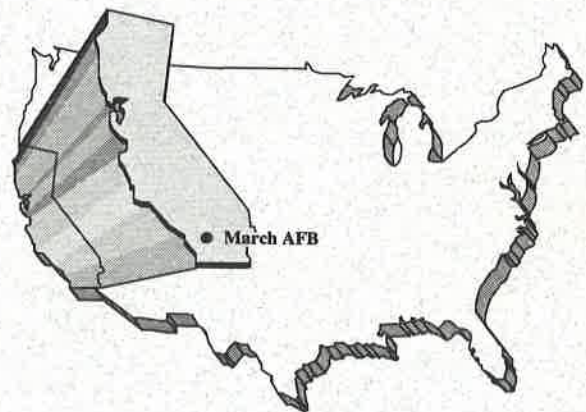
The FEIS is then filed with U.S. EPA and distributed in the same manner as the DEIS. Once the FEIS has been available for at least 30 days, the Air Force may publish its ROD for the action.

This EIS has been produced to provide the Air Force decision makers and the public with a clear understanding of the potential environmental impacts that may result from the disposal and subsequent reuse of property at March AFB. This environmental information is one of the factors to be considered in making property disposal decisions for the base. State and local regulatory agencies may have additional specific review and documentation requirements beyond those required for the federal decision that the EIS supports.

1.4.1 Scoping Process

The scoping process identifies the significant environmental issues relevant to disposal and reuse and provides an opportunity for public involvement in the development of the EIS. The NOI (Appendix B) to prepare an EIS for disposal and reuse of March AFB property was published in the Federal Register on October 28, 1993. Notification of public scoping was also made through local media, as well as through letters to federal, state, and local agencies and officials and interested groups and individuals.

A public meeting was held on April 20, 1994, at the Senior Center in Moreno Valley, California, to solicit comments and concerns from the general public on the disposal and reuse of March AFB property. Approximately 50 people attended the meeting. Representatives of the Air Force presented an overview of the meeting's objectives, agenda, and procedures, and described the process and purpose for the development of a disposal and reuse EIS. In addition to verbal comments, written comments were received during the



CHAPTER 2

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

scoping process. These comments, as well as information from the local community, experience with similar programs, and NEPA requirements, were used to determine the scope and direction of studies/analysis to accomplish this EIS.

In addition to preparation of this EIS, the Air Force conducts other studies in support of base disposal and reuse. The Basewide Environmental Baseline Survey (EBS) for March AFB, accomplished in 1994 (U.S. Air Force, 1994a) provides information on the condition of property to be disposed of, in compliance with the federal Community Environmental Response Facilitation Act (CERFA) (P.L. 102-42, 42 U.S.C. § 9620[h]). An EBS is required by DOD policy before any property can be sold, leased, transferred, or acquired.

The Socioeconomic Impact Analysis Study (SIAS) (U.S. Air Force, 1995g) for March AFB describes the socioeconomic effects of disposal and reuse on local communities. Population and employment projections used in this EIS are consistent with those used in the SIAS.

1.4.2 Public Comment Process

The DEIS was made available for public review and comment in August 1995. Copies of the DEIS were made available for review in local libraries and provided to those requesting copies. At a public hearing held on September 14, 1995, the Air Force presented the findings of the DEIS and invited public comments. The public comment period was extended to January 15, 1996, to allow public review of the environmental justice analysis, published separately in December 1995. All comments were reviewed and addressed, when applicable, and have been included in their entirety in this document. Responses to comments offering new or changes to data and questions about the presentation of data are also included. Comments simply stating facts or opinions, although appreciated, did not require specific responses. Chapter 9, Public Comments and Responses, more thoroughly describes the comment and response process. Appendix C presents a listing of agencies and individuals who have received a copy of the FEIS.

1.5 CHANGES FROM THE DEIS TO THE FEIS

The text of this EIS has been revised, where appropriate, to reflect concerns expressed in public comments. These changes range from typographical corrections to amendments of reuse plans. Based on more recent studies and/or comments received, sections of the EIS have been updated or revised. In addition, a number of clarifications have been made in the text. These text revisions include the following:

- An environmental justice analysis was completed, and text has been added to the EIS.

- Information in Section 3.3, Hazardous Materials and Hazardous Waste Management, has been updated as of January 1996.
- Information on the status of cultural resources identification and evaluation has been updated.
- Information regarding management of burrowing owls on base has been corrected.
- Text has been added to Sections 3.4.2 and 4.4.2, Water Resources, to clarify the status of and potential runoff effects to local drainage plans.
- Disposal of the communications facility has been analyzed in one reuse alternative.
- Text addressing planned and ongoing development in the area around the base, and the potential for cumulative impacts has been added.
- The traffic analysis has been adjusted to recognize criteria for acceptable conditions established by local planning jurisdictions.

1.6 ORGANIZATION OF THIS EIS

Volume I of this EIS is organized into the following chapters. Chapter 2 provides a description of the Proposed Action, reasonable alternatives to the Proposed Action, and other land use concepts that have been identified for reuse of March AFB property. Chapter 2 also briefly discusses alternatives eliminated from further consideration. Finally, Chapter 2 provides a comparative summary of the effects of the Proposed Action and alternatives with respect to effects on the local community and the natural environment. Chapter 3 presents the affected environment under the baseline conditions at base realignment, providing a basis for analyzing the impacts of the Proposed Action and alternatives. Where necessary for analytical comparisons, a prerealignment reference is provided for certain resource areas. It describes a point in time at or near the realignment announcement, and depicts conditions on the base prior to realignment. The results of the environmental analysis are presented in Chapter 4 and form the basis for the summary table at the end of Chapter 2. Chapter 5 lists individuals and organizations consulted during the preparation of the EIS, Chapter 6 provides a list of the document's preparers, Chapter 7 contains references, and Chapter 8 contains an index. Chapter 9 presents a transcript of the public hearing and contains the public comments and responses to the DEIS.

Volume II of this EIS contains the following appendices:

- Appendix A - a glossary of terms and a list of acronyms used in this document

- Appendix B - the NOI to prepare this disposal EIS
- Appendix C - a list of individuals and organizations who were sent a copy of the FEIS
- Appendix D - an Installation Restoration Program (IRP) bibliography and site descriptions
- Appendix E - a description of the methods used to evaluate the impacts of disposal and reuse of base property
- Appendix F - a list of environmental permits held by March AFB
- Appendix G - a detailed description of issues and assumptions related to noise effects
- Appendix H - information regarding hazardous substances
- Appendix I - air quality analysis methods
- Appendix J - agency letters and certifications regarding conditions at March AFB relevant to disposal and reuse of base property
- Appendix K - influencing factors and environmental impacts by land use category
- Appendix L - environmental justice analysis methods.

1.7 RELATED ENVIRONMENTAL DOCUMENTS

The environmental documents listed below have been or are being prepared separately and address environmental issues at March AFB. These documents provided supporting information for the environmental analysis.

- Basewide Environmental Baseline Survey, March Air Force Base, California (U.S. Air Force, 1994a)
- Environmental Assessment for the Navy and Marine Corps Reserve Center at March Air Force Base, California (U.S. Air Force, 1995a)
- Environmental Assessment for the Proposed Munitions Storage Complex, March Air Force Base, California (U.S. Air Force, 1995b)
- Environmental Assessment for Proposed Construction and Renovation Projects Associated with the 1996 Realignment at March Air Force Base, California (U.S. Air Force Reserve, 1995)
- IRP Bibliography (see Appendix D).

1.8 FEDERAL PERMITS, LICENSES, AND ENTITLEMENTS

Representative federal permits, licenses, and entitlements that may be required of recipients of March AFB property for purposes of redevelopment are presented in Table 1.8-1. State and local regulations may also require additional operating permits.

Table 1.8-1. Representative Federal Permits, Licenses, and Entitlements Potentially Required for Reusers or Developers of Disposed Base Property
Page 1 of 2

Federal Permit, License, or Entitlement	Typical Activity, Facility, or Category of Persons Required to Obtain the Federal Permit, License, or Entitlement	Authority	Regulatory Agency
CAA Title V permit	Any major source (source that emits more than 100 tons/year of criteria pollutant in a nonattainment area for that pollutant or is otherwise defined in Title I of CAA as a major source); affected sources as defined in Title IV of CAA; sources subject to Section 111 regarding New Source Performance Standards; sources of air toxics regulated under Section 112 of CAA; sources required to have new source or modification permits under Parts C or D of Title I of CAA; and any other source such as Hazardous Waste pollutants designated by U.S. EPA regulations	Title V of CAA, as amended by the 1990 CAA Amendments	U.S. EPA; California EPA, Department of Toxic Substances Control
National Pollutant Discharge Elimination System permit	Discharge of pollutant from any point source into waters of the United States	Section 402 of Clean Water Act, 33 U.S.C. § 1342	U.S. EPA; California EPA, Department of Toxic Substances Control
Section 404 (Dredge and Fill) Permit	Any project activities resulting in the discharge of dredged or fill material into bodies of water, including wetlands, within the United States	Section 404 of Clean Water Act, 33 U.S.C. § 1344	U.S. Department of Defense - Army Corps of Engineers, in consultation with U.S. EPA

CAA = Clean Air Act
EPA = Environmental Protection Agency
§ = Section
U.S.C. = U.S. Code

Table 1.8-1. Representative Federal Permits, Licenses, and Entitlements Potentially Required for Reusers or Developers of Disposed Base Property
Page 2 of 2

Federal Permit, License, or Entitlement	Typical Activity, Facility, or Category of Persons Required to Obtain the Federal Permit, License, or Entitlement	Authority	Regulatory Agency
Hazardous waste treatment, storage, or disposal facility permit	Owners or operators of a new or existing hazardous waste treatment, storage, or disposal facility	Resource Conservation and Recovery Act, as amended, Title 42 U.S.C. § 6901; Title 40 CFR 270	U.S. EPA; California EPA, Department of Toxic Substances Control
U.S. EPA identification number	Generators or transporters (off-site transport) of hazardous waste	Title 40 CFR 262.10 (generators); Title 40 CFR 263, Subpart B (transporters)	U.S. EPA
Archaeological Resources Protection Act permit	Excavation and/or removal of archaeological resources from public lands or Indian lands and carrying out activities associated with such excavation and/or removal	Archaeological Resources Protection Act of 1979, 16 U.S.C. § 470cc	U.S. Department of the Interior, National Park Service
Endangered Species Act Section 10 permit	Taking endangered or threatened wildlife species; engaging in certain commercial trade of endangered or threatened plants or removing such plants on property subject to federal jurisdiction	Section 10 of Endangered Species Act, 16 U.S.C. § 1539; Title 50 CFR 17 Subparts C,D,F, and G	U.S. Department of the Interior, Fish and Wildlife Service

CFR = Code of Federal Regulations
EPA = Environmental Protection Agency
§ = Section
U.S.C. = U.S. Code

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

This section describes the Proposed Action, three reasonable alternatives to the Proposed Action, and the No-Action Alternative. In addition, potential conveyances of March AFB properties and facilities from the Air Force to other federal agencies are described, as are independent reuse options that are not part of a complete reuse plan. Other alternatives that were identified but eliminated from further consideration are briefly described. The potential environmental impacts of the Proposed Action and alternatives are summarized in table form.

Generally, the Administrator of the General Services Administration (GSA) has authority to dispose of excess and surplus real property belonging to the federal government. With regard to closure and realignment bases, however, the DBCRA requires the Administrator to delegate disposal authority to the Secretary of Defense. FPMR, which govern property disposal methods associated with base closure, allow the Secretary of Defense to dispose of closure property by transfer to another federal agency, by public benefit conveyance, by negotiated sale to state or local government, and by public sale at auction or sealed bid. These disposal methods, or a combination of them, could be used to dispose of property at March AFB.

Provisions of DBCRA and FPMR require that the Air Force first notify other DOD departments that March AFB is scheduled for realignment. Any proposals from these departments for the transfer of March AFB property are given priority consideration.

The Base Closure Community Redevelopment and Homeless Assistance Act of 1994 amended DBCRA of 1990 by eliminating the McKinney Act's application to base closures. Instead, a new process as outlined in this new law shall now apply to all future base closures. This process may apply retroactively where the Local Redevelopment Authority (LRA) or chief executive officer of the state (where no LRA exists) submits a request to the Secretary of Defense, within 60 days of the enactment of this legislation (or by December 25, 1994). This legislation does not apply to property which has already been transferred or leased under the McKinney Act.

Under the new law, the Secretary of Defense, at the completion of the DOD and federal screening period, will: (1) identify property for DOD/federal transfer or for which another department or agency will accept a transfer; (2) take actions to identify property not needed for DOD/federal transfer; (3) submit a list of properties to the Department of Housing and Urban Development (HUD); and (4) publish this list of properties in the Federal Register and a newspaper of general circulation in the communities in the

vicinity (i.e., political jurisdiction) of the closing or realigning base. Screening of property for homeless needs will be confined to state and local government agencies and representatives of the homeless (as defined in the McKinney Act to include state or local government agencies or private nonprofit organizations which provide services to the homeless) in the vicinity of the closing or realigning base.

During the screening period, the LRA shall consult with representatives of the homeless and conduct outreach. Homeless providers will then submit a "notice of interest" within 3 to 6 months after completion of the DOD/federal screening, or 3 to 6 months after recognition of an LRA, where no LRA existed at the end of the DOD/federal screening period. At the end of the homeless screening period, the LRA will have 9 months in which to prepare a plan that incorporates homeless interests either through on- or off-base properties. The LRA will enter into binding agreements with homeless providers during this period. There will also be a public comment period before the LRA submits its plan to HUD. HUD will then evaluate the plan and will make its decision on the plan within 60 days of its submittal.

If the plan is approved, HUD will so notify the Secretary of Defense who will then immediately dispose of property through the Department of Health and Human Services (HHS), either directly to homeless providers or to the LRA for transfer by lease or deed to such providers. If the plan is rejected by HUD, the LRA will have an opportunity to amend its reuse plan. If the plan is still deficient after its amendment, HUD will take the place of the LRA for the purposes of making decisions on property to support homeless needs.

The LRA for March AFB disposal property is the March JPA. In December 1994, the JPA submitted a request to the Secretary of Defense to conduct homeless assistance screening and planning under the new legislation. In early January 1995, the JPA announced that they would be accepting applications from homeless assistance providers until March 15, 1995. The JPA appointed a 12-person committee to coordinate the homeless assistance planning process. Committee members met with applicants from the earlier HHS screening process to determine if they were still interested in property. The application screening process was completed in early April. The committee developed quantified criteria for reviewing all applications, and submitted a draft plan for homeless assistance in August 1995. The plan was finalized in November 1995, and was adopted by the JPA in December 1995.

Native American tribes have potential statutory rights relating to both "excess" and "surplus" federal real property. Excess real property may be transferred to the Department of the Interior (DOI) pursuant to 40 U.S.C. § 483(a)(1) under the following three conditions: (1) DOI requests the property; (2) Air Force approves the DOI request based on an evaluation of criteria contained in the FPMR at Title 41 CFR Part 101-47; and (3) DOI pays fair market value for the land or obtains a fair market value waiver from the

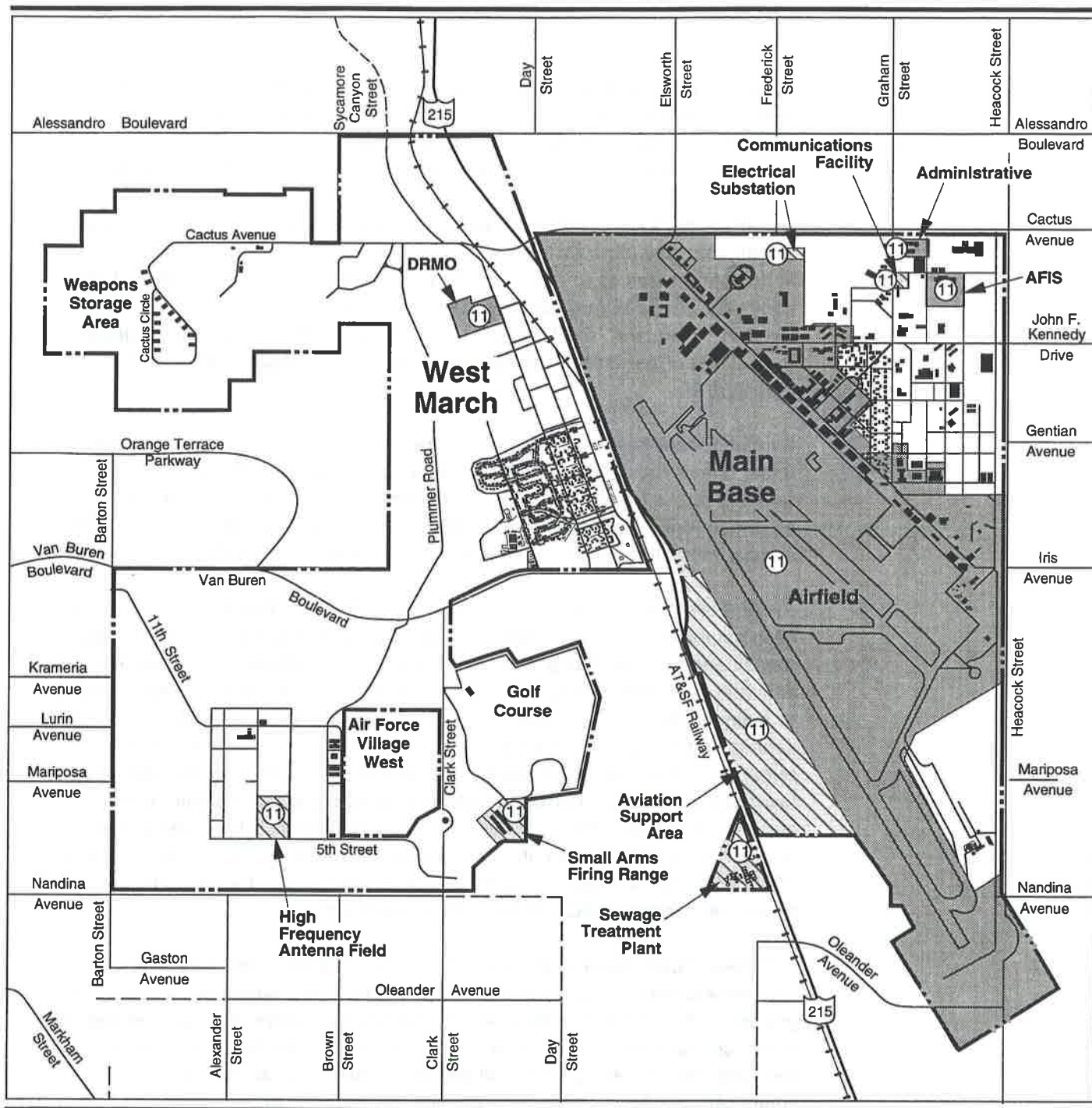
Office of Management and Budget. Former reservation property which was utilized by a Military Department for military basing purposes may be transferred to the Secretary of the Interior pursuant to 40 U.S.C. § 483(a)(2), after the property becomes excess to the needs of the DOD.

Under the provisions of the Indian Self Determination Act, the Secretary of the Interior may contract with a tribe to execute certain functions of the DOI in providing services to the members of the tribe. For the execution of these contracts, the tribe may use available federal facilities under the control of the DOI. Moreover, the DOI may request the transfer of excess or surplus federal real or personal property to DOI for these purposes (25 U.S.C. § 450j[f](3)).

Surplus federal real property may be transferred to Native American tribes under one of the public benefit conveyance authorities if the tribe is eligible for such public benefit or reduced cost transfer. Notwithstanding the aforementioned disposal methods, Native American tribes may also acquire surplus federal real property by public sale much like any other private entity.

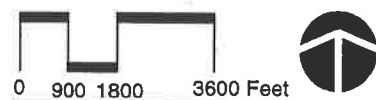
An Air Force Base Conversion Agency (AFBCA) Operating Location (OL) has been established at March AFB. Under all alternatives, the responsibilities of the OL and its caretaker personnel will include coordinating post-realignment activities with the continuing military activities, establishing a caretaker force to maintain Air Force-controlled disposal properties after realignment, and serving as the Air Force local liaison to community reuse groups until lease termination or disposal (as appropriate) of the Air Force-controlled property has been completed. For the purposes of environmental analysis, it was assumed that this team would consist of approximately 55 people at the time of realignment, conceptually composed of 15 Air Force employees and 40 non-federal caretaker personnel. The OL, as used in this document, may refer to either the AFBCA or non-federal personnel.

The Commission recommendations for March AFB specified a retained cantonment area to support continuing Air Force and tenant activities. The primary cantonment area consists of four parcels (Figure 2.1-1). The largest parcel contains the airfield, which includes the runway, taxiways, aprons, navigational aids, and portions of the clear zones and accident potential zones (APZs). This parcel also contains the flightline shops, industrial, administrative, training, and other support facilities. The American Forces Information Service (AFIS) would occupy the 119,000-square-foot audiovisual center in the northeast corner of the property. This group prepares audiovisual materials for all DOD units for training and informational purposes. A smaller parcel to the north would support administrative offices of the Air Force Audit Agency (AFAA), the Air Force Office of Special Investigations (AFOSI), and the Air Force Recruiting Service. These three parcels are located on the east side of Interstate Highway (I-) 215, an



EXPLANATION

- Primary Cantonment
- Secondary Cantonment
- 1995 Base Boundary
- Unpaved Road



March AFB Cantonment

Figure 2.1-1

area known as the Main Base. The fourth primary cantonment parcel is located on the west side of I-215, in an area called West March. This parcel contains the Defense Reutilization and Marketing Office (DRMO) facilities.

The Air Force has also identified six parcels that may be disposed or retained by the Air Force as part of the cantonment (see Figure 2.1-1). These parcels are referred to in this document as secondary cantonment parcels. For purposes of analysis, these parcels are considered as disposal property in some alternatives and as part of the cantonment in other alternatives. The largest of these parcels is the aviation support area between I-215 and the runway. If the JPA can develop this property with uses compatible with airfield operations, the Air Force may convey the property to them for civilian reuse. The communications facility in the northeastern portion of the base contains telephone switching equipment. It may be retained to support cantonment operations or disposed to support civilian reuse activities. The Sewage Treatment Plant (STP) just west of the aviation support parcel and the electrical substation at the northern end of the main cantonment parcel may be retained to support cantonment activities or disposed to the JPA or a local utility purveyor, who would provide utility services to the AFRES and tenants. The small arms range on West March, south of the golf course, may be retained for use by AFRES and tenant units, or disposed to a public or private agency, who would manage the facility for joint use by the military and other public agencies or private individuals. The high-frequency antenna field in the southwestern portion of West March may be retained to support operations of the Western Air Defense Sector (WADS), or the antennas may be relocated into the main cantonment area and the property disposed for other uses. The description of each reuse alternative will identify which of these parcels would be included as part of the cantonment.

A 1991 Biological Opinion issued by the U.S. Fish and Wildlife Service (USFWS) established procedures to manage and protect habitat for the federally endangered Stephens' kangaroo rat (SKR). The habitat consists of 1,000 acres of "management area" on West March, in which disturbance is strictly limited, as well as 1,200 acres of "open space area" on West March and the Main Base in which disturbance is less restricted, in accordance with a revised Biological Opinion provided by USFWS in 1993. In order to make the SKR habitat areas on disposal property available for civilian redevelopment, the Air Force, with the JPA, has opened discussions with the USFWS to exchange these lands for suitable, but as yet unprotected, SKR habitat elsewhere in Riverside County. Consultation under Section 7 of the Endangered Species Act would have to be completed prior to disposal of the property. Such an exchange is assumed for various portions of the SKR habitat in the reuse alternatives. A more detailed description of the SKR and its habitat is provided in Section 3.4.5, Biological Resources.

The **Proposed Action**, which is based on the preferred alternative in the JPA's draft land use plan, features joint military-civilian use of the airfield. Over 97,000 flight operations are projected by 2016. (An operation is

defined as a takeoff or landing.) Of these, approximately 41,000 would be military; the remainder would be commercial passenger and air cargo operations. The plan also incorporates aviation support, industrial, business park, institutional (medical), commercial, mixed use, residential, and public facilities/recreation land uses. The Proposed Action was prepared under the assumption that all SKR habitat areas would be exchanged for other suitable habitat to allow the affected communities to realize the full benefits of economic redevelopment of disposal property.

Three reuse alternatives were developed by the Air Force in order to analyze a range of reasonable reuse options. They are the SKR/Aviation Alternative, the SKR/Cargo Alternative, and the Military Aviation Alternative. A No-Action Alternative was also analyzed.

The **SKR/Aviation Alternative** would include joint military-civilian use of the airfield. Aviation support land uses would accommodate over 84,000 annual commercial passenger and air cargo operations by 2016, in addition to almost 41,000 military flight operations. In addition, this alternative includes a mixture of non-aviation civilian uses, including industrial, commercial, institutional (medical), mixed use, residential, public facilities/recreation, and agricultural land uses. Under this plan, it is assumed that the SKR management areas would continue to be protected, whereas the majority of the SKR open space areas would be exchanged to allow civilian development.

The **SKR/Cargo Alternative** would include joint military-civilian use of the airfield. Civilian activities would support almost 34,000 domestic and international cargo operations annually by 2016, as well as almost 41,000 military flight operations. All areas that have been designated as SKR habitat would continue to be protected. Non-aviation uses would include industrial, business park, institutional (educational), commercial, residential, public facilities/recreation, and agriculture.

Under the **Military Aviation Alternative**, the airfield would be operated and utilized solely by the military. The property available for disposal would be redeveloped for non-aviation uses, including industrial, business park, institutional (educational), commercial, residential, and public facilities/recreation land uses. All SKR habitat on West March would be exchanged to allow civilian redevelopment.

In addition to these reuse plans, a **No-Action Alternative** was developed for analysis. AFRES operations would continue within the military cantonment, and the airfield would be used by the 452nd Air Mobility Wing (AMW), tenant organizations, and transient aircraft. The remainder of the base would be placed in caretaker status and no reuse would occur. All SKR management and open space areas would continue to be protected.

In order to accomplish impact analyses, a set of general assumptions was made. These assumptions include employment and population changes arising from implementation of each reuse plan, consistent land use designations for similar reuse options, proportion of ground disturbance anticipated for each land use type, transportation and utility effects of each proposal as a function of proposed land use and employment due to redevelopment, and anticipated phasing of the various elements of each reuse plan (as measured at the realignment baseline, and at the baseline plus 5, 10, and 20 years). Details regarding the generation of these assumptions are found in Appendix E. Specific assumptions developed for individual reuse plans are identified in the discussion of each proposal, within Sections 2.2 and 2.3.

During the development of alternatives addressed in the EIS, the Air Force considered the compatibility of future land uses with current site conditions that may restrict reuse activities to protect human health and the environment. These conditions include potential contamination from releases of hazardous substances and Air Force efforts to remediate the contamination under the IRP. IRP remediation at March AFB and other environmental studies may result in lease/deed restrictions that would limit redevelopment at certain locations on the base. Additionally, the Air Force will retain access rights to these sites where required to implement IRP remediation (e.g., temporary easement for access to monitoring wells).

2.2 DESCRIPTION OF THE PROPOSED ACTION

Section 2905(b)(2)(E) of DBCRA requires the Air Force, as part of the disposal process, to consult with the applicable state governor and heads of local governments, or equivalent political organizations for the purposes of considering any plan for the use of such property by the concerned local community. Air Force and DOD policy is to encourage timely community reuse planning by offering to use the community's plan for reuse or development of land and facilities as the Proposed Action in the EIS.

The March JPA was formed in September 1993 by Riverside County and the cities of Riverside, Moreno Valley, and Perris, through the execution of a Joint Powers Agreement under California Government Code, Section 6500. The JPA is a multi-jurisdictional authority responsible for planning the civilian reuse and development of March AFB disposal property. The JPA provided for the creation of a Joint Powers Commission (JPC) to be the governing body of the JPA. The JPC consists of two members from the Riverside County Board of Supervisors and two city council members from each of the three municipalities. The governing board appointed a permanent executive director and other staff to conduct the business of the JPA.

In May 1994, the JPA contracted with Western Riverside Council of Governments (WRCOG) to assess existing resources, opportunities and constraints, and market parameters, and to develop a plan for reuse of the

base property to be disposed of. In September 1994, the JPA submitted to the Air Force a Draft Land Use Plan and Alternatives, March Air Force Base Reuse Plan (Western Riverside Council of Governments, March Planning Team, 1994). The plan was later completed as the Master Reuse Plan (prepared in November 1995 and adopted in December 1995) and addresses the following:

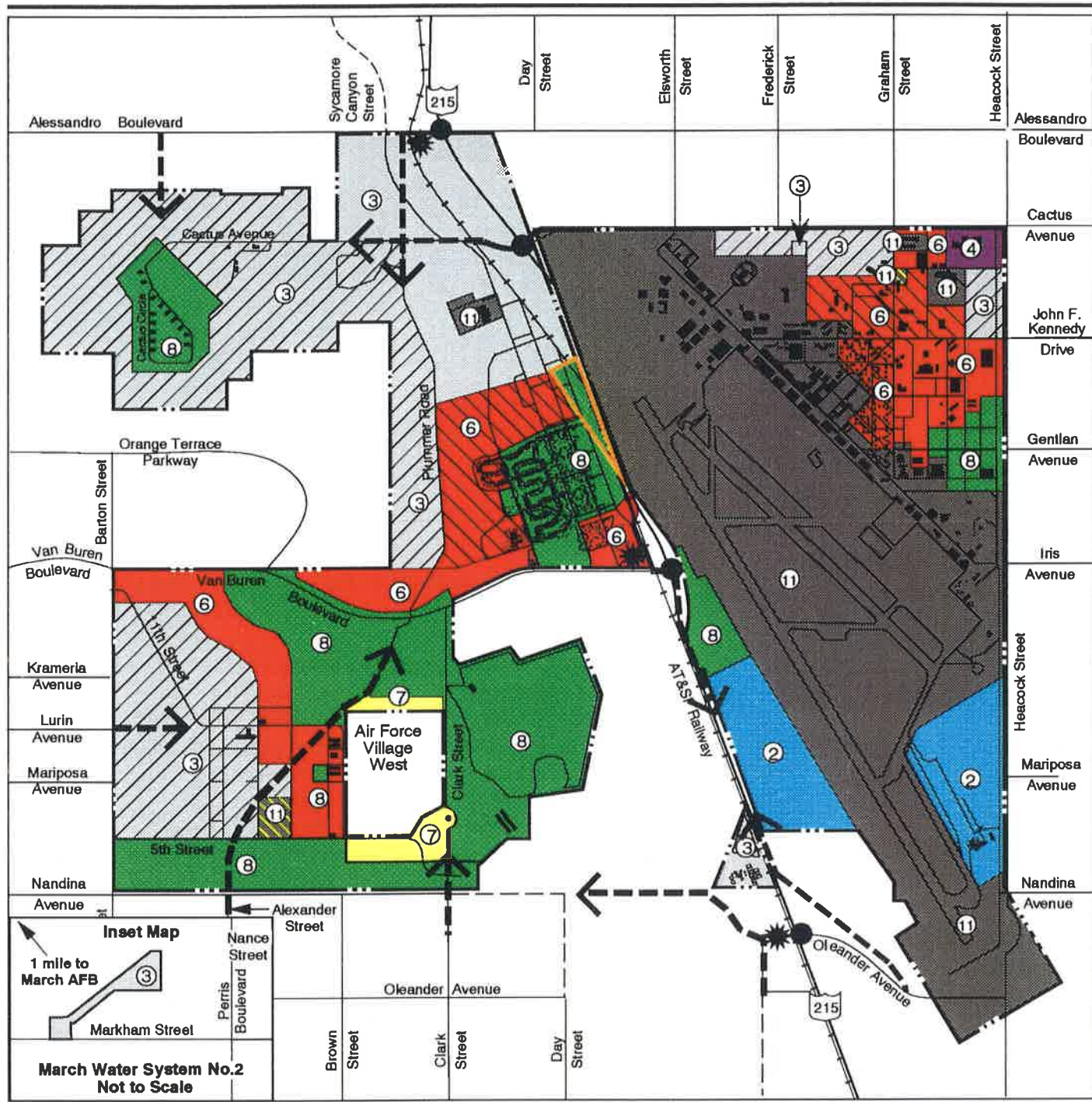
- Goals and policies
- Preferred land use pattern and alternatives
- Preliminary land use characterization
- Projected employment.

The Air Force has used the JPA's draft and final plans to develop the Proposed Action for environmental analysis and to provide input to alternative reuse scenarios analyzed in this EIS. Appendix E, Methods of Analysis, describes the development of the Proposed Action and alternatives.

The Master Reuse Plan includes a Homeless Assistance Plan which recommends actions for allowing homeless assistance providers reuse of facilities and property. In addition, several DOD agencies have requested property and facilities at March AFB. The JPA has considered these requests in its reuse planning.

The Proposed Action (Figure 2.2-1) assumes joint military and civilian use of the airfield. Civilian aviation-related activities would include commercial passenger and air cargo operations and other aviation support uses. The SKR management and open space areas would be eliminated under the Proposed Action, assuming provision of suitable habitat off base in exchange for development rights on disposal property. These areas on West March would be developed for industrial, mixed use, business park, commercial (office), and public facilities/recreation uses. The remainder of the disposal property would support development of aviation support, institutional (medical), business park, commercial, mixed use, and public facilities/recreation land uses. The total acreage in each land use category is shown in Table 2.2-1.

Military use of the airfield would include operations by military aircraft based at March ARB and by transient military aircraft. All projected flight operations (military and civilian) for the Proposed Action are listed in Table 2.2-2. Approximately 77 percent of all military aircraft operations are expected to take place during daytime hours (between 7:00 a.m. and 7:00 p.m.), 22 percent would take place during evening hours (between 7:00 and 10:00 p.m.), and 1 percent would take place during nighttime hours (between 10:00 p.m. and 7:00 a.m.). Runway 32 is the primary runway and would be used 80 percent of the time. Circling approaches



EXPLANATION

- ① Airfield*
- ② Aviation Support
- ③ Industrial
- ③ Business Park
- ④ Institutional (Medical)

- ⑤ Institutional (Educational)*
- ⑥ Commercial
- ⑥ Mixed Use
- ⑦ Residential
- ⑧ Public Facilities/Recreation
- ⑨ Agriculture*
- ⑩ Vacant Land*

- ⑪ Primary Cantonment
- ⑪ Secondary Cantonment
- ⑫ SKR Conservation*
- 1995 Base Boundary
- Unpaved Road
- Clear Zone (Disposal)
- ← Proposed Access
- Interchange
- ★ Transit Station

Proposed Action

Figure 2.2-1

Table 2.2-1. Land Use Acreage - Proposed Action

Land Use	Acreage
Retained Military Cantonment	2,258
Primary	2,242
Secondary	16
Disposal/Reuse Acreage	4,447
Aviation support	330
Industrial	526
Business park	1,340
Institutional (medical)	31
Commercial	497
Mixed use	393
Residential	64
Public facilities/recreation	1,266
Total	6,705

would be made to Runway 14. Flight tracks are presented in Figure 3.2-12 and described in Appendix G.

Civilian use of the airport would be arranged through a joint use agreement between the Air Force and the civilian owner/operator. FAA certification of the airport under Federal Aviation Regulation (FAR) Part 139 and FAR Part 107 will be required prior to commencement of certain commercial passenger and civilian cargo operations. The assumed airfield layout (Figure 2.2-2) for the Proposed Action includes the civilian construction of a new parallel taxiway in the military cantonment for civilian access to the west side of the runway. The airport boundary in Figure 2.2-2 includes the areas required for both military and civilian aviation-related uses and facilities. At the time this EIS was prepared, the community had not yet developed an ALP. The Air Force and the FAA developed a preliminary airport layout (Figure 2.2-2) in order to accomplish the analysis for the Proposed Action. The airport boundary shown in Figure 2.2-2 includes land with direct aeronautical-related uses, as well as surrounding property for aviation-related support activities. An ALP will be developed by the community at a later time for FAA review and approval.

Civilian aviation operations would use the AFRES runway in the military cantonment area. Forecast enplanements for the airport in 2016 are approximately 3 million annual passengers (MAP). All civilian aircraft would meet applicable FAA noise and air emissions standards (e.g., Stage 3 requirements for certain jet aircraft). The percentages of commercial cargo and passenger aircraft operations expected to occur during daytime, evening, and nighttime hours are 85, 10, and 5, respectively.

Table 2.2-2. Projected Flight Operations - Proposed Action
Page 1 of 2

Year	Operations	% ^(a)	Fleet Mix	Annual Operations ^(b)
2001	Military			40,950
	Based Aircraft	22.9	KC-135E	9,355
		17.9	KC-135R	7,314
		35.6	C-141B	14,567
		2.8	F-16A	1,134
	Transient Military	3.8	Attack/Fighter	1,572
		0.6	Large Bomber	262
		1.9	Large Transport/Prop	786
		1.2	Large Transport/Jet	501
		0.6	Small Transport/Prop	245
		0.8	Small Transport/Jet	322
		1.3	Trainer	523
		2.6	Helicopter	1,080
	Other Transients ^(c)	3.7	Large Transport/Jet	1,501
		0.1	Large Transport/Prop	40
		1.6	Medium Transport/Jet	665
		1.3	Small Transport/Prop	540
		1.3	Other	543
	Civilian			27,239
	Cargo	6.2	E120 Brasilia	292
		6.2	Cessna Caravan	292
		3.1	ATR-42 ^(d)	146
		33.8	DC-8 ^(d)	1,606
		33.8	DC-10-10 ^(d)	1,606
		16.9	B-757 ^(d)	803
	Commercial Passenger	8.5	SAAB 340	1,909
		8.5	Beech 1900	1,909
		4.2	ATR-42 ^(d)	955
		21.1	MD-80 ^(d)	4,745
		34.4	737-200/300 ^(d)	7,743
		3.9	737-400 ^(d)	869
		15.4	B-757 ^(d)	3,474
		3.4	A-300 ^(d)	766
		0.3	747-200/300/400 ^(d)	76
		0.1	767-300 ^(d)	12
		0.2	DC-10 ^(d)	36
	Total			68,189

Notes: (a) Percent of each category of operations conducted by aircraft type.

(b) An operation is defined as one landing or one takeoff.

(c) Other transients include civilian aircraft provided under contract to support special military operations such as airlift.

(d) Stage 3 aircraft.

Table 2.2-2. Projected Flight Operations - Proposed Action
Page 2 of 2

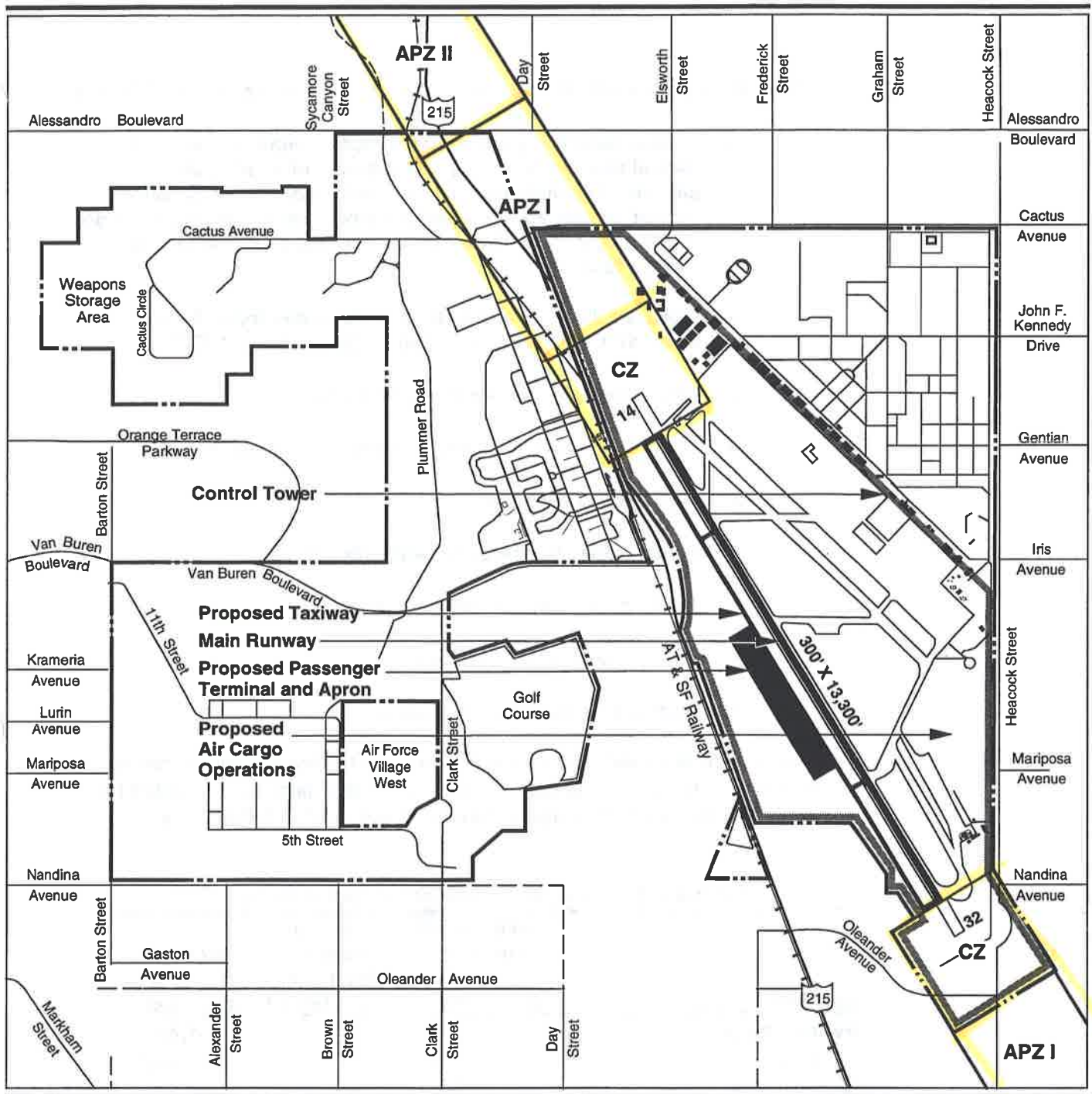
Year	Operations	% ^(a)	Fleet Mix	Annual Operations ^(b)
2006	Military ^(e)	100		40,950
	Civilian			36,570
	Cargo	4.2	E120 Brasilia	365
		4.2	Cessna Caravan	365
		4.2	ATR-42 ^(d)	365
		29.2	DC-8 ^(d)	2,555
		29.1	DC-10-10 ^(d)	2,555
		29.1	B-757 ^(d)	2,555
	Commercial Passenger	7.0	SAAB 340	1,944
		7.0	Beech 1900	1,945
		7.0	ATR-42 ^(d)	1,945
		23.8	MD-80 ^(d)	6,618
		29.1	737-200/300 ^(d)	8,088
		5.6	737-400 ^(d)	1,565
		15.4	B-757 ^(d)	4,288
		3.4	A-300 ^(d)	953
		1.2	747-200/300/400 ^(d)	320
		0.2	767-300 ^(d)	51
		0.3	DC-10 ^(d)	93
	Total			77,520
2016	Military ^(e)	100		40,950
	Civilian			56,581
	Cargo	3.4	E120 Brasilia	438
		3.4	Cessna Caravan	438
		4.6	ATR-42 ^(d)	584
		17.8	DC-8 ^(d)	2,263
		35.4	DC-10-10 ^(d)	4,526
		35.4	B-757 ^(d)	4,526
	Commercial Passenger	6.1	SAAB 340	2,657
		6.1	Beech 1900	2,657
		8.1	ATR-42 ^(d)	3,541
		25.9	MD-80 ^(d)	11,367
		24.9	737-200/300 ^(d)	10,922
		7.5	737-400 ^(d)	3,290
		12.3	B-757 ^(d)	6,251
		3.4	A-300 ^(d)	1,426
		3.0	747-200/300/400 ^(d)	1,288
		0.5	767-300 ^(d)	221
		0.4	DC-10 ^(d)	186
	Total			97,531

Notes: (a) Percent of each category of operations conducted by aircraft type.

(b) An operation is defined as one landing or one takeoff.

(d) Stage 3 aircraft.

(e) Same fleet mix and arrival operations as year 2001 for based aircraft, transient military, and other transients.



EXPLANATION

	Airport Boundary		1995 Base Boundary
	Clear Zone		Unpaved Road
	Accident Potential Zone		

Preliminary Airfield Layout Proposed Action



Figure 2.2-2

The following activities and data were used to develop the Proposed Action:

- Various airfield improvements, including construction of new parallel and exit taxiways; rehabilitation of existing airfield pavements; construction of new and expansion of existing aircraft parking aprons; installation of ramp lighting; construction of passenger, cargo handling, aviation support, and vehicle parking facilities
- Projected fleet mix and flight operations developed by the Southern California Association of Governments (SCAG)
- Anticipated construction/demolition activities
- Revised employment projections provided by the JPA
- Population projections
- Acreage disturbed by construction/demolition
- Traffic generation and daily trip projections
- Utility requirement projections
- Proposed transportation access points.

The amount of development, including existing facility demolition, facility retention, and new facility construction for development through 2016 for each land use under the Proposed Action is provided in Table 2.2-3.

Table 2.2-3. Facility Development - Proposed Action

Land Use	Existing Facility Demolition (thousands of square feet of floor space)	Existing Facility Retention	New Facility Construction
Aviation support	27	0	1,437
Industrial	0	2	2,679
Business park	33	0	4,844
Institutional (medical)	0	190	0
Commercial	213	531	1,650
Mixed use	128	173	1,525
Residential	0	0	401
Public facilities/recreation	606	36	699
Total	1,007	932	13,235

Table 2.2-4 summarizes acreage assumed to be disturbed by construction or other operational activities during each phase of development (e.g., building footprints, parking areas, utility corridors, roads, sidewalks). The following sections describe activities associated with each land use category.

Table 2.2-4. Acres Disturbed - Proposed Action

Land Use	Acres Disturbed (by Phase)			Total
	1996-2001	2001-2006	2006-2016	
Retained Military Cantonment ^(a)	62	0	0	62
Aviation support	28	82	114	224
Industrial	47	51	98	196
Business park	65	65	140	270
Institutional (medical)	1	0	0	1
Commercial	39	39	80	158
Mixed Use	29	31	60	120
Residential	14	14	27	55
Public facilities/recreation	255	9	14	278
Total	540	291	533	1,364

Note: (a) Construction of civilian taxiway within military cantonment.

2.2.1 Retained Military Cantonment

The military cantonment encompasses approximately 2,258 acres, or 34 percent of the total property. In addition to the primary cantonment parcels (2,242 acres), the Proposed Action includes the WADS antenna field (13 acres) and communications facility (3 acres) as retained Air Force property. The cantonment would be fenced for security.

The airfield would be owned, operated, and maintained by AFRES to support AFRES, other tenant units, and transient aircraft operations. The 452nd AMW will operate 10 KC-135E and 16 C-141B aircraft to support training exercises, cargo delivery, medical evacuation, and refueling missions, and provide support for mobilization of U.S. military forces as needed. The 163rd Air Refueling Wing (ARW) of the California Air National Guard (CAANG) will operate nine KC-135R aircraft in conducting training exercises and refueling, airlift, and cargo delivery missions. The 119th Fighter Group (North Dakota Air National Guard [NDANG]) will operate four F-16 aircraft. Two aircraft will be used for training exercises; two are kept on 24-hour alert in support of the North American Air Defense (NORAD) mission. The U.S. Customs Aviation Operation Center West will operate four helicopters and two small aircraft to support their interception, surveillance, and tactical missions.

Several construction and renovation projects would be completed by AFRES within the retained military cantonment. Construction projects would include a munitions storage complex, a base civil engineering complex, fire fighter training facility, alert facility, and an aerospace ground equipment maintenance facility. Renovation projects include altering facilities to house a medical administration and training clinic; renovating the ARW headquarters and administration offices, mobility processing building, the Consolidated Club and Open Mess for officers, and the Precision Measurement Equipment Laboratory; consolidating the base supply warehouse for AFRES tenant units; upgrading the original electrical substation; and revitalizing the maintenance hangar to provide fuel cell repairs (U.S. Air Force, 1995b; U.S. Air Force Reserve, 1995). In addition, a perimeter fence would be constructed along the cantonment boundary. These construction and renovation projects are scheduled for completion by 1997.

2.2.2 Aviation Support

The aviation support land use area comprises approximately 330 acres, or about 5 percent of the total property. A 175-acre parcel southeast of the operational apron would be utilized for cargo operations and aviation-related uses. This parcel includes the alert area and its aircraft parking and access ramps. Development on the 155-acre parcel southwest of the runway would include a new commercial passenger terminal with aircraft aprons, passenger parking areas, and fuel storage areas. Cargo operations would begin within the first 5 years after realignment and commercial passenger operations would commence after 2001. The aviation support land use areas would be 50 percent utilized by the end of the 20-year analysis period. It is assumed that the airport infrastructure would need to be in place before the end of the 20-year analysis period, although these parcels would be only approximately 50 percent utilized. Disturbance associated with the development of the airport infrastructure (pavement, lighting, etc.) would encompass most of the land use acreage.

2.2.3 Industrial

The industrial land use area covers 526 acres, or 8 percent of the total property. The area north of Cactus Avenue, in the northern portion of West March, would be developed for a regional industrial center that could utilize the existing rail access. The proposed construction of more than 2.6 million square feet of new facilities within this land use parcel would be about 50 percent complete by 2016. The STP, electrical substation, and March Water System No. 2 are also considered industrial use areas. The STP would be operated and maintained by the JPA or a local utility service to provide services under contract to the military cantonment as well as to other local users, such as Air Force Village West. The electrical substation would be operated by a local utility to provide electricity to the military cantonment, disposal property, and nearby areas. The two existing water

wells at March Water System No. 2 would be maintained and operated by a local water supplier. These parcels would be 100 percent utilized by 2001.

2.2.4 Business Park

The business park land use area encompasses 1,340 acres, or 20 percent of the total property. The parcel in the southwest corner of West March would support administrative, financial, service, government, and community service uses. Research and development with related light manufacturing uses are proposed for the parcel in the northwest corner of West March. Similar uses would be developed in the two parcels adjacent to Cactus Avenue and Heacock Street in the northeast corner of the Main Base. All existing facilities in these land use parcels would be demolished and over 4.8 million square feet of new building space would be constructed. These parcels would be 25 percent developed by 2016.

2.2.5 Institutional

The institutional (medical) land use area consists of one parcel of 31 acres, or less than 1 percent of the total base property, in the northeast corner. This parcel includes the existing hospital and dental clinic, which would be reused for similar medical purposes. There would be no facility demolition and 100 percent utilization would occur within the first 5 years.

2.2.6 Commercial

The commercial land use areas cover 497 acres, or 7 percent of the total property. The parcel in the southwest corner and the parcel north of Van Buren Boulevard on West March would support office uses. Existing buildings on the parcel at the intersection of I-215 and Van Buren Boulevard would be demolished to clear space for new retail commercial development. The parcel south of Cactus Avenue and east of Graham Street would be used for office and retail business development. The parcel west of Heacock Street and south of John F. Kennedy Drive would support development of businesses such as hotels, car rental agencies, and other travel-related services associated with commercial aviation operations. Some buildings in the commercial land use parcels would be demolished. Commercial development, comprising 1.6 million square feet of new facility space, would be 50 percent complete by 2016.

2.2.7 Mixed Use

This land use area encompasses 393 acres, or 6 percent of the total property. In the northeast portion of the Main Base, the housing in the March Field Historic District would be preserved and used for small retail and office uses. (These residential units are part of a larger historic district that has been nominated to the National Register of Historic Places [NRHP]; the remainder of the district is retained within the military cantonment area. A

more detailed discussion of the historic district is provided in Section 3.4.6, Cultural Resources.) The remainder of this parcel would support construction of 350,000 square feet of new office and commercial space. A parcel in the central portion of West March would be developed for office and related uses. There would be some demolition as well as construction of about 1.2 million square feet of new facility space within this area. Development on both parcels would be 50 percent complete by 2016.

2.2.8 Residential

The residential land use area consists of 64 acres, or 1 percent of the total property, north and south of Air Force Village West, an existing private retirement community. Up to 204 single-family and 208 multiple-family housing units would be built. There would be no facility demolition and new development would be complete by 2016.

2.2.9 Public Facilities/Recreation

The public facilities/recreation land use areas comprise 1,266 acres, or 18 percent of the total property. The parcel west of Air Force Village West contains the tennis courts, which would be maintained for use by employees in the adjacent office complex. The golf course would be open to the public under public or private management. The adjoining area northwest of the golf course would support regional facilities, such as sports fields, a recreational area, and a cultural center. The small arms range would be managed by a public or private entity for joint use by AFRES and other military personnel at the base as well as local law enforcement agencies. The area south of the small arms range and Air Force Village West, extending to the western base boundary, would support expansion of the adjacent Riverside National Cemetery in accordance with a request by the Department of Veterans Affairs. The parcel in the northwest corner would be a landscaped park integrated with the surrounding business park development. The parcel north of Van Buren Boulevard and west of I-215 would be a destination commercial recreation center, such as a theme park. This parcel also includes a portion of the runway clear zone, in which development would be restricted. The March Field Museum would continue to be operated on the parcel west of the runway. The parcel west of Heacock Street and north of Iris Avenue would be developed to accommodate recreational needs of surrounding communities, with uses such as parks, picnic areas, baseball fields, and horse stables. Approximately 606,000 square feet of existing facilities would be demolished and all recreation areas would be open for public use by 2001.

2.2.10 Employment and Population

By 2016, the Proposed Action is projected to result in a total on-site employment of about 38,600 direct jobs (Table 2.2-5). This includes 1,661 full-time military and civilian DOD employees in the cantonment area; the

Table 2.2-5. Total On-Site Employment and Population - Proposed Action

	Realignment	2001	2006	2016
Direct employment ^(a)	1,661	12,155	20,778	38,619
On-site residents	0	381	561	922

Note: (a) Does not include construction jobs.

remainder would be jobs associated with activities on disposal property. The projected on-site population of approximately 900 residents by 2016 would include 200 inpatients at the hospital.

2.2.11 Transportation

Access to the military cantonment would continue to be provided via the West Gate on Cactus Avenue at Elsworth Street. Access to disposal property would continue to be provided on Cactus Avenue at Graham Street (previously the Main Gate) and on Heacock Street at John F. Kennedy Drive (previously the East Gate). New access points and new and improved roadways would be provided (see Figure 2.2-1) as necessary to facilitate traffic flow on disposal property and to integrate the property into the adjacent communities' transportation network. These transportation improvements would include developing a major north-south corridor through West March. The Riverside County Transportation Commission (RCTC) has proposed construction of a new rapid rail transit station (i.e., Metrolink) along I-215 and the existing railroad tracks. Siting and environmental studies for this project are in progress.

Based on land use and employment projections, average daily vehicular traffic to and from the site would be approximately 194,550 trips by 2016, of which 10,100 would be associated with continuing military activities in the cantonment.

2.2.12 Utilities

By 2016, the projected activities associated with the Proposed Action would generate the total on-site utility usage shown in Table 2.2-6. Utility usage was projected based on land use, projected population and employment, building size, and historic regional utility rates. Future development may require the installation of new utility lines and possible upgrading of existing local utility systems.

2.3 DESCRIPTION OF ALTERNATIVES

2.3.1 SKR/Aviation Alternative

The SKR/Aviation Alternative (Figure 2.3-1) assumes joint military and civilian use of the airfield. Portions of the SKR habitat areas would continue

Table 2.2-6. Total On-Site Utility Usage - Proposed Action

Utility	Reuse-Related	Military Cantonment	Total
Water (MGD)	2.9	0.3	3.2
Wastewater (MGD)	1.4	0.2	1.6
Solid waste (tons/day)	167.1	7.3	174.4
Electricity (MWH/day)	410.4	52.8	463.2
Natural gas (MMCF/day)	3.9	0.2	4.1

MGD = million gallons per day

MMCF = million cubic feet

MWH = megawatt-hours

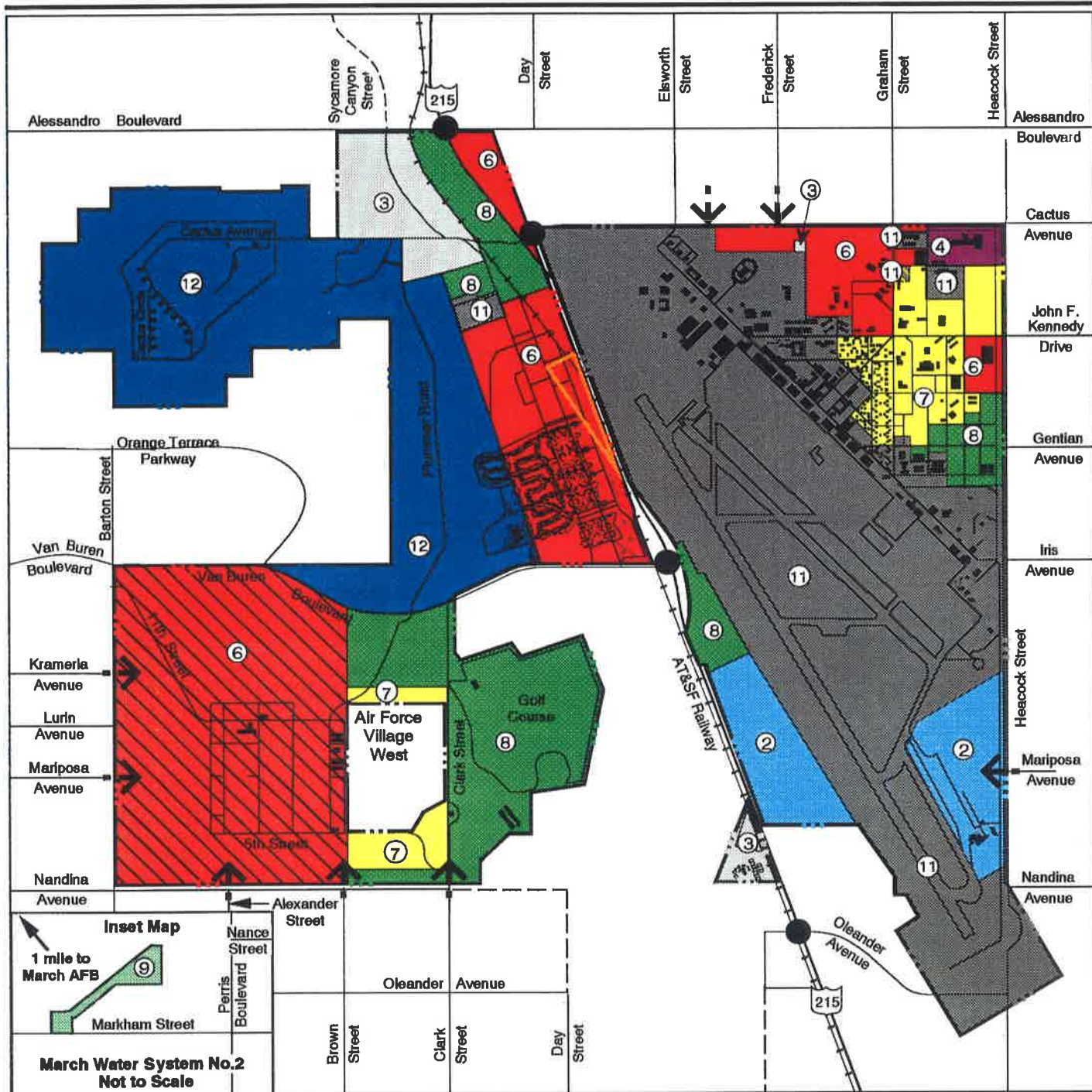
to be protected; others would be available for development, assuming provision is made for suitable habitat elsewhere in exchange for development rights on disposal property. Civilian aviation support uses would be developed on the parcels southeast and southwest of the airfield. The remaining portions of the disposal property would be developed for non-aviation civilian uses, including industrial, institutional (medical), commercial, mixed use, residential, public facilities/recreation, and agriculture. The total acreage for each land use category is shown in Table 2.3-1.

Table 2.3-1. Land Use Acreage - SKR/Aviation Alternative

Land Use	Acreage
Retained Military Cantonment	2,245
Primary	2,242
Secondary	3
Disposal/Reuse Acreage	4,460
Aviation support	330
Industrial	184
Institutional (medical)	45
Commercial	606
Mixed use	964
Residential	325
Public facilities/recreation	797
Agriculture	2
SKR conservation	1,207
Total	6,705

SKR = Stephens' kangaroo rat

Military and civilian use of the airfield would be similar to that described for the Proposed Action, but the number of operations projected is higher. All projected flight operations (military and civilian) for the SKR/Aviation Alternative are listed in Table 2.3-2. Percentages of military aircraft operations expected to occur during daytime, evening, and nighttime hours would be the same as under the Proposed Action. Approximately



EXPLANATION

- ① Airfield *
- ② Aviation Support
- ③ Industrial
- ③ Business Park*
- ④ Institutional (Medical)

- ⑤ Institutional (Educational) *
- ⑥ Commercial
- ⑥ Mixed Use
- ⑦ Residential
- ⑧ Public Facilities/ Recreation
- ⑨ Agriculture
- ⑩ Vacant Land *

- ⑪ Primary Cantonment
- ⑪ Secondary Cantonment
- ⑫ SKR Conservation

- 1995 Base Boundary
- - - Unpaved Road
- Clear Zone (Disposal)
- ← Proposed Access
- Interchange

SKR/Aviation Alternative

Figure 2.3-1

Table 2.3-2. Projected Flight Operations - SKR/Aviation Alternative
Page 1 of 2

Year	Operations	% ^(a)	Fleet Mix	Annual Operations ^(b)
2001	Military			40,950
	Based Aircraft	22.9	KC-135E	9,355
		17.9	KC-135R	7,314
		35.6	C-141B	14,567
		2.8	F-16A	1,134
	Transient Military	3.8	Attack/Fighter	1,572
		0.6	Large Bomber	262
		1.9	Large Transport/Prop	786
		1.2	Large Transport/Jet	501
		0.6	Small Transport/Prop	245
		0.8	Small Transport/Jet	322
		1.3	Trainer	523
		2.6	Helicopter	1,080
	Other Transients ^(c)	3.7	Large Transport/Jet	1,501
		0.1	Large Transport/Prop	40
		1.6	Medium Transport/Jet	665
		1.3	Small Transport/Prop	540
		1.3	Other	543
	Civilian			38,910
	Cargo	5.3	E120 Brasilia	292
		5.3	Cessna Caravan	292
		2.7	ATR-42 ^(d)	146
		34.7	DC-8 ^(d)	1,898
		34.7	DC-10-10 ^(d)	1,898
		17.3	B-757 ^(d)	949
	Commercial Passenger	8.2	SAAB 340	2,744
		8.2	Beech 1900	2,744
		4.1	ATR-42 ^(d)	1,373
		20.7	MD-80 ^(d)	6,911
		33.7	737-200/300 ^(d)	11,275
		4.1	737-400 ^(d)	1,356
		16.2	B-757 ^(d)	5,425
		3.6	A-300 ^(d)	1,197
		0.7	747-200/300/400 ^(d)	250
		0.1	767-300 ^(d)	41
		0.4	DC-10 ^(d)	119
	Total			79,860

Notes: (a) Percent of each category of operations conducted by aircraft type.

(b) An operation is defined as one landing or one takeoff.

(c) Other transients include civilian aircraft provided under contract to support special military operations such as airlift.

(d) Stage 3 aircraft.

SKR = Stephens' kangaroo rat

Table 2.3-2. Projected Flight Operations - SKR/Aviation Alternative
Page 2 of 2

Year	Operations	% ^(a)	Fleet Mix	Annual Operations ^(b)
2006	Military^(e)	100		40,950
	Civilian			53,469
	Cargo	3.4	E120 Brasilia	365
		3.4	Cessna Caravan	365
		3.4	ATR-42 ^(d)	365
	Commercial Passenger	29.9	DC-8 ^(d)	3,163
		29.9	DC-10-10 ^(d)	3,163
		30.0	B-757 ^(d)	3,164
		6.8	SAAB 340	2,915
		6.8	Beech 1900	2,915
		6.8	ATR-42 ^(d)	2,916
		23.0	MD-80 ^(d)	9,873
		28.2	737-200/300 ^(d)	12,066
		5.7	737-400 ^(d)	2,443
		15.6	B-757 ^(d)	6,690
		3.5	A-300 ^(d)	1,487
		2.5	747-200/300/400 ^(d)	1,089
		0.4	767-300 ^(d)	174
		0.7	DC-10 ^(d)	316
	Total			94,419
2016	Military^(e)	100		40,950
	Civilian			84,455
	Cargo	2.9	E120 Brasilia	438
		2.9	Cessna Caravan	438
		4.0	ATR-42 ^(d)	584
		36.1	DC-8 ^(d)	5,402
		36.1	DC-10-10 ^(d)	5,402
		18.0	B-757 ^(d)	2,701
	Commercial Passenger	5.9	SAAB 340	4,123
		5.9	Beech 1900	4,123
		8.0	ATR-42 ^(d)	5,497
		24.9	MD-80 ^(d)	17,298
		23.9	737-200/300 ^(d)	16,620
		7.8	737-400 ^(d)	5,394
		14.7	B-757 ^(d)	10,249
		3.4	A-300 ^(d)	2,338
		4.2	747-200/300/400 ^(d)	2,925
		0.7	767-300 ^(d)	500
		0.6	DC-10 ^(d)	423
	Total			125,405

Notes: (a) Percent of each category of operations conducted by aircraft type.

(b) An operation is defined as one landing or one takeoff.

(d) Stage 3 aircraft.

(e) Same fleet mix and arrival operations as year 2001 for based aircraft, transient military, and other transients.

SKR = Stephens' kangaroo rat

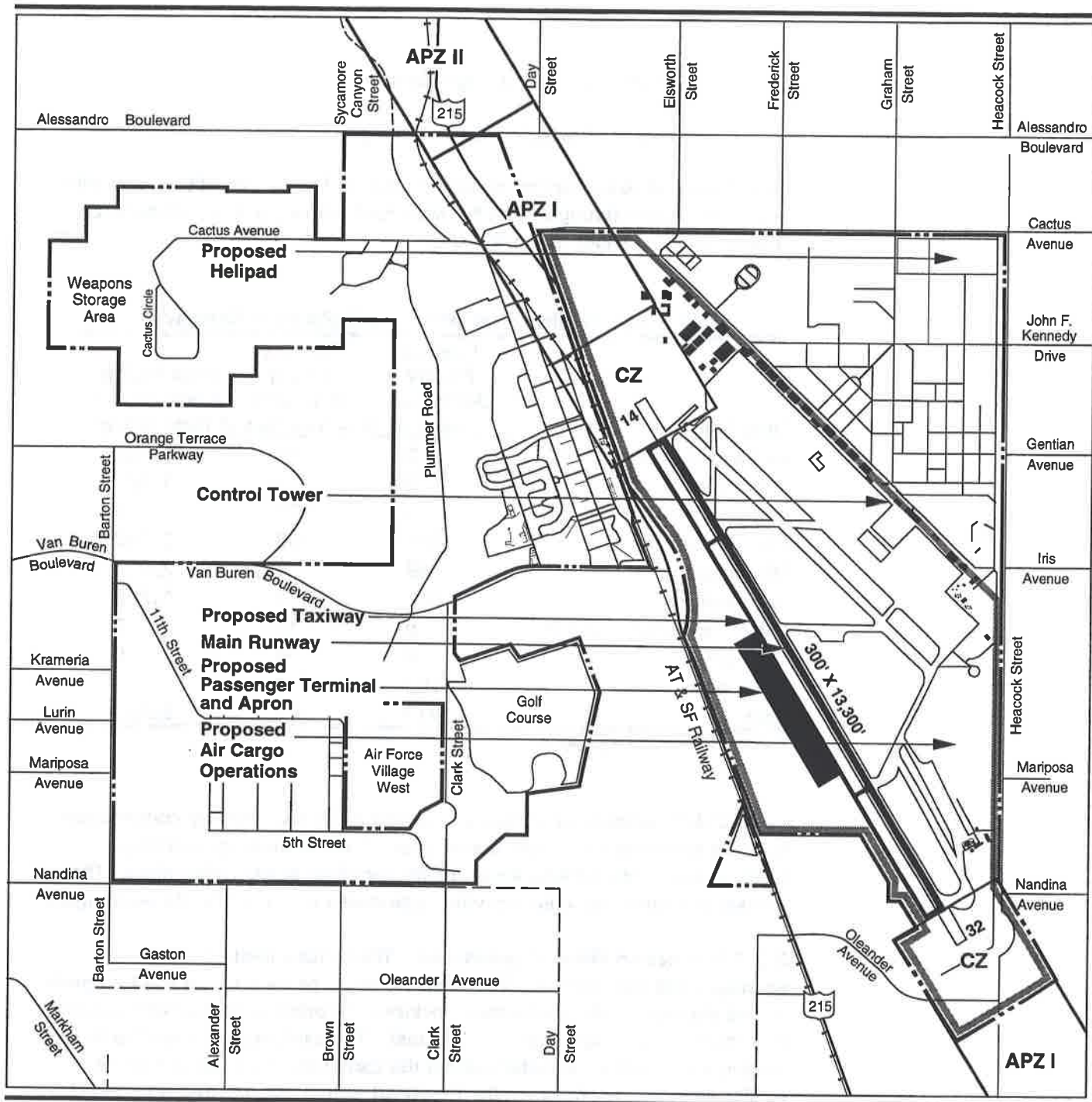
80 percent of all aircraft operations would use Runway 32. Flight tracks are described in Appendix G.

The airfield would be owned, operated, and maintained by AFRES. Civilian use of the airport would be arranged through a joint use agreement between the Air Force and the civilian owner/operator. FAA certification of the airport under FAR Part 139 and FAR Part 107 will be required prior to commencement of certain commercial passenger and civilian cargo operations.

As in the Proposed Action, civilian aviation operations would use the AFRES runway in the military cantonment area. The assumed airfield layout for the SKR/Aviation Alternative includes the civilian construction of a new parallel taxiway in the military cantonment for civilian access to the west side of the runway (Figure 2.3-2). The airport boundary shown in Figure 2.3-2 includes the areas required for both military and civilian aviation-related uses and facilities. Forecast enplanements for the airport in 2016 are approximately 4.8 MAP. All civilian aircraft would meet applicable FAA noise and air emission standards (e.g., Stage 3 requirements for certain jet aircraft). Percentages of civilian aircraft operations expected to occur during daytime, evening, and nighttime hours would be the same as under the Proposed Action.

The following activities and data were used to develop the SKR/Aviation Alternative:

- Various airfield improvements, including construction of new parallel and exit taxiways; rehabilitation of existing airfield pavements; construction of new and expansion of existing aircraft parking aprons; installation of ramp lighting; construction of passenger, cargo handling, aviation support, and vehicle parking facilities
- Amounts and types of proposed land uses
- Anticipated construction/demolition activities
- Employment and population projections
- Projected fleet mix and flight operations developed by SCAG
- Areas disturbed by construction/demolition
- Phasing plans for reuse
- Traffic generation and daily trip projections

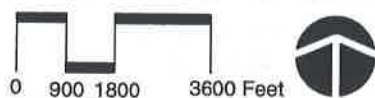


EXPLANATION

	Airport Boundary		1995 Base Boundary
	Clear Zone		Unpaved Road
	Accident Potential Zone		

Preliminary Airfield Layout SKR/Aviation Alternative

Figure 2.3-2



- Utility requirement projections
- Proposed transportation access points.

The amount of development, including existing facility demolition, retention, and construction through 2016 for each land use under the SKR/Aviation Alternative is provided in Table 2.3-3.

Table 2.3-3. Facility Development - SKR/Aviation Alternative

Land Use	Existing Facility Demolition (thousands of square feet of floor space)	Existing Facility Retention (thousands of square feet of floor space)	New Facility Construction (thousands of square feet of floor space)
Aviation support	0	14	1,089
Industrial	0	2	1,623
Institutional (medical)	0	207	0
Commercial	333	208	2,942
Mixed use	49	0	2,611
Residential	342	504	1,708
Public facilities/recreation	9	32	0
Agriculture	0	0	0
SKR conservation	185	0	0
Total	918	967	9,973

SKR = Stephens' kangaroo rat

Table 2.3-4 summarizes acreages assumed to be disturbed by construction or other operational activities during each phase of development (e.g., building footprints, parking areas, utility corridors, roads, sidewalks). The following sections describe activities associated with each land use category.

2.3.1.1 Retained Military Cantonment. The military cantonment encompasses approximately 2,245 acres, or 33 percent of the total property. In this alternative, the cantonment includes the primary cantonment parcels and the communications facility (3 acres). The cantonment would be fenced for security. Military activities within the cantonment parcels would be similar to those described for the Proposed Action, except that the WADS antenna field would be located within the main cantonment parcel.

2.3.1.2 Aviation Support. The aviation support land use area comprises approximately 330 acres, or about 5 percent of the total property. Development and uses on these parcels would be the same as those described for the Proposed Action. Aviation support development would be 50 percent complete by the end of the 20-year analysis period. It is assumed that the airport infrastructure would need to be in place before the end of the 20-year analysis period, although these parcels would be only approximately 50 percent utilized. Disturbance associated with the

Table 2.3-4. Acres Disturbed - SKR/Aviation Alternative

Land Use	Acres Disturbed (by Phase)			Total
	1996-2001	2001-2006	2006-2016	
Retained Military Cantonment ^(a)	62	0	0	62
Aviation support	116	60	72	248
Industrial	30	30	60	120
Institutional (medical)	2	0	0	2
Commercial	69	66	156	291
Mixed use	49	49	106	204
Residential	48	48	97	193
Public facilities/recreation	6	6	12	24
Agriculture	0	0	0	0
SKR conservation	12	0	0	12
Total	394	259	503	1,156

Note: (a) Construction of civilian taxiway within military cantonment.

SKR = Stephens' kangaroo rat

development of the airport infrastructure (pavement, lighting, etc.) would encompass most of the land use acreage.

2.3.1.3 Industrial. The industrial land use area covers 184 acres, or about 3 percent of the total property. A 149-acre parcel in the north-central portion of West March would support development of a light manufacturing industrial center. Development would be complete by 2016. The uses of the STP and electric substation would be the same as described for the Proposed Action.

2.3.1.4 Institutional. The institutional (medical) land use parcel includes 45 acres, or less than 1 percent of the total property. This area is in the northeastern corner of the base and includes the hospital, dental clinic, and a recently constructed administrative complex. The hospital would be reused as an emergency services center, with an adjacent helipad for emergency patient transport. The dental clinic and administrative complex would be used for medical and administrative offices. The medical land use area would be 100 percent developed by 2001.

2.3.1.5 Commercial. The commercial land use area includes 606 acres, or 9 percent of the total property. The northern portion of the larger parcel on West March would be developed for office uses; the southern portion would support development of hotels, car rental agencies, and other retail uses in support of the new airport terminal. Development would be restricted in the area within the runway clear zone. The three smaller parcels would support retail and office development. Existing buildings would be 100 percent utilized by 2001. New development would be more than 60 percent complete (approximately 3 million square feet) by the end of the 20-year analysis period.

2.3.1.6 Mixed Use. This land use area consists of one 964-acre parcel, comprising about 14 percent of the total property, in the southwest portion of West March. This area would support a variety of complementary uses such as commercial, business park, office, and institutional (medical and educational) development. All of the existing buildings would be demolished and redevelopment would be 25 percent complete (approximately 2.6 million square feet) by 2016.

2.3.1.7 Residential. The residential land use area includes 325 acres, or 5 percent of the total property, in three parcels. Two parcels north and south of Air Force Village West on West March would support expansion of that community. These parcels would support development of 384 single-family and duplex units at a density of four dwelling units per acre. In the northeast corner of the Main Base, 511 medium-density units (e.g., single-family or duplex houses), 224 high-density units (e.g., garden apartments), and 456 units of retirement housing would be constructed. This parcel also contains 111 existing housing units in the historic district and six existing dormitories, all of which would be reused. All residential development would be complete by 2016.

2.3.1.8 Public Facilities/Recreation. The public facilities/recreation land use area consists of 797 acres, or 12 percent of the total property. Existing recreational facilities on the Main Base, such as ball fields and the riding club, would be reused for public recreation purposes immediately after realignment. The March Field Museum would continue to be operated on the parcel west of the runway. The parcel in the vicinity of Cactus Avenue and I-215 would be used as an open space buffer. The golf course would be retained for public use. The area southwest of the golf course would be retained as open space and the area northwest of the golf course would support recreational facilities, such as ball fields and picnic areas. The small arms range would be managed by a public or private entity for joint use by AFRES and other military personnel as well as local law enforcement agencies. Public facilities/recreation land use areas would be completely utilized by 2016.

2.3.1.9 Agricultural. March Water System No. 2 could be used for livestock grazing, similar to the surrounding area. This 2-acre parcel would be 100 percent utilized by 2001.

2.3.1.10 SKR Conservation. The SKR parcel includes 1,207 acres, or 18 percent of the total property. This parcel is on West March adjacent to Plummer Road, surrounding and including the WSA in the northwest corner. It includes most of the area designated as SKR management area in the 1993 Biological Opinion, as well as a portion of the SKR open space area in the WSA that is surrounded by SKR management area. Existing facilities in the WSA and a portion of military family housing on West March would be demolished. The amount of ground disturbance would be within the limits of the 1993 Biological Opinion.

2.3.1.11 Employment and Population. By 2016, the SKR/Aviation Alternative would result in a total on-site employment of approximately 27,200 direct jobs (Table 2.3-5). This includes 1,661 full-time military and civilian DOD employees in the cantonment area; the remainder would be civilian jobs associated with activities on disposal property. The projected on-site population would total more than 5,000 by 2016, including 200 overnight medical patients.

Table 2.3-5. Total On-Site Employment and Population - SKR/Aviation Alternative

	Realignment	2001	2006	2016
Direct employment ^(a)	1,661	8,903	14,848	27,204
On-site residents	0	1,442	2,683	5,166

Note: (a) Does not include construction jobs.
SKR = Stephens' kangaroo rat

2.3.1.12 Transportation. Existing access points to the military cantonment and disposal property would continue to be used, as described for the Proposed Action. New access points would be provided (see Figure 2.3-1) to facilitate traffic flow on disposal property and to integrate the property into the adjacent communities' transportation network. Based on land use and employment projections, average daily vehicular traffic to and from the site would be approximately 160,600 trips by 2016, including 10,100 trips associated with military activities in the cantonment.

2.3.1.13 Utilities. By 2016, the projected activities associated with the SKR/Aviation Alternative would generate the total on-site utility usage shown in Table 2.3-6. Future development may require the installation of new utility lines and possible upgrading of existing local utility systems.

Table 2.3-6. Total On-Site Utility Usage - SKR/Aviation Alternative

Utility	Reuse-Related	Military Cantonment	Total
Water (MGD)	2.9	0.3	3.2
Wastewater (MGD)	1.5	0.2	1.7
Solid waste (tons/day)	107.8	7.3	115.1
Electricity (MWH/day)	300.5	52.8	353.3
Natural gas (MMCF/day)	2.8	0.2	3.0

MGD = million gallons per day
MMCF = million cubic feet
MWH = megawatt-hours
SKR = Stephens' kangaroo rat

2.3.2 SKR/Cargo Alternative

The SKR/Cargo Alternative (Figure 2.3-3) assumes joint military and civilian use of the airfield. Civilian aviation support uses, which would consist of domestic and international cargo operations, would be developed on the parcel southeast of the airfield. All SKR habitat areas, including the parcel southwest of the runway, would continue to be protected. The remaining portions of the disposal property would be developed for non-aviation civilian uses, including industrial, business park, institutional (educational), commercial, residential, public facilities/recreation, and agriculture. The total acreage for each land use category is shown in Table 2.3-7.

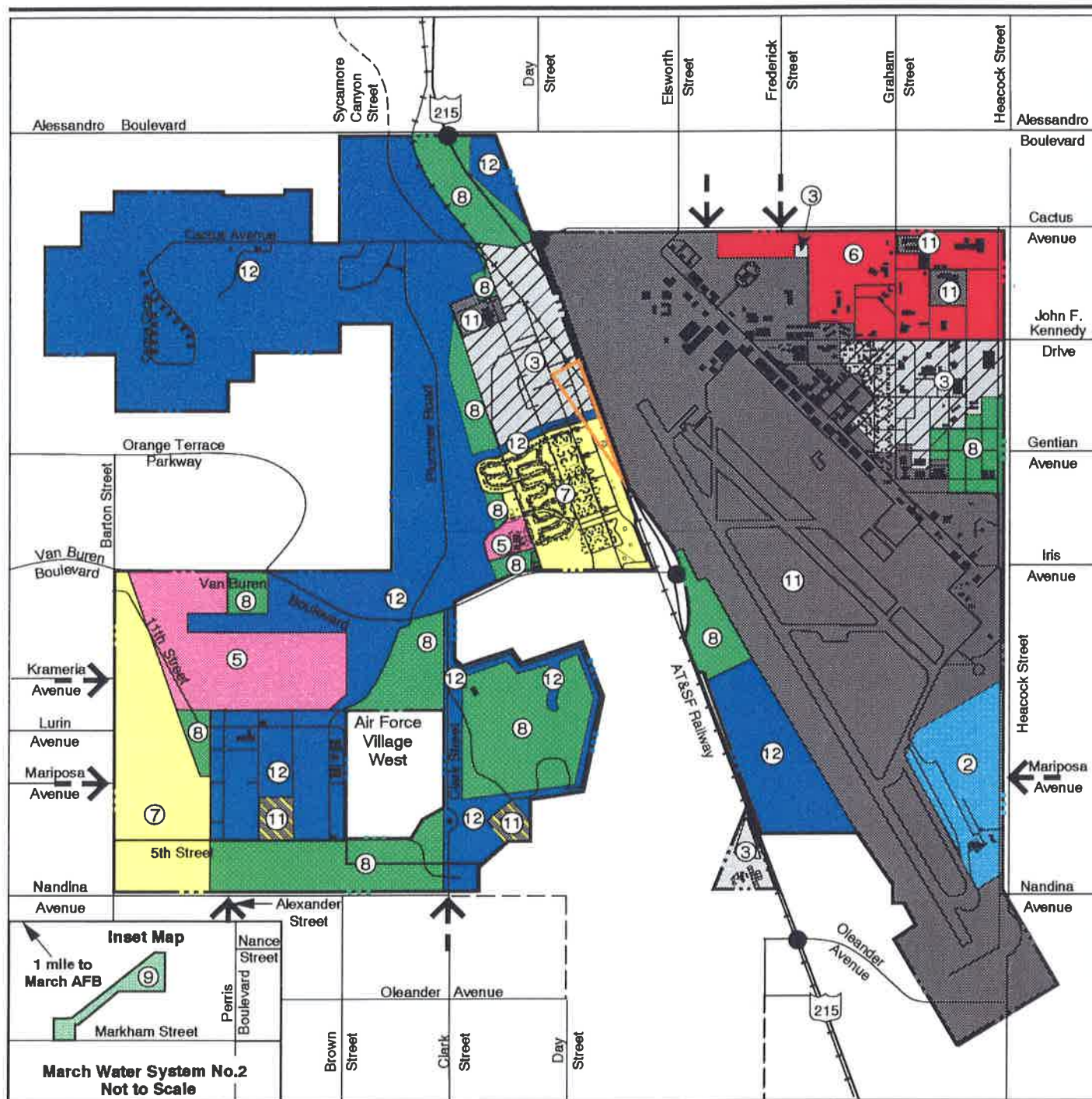
Table 2.3-7. Land Use Acreage - SKR/Cargo Alternative

Land Use	Acreage
Retained Military Cantonment	2,260
Primary	2,242
Secondary	18
Disposal/Reuse Acreage	4,445
Aviation support	175
Industrial	35
Business park	390
Institutional (educational)	248
Commercial	290
Residential	492
Public facilities/recreation	939
Agriculture	2
SKR conservation	1,874
Total	6,705

SKR = Stephens' kangaroo rat

Military and civilian use of the airfield would be similar to that described for the Proposed Action. All projected flight operations (military and civilian) for the SKR/Cargo Alternative are listed in Table 2.3-8. Percentages of military aircraft operations expected to occur during daytime, evening, and nighttime hours would be the same as under the Proposed Action. Approximately 80 percent of flight operations would use Runway 32. Flight tracks are described in Appendix G.

The airfield would be owned, operated, and maintained by AFRES. Civilian use of the airport would be arranged through a joint use agreement between the Air Force and the civilian owner/operator. FAA certification of the airport under FAR Part 139 and FAR Part 107 will be required prior to commencement of certain civilian cargo operations. The airfield layout for the SKR/Cargo Alternative (Figure 2.3-4) shows the proposed airport



EXPLANATION

- ① Airfield *
- ② Aviation Support
- ③ Industrial
- ③ Business Park
- ④ Institutional (Medical) *

- ⑤ Institutional (Educational)
- ⑥ Commercial
- ⑥ Mixed Use *
- ⑦ Residential
- ⑧ Public Facilities/ Recreation
- ⑨ Agriculture
- ⑩ Vacant Land *

- ⑪ Primary Cantonment
- ⑪ Secondary Cantonment
- ⑫ SKR Conservation
- 1995 Base Boundary
- - - Unpaved Road
- Clear Zone (Disposal)
- ← Proposed Access
- Interchange

SKR/Cargo Alternative

Figure 2.3-3

Table 2.3-8. Projected Flight Operations - SKR/Cargo Alternative
Page 1 of 2

Year	Operations	% ^(a)	Fleet Mix	Annual Operations ^(b)
2001	Military			40,950
	Based Aircraft	22.9	KC-135E	9,355
		17.9	KC-135R	7,314
		35.6	C-141B	14,567
		2.8	F-16A	1,134
	Transient Military	3.8	Attack/Fighter	1,572
		0.6	Large Bomber	262
		1.9	Large Transport/Prop	786
		1.2	Large Transport/Jet	501
		0.6	Small Transport/Prop	245
		0.8	Small Transport/Jet	322
		1.3	Trainer	523
		2.6	Helicopter	1,080
	Other Transients ^(c)	3.7	Large Transport/Jet	1,501
		0.1	Large Transport/Prop	40
		1.6	Medium Transport/Jet	665
		1.3	Small Transport/Prop	540
		1.3	Other	543
	Civilian			11,315
	Domestic Cargo	9.4	E120 Brasilia	584
		9.4	Cessna Caravan	584
		4.7	ATR-42 ^(d)	292
		9.9	727-200 ^(d)	617
		25.2	DC-8 ^(d)	1,566
		22.2	DC-10-10 ^(d)	1,376
		13.8	B-757 ^(d)	854
		5.4	A310 ^(d)	332
	International Cargo	50.0	747-200/300/400 ^(d)	2,555
		50.0	DC-10-30/40 ^(d)	2,555
	Total			52,265

Notes: (a) Percent of each category of operations conducted by aircraft type.

(b) An operation is defined as one landing or one takeoff.

(c) Other transients includes civilian aircraft provided under contract to support special military operations such as airlift.

(d) Stage 3 aircraft.

SKR = Stephens' kangaroo rat

Table 2.3-8. Projected Flight Operations - SKR/Cargo Alternative
Page 2 of 2

Year	Operations	% ^(a)	Fleet Mix	Annual Operations ^(b)
2006	Military^(e)			40,950
	Civilian			18,615
	Domestic Cargo	5.4	E120 Brasilia	609
		5.4	Cessna Caravan	608
		5.4	ATR-42 ^(d)	608
		5.0	727-200 ^(d)	569
		22.6	DC-8 ^(d)	2,562
		29.4	DC-10-10 ^(d)	3,322
		20.9	B-757 ^(d)	2,373
		5.9	A310 ^(d)	664
	International Cargo	50.0	747-20/30/40 ^(d)	3,650
		50.0	DC-10-30/40 ^(d)	3,650
	Total			59,565
2016	Military^(e)			40,950
	Civilian			33,945
	Domestic Cargo	5.6	E120 Brasilia	985
		5.6	Cessna Caravan	986
		7.5	ATR-42 ^(d)	1,314
		17.1	DC-8 ^(d)	2,989
		34.1	DC-10-10 ^(d)	5,979
		25.2	B-757 ^(d)	4,413
		4.9	A310 ^(d)	854
	International Cargo	50.0	747-200/300/400 ^(d)	8,213
		50.0	DC-10-30/40 ^(d)	8,212
	Total			74,895

Notes: (a) Percent of each category of operations conducted by aircraft type.

(b) An operation is defined as one landing or one takeoff.

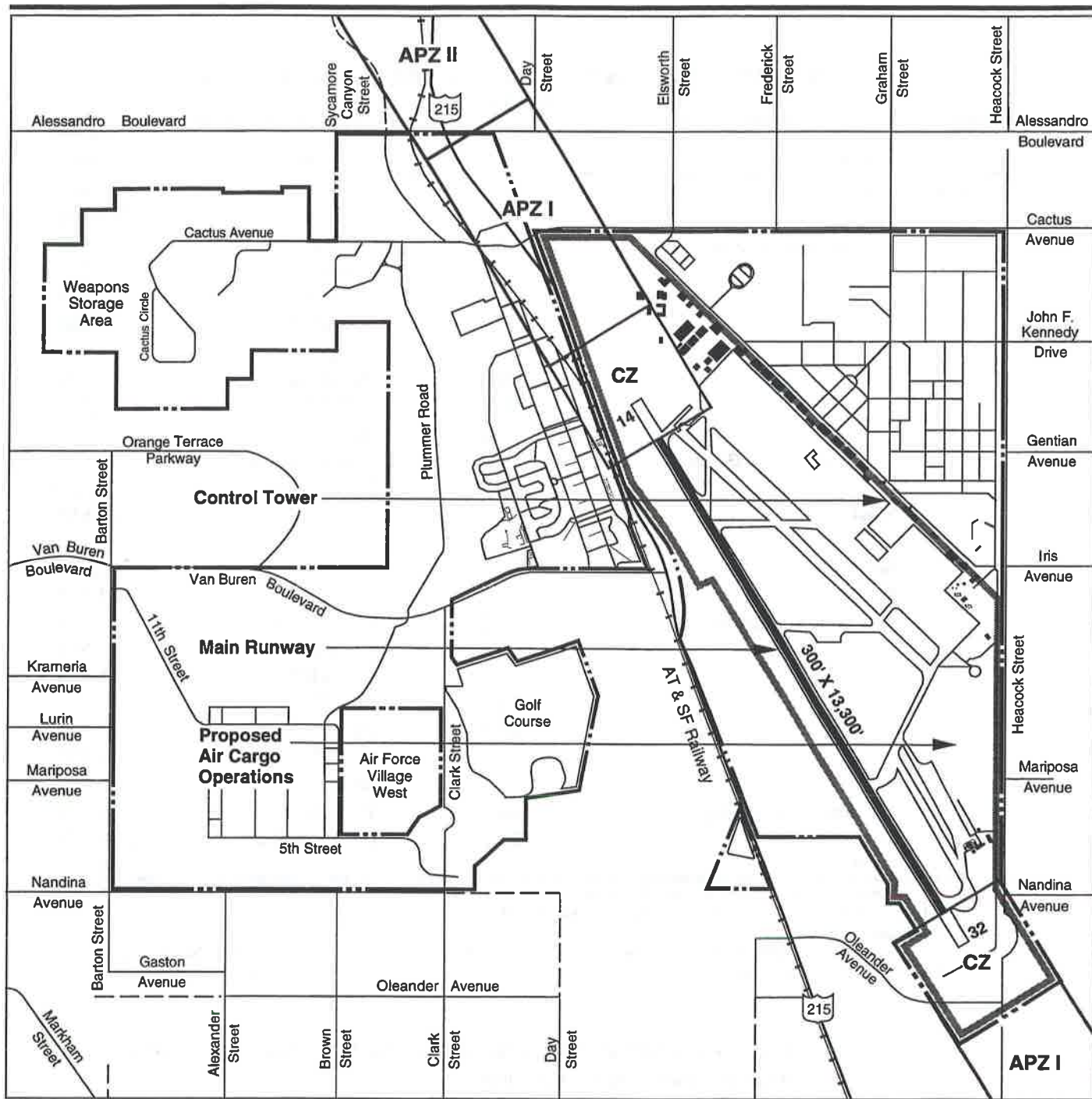
(d) Stage 3 aircraft.

(e) Same fleet mix and arrival operations as year 2001 based aircraft, transient military, and other transients.

SKR = Stephens' kangaroo rat

boundary, which includes areas required for both military and civilian aviation-related uses and facilities.

As in the Proposed Action, civilian aviation operations would use the AFRES runway in the military cantonment area. By 2016, it is projected that the airport would support approximately 34,000 civilian cargo operations. All civilian aircraft would meet applicable FAA noise and air emission standards (e.g., Stage 3 requirements for certain jet aircraft). Percentages of civilian aircraft operations expected to occur during daytime, evening, and nighttime hours would be the same as under the Proposed Action.



EXPLANATION

	Airport Boundary		1995 Base Boundary
	Clear Zone		Unpaved Road
	Accident Potential Zone		

Preliminary Airfield Layout SKR/Cargo Alternative



Note: Preliminary layout pending FAA input.

Figure 2.3-4

The following activities and data were used to develop the SKR/Cargo Alternative:

- Various airfield improvements, including rehabilitation of existing pavements; construction of new and expansion of existing aircraft parking aprons; installation of ramp lighting; construction of cargo handling, aviation support, and vehicle parking facilities.
- Amounts and types of proposed land uses
- Anticipated construction/demolition activities
- Employment and population projections
- Projected fleet mix and flight operations developed by SCAG
- Areas disturbed by construction/demolition
- Phasing plans for reuse
- Traffic generation and daily trip projections
- Utility requirement projections
- Proposed transportation access points.

The amount of development, including existing facility demolition, facility retention, and new facility construction for development through 2016 for each land use under the SKR/Cargo Alternative is provided in Table 2.3-9.

Table 2.3-9. Facility Development - SKR/Cargo Alternative

Land Use	Existing Facility Demolition (thousands of square feet)	Existing Facility Retention (thousands of square feet)	New Facility Construction (thousands of square feet of floor space)
Aviation support	16	0	601
Industrial	0	2	0
Business park	237	106	1,494
Institutional (educational)	0	52	2,669
Commercial	177	196	1,288
Residential	323	338	804
Public facilities/recreation	0	41	0
Agriculture	0	0	0
SKR conservation	241	0	0
Total	994	735	6,856

SKR = Stephens' kangaroo rat

Table 2.3-10 summarizes acreages assumed to be disturbed by construction or other operational activities during each phase of development (e.g., building footprints, parking areas, utility corridors, roads, sidewalks), and the following sections describe activities associated with each land use category.

Table 2.3-10. Acres Disturbed - SKR/Cargo Alternative

Land Use	Acres Disturbed (by Phase)			Total
	1996-2001	2001-2006	2006-2016	
Aviation support	19	8	8	35
Industrial	0	0	0	0
Business park	25	25	52	102
Institutional (educational)	47	47	94	188
Commercial	26	26	49	101
Residential	110	54	107	271
Public facilities/recreation	120	11	0	131
Agriculture	0	0	0	0
SKR conservation	19	0	0	19
Total	366	171	310	847

SKR = Stephens' kangaroo rat

2.3.2.1 Retained Military Cantonment. The military cantonment encompasses approximately 2,260 acres, or 34 percent of the total property. In addition to the primary cantonment parcels, this alternative includes the small arms range and the WADS antenna field as part of the retained property. The cantonment would be fenced for security. Military activities within the cantonment parcels would be similar to those described for the Proposed Action.

2.3.2.2 Aviation Support. The aviation support land use area comprises approximately 175 acres, or about 3 percent of the total property, in a single parcel southeast of the runway. Terminal, maintenance, fueling, and parking areas would support domestic and international air cargo operations. Development would be 60 percent complete by the end of the 20-year analysis period.

2.3.2.3 Industrial. The industrial land use area consists of 35 acres, or less than 1 percent of the total property. The two parcels in this land use category are the STP and the electric substation. Uses of these areas would be the same as described for the Proposed Action.

2.3.2.4 Business Park. The business park land use area includes 390 acres, or 6 percent of the total property, in two parcels, one on West March and one in the northeast corner of the Main Base. The West March parcel would support high-technology research activities, such as research in thermonuclear power, a National Aeronautics and Space Administration

(NASA) wind tunnel, or environmental research in alternative fuels or pollution prevention technology. Development would be restricted in that portion of the parcel within the runway clear zone. Approximately 520,000 square feet of new building space would be constructed on vacant land in West March in the 20-year analysis period. Development on this parcel would be 20 percent complete by 2016.

The Main Base parcel would support development of aviation-related activities such as light manufacturing of aircraft components and aviation equipment. Other uses in this area would include administrative, financial, and community support services; small research and development enterprises; and non-aviation-related light manufacturing. The housing units in the Historic District and a few other existing buildings in the northeast corner would be demolished and almost 1 million square feet of new business park facilities would be constructed by 2016. Development on this parcel would be more than 80 percent complete by 2016.

2.3.2.5 Institutional. The institutional (educational) land use area includes 248 acres, or 4 percent of the total property, in two parcels on West March. The parcel south of Van Buren Boulevard would support a technical or community college campus with up to 1,300 non-resident students, and the parcel north of Van Buren Boulevard would support an elementary school. Both parcels would be completely developed by the end of the 20-year analysis period.

2.3.2.6 Commercial. The commercial land use area includes 290 acres, or 4 percent of the total property. The single parcel, located north of the main cantonment parcel, would be reused primarily for office development. Existing buildings would be 100 percent utilized by 2001. New development of more than 1 million square feet of commercial space would be 50 percent complete by the end of the 20-year analysis period.

2.3.2.7 Residential. The residential land use area includes 492 acres, or 7 percent of the total property, in two parcels on West March. Approximately half of the 581 single-family and duplex homes in the military family housing area adjacent to I-215 would be retained for reuse as public housing or for low-to-moderate income family housing; the remainder would be demolished. Reuse of these housing units would occur in the first 10 years after realignment. The portion of the parcel within the runway clear zone would remain open space. The parcel in the southwest corner of West March would support development of 536 single-family houses at a density of two dwelling units per acre. This new residential development would be complete by 2016.

2.3.2.8 Public Facilities/Recreation. The public facilities/recreation land use areas consist of 939 acres, or 14 percent of the total property. Existing recreational facilities in the northeast portion of the Main Base, such as ball fields and the riding club, would be available for public use. The March Field

Museum would continue to be operated on the parcel west of the runway. The golf course would be expanded by 18 holes on 185 acres south of Air Force Village West. The area northwest of the golf course, the area along I-215, the railroad north of Cactus Avenue, and the area between the SKR habitat and the residential and business park development on West March would be retained as open space. A neighborhood park would be developed near 11th Street on West March, adjacent to the new residential development. A small recreational area would also be developed adjacent to the community college campus. All public facilities/recreation land use areas would be available for public use by 2016.

2.3.2.9 Agricultural. March Water System No. 2 would be used for livestock grazing, similar to the surrounding area. This 2-acre parcel would be 100 percent utilized by 2001.

2.3.2.10 SKR Conservation. The SKR parcel includes 1,874 acres, or 28 percent of the total property. This parcel includes all SKR management and open space areas, except those within the retained military cantonment. Existing facilities in the WSA and west of Air Force Village West would be demolished. The amount of ground disturbance would be within the limits of the 1993 Biological Opinion.

2.3.2.11 Employment and Population. By 2016, the SKR/Cargo Alternative would result in a total on-site employment of about 16,200 direct jobs (Table 2.3-11). This includes 1,661 full-time military and civilian DOD employees in the cantonment area; the remainder would be civilian jobs associated with activities on the disposal property. The projected on-site population would total approximately 2,650 residents by 2016.

Table 2.3-11. Total On-Site Employment and Population - SKR/Cargo Alternative

	Realignment	2001	2006	2016
Direct employment ^(a)	1,661	5,862	9,351	16,214
On-site residents	0	894	1,789	2,646

Note: (a) Does not include construction jobs.
SKR = Stephens' kangaroo rat

2.3.2.12 Transportation. Existing access points to the military cantonment and disposal property would continue to be used, as discussed for the Proposed Action. New access points would be provided (see Figure 2.3-3) to facilitate traffic flow on disposal property and to integrate the property roads into the adjacent communities' transportation network. Based on land use and employment projections, average daily vehicular traffic to and from the site would be approximately 86,300 trips by 2016, including 10,100 trips associated with military activities.

2.3.2.13 Utilities. By 2016, the projected activities associated with the SKR/Cargo Alternative would generate the total on-site utility usage shown in Table 2.3-12. Future development may require the installation of new utility lines and possible upgrading of existing local utility systems.

Table 2.3-12. Total On-Site Utility Usage - SKR/Cargo Alternative

Utility	Reuse-Related	Military Cantonment	Total
Water (MGD)	2.1	0.3	2.4
Wastewater (MGD)	0.9	0.2	1.1
Solid waste (tons/day)	69.4	7.3	76.7
Electricity (MWH/day)	192.6	52.6	245.2
Natural gas (MMCF/day)	1.8	0.2	2.0

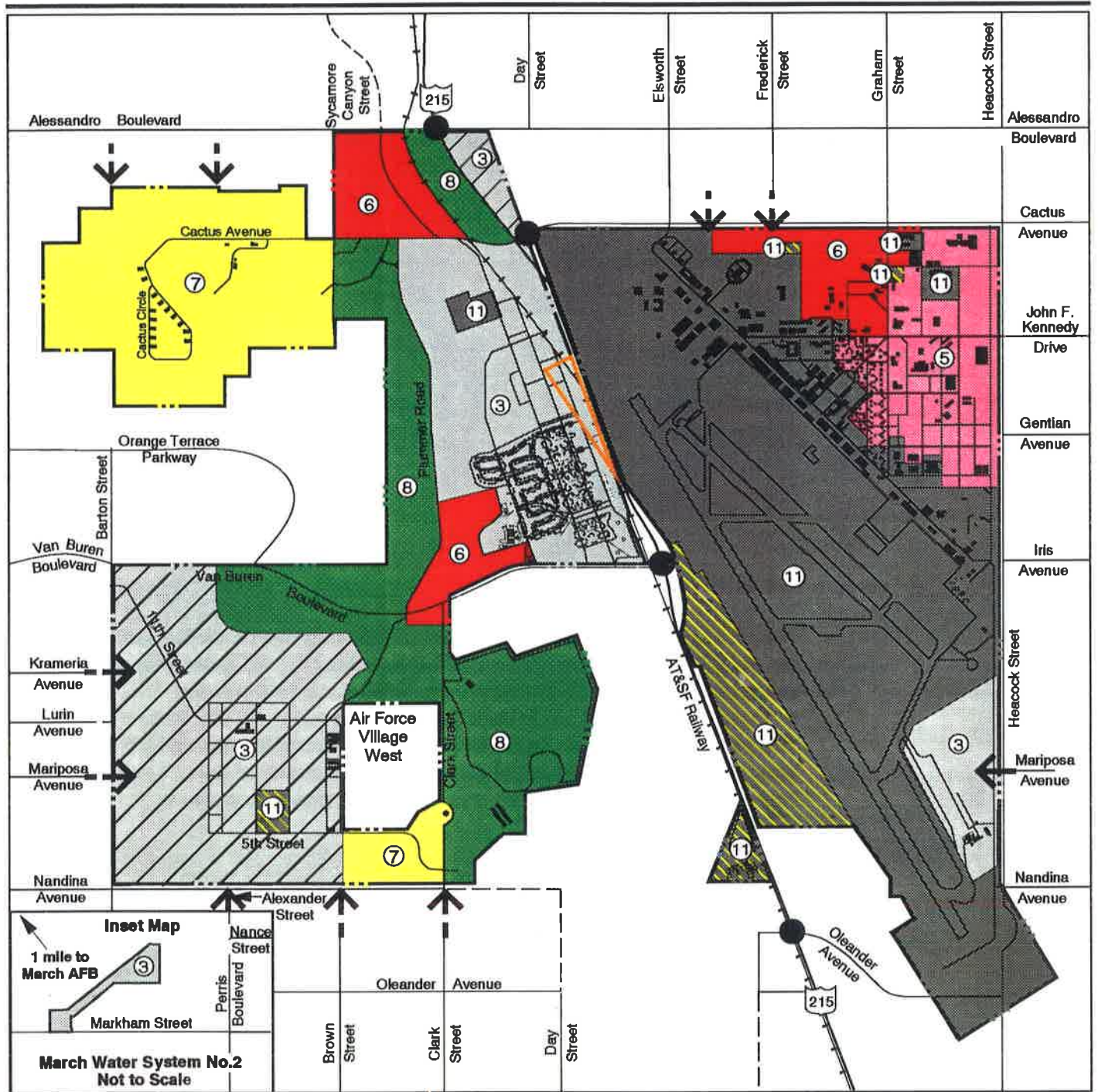
MGD = million gallons per day
MMCF = million cubic feet
MWH = megawatt-hours
SKR = Stephens' kangaroo rat

2.3.3 Military Aviation Alternative

The Military Aviation Alternative (Figure 2.3-5) assumes no civilian use of the airfield. Disposal property would be developed for non-aviation civilian uses including industrial, business park, institutional (educational), commercial, residential, and public facilities/recreation. All SKR habitat on West March would be available for development, assuming provision is made for suitable habitat elsewhere in exchange for development rights on disposal property. The total acreage for each land use category is shown in Table 2.3-13.

Table 2.3-13. Land Use Acreage - Military Aviation Alternative

Land Use	Acreage
Retained Military Cantonment	2,492
Primary	2,242
Secondary	250
Disposal/Reuse Acreage	4,213
Industrial	826
Business park	900
Institutional (educational)	376
Commercial	363
Residential	770
Public facilities/recreation	978
Total	6,705



EXPLANATION

- ① Airfield *
- ② Aviation Support *
- ③ Industrial
- ③ Business Park
- ④ Institutional (Medical) *

- ⑤ Institutional (Educational)
- ⑥ Commercial
- ⑥ Mixed Use *
- ⑦ Residential
- ⑧ Public Facilities/ Recreation
- ⑨ Agriculture *
- ⑩ Vacant Land *

- ⑪ Primary Cantonment
- ⑪ Secondary Cantonment
- ⑫ SKR Conservation *
- 1995 Base Boundary
- - - Unpaved Road
- Clear Zone (Disposal)
- ← Proposed Access
- Interchange

0 900 1800 3600 Feet



* Standard land use designation not applicable to this figure.

Military Aviation Alternative

Figure 2.3-5

The projected flight operations for the Military Aviation Alternative (Table 2.3-14) include only military operations; there would be no civilian aviation reuse. Percentages of military aircraft operations expected to occur during daytime, evening, and nighttime hours would be the same as under the Proposed Action. Approximately 80 percent of flight operations would use Runway 32. Flight tracks are described in Appendix G.

Table 2.3-14. Projected Flight Operations - Military Aviation Alternative

Year	Operations	% ^(a)	Fleet Mix	Annual Operations ^(b)
All Years	Military			
	Based Aircraft	22.9	KC-135E	9,355
		17.9	KC-135R	7,314
		35.6	C-141B	14,567
		2.8	F-16A	1,134
	Transient Military	3.8	Attack/Fighter	1,572
		0.6	Large Bomber	262
		1.9	Large Transport/Prop	786
		1.2	Large Transport/Jet	501
		0.6	Small Transport/Prop	245
		0.8	Small Transport/Jet	322
		1.3	Trainer	523
		2.6	Helicopter	1,080
	Other Transients ^(c)	3.7	Large Transport/Jet	1,501
		0.1	Large Transport/Prop	40
		1.6	Medium Transport/Jet	665
		1.3	Small Transport/Prop	540
		1.3	Other	543
	Total			40,950

Notes: (a) Percent of each category of operations conducted by aircraft type.

(b) An operation is defined as one landing or one takeoff.

(c) Other transients includes civilian aircraft provided under contract to support special military operations such as airlift.

The following activities and data were used to develop the Military Aviation Alternative:

- Amounts and types of proposed land uses
- Anticipated construction/demolition activities
- Employment and population projections
- Areas disturbed by construction/demolition
- Phasing plans for reuse
- Traffic generation and daily trip projections

- Utility requirement projections
- Proposed transportation access points.

The amount of development, including existing facility demolition, facility retention, and new facility construction for development through 2016 for each land use under the Military Aviation Alternative is provided in Table 2.3-15.

Table 2.3-15. Facility Development - Military Aviation Alternative

Land Use	Existing Facility Demolition (thousands of square feet of floor space)	Existing Facility Retention	New Facility Construction
Industrial	183	0	2,045
Business park	13	7	1,176
Institutional (educational)	64	528	200
Commercial	54	125	2,349
Residential	27	0	2,359
Public facilities/recreation	5	14	0
Total	346	674	8,129

Table 2.3-16 summarizes acreages assumed to be disturbed by construction or other operational activities during each phase of development (e.g., building footprints, parking areas, utility corridors, roads, sidewalks), and the sections below describe activities associated with each land use category.

Table 2.3-16. Acres Disturbed - Military Aviation Alternative

Land Use	Acres Disturbed (by Phase)			Total
	1996-2001	2001-2006	2006-2016	
Industrial	35	35	76	146
Business park	15	22	36	73
Institutional (educational)	7	8	16	31
Commercial	60	52	105	217
Residential	185	83	166	434
Public facilities/recreation	109	19	0	128
Total	411	219	399	1,029

2.3.3.1 Retained Military Cantonment. The military cantonment encompasses approximately 2,492 acres, or 37 percent of the total property. In addition to the primary cantonment parcels, this alternative includes the WADS antenna field, the electrical substation, the communications facility, the STP, and the aviation support parcel as part of the retained property.

The March Field Museum would continue to be operated as a public facility on military property, as before realignment. The cantonment would be fenced for security. Military activities within the cantonment parcels would be similar to those described for the Proposed Action.

2.3.3.2 Industrial. The industrial land use area covers 826 acres, or 12 percent of the total property. The parcel on West March adjacent to I-215 could be used for inter-modal railroad, rapid rail transit, and automobile transportation facilities; transit maintenance shops and facilities; park and ride lots; vehicle parking storage; and related industrial/commercial uses. This parcel includes a portion of the runway clear zone, in which development would be restricted. The 175-acre parcel southeast of the runway would be developed for manufacturing or warehousing. These parcels would be 25 percent utilized, with 2 million square feet of new building space, by the end of the 20-year analysis period. The two existing water wells on March Water System No. 2 would be maintained and operated by a local utility, and would be 100 percent utilized by 2001.

2.3.3.3 Business Park. The two business park land use parcels include 900 acres, or 13 percent of the total property. The parcel in the southwest corner of West March would be developed for a variety of high-technology research activities that require large land areas, such as research in thermonuclear power, a NASA wind tunnel, or environmental research. The parcel adjacent to I-215 north of Cactus Avenue would be used for office and related warehouse space. Redevelopment on both parcels would be 10 percent complete by 2016, with nearly 1.2 million square feet of new building space.

2.3.3.4 Institutional. The institutional (educational) land use parcel includes 376 acres, or 6 percent of the total property, in a single parcel in the northeast corner of the Main Base. This college campus would support approximately 2,000 students. Single-family housing units in the historic district would be used for retail, offices, and housing for students and staff of a community or technical college. The hospital, dental clinic, and adjacent administrative offices would support medical training, student clinic, and office uses. Existing dormitories would be retained for reuse. The institutional (educational) land use would be 50 percent developed by the end of the 20-year analysis period.

2.3.3.5 Commercial. The commercial land use includes 363 acres, or 5 percent of the total property, in three parcels. The parcel in the northeast corner of the Main Base would support office and retail development. The parcel immediately north of Van Buren Boulevard would be developed as a neighborhood commercial center with a commercially operated recreational vehicle park. The parcel south of Alessandro Boulevard on West March would support development of retail, professional, and office space; a hotel; and commercial storage facilities. Approximately 2.3 million square feet of new commercial space would be constructed. Commercial reuse and

development would be more than 80 percent complete by the end of the 20-year analysis period.

2.3.3.6 Residential. The residential land use area includes 770 acres, or 11 percent of the total property, in two parcels on West March. The larger parcel, in the northwest corner of the base, would be used for a golf course/residential development, which could support 1,800 single-family homes. The parcel south of Air Force Village West would be used for expansion of that development, with space for 250 single-family homes. Both parcels would be more than 60 percent developed by 2016.

2.3.3.7 Public Facilities/Recreation. The public facilities/recreation land use areas consist of 978 acres, or 15 percent of the total property, in two parcels on West March. A transit station for the proposed Metrolink would be established within the public right-of-way along the railroad line and I-215 as described under the Proposed Action. An open space buffer would be created along the west side of Plummer Road, separating the proposed industrial use from existing residential areas off base. The golf course would be retained for public reuse, and open space to the northwest along Van Buren Boulevard would be reused for expansion of the golf course or other recreational use. The small arms range would be managed by a public or private entity for joint use by AFRES and other military personnel as well as local law enforcement agencies. All public facilities/recreation land use areas would be available for public use within 10 years after realignment.

2.3.3.8 Employment and Population. By 2016, the Military Aviation Alternative would result in a total on-site employment of almost 18,000 direct jobs (Table 2.3-17). This includes 1,661 full-time military and civilian DOD employees in the cantonment area; the remainder would be civilian jobs associated with activities on the disposal property. The projected on-site population would total approximately 4,570 residents by 2016, which would include 675 resident students.

**Table 2.3-17. Total On-Site Employment and Population -
Military Aviation Alternative**

	Realignment	2001	2006	2016
Direct employment ^(a)	1,661	5,510	9,830	17,839
On-site residents	0	1,135	2,284	4,568

Note: (a) Does not include construction jobs.

2.3.3.9 Transportation. Existing access points to the military cantonment and disposal property would continue to be used as discussed for the Proposed Action. New access points would be provided to facilitate traffic flow on disposal property and to integrate the property into the surrounding road network (see Figure 3.2-5). Based on land use and employment projections, average daily vehicular traffic to and from the site would be

approximately 89,050 trips by 2016, including 10,100 trips associated with military activities.

2.3.3.10 Utilities. By 2016, the projected activities associated with the Military Aviation Alternative would generate the total on-site utility usage shown in Table 2.3-18. Future development may require the installation of new utility lines and possible upgrading of existing local utility systems.

Table 2.3-18. Total On-Site Utility Usage - Military Aviation Alternative

Utility	Reuse-Related	Military Cantonment	Total
Water (MGD)	2.8	0.3	3.1
Wastewater (MGD)	1.3	0.2	1.5
Solid waste (tons/day)	79.7	7.3	87.0
Electricity (MWH/day)	239.2	52.8	292.0
Natural gas (MMCF/day)	2.1	0.2	2.3

MGD = million gallons per day

MMCF = million cubic feet

MWH = megawatt-hours

2.3.4 No-Action Alternative

Under the No-Action Alternative, the 452nd AMW and tenant units would continue to operate within the military cantonment. The remainder of the base property would be put to no further use and placed under long-term caretaker status. All SKR management and open space areas would continue to be protected under the terms of the 1993 Biological Opinion. The March Field Museum would continue to be operated at its present location.

The military land uses and activities would be the same as those described under the other alternatives. The remaining portions of the base property would be preserved, i.e., placed in a condition intended to limit deterioration and ensure public safety. Caretaker activities would consist of resource protection, grounds maintenance, existing utilities operations as necessary, and building care. The future land uses and levels of maintenance within these areas would be as follows:

- Maintain structures to limit deterioration.
- Isolate or deactivate utility distribution lines on base property.
- Provide limited maintenance of roads to ensure access.

- Provide limited grounds maintenance of open areas to eliminate fire, health, and safety hazards.
- Maintain golf course in such a manner as to facilitate economical resumption of use.

The only access to the base property would be the Main Gate. The No-Action Alternative would generate an average of about 10,100 daily trips throughout the 20-year analysis period, including trips for weekend training by part-time Reserve personnel. The utility uses generated under the No-Action Alternative are shown in Table 2.3-19.

Table 2.3-19. Total On-Site Utility Usage - No-Action Alternative

Utility	Total
Water (MGD) ^(a)	1.2
Wastewater (MGD)	0.2
Solid waste (tons/day)	7.3
Electricity (MWH/day)	52.8
Natural gas (MMCF/day)	0.2

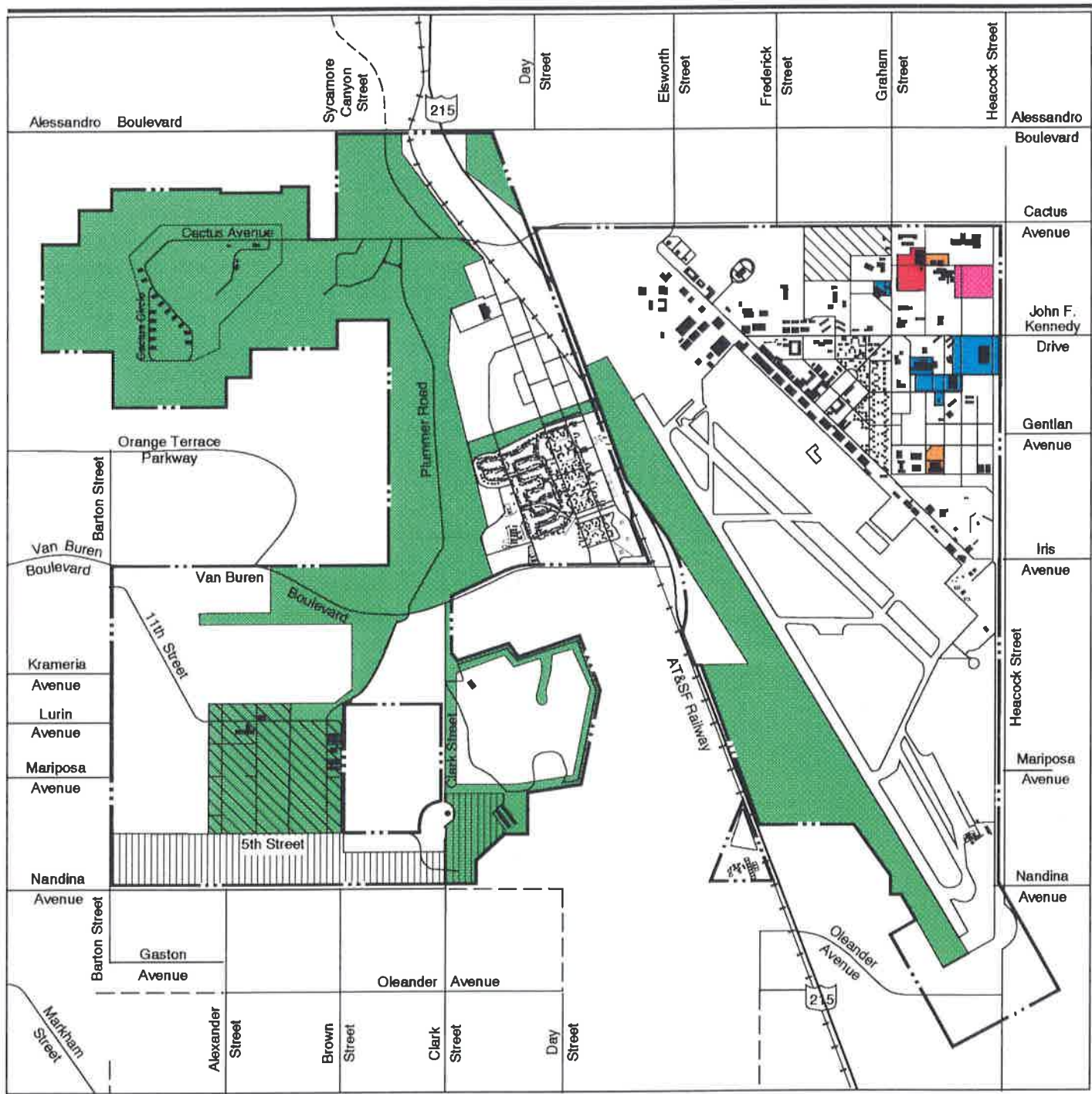
Note: (a) Includes irrigation of caretaker property, including golf course.
 MGD = million gallons per day
 MMCF = million cubic feet
 MWH = megawatt-hours

2.3.5 Other Land Use Concepts

In compliance with the Federal Property and Administrative Services Act of 1949, the Air Force solicited proposals from other federal agencies regarding their interest in acquiring any excess lands or facilities identified for disposal at March AFB.

In addition, independent proposals for discrete facilities or areas of the disposal property have been received by the Air Force. Some of these proposals have been incorporated within the conceptual land uses described in one or more of the reuse alternatives, including the Proposed Action. This section describes independent land use proposals received by the Air Force that have not been captured within the analysis of each of the reuse alternatives.

These other land use concepts, including proposed federal transfers and conveyances to non-federal agencies and private parties, are independent of one another, and could be implemented individually or in combination with any of the alternatives, including the Proposed Action. Figure 2.3-6 shows the location of each of the proposed land use concepts described below.



EXPLANATION

- | | |
|--|--|
| --- 1995 Base Boundary | Army and Air Force Exchange Service |
| - - - Unpaved Road | Riverside National Cemetery Expansion |
| SKR Habitat | Army Reserve |
| Navy/Marine Reserve Forces | U.S. Department of Agriculture |
| | California Army National Guard |

Other Land Use Concepts

Figure 2.3-6

The JPA has approved the Riverside National Cemetery, Navy and Marine Corps Reserve Center, Army and Air Force Exchange Service (AAFES), Army Reserve, and California Army National Guard land use concepts as compatible with their preferred reuse plan for disposal property.

2.3.5.1 Stephens' Kangaroo Rat Habitat. The SKR management areas and open space areas on March AFB (see Figure 2.3-6) were established under a 1991 Biological Opinion issued by the USFWS. The habitat is managed jointly by The Nature Conservancy, the USFWS, and the Air Force. The terms of the Biological Opinion (revised by the USFWS in 1993) severely restrict the amount of disturbance allowed within these habitat areas. If the USFWS determines that these areas on March AFB must continue to be protected and no land exchange can be agreed upon, these areas will not be available to the JPA for redevelopment. In that event, the management areas (approximately 1,000 acres) and open space areas (approximately 1,200 acres) would continue to be protected under the terms of the 1993 Biological Opinion. SKR habitat areas within the retained military cantonment would continue to be managed by the Air Force. The SKR habitat areas on disposal property may be transferred to another federal agency that would be responsible for managing these areas in accordance with the terms of the 1993 Biological Opinion. Activities within the habitat areas would be coordinated with the USFWS.

Under this concept, the SKR habitat outside the military cantonment would encompass 1,879 acres, or 28 percent of the total property. No population or employment and no utility usage would be associated with this use. Minimal ground disturbance, involving demolition of existing facilities in the WSA and west of Air Force Village West, would occur. By 2016, implementation of the SKR habitat other land use concept would result in no changes to the SKR/Cargo Alternative. When combined with the Proposed Action, the SKR/Aviation Alternative, or the Military Aviation Alternative, a decrease in disturbed acreage, facility construction, employment, population, and trips would result because less acreage would be available for redevelopment (Table 2.3-20). These changes are analyzed within the appropriate resource sections in Chapter 4.

2.3.5.2 U.S. Department of Agriculture Forest Service Operations Coordination Center. The U.S. Department of Agriculture (USDA) Forest Service has requested approximately 55 acres for an operations coordination center to support emergency services activities conducted by the Forest Service, the Federal Emergency Management Agency (FEMA), the California Office of Emergency Services, the California Department of Forestry and Fire Protection, the National Weather Service, and the Bureau of Land Management. The center would support approximately 60 full-time employees who would typically be engaged in administrative functions. In times of emergency (e.g., wildfires), the number of employees could double as additional personnel are brought in for multiple shifts to staff the center 24 hours per day. In addition to office facilities, the center would

**Table 2.3-20. Implementation of the SKR Habitat
Other Land Use Concept, 2016**

Development Factor	With Proposed Action	With SKR/Aviation Alternative	With Military Aviation Alternative
Disturbed acres	1,105	831	579
Existing facility demolition (1,000 SF)	1,107	1,059	607
Existing facility retention (1,000 SF)	986	967	667
New facility construction (1,000 SF)	12,544	8,191	5,121
Direct employment	37,360	24,794	14,576
Population	922	5,166	1,481
Trips	181,300	159,100	59,550

Note: There are no changes associated with the combination of the SKR habitat other land use concept and the SKR/Cargo Alternative.

SF = square feet

SKR = Stephens' kangaroo rat

accommodate communications equipment (antennas, microwave, and satellite dishes). A large open space would be designated as a staging area for mobilization of emergency crews, and storage and mobilization of emergency vehicles, equipment, and supplies for the duration of any emergency situation. During these times, light aircraft and helicopters used for fire fighting would land at and take off from the March ARB runway to support emergency activities.

A final location for these activities has not yet been agreed upon. Two potential locations are currently being considered: (1) north of the main cantonment parcel on the Main Base and (2) immediately west of Air Force Village West on West March. Both locations are analyzed in this EIS.

2.3.5.3 Riverside National Cemetery Expansion. The Department of Veterans Affairs has requested property for the expansion of the Riverside National Cemetery (see Figure 2.3-6). It is anticipated that this property would be 50 percent developed by 2016.

Development would include grading, landscaping, irrigation, and addition of roadways and gravesites. No other new construction is proposed. Landscaping activities would require irrigation water and produce additional green waste. The proposed expansion would not result in an increase in employment or trips associated with the cemetery.

A portion of this parcel is within identified SKR open space area. Some mitigation, such as a land exchange, would be required to develop this property.

2.3.5.4 Navy and Marine Corps Reserve Center. The U.S. Navy has requested the use of Facilities 2629, 2630, 2631, 2632, and 2670 and approximately 12 acres (see Figure 2.3-6) to support Reserve Forces administrative and classroom training functions (U.S. Air Force, 1995a). It is anticipated that this property would be 100 percent developed within the first 5 years after realignment.

The U.S. Navy Reserve Force would be the host unit; the Marine Reserve Force would be a tenant unit. Two Naval Reserve Force units would relocate from San Bernardino and Pomona, California. Three Marine Reserve Force units would relocate from San Bernardino, Pasadena, and Alameda, California. Seventy-seven active duty personnel would use the facilities daily. A maximum of 190 Navy Reserve Force personnel would use the facilities two to three weekends per month, and a maximum of 367 Marine Reserve Force personnel would use the facilities one weekend per month. The maximum number of reserve personnel on base for weekend duty would be 557. The full-time equivalent for employment is 172.

Facilities would be used for administrative functions, offices, and classrooms. A new parking lot for privately owned vehicles would be constructed adjacent to Facility 2670, entailing disturbance of approximately 2 acres. Approximately 113 tactical military vehicles used for Reserve training activities would be parked in an existing lot within the retained military cantonment, adjacent to Facility 2500, the Vehicle Maintenance Facility. Maintenance of the vehicles would be conducted in Facility 2500. Utility use would be minimal. The majority of trips would be associated with Reserve personnel reporting for weekend activities.

2.3.5.5 Army and Air Force Exchange Service. AAFES has requested Facilities 548 (Automobile Workshop), 549 (Car Care Center), 550 (Gas Station), 758 (Main Store), 960 (Home and Garden Store), 942 (Burger King), and 1000 (Commissary)(see Figure 2.3-6). These facilities would continue to be used for their current purposes, and provide merchandise and services to authorized military personnel (active duty, reserve, and retired) and their dependents. No new construction would be required. It is anticipated that this property would be 100 percent utilized within the first 5 years after realignment.

AAFES has projected 2,200 round-trips per day (2,000 during peak periods) based on 2,000 visitors per day plus 322 employees. These continuing activities would not result in increased utility use or vehicle trips from prerealignment and realignment conditions.

2.3.5.6 Army Reserve. The Headquarters 63rd Army Reserve Command has requested Facilities 602, 2996, and 2998 for administrative and classroom training purposes (see Figure 2.3-6). An additional facility in the northeast corner of the base will also be requested to support administrative

functions. It is anticipated that this property would be 100 percent utilized within the first 5 years after realignment.

A new 4-acre parking lot for tactical military vehicles would be constructed north of Facility 2500 in the retained military cantonment. Vehicle maintenance activities would occur within Facility 2500.

Of the 200 active duty personnel, 60 would be new to the area. About 18 visitors per week are expected. Utility use would be minimal, as would vehicle trips.

2.3.5.7 California Army National Guard. The California Army National Guard has requested 15 acres of vacant land south of the hospital (see Figure 2.3-6) to construct a 57,000-square-foot multi-unit armory. It is anticipated that this property would be 100 percent developed within the first 5 years after realignment.

Forty-two active duty personnel would use the facility daily. Of these personnel, 8 currently reside in the area. About 10 to 25 visitors are anticipated per day. Weekend reserve activities would involve a maximum of 450 personnel one weekend per month. Weekend reserve activities on this property would be limited to office and administrative functions. Additional training activities would be conducted at other military installations in southern California.

Parking spaces for privately owned vehicles and tactical military vehicles would be provided adjacent to the armory. The proposed armory would be used for storage of small arms and vehicle maintenance supplies, including hazardous materials. Utility use and vehicle trips associated with these activities would be minimal.

2.4 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

Reuse proposals submitted for March AFB property have been addressed within the land uses identified under the Proposed Action and alternatives or other land use concepts. No other alternatives have been considered and eliminated from detailed analysis.

2.5 INTERIM USES

Interim uses include predisposal short-term uses of surplus facilities and property. Predisposal interim uses are conducted under lease agreements or permits with the Air Force. The terms and conditions of the leases/permits would ensure that the predisposal interim uses do not prejudice future disposal and reuse plans of the base property. The continuation of interim uses beyond disposal would be arranged through agreements with the new property owner(s). If an interim use becomes viable, a use substantially similar to those addressed in the final version of this EIS could be authorized

without further environmental analysis. In some cases, a separate environmental analysis to cover the action may be required.

The U.S. Navy is currently operating the Navy and Marine Corps Reserve Center as an interim use for the area shown in Figure 2.3-6. That use was initiated pursuant to completion of an environmental assessment and Finding of No Significant Impact for those activities (U.S. Air Force, 1995a). This use is analyzed in the EIS as an Other Land Use Concept (see Section 2.3.5.4).

A baseline representing conditions at the time of realignment is used for the environmental analysis. Predisposal interim uses are not considered in the baseline conditions used for the environmental analysis because the baseline captures the future conditions at the time of realignment and does not presuppose a decision of continued interim uses at that time.

2.6 OTHER FUTURE ACTIONS IN THE REGION

Other future actions in the region include construction and implementation of developments associated with local specific plans that are expected to be complete within the 20-year analysis period. A specific plan is a means for jurisdictions to implement the general plan (a community's long-range plan) on a portion or all of its property. The specific plans that are funded are generally consistent with the local general plans, in which regional growth was projected. Within 5 miles of March AFB, eight major specific plans that are funded have been identified. These plans are summarized below. A more detailed description of land use plans and development is provided in Section 3.2.2.1.

Within the city of Perris, three residential specific plans propose 4,700 new single-family housing units on over 1,000 acres. One of these, covering over 600 acres, is under construction. The other two plan areas are awaiting improved market conditions. All development is expected to be complete by the end of the 20-year analysis period.

The city of Moreno Valley is expecting slower growth. The Oleander Specific Plan identifies 1,500 acres east of Heacock Street for industrial and business park activities. The Centerpointe Specific Plan addresses approximately 230 acres north of Cactus Avenue for office and industrial uses. Although some development already has occurred within these plan areas, growth has been slow and is expected to continue so, with full development of these areas extending beyond 20 years.

The city of Riverside has three major specific plans in the area surrounding March AFB. Two of these are primarily residential developments, and are partially completed. Existing and future construction within the Mission Grove and Orangecrest specific plans would contribute an additional 1,700 single-family housing units, on approximately 400 acres, within the 20-year

analysis period. Within these two plans, there would be small areas of industrial, recreation, and educational land uses. These specific plan areas are located to the south and west of the WSA. Within the Sycamore Canyon Business Park Specific Plan, north of Alessandro Boulevard and west of I-215, approximately 1,400 acres of high-quality industrial property would be developed within 20 years. Some of this development has already occurred, with industrial buildings primarily on the northern approximately 400 acres of the plan area (over 1 mile north of the WSA).

2.7 COMPARISON OF ENVIRONMENTAL IMPACTS

A summary comparison of the influencing factors and environmental impacts, along with their potential mitigations, for each biophysical resource affected by the Proposed Action and reasonable alternatives over the 20-year study period is presented in Tables 2.7-1 and 2.7-2. Table 2.7-2 also includes a summary of realignment conditions to provide a basis for comparison of reuse-related changes and associated impacts. Influencing factors are non-biophysical elements, such as population, employment, land use, aesthetics, public utility systems, and transportation networks that directly impact the environment. Environmental impacts of other land use concepts are summarized in Table 2.7-3. The results of the environmental justice analysis are summarized in Table 2.7-4. Impacts to the environment are described briefly in the summary and discussed in detail in Chapter 4.

Table 2.7-1. Summary of Reuse-Related Influencing Factors

Factor	Proposed Action			SKR/Aviation Alternative			SKR/Cargo Alternative			Military Aviation Alternative			No-Action Alternative		
	2001	2006	2016	2001	2006	2016	2001	2006	2016	2001	2006	2016	2001	2006	2016
Ground Disturbance (acres, by phase)	540	291	533	394	259	503	366	171	310	411	219	399	0	0	0
Aircraft Operations (annual)	68,189	77,520	97,531	79,860	94,419	125,405	52,255	59,565	74,895	40,950	40,950	40,950	40,950	40,950	40,950
Direct Employment	12,155	20,778	38,619	8,903	14,848	27,204	5,862	9,351	16,214	5,510	9,830	17,839	1,661	1,661	1,661
Secondary Employment	8,090	13,531	24,704	6,319	10,413	18,556	4,006	6,114	10,268	4,008	7,006	12,751	951	951	951
On-Site Population	381	561	922	1,442	2,683	5,166	894	1,789	2,646	1,135	2,284	4,568	0	0	0
Site-Related Trips (average daily vehicular traffic)	66,150	108,450	194,550	51,000	88,100	160,600	32,900	51,600	86,300	32,250	51,650	89,050	10,100	10,100	10,100
Water Consumption (MGD)	2.0	2.2	3.2	1.6	2.0	3.2	1.7	2.0	2.4	1.9	2.3	3.1	1.2	1.2	1.2
Wastewater Treatment (MGD)	0.6	1.0	1.6	0.6	1.0	1.7	0.5	0.7	1.1	0.5	0.8	1.5	0.2	0.2	0.2
Solid Waste Disposal (tons/day)	50.6	91.2	174.4	36.0	63.0	115.1	28.1	46.4	76.7	26.3	47.1	87.0	7.3	7.3	7.3
Electricity Consumption (MWH/day)	165.3	263.4	463.2	131.1	206.5	353.3	108.7	157.5	245.2	110.7	172.4	292.0	52.8	52.8	52.8
Natural Gas Consumption (MMCF/day)	1.3	2.2	4.1	0.9	1.6	3.0	0.7	1.1	2.0	0.7	1.3	2.3	0.2	0.2	0.2

MGD = million gallons per day

MMCF = million cubic feet

MWH = megawatt-hours

SKR = Stephens' kangaroo rat

**Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Local Community						
• Land Use and Aesthetics	<p>Conditions:</p> <p>Continued activities within retained military cantonment and airfield. Other portions of the base property placed under caretaker status</p>	<p>Impacts:</p> <p>The JPA will develop its land use plan to preclude any land use incompatibilities, and buildings will be sited to visually integrate the base property with the surrounding area</p>	<p>Impacts:</p> <p>Local comprehensive plans and zoning ordinances may need to be updated, and buildings will be sited to visually integrate the base property with the surrounding area</p>	<p>Impacts:</p> <p>Local comprehensive plans and zoning ordinances may need to be updated, and buildings will be sited to visually integrate the base property with the surrounding area</p>	<p>Impacts:</p> <p>Local comprehensive plans and zoning ordinances may need to be updated, and buildings will be sited to visually integrate the base property with the surrounding area</p>	<p>Impacts:</p> <p>Placing the majority of the base property in caretaker status would be inconsistent with policies for efficient growth in the Western Riverside Subregional Comprehensive Plan</p>
• Transportation Roadways	<p>Conditions:</p> <p>10,100 daily trips</p> <p>Eleven road segments operating at LOS below applicable standards</p>	<p>Mitigation:</p> <p>None required</p> <p>Impacts:</p> <p>Increase of 184,450 daily trips. Nine new access points provided. By 2016, seven road segments would deteriorate to an LOS below applicable standards as a result of reuse-generated traffic</p>	<p>Mitigation:</p> <p>None required</p> <p>Impacts:</p> <p>Increase of 150,500 daily trips. Seven new access points provided. By 2016, eleven road segments would deteriorate to an LOS below applicable standards as a result of reuse-generated traffic</p>	<p>Mitigation:</p> <p>None required</p> <p>Impacts:</p> <p>Increase of 76,200 daily trips. Seven new access points provided. By 2016, two road segments would deteriorate to an LOS below applicable standards as a result of reuse-generated traffic</p>	<p>Mitigation:</p> <p>None required</p> <p>Impacts:</p> <p>Increase of 78,950 daily trips. Ten new access points provided. By 2016, three road segments would deteriorate to an LOS below applicable standards as a result of reuse-generated traffic</p>	<p>Mitigation:</p> <p>None required</p> <p>Impacts:</p> <p>10,100 daily trips. By 2016, 14 road segments and Interstate 215 would be operating at an LOS below applicable standards as a result of regional growth</p>

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

JPA = Joint Powers Authority
LOS = level of service
SKR = Stephens' kangaroo rat

Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigations from the Proposed Action and Reasonable Reuse Alternatives
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Local Community (Continued)						
• Transportation Airspace	Conditions: 40,950 annual military aircraft operations	<ul style="list-style-type: none"> Impacts: Increase of 56,581 annual aircraft operations No airspace conflicts or air transportation impacts Mitigation: The RCTC and local jurisdictions could implement road improvements 	<ul style="list-style-type: none"> Impacts: Increase of 84,455 annual aircraft operations No airspace conflicts or air transportation impacts Mitigation: The RCTC and local jurisdictions could implement road improvements 	<ul style="list-style-type: none"> Impacts: Increase of 33,945 annual aircraft operations No airspace conflicts or air transportation impacts Mitigation: The RCTC and local jurisdictions could implement road improvements 	<ul style="list-style-type: none"> Impacts: No change in annual aircraft operations No airspace conflicts or air transportation impacts Mitigation: The RCTC and local jurisdictions could implement road improvements 	<ul style="list-style-type: none"> Impacts: 40,950 annual military aircraft operations No airspace conflicts or air transportation impacts Mitigation: None required
• Utilities Use	Conditions: Water: 1.2 MGD Wastewater: 0.2 MGD Solid Waste: 7.3 tons/day Electricity: 52.8 MWH/day Natural Gas: 0.2 MMCF/day	<ul style="list-style-type: none"> Impacts: Less than 3 percent increase in ROI utility use as a result of reuse activities 	<ul style="list-style-type: none"> Impacts: Less than 3 percent increase in ROI utility use as a result of reuse activities 	<ul style="list-style-type: none"> Impacts: Less than 2 percent increase in ROI utility use as a result of reuse activities 	<ul style="list-style-type: none"> Impacts: Less than 2 percent increase in ROI utility use as a result of reuse activities 	<ul style="list-style-type: none"> Impacts: Same as realignment baseline. Increased utility use in the ROI associated with regional growth would require additional capacity in local water and wastewater treatment systems between 2006 and 2016.

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

MGD = million gallons per day
MMCF = million cubic feet
MWH = megawatt-hours
RCTC = Riverside County Transportation Commission
ROI = Region of Influence
SKR = Stephens' kangaroo rat

**Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Local Community (Continued) <ul style="list-style-type: none"> Utilities Use (Continued) 		With planned improvements, utility systems would be able to accommodate increased demand • Mitigation: None required	With planned improvements, utility systems would be able to accommodate increased demand • Mitigation: None required	With planned improvements, utility systems would be able to accommodate increased demand • Mitigation: None required	With planned improvements, utility systems would be able to accommodate increased demand • Mitigation: None required	• Mitigation: None required
	Hazardous Materials and Hazardous Waste Management <ul style="list-style-type: none"> Hazardous Materials Management 	Conditions: Materials used for retained military activities and caretaker activities will be managed in compliance with applicable regulations	• Impacts: Compliance with applicable regulations would reduce the potential for impacts	• Impacts: Compliance with applicable regulations would reduce the potential for impacts	• Impacts: Compliance with applicable regulations would reduce the potential for impacts	• Impacts: Same as realignment baseline
<ul style="list-style-type: none"> Hazardous Waste Management 	Conditions: Wastes generated by retained military activities and caretaker activities will be managed in accordance with applicable regulations	• Mitigation: None required • Impacts: Compliance with applicable regulations would reduce the potential for impacts	• Mitigation: None required • Impacts: Compliance with applicable regulations would reduce the potential for impacts	• Mitigation: None required • Impacts: Compliance with applicable regulations would reduce the potential for impacts	• Mitigation: None required • Impacts: Compliance with applicable regulations would reduce the potential for impacts	• Mitigation: None required • Impacts: Same as realignment baseline
		• Mitigation: None required	• Mitigation: None required	• Mitigation: None required	• Mitigation: None required	• Mitigation: None required

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.
SKR = Stephens' kangaroo rat

Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued) <ul style="list-style-type: none"> • Installation Restoration Program 	Conditions: IRP activities will proceed until complete regardless of base realignment and reuse. IRP remediation activities will continue in accordance with applicable regulations	<ul style="list-style-type: none"> • Impacts: Delays in redevelopment and land use restrictions could result from remediation activities on disposal property • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Delays in redevelopment and land use restrictions could result from remediation activities on disposal property • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Delays in redevelopment and land use restrictions could result from remediation activities on disposal property • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Delays in redevelopment and land use restrictions could result from remediation activities on disposal property • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline
	Conditions: Storage tanks used by retained military activities will be managed in accordance with applicable regulations. Unused tanks will be removed or maintained in place in accordance with applicable regulations	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

IRP = Installation Restoration Program

SKR = Stephens' kangaroo rat

**Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued) <ul style="list-style-type: none"> Asbestos 	Conditions: Asbestos will be managed in accordance with Air Force policy	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required 	<ul style="list-style-type: none"> Impacts: Same as realignment baseline Mitigation: None required
	Conditions: Pesticides used by retained military activities and caretaker activities will be managed in compliance with applicable standards	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required 	<ul style="list-style-type: none"> Impacts: Compliance with applicable regulations would reduce the potential for impacts Mitigation: None required 	<ul style="list-style-type: none"> Impacts: Same as realignment baseline Mitigation: None required
	Conditions: All federally and state-regulated PCBs have either been removed and properly disposed of or are below federal and state action levels	<ul style="list-style-type: none"> Impacts: None required Mitigation: None required 	<ul style="list-style-type: none"> Impacts: None required Mitigation: None required 	<ul style="list-style-type: none"> Impacts: None required Mitigation: None required 	<ul style="list-style-type: none"> Impacts: None required Mitigation: None required 	<ul style="list-style-type: none"> Impacts: None required Mitigation: None required
<ul style="list-style-type: none"> Polychlorinated Biphenyls 	Conditions: Radon levels are below 4 pCi/l	<ul style="list-style-type: none"> Impacts: None required Mitigation: None required 	<ul style="list-style-type: none"> Impacts: None required Mitigation: None required 	<ul style="list-style-type: none"> Impacts: None required Mitigation: None required 	<ul style="list-style-type: none"> Impacts: None required Mitigation: None required 	<ul style="list-style-type: none"> Impacts: None required Mitigation: None required
<ul style="list-style-type: none"> Radon 		<ul style="list-style-type: none"> Impacts: None required Mitigation: None required 	<ul style="list-style-type: none"> Impacts: None required Mitigation: None required 	<ul style="list-style-type: none"> Impacts: None required Mitigation: None required 	<ul style="list-style-type: none"> Impacts: None required Mitigation: None required 	<ul style="list-style-type: none"> Impacts: None required Mitigation: None required

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

PCB = polychlorinated biphenyls

pCi/l = picocuries per liter

SKR = Stephens' kangaroo rat

**Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued) <ul style="list-style-type: none"> • Medical/Biohazardous Waste 	Conditions: Existing wastes removed prior to realignment; small amounts generated by continuing military activities would be managed in accordance with applicable regulations	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline
	Conditions: Ordnance stored will be managed in accordance with applicable regulations	<ul style="list-style-type: none"> • Mitigation: None required • Impacts: Compliance with applicable regulations and appropriate maintenance activities would reduce the potential for impacts 	<ul style="list-style-type: none"> • Mitigation: None required • Impacts: Compliance with applicable regulations and appropriate maintenance activities would reduce the potential for impacts 	<ul style="list-style-type: none"> • Mitigation: None required • Impacts: Compliance with applicable regulations and appropriate maintenance activities would reduce the potential for impacts 	<ul style="list-style-type: none"> • Mitigation: None required • Impacts: Compliance with applicable regulations and appropriate maintenance activities would reduce the potential for impacts 	<ul style="list-style-type: none"> • Mitigation: None required • Impacts: Same as realignment baseline
	Continued use of small arms range by military personnel will be in accordance with applicable regulations	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required 	<ul style="list-style-type: none"> • Mitigation: None required

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.
SKR = Stephens' kangaroo rat

**Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued) <ul style="list-style-type: none"> • Lead-Based Paint 	Conditions: Lead-based paint may exist at all facilities constructed prior to or during 1978. Facilities within the military cantonment containing lead will be managed according to applicable regulations	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Compliance with applicable regulations would reduce the potential for impacts • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline • Mitigation: None required
	Conditions: No ground disturbance	<ul style="list-style-type: none"> • Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for erosion effects from construction activities • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for erosion effects from construction activities • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for erosion effects from construction activities • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for erosion effects from construction activities • Mitigation: None required 	<ul style="list-style-type: none"> • Impacts: Same as realignment baseline • Mitigation: None required

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.
NPDES = National Pollutant Discharge Elimination System
SKR = Stephens' kangaroo rat

Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Natural Environment (Continued) <ul style="list-style-type: none"> Water Resources 	Conditions: No ground disturbance. Adequate water supply for limited on-base demand	<ul style="list-style-type: none"> Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for surface water impacts Runoff would exceed the planned capacity of local area drainage plans, and impact downstream facilities Air Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains. New development in floodplains subject to review by appropriate local jurisdictions 	<ul style="list-style-type: none"> Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for surface water impacts Runoff would exceed the planned capacity of local area drainage plans, and impact downstream facilities Air Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains. New development in floodplains subject to review by appropriate local jurisdictions 	<ul style="list-style-type: none"> Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for surface water impacts Runoff would exceed the planned capacity of local area drainage plans, and impact downstream facilities Air Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains. New development in floodplains subject to review by appropriate local jurisdictions 	<ul style="list-style-type: none"> Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for surface water impacts Runoff would exceed the planned capacity of local area drainage plans, and impact downstream facilities Air Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains. New development in floodplains subject to review by appropriate local jurisdictions 	<ul style="list-style-type: none"> Impacts: Minimal ground disturbance from AFRES renovation activities. Minor erosion and runoff effects Air Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

AFI = Air Force Instruction
 EO = Executive Order
 NPDES = National Pollutant Discharge Elimination System
 SKR = Stephens' kangaroo rat

**Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Natural Environment (Continued)						
• Air Quality	<p>Conditions:</p> <p>CO: 1,422 tpy NO_x: 286 tpy PM₁₀: 36 tpy SO₂: 14 tpy VOC: 877 tpy</p> <p>Air pollutant emissions generated from retained military and caretaker activities</p>	<p>• Mitigation: New owners may have to coordinate with RCFWCD regarding drainage studies and design and construction of additional facilities. Construction of detention basins in accordance with local jurisdiction requirements</p> <p>• Impacts: Total reuse-related emissions in 2010: CO: 10,113 tpy NO_x: 2,490 tpy PM₁₀: 939 tpy SO₂: 185 tpy VOC: 2,217 tpy Increased emissions during construction and operations, but would not delay regional progress toward attainment of any standard</p>	<p>• Mitigation: New owners may have to coordinate with RCFWCD regarding drainage studies and design and construction of additional facilities. Construction of detention basins in accordance with local jurisdiction requirements</p> <p>• Impacts: Total reuse-related emissions in 2010: CO: 7,707 tpy NO_x: 2,171 tpy PM₁₀: 657 tpy SO₂: 147 tpy VOC: 1,724 tpy Increased emissions during construction and operations, but would not delay regional progress toward attainment of any standard</p>	<p>• Mitigation: New owners may have to coordinate with RCFWCD regarding drainage studies and design and construction of additional facilities. Construction of detention basins in accordance with local jurisdiction requirements</p> <p>• Impacts: Total reuse-related emissions in 2010: CO: 4,886 tpy NO_x: 1,628 tpy PM₁₀: 361 tpy SO₂: 94 tpy VOC: 1,452 tpy Increased emissions during construction and operations, but would not delay regional progress toward attainment of any standard</p>	<p>• Mitigation: New owners may have to coordinate with RCFWCD regarding drainage studies and design and construction of additional facilities. Construction of detention basins in accordance with local jurisdiction requirements</p> <p>• Impacts: Total reuse-related emissions in 2010: CO: 4,668 tpy NO_x: 1,051 tpy PM₁₀: 438 tpy SO₂: 83 tpy VOC: 1,384 tpy Increased emissions during construction and operations, but would not delay regional progress toward attainment of any standard</p>	<p>• Mitigation: None required</p> <p>• Impacts: Total emissions in 2010: CO: 987 tpy NO_x: 258 tpy PM₁₀: 33 tpy SO₂: 12 tpy VOC: 775 tpy Increased emissions of ozone precursors, but would not delay regional progress toward attainment of any standard</p>

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

CO = carbon monoxide
NO_x = nitrogen oxides
PM₁₀ = particulate matter equal to or less than 10 microns in diameter
RCFWCD = Riverside County Flood Control and Water Conservation District
SKR = Stephens' Kangaroo rat
SO₂ = sulfur dioxide
tpy = tons per year
VOC = volatile organic compound

**Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Natural Environment (Continued) <ul style="list-style-type: none"> Air Quality (Continued) 	Potential exceedance of 1-hour and 8-hour CO standards at six intersections	Increase in 8-hour CO exceedances at two intersections and decrease in exceedance at one intersection <ul style="list-style-type: none"> Mitigation: Residential and commercial/industrial developers could control fugitive dust and combustion emissions from construction activities 	Increase in 8-hour CO exceedances at two intersections and decrease in exceedance at one intersection. Exceedance of 8-hour CO standards at one additional intersection <ul style="list-style-type: none"> Mitigation: Residential and commercial/industrial developers could control fugitive dust and combustion emissions from construction activities 	Increase in 8-hour CO exceedances at two intersections and decrease in exceedance at one intersection <ul style="list-style-type: none"> Mitigation: Residential and commercial/industrial developers could control fugitive dust and combustion emissions from construction activities 	Increase in 8-hour CO exceedances at two intersections and decrease in exceedance at one intersection <ul style="list-style-type: none"> Mitigation: Residential and commercial/industrial developers could control fugitive dust and combustion emissions from construction activities 	No exceedance of 1-hour CO standards in 2010; exceedances of 8-hour standards at three intersections in 2010 <ul style="list-style-type: none"> Mitigation: Application of SCAQMD-approved control measures by residential and commercial/industrial developers, such as land use or transportation planning and management measures, to reduce motor vehicle pollution

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

CO = carbon monoxide

SCAQMD = South Coast Air Quality Management District

SKR = Stephens' kangaroo rat

**Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Natural Environment (Continued)						
<ul style="list-style-type: none"> Noise 	<p>Conditions:</p> <p>15,213 acres and 16,768 residents exposed to CNEL 60 dB or greater due to continued military aircraft operations</p> <p>3,552 residents exposed to CNEL 60 dB or greater due to surface traffic</p>	<p>Application of SCAQMD-approved control measures by residential or commercial/industrial developers, such as land use or transportation planning and management measures, to reduce motor vehicle pollution</p> <ul style="list-style-type: none"> Impacts: <ul style="list-style-type: none"> Increase of 441 acres and 1,357 residents exposed to CNEL 60 dB or greater due to civilian aircraft operations in 2016 779 additional residents exposed to CNEL 60 dB or greater due to increased surface traffic in 2016 	<p>Application of SCAQMD-approved control measures by residential or commercial/industrial developers, such as land use or transportation planning and management measures, to reduce motor vehicle pollution</p> <ul style="list-style-type: none"> Impacts: <ul style="list-style-type: none"> Increase of 718 acres and 616 residents exposed to CNEL 60 dB or greater due to civilian aircraft operations in 2016 810 additional residents exposed to CNEL 60 dB or greater due to increased surface traffic in 2016 	<p>Application of SCAQMD-approved control measures by residential or commercial/industrial developers, such as land use or transportation planning and management measures, to reduce motor vehicle pollution</p> <ul style="list-style-type: none"> Impacts: <ul style="list-style-type: none"> Increase of 560 acres and 1,104 residents exposed to CNEL 60 dB or greater due to civilian aircraft operations in 2016 382 additional residents exposed to CNEL 60 dB or greater due to increased surface traffic in 2016 	<p>Application of SCAQMD-approved control measures by residential or commercial/industrial developers, such as land use or transportation planning and management measures, to reduce motor vehicle pollution</p> <ul style="list-style-type: none"> Impacts: <ul style="list-style-type: none"> No change in aircraft noise levels 	<ul style="list-style-type: none"> Impacts: <ul style="list-style-type: none"> Same as realignment baseline <p>6,045 residents exposed to CNEL 60 dB or greater due to increased surface traffic in 2016 as a result of regional growth</p>

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

CNEL = Community Noise Equivalent Level
dB = decibel
SCAQMD = South Coast Air Quality Management District
SKR = Stephens' kangaroo rat

Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigations from the Proposed Action and Reasonable Reuse Alternatives
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Natural Environment (Continued) <ul style="list-style-type: none"> Noise (Continued) 		<ul style="list-style-type: none"> Mitigation: Barrier walls installed by the local transportation agency, sound insulation by residential and commercial/industrial developers, and land use planning measures by local jurisdictions to mitigate surface traffic noise 	<ul style="list-style-type: none"> Mitigation: Barrier walls installed by the local transportation agency, sound insulation by residential and commercial/industrial developers, and land use planning measures by local jurisdictions to mitigate surface traffic noise 	<ul style="list-style-type: none"> Mitigation: Barrier walls installed by the local transportation agency, sound insulation by residential and commercial/industrial developers, and land use planning measures by local jurisdictions to mitigate surface traffic noise 	<ul style="list-style-type: none"> Mitigation: Barrier walls installed by the local transportation agency, sound insulation by residential and commercial/industrial developers, and land use planning measures by local jurisdictions to mitigate surface traffic noise 	<ul style="list-style-type: none"> Mitigation: Barrier walls installed by the local transportation agency, sound insulation by residential and commercial/industrial developers, and land use planning measures by local jurisdictions to mitigate surface traffic noise
<ul style="list-style-type: none"> Biological Resources 	<p>Conditions: No ground disturbance</p> <p>Approximately 79 acres of wetlands and 2,200 acres of protected SKR habitat present on base property</p>	<ul style="list-style-type: none"> Impacts: Exchange for suitable SKR habitat elsewhere in Riverside County would eliminate the need for mitigation <p>Potential direct and indirect impacts to 79 acres of wetlands</p>	<ul style="list-style-type: none"> Impacts: Relocation of a portion of SKR habitat to suitable habitat elsewhere in Riverside County would eliminate the need for mitigation <p>Potential direct and indirect impacts to 51 acres of wetlands</p>	<ul style="list-style-type: none"> Impacts: Potential direct and indirect impacts to 64 acres of wetlands 	<ul style="list-style-type: none"> Impacts: Exchange for suitable SKR habitat elsewhere in Riverside County would eliminate the need for mitigation <p>Potential direct and indirect impacts to 77 acres of wetlands</p>	<ul style="list-style-type: none"> Impacts: Same as realignment baseline

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.
SKR = Stephens' kangaroo rat

**Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Natural Environment (Continued) • Biological Resources (Continued)		<ul style="list-style-type: none"> Mitigation: Selective siting of improvements and restriction of operations by developers will avoid direct impacts to wetlands Controlling runoff through design and engineering practices by developers will minimize indirect impacts to wetlands Compliance by federal agencies with Sections 7 and 9 of the Endangered Species Act will minimize impacts to sensitive species Compliance by federal agencies with Section 404 of the Clean Water Act will minimize impacts to wetlands 	<ul style="list-style-type: none"> Mitigation: Selective siting of improvements and restriction of operations by developers will avoid direct impacts to wetlands Controlling runoff through design and engineering practices by developers will minimize indirect impacts to wetlands Compliance by federal agencies with Sections 7 and 9 of the Endangered Species Act will minimize impacts to sensitive species Compliance by federal agencies with Section 404 of the Clean Water Act will minimize impacts to wetlands 	<ul style="list-style-type: none"> Mitigation: Selective siting of improvements and restriction of operations by developers will avoid direct impacts to wetlands Controlling runoff through design and engineering practices by developers will minimize indirect impacts to wetlands Compliance by federal agencies with Sections 7 and 9 of the Endangered Species Act will minimize impacts to sensitive species Compliance by federal agencies with Section 404 of the Clean Water Act will minimize impacts to wetlands 	<ul style="list-style-type: none"> Mitigation: Selective siting of improvements and restriction of operations by developers will avoid direct impacts to wetlands Controlling runoff through design and engineering practices by developers will minimize indirect impacts to wetlands Compliance by federal agencies with Sections 7 and 9 of the Endangered Species Act will minimize impacts to sensitive species Compliance by federal agencies with Section 404 of the Clean Water Act will minimize impacts to wetlands 	<ul style="list-style-type: none"> Mitigation: None required

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.

SKR = Stephens' kangaroo rat

**Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigations
from the Proposed Action and Reasonable Reuse Alternatives**
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Resource Category	Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative	No-Action Alternative
Natural Environment (Continued) <ul style="list-style-type: none"> Cultural Resources 	Conditions: Historic District, Red Cross building and garage, Building 2605, and prehistoric and historic sites recommended for further evaluation	<ul style="list-style-type: none"> Impacts: Potential impacts from conveyance of historic properties from federal control Historic properties in cantonment managed in accordance with HPP Mitigation: Mitigation measures developed in accordance with Section 106 of the NHPA may include avoidance, stabilization, data recovery, or placing preservation covenants in transfer documents 	<ul style="list-style-type: none"> Impacts: Potential impacts from conveyance of historic properties from federal control Historic properties in cantonment managed in accordance with HPP Mitigation: Mitigation measures developed in accordance with Section 106 of the NHPA may include avoidance, stabilization, data recovery, or placing preservation covenants in transfer documents 	<ul style="list-style-type: none"> Impacts: Potential impacts from conveyance of historic properties from federal control Historic properties in cantonment managed in accordance with HPP Mitigation: Mitigation measures developed in accordance with Section 106 of the NHPA may include avoidance, stabilization, data recovery, or placing preservation covenants in transfer documents 	<ul style="list-style-type: none"> Impacts: Potential impacts from conveyance of historic properties from federal control Historic properties in cantonment managed in accordance with HPP Mitigation: Mitigation measures developed in accordance with Section 106 of the NHPA may include avoidance, stabilization, data recovery, or placing preservation covenants in transfer documents 	<ul style="list-style-type: none"> Impacts: No Impacts Historic properties managed in accordance with HPP Mitigation: None required

HPP = Historic Preservation Plan
 NHPA = National Historic Preservation Act
 SKR = Stephens' kangaroo rat

Table 2.7-3. Summary of Impacts from Other Land Concepts
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Resource Category	SKR Habitat	USDA Forest Service Operations	Riverside National Cemetery Expansion	Navy and Marine Corps Reserve Center	AAFES	Army Reserve	California Army National Guard
Local Community							
Land Use and Aesthetics	Likely under federal control. Consistent with WRCOG Subregional Comprehensive Plan. Preserves visual sensitivity	Consistent with WRCOG Subregional Comprehensive Plan	Consistent with WRCOG Subregional Comprehensive Plan. Local jurisdiction would need to update zoning ordinances. Preserves visual sensitivity	Consistent with WRCOG Subregional Comprehensive Plan	Consistent with WRCOG Subregional Comprehensive Plan	Consistent with WRCOG Subregional Comprehensive Plan	Consistent with WRCOG Subregional Comprehensive Plan
Transportation	Net reduction in total trips when combined with any reuse alternative except SKR/Cargo Alternative Some new access points proposed for reuse may not be needed	No impact	No impact	No impact	No impact	No impact	No impact
Utilities	Decrease in utility use	Minimal utility use	Minimal utility use	Minimal utility use	Minimal utility use	Minimal utility use	Minimal utility use

AAFES = Army and Air Force Exchange Service
 SKR = Stephens' kangaroo rat
 USDA = U.S. Department of Agriculture
 WRCOG = Western Riverside Council of Governments

Table 2.7-3. Summary of Impacts from Other Land Concepts
Page 2 of 5

Resource Category	SKR Habitat	USDA Forest Service Operations	Riverside National Cemetery Expansion	Navy and Marine Corps Reserve Center	AAFES	Army Reserve	California Army National Guard
Hazardous Materials and Hazardous Waste Management							
Hazardous Materials Management	No impact	Management in accordance with applicable regulations	No impact	Management in accordance with applicable regulations	Management in accordance with applicable regulations	Management in accordance with applicable regulations	Management in accordance with applicable regulations
Hazardous Waste Management	No impact	Management in accordance with applicable regulations	No impact	Management in accordance with applicable regulations	Management in accordance with applicable regulations	Management in accordance with applicable regulations	Management in accordance with applicable regulations
Installation Restoration Program	Remediation would continue in accordance with 1993 Biological Opinion	Short-term interruptions in daily activities or land use restrictions could occur	Redevelopment delays and land use restrictions could occur	No impact	Short-term interruptions in daily activities or land use restrictions could occur	Short-term interruptions in daily activities or land use restrictions could occur	No impact
Storage Tanks	No impact	No impact	No impact	No impact	No impact	No impact	No impact
Asbestos	Demolition in accordance with applicable regulations	Management in accordance with applicable regulations	No impact	Management in accordance with applicable regulations	Management in accordance with applicable regulations	Management in accordance with applicable regulations	No impact
Pesticide Usage	No impact	Management in accordance with applicable regulations	Management in accordance with applicable regulations	No impact	No impact	No impact	No impact

AAFES = Army and Air Force Exchange Service
SKR = Stephens' kangaroo rat
USDA = U.S. Department of Agriculture

Table 2.7-3. Summary of Impacts from Other Land Concepts
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Resource Category	SKR Habitat	USDA Forest Service Operations	Riverside National Cemetery Expansion	Navy and Marine Corps Reserve Center	AAFES	Army Reserve	California Army National Guard
Hazardous Materials and Hazardous Waste Management (Continued)							
Polychlorinated Biphenyls	No impact	No impact	No impact	No impact	No impact	No impact	No impact
Radon	No impact	No impact	No impact	No impact	No impact	No impact	No impact
Medical/Biohazardous Waste	No impact	No impact	No impact	No impact	No impact	No impact	No impact
Ordnance	No impact	No impact	No impact	No impact	No impact	No impact	No impact
Lead-Based Paint	No impact	Disclosure of the possible presence of lead-based paint for buildings constructed prior to or during 1978 will be provided	No impact	Disclosure of the possible presence of lead-based paint for buildings constructed prior to or during 1978 will be provided	Disclosure of the possible presence of lead-based paint for buildings constructed prior to or during 1978 will be provided	Disclosure of the possible presence of lead-based paint for buildings constructed prior to or during 1978 will be provided	No impact
Natural Environment							
Geology and Soils	Limited ground disturbance and reduced erosion effects	Minimal ground disturbance	No impact when combined with Proposed Action Minimal ground disturbance when combined with other reuse alternatives	Minimal ground disturbance	No impact	Minimal ground disturbance	Minimal ground disturbance
AAFES = Army and Air Force Exchange Service SKR = Stephens' kangaroo rat USDA = U.S. Department of Agriculture							

Table 2.7-3. Summary of Impacts from Other Land Concepts
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Resource Category	SKR Habitat	USDA Forest Service Operations	Riverside National Cemetery Expansion	Navy and Marine Corps Reserve Center	AAFES	Army Reserve	California Army National Guard
Natural Environment (Continued) Water Resources	Minor runoff impacts	Potential runoff impacts	No impact when combined with Proposed Action	Minor runoff impacts	No impact	No impact	Construction activities controlled and monitored under NPDES permit requirements and through standard construction practices
	Less water usage	Construction activities controlled and monitored under NPDES permit and through standard construction practices	Minimal increase in runoff and water use when combined with other reuse alternatives				Compliance with EO 11988 and AFI 32-7064 to control development in floodplain
Air Quality	Short-term elevated concentrations of particulates during demolition. Net reduction in CO, SO ₂ , and PM ₁₀ emissions associated with decrease in surface traffic.	Short-term elevated concentrations of particulates during ground-disturbing activities and emergency operations	Short-term elevated concentrations of particulates during ground-disturbing activities	Short-term elevated concentrations of particulates during ground-disturbing activities	No impact	Short-term elevated concentrations of particulates during ground-disturbing activities	Short-term elevated concentrations of particulates during ground-disturbing activities
	No impact from aircraft operations	No impact from aircraft operations					
AAFES = Army and Air Force Exchange Service AFI = Air Force Instruction CO = carbon monoxide EO = Executive Order NPDES = National Pollutant Discharge Elimination System PM₁₀ = particulate matter equal to or less than 10 microns in diameter SKR = Stephens' kangaroo rat SO₂ = sulfur dioxide USDA = U.S. Department of Agriculture							

Table 2.7-3. Summary of Impacts from Other Land Concepts
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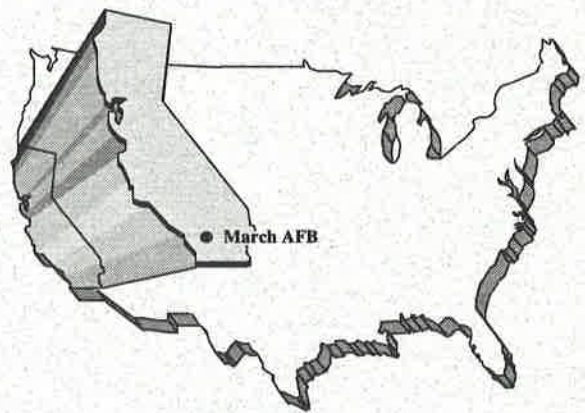
Resource Category	SKR Habitat	USDA Forest Service Operations	Riverside National Cemetery Expansion	Navy and Marine Corps Reserve Center	AAFES	Army Reserve	California Army National Guard
Natural Environment (Continued)	Noise						
	Reduction in amount of surface traffic	No impact	No impact	No impact	No impact	No impact	No impact
Biological Resources	No impact when combined with SKR/Cargo Alternative	Potential impacts to SKR on West March parcel	Potential impacts to SKR from ground-disturbing activities	No impact	No impact	No impact	No impact
	Continued federal control and protection when combined with other reuse alternatives		Potential impact to wetland area				
Cultural Resources	Continued federal protection when combined with Proposed Action or Military Aviation Alternative	No impact	No impact	No impact	No impact	No impact	No impact
	No impact when combined with other reuse alternatives						

AAFES = Army and Air Force Exchange Service
 SKR = Stephens' kangaroo rat
 USDA = U.S. Department of Agriculture

Table 2.7-4. Summary of Potential Environmental Justice Impacts and Suggested Mitigations from the Proposed Action and Reasonable Reuse Alternatives

Realignment Baseline	Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative
<p>Conditions: 85 of 124 census tracts in Riverside County have disproportionately high low-income and/or minority populations</p>	<ul style="list-style-type: none"> Potential disproportionately high and adverse impacts: Potential impacts to low-income and minority populations in four census tracts from increased aircraft noise; in seven census tracts from increased surface traffic noise Mitigation: <ul style="list-style-type: none"> Incorporate noise insulation in building design Install barrier walls along affected roadways Restrict residential development in high-noise areas Use barrier walls and buffer designs in new development plans 	<ul style="list-style-type: none"> Potential disproportionately high and adverse impacts: Potential impacts to low-income and minority populations in four census tracts from increased aircraft noise; in seven census tracts from increased surface traffic noise Mitigation: <ul style="list-style-type: none"> Incorporate noise insulation in building design Install barrier walls along affected roadways Restrict residential development in high-noise areas Use barrier walls and buffer designs in new development plans 	<ul style="list-style-type: none"> Potential disproportionately high and adverse impacts: Potential impacts to low-income and minority populations in three census tracts from increased aircraft noise; in six census tracts from increased surface traffic noise Mitigation: <ul style="list-style-type: none"> Incorporate noise insulation in building design Install barrier walls along affected roadways Restrict residential development in high-noise areas Use barrier walls and buffer designs in new development plans 	<ul style="list-style-type: none"> Potential disproportionately high and adverse impacts: Potential impacts to low-income and minority populations in eight census tracts from increased surface traffic noise Mitigation: <ul style="list-style-type: none"> Incorporate noise insulation in building design Install barrier walls along affected roadways Restrict residential development in high-noise areas Use barrier walls and buffer designs in new development plans

Note: Impacts are based on the changes from the No-Action Alternative that are projected to occur as a result of implementing each reuse alternative.
SKR = Stephens' kangaroo rat



CHAPTER 3

AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This chapter describes the environmental conditions of March AFB and its region of influence (ROI) as they are expected to be at the time of base realignment. It provides information to serve as a baseline from which to identify and evaluate environmental changes resulting from disposal and reuse of March AFB property. Although this EIS focuses on the biophysical environment, some nonbiophysical elements are addressed. The nonbiophysical elements (influencing factors) of population and employment, land use and aesthetics, transportation networks, and public utility systems in the region and local communities are addressed. This chapter describes the storage, use, and management of hazardous materials/wastes found on base, including storage tanks, asbestos, pesticides, polychlorinated biphenyls (PCBs), radon, medical/biohazardous waste, ordnance, and lead-based paint. The current status of the IRP is also described. The chapter also describes the pertinent natural resources of geology and soils, water resources, air quality, noise, biological resources, and cultural resources. Information on the locations of low-income and/or minority populations in the area, used for the Environmental Justice analysis, is also provided in this chapter.

The ROI to be studied will be defined for each resource area affected by the alternatives. The ROI determines the geographical area to be addressed as the Affected Environment. Although the base boundary may constitute the ROI limit for many resources, potential impacts associated with certain issues (e.g., air quality, utility systems, and water resources) transcend these limits.

The baseline conditions assumed for the purposes of analysis are the conditions projected at base realignment in March 1996. Realignment conditions will consist of a military cantonment associated with the 452nd Air Mobility Wing (AFRES), the 163rd ARW (CAANG), and various other federal agencies; the remainder of the base property will be placed in caretaker status. Impacts associated with disposal and/or reuse activities may then be addressed by comparing projected conditions under various reuses to realignment conditions. A reference to prerealignment conditions is provided, where appropriate (e.g., air quality) in this document, in order to provide a comparative analysis over time. Data used to describe the prerealignment reference point are those that depict conditions as close as possible to the realignment announcement date. This will assist the decision maker and agencies in understanding potential long-term impacts in comparison to conditions prior to realignment.

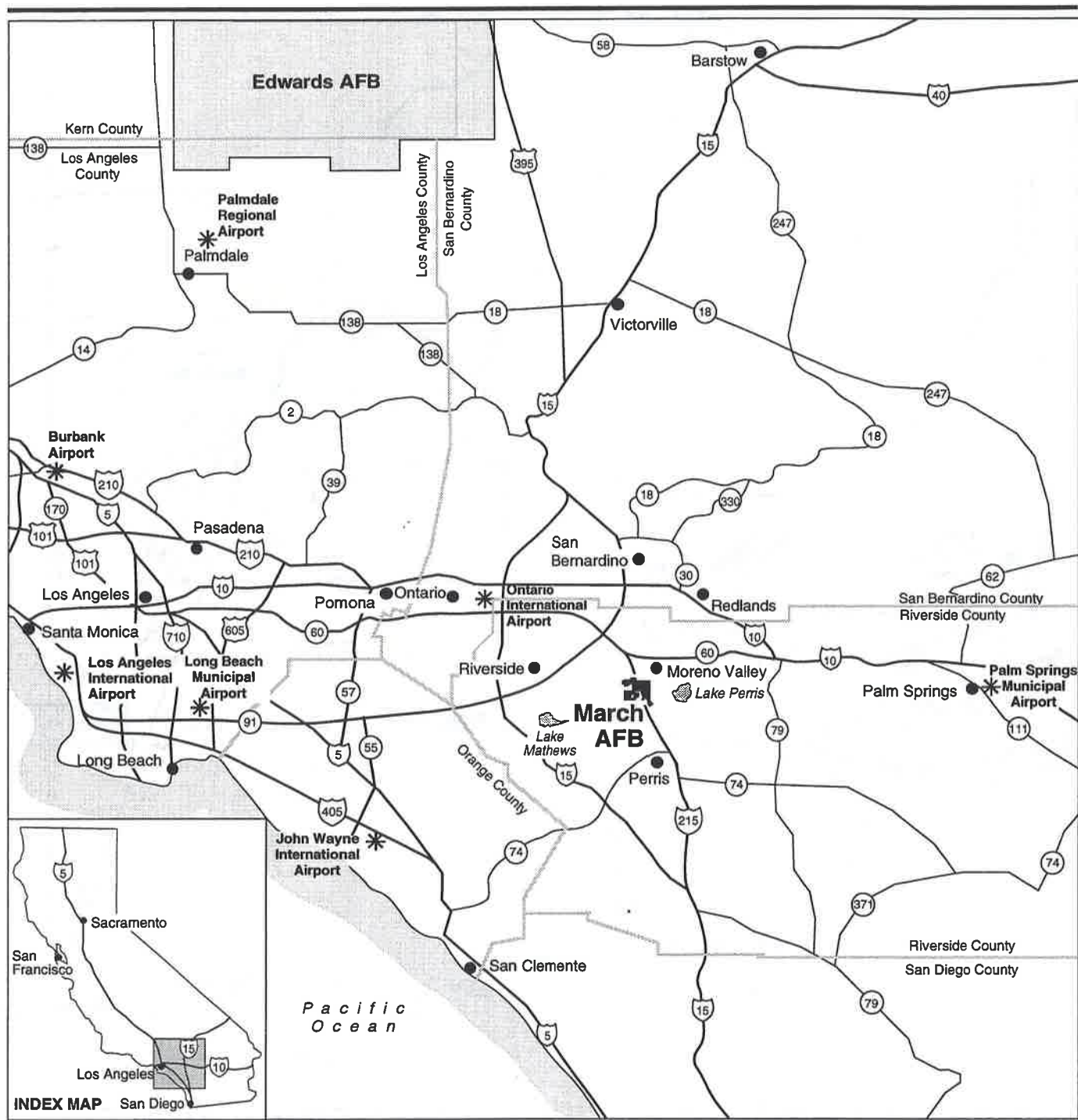
3.2 LOCAL COMMUNITY

March AFB encompasses more than 6,700 acres in southern California in Riverside County, about 70 miles east of Los Angeles (Figure 3.2-1). The base is bordered by the cities of Moreno Valley to the north and east, Riverside to the northwest, and Perris to the south. Two noncontiguous parcels that are included in this disposal action are also addressed in this EIS (Figure 3.2-2). **March Water System Annex (Lake Mathews)** contains a water pipeline that extends from Lake Mathews (approximately 10 miles west of March AFB) to the base. This parcel consists of right-of-way easements and permits for use of the property by the Air Force, and two water supply support facilities owned by the Air Force. **March Water System No. 2 (Gregory Site)**, approximately 1 mile southeast of the Main Base, consists of 2.35 acres and contains two water supply wells.

March AFB lies at the northern end of the Perris Plain, within the Peninsular Ranges Province. To the north of the base are the San Bernardino Mountains, part of the Transverse Ranges, and to the east are the San Jacinto Mountains, part of the Peninsular Ranges. The Pacific Coastal Plain lies to the west and the Perris Plain extends south of the base. The base is within the **San Jacinto watershed of the Santa Ana Basin**. The topography on the Main Base is relatively flat, with a slope of less than 1 percent to the southeast (Figure 3.2-3). In contrast, West March is characterized by rounded ridges and incised drainages that drain generally to the east. Slopes on West March range from 2 to 50 percent. Elevations on base range from a high of approximately 1,760 feet mean sea level (MSL) in the northwest to approximately 1,465 feet MSL in the southeast corner.

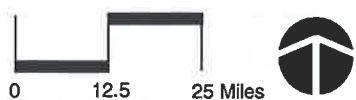
The climate in the region is characterized by hot summers and moderate winters with light annual rainfall, light to moderate winds, and humidity averaging 57 percent. July is the hottest month with an average maximum temperature of 95 degrees Fahrenheit (°F). January is the coolest month with an average high of 66°F and an average low of 39°F. Average annual rainfall in the city of Riverside is 9 inches; the majority falls between November and April.

The region is served by a well developed system of highways (see Figure 3.2-1). I-10, a major transcontinental route, passes 12 miles north of the base. I-215 runs north-south through the base and connects with I-15 (a main route from southern California through Las Vegas, Nevada) at points about 25 miles north and 25 miles south of the base. State Route (SR) 60, an east-west route between Los Angeles and Riverside counties, intersects with I-215 approximately 2 miles north of the base. SR 91, another main connecting route with Orange and Los Angeles counties, intersects with I-215 about 8 miles north of the base. Section 3.2.3 further describes the regional transportation system.



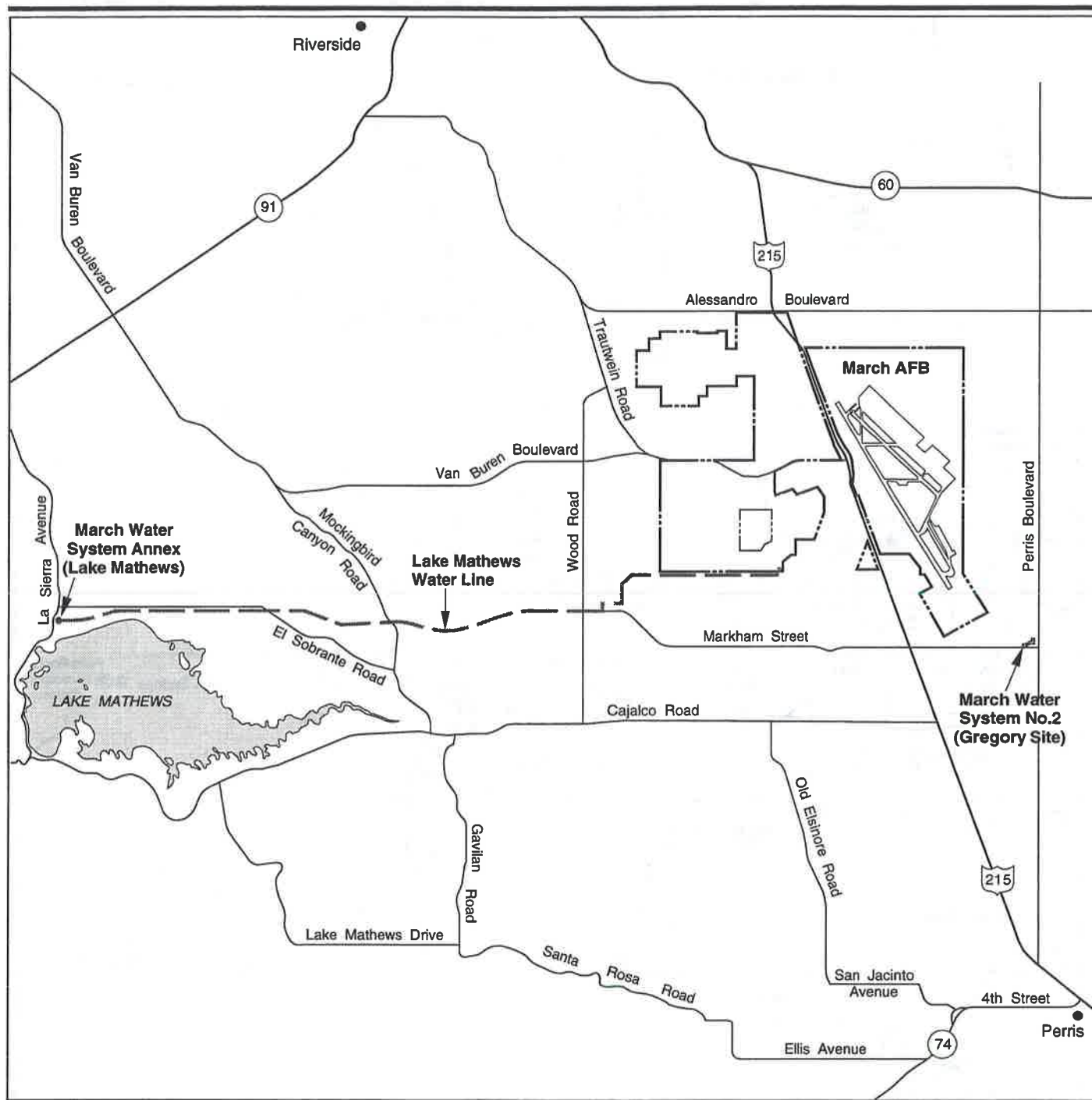
EXPLANATION

- * Airports
- 5 Interstate Highways
- 101 U.S. Highways
- 74 State Highways



Regional Map

Figure 3.2-1



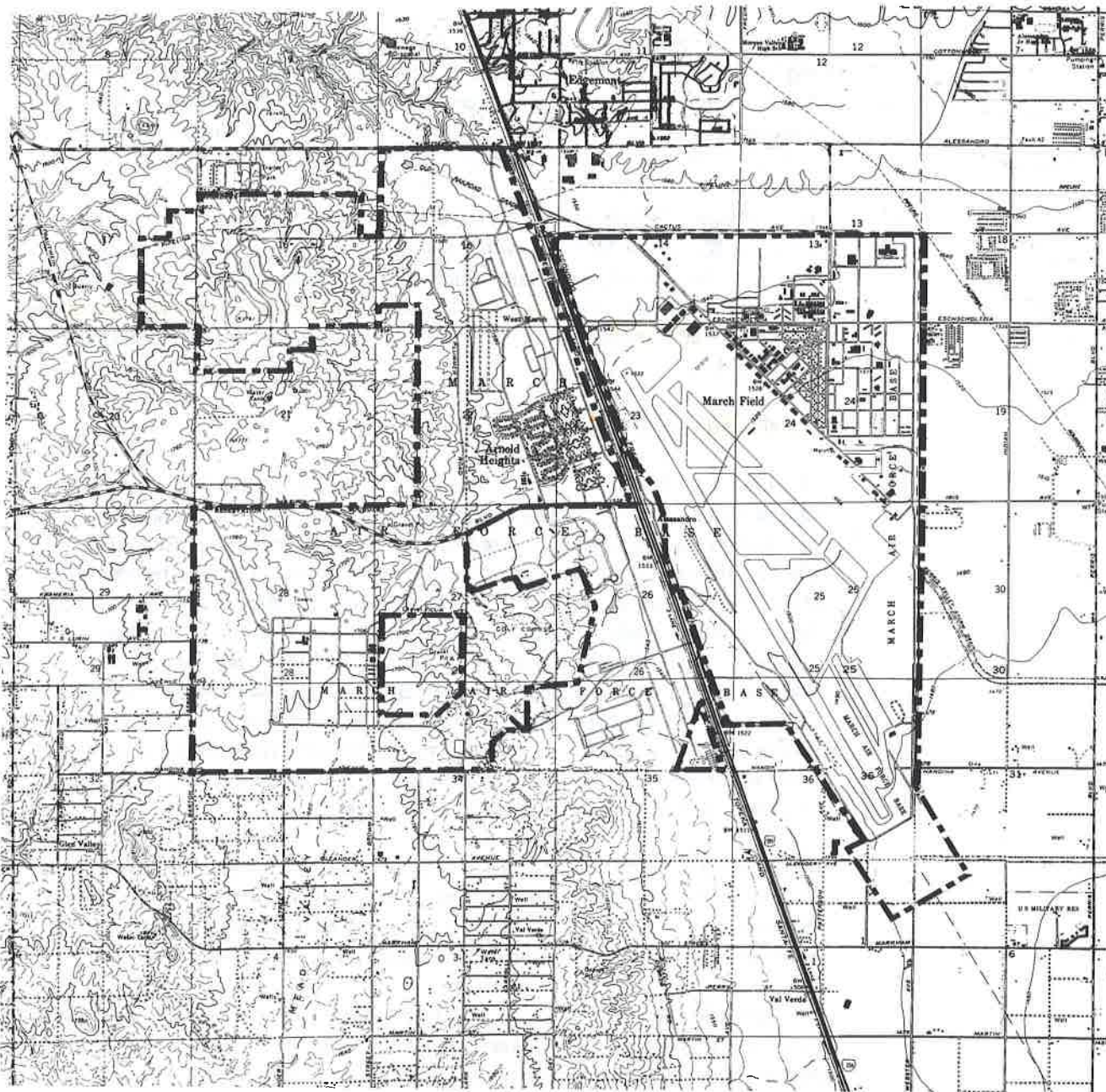
EXPLANATION

- 1995 Base Boundary
- Lake Mathews Water Line

Noncontiguous Base Property



Figure 3.2-2



EXPLANATION

--- 1995 Base Boundary

March AFB and Vicinity



Map Source: U.S. Geological Survey, 1967a, b, c, d.

Figure 3.2-3

Ontario International Airport, 20 miles northwest of the base (see Figure 3.2-1), provides primary scheduled passenger service in the region. Other airports in the region that provide scheduled passenger service are Los Angeles International Airport, Burbank Airport, Palm Springs Municipal Airport, Palmdale Regional Airport, and John Wayne International Airport.

An Atchison, Topeka & Santa Fe (AT&SF) railroad line runs parallel to I-215 on West March. AT&SF provides freight service to businesses along I-215 and in Perris, Hemet, and San Jacinto. Tracks that formerly served March AFB have been removed. A spur line providing access to West March near the DRMO still exists, but is used only infrequently to provide emergency fuel supplies.

Installation Background

The area now known as March AFB was acquired by the U.S. Army in March 1918, and was called Alessandro Aviation Field. The initial land acquisition for the base consisted of 640 acres southeast of Riverside. Shortly after the base opened, Alessandro Aviation Field was redesignated March Field in honor of First Lieutenant Peyton C. March, son of the then Army Chief of Staff. Lieutenant March had been killed in an aviation accident at Fort Worth, Texas, 5 weeks earlier. The base served as a primary flight training facility from 1918 until 1919, when approximately 70 percent of the base enlisted personnel were discharged. In 1920, March Field was redesignated as a primary flying school. The following year the base was closed and the flying training was relocated to Kelly Field, Texas. The base was placed in caretaker status on April 4, 1923.

March Field was reactivated in 1927 under the Army Air Corps' 5-year plan to expand training units and reactivate tactical units. In 1931, the base assumed a new role as a tactical air base and the emphasis shifted from primary flight training to offensive and defensive aircraft operations.

In preparation for World War II, the Army expanded the facilities at March Field. By the end of 1940, March Field comprised a total of 1,590 acres. An anti-aircraft training encampment, known as Camp Haan, was constructed west of the base. Camp Haan opened on November 11, 1940, and encompassed 8,058 acres. The base acquired Camp Haan after the war, and the area became known as West March.

In 1945, March Field reverted to its role as an operational fighter base. The 12th Air Force was headquartered at March Field and became a component of the newly activated Tactical Air Command (TAC) when the Air Force was established in 1947. In 1948, March Field was redesignated as March AFB under TAC jurisdiction. Jurisdiction was transferred to the Continental Air Command in December 1948 and to the Strategic Air Command (SAC) in May 1949. March AFB remained under SAC jurisdiction until 1992, when

SAC was disestablished and jurisdiction was transferred to the newly created Air Mobility Command (AMC).

In 1949, the 15th Air Force arrived at March AFB and the 22nd Bombardment Wing (BMW) was assigned as the host unit. By 1949, total base acreage consisted of approximately 6,300 acres of government fee-owned land. Construction of military housing (Arnold Heights) on West March, formerly Camp Haan, was completed by 1952. By 1966, the number of bomber and tanker aircraft had doubled, making March AFB the largest SAC base. In 1982, the 163rd Tactical Fighter Group (TFG) of the CAANG took up residence at March AFB and SAC redesignated the BMW as the 22nd Air Refueling Wing (ARW). In 1990, the 163rd TFG was redesignated the 163rd Tactical Reconnaissance Group (TRG).

In 1978, the Veterans Administration opened a new national military cemetery on DOD-excessed land on West March. In 1988, the Air Force sold 153 acres of West March to Air Force Village West, Inc., which has used the land to develop a residential community for retired military officers.

As a result of the 1988 Base Realignment and Closure Commission recommendations, several units were transferred to March AFB from Norton AFB in 1993: the AFRES 445th Military Airlift Wing (MAW), the 1400th Military Airlift Squadron (MAS), the AFAA, the DRMO, and other tenant units. To support these transfers, new facilities were planned at March AFB and construction began in 1992. The following year, the 163rd TRG (CAANG) was redesignated the 163rd Air Refueling Group (ARG), and converted from F-4 to KC-135 aircraft. In 1995, the 163rd ARG was redesignated the 163rd ARW.

In October 1993, pursuant to the DBCRA of 1990 (P.L. 101-510, Title XXIX), the Air Force announced that March AFB would be realigned to an Air Force Reserve base in March 1996. The realignment involves deactivation of the 22nd (now 722nd) ARW and transfer of its KC-10s and T-38s to Travis AFB. The 452nd ARW and the 445th MAW were combined in April 1994 to create the 452nd AMW, an AFRES composite wing under command of the 4th Air Force located at McClellan AFB, California. The 452nd AMW will become the host unit at March ARB after March 1996.

3.2.1 Community Setting

March AFB is in western Riverside County, California, approximately 70 miles east of downtown Los Angeles and 100 miles north of San Diego. The base lies within an unincorporated area of Riverside County and is bordered by the cities of Riverside, Moreno Valley, and Perris. The ROI for employment and population effects for communities potentially affected by base disposal and reuse comprises Riverside and San Bernardino counties. The majority of population and employment effects from realignment and reuse of the base are projected to occur in the adjacent cities of Moreno

Valley, Perris, and Riverside, all in Riverside County. The city of San Bernardino is also expected to experience some of the effects of realignment, because many of the base personnel were previously employed at Norton AFB in San Bernardino, which was closed in March 1994.

Total employment in the ROI was 1,032,616 in 1992, is estimated at 1,066,726 in 1993 (SCAG, 1994), and is expected to continue to increase to 1,209,100 at the time of realignment in 1996. Overall employment in the ROI increased 4.2 percent annually between 1970 and 1992. The national and state average growth rates for employment were 1.9 percent and 2.8 percent, respectively, during the same period. Major employment sectors in the ROI are services, retail trade, and government. In 1992, government provided 17.6 percent of the jobs in the ROI.

The estimated base-related employment in 1993 consisted of 5,755 direct and 2,925 secondary jobs. By March 1996, the direct employment associated with the base is expected to decrease to 1,661 direct employees, 55 of which will be associated with caretaker activities of the OL. These 1,661 jobs are expected to support 951 secondary jobs as a result of direct worker and procurement spending.

Population in the ROI was about 2,795,100 in 1992 and 2,884,600 in 1993 (California Department of Finance, 1993a, 1993b, 1994), and is projected to increase to 3,306,623 at realignment. Population in Riverside County was about 1,281,000 in 1992, 1,328,300 in 1993, and is projected to be 1,595,346 at realignment. San Bernardino County had a 1992 population of about 1,514,100, which increased to 1,556,300 in 1993, and is projected to be 1,711,277 at realignment.

The city of Moreno Valley was incorporated in December 1984 and had a 1993 estimated population of 133,700 people. The city is primarily a residential community. Commercial retail development is principally situated along SR 60, with mixed use commercial and industrial development primarily in outlying areas, north and east of the base. Population in 1996 is projected to be 161,836.

The city of Riverside is the county seat of Riverside County and the commercial center for the western portion of the county. Its estimated population in 1993 was 242,200. Commercial development occurs throughout the city, much of it concentrated in the downtown area and along SR 91. Riverside is projected to have a 1996 population of 258,637.

The city of Perris had an estimated 1993 population of 28,900. Perris is also principally a residential community, and has less commercial development than Moreno Valley or Riverside. Most commercial development is in the downtown area. Population is projected to be 38,802 in 1996.

The city of San Bernardino had an estimated population of 182,900 in 1993. The city, which is the county seat, has urban commercial development in the downtown area with outlying residential and rural/agricultural areas. The city's population is projected to be 189,668 by 1996.

In 1990, there were 1,025,269 off-base housing units in the ROI, which represents an average annual increase of 36,098 units (4.4 percent) since 1980. At 12.8 percent, growth in housing stock in Moreno Valley was the greatest in the ROI. Housing stock growth in the city of Perris in the same period was 11.4 percent, and in the city of Riverside about 2.2 percent. San Bernardino County showed an average annual increase in housing stock of 3.9 percent, with the city of San Bernardino housing stock showing a rate of increase of 2.4 percent.

3.2.2 Land Use and Aesthetics

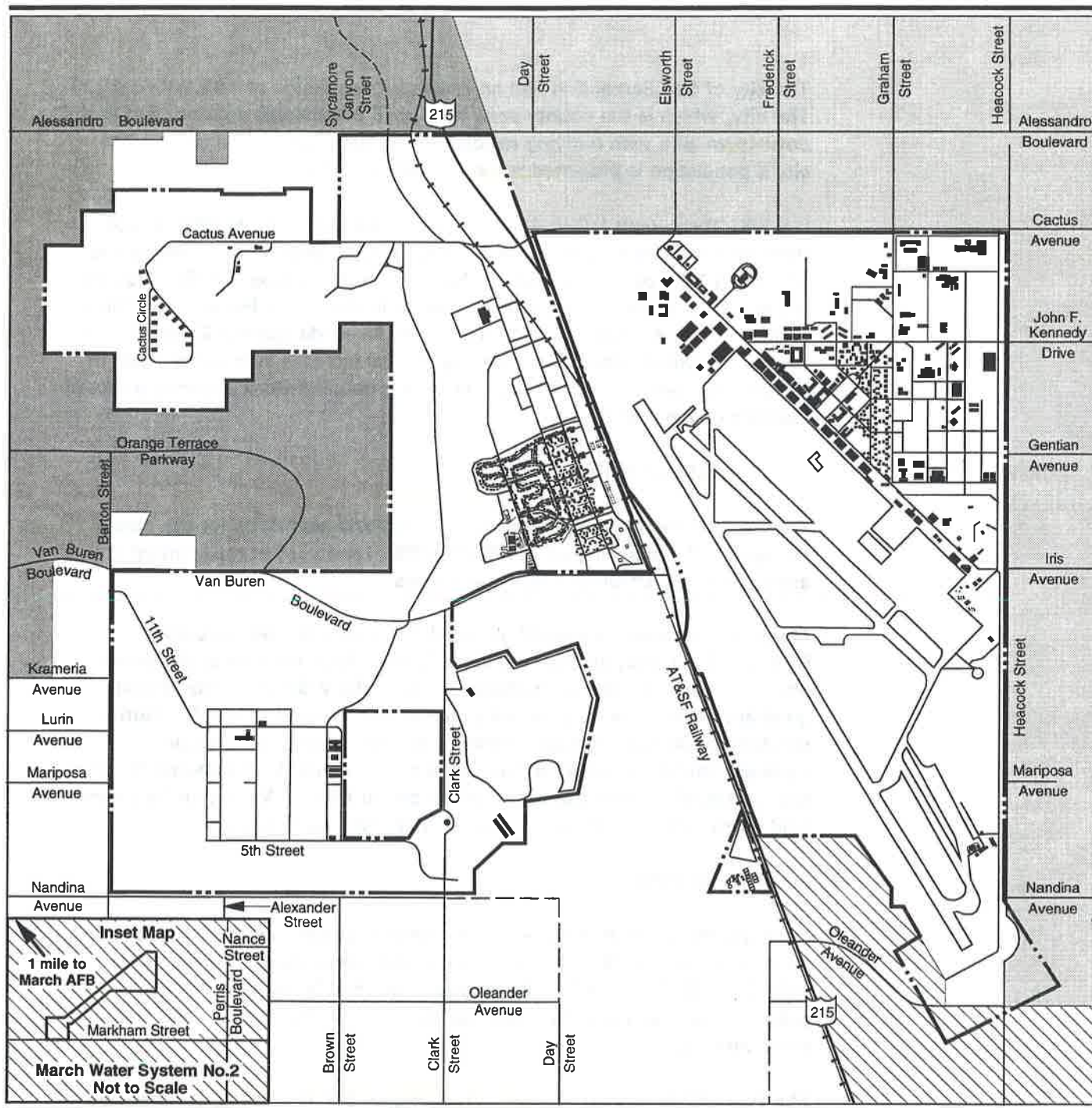
This section describes the existing land uses and aesthetics for the base property and areas surrounding March AFB. Land uses at realignment are assumed to be similar to existing land uses.

March AFB property is owned by the U.S. Government and is within Riverside County's jurisdiction (Figure 3.2-4). Adjacent land to the south and southwest, an area immediately north of the WSA in the northwest quadrant of the base, and the Air Force Village West parcel in the southwest quadrant of the base are also within Riverside County's jurisdiction. Adjacent land to the south is within the city of Perris; land adjacent to the east and north of the base is within the city of Moreno Valley; and adjacent land north and west of the base is within the city of Riverside.

3.2.2.1 Land Use

Land Use Plans and Regulations. The comprehensive plan for a jurisdiction represents the official position on long-range development and resource management. The present and long-term position is expressed in goals, policies, plans, and actions regarding the physical, social, and economic environments.

The WRCOG developed the Western Riverside Subregional Comprehensive Plan (1994) to maintain effective growth management in the region. This plan sets forth goals and objectives for overall planning and coordination between the incorporated cities and Riverside County. These goals include improving the jobs/housing balance, while providing sufficient housing for resident requirements; managing growth to ensure the ability of jurisdictions to provide public services and facilities; and preserving adequate open space for outdoor recreation, resource production, natural resource protection, and public health and safety.

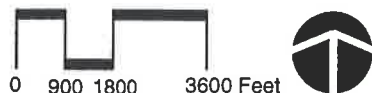


EXPLANATION

- | | | | |
|--|-----------------------|--|--------------------|
| | County of Riverside | | 1995 Base Boundary |
| | City of Moreno Valley | | Unpaved Road |
| | City of Perris | | |
| | City of Riverside | | |

Local Jurisdictions

Figure 3.2-4



Riverside County's Comprehensive General Plan (1983) is primarily a policy document and is divided into land use planning areas. The Lake Mathews Planning Area includes the area south and southwest of West March. Within this planning area is the Mead Valley area, for which the County is preparing a land use plan. Preliminary land use allocations identify the area south of Nandina Avenue for low density (up to one unit per acre) residential uses with industrial and commercial development along I-215. The Mead Valley Planning Area could accommodate up to 10,250 new housing units. The land use element of the Comprehensive Plan includes the Land Use Determination System, which is a process by which a particular project is analyzed to determine an appropriate future land use designation. Generally, the comprehensive plan calls for logical urban expansion in the area surrounding March AFB.

A Comprehensive Land Use Plan (Aries Consultants, Ltd., 1994) was prepared for the County of Riverside Airport Land Use Commission, in anticipation of civilian aviation use at March AFB. This policy document, like the Air Installation Compatible Use Zone (AICUZ), is intended to protect and promote the safety and welfare of residents within the vicinity of the airport by providing land use compatibility guidelines. It has not been updated since the development of the JPA's draft reuse plan. Land use compatibility with AICUZ guidelines is discussed later within this section.

The city of Perris' General Plan (1991) identifies land south of the base and east of I-215 as mostly industrial with some commercial and residential areas. General and light industrial land uses include manufacturing, research, and warehousing/distribution activities. Commercial land uses include retail and professional office enterprises. Near the Perris Boulevard and Ramona Expressway intersection, proposed residential land uses are predominant within three approved specific plans. The first, covering over 600 acres, is currently under construction; the other two are awaiting improved market conditions. It is expected that these three developments would be complete and add an additional 4,700 housing units on more than 1,000 acres within the 20-year analysis period. Smaller projects include a 60-acre commercial center under construction approximately 4 miles south of the base.

The city of Moreno Valley's General Plan Program (1984) includes redevelopment areas and specific plans for areas east and north of the base. Identification of redevelopment areas and specific plan districts provides development flexibility for innovation in land use mixes. An area to the north and a small parcel to the east of March AFB are within one of the redevelopment areas. Projects completed to date in this area include a regional shopping mall, 40 acres of parks and improvements, and upgrading of the transportation system. Specific plans are intended to guide development of special projects. Two such plans are the Centerpointe Specific Plan and the Oleander Specific Plan, for areas adjacent to the north and east sides of the base. The Centerpointe Specific Plan (previously

known as the Gateway Specific Plan) addresses approximately 230 acres and incorporates a variety of industrial and commercial uses including research and development, manufacturing, and retail activities. The Oleander Specific Plan addresses approximately 1,500 acres and incorporates a business park, industrial, and public uses. The Oleander Specific Plan has had slow growth, with only three large buildings being developed. It is anticipated that, with current market conditions, development within this plan area would continue at a slow pace. The Centerpointe Specific Plan is also experiencing slow growth. The city administrative complex is proposed to be located within this plan area. A portion of the complex has already been built, and an additional 40,000-square-foot building is expected to be developed by the end of the 20-year analysis period. It is anticipated that neither of these plans will be complete by the end of the 20-year analysis period.

The city of Moreno Valley's General Plan identifies residential, commercial, and industrial land uses for the area near the base within the city's jurisdiction. Commercial uses, consisting of chain stores and small retail establishments, are encouraged around the heavy traffic areas of I-215 and Alessandro Boulevard. Small-scale manufacturing and related industrial uses are proposed near the base between Alessandro Boulevard and Cactus Avenue. Residential uses are identified for the area east of the base and north of Cactus Avenue.

Construction is under way on a new Riverside General Hospital, approximately 3 miles east of March AFB. The hospital would have 364 beds and construction is scheduled for completion in 1997. In addition, Moreno Valley has 40 to 50 small (less than 10 acres) approved commercial and residential projects awaiting improved market conditions.

The City of Riverside General Plan 2010 (1994) presents the goals and objectives of the city in managing growth. For the area west of I-215 and north and west of the base, the plan calls for industrial/business park land uses with small amounts of commercial and residential development. The industrial/business park category includes high quality businesses and industrial parks. The commercial land use area would include retail shops, services, low- to moderate-intensity office use, and neighborhood commercial development. Duplexes, attached units, garden apartments, and other similar residential developments are planned north of Van Buren Boulevard and east of Barton Street.

The city of Riverside has adopted three specific plans to guide development adjacent to March AFB. The Mission Grove Specific Plan, which addresses a 637-acre parcel northwest of the base, proposes a mix of industrial and residential uses in a park-like setting. Approximately 50 percent of the Mission Grove Specific Plan has already been constructed, with residential development east of Trautwein Road and a commercial shopping center at Trautwein Road and Alessandro Boulevard. In November 1995, the Specific

Plan was changed to primarily a residential development, with approximately 50 acres designated for industrial uses. Within the 20-year analysis period, it is anticipated that an additional 1,000 or more single-family dwelling units will be developed in this area.

The **Orangecrest Specific Plan** covers a 1,514-acre area west of West March, between Van Buren Boulevard and the WSA. This area, being developed as a planned community with residential, commercial, and industrial uses, is approximately two-thirds complete. An additional 700 housing units and a park, which are under construction, are expected to be complete by the end of the 20-year analysis period. In addition, two schools and a small neighborhood commercial center are planned within this area.

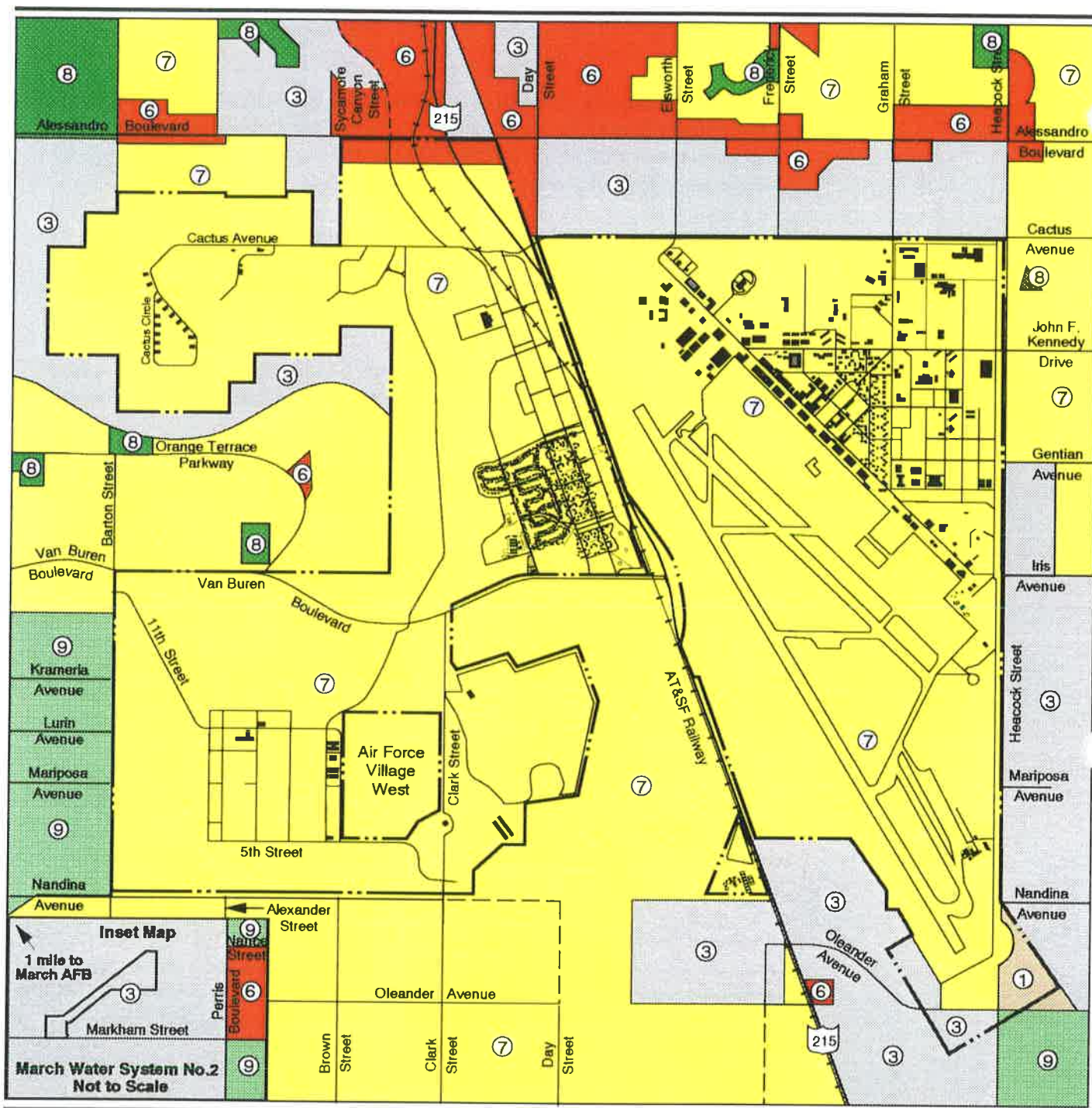
The **Sycamore Canyon Business Park Specific Plan** focuses on a high-quality industrial development proposed for a 1,417-acre area north of Alessandro Boulevard and west of I-215. Completed development includes industrial buildings west of the AT&SF railroad line in the northern end of this planning area. Commercial development has begun and will continue north of Alessandro Boulevard at Sycamore Canyon Street. This development is expected to be complete by the end of the 20-year analysis period.

Other recent development in the area surrounding March AFB includes commercial frontage along Alessandro Boulevard and Cactus Avenue both east and west of I-215 and grading for small industrial development at the Oleander Avenue interchange west of I-215.

The RCTC is conducting studies to evaluate possible locations for **commuter rail stations along the AT&SF tracks** (see Section 2.2.11). Final site design and planning will be accomplished in accordance with local jurisdictions' general plans and noise compatibility guidelines.

Zoning. Zoning provides for the division of the jurisdiction, in conformity with the comprehensive plan, into districts within which the height, open space, building coverage, density, and type of future land uses are set forth. Zoning is designated to achieve various community development goals, including the implementation of the comprehensive plan.

In Riverside County's jurisdiction, the area south and southwest of the base is zoned for industrial, single-family residential, and light agricultural uses (Figure 3.2-5). Industrial park development includes small-scale manufacturing, such as wood, textile, chemical, and metal products. An area west of I-215 at Oleander Avenue is zoned for industrial use. South of the base, the land is zoned for single-family dwelling units, permitting mobile homes and allowing for the Riverside National Cemetery use. The area west of the base is zoned for light agricultural uses for small-scale produce processing. The area north of the WSA is zoned for residential agricultural, which allows small-scale agricultural operations within single-family



Local Zoning

Figure 3.2-5

residential neighborhoods. In addition, an area north of the WSA is zoned for industrial park uses.

The base property is shown on the Riverside County Zoning map as federal property, which is not subject to local zoning. However, Riverside County had zoned the area for rural residential use before the property was transferred to the federal government. A portion of West March along Alessandro Boulevard is zoned for scenic highway commercial uses, which limits outside storage space.

The Perris Zoning Ordinance (1993) zones the area south of the base for industrial and commercial uses. Industrial zoning comprises the largest area in the vicinity of the base, allowing for storage, manufacturing, woodworking, and metal shop facilities. Property at the I-215 and Oleander Avenue interchange is zoned for wholesale or general retail commercial uses. These uses take advantage of the highly developed transportation system and location away from the residential neighborhoods to the south. The zoning surrounding March Water System No. 2 is industrial, commercial, and agricultural.

The Moreno Valley Official Zoning Atlas (1992) identifies the area east and north of the base as zoned for industrial, commercial, and residential uses. Industrial uses include manufacturing, research and development, and warehousing/distribution. Areas zoned for industrial uses are located generally south of Iris Avenue and Alessandro Boulevard, adjacent to the base. Alessandro Boulevard is zoned for commercial uses such as general business, corporate, administrative, and professional offices. Neighborhood and community retail centers are also allowed in this zoning district. The areas north of Iris Avenue and Alessandro Boulevard are zoned for residential development. Public facilities/recreation and open space zoning indicates areas for low intensity, outdoor projects to preserve unique natural and environmentally sensitive areas. These areas are scattered throughout the residential districts north and east of the base.

The city of Riverside Municipal Zoning Code (1992) designates the area northwest of the base for industrial, commercial, residential, agricultural, and public facilities/recreation uses. Industrial zoning districts allow manufacturing, assembly, and warehousing uses on both sides of Alessandro Boulevard. The area north of Alessandro Boulevard is zoned for commercial uses that allow retail and wholesale, and for public facilities, which allows municipal buildings and grounds. The area west of the WSA, within the Mission Grove Specific Plan area, will be rezoned to accommodate the recent changes in the specific plan from industrial to allow residential uses. The area south of the WSA is zoned for single-family residences and industrial uses, allowing a manufacturing park. The area west of Barton Street is zoned primarily for residential uses, with allowance for general agricultural activities, including cultivation of citrus groves.

On-Base Land Use. The present land usage is identified by various general categories. The Main Base contains the airfield and most of the developed areas on base. West March contains the WSA, golf course, military family housing, the DRMO, and some administrative facilities. There are also large tracts of vacant land on West March that contain concrete foundations remaining from Camp Haan facilities. Prerealignment (1994) land uses are shown in Figure 3.2-6 and described in this section. Land use acreages are shown below.

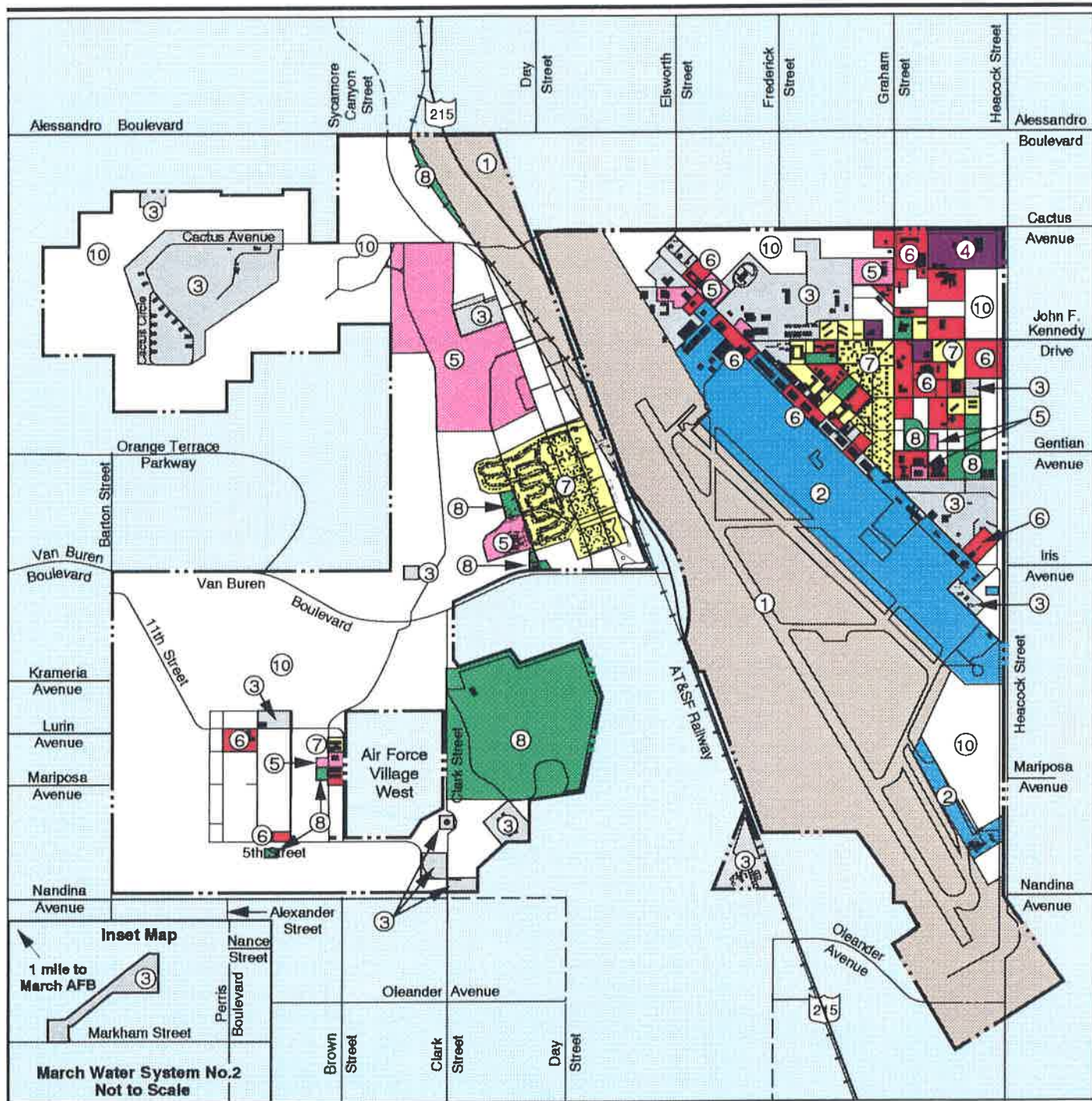
Airfield	1,715
Aviation Support	506
Industrial	515
Institutional	
Medical	54
Educational	253
Commercial	218
Residential	278
Public facilities/recreation	376
Vacant	2,790
Total	6,705

The prerealignment on-base land uses are characterized by the types of activities performed within the land use boundary. Although military activities may be different than civilian, the same generalized land use categories are utilized for consistency of analysis.

The airfield land use area lies generally along the east side of I-215 and includes two runways and associated taxiways. The main runway, Runway 14/32, is 13,300 feet long and 300 feet wide. Runway 12/30, which is 6,980 feet long and 150 feet wide, is closed for Air Force use but supports U.S. Customs operations and Aero Club aviation activities (small general aviation aircraft owned and/or operated by military personnel for personal use). The glideslopes, radar facilities, and aircraft safety distances, clear zones, and APZs on base property are also within the airfield land use area. In addition, the March Field Museum and aircraft static display is located west of the runway, south of Van Buren Boulevard. Public access to the museum is via Van Buren Boulevard.

The aviation support land use areas contain aircraft aprons, maintenance hangars, the ATC tower, alert area, and other related support facilities. Most of this area is adjacent to the east side of the airfield.

Industrial land uses are located in several areas throughout the base. The WSA and DRMO in the northwestern part of the base; the small arms range, Security Police Mobility Area, water filtration plant, and other scattered facilities in the southwest; the STP in the southeast; and March Water System No. 2, about 1 mile southeast of the base, are all industrial use areas. Industrial facilities in the northeastern portion of the Main Base



EXPLANATION

- | | | |
|-------------------------------|---------------------------------|------------------------|
| ① Airfield | ⑥ Commercial | Off-Base Property |
| ② Aviation Support | ⑦ Residential | --- 1995 Base Boundary |
| ③ Industrial | ⑧ Public Facilities/ Recreation | --- Unpaved Road |
| ④ Institutional (Medical) | ⑨ Agriculture * | |
| ⑤ Institutional (Educational) | ⑩ Vacant Land | |

0 900 1800 3600 Feet



* Standard land use designation not applicable to this figure.

Prerealignment (1994) On-Base Land Use

Figure 3.2-6

include the electric substation, warehouses, the central heating plant, civil engineering shops, and vehicle maintenance shops.

Institutional land uses include both medical and educational uses. The only medical land use area includes the hospital and related administration buildings in the northeastern corner of the base. The largest educational land use is the readiness training mobility area on West March. The Arnold Heights Elementary School and surrounding recreational fields and the Noncommissioned Officers (NCO) Academy adjacent to Air Force Village West are also considered institutional (educational). Other areas are scattered within the northeast corner of the base and include flight simulators, training facilities, and the education center.

The commercial land use areas are primarily located along the main roadways within the Main Base. Facilities in this land use area include the Base Exchange, service stations, Commissary, post office, and theater. Several administrative/office buildings in the southwest corner of the base are also identified as commercial areas.

Residential land use areas are located on West March between Plummer Road and I-215, and in the northeast portion of the base. The parcel on West March (Arnold Heights) contains single-family and duplex units. Residential areas on the Main Base include the single-family and duplex units within the Historic District (Green Acres), as well as nine dormitories, three visiting airmen's quarters (VAQ), five visiting officers' quarters (VOQ), and other residential facilities. There are a total of 2,869 residential units on the base.

Public facilities/recreation land use areas include the golf course and scattered areas on West March and the Main Base. The golf course is on West March between I-215 and Clark Street in the southwestern portion of the base. Land north of Cactus Avenue along the railroad line is an easement for the railroad, and is also considered within this category. The Main Base contains a riding stable, an outdoor track, two gymnasiums, a swimming pool, and various other recreational facilities and areas.

Vacant land extends over large portions of West March and in scattered areas along the northern and eastern boundaries of the Main Base.

Leases and Easements. The Air Force holds ingrants to use property outside of the base mostly pertaining to utilities and aviation and safety easements (Table 3.2-1). Other organizations have outgrants in the form of leases, easements, and licenses for the use of the base property. The majority of the outgrants consist of rights-of-way for roads and utilities, but also include property and facilities utilized by outside agencies.

**Table 3.2-1. Inventory of Easement Agreements, Licenses, Permits,
and Leases in Effect at Realignment**

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Document Number	Expiration Date ^(a)	Description	Responsible Party
Ingrants			
1004	Perpetual	Water line	Riverside County
4-0-010-1780	Perpetual	ROE - Water line	Riverside County
4-0-010-1958	12/09/1997	ROE - Monitoring well	Riverside County
8-81840	Perpetual	Water line	California Division of Highways
8-83316 LA-485	Perpetual	Communications cable	California Division of Highways
8-84293	Perpetual	Sewer line	California Division of Highways
88482222	Perpetual	ROW - Underground power line	California Division of Highways
C-80136	Perpetual	North spur crossing Highway 395	California Department of Transportation
DAO4353ENG4406	Perpetual	Flood control channel	Riverside County
DAO4353ENG4510	Perpetual	Water line	Atchison, Topeka & Santa Fe Railway
DACA09-5-87-5	8/30/1990	Wolfskill Drop Zone	Harold Lee
DACA09-5-90-08	9/30/1994	Cathodic protection	Mike Saghafi
DACA09-5-92-122	7/31/1997	Communications spaces	Sigma Telecommunications
DACA09-9-82-78	Perpetual	Communications cable	Riverside County
J-1000-E	Perpetual	Avigation easement	U.S. Government
J-1001-E	Perpetual	Clearance easement	U.S. Government
J-1007E/1/2	Perpetual	Avigation easement	U.S. Government
J-1011-E-1/2	Perpetual	Avigation easement	U.S. Government
J-1013-E	Perpetual	Avigation easement	U.S. Government
J-1014-E	Perpetual	Telephone lines	U.S. Government
L-1200-E2	Perpetual	Avigation easement	Ira W. & Pauline M. Clark
L-1201-E2	Perpetual	Clearance easement	Donald & Rudy N. Smith
L-1202-E	Perpetual	Clearance easement	U.S. Government
L-1203-E	Perpetual	Aircraft approach zone	U.S. Government
L-1204-E	Perpetual	Avigation easement	U.S. Government
L-1206/7/8/9-E	Perpetual	AICUZ acquisition	U.S. Government

Note: (a) Easement agreements, licenses, permits, and leases may be renewed or terminated pending property disposal decisions.

AICUZ = Air Installation Compatible Use Zone
 ROE = right-of-entry
 ROW = right-of-way

**Table 3.2-1. Inventory of Easement Agreements, Licenses, Permits,
and Leases in Effect at Realignment**

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Document Number	Expiration Date ^(a)	Description	Responsible Party
L-1211-E	Perpetual	Avigation easement	U.S. Government
L-1212-E	Perpetual	Avigation easement	U.S. Government
L-1213-E	Perpetual	Avigation easement	U.S. Government
L-1214-E	Perpetual	Avigation easement	U.S. Government
L-1215-E	Perpetual	Avigation easement	U.S. Government
L-1216-E	Perpetual	Avigation easement	U.S. Government
L-1217-E	Perpetual	Avigation easement	U.S. Government
L-1218-E	Perpetual	Avigation easement	U.S. Government
L-1219-E	Perpetual	Avigation easement	U.S. Government
L-1220-E	Perpetual	Avigation easement	U.S. Government
L-1221-E	Perpetual	Avigation easement	U.S. Government
L-1222-E	Perpetual	Avigation easement	U.S. Government
L-1223-E	Perpetual	Avigation easement	U.S. Government
LA-1870	Perpetual	Communications cable	Riverside County
LA-2809	Perpetual	Sewer line	Atchison, Topeka & Santa Fe Railway
LA-2810	Perpetual	Sewer main	California Department of Transportation
LA-486	Perpetual	Communications cable	Atchison, Topeka & Santa Fe Railway
LA-512	Perpetual	Pole line contact	California Electric Power Company
LA-513	Perpetual	Sewer line	Atchison, Topeka & Santa Fe Railway
LA-760	Perpetual	Communications cable	Riverside County
MAR 9-89-001	3/31/1996	ROW - Wells	Jack Horowitz
MAR 9-89-004	3/31/1996	ROW - Water wells	Randal H. Zimmer
MAR-9-89-002	3/31/1996	ROW - Water wells	Chung-Eh Mao
MAR-9-89-003	3/31/1996	ROW - Water wells	Chang Investor
MAR-9-89-005	3/31/1996	ROW - Water wells	O'Daw Partners
MAR-9-90-006	3/31/1996	ROW - Water wells	John L. Lee
MAR-9-90-007	3/31/1996	ROW - Water wells	Theopacific Moreno Valley Ltd.
MAR-9-90-008	3/31/1996	ROW - Water wells	Theopacific Moreno Valley Ltd.
MAR-9-90-009	3/31/1996	ROW - Water wells	Lance Family Revocable Trust

Note: (a) Easement agreements, licenses, permits, and leases may be renewed or terminated pending property disposal decisions.

ROW = right-of-way

**Table 3.2-1. Inventory of Easement Agreements, Licenses, Permits,
and Leases in Effect at Realignment**

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Document Number	Expiration Date ^(a)	Description	Responsible Party
ROE/I-MA-92-0001	3/31/1996	Monitoring well	John Coudures
ROE/I-MA-92-0002	12/16/1997	Monitoring well	Tajak Properties
ROE/I-MA-92-0004	12/13/1997	Monitoring well	Far East Broadcasting Company
ROE/I-MA-94-0001	3/3/1996	Install five monitoring wells	Riverside National Cemetery
ROE/I-MA-94-0002	3/15/1995	Environmental exploratory work	German Baptist Cemetery
ROE/I-MA-94-0003	3/31/1996	Environmental investigations	Riverside National Cemetery
Tract E-507	Perpetual	Drainage ditch	Atchison, Topeka & Santa Fe Railway
USAF-AMC-MAR9-92-017	6/23/1997	Monitoring wells	Randall J. & Norma B. Zimmer
USAF-AMC-MAR9-92-018	10/4/1997	ROE - Monitoring wells	Heacock Development Company
USAF-MOB-MAR9-92-019	7/7/1997	ROE - Monitoring wells	Albert D. Lissoy
USAF-AMC-MAR9-92-015	6/16/1997	Monitoring wells	Tajak Properties
WO4193ENG4804	Perpetual	Underground power line	Atchison, Topeka & Santa Fe Railway
WO4193ENG802	Perpetual	Electric ducts	Atchison, Topeka & Santa Fe Railway
Outgrants			
2558	Perpetual	Power poles	California Electric Power Company
37	Perpetual	Space for post office	U.S. Postal Service
Aero Club	Perpetual	Membership association	March AFB Aero Club
AF04(605)-S-49	7/25/1997	ROW - Electrical lines	California Electric Power Company
AF04(605)S-49	3/2/2020	Electric line	California Electric Power Company
AF04(605)S-96	7/3/2001	ROW - Telephone lines	General Telephone Company of California
AF04-(606)9366	Perpetual	Underground telephone cable	General Telephone Company of California
DA04-353-6022	Perpetual	ROW - Van Buren Boulevard	Riverside County

Note: (a) Easement agreements, licenses, permits, and leases may be renewed or terminated pending property disposal decisions.

ROE = right-of-entry

ROW = right-of-way

**Table 3.2-1. Inventory of Easement Agreements, Licenses, Permits,
and Leases in Effect at Realignment**

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Document Number	Expiration Date ^(a)	Description	Responsible Party
DA04-353-6199	Perpetual	ROW - Gas lines	California Gas Company
DA04353ENG1571	Perpetual	Relocation contract	California Electric Power Company
DA04353ENG4357	Perpetual	ROW - Water pipeline	NA
DA04353ENG6020	10/14/1991	Telephone conduit	General Telephone Company of California
DA04353ENG6021	1/17/2006	Petroleum pipeline	Southern Pacific Pipelines
DA04353ENG6022	Perpetual	Widen Van Buren Boulevard	Riverside County
DA04353ENG6023	Perpetual	ROW - Road extension	Riverside County
DA04353ENG6026	Perpetual	Road through March AFB	State of California
DA04353ENG6027	4/26/2000	Electric & Telephone lines	California Electric Power Company
DA04353ENG6064	Perpetual	ROW - Extend and maintain road on March AFB	State of California
DA04353ENG6137	9/30/2001	Communication line	Pacific Telephone & Telegraph
DA04353ENG6199	Perpetual	Gas lines	Southern California Gas Company
DA04353ENG6503	Perpetual	Freeway easement	Riverside County
DA04353ENG6504	Perpetual	Establish state highway as a freeway	California Department of Transportation
DA04353ENG6624	10/8/2007	Oil pipeline	Four Corners Pipeline Company
DA04353ENG9988	9/31/1995	Land lease for bank	Bank of America
DA49-040-ENG-5	Perpetual	Telegraph service	Western Union Telegraph Company
DACA09-1-72414	Perpetual	Government poles	General Telephone Company of California
DACA09-1-84414	3/31/1996	Government conduit duct	General Telephone Company of California
DACA09-1-88-7	7/31/1998	Operate museum gift shop	March Field Museum Foundation
DACA09-1-90464	3/31/1996	Lease to homeowners in AICUZ	Ernest H. Vestal
DACA09-1-91-1	5/31/1996	Land for school	Moreno Valley Unified School District

Note: (a) Easement agreements, licenses, permits, and leases may be renewed or terminated pending property disposal decisions.

AICUZ = Air Installation Compatible Use Zone

NA = not applicable

ROW = right-of-way

**Table 3.2-1. Inventory of Easement Agreements, Licenses, Permits
and Leases in Effect at Realignment**

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Document Number	Expiration Date ^(a)	Description	Responsible Party
DACA09-2-71165	Perpetual	ROW - Road	Riverside County Road Commission
DACA09-2-79259	3/31/1996	Communications lines in Arnold Heights	GTE of California, Inc.
DACA09-2-81205	Perpetual	Water line	Eastern Municipal Water District
DACA09-2-82-35	Perpetual	Van Buren Boulevard Interchange with I-215	California Department of Transportation
DACA09-2-82-89	6/30/2007	ROW - Water lines and tank	Eastern Municipal Water District
DACA09-2-82351	Perpetual	Easement	California Department of Transportation
DACA09-2-83274	8/24/2008	Buried cable	General Telephone Company of California
DACA09-2-88-50	Perpetual	Non-exclusive road easements	Air Force Village West, Inc.
DACA09-2-88-57	Perpetual	Sewage lines	Air Force Village West, Inc.
DACA09-2-89-25	Perpetual	ROW - Sewer pipeline	City of Riverside
DACA09-2-89-36	Perpetual	Storm drainage outlet easement	City of Moreno Valley
DACA09-2-89-69	Perpetual	Water pipeline	Western Municipal Water District
DACA09-2-90350	3/31/1996	Cable TV easement for Air Force Village West	Total TV of California
DACA09-2-90351	3/31/1996	Easement for electric power line	Southern California Edison
DACA09-2-90386	10/15/2015	Traffic signal	Riverside County
DACA09-2-91-13	1/31/2016	Storm drain easement	City of Riverside →
DACA09-2-91-31	Perpetual	Storm drain easement	City of Moreno Valley
DACA09-2-91-8	Perpetual	Storm drain easement	City of Moreno Valley
DACA09-2-93-827	Perpetual	Maintain and operate traffic signal	City of Moreno Valley
DACA09-3-83-273	Perpetual	Grant for use of land surrounding state-owned buildings	California Air National Guard

Note: (a) Easement agreements, licenses, permits, and leases may be renewed or terminated pending property disposal decisions.

ROW = right-of-way

**Table 3.2-1. Inventory of Easement Agreements, Licenses, Permits,
and Leases in Effect at Realignment**

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Document Number	Expiration Date ^(a)	Description	Responsible Party
DACA09-3-85-7	3/31/1996	Space in Building 323	Civil Air Patrol
DACA09-3-86-23	12/31/1996	Space for cross country meets	Moreno Valley High School
DACA09-3-87-63	Terminated, date unknown	Electrical service to March AFB museum	Southern California Edison
DACA09-3-88-5	9/29/1998	Land lease for Red Cross building	American Red Cross
DACA09-4-86-83	7/31/1996	Effluent force main	Veteran's Administration Cemetery
DACA09-4-87-61	6/30/2012	Permit for use of land	U.S. Customs Service
DACA09-4-91-11	5/31/1996	Use of Building 2300	U.S. Army Corps of Engineers
DACA09-79-259	3/31/1996	ROW - Buried cable	General Telephone Company of California
DACA091-84-415	3/31/1996	Telephone Conduit	General Telephone Company of California
MAR-3-91-013	Perpetual	License for construction	March Field Museum Foundation
MAR-9-90-011	Terminated, date unknown	Encroachment permit	City of Moreno Valley
PERM/O-MA-94-0004	2/13/1995	Install and maintain water pipeline	Riverside National Cemetery
Riding Club	Perpetual	Membership club	Flying "M" Wranglers Riding
W724-QM-1426	Perpetual	Electric cable	California Electric Power Company

Note: (a) Easement agreements, licenses, permits, and leases may be renewed or terminated pending property disposal decisions.

ROW = right-of-way

Adjacent Land Use. Prerealignment land uses surrounding March AFB were determined using January 1994 aerial photographs and windshield surveys conducted in the same month. For analysis purposes, these land uses were used to establish a baseline.

The area surrounding the base is mostly residential, agricultural, and vacant land with industrial and commercial development along the major roads (Figure 3.2-7). Land west of the base is primarily agricultural and vacant land with single-family residential planned communities. In the southwestern portion of the base, Air Force Village West, a residential community, is surrounded by base property. To the south, the land use is predominantly

Air Quality

general idea

Air quality impacts would occur during construction and operations associated with the Proposed Action and alternatives. Intermittent construction-related impacts would result from fugitive dust (particulate matter) released during construction activities, architectural coating emissions (VOC), and construction equipment combustive emissions (CO, Nox, PM10, and SOx, and VOC). Operational impacts would occur from (1) mobile sources, such as aircraft, aircraft operation support equipment, commercial vehicles, and personal vehicles; (2) point sources, such as boilers and aircraft engine test cells; (3) area sources, such as architectural coating and solvent usage; and (4) secondary emission sources associated with population increase, such as residential heating and increased vehicle miles traveled (VMT).

The methods selected to analyze impact depends upon the type of emission source being examined. Air quality analytical during the construction phase consists of estimating the amount of uncontrolled fugitive dust emitted during grading, excavation, and demolition activities and the combustion emissions associated with construction equipment and worker vehicles. Analysis for mobile, point, area, and secondary source emissions during the operations phase consists of quantifying the emissions associated with the retained military, reuse-related employment and population, and immigrating secondary population. These emissions are then evaluated to determine how they would affect the region's ability to reach or maintain the CAAQS and NAAQS.

Ambient effects on local air quality are analyzed by modeling pollutant concentrations at receptor locations likely to receive maximum air quality impacts. For aviation-related alternatives, the receptors are typically selected at the downwind end of the runway to analyze the impacts from airport operations.

The ambient effects of aircraft are analyzed by modeling with the EDMS (SEGAL, 1991B, 1991C). The EDMS model uses U.S. EPA and U. S. military emission factors for aircraft and information on peak and annual landing and takeoff cycles to produce an emissions inventory of vehicle and aircraft operations. Typical aircraft operations include takeoff, runway climb and approach, runway queuing, taxi-in and taxi-out, and idling at the gates.

Air quality modeling is presented for the Proposed Action and alternatives through 2010 (the latest attainment year for the SCAB). The effects of the 1990 CAA, such as electric and other low-emission vehicle ownership percentages, cannot be accurately predicted very far into the twenty-first century. The uncertainties of long-range population and traffic projections, emission inventories make longer term emission and pollution concentration projection too speculative.

The following methodologies and assumption were used in estimating the effects of the Proposed Action and alternatives:

EDMS was used to calculate annual aircraft emissions for airfield operations. Aircraft activity levels in 2010 were assumed to be similar to those projected for 2016.

Methods outlined in the CEQA Air Quality Handbook (SCAQMD, 1993) were utilized to estimate all construction-related emissions, energy consumption emissions, and privately owned vehicle emissions.

Half of all civilians who would out-migrate from the San Bernardino and Riverside counties, if the base were to be realigned without subsequent reuse, were assumed to move into Orange or Los Angeles counties and the other half were assumed to move out of the SCAB completely. All out-migrating off-base retirees, military personnel, and their dependents were assumed to move out of the SCAB.

Emissions associated with the off-site secondary population were assumed to occur at the same per capita rate as emissions from the general population of the SCAB.

All demolition activity was assumed to occur during the 1996-2001 time period.

The SCAB is designated by the U.S. EPA as “extreme” nonattainment for ozone, “serious” nonattainment for CO and PM10, and nonattainment NO2. The deadlines for achieving attainment of NAAQS are November 15, 2010, for ozone; December 31, 2000, for CO; December 31, 2001, for PM10; and November 15, 1995 for NO2. The SCAQMD developed the 1994 AQMP to attain the standards as expeditiously as possible by implementing all feasible emission control measures.

In addition, under the New Source Review provisions of the federal CAAA, any new or modified major stationary source emitting more than 10 tons per year of VOC (ROG) or NOx in an extreme ozone nonattainment area must satisfy technology standards reflecting the lowest achievable emission rate and must provide offsets representing emission rate and must provide offsets representing emission reductions from other sources at a ratio of at least 1.5 to 1.0. Another major effect of the CAAA is the establishment of new federal permitting requirements for new source construction. The new requirements will necessitate permit approval from the SCAQMD, not only for projects that historically would have required a New Source Review permit, but also for other smaller stationary sources that in the past would not have required a permit. Federal permitting requirements have not yet been fully established. However, it is anticipated that, in addition to ozone precursors, the regulations will also require offsetting of PM10 emissions from new or modified major stationary sources located in PM10 non attainment areas.

The New Source review requirements governing the control of attainment pollutants (SO2) differ somewhat from the requirements for nonattainment pollutants described above. New or modified major stationary sources of SO2 in an attainment area must not cause or contribute to an exceedance of an ambient air quality standard. In addition, the PSD program prevents emissions of pollutants in an attainment area from creating a nonattainment condition by limiting the allowable ambient impact of SO2 emissions from new or modified major stationary sources to specific increments. These increments are designed to prevent new or modified sources from causing significant degradation of an area's air quality. For PSD purposes, major stationary

sources are generally defined as those sources that emit more than 100 tons per year of an attainment pollutant. Ambient impact from new or modified air pollution sources are generally determined through air quality modeling. Although the PSD process provides adequate means for assessing and regulating impact from stationary sources of air pollution, this process does not provide a mechanism for dealing with nonstationary sources, such as motor vehicles and aircraft.

Section 176(c) of the CAA provides that a federal agency cannot support an activity in any way unless the federal agency determines that activity will conform to a U.S. EPA- approved SIP's purpose of attaining and maintaining the NAAQS. This means that federally supported or funded activities will not (1) cause or contribute to any new violation of any air quality standard, (2) increase the frequency or severity of any existing violation of any standard, or (3) delay the timely attainment of any standard or any required interim emission reductions or other milestones in any area. In accordance with Section 176(c), the U.S. EPA promulgated the final conformity rule for general federal actions on November 30, 1993, which is codified as Title 40 CFR 51 Subpart W, and Title 40 CFR 93 Subpart B. Title 40 CFR 93 Subpart B applies to federal agencies until states revise their SIP's to adopt a conformity rule at least as stringent as U.S. EPA's rule (Title 40 CFR 51 Subpart W). U.S. EPA's rule contains several exemptions from conformity procedures for certain actions, on the basis that they are clearly below the threshold of significance (*de minimis*). These exemptions include the transfer of ownership of real property (Title 40 CFR 93, 153 [c][2][xiv] and [xx]), as well as leasing agreement pending environmental restoration under CERCLA (Title 40 CFR 93, 153 [c][2][xiv] and [xx]). As such, it is not necessary for the Air Force to prepare a conformity determination for disposal of the property. However, federal agencies would be required to comply with the conformity regulations and, if necessary, prepare conformity determinations prior to implementing federal actions associated with reuse of the property.

The conformity rule applies to federal actions occurring in federal nonattainment or maintenance areas. As noted previously, the project site is located in an area designated by the U.S. EPA as nonattainment for ozone, NO₂, CO, PM₁₀.

The conformity rule defines the applicability criteria, including several source exemptions and emission thresholds, which determine whether the federal action requires a conformity determination. For example, non-exempt federal actions with total direct and indirect emissions that would remain below the *de minimis* emission threshold and regionally significant threshold do not require written conformity determinations prior to taking action. The specific *de minimis* emission thresholds for the SCAB are 10 tons per year for PM₁₀ and its precursors. The definitions of total direct and indirect emissions for conformity purposes distinguish emissions according to timing and location rather than the type of emission source. Direct emissions occur at the same time and place and place as the federal action. Indirect emissions include those which may occur later in time or at a distance from the federal action. In addition, the conformity rule limits the scope of indirect emissions to those that can be quantified and are reasonably foreseeable by the federal agency at the time of analysis, and those that the federal agency can practicably control and maintain control through its continuing program responsibility.

If the federal reuse action is subjected to a conformity determination, one of five criteria may be used to demonstrate positive conformity. These criteria are based on the type of pollutant and status of the of the applicable SIP. Examples include revising the applicable SIP to incorporate enforceable control measures to fully offset net emission increases, or fully offsetting net emission increases from other surplus emission reduction that become available in the region.

If a written conformity determination is required, the regulations include provisions for public notice and review, including a 30-day public review period for draft determination, and notification to applicable federal, state and local regulatory agencies.

Emission Offsets. For purposes of demonstrating conformity under the U.S. EPA's rule for general federal actions, emission offsets are emission reductions that are quantifiable, consistent with the applicable SIP attainment and progress demonstrations, surplus to reductions already required by the SIP, enforceable, and permanent. These "conformity offsets" include ERC's and emission reduction that may not qualify as ERC's under district rules. ERC's, as a subset of conformity offsets, are emission reductions traditionally derived from the shutdown or reduced operation of stationary sources and, in limited circumstances, from certain mobile sources, such as scrapped motor vehicles. Conformity offsets can include emission reduction from additional sources, such as aircraft and employee motor vehicle commutes to and from work. Conformity offsets generally cannot be derived from emission sources that are beyond the agency's ability to control, such as off-duty employee motor vehicle trips for shopping or other personal errands off base.

Realignment of a military installation can result in a substantial amount of emission reductions that qualify as conformity offsets by are not ERC's Reduction in military aircraft activity and federal employee motor vehicle commutes generate large annual tonnage of emission reductions. These reductions can be allocated to other federal agencies for use as conformity offsets within the air basin. Potential conformity offset emissions from March AFB, based on the difference between prerealignment and realignment conditions.

The amount of conformity offsets shown in Table 4.4-1 differs from the difference of prerealignment and realignment emission amount listed in Tables 3.4-7 and 3.4-8. The tables in Chapter 3 represent total direct and indirect base-related emissions, including indirect sources that are beyond the Air Force's ability to control, and thereby do not qualify as conformity offsets.

Proposed Action

Construction. Fugitive dust would be generated during construction activities associated with the retained military, aviation support, industrial, business park, institutional, commercial, mixed use, residential, and public facilities/recreation land uses proposed as part of the Proposed Action. Emissions from construction equipment, grading, excavation, demolition, and architectural coatings were calculated according to methods of the SCAQMD'S CEQA Handbook, as detailed in Appendix I. Total PM10 emissions from equipment, grading, excavation, and demolition were estimated to be 0.030 ton per day during the time period 1996-

2001, 0.022 ton per day during 2001-2006, and 0.025 ton per day during 2006-2010. The impact of these PM10 emissions would cause elevated short-term concentrations at receptors close to the construction areas. However, the elevated concentrations would be temporary and would fall off rapidly with distance.

Construction equipment combustion emissions and architectural coating emissions of CO, NOx, SOx, and VOC were determined to be 0.116 ton per day of CO, 0.533 ton per day of NOx, 0.036 ton per day of SOx, and 0.702 ton per day of VOC during the period 1996-2001. Emissions of CO, NOx, SOx, and VOC in the period 2001-2006 would be 0.100, 0.460, 0.031, and 0.593 ton per day, respectively. Emission of these same pollutants from 2006 to 2010 would be 0.102, 0.541, 0.036, and 0.610 ton per day.

Operations. A summary of construction and operation emissions for the Proposed Action, including military and civilian activities, is presented in Table 4.4-2 for 2001, 2006, and 2010. The methods and results for emission source categories, including military and civilian operations, are presented in Appendix I.

Potential impacts to air quality as a result of operational emissions from the Proposed Action were evaluated in terms of two spatial scales: regional and local. The regional-scale analysis considered the potential for total project emission to cause the airshed to reach nonattainment for SO2 as indicated by large increases in the regional SO2 inventory or to hinder progress towards reaching attainment as indicated by emission increases greater than anticipated in the AQMP (CO, NO2, PM10, and VOC emissions). The local-scale analysis evaluated the potential for aircraft and traffic emissions to exceed the CAAQS and/or NAAQS in the immediate vicinity of the project site. If one of these conditions were to occur, the project would have an adverse impact on air quality.

Regional Scale. Emissions of pollutants from the Proposed Action may adversely impact regional levels. However, with the application of control measures identified in the 1994 AQMP and mitigation identified in this document, the impacts of the Proposed Action would be minimized. For this reason, and other reasons as discussed in the paragraphs below, it is not expected that the Proposed Action would delay regional progress toward attainment or affect maintenance of any standard in the SCAB or other potentially affected transport regions.

Reuse-Related Emissions. Table 4.4-2 provides a comparison of emission estimates for the SCAB (prerealignment and realignment), and the Proposed Action for 2001, 2006, and 2010. This table shows that the total direct and indirect reuse-related emissions of VOC would increase from realignment conditions by 1,339.9 tons per year (3.67 tons per day) and would increase from prerealignment conditions by 537.2 tons per year (1.470 in 2010). Reuse-related emissions of NOx would increase by 2,204.2 tons per year (6.04 tons per day) from realignment conditions and 1,059.0 tons per year (2.90 tons per day) over prerealignment conditions.

Table 4.4-2 provides a means to compare emissions from the Proposed Action to prerealignment and realignment emission levels. All NOx emissions in Table 4.4-2 are assumed to convert to NO2 emissions on a regional basis. Direct and indirect reuse-related CO, NO2, PM10, and SO2

emissions would increase by 8,690.5 tons per year (23.80 tons per day), 2,204.1 tons per year (6.04 tons per day), 903.0 tons per year (2.47 tons per day), and 171.4 tons per year (0.47 tons per day) over realignment conditions, respectively. Emission increases over prerealignment conditions would be 2,956.5, 1,058.9, 680.4, and 101.0 tons per year (8.10, 2.90, 1.86, and 0.28 tons per day) for the same pollutants, respectively.

Regional Burden. Although the reuse-related annual emission of CO, NO_x, PM₁₀, and VOC appear to increase substantially over prerealignment conditions, the actual emission increases realized throughout the SCAB would be far lower, for three major reasons. First, the calculated reuse emissions are conservative in that a number of emission reductions planned as part of the AQMP process were not quantifiable and thus have not been taken into account. Second, vehicle emission factors used to calculate VMT emissions do not fully account for planned technological advancements that could significantly reduce future emissions. Finally, most of the emissions associated with reuse would merely be transferred from other areas of the basin and would occur within the basin with or without reuse activity.

A number of the control measures planned for implementation as part of the 1994 AQMP are designed to achieve emission reductions, although the amount of projected reduction cannot be quantified by the SCAQMD. Many of these measures would also reduce emissions associated with reuse activity by some unquantifiable amount. In particular, the following Stationary and Mobile Source Control Measures would provide reuse-related emission reductions for the indicated pollutants:

- CM #94CTS-03 - Consumer Product Education Labeling Program (VOC)
- CM #94CTS-04 - Public Awareness/Education Programs - Area Sources (VOC)
- CM #94FUG-03 - Further Emission Reductions from Floating Roof Tanks (VOC)
- CM #94CMB-03 - Area Source Credits for Commercial and Residential Combustion Equipment (NO_x)
- CM #94CMB-04 - Area Source Credit for Energy Conservation/Efficiency (NO_x)
- CM #94BCM-01 - Emission Reductions from Paved Roads (PM₁₀)
- CM #94BCM-02 - Further Emission Reduction from Construction and Demolition Activities (PM₁₀)
- CM #94BCM-03 - Further Emission Reduction from Agricultural Activities (PM₁₀)
- CM #94BCM-04 - Emission Reduction from Agricultural Activities (PM₁₀)
- CM #94BCM-05 - Emission Reduction from Miscellaneous Sources (PM₁₀)

CM #94MSC-01 - Promotion of Lighter Color Roofing and Road Materials and Tree Planting Programs (CO, NOx, PM10, SO2, and VOC)

CM #94MSC-02 - In-Use Compliance Program for Air Pollution Control Equipment (CO, NOx, PM10, SO2, and VOC)

CM #94WST-02 - Emission Reduction from Composting of Dewatered Sewage Sludge (VOC and PM10)

CM #94MON-01 - Emission Reduction Credit for Low-Emission Retrofit Fleet Vehicles (CO, NOx, and VOC)

CM #94MON-02 - Eliminate Excessive Car Dealership Vehicle Starts (VOC)

CM #94MON-03 - Enhanced Inspection and Maintenance Program (CO, NOx, and VOC)

CM #94MON-04 - Eliminate Excessive Curb Idling (CO and VOC)

CM #94MON-06 - Emission Reduction Credit for Heavy-Duty Trucks (CO, NOx, PM10, SO2, and VOC)

CM #94MON-08 - Further NOx Reductions for Heavy- Duty engines (NOx)

CM #94FIP-01 - Enhanced In-Use Compliance Program for Cars and Light- and Medium-Duty Trucks (CO, NOx, and VOC)

CM #94FIP-02 - Restriction on Importation of 49-State Motor Vehicles (CO, NOx, and VOC)

CM #94FIP-05 - Nonroad Vehicles and Engines, On-Highway Motorcycles (CO, NOx, and VOC)

CM #94MOF-03 - Emission Reduction Credits for Leaf Blowers (VOC)

CM #94MOF-04 - Off-Road Mobile Source Emission Reduction Credit Programs (VOC and NOx)

In addition, seven Indirect Source Control Measures identified in the AQMP are directed toward reducing emissions from vehicle trips and VMT from sources that generate or attract vehicle trips. Although presently not quantifiable, each of these Indirect Source Control Measures would provide some amount of reduction in reuse-related emission.

CM #94ISR-01 - Special Event Centers (CO, NOx, PM10 SO2 and VOC)

CM #94ISR-02 - Regional Shopping Centers (CO, NOx, PM10, SO2, and VOC)

CM #94ISR-03 - Registration and Commercial Vehicles (CO, NOx, PM10, SO2, and VOC)

CM #94ISR-04 - Airport Ground Access (CO, NOx, PM10, SO2, and VOC)

CM #94ISR-05 - Trip Reduction for Schools (CO, NOx, PM10, SO2, and VOC)

CM #94ISR-06 - Enhanced Rule 1501 (CO, NOx, PM10, SO2, and VOC)

CM #94ISR-07 - Parking Cash-Out (CO, NOx, PM10, SO2, and VOC)

Five Advanced Transportation Technology Measures identified in the AQMP would reduce emissions from mobile sources but, again, the reductions cannot be qualified at this time. Implementation of these Advanced Transportation Technology Measures would reduce mobile emissions associated with reuse activity by some indeterminate amount.

CM #94ATT-01 - Telecommunications (CO, NOx, PM10, SO2, and VOC)

CM #94ATT-02 - Advanced Shuttle Transit (CO, NOx, PM10, SO2, and VOC)

CM #94 ATT-03 - Zero Emission Vehicle/Infrastructure (CO, NOx, PM10, SO2, and VOC)

CM #94ATT-04 - Alternative Fuel Vehicles/Infrastructure (CO, NOx, PM10, SO2, and VOC)

CM #94ATT-05 - Intelligent Vehicle Highway Systems (CO, NOx, PM10, SO2, and VOC)

In addition, one of the three Market Incentive Measures identified in the 1994 AQMP would result in emission reductions prior to 2010. CM #94MKT-02 (At-the-Pump Pricing) would reduce CO, NOx, PM10, and VOC emissions from passenger vehicles by levying a fee on the price of fuel based on the emission product of the fuel technologies and reduce emissions by some as yet unquantified amount.

In 2010, approximately 56 percent of reuse-related NOx emissions and 19 percent of VOC emissions would result from motor vehicles. It is difficult to accurately estimate the emission reductions that would result from implementation of the Mobile, Indirect, Advance Transportation Technology, and Market Incentive control measures. However, because each of the control measures in these categories would reduce motor vehicle emissions, it is expected that the overall effect of the reductions would be significant and total Proposed Action emissions would be substantially lower than indicated in Table 4.4-2.

The second primary reason why reuse-related emissions would be less than indicated in Table 4.4-2 is that vehicle emission factors used to calculate VMT emissions do not fully account for

planned technological advancements that could significantly reduce future emissions. The emission factors used in the VMT calculations were obtained from the SCAQMD's CEQA Handbook (see Appendix I for a description of the methodology used to calculate VMT emissions). The CEQA handbook is being revised and updated by the SCAQMD. As part of this revision process, the vehicle emission factors currently available from the CARB's EMFAC7EP program will be updated. The new emission factors will account for more stringent emission standards being promulgated by both CARB and the U.S. EPA, accelerated fleet turnover to low-emission vehicles, and increased use of alternative fuels. The effect of these considerations will be to lower the emission factors.

The third, and perhaps most significant, reason why basin wide emissions would not actually increase by the amounts indicated in the previous two subsections (Ozone Precursors; CO NO_x, PM₁₀, and SO₂) is that most of the emissions associated with reuse would merely be transferred from other areas of the basin and would occur within the basin with or without reuse activity. For example, there are currently five major commercial airports in the basin: Los Angeles International, Ontario International, Burbank, Long Beach Municipal, and John Wayne International airports. If the Proposed Action is implemented, it was assumed that some of the projected regional growth in passenger and cargo activities would be absorbed by March ARB because of greater convenience and/or lower cost. As the passenger and cargo activities shift, so would the emissions. However, it is difficult to estimate what portion of the estimated aircraft emissions and aircraft-related ground equipment and VMT emissions would be new emissions within the basin versus emissions transferred from another location within the basin. An additional benefit from the shifting of airport activities of those delays. Aircraft queuing times (waiting for clearance to takeoff or land) would be reduced, and passengers and cargo would be able to reach the terminal in less time because of less ground traffic.

It can also be assumed that most of the population, along with their associated emissions, attracted to the planned reuse would be transferred from other area and commute to work in Los Angeles or Orange counties would transfer to a job on the disposal property, requiring shorter commuting distance. Only the new population that would im-migrate from areas outside the basin would truly contribute new emissions from be aircraft-related activity (assume 75 percent of aircraft-related emissions would be from new activity and 25 percent would be transferred from elsewhere in the SCAB), new in-migrating population (defined as secondary population emissions in Appendix I), and new reuse-related construction activity. Some new emissions would also be associated with VMT's generated by increased commercial and cargo activity. However, it is assumed that this increase would be offset by the decrease in VMT caused by the more efficient location of a local terminal. Under these circumstances, the estimates of 2010 basin wide emission increases caused by the Proposed Action would be as follows: 467.0 tons per year (1.28 tons per day) of CO, 565.5 tons per year (1.55 tons per day) of NO_x, 44.5 tons per year (0.12 tons per day) of PM₁₀, 28.3 tons per year (0.08 ton per day) of SO₂ and 333.7 tons per year (0.91 ton per day) of VOC.

These estimates, although still conservative because of unquantifiable control measure reductions and use of outdated mobile emission factors, represent only small fractions of the 2010 emission inventories projected in the 1994 AQMP. In particular, these emission estimates projected for the

Proposed Action represent increases of 0.03, 0.16, 0.01, 0.07, and 0.09 percent over emissions projected in the AQMP for CO, NOx, PM10, SO2, and VOC, respectively. These small increases are not expected to interfere with attainment or maintenance.

Local Scale. A summary of the EDMS analysis for the Proposed Action is presented in Table 4.4-3. The modeling results show that during peak hours of airfield operation, the maximum 1-hour pollutant concentration would occur at a receptor located approximately 350 meters from the north end of the runway. The primary contributing factor would be aircraft exhaust emitted during takeoffs.

The modeling results indicate that the sums of maximum aircraft-related pollutant concentrations are less than the applicable standards except for PM10. In 2001, PM10 would exceed the federal and state annual standards and the state 24-hour standard due to background concentrations alone. By 2006, the exceedance of the federal annual standard would be eliminated because the PM10 background concentration is predicted to decrease. However, the state standards for PM10 would continue to be exceeded.

Localized intersection Impacts. CO concentrations were modeled at receptors in the vicinity of six intersections in the project area (Appendix I). The model accounts for expected decreases in background concentrations for the region, as well as for future technology and control measures that would reduce exhaust emission factors. Therefore, background CO concentrations projected for future years are lower than those projected for 1996. Modeling results for the Proposed Action are presented in Table 4.4-4.

The maximum predicted 1-hour concentration of 20.6 ppm in 2001 is an increase of 0.1 ppm over the maximum predicted 1-hour concentration in 2001 for the No-Action Alternative, and would result in an exceedance at an additional intersection in that year. The maximum predicted 8-hour concentration of 14.4 ppm in 2001 is an increase of 0.1 ppm over the maximum predicted 8-hour concentration in 2001 under the No-Action Alternative. However, CO concentration at several intersections would be lower under the Proposed Action than under the No-Action Alternative.

Under the No-Action Alternative, regional growth would result in exceedances of the 8-hour CO standards at the Elsworth Street/Cactus Avenue, Graham Street/Alessandro Boulevard, and Graham Street/Cactus Avenue intersections in 2010. Reuse-related traffic emissions under the Proposed Action would increase CO concentrations at two of these intersections. At the Graham Street/Alessandro Boulevard intersection, 8-hour CO concentrations would be less than under the No-Action Alternative, but would still exceed the standards.

Mitigation Measures. Because the projected Proposed Action emissions of all pollutants would be greater than emissions under prerealignment condition, the reuse proponents should incorporate all feasible mitigation measures to reduce emissions to the maximum extent possible.

Several mitigation measures may be implemented to reduce the air quality impacts associated with the construction and operation activity emissions from the Proposed Action. As part of the

environmental impact analysis process required under the California Environmental Quality Act (CEQA), the project proponent and lead agencies would be responsible for identifying and quantifying feasible mitigation measures capable of being accomplished in a successful manner within a reasonable period of time, while taking into account economic, environmental, legal, social, and technological factors. Recommended mitigation measures to lessen air quality impacts would be provided by SCAQMD, the cognizant local regulatory agency, through the consultation process. According to the SCAQMD, only mitigation measures that meet the following criteria should be used to reduce a project's emissions. The following are suggested as potential mitigation measures that may be negotiated to reduce reuse-related construction and operation emissions.

The effect of the mitigation measures should coincide with the cause of the impact. The agency responsible for implementing the mitigation measures should have the resources to carry out the mitigation.

To ensure implementation and enforcement, the mitigation should be enforceable by a legally binding contract.

The mitigation measures should define the basis for their monitoring and enforcement.

The mitigation measures can be reasonably accomplished within a reasonable time frame by the project proponent.

Public agencies should verify the effectiveness assumed for any public improvements or permitting requirements that are used as mitigation measures.

Resolution of these above criteria will be dependent upon the size and scope of the reuse actions. Reuse proponents and developers will need to work closely with the lead agencies and the SCAQMD to develop feasible mitigation measures for their particular project. Negotiation between the involved parties could be conducted as part of the CEQA process, soon after the identified action is fully described. The suggested mitigation measures discussed below may be negotiated to reduce reuse-related construction and operation emissions.

Construction Mitigation Measures. Emissions from various components of construction activities could be reduced through the measures identified below (SCAQMD, 1993). The project proponent would be responsible for implementing these measures.

Emissions from on-road mobile sources due to construction activities could be reduced approximately 1 percent through providing temporary traffic control to improve traffic flow, scheduling construction activities during off-peak hours, and developing a trip reduction plan to achieve an average vehicle ridership (AVR) of 1.5 among construction employees.

Emissions from off-road mobile sources due to construction activities could be reduced approximately 99 percent by suspending construction activities during second-stage smog

alerts, using electricity from power poles rather than temporary gasoline- or diesel-powered generators, prohibiting trucks from idling longer than 2 minutes, and using alternative fuels (such as methanol or natural gas) in place of diesel fuel.

Fugitive dust emissions due to grading activities could be reduced approximately 50 percent through watering exposed graded areas twice daily, replacing ground cover in disturbed areas, covering hauled loads, and suspending grading operations when wind gusts exceed 25 mph.

Fugitive dust emissions due to travel of construction equipment on unpaved roads could be reduced approximately 85 percent through sweeping access roads daily, and washing dust from construction equipment leaving the construction site.

Fugitive dust emissions due to travel of construction equipment on paved roads could be reduced approximately 65 percent by watering unpaved roads three times daily, limiting traffic speeds to 15 mph, and paving construction access roads at least 100 feet from the main road.

Operations Mitigation Measures. Emission from operational activities could be reduced through the measures identified below (SCAQMD, 1993). The residential and commercial developers would be responsible for implementing these measures.

Emissions from on-road mobile source due to increased residential populations could be reduced approximately 15 percent by synchronizing traffic lights on streets impacted by the development, constructing overpasses and wider sidewalks to encourage travel by foot, including satellite telecommunication centers in residential subdivisions, establishing a shuttle service, and including retail services within of adjacent to residential subdivisions. Residential developers would be responsible for implementing these measures.

Emissions from on-road mobile sources due to increased commercial or industrial populations could be reduced approximately 15 by providing preferential parking spaces for car pools and vanpools, implementing compressed work week schedules, developing trip reduction plans to achieve a 1.5 AVR, utilizing satellite offices to reduce VMT, providing on-site child care facilities, implementing parking structure modifications to reduce vehicle queuing, providing video conference facilities, minimizing use of fleet vehicles during smog alerts, and using low-emission fleet vehicles. Employers and commercial/industrial developers would be responsible for implementing these measures.

Stationary source emissions from residential, commercial, and industrial structures could be reduced approximately 45 percent through measures designed to reduce energy demands, such as installing solar or low-emission water heaters and double-glass paned windows, using light colored roofing materials to reflect heat, orienting buildings to the north for natural cooling, and increasing wall and attic insulation beyond Title 24 requirements. Residential and commercial/industrial developers would be responsible for

implementing these measures.

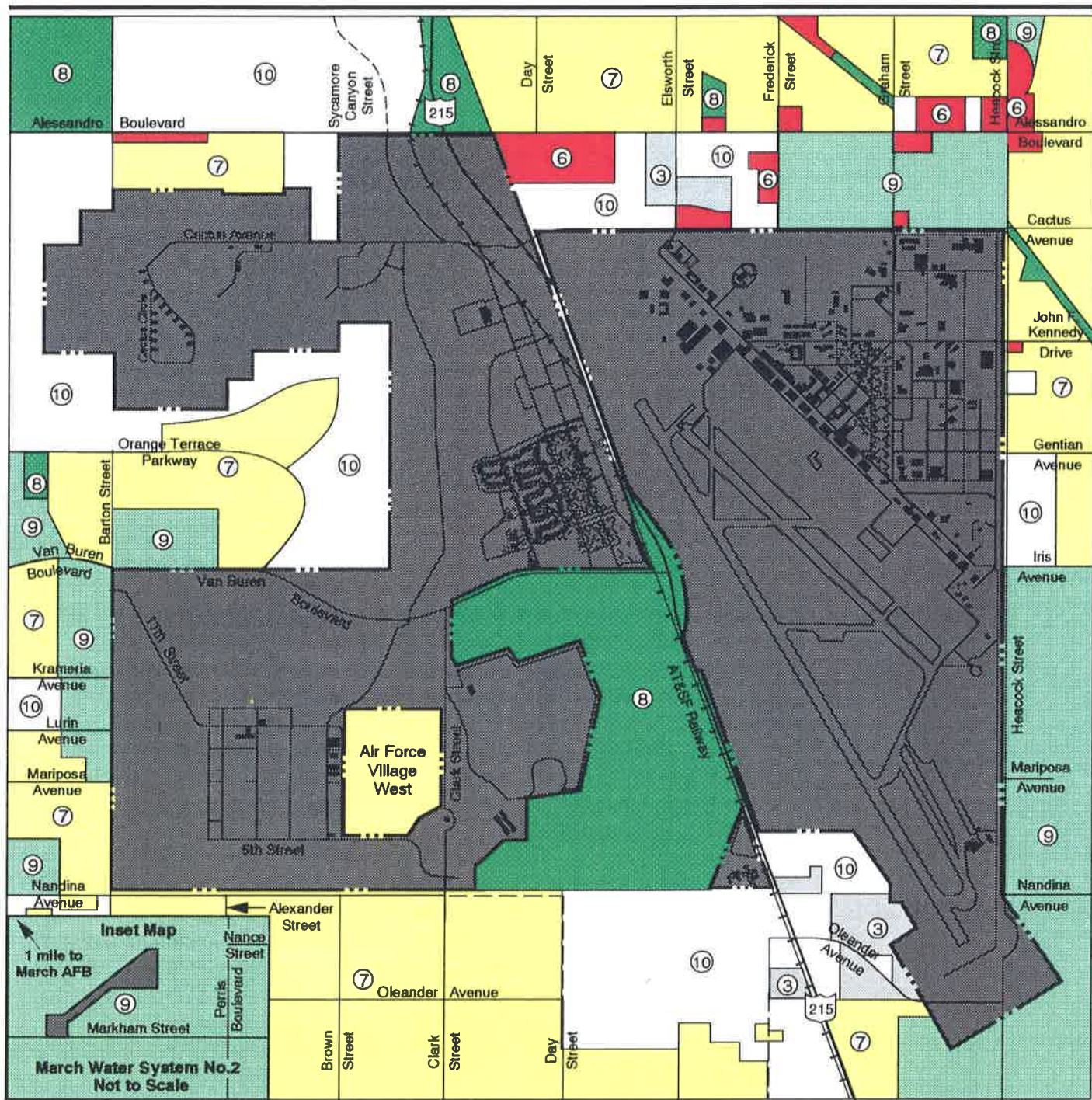
Ozone precursor emissions could be controlled by the following methods:

All internal combustion engine-driven equipment should be properly maintained and tuned according to manufacturer specifications.

Idling of all internal combustion equipment should be limited to 10 minutes at any given time.

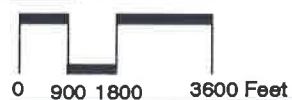
Developers should use building materials that do not require the use of paint/solvents.

Future reuse proponents will be responsible for complying with all applicable permitting requirements for new or modified emission sources subject to SCAQMD rules and regulations. These requirements may include provisions to mitigate and offset emission increase and/or impact associated with the new sources.



EXPLANATION

- | | | |
|---------------------------------|---------------------------------|------------------------|
| ① Airfield * | ⑥ Commercial | ■ Base Property |
| ② Aviation Support * | ⑦ Residential | --- 1995 Base Boundary |
| ③ Industrial | ⑧ Public Facilities/ Recreation | - - - Unpaved Road |
| ④ Institutional (Medical) * | ⑨ Agriculture | |
| ⑤ Institutional (Educational) * | ⑩ Vacant Land | |



* Standard land use designation not applicable to this figure.

Prerealignment (1994) Off-Base Land Use

Figure 3.2-7

residential interspersed with agricultural/vacant land, and includes Riverside National Cemetery. The land use adjacent to March Water System No. 2 is primarily agricultural; an industrial area is just southeast of the site. East of the Main Base, the land uses are predominantly residential and agricultural with isolated areas of vacant land, commercial, industrial, educational, and public facilities/recreation uses. North of the base the land uses vary. Vacant lots and open space associated with the Sycamore Canyon Wilderness Area predominate west of I-215. East of I-215, residential and agricultural uses predominate. Commercial uses are concentrated along Alessandro Boulevard and industrial uses are found primarily between Alessandro Boulevard and Cactus Avenue. Public facilities and recreational areas north of the base include the Moreno Valley City Hall, a post office, a public school, a park, and a golf course.

Air Force Policies Affecting Adjacent Land Uses. The DOD has developed the AICUZ program to minimize development that is incompatible with aviation operations in areas on and adjacent to military airfields. The AICUZ land use recommendations are based on (1) land uses compatible with exposure to aircraft noise and (2) safety considerations. Recommended compatible land uses are derived from data on noise contours (noise zones) and safety zones (clear zones and APZs). Noise and safety zones are delineated specifically for each base, using operational information derived from the base mission. Municipalities with jurisdiction over adjacent lands may zone this land in accordance with AICUZ recommendations, but they are not required to do so. An AICUZ report for March AFB was published in 1984 and revised in 1992. According to the 1992 AICUZ report, zoning designations in the area surrounding March AFB are generally consistent with AICUZ recommendations.

AICUZ noise contours are based on standard noise ratings that are calculated from types of aircraft, number of aircraft daily operations, time of day flown, aircraft flight patterns, power, settings, air speeds, altitudes, and climatic conditions (U. S. Air Force, 1992a). AICUZ contours are typically developed using the day-night weighted average sound level (DNL) to describe the noise environment. However, the state of California recognizes the more conservative Community Noise Equivalent Level (CNEL) for assessing noise impacts to land use. Therefore, CNEL contours based on various aircraft operational data were used to establish the prerealignment noise environment at March AFB. Noise contours for prerealignment conditions at March AFB are shown in Figure 3.4-4. In 1992, a total of 33,977 acres, including portions of Perris, Moreno Valley, Riverside, and unincorporated areas within Riverside County were exposed to aircraft noise levels of CNEL 60 decibels (dB) and above. Off-base land uses within the CNEL 60 dB noise contour include residential, commercial, public facilities/recreation, industrial, and agricultural land uses.

The AICUZ delineates areas at both ends of the runway where the probability of aircraft accidents is highest, based on the locations of past aircraft accidents at various bases. The risk of accidents is highest in the area at the immediate end of the runway (known as the clear zone). The Air Force has a program to purchase property or acquire easements within the clear zones in order to preclude most land uses. At March AFB, both clear zones are contained within base property.

Certain land use restrictions are recommended in lower risk areas, identified as APZ I and APZ II. Industrial, agricultural, recreational, and vacant land uses are compatible with APZ I, but all residential uses and land uses with a high concentration of people, such as commercial and institutional, are discouraged. At March AFB, the APZ I at the southern end of the runway includes industrial, agricultural, and incompatible residential land uses (Figure 3.2-8); the APZ I at the northern end of the runway includes commercial uses and vacant land.

The Air Force identifies APZ II as having a lower accident potential than APZ I, allowing low-density residential (a maximum of two units per acre) and nonresidential uses (maximum of 20 percent building coverage per acre), in addition to those listed for APZ I. The southern APZ II at March AFB includes agricultural, industrial, commercial, and residential land uses, and the northern APZ II includes public facilities/recreation uses associated with the railroad and I-215 right-of-way, low density residential uses (three dwelling units per acre), industrial uses, and vacant land (see Figure 3.2-8).

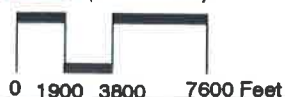
Realignment Baseline. The retained primary military cantonment area will consist of approximately 2,242 acres in four parcels (see Figure 2.2-1). The largest parcel contains the airfield and associated taxiways and aprons, as well as hangars, maintenance facilities, and industrial and administrative support areas. The three smaller parcels contain the DRMO, the recently constructed audiovisual center, and administrative facilities occupied by the AFOSI, AFAA, and Air Force Recruiting Service. These areas and facilities will support continuing activities of the 452nd AMW (AFRES), 163rd ARW (CAANG), and other federal agencies. Additional parcels may also be retained by the AFRES as part of the cantonment. Planned AFRES activities within the military cantonment area are discussed in Section 2.2.1. Separate environmental documentation has been prepared for proposed AFRES construction and renovation projects (U.S. Air Force, 1995b; U.S. Air Force Reserve, 1995). The AFRES will prepare an AICUZ that addresses continuing mission requirements.

The OL will continue to coordinate the disposal activities of the remaining base property, serve as the U.S. Air Force liaison supporting community reuse, and establish a caretaker force to assure resource protection, grounds maintenance, utility operations, and building care for base facilities outside the military cantonment area until the property is disposed.



EXPLANATION

① Airfield *	⑥ Commercial	Base Property
② Aviation Support *	⑦ Residential	
③ Industrial	⑧ Public Facilities/ Recreation	
④ Institutional (Medical) *	⑨ Agriculture	
⑤ Institutional (Educational) *	⑩ Vacant Land	



* Standard land use designation not applicable to this figure.

Off-Base Land Use within Accident Potential Zones

Figure 3.2-8

3.2.2.2 Aesthetics. Visual resources include natural and man-made features that give a particular environment its aesthetic qualities. Criteria used in the analysis of these resources include visual sensitivity, which is the degree of public interest in a visual resource and concern over adverse changes in its quality. Visual sensitivity is categorized in terms of high, medium, or low levels.

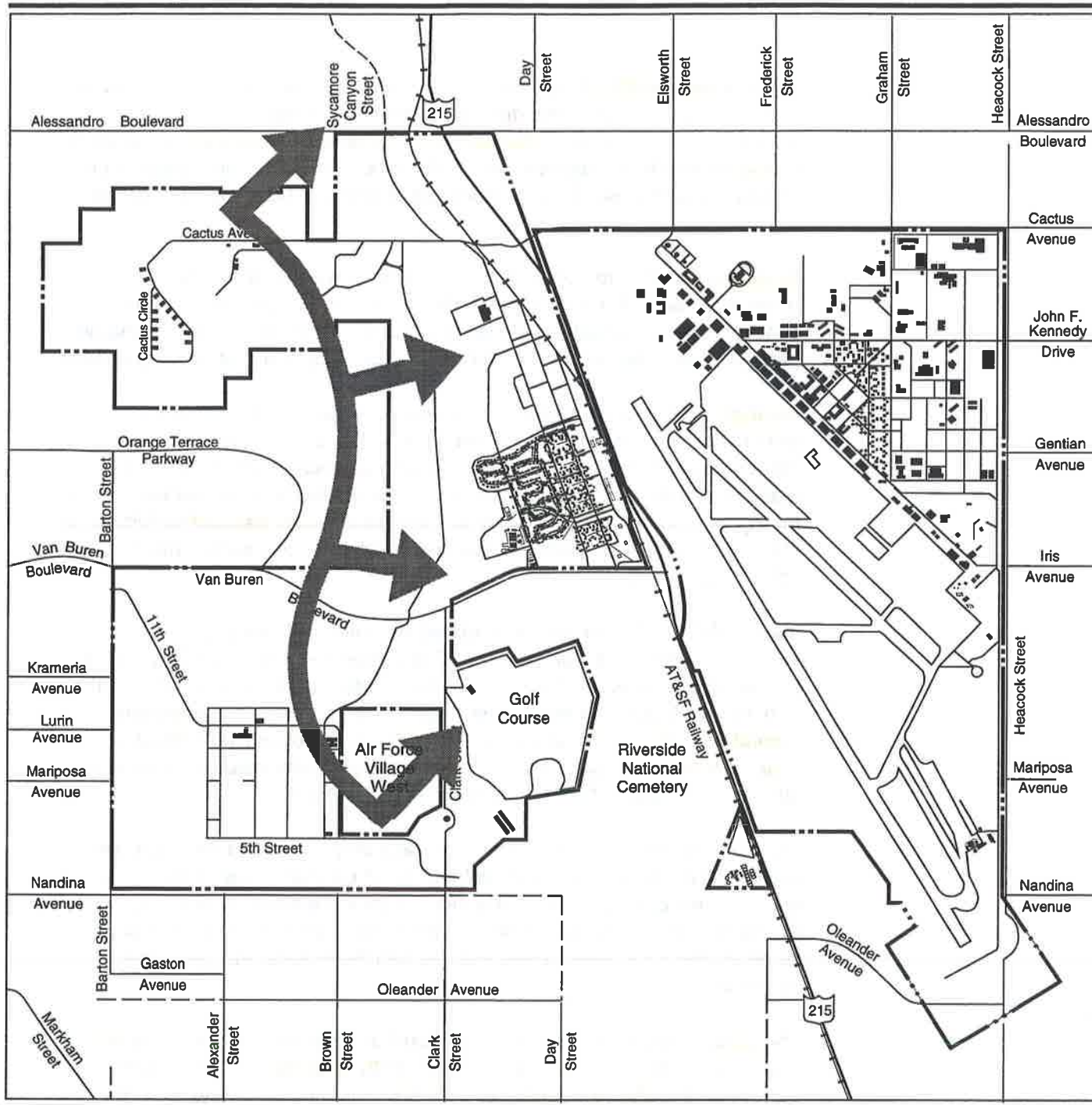
High visual sensitivity exists in areas where views are rare, unique, or in other ways special, such as in remote or pristine environments. High-sensitivity views would include landscapes that have landforms, vegetative patterns, water bodies, or rock formations of unusual or outstanding quality.

Medium visual sensitivity areas are more developed than those of high sensitivity, and the presence of motorized vehicles and other evidence of modern civilization is commonplace. These landscapes generally have features containing varieties in form, line, color, and texture, but tend to be more common than high visual sensitivity areas. Low visual sensitivity areas tend to have minimal landscape features, with little change in form, line, color, and texture.

March AFB is relatively flat, surrounded by rolling hills leading up to mountains within sight of the base. The higher elevations on West March provide scenic views of the San Bernardino Mountains to the north and the San Jacinto Mountains to the east (Figure 3.2-9). There are numerous natural drainages on West March, many of which contain wetlands and support a variety of plant and animal life. These open areas on West March also provide visual relief from adjacent off-base areas.

Air Force Village West, surrounded by base property within the southwest portion of the base, is situated with views of the mountains to the north, and the base golf course and Riverside National Cemetery to the east. Residential development just west of the base is situated on a ridge with vistas of the surrounding valley and the San Bernardino and San Jacinto mountains.

The present appearance of the base includes a variety of building styles covering a span of years from 1918 to 1993. The March Field Historic District on the Main Base includes 228 buildings and structures from the original Army air base, constructed between 1928 and 1943. Most of these buildings are one-story single- and multi-family residences. Administrative and community services buildings are sited around formal landscaped open spaces. The buildings in the district represent an excellent example of the Mission Revival style of architecture. They are constructed of stucco and concrete and present a cohesive visual character. The rest of the buildings on base represent a variety of functions and styles, with little attempt to provide a consistent character.



EXPLANATION

- 1995 Base Boundary
- Unpaved Road
- Scenic Vista

Visual Sensitivity



Figure 3.2-9

3.2.3 Transportation

Transportation addresses roadways, airspace and air transportation, and railroads. The ROI for the transportation analysis includes the existing principal road, air, and rail networks in the local communities of Riverside, Moreno Valley, and Perris with emphasis on the immediate area surrounding March AFB. Within this geographic area, the analysis focuses on the segments of the transportation network that serve as key linkages to the base.

3.2.3.1 Roadways. The evaluation of the roadway conditions focuses on capacity, which reflects the ability of the network to serve traffic demand and volume. The capacity of a roadway depends mainly on the street width, number of lanes, intersection control, and other physical factors. Traffic volumes typically are reported, depending on the project and data available, as the daily number of vehicular movements (e.g., passenger vehicles and trucks in both directions on a segment of roadway) averaged over a full calendar year (average annual daily traffic [AADT]) or averaged over a period less than a year (average daily traffic [ADT]), and the number of vehicular movements on a road segment during the peak hour. These values are useful indicators in determining the extent to which the roadway segment is used and in assessing the potential for congestion and other problems.

The performance of a roadway segment is generally expressed in terms of level of service (LOS). The LOS scale ranges from A to F with each level defined by a range of volume-to-capacity ratios. LOS A, B, and C are considered good operating conditions under which minor to tolerable delays are experienced by motorists. LOS D represents below average conditions. LOS E reflects a roadway at maximum capacity, and LOS F represents a jammed situation. Table 3.2-2 presents the LOS designations and their associated volume-to-capacity ratios. These levels are based primarily on the Highway Capacity Manual and have been adjusted for local conditions (Transportation Research Board, 1985).

Existing roads and highways within the ROI are described at three levels: (1) regional, representing the major links within Riverside County, (2) local, representing key community roads, and (3) on-site roads. Data describing the physical characteristics of these roadways were obtained primarily from field surveys. Traffic data were obtained from a variety of sources, including the city of Moreno Valley, Riverside County, and Caltrans.

Regional. The region surrounding March AFB is served by a freeway system that includes I-215 and SR 60. I-215 runs north-south through the base and intersects with SR 60 before continuing on to Riverside and San Bernardino, north of the base, and I-15 in Murietta, approximately 25 miles south of the base (see Figure 3.2-1). The portion of I-215 near March AFB was upgraded from a four-lane arterial highway with signalized, at-grade intersections to a

Table 3.2-2. Road Transportation Levels of Service

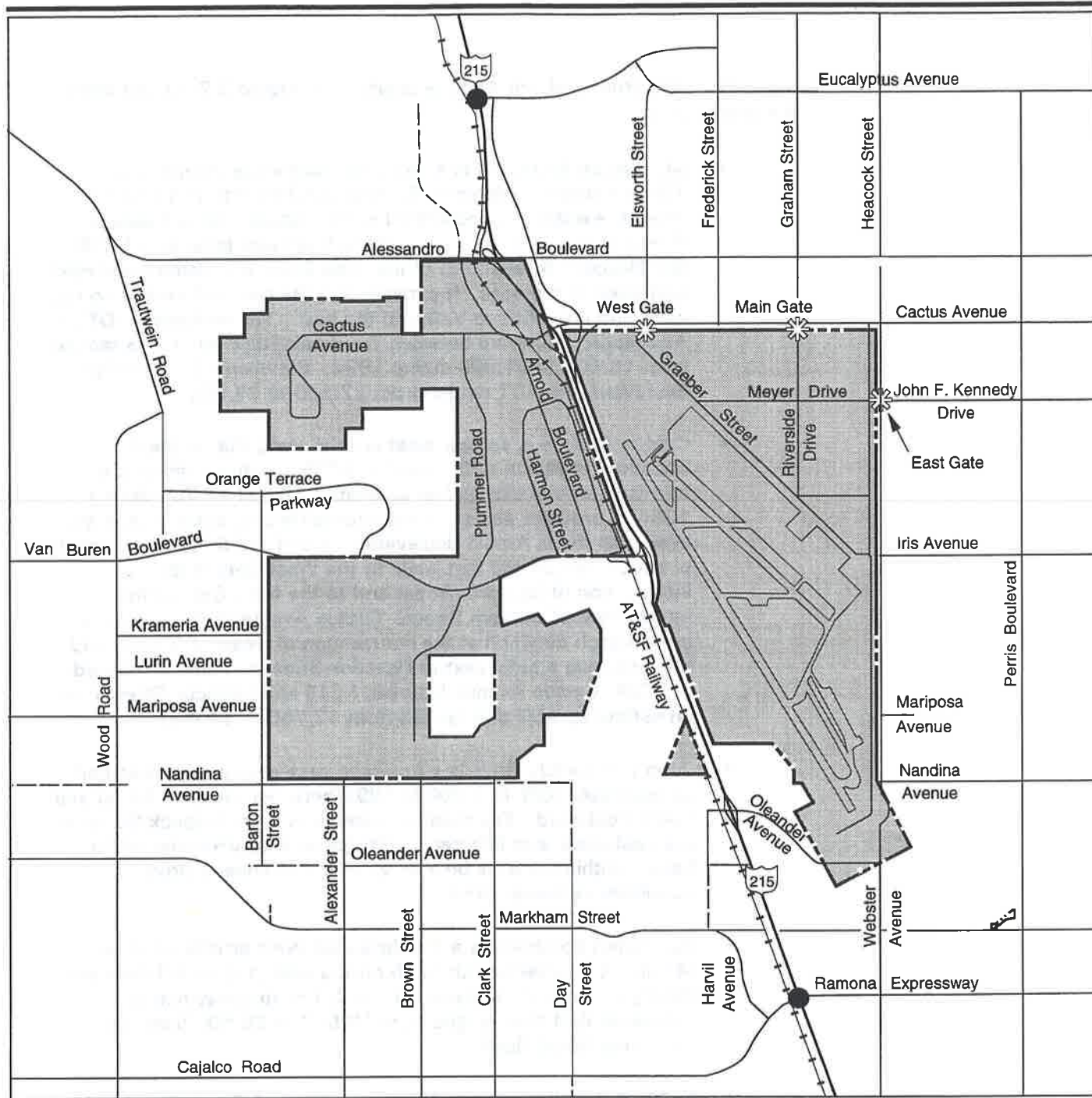
LOS	Description	Criteria (Volume/Capacity)		
		Freeway	Multilane Arterial	Two-Lane Arterial
A	Free flow with users unaffected by presence of other users of roadway	0-0.35	0-0.31	0-0.15
B	Stable flow, but presence of users in traffic stream becomes noticeable	0.36-0.54	0.32-0.52	0.16-0.27
C	Stable flow, but operation of single users becomes affected by interactions with others in traffic stream	0.55-0.77	0.53-0.72	0.28-0.43
D	High density, but stable flow; speed and freedom of movement are severely restricted; poor level of comfort and convenience	0.78-0.93	0.73-0.86	0.44-0.64
E	Unstable flow; operating conditions at capacity with reduced speeds, maneuvering difficulty, and extremely poor levels of comfort and convenience	0.94-1.00	0.87-1.00	0.65-1.00
F	Forced or breakdown flow with traffic demand exceeding capacity; unstable stop-and-go traffic	> 1.00	> 1.00	> 1.00

LOS = level of service
> = greater than

Source: Transportation Research Board, 1985.

six-lane interstate freeway in late 1993. SR 60, north of the base, links the cities of Moreno Valley and Riverside to Ontario International Airport and Los Angeles to the west, and, via I-10, Palm Springs to the east. During 1993, the estimated ADT on I-215 between Alessandro Boulevard and Oleander Avenue ranged from 30,900 to 34,450 in each direction. Traffic analysis modeling (see Section 4.2.3) indicated that reuse-related effects on Route 91, I-10, and SR 60 would be negligible; therefore, these roads are not included in the transportation ROI.

Local. Figure 3.2-10 identifies the regional and local road network in the immediate vicinity of March AFB prior to base realignment. Four interchanges on I-215, all recently completed, provide access to the base and surrounding area. The interchange at Alessandro Boulevard provides access to northern portions of West March, the cities of Riverside and Moreno Valley, and an unincorporated area of Riverside County, north of the base. The interchange at Cactus Avenue provides access to the Main Base and northern portions of West March. An interchange at Van Buren Boulevard provides access to West March, the golf course, and the March Field Museum. A fourth interchange, at Oleander Avenue, provides access to the east, including the cities of Moreno Valley and Perris and the southern end of the Main Base.



EXPLANATION

- | | | | |
|--|--------------------|--|---------------|
| | 1995 Base Boundary | | Unpaved Road |
| | Base Gate | | Interchange |
| | Interstate Highway | | Base Property |
| | Railroad | | |

Transportation Network



Figure 3.2-10

Key local roads around March AFB are depicted on Figure 3.2-10 and briefly described below.

- Alessandro Boulevard is a four-lane, east-west arterial located 1/2 mile north of March AFB. Between Elsworth and Heacock streets, Alessandro Boulevard has five lanes; east of Heacock Street, it has six lanes. Alessandro Boulevard intersects I-215 and Heacock Street north of the Main Base, and Perris Boulevard northeast of the base. It extends into the city of Riverside to the west and into Moreno Valley to the east. The estimated ADT on Alessandro Boulevard between Trautwein Road and I-215 ranged from 18,600 to 31,900 during 1994. Between I-215 and Perris Boulevard, the ADT ranged from 22,550 to 29,550.
- Cactus Avenue is an east-west arterial along the northern boundary of March AFB. West of I-215, Cactus Avenue is a two-lane arterial that had an estimated ADT of 16,750 during 1994; it provides access to the Arnold Heights housing area on West March via Arnold Boulevard. East of I-215, Cactus Avenue is a four-lane arterial that leads to the West Gate at the intersection of Elsworth Street and to the Main Gate at the intersection of Graham Street. Cactus Avenue narrows to one lane in each direction at the intersection of Heacock Street, and is a four-lane arterial east of Heacock Street to Perris Boulevard. In 1994, Cactus Avenue between I-215 and Heacock Street had an estimated ADT that ranged from 12,750 to 14,400.
- John F. Kennedy Drive is a four-lane east-west arterial that had an estimated ADT of 2,700 in 1994 between Heacock Street and Perris Boulevard. The roadway intersects with Heacock Street at the East Gate, and intersects with Perris Boulevard east of the base. Within the base boundary, John F. Kennedy Drive continues as Meyer Drive.
- Van Buren Boulevard is a four-lane east-west arterial on West March. It intersects with I-215 on the east, and with Trautwein Road just west of the base. In 1994, this roadway had an estimated ADT that ranged from 19,550 to 25,600 between I-215 and Wood Road.
- Nandina Avenue is a two-lane minor arterial running east-west along the southern boundary of West March. Nandina Avenue is paved from Clark Street on the east past Barton Street, and is unpaved from Clark Street to Day Street and west of Wood Road. It had an estimated 1994 ADT of 5,100 from Barton Street to Alexander Street.
- Oleander Avenue is a two-lane east-west arterial connecting I-215 and Heacock Street immediately south of the Main Base. In 1994, Oleander Avenue had an estimated ADT of 7,550 on this segment.

- Markham Street is a two-lane arterial running east-west south of the base. It provides indirect access to I-215 via Harvil Avenue. Markham Street had an estimated 1994 ADT that ranged from 2,950 to 3,300.
- Cajalco Road/Ramona Expressway is an east-west arterial south of the base. East of I-215 it is Ramona Expressway and has four lanes. West of I-215 it is Cajalco Road and has two lanes. This segment had an estimated 1994 ADT that ranged from 18,150 to 22,700.
- Wood Road is a two-lane north-south arterial west of West March. In 1994, Wood Road had an estimated ADT of 4,800 between Trautwein Road and Van Buren Boulevard and 13,300 south of Van Buren Boulevard.
- Trautwein Road is a four-lane north-south arterial just west of West March that connects Alessandro and Van Buren boulevards. In 1994, Trautwein Road had an estimated ADT that ranged from 6,200 to 9,550.
- Barton Street is a two-lane road running north-south along the west side of West March. It is unpaved north of Markham Street and paved from Oleander Avenue to Orange Terrace Parkway. Barton Street had an estimated 1994 ADT of 5,550.
- Alexander Street is a north-south two-lane road that connects Nandina Avenue to Markham Street and Cajalco Road. It had an estimated 1994 ADT that ranged from 1,150 to 2,050.
- Clark Street is a north-south two-lane road that connects Nandina Avenue to Markham Street and Cajalco Road. It had an estimated 1994 ADT that ranged from 900 to 2,800.
- Elsworth Street is a north-south arterial extending from the West Gate at Cactus Avenue beyond Alessandro Boulevard. South of Alessandro Boulevard, it has four lanes; this segment had an estimated 1994 ADT of 4,550. The segment north of Alessandro Boulevard has two lanes and had an ADT of 4,300 in 1994. Within the base boundary, Elsworth Street continues as Graeber Street.
- Frederick Street is a four-lane north-south arterial that had a 1994 estimated ADT of 5,650 between Cactus Avenue and Alessandro Boulevard. Frederick Street had an estimated ADT of 8,750 north of Alessandro Boulevard in the same year.
- Graham Street is a four-lane arterial that had a 1994 estimated ADT of 11,700 north of Alessandro Boulevard. This roadway provides access to the Main Base from the north, and intersects Cactus Avenue near the Main Gate. In 1994, Graham Street had

an estimated ADT of 13,200 between Cactus Avenue and Alessandro Boulevard. Within the base boundary, Graham Street continues as Riverside Drive.

- Heacock Street is a two-lane north-south arterial immediately east of March AFB. Heacock Street connects Oleander Avenue with Cactus Avenue and terminates north of Cactus Avenue. It starts again at Alessandro Boulevard and continues north. In 1994, the segment of Heacock Street between Cactus Avenue and Oleander Avenue had an estimated ADT that ranged from 6,100 to 12,200.
- Perris Boulevard is a four-lane arterial running north-south parallel to Heacock Street. South of John F. Kennedy Drive, Perris Boulevard narrows to two lanes near Nandina Avenue. In 1994, the estimated ADT on Perris Boulevard ranged from 12,400 to 22,800 between Alessandro Boulevard and Oleander Avenue.

On-Site. The majority of the on-site roads have two lanes and an average posted speed limit of 25 miles per hour (mph). The Main Base, where the majority of the activity occurs, has three key roads: Riverside Drive, Graeber Street, and Meyer Drive. The Main Gate, on Riverside Drive, is open 24 hours per day and receives approximately 60 percent of the total traffic entering and exiting the Main Base. The East Gate, on Meyer Drive, and the West Gate, on Graeber Street, receive the remaining 40 percent of the total daily traffic on the Main Base.

Riverside Drive, a north-south road, extends from the Main Gate entrance on Cactus Avenue to Graeber Street along the flightline. Riverside Drive has four lanes with a raised median from the Main Gate to Meyer Drive. South of Meyer Drive, it is a two-lane road. It provides access to the base chapel, base hospital, Green Acres housing area, Base Exchange shops, and recreational facilities.

Graeber Street, a two-lane road, begins at the West Gate and runs southeasterly, parallel to the flightline. It provides access to the avionics shops, maintenance hangars, administrative facilities, dormitories, and Green Acres housing area.

Meyer Drive is a two-lane road that runs east-west from the East Gate on John F. Kennedy Drive to Graeber Street. It provides access to the Commissary, Base Exchange shops, base chapel, Green Acres housing area, temporary lodging facilities, and engineering shops.

West March is partially fenced, but not gated to restrict access. Key roads on West March include Cactus Avenue, Arnold Boulevard, Harmon Street, Plummer Road, and Van Buren Boulevard. Cactus Avenue is a two-lane east-west road that begins off base and leads to the WSA. It intersects with Arnold Boulevard, a two-lane road that provides access to the Arnold

Heights housing area to the south. Harmon Street, a two-lane road, generally parallels Arnold Boulevard, and provides access to the housing area and Arnold Heights School. Plummer Road is a two-lane road that connects Cactus Avenue to the area south of Van Buren Boulevard. Plummer Road is closed north of Van Buren Boulevard, but it is open to the south and provides access to facilities west of Air Force Village West. Van Buren Boulevard, a four-lane arterial, connects the area west of March AFB to I-215 to the east. In addition, it provides indirect access to Riverside National Cemetery and Air Force Village West.

Prerealignment Reference. Capacity analyses were conducted on the roadways surrounding March AFB based on the most current traffic volumes, as well as roadway geometric characteristics. The prerealignment peak-hour volumes (PHVs), capacities, and acceptable LOS on key local roadway segments are shown in Table 3.2-3.

Rapid regional growth has resulted in increased traffic congestion on many of the existing roads around March AFB and elsewhere in Riverside County. Prior to realignment, conditions on some roads were unacceptable. Riverside County and the cities of Moreno Valley, Perris, and Riverside have established standards in terms of LOS for the roads within their respective jurisdictions. In addition, the Congestion Management Program for Riverside County has established a minimum traffic LOS standard of E that is used to determine funding priorities within the region (WRCOG, 1994). The LOS that is considered deficient for purposes of this analysis is defined by the general plan provisions of the jurisdiction in which the segment of the road is located. The County of Riverside General Plan established LOS C as the target level, recognizing acceptability of LOS D at intersections of major routes, within one mile of freeways or at freeway ramp intersections. The City of Moreno Valley General Plan calls for LOS C as the standard for facility design. The City of Perris General Plan calls for an LOS E or better at signalized intersections. The City of Riverside General Plan identifies LOS D as acceptable, LOS E as a minimum acceptable standard for facility design, LOS F as continuing in some circumstances, and a policy to minimize occurrence of streets operating at LOS F. A joint effort by the WRCOG, Caltrans, SCAG, RCTC, Riverside Transit Agency (RTA), and Riverside County has been initiated to improve existing and projected unacceptable LOS to acceptable levels.

Realignment Baseline. Estimates of baseline traffic volumes were derived from prerealignment reference data combined with estimates of anticipated employment reductions resulting from base realignment in 1996. The realignment baseline PHVs and LOS on key regional and local roadways are shown in Table 3.2-3. Although traffic associated with Air Force activities will have decreased between 1993 and 1996, there will be increased traffic on local roads as a result of general growth in the region. As Table 3.2-3 indicates, by realignment several road segments will be operating at an LOS below that considered acceptable by the local jurisdiction. Alessandro

Table 3.2-3. Peak-Hour Traffic Volumes and LOS on Key Roads

Page 1 of 2

Roadway	Segment	Prerealignment Reference			Realignment Baseline		
		Capacity	Peak Hour Volume	LOS	Peak Hour Volume	LOS	Acceptable LOS ^(a)
Alessandro Boulevard	West of I-215	3,600	3,450	E	3,650	F	D
Alessandro Boulevard	I-215 to Elsworth Street	3,600	2,800	D	3,100	F	C
Alessandro Boulevard	Elsworth Street to Graham Street	4,500	2,100	C	2,250	C	C
Alessandro Boulevard	Graham Street to Perris Boulevard	4,500	2,800	C	2,950	D	C
Cactus Avenue	I-215 to Elsworth Street	3,600	1,150	A	1,450	C	C
Cactus Avenue	Elsworth Street to Graham Street	3,600	1,100	A	1,400	B	C
Cactus Avenue	Graham Street to Heacock Street	1,800	1,150	C	1,400	F	C
Cactus Avenue	Heacock Street to Perris Boulevard	1,800	850	B	1,050	D	C
John F. Kennedy Drive	Heacock Street to Perris Boulevard	3,600	300	B	400	A	C
Van Buren Boulevard	Wood Road to I-215	3,600	2,650	D	3,100	D	C
Nandina Avenue	West of Barton Street to Clark Street	1,800	550	C	750	C	C
Oleander Avenue	I-215 to Heacock Street	1,800	850	D	1,050	D	C
Markham Street	Wood Road to east of Clark Street	1,800	350	B	500	C	C
Cajalco Road	West of Alexander Street to I-215	3,600	1,650	D	1,750	D	C
Wood Road	Trautwein Road to Van Buren Boulevard	1,800	600	C	650	C	C
Wood Road	South of Van Buren Boulevard	1,800	1,100	D	1,300	E	D
Trautwein Road	Alessandro Boulevard to Van Buren Boulevard	3,600	1,600	D	1,850	D	D
Barton Street	Van Buren Boulevard to Nandina Avenue	1,800	560	A	700	B	C
Alexander Street	Nandina Avenue to Cajalco Road	1,800	250	A	400	A	C
Clark Street	Nandina Avenue to Cajalco Road	1,800	150	A	300	A	C
Interstate 215 - Southbound	Alessandro Boulevard to Oleander Avenue	5,850	3,550	C	4,350	C	F
Interstate 215 - Northbound	Alessandro Boulevard to Oleander Avenue	5,850	2,750	B	3,550	C	F
Elsworth Street	North of Alessandro Boulevard	1,800	500	C	600	C	C
Elsworth Street	Alessandro Boulevard to Cactus Avenue	3,600	350	A	450	A	C
Frederick Street	Alessandro Boulevard to Cactus Avenue	3,600	350	A	500	A	C

Table 3.2-3. Peak-Hour Traffic Volumes and LOS on Key Roads

Page 2 of 2

Roadway	Segment	Prerealignment Reference			Realignment Baseline		
		Capacity	Peak Hour Volume	LOS	Peak Hour Volume	LOS	Acceptable LOS ^(a)
Graham Street	Alessandro Boulevard to Cactus Avenue	3,600	900	A	1,050	A	C
Heacock Street	Cactus Avenue to John F. Kennedy Drive	1,800	1,060	D	1,250	E	C
Heacock Street	John F. Kennedy Drive to Oleander Avenue	1,800	1,050	D	1,500	E	C
Perris Boulevard	Alessandro Boulevard to Cactus Avenue	3,600	2,200	C	2,350	C	C
Perris Boulevard	Cactus Avenue to John F. Kennedy Drive	3,600	2,000	C	2,200	C	C
Perris Boulevard	John F. Kennedy Drive to Oleander Avenue	3,600	1,450	B	1,750	B	C

Note: (a) Level of service required by General Plan of appropriate jurisdiction.
LOS = level of service

Boulevard west of 1-15, and east of I-215 to Elsworth Street will be operating at LOS F, compared to E and D, respectively, prior to realignment. The LOS on Alessandro Boulevard between Graham Street and Perris Boulevard will be reduced from C to D. Cactus Avenue between Heacock Street and Perris Boulevard will operate at LOS D, compared to B prior to realignment. Van Buren Boulevard and Oleander Avenue will continue to operate at LOS D, as will Cajalco Road between Alexander Street and I-215. The LOS on Wood Road south of Van Buren Boulevard will drop from D to E, as will Heacock Street between Cactus and Oleander avenues. Traffic on on-site roads will be less than under prerealignment conditions.

3.2.3.2 Airspace/Air Traffic. Airspace is a finite resource that can be defined vertically and horizontally, as well as temporally, when describing its use for aviation purposes. As such, it must be managed and utilized in a manner that best serves the competing needs of commercial, general, and military aviation interests. The FAA is responsible for the overall management of airspace and has established different airspace designations that are designed to protect aircraft while operating to or from an airport, transiting en route between airports, or operating within "special use" areas identified for defense-related purposes. Rules of flight and ATC procedures have been established that govern how aircraft must operate within each type of designated airspace. All aircraft operate under either instrument flight rules (IFR) or visual flight rules (VFR).

The type and dimension of individual airspace areas established within a given region and their spatial and procedural relationships to one another are contingent upon the different aviation activities conducted in that region. When any significant change is planned for this region, such as airport

expansion, a new military flight mission, etc., the FAA will reassess the airspace configuration to determine if such changes will adversely affect (1) ATC systems and/or facilities, (2) movement of other air traffic in the area, or (3) airspace already designated and used for other purposes (i.e., Military Operations Areas or restricted areas).

The FAA is charged, by P.L. 85-725, with the safe and efficient use of the nation's airspace and has established certain criteria and limits to its use (FAA, 1993). To do this the FAA established the National Airspace System (NAS) as "... the common network of U.S. airspace, air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information and manpower and material" (FAA, 1989c). The NAS is divided into six classes dependent upon location, use, and degree of control. Complementing these are several types of Special Use Airspace (SUA) designated by the military to meet its particular needs. The procedures portion of the NAS includes regulatory guidance and assistance provided by FARs, handbooks, and advisory circulars pertaining to aircraft and system operation. The FARs provide for controlled airspace integral to the NAS.

The facilities that manage air traffic flow throughout the NAS are the Air Route Traffic Control Centers (ARTCCs). Twenty ARTCCs within the Continental United States provide separation service to aircraft operating under IFR within controlled airspace, principally during en route phases of flight. They also provide traffic and weather advisories to airborne aircraft. Aircraft flying under VFR are also monitored in areas that have radar coverage. A typical center is responsible for more than 100,000 square miles of airspace and several thousand miles of airways. These high and low airway systems, although layered and four dimensional, are similar to highways and are designed to expedite the flow of aircraft. Jet Routes serve aircraft from 18,000 feet to 45,000 feet above MSL. Federal Airways (formerly Low Altitude [or Victor] Airways) are established below 18,000 feet MSL and are Class E airspace established in the form of a corridor with the centerline defined by a radio-navigational aid (FAA, 1993).

Data on the prerealignment (1993) airspace and ATC system around March AFB and projected conditions in 1996 were gathered primarily from military and civil aviation sources at local and national levels.

Region of Influence. The ROI for the airspace analysis of March AFB is the area within a 25-nautical-mile (nm) radius of March AFB, from the surface to 14,500 feet MSL. This encompasses not only the airspace area associated with March AFB, but also the airspace activities surrounding the base that affect its operations. The ARTCC for southern California is in Palmdale (see Figure 3.2-1), and is responsible for control of airspace from San Diego to San Luis Obispo. March AFB Ground Control Approach (GCA) has been delegated the responsibility of controlling arrivals and departures for the

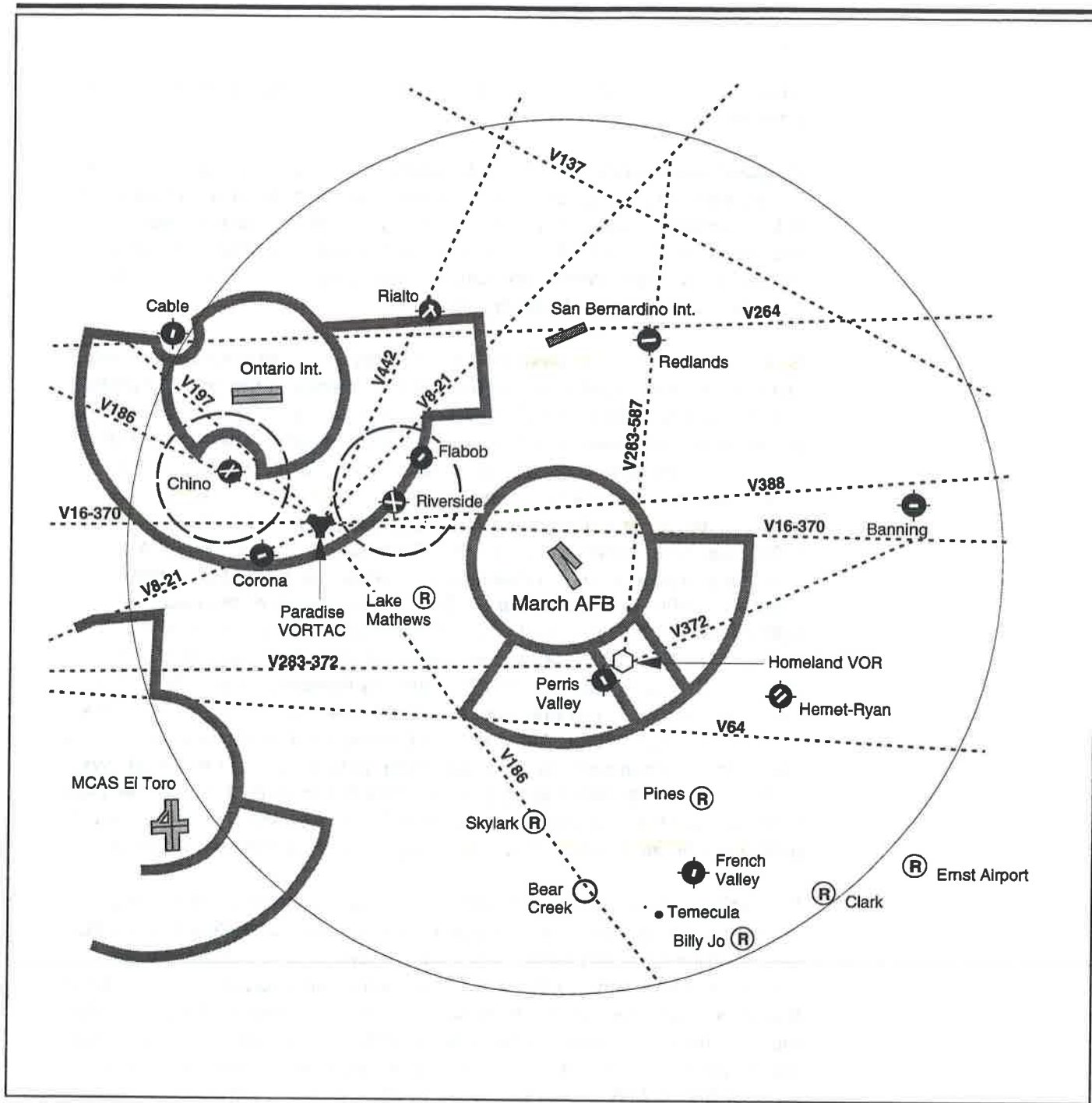
base. Aircraft operations at other airfields within the ROI are managed by other ATC facilities.

Prerealignment Reference. An understanding of the ROI airspace/air traffic environment and its use under the prerealignment reference is necessary to help determine its capability and capacity to assimilate future aviation activities into the NAS. The same constraints and considerations such as terrain, runway alignments, and other air traffic flows would apply under alternate aviation uses of March AFB.

March AFB is in Class C airspace. It is located on the eastern edge of the Los Angeles basin, one of the busiest air traffic areas in the United States. Five of the nation's busiest airports are located within the basin, and air traffic flows affect operations at nearly all area airports. The March AFB ATC tower maintains control of aircraft arriving, departing, operating in the airport traffic pattern, or transiting its airspace. The ATC tower area of control extends for a 5-nm radius from the base, from the surface to 4,000 feet MSL. Beyond that, to the 10-nm radius, March AFB GCA controls transition areas southwest and southeast of the airfield from 3,900 to 5,500 feet MSL and an arrival corridor, south of the base, from 2,900 feet to 5,500 feet MSL. A Letter of Agreement (LOA) with the Empire Area TRACON delegates an additional area of airspace to March GCA. The Empire Area TRACON includes the Pomona, Norton, Riverside, Banning, and Hemet sectors; March AFB is in the Hemet sector. This LOA area extends from March AFB nearly to Banning on the east, then south near Ernst Airport, southwest to Temecula, then northward near Lake Mathews and back to March AFB (Figure 3.2-11). The March AFB GCA controls radar traffic within this area from the surface to 5,000 feet MSL, allowing control of March AFB air traffic without impinging on another facility's airspace.

Navigational aids at March AFB include tactical air navigation (TACAN), very high-frequency omnidirectional range (VOR), instrument landing system (ILS), and precision approach radar. Instrument approaches are published for arrivals from the south to Runway 32 and a TACAN approach to Runway 14 (Figure 3.2-12). Departures from Runway 14/32 proceed to the south. Air route traffic to Los Angeles International, Ontario International, Long Beach, and John Wayne International airports traverses east-west in the airspace north of March AFB, and is too dense to allow crossing traffic; thus, most arrivals and departures on Runway 14/32 are from the south. The departures and arrivals are designed for aircraft primarily operating between the base and the NAS en route airspace structure.

The traffic operations reflect a primary flow of aircraft departures and arrivals on IFR clearances. This is complemented by traffic pattern activities of aircraft practicing visual and instrument approaches. Aircraft assigned to the base are classified as heavy and large, so the traffic pattern capacity is very low in order to maintain the required separation and sequencing. The size, location (west side), and altitude of the traffic pattern for Runway



EXPLANATION

— Transition Area
 Federal Airway (V)

- - - Control Zone

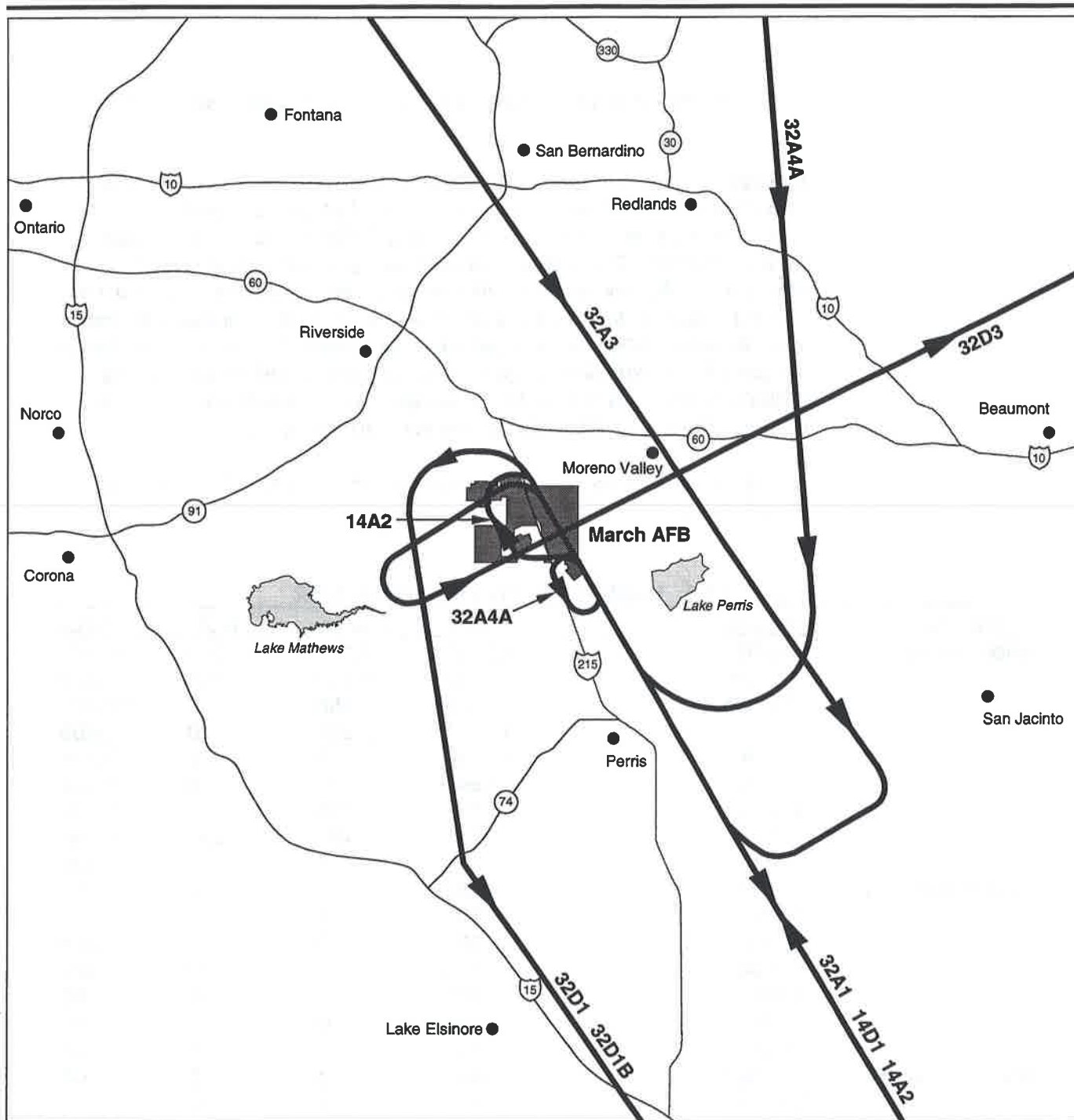
0 2.5 5 10 Nautical Miles

0 2.5 5 10 Miles

- Public, other than a hard surface runway
- Hard surface runway 1500-8069 feet long
- Ⓡ Private, non-public use, having emergency or landmark value
- ▬ Hard surface runway more than 8069 feet long
- ⬡ Very High Frequency Omnidirectional Range Navigation Aid (VOR)
- ✈ VOR and Ultra-high Frequency Tactical Air Navigation Aid (VORTAC)

Airspace Region of Influence

Figure 3.2-11



EXPLANATION

- ➔ Direction of Travel on Flight Path
- Interstate Highways
- State Highways

Primary IFR Arriving and Departing Aircraft Flight Paths



Figure 3.2-12

14/32 was designed to accommodate the type of aircraft assigned to the base.

Runway 12/30 converges with Runway 14/32. It is closed to Air Force aircraft and is authorized for use by the Aero Club and assigned U.S. Customs aircraft only. Approximately 3,000 feet of Runway 12/30 between taxiways 2 and 3 may be used during visual meteorological conditions (VMC) and special VFR conditions, between sunrise and sunset. The traffic pattern to the east is configured to avoid interference with traffic using Runway 14/32 and to avoid the rising terrain. The runway condition is not suitable for extensive or continuous operations. The airspace above 5,000 feet MSL over March AFB is managed by Ontario Radar Approach Control. There is no SUA allotted for the DOD within the ROI.

A total of 104,320 operations were conducted by assigned and transient aircraft during 1992 (Table 3.2-4).

Table 3.2-4. March AFB Aircraft Operations, 1992

Operations	Aircraft	Day	Evening	Night	Total
Based Aircraft	KC-10	22,051	3,147	763	25,961
	KC-135E	4,267	4,110	159	8,536
	C-141B	12,540	666	42	13,248
	F-4C	19,257	2,631	0	21,888
	T-38A	10,846	0	0	10,846
	F-16A	1,947	150	0	2,097
	C-21A	3,571	190	533	4,294
	C-12	3,310	190	532	4,032
	UH-1N	380	0	0	380
Transient Military	C-130E	569	0	0	569
	F-18	190	0	0	190
	T-37B	380	0	0	380
	A-10A	570	0	0	570
	B-52G	190	0	0	190
	F-15A	190	0	0	190
	A-6A	190	0	0	190
	Other Transients				
	Boeing 747	664	0	0	664
	DC 10-40	416	0	0	416
	Boeing 737	482	0	0	482
	Electra	29	0	0	29
	Business Jet ^(a)	1,299	0	0	1,299
	Twin Engine Turboprop ^(a)	7,303	0	566	7,869
Total					104,320

Notes: An operation is defined as a landing or a takeoff. Daytime: 7:00 a.m. - 7:00 p.m.; Evening: 7:00 p.m. - 10:00 p.m.; Night: 10:00 p.m. - 7:00 a.m.

(a) Similar types of aircraft have been grouped.

Source: U.S. Air Force, 1992a.

Additional airspace for ATC purposes within the ROI consists of Class C airspace for Ontario International and Marine Corps Air Station (MCAS) El Toro, and Class D airspace around Riverside and Chino airports (see Figure 3.2-11). One civil airspace restriction also occurs within March AFB airspace: a Sky Diving Window, established as a 1-nm radius from Perris Valley Airport, extends from the surface to 14,500 feet MSL. This window allows Perris Valley aircraft access to a portion of March AFB airspace without establishing two-way radio communications with the March AFB ATC tower.

There are 15 federal airways transiting the ROI (see Figure 3.2-11). Paradise VOR tactical air navigation (VORTAC), 14 miles west of March AFB, is one of the principal airway intersections for the Los Angeles area. Federal Airway V264, 12 miles north, is one of the main arrival routes for both Ontario International and Burbank airports.

There are 14 public and 5 private airports within the ROI. Instrument approaches are published for seven of these; the remainder support only VFR traffic (Table 3.2-5). As a result of the high number of VMC flying days in southern California, these airports are quite busy: eight of these airports recorded more than 100,000 operations each in 1993.

Realignment Baseline. Upon realignment of March AFB, all navigational aids (ILS, TACAN, GCA, and VOR) will remain functional. The ATC tower and the GCA will be operated by AFRES air traffic controllers. Table 3.2-6 shows the projected number of annual aircraft operations anticipated at realignment, including operations by both based and transient military aircraft. The FAA is currently considering moving the Homeland VOR from its present location near March AFB to a site in the vicinity of the French Valley Airport (see Figure 3.2-11). This would require revising the VOR approach to March AFB. No changes in the air traffic structure are contemplated at this time.

3.2.3.3 Air Transportation. Air transportation includes passenger travel by commercial airline and charter flights, business and recreational travel by private aircraft, and priority and cargo delivery by commercial and air carriers.

Scheduled passenger service for the region is provided primarily by Ontario International Airport, which served nearly 6.2 million passengers in 1993. Other commercial carrier airports close to the ROI are Los Angeles International (67 miles west of the base), John Wayne International (32 miles southwest), and Burbank (65 miles west-northwest). San Bernardino International Airport (the former Norton AFB, 20 miles north) is actively seeking a commercial carrier.

**Table 3.2-5. Annual Operations at Public and Private Airports
in the Vicinity of March AFB, 1992-1993**

Airport	Type	Instrument Approach	Annual Operations
Banning	Public	None	14,000
Bear Creek	Public	None	150,000
Cable	Public	VOR	88,000
Chino	Public	ILS, VOR, NDB	191,000
Corona	Public	VOR	100,000-150,000
Flabob	Public	None	40,000
French Valley	Public	None	58,000
Hemet-Ryan	Public	NDB	111,000
Ontario International	Public	ILS, VOR/DME, VOR(TAC), NDB	155,000
Perris Valley	Public	None	100,000
Redlands	Public	None	65,000
Rialto	Public	NDB	240,000
Riverside	Public	ILS, VOR	145,000
San Bernardino International	Public	Unknown	Unknown
Billy Jo	Private	None	Unknown
Clark	Private	None	Unknown
Lake Mathews	Private	None	Unknown
Pines	Private	None	Unknown
Skylark	Private	None	Unknown

DME = distance-measuring equipment
 ILS = instrument landing system
 NDB = non-directional beacon
 TAC = tactical air navigation
 VOR = very high-frequency omnidirectional range

Cargo carriers at Ontario International Airport transported 353,302 tons of cargo in 1993. Prerealignment operations at the public and private airports in the ROI are shown in Table 3.2-5.

The FAA and SCAG project growth in passenger and cargo demand in southern California over the next 20 years. No appreciable change in this projected regional demand is expected as a result of the realignment of March AFB.

3.2.3.4 Other Transportation Modes. The AT&SF railroad line provides freight service to industrial and agricultural businesses along the west side of I-215 and to businesses in Perris, Hemet, and San Jacinto. The tracks that formerly provided service to March AFB have been removed. A spur line providing access to West March near the DRMO still exists, but is seldom used.

Table 3.2-6. March AFB Projected Annual Aircraft Operations, 1996

Operations	Aircraft	Day	Evening	Night	Total
Based Aircraft	KC-135E	4,678	4,490	187	9,355
	KC-135R	3,657	3,511	146	7,314
	C-141A	13,785	734	48	14,567
	F-4C	0	0	0	0
	T-38A	0	0	0	0
	F-16A	1,053	81	0	1,134
Transient Military	KC-10	425	61	15	501
	C-21A	268	14	40	322
	C-12	201	12	32	245
	UH-1N	1,080	0	0	1,080
	C-130E	786	0	0	786
	F-18	262	0	0	262
	T-37B	523	0	0	523
	A-10A	786	0	0	786
	B-52G	262	0	0	262
	F-15A	262	0	0	262
	A-6A	262	0	0	262
Other Transients	B-747	917	0	0	917
	DC-10-4	584	0	0	584
	B-737	665	0	0	665
	Electra	40	0	0	40
	Twin Engine	501	0	39	540
	Other	543	0	0	543
Total		31,540	8,903	507	40,950

The RCTC is developing subregional commuter rail service along three lines in the area. Service along the Union Pacific line (Metrolink) was initiated in 1993. This service, which is available only on weekdays, runs from downtown Riverside to downtown Los Angeles in the morning and in the opposite direction in the afternoon. When negotiations with the Orange County Transportation Authority are complete, service along the AT&SF line between Riverside and Orange counties is expected to include a branch line from Riverside to Irvine and another from Riverside to Los Angeles via Fullerton. The San Jacinto branch line between Hemet and downtown Riverside is still under study. Commuter service on this line could begin as early as 1996-1997.

Other public transportation in the area consists of fixed-route bus service, fixed-route freeway express bus service, and local dial-a-ride service. Most of the public bus transportation in western Riverside County is provided by the RTA. The RTA operates fixed route local bus service within the city of Riverside; intercity service between Riverside and Moreno Valley, Perris, March AFB, and other communities in Riverside County; service to

destinations outside the county, including San Bernardino, Ontario, downtown Los Angeles, and Orange County; and feeder bus service to commuter rail stations.

3.2.4 Utilities

The utility systems addressed in this analysis include the facilities and infrastructure used for:

- Potable water pumping, treatment, storage, and distribution
- Wastewater collection and treatment
- Solid waste collection and treatment
- Energy generation and distribution, including the provision of electricity and natural gas.

The ROI for utilities is made up of all or portions of the service areas of each utility provider that serves the base and local communities. The major attributes of utility systems in the ROI are processing, distribution, and storage capacities, and related factors, such as average daily consumption, required in making a determination of adequacy of such systems to provide service in the future.

Utility use at the time of realignment (1996) was projected based on discussions with the purveyors, historic consumption patterns, and systemwide average annual growth rates. All projections were adjusted to reflect the decrease in demand associated with base realignment and are presented in Table 3.2-7.

Table 3.2-7. Estimated Utility Demand in the ROI

	1993	1994	1995	1996
Water consumption (MGD)	87.4	89.2	92.0	96.8
Wastewater treatment (MGD)	42.1	43.2	44.2	46.5
Solid waste disposal (tons/day)	993	994	791	782
Electrical consumption (MWH/day)	20,106	21,045	22,003	23,879
Natural gas (MMCF/day)	144.9	151.8	159.0	173.9

MGD = million gallons per day

MMCF = million cubic feet

MWH = megawatt-hours

ROI = region of influence

3.2.4.1 Water Supply. The ROI for water supply includes the service area of the Riverside Public Utility (RPU), which serves the city of Riverside; a portion of the Eastern Municipal Water District (EMWD), consisting of the

cities of Moreno Valley, Perris, and unincorporated areas of Riverside County south of March AFB; and a portion of the Western Municipal Water District (WMWD), consisting of March AFB, Air Force Village West, Riverside National Cemetery, and unincorporated areas of Riverside County west of the base.

On-Base. March AFB purchased approximately 780 million gallons of water in 1993 for domestic and irrigation purposes; the average daily water consumption rate was 2.14 million gallons per day (MGD). The average daily potable water use in 1993 was 1.71 MGD. All water is supplied to March AFB by WMWD. Potable water is delivered to the base from a 54-inch distribution main operated by EMWD. Potable water is used for most irrigation on the base. The base provides irrigation for the golf course and Riverside National Cemetery with water transported from Lake Mathews through an Air Force-owned 20-inch pipeline. In 1993, the base supplied approximately 9.3 million gallons of irrigation water from Lake Mathews to the golf course, for an average daily water consumption rate of 0.03 MGD. In the same year, approximately 147 million gallons, or approximately 0.40 MGD, were supplied to the cemetery for irrigation. The base supplements this irrigation water with approximately 0.70 MGD of effluent from the base STP. March AFB has nine potable water storage facilities ranging from 15,000 gallons to 2.5 million gallons.

Off-Base. The RPU obtains water from 48 groundwater wells in the Santa Ana River basin. Peak demands for water during the summer months are met by purchasing supplemental water from the Metropolitan Water District (MWD) of Southern California. In 1993, RPU had an average daily consumption rate of 57.1 MGD. RPU maintains 16 reservoirs with a total capacity of 82 million gallons and has a system distribution capacity of 77.8 MGD.

EMWD purchases water from the MWD and delivers it to the cities of Moreno Valley and Perris. In 1993, EMWD provided an average of 26.2 MGD to these communities. The EMWD systems serving the cities of Moreno Valley and Perris have an operating capacity of 71 MGD. In addition to March AFB, WMWD supplies an average of 2.0 MGD to Air Force Village West, Riverside National Cemetery, and the surrounding unincorporated areas of Riverside County west of March AFB. WMWD purchases water from MWD's Mills Filtration Plant. When required, additional water is provided by the WMWD filtration plant at Lake Mathews and the groundwater aquifers along the Santa Ana River. WMWD also has a connection to the city of Riverside system.

Prealignment Reference. Average daily potable water consumption in the ROI is presented in Table 3.2-7. In 1993, the average daily water use for the base was approximately 2 percent of the potable water consumed in the ROI.

Realignment Baseline. Water consumption in the ROI is projected to be 96.8 MGD by 1996. Water consumption at March ARB will decrease to an estimated 1.2 MGD, less than 57 percent of the 1993 on-base average daily demand. This estimated use includes 0.9 MGD of irrigation water for the golf course and Riverside National Cemetery; effluent from the STP will be reduced from an average of 0.7 MGD to 0.2 MGD by 1996.

3.2.4.2 Wastewater. The ROI for wastewater treatment consists of March AFB; the areas served by the city of Riverside system, including the communities of Jurupa, Rubidoux, and portions of unincorporated Riverside County south and west of March AFB; and portions of the EMWD service area, which includes the cities of Moreno Valley and Perris. The combined treatment capacity in these service areas is 66.2 MGD.

On-Base. March AFB operates a 1.2 MGD STP, which was constructed in 1941. The plant provides secondary treatment for wastewater from March AFB and Air Force Village West using a trickling filter process. The average daily flow in 1994 was 0.7 MGD, including 0.06 MGD from Air Force Village West. The wastewater is collected by a combination of gravity and force mains and delivered to the STP. Treated effluent from the plant is pumped to two evaporation and storage ponds (44 and 10 million gallon capacity), and is used for irrigation at the base golf course (approximately 0.40 MGD) and Riverside National Cemetery (approximately 0.30 MGD). In addition, three storage ponds and a supplemental sprinkler system are available to dispose of the treated effluent during periods of heavy rainfall when the need for irrigation is reduced.

One septic tank is in use on base to serve the Readiness Alert Crew Facility, Facility 1313. This system processes a minimal amount of wastewater and has a capacity of 1,000 gallons. A septic tank at the former engine test cell, Facility 1700, is inactive.

Off-Base. The city of Riverside provides wastewater service within the city and in the Community Service Districts of Edgemont, Rubidoux, and Jurupa. The city's tertiary wastewater treatment plant has been upgraded to an average daily capacity of 40 MGD. Approximately 29 MGD were processed by the city of Riverside in 1993.

EMWD operates wastewater treatment plants in Moreno Valley and Perris. The Moreno Valley tertiary treatment plant has a capacity of 16 MGD, and the Perris treatment plant has a 9 MGD capacity. Approximately 12.4 MGD were processed by the two plants in 1993.

Prerealignment Reference. Table 3.2-7 presents volumes of wastewater generation in the ROI. In 1994, the flow for March AFB constituted about 1.6 percent of the wastewater generated in the ROI.

Realignment Baseline. Wastewater generation in the ROI is projected to be 46.5 MGD by 1996. Wastewater flow at March ARB will decrease to an estimated 0.3 MGD in 1996, approximately one-third of the on-base average daily demand in 1993. Since March 1995, wastewater from a groundwater treatment system on base has been discharged to the sewer system to alleviate low-flow conditions. This discharge is not included in wastewater flow estimates.

3.2.4.3 Solid Waste. The ROI for solid waste disposal includes the Highgrove, El Sobrante, Mead Valley, and Badlands landfills, which serve the western Riverside County area.

On-Base. Solid waste generated on base is collected in large dumpsters in the operations areas and in smaller trash bins in the family housing area. In fiscal year (FY) 1993, the solid waste contractor removed an average of 13.1 tons per day from March AFB to the Badlands landfill.

California's Integrated Solid Waste Management Act of 1989 (Assembly Bill 939) requires a 25-percent reduction in the amount of solid waste disposed of in landfills by 1995 and a 50-percent reduction by 2000. March AFB has established a recycling program for various types of paper, plastic, glass, scrap metal, and cans to reduce the amount of solid waste being deposited in landfills. These items are collected in more than 2,000 bins in base administrative and housing areas. The base is in the process of obtaining a chipper to reduce the volume of green waste. In 1993, the base recycling program processed approximately 2 tons per day and other base facilities recycled an additional 1.8 tons per day, which represent 17 percent of the daily solid waste generated at March AFB. Disposal of medical and other hazardous wastes is discussed in Section 3.3, Hazardous Materials and Hazardous Waste Management.

Off-Base. Solid waste collected in western Riverside County is disposed of at the Highgrove, El Sobrante, Mead Valley, and Badlands landfills. A total of 910,900 tons of solid waste was disposed of at these landfills in 1993.

Based on the current disposal rates, the Highgrove landfill is expected to reach capacity by the end of 1997, and the Mead Valley landfill will reach capacity by 1998. The Badlands landfill is expected to reach capacity in 2006, and the El Sobrante landfill by 2005. These last two facilities have expansion capability, and a 100-million-ton expansion has been proposed for El Sobrante.

Riverside County and the communities within the county have added a Source Reduction and Recycling Element, and a Household Hazardous Waste Element to their General Plan. These elements identify opportunities for source reduction, recycling, composting, and public education. Riverside County estimates that since 1990, the amount of solid waste disposed of in county landfills has decreased by 30 percent.

Prerealignment Reference. Table 3.2-7 presents the amount of solid waste disposed of in the ROI. In 1993, solid waste disposed of by March AFB constituted approximately 1.3 percent of the solid waste disposed of in the ROI.

Realignment Baseline. As the drawdown of base personnel proceeds, the Air Force will continue to be responsible for the disposal and recycling of solid waste in the retained military cantonment area. Solid waste generation at realignment is estimated to be 7.3 tons per day, of which approximately 1.7 tons per day would be recycled. Solid waste disposal in the ROI is estimated to be 782 tons per day in 1996.

3.2.4.4 Energy. The ROI for electricity consists of Riverside County, which is served by Southern California Edison (SCE) and RPU. The ROI for natural gas consists of the portions of the service area of Southern California Gas Company within Riverside County.

Electricity

On-Base. Electricity is provided to March AFB by SCE via a 115-kilovolt substation. In FY 1993, electricity consumption was approximately 66,900 megawatt-hours (MWH), or 183 MWH per day.

Off-Base. SCE provides electricity to Riverside County, including the cities of Moreno Valley and Perris. In 1993, SCE supplied approximately 391,500 customers in Riverside County with 5.72 million MWH or 15,660 MWH per day. RPU provides electricity to city of Riverside residents. In 1993, the system's 88,300 customers consumed 1.56 million MWH of electricity, or approximately 4,263 MWH per day.

Prerealignment Reference. Table 3.2-7 presents electrical consumption in the ROI. In FY 1993, March AFB used approximately 0.9 percent of the electricity used in the ROI.

Realignment Baseline. Electrical consumption in the ROI is estimated to be 23,879 MWH per day in 1996. Electrical consumption at March ARB from continuing operations is estimated to be about 52.9 MWH, or 29 percent of the 1993 on-base consumption. Base consumption will represent a negligible percentage of ROI use.

Natural Gas

On-Base. Natural gas service is provided to March AFB by Southern California Gas Company through a connection that extends from a 10-inch transmission main west of I-215. In FY 1993, on-base natural gas consumption was 195.1 million cubic feet (MMCF), or 0.53 MMCF per day.

Off-Base. Southern California Gas Company provides natural gas to Riverside County. The company sold approximately 52.7 billion cubic feet in 1994 to customers in Riverside County at an average daily rate of 151.8 MMCF. Gas supplies will continue to be available to meet the projected demands from a variety of sources throughout the western United States.

Prerealignment Reference. Table 3.2-7 presents natural gas consumption in the ROI under prerealignment conditions. In 1993, March AFB consumed approximately 0.3 percent of the natural gas used in the ROI.

Realignment Baseline. Natural gas consumption in the ROI is expected to be 173.9 MMCF per day in 1996. Natural gas consumption at March ARB from continuing operations is estimated to be about 0.2 MMCF per day. Base consumption will represent a negligible percentage of total ROI use.

3.3 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

Hazardous materials and hazardous waste management activities at March AFB are governed by specific environmental regulations. For the purpose of the following analysis, the term hazardous waste or hazardous materials will mean those substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601 et seq., and the Solid Waste Disposal Act (also known as the Resource Conservation and Recovery Act [RCRA], 42 U.S.C. §§ 6901-6992). In general, these include substances that, because of their quantity, concentration, or physical, chemical, or toxic characteristics, may present an unreasonable risk to health, safety, and the environment when released. The state regulations, which must be at least as stringent as the federal regulations, are outlined in the California Code of Regulations (CCR) Title 22, Section 30.

Transportation of hazardous materials is regulated by the federal Department of Transportation (DOT) regulations within Title 49 CFR.

Disposal of nonhazardous waste, including wastewater and nonhazardous solid waste, is discussed in Section 3.2.4, Utilities, as part of infrastructure support.

The ROI encompasses all geographic areas that are exposed to the possibility of a release of hazardous materials or hazardous wastes. The ROI for known contaminated sites includes the area within the existing base boundaries, as well as groundwater contamination that originates on the base and is known to migrate off site, six off-base locations of contamination being investigated under the IRP, and two off-base burial trenches identified as areas of concern (AOCs) during fieldwork conducted for the 1993 RCRA Facility Assessment (RFA). Specific on- and off-base geographic areas affected by

past and current hazardous waste operations, including remediation activities, are presented in detail in the following sections.

The prerealignment reference for the purposes of this analysis was established as January 1996, except as otherwise noted.

3.3.1 Hazardous Materials Management

Prerealignment Reference. Hazardous materials most commonly utilized at March AFB include aviation and motor fuels; a variety of petroleum products, such as motor oils and lubricants; antifreeze; hydraulic fluids; solvents; pesticides (see Section 3.3.6); paints; thinners; corrosives; cleaning compounds; compressed gases; and batteries. These materials, with the exception of bulk fuels (see Section 3.3.4), are delivered to base supply (Building 2310) and are distributed to the workplaces for immediate use.

In 1994, March AFB implemented a hazardous materials pharmacy distribution system. Hazardous materials distribution is coordinated from a single issue point (Building 2310). Any unused hazardous materials are returned to Building 2310 so that they are available for other users. The purpose of the pharmacy is to minimize hazardous waste generation by minimizing the use of hazardous materials. Under the pharmacy concept, all hazardous materials used are scrutinized to determine if less toxic alternative materials could be utilized during an industrial process. Additionally, all base employees who manage hazardous materials/waste attend a 1-day hazardous materials awareness course.

All hazardous materials utilized on March AFB are approved for use by the base Bioenvironmental Engineer. The Bioenvironmental Engineering staff ensures the safe use of hazardous materials by conducting annual workplace inspections. Material Safety Data Sheets (MSDSs) for all hazardous materials utilized on base are kept on file in the Bioenvironmental Engineering office (Building 500). Additionally, MSDSs for hazardous materials utilized at a particular workplace are maintained on file within that workplace.

The Spill Prevention Control and Countermeasures (SPCC) Plan (U.S. Air Force, 1995e) provides response guidelines for spills of oils and hazardous substances. The plan identifies and coordinates responsibilities, resources, and remediation procedures; it also provides spill prevention control measures, including storage facility and equipment inspection schedules. The plan was developed in accordance with AFI 32-7061, and plan guidelines are in compliance with all applicable federal, state, and local regulations.

Realignment Baseline. At base realignment, hazardous materials will continue to be used by the OL, AFRES, and tenant organizations. All parties will be responsible for managing these materials in accordance with federal, state, and local regulations to protect employees from occupational exposure

to hazardous materials and to protect the public health of the surrounding community. Pursuant to Air Force policy, the parties will comply with the federal Emergency Planning and Community Right-to-Know Act (EPCRA), 42 U.S.C. §§ 11001 et seq., a subpart of the Superfund Amendments and Reauthorization Act (SARA) Title III (10 U.S.C. §§ 2701 et seq.), as appropriate. The Air Force will also comply with Chapter 6.95 of the California Health and Safety Code (CCR Title 19) by providing a hazardous materials handler business plan to the Riverside County Health Services Agency. Any tenant organization qualifying as a hazardous materials handler who is not covered under the Air Force plan must submit a business emergency plan to the County of Riverside Health Services Agency, Department of Environmental Health, Hazardous Materials Management Division.

The OL will be responsible for the safe storage and handling of all hazardous materials used in conjunction with maintenance of facilities identified for disposal. Hazardous materials utilized during maintenance operations could include paint, paint thinner, solvents, corrosives, ignitibles, pesticides, and miscellaneous materials associated with vehicle and machinery maintenance (motor oils/fuels). These materials are purchased by the individual contractors.

The AFRES and tenant organizations would continue to utilize many types of hazardous materials during operations similar to prerealignment conditions, including aviation and motor vehicle fuels; petroleum, oil, and lubricants (POL); solvents; degreasers; paints; thinners; corrosives; heating oil; and pesticides. The AFRES will continue to implement the hazardous materials pharmacy system, but will use smaller quantities of hazardous materials than during prerealignment conditions. AFRES will ensure that tenant organizations utilize the hazardous materials pharmacy system. These materials will be delivered to the base in compliance with the Hazardous Materials Transportation Act (HMTA) under Title 49 CFR. AFRES Base Supply will be responsible for the operation of the pharmacy, which will support AFRES and tenant unit operations. The hazardous materials pharmacy distribution system will continue to operate from Building 2310.

3.3.2 Hazardous Waste Management

Prerealignment Reference. Normal operations at March AFB currently produce wastes defined as hazardous by RCRA; U.S. EPA implementing regulations found at Title 40 CFR 261; and CCR Title 22, Division 4, Chapter 30. Implementation of hazardous waste regulations under the California Hazardous Waste Control Law (HWCL) is the responsibility of the California EPA, Department of Toxic Substances Control (DTSC). Requirements of the HWCL are found in Section 25100 et seq. of the California Health and Safety Code and state hazardous waste regulations under CCR Title 22. Used oil is also regulated as a hazardous waste under California's Management of Used Oil Act (Senate Bill-86).

Management of hazardous wastes generated at March AFB is the responsibility of the Environmental Management Flight. Wastes most commonly generated include waste oils and mixed oils, wastewater treatment and oil/water separator sludge, batteries, waste solvents and solvent mixtures, and other wastes. Currently, all hazardous wastes generated on base are held at seven 90-day hazardous waste accumulation points or five storage sites for recyclable petroleum products located throughout the industrial areas of the Main Base (Table 3.3-1). These accumulation points may store an unlimited quantity of waste for no more than 90 days.

Table 3.3-1. Hazardous Waste Accumulation Points/Recyclable Petroleum Storage Points (September 1994)

Site	Location (Building No.)	Description
1	440/452 ^{(a)(b)}	452nd AGE Shop/722nd Corrosion Control
2	549 ^(b)	Base Exchange Service Station
3	941 ^(b)	Automotive Hobby Shop
4	1203/1242 ^(a)	Aircraft Wash Rack
5	2274 ^(b)	Vehicle Maintenance Shop
6	2305 ^(a)	CAANG Phase Dock
7	2310 ^(a)	Base Supply and Equipment Warehouse
8	2500 ^(b)	Vehicle Maintenance Shop
9	2990 ^(a)	Base Hospital
10	5903 ^(a)	Waste Treatment Plant
11	-- ^(a)	Civil Engineering Yard

Notes: (a) Accumulation Point (90-day limit).
 (b) Recyclable Petroleum Storage Point.
 AGE = aerospace ground equipment
 CAANG = California Air National Guard
 No. = Number

Hazardous waste generated at March AFB is not treated or disposed of on site and is not stored longer than the 90-day accumulation point holding time. Therefore, March AFB does not operate as a treatment, storage, and disposal (TSD) facility. The base has never applied for an RCRA Part B permit to operate as a TSD facility. In order to properly track the disposal of hazardous wastes, March AFB has obtained a U.S. EPA identification number (Appendix F). Prior to expiration of the 90-day storage limit, the Environmental Support Section of the DRMO located at MCAS El Toro arranges for a licensed transportation and disposal contractor to remove and dispose of hazardous waste at an approved TSD facility off base.

Management of hazardous waste is outlined in the March AFB Hazardous Waste Management Plan (U.S. Air Force, 1995d), which provides definitions of waste types, waste handling, administrative guidelines, and training

requirements. The SPCC Plan (U.S. Air Force, 1995e) addresses procedures and responsibilities for preventing and remediating a release of a hazardous waste. Additionally, the Hazardous Waste Minimization Plan for March AFB (U.S. Air Force, 1991a) identified waste streams and established a baseline using 1990 hazardous waste generation data in order to comply with the Hazardous Waste Reduction and Management Review Act of 1989. The plan identified trends in waste generation, which became possible areas for waste reduction. Changes in industrial processes, improvements in hazardous waste management, materials substitution, and recycling were examined as waste reduction recommendations. The Hazardous Waste Minimization Plan is used in conjunction with the March AFB Hazardous Waste Management Plan.

A Pollution Prevention Management Plan (PPMP) (U.S. Air Force, 1995f) was prepared to implement the requirements of RCRA, as amended by the Solid and Hazardous Waste Amendments of 1984; the Pollution Prevention Act of 1990; DOD Directive 4210.15, Hazardous Material Pollution Prevention; and AFI 32-7080, Pollution Prevention Program. The PPMP establishes the overall strategy for the March AFB Pollution Prevention Program. The PPMP and the Hazardous Waste Management Plan form the basis for managing the reduction of waste generated at March AFB. The primary goal of the Pollution Prevention Program is to reduce the pollution to the air, ground, surface, and groundwater. A Pollution Prevention Working Group, under the direction of the Environmental Protection Committee, is responsible for implementation of the Pollution Prevention Program.

Realignment Baseline. At the time of base realignment, all of the known hazardous wastes on disposal property will be collected and disposed of at a permitted hazardous waste TSD facility. Any 90-day accumulation areas will be closed in accordance with local regulatory requirements. Hazardous wastes generated by ongoing caretaker and maintenance activities on disposal property will be collected and stored in Building 941 until contracted for disposal by the OL.

Hazardous waste accumulation sites (90-day) and recyclable petroleum product storage sites will be identified within the retained military cantonment to support AFRES and tenant organization flight and maintenance operations. The DRMO at MCAS El Toro will continue to coordinate hazardous waste disposal until closure of MCAS El Toro in 1999. After 1999, the DRMO will remain in the southern California area to coordinate hazardous waste disposal for continuing DOD operations.

3.3.3 Installation Restoration Program Sites

The IRP is an Air Force program to identify, characterize, and remediate past environmental contamination on its installations. Although widely accepted at the time, procedures followed prior to the mid-1970s for managing and disposing of many wastes often resulted in contamination of the

environment. The program has established a process to evaluate past disposal sites, control the migration of contaminants, and control potential hazards to human health and the environment. Section 211 of the SARA, codified as the Defense Environmental Restoration Program (DERP), of which the Air Force IRP is a subset, ensures that the DOD has the authority to conduct its own environmental restoration programs. The DOD coordinates IRP activities with U.S. EPA and appropriate state agencies.

Prior to passage of SARA and the establishment of the National Contingency Plan (NCP) for hazardous waste sites, Air Force IRP procedures followed DOD policy guidelines mirroring the U.S. EPA's Superfund Program. Since SARA was passed, many federal facilities have been placed on a federal docket and the U.S. EPA has been evaluating the facilities' waste sites for possible inclusion on the National Priorities List (NPL). March AFB was officially listed on the NPL on November 21, 1989.

On September 27, 1990, the U.S. Air Force entered into a Federal Facility Agreement (FFA) with U.S. EPA Region IX, the Regional Water Quality Control Board (RWQCB), Santa Ana Region, and the California Department of Health Services (DHS), Toxic Substances Control Program (now the Department of Toxic Substances Control or DTSC) (U.S. Air Force, 1990). The FFA ensures that all sites are thoroughly investigated and establishes a procedural framework, responsibilities, schedule, and deadlines for developing, implementing, and monitoring appropriate response actions at March AFB in accordance with CERCLA, the NCP, RCRA, and applicable state regulations. The deadlines are binding on the Air Force subject to compliance by the other FFA parties to the agreed-upon review periods. The parties to the FFA may request extensions for good cause, such as identification of significant new site conditions. Table 3.3-2 presents the FFA document delivery schedule for March AFB.

Table 3.3-2. March AFB Federal Facility Agreement Document Delivery Schedule

Investigation Stage	Sites Under Investigation		
	OU 1	OU 2	OU 3
Remedial Investigation	July 1993	April 1995	August 1993
Feasibility Study	July 1993	June 1995	February 1994
Record of Decision	February 1994 ^(a)	December 1995	November 1994 ^(a)
Remedial Design	In progress	In progress	In progress
Remedial Action	In progress	In progress	In progress

Note: (a) Date of draft document delivery to regulatory agencies; pending final approval.
OU = Operable Unit

The identification of IRP sites and the implementation of remedial actions as mandated under CERCLA and called for by the FFA are ongoing processes.

The IRP sites and site status discussed within this EIS are current as of January 1996.

The March AFB Restoration Advisory Board (RAB) was established under the requirements of the DBCRA to provide a method for public input to the environmental restoration of the current Air Force property to be disposed of. Comments received by the RAB will be addressed by the DBCRA Cleanup Project Team and may be incorporated into the Base Realignment and Closure (BRAC) Cleanup Plan (U.S. Air Force, 1994c). The BRAC Cleanup Plan describes the status, management and response strategy, and action items related to ongoing environmental restoration activities and associated compliance programs at March AFB. The public may review information regarding the IRP in the Information Repository located in the on-base Environmental Management Flight office and in the Moreno Valley library.

A 1990 Memorandum of Agreement (MOA) between the Air Force (March AFB) and Caltrans, San Bernardino Region, designates a real property easement for expansion of I-215 (U.S. Air Force, 1991b). Under the conditions of the MOA, Caltrans is responsible for cleanup/remediation activities for all contaminated sites within the easement area; nine sites have been identified to date. Caltrans has completed environmental restoration at eight sites and is currently remediating the ninth site. Remediation by Caltrans must be conducted in accordance with all applicable regulations. March AFB is responsible for ensuring that cleanup activities are completed under the terms of the FFA.

Ongoing investigations or remedial actions at IRP sites may delay or limit some proposed land uses at or near those sites. Remediation efforts within SKR habitat must be coordinated with the USFWS in accordance with the 1993 Biological Opinion. Future land uses by the property recipients on a site-specific level may be, to a certain extent, limited by the severity of contamination or level of remediation effort at these IRP sites. Reasonably foreseeable land use constraints are discussed in this EIS. Regulatory review as required by the FFA and the Air Force programs will also ensure that any site-specific land use limitations are identified and considered. A representation of the IRP management process under CERCLA is shown in Figure 3.3-1.

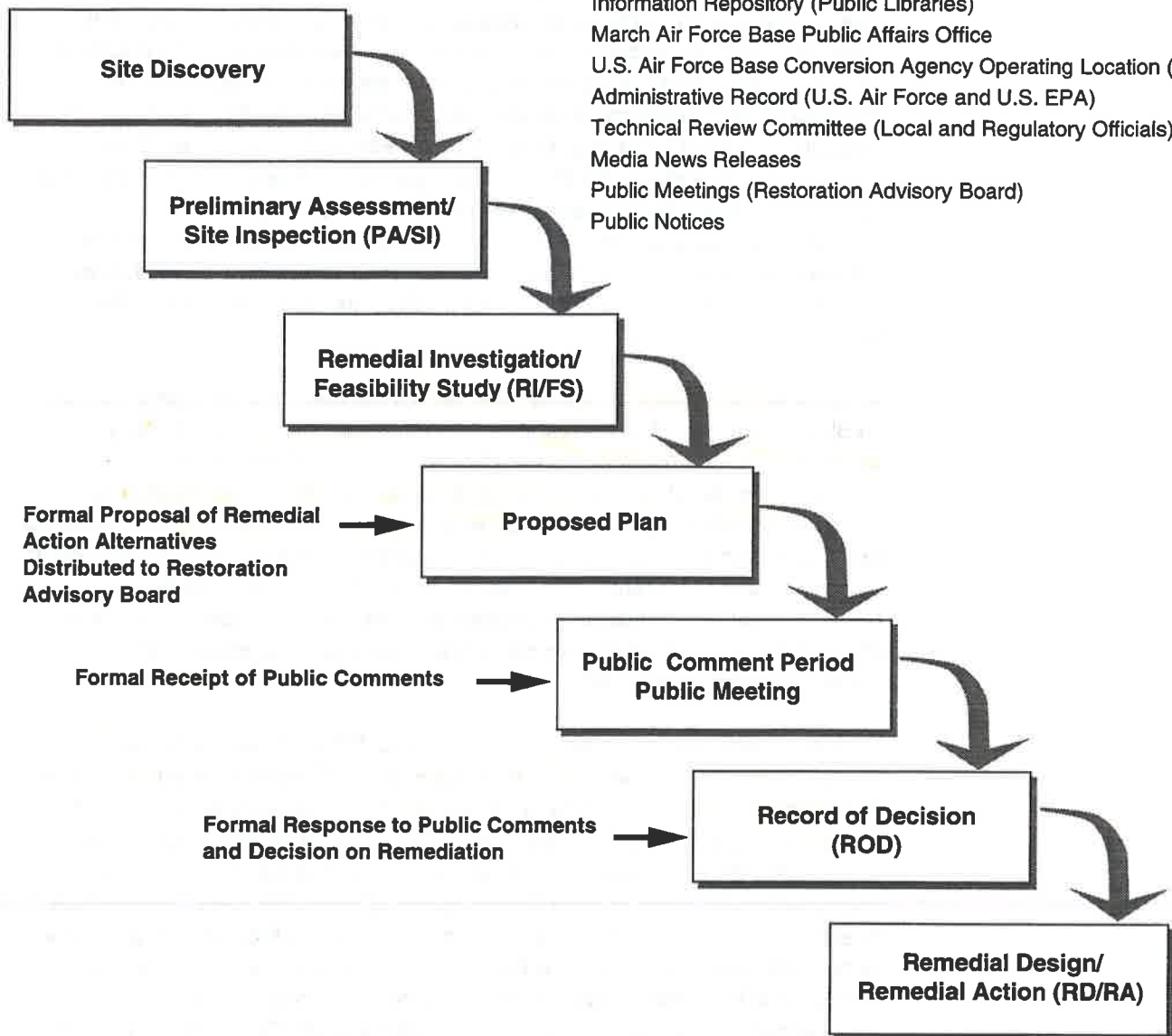
The original IRP was divided into four phases, consistent with CERCLA:

- Phase I: Problem Identification and Records Search
- Phase II: Problem Confirmation and Quantification
- Phase III: Technology Development (TD)
- Phase IV: Corrective Action.

**INSTALLATION RESTORATION PROGRAM (IRP) PROCESS
(The CERCLA Process)**

Sources of Information on IRP

Information Repository (Public Libraries)
March Air Force Base Public Affairs Office
U.S. Air Force Base Conversion Agency Operating Location (OL)
Administrative Record (U.S. Air Force and U.S. EPA)
Technical Review Committee (Local and Regulatory Officials)
Media News Releases
Public Meetings (Restoration Advisory Board)
Public Notices



**Pictorial Presentation
of IRP Process**

Figure 3.3-1

After SARA was passed in 1986, the IRP was realigned to incorporate the terminology used by the U.S. EPA and to integrate the new requirements in the NCP. The result was the creation of three action stages:

- Preliminary Assessment/Site Inspection (PA/SI)
- Remedial Investigation/Feasibility Study (RI/FS)
- Remedial Design/Remedial Action (RD/RA).

The PA portion of the first stage under the NCP is comparable to the original IRP Phase I and consists of a records search and interviews to determine whether potential problems exist. A brief SI that may include soil and water sampling is performed to give an initial characterization or confirm the presence of contamination at a potential site.

An RI is similar to the original Phase II and consists of additional fieldwork and evaluations in order to assess the nature and extent of contamination. It includes a risk assessment and determines the need for site remediation.

The original IRP Phase IV has been replaced by the FS and the RD within the third stage. The FS documents the development, evaluation, and selection of alternatives to remediate the site. The selected alternative is then designed (RD) and implemented (RA). Long-term monitoring is often performed in association with site remediation to assure future compliance with contaminant standards or achievement of remediation goals. The Phase III portion of the IRP process is not included in the normal SARA process. TD under SARA is done under separate processes including the Superfund Innovative Technology Evaluation program. The Air Force has an active TD program in cooperation with the U.S. EPA to find solutions to problems common to Air Force facilities.

The realignment of March AFB will not affect the ongoing IRP activity. These IRP activities will continue in accordance with federal, state, and local regulations to protect human health and the environment, regardless of the disposal decision. The FFA among the U.S. Air Force, U.S. EPA, California EPA/DTSC, and the RWQCB formalizes the joint involvement in IRP activities. The investigations of IRP sites will be conducted in accordance with the FFA. The Air Force will retain any necessary interests (e.g., easements) in order to complete investigations, perform long-term monitoring, and operate and maintain all remediation systems on disposal property.

The public may keep abreast of the IRP at March AFB through various sources of information (see Figure 3.3-1). Additionally, the IRP as mandated by CERCLA and the NCP has a public participatory program much like the one in the preparation of this EIS. The Air Force will, with the acceptance of each RI/FS by the regulatory community, prepare a proposed plan for the remediation of a site(s), which will include a discussion of alternatives

considered. The proposed plan will be distributed to the public for comment; a public meeting will be held to discuss the proposed plan and comments on the proposed plan will be accepted by the Air Force. The Air Force will then respond to all comments, making those responses part of a decision document on what the remediation will entail prior to any remedial action being taken.

Prerealignment Reference. Because the Air Force initiated the IRP process at March AFB in September 1983, prior to terminology and procedural changes, both phases and stages are contained in the IRP administrative record. The IRP Phase I-Records Search (CH2M Hill, 1984) identified 30 potential disposal sites (Table 3.3-3). Since the Phase I investigation, four subsequent basewide Phase II studies (Stages 1 through 4) have been completed at March AFB, and Stage 5 studies are in progress.

IRP sites at March AFB have been grouped into three operable units (OUs) (Figure 3.3-2). Designation as an OU allows sites with similar contaminants or sources, adjacent locations, or other similar characteristics to be grouped together to enable accelerated remediation activities.

OU 1 consists of 14 IRP sites (Table 3.3-3 and Appendix D) and 4 groundwater contamination plumes. The OU was created based on geographic location of sites, similarity of contaminants (primarily trichloroethylene [TCE]), and commingling of the groundwater contamination plumes migrating off base. In an attempt to inhibit the off-base migration of contaminated groundwater, the Air Force installed a Groundwater Extraction and Treatment System (GETS) in 1992 as an interim removal action. The GETS extracts groundwater from nine wells along the eastern boundary of the base and treats the water by passing it through carbon filters before discharging it to the sanitary sewer system.

The 28 IRP sites in OU 2 include 12 sites on West March, the Hawes Site (off base), the basewide construction material disposal site (IRP Site 32), 12 sites in the northern portion of the Main Base west of Riverside Drive, and 2 off-base effluent pond sites (IRP Sites 21 and 23).

OU 3 addresses soil and groundwater contamination associated with the former Panero Aircraft Fueling System (IRP Site 33).

The OU 1 RI/FS Stage 5 document was submitted to regulators for review and comment in July 1993. The final RI/FS was approved by the regulators in July 1994. The Stage 5 investigation identified four areas of groundwater contamination associated with OU 1 sites: Site 4 Plume, Site 18 Plume, Site 31 Plume (part of the OU 1 Plume), and the OU 1 Plume. The Site 4 Plume is in the vicinity of Site 4 and extends off base to the south and east. The predominant contaminants are tetrachloroethylene (PCE) and TCE. The Site 18 Plume is localized in the vicinity of Site 18 and the observed contamination consists of benzene, toluene, ethylbenzene, xylenes, and

Table 3.3-3. Summary of Installation Restoration Program Sites
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Site No.	Site Description/Location	Operable Unit (OU)	Site Location and Waste Description
1	Aircraft Isolation Area	2	Site 1 is a former aircraft fuel drainage ditch north of the main taxiway. Reportedly, waste fuels were drained onto the ground. Spent TCE may also have been discharged.
2	Waste Oil Pit/Solvent Tanks	2	Site 2 is on the Main Base at the southeast corner of Meyer Drive and Graeber Street. It is the location of seven former USTs and four ASTs containing fuel, waste oil, and spent solvents.
3	Landfill No. 5	2	Site 3 covers approximately 53 acres in the northwest portion of West March, south of Cactus Avenue and west of I-215. The site was utilized as a landfill from 1954 to 1974 for disposal of domestic waste, demolition debris, and possibly small quantities of waste oil, spent solvents, thinners, sludge in drums, and PCB oils.
4	Landfill No. 6	1	Site 4 is a 10-acre landfill on the eastern boundary of the Main Base, south of the East Gate. The site was utilized as a landfill from 1955 to 1968 primarily for disposal of domestic wastes, industrial refuse, and construction rubble. Reportedly, small amounts of POL and medical waste were also disposed.
5	Landfill No. 3	1	Site 5 is in the southeastern portion of the Main Base, southeast of the flightline. This 5-acre site was utilized as the base landfill from the 1940s to approximately 1960 for disposal of domestic waste and construction rubble.
6	Landfill No. 4	2	The site consists of five disposal areas, totaling approximately 66 acres, in the southwest portion of the base between Plummer Road and Clark Street, south of Van Buren Boulevard. The site was utilized as a landfill from the early 1950s to 1980, for disposal of domestic waste, demolition debris, automobiles, transformer cases, and possibly small amounts of waste oils, spent solvents, paints, and pesticide residues.

Note: See Figure 3.3-2 for site locations and refer to Appendix D for more detailed site descriptions and current status.

AST = aboveground storage tank
PCB = polychlorinated biphenyl
POL = petroleum, oil, and lubricants
TCE = trichloroethylene
UST = underground storage tank

Table 3.3-3. Summary of Installation Restoration Program Sites
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Site No.	Site Description/Location	Operable Unit (OU)	Location and Waste Description
7	Fire Protection Training Area No. 2	1	The Fire Training Area is located in the southeastern part of the base, north of the Alert Facility. Fire training exercises were conducted in unlined pits using waste oils, contaminated fuels, and spent solvents as ignition sources. The fire training area was in operation from 1954 to 1978.
8	Flightline Shop Zone	2	The site is located along the flightline and includes industrial shops which have been in operation since 1918. Some shop wastes were reportedly disposed of on the ground, on concrete aprons, and in storm sewers. These wastes may have included fuels, waste oils, spent solvents, paints, and thinners.
9	Main Oil/Water Separator	1	Site 9 is located at the southeast end of the flightline apron. The separator was constructed in 1974 and has received various waste fuels, oils, solvents, and other flightline wastes. The 1993 RFA identified this site as SWMU No. M6603/01.
10	Flightline Drainage Channel	1	This site is southeast of the flightline apron and the industrial shop zone. The drainage channel was installed prior to 1940, and reportedly has received various waste oils, hydraulic fluids, diesel fuel, jet fuel, waste paints, spent solvents (including TCE), paint strippers and thinners, and battery acid. A concrete lining was installed in the 1960s. The 1993 RFA identified this site as AOC No. MFSDS/01.
11	Bulk Fuels Storage Area	2	The site is on the northern base boundary east of the West Gate. A 10,000-gallon jet fuel spill occurred in 1976 and periodic maintenance has released additional fuel to the ground in the vicinity of the storage area.
12	Civil Engineering Storage Yard	2	Site 12 is in the northern portion of the Main Base. Spills of waste oils, disposal of compressor oil and solvents, and discharges of other wastes have reportedly occurred on the site.
13	Tank Truck Spill Site	1	Site 13 is a spill site located along the eastern perimeter road of the base (within Site 5). In 1973, approximately 5,000 gallons of jet fuel spilled to the ground. There was no reported spill contaminant or cleanup.

Note: See Figure 3.3-2 for site locations and refer to Appendix D for more detailed site descriptions and current status.

AOC = Area of Concern

RFA = Resource Conservation and Recovery Act (RCRA) Facility Assessment

SWMU = Solid Waste Management Unit

TCE = trichloroethylene

Table 3.3-3. Summary of Installation Restoration Program Sites
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Site No.	Site Description/Location	Operable Unit (OU)	Location and Waste Description
14	Liquid Fuel Pump Station Overflow	1	The site is located southeast of the flightline. In 1973, approximately 1,000 gallons of jet fuel spilled to the ground.
15	Fire Protection Training Area No. 3	1	This Fire Training Area is located southeast of the end of the runway between Sites 5 and 7. Fire training exercises included the burning of contaminated JP-4 fuel, and effluent was captured in unlined holding ponds from 1978 to 1991.
16	East March Sludge Drying Beds	1	Site 16 is located in the eastern portion of the Main Base, at the south end of the flightline parking apron. Sewage sludge drying beds were used from 1938 to 1977 for the former East March Wastewater Treatment Plant.
17	Swimming Pool Fill	2	Site 17 is a former swimming pool in the historic district. The pool may have been used to dispose of wastes, including drummed wastes, paints, solvents, asbestos, and other flightline wastes in 1979 or 1980.
18	Engine Test Cell	1	Floating product was detected on groundwater in the central portion of the airfield. Source(s) of this product have not been positively identified.
19	West March Sludge Drying Beds	2	Site 19 is located west of I-215, adjacent to the present wastewater treatment plant, and consists of both current (with under drains) and past (without under drains) sludge drying beds (used from 1941 to 1977).
20	Landfill No. 7	2	Site 20 covers approximately 7 acres in the southwestern portion of the Riverside National Cemetery. The site was utilized as the base landfill from 1958 to 1962, and again from 1963 to 1965. Domestic solid waste, building foundation and demolition debris, and possibly small amounts of waste oils, solvents, paints, paint strippers, thinners, and pesticide containers) were disposed of on site.
21	Coudures Effluent Pond	2	The pond is located approximately 2.5 miles south of the base and was used from 1941 to 1946, and from 1955 to 1984 for holding treated wastewater.

Note: See Figure 3.3-2 for site locations and refer to Appendix D for more detailed site descriptions and current status.

Table 3.3-3. Summary of Installation Restoration Program Sites
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Site No.	Site Description/Location	Operable Unit (OU)	Location and Waste Description
22	Landfill No. 2	2	Site 22 covers approximately 7 acres between I-215 and the runway. The site was utilized as a landfill from 1942 to 1951, and reportedly contains domestic and shop wastes. Very little information on this site is available.
23	East March Effluent Pond	2	The pond is located off base, adjacent to the southeastern base boundary. The pond was used from 1938 to 1977 for holding treated wastewater.
24	Landfill No. 1	2	Site 24 covers approximately 1.5 acres west of the West March wastewater treatment plant. The site was utilized as a landfill from 1941 to 1965, and was used primarily for disposal of incinerator ash. Small amounts of domestic solid wastes, shop wastes, and demolition debris may also be present.
25	Munitions Residue Burial Site	2	This site includes two burial trenches (Sites 25a and 25b) in the northwest portion of West March, southeast of the WSA. Small-scale munitions were disposed of on site from the late 1950s. Approximately 300 gallons of acetone may also have been disposed.
26	Water Treatment Plant Sludge	2	Site 26 consists of sludge disposal areas in the southeast corner of West March, adjacent to the Small Arms Range. Sludge from lime-soda ash treatment of water was placed in impoundments and was allowed to accumulate on adjacent land from 1941 to 1984.
27	Facility 422 Underground POL Tanks	2	Site 27 includes six 50,000-gallon USTs located at the base Motor Pool, on Graeber Street south of Meyer Drive. The USTs were installed in 1941 and were used for storage of various fuels, solvents, hydraulic fluid, and waste POL. Three of the USTs remain active.
28	Zone Groundwater Monitoring Program No. 1 (sites 5, 7, 9, 10, 13 and 15)	2	Site 28 is in the southeastern portion of the Main Base, southeast of the main aircraft parking apron. In 1993, Sites 5, 7, 9, 10, 13 and 15 were clustered to facilitate groundwater monitoring and soil sampling activities.
29	Fire Training Area No. 1	1	This Fire Training Area is in the eastern portion of the Main Base. Prior to 1951, waste oil, contaminated fuel, and spent solvents were burned during fire training exercises.

Note: See Figure 3.3-2 for site locations and refer to Appendix D for more detailed site descriptions and current status.

UST = underground storage tank

WSA = weapon storage area

POL = petroleum, oil, and lubricants

Table 3.3-3. Summary of Installation Restoration Program Sites
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Site No.	Site Description/Location	Operable Unit (OU)	Location and Waste Description
30	Construction Rubble Burial Site	2	Site 30 is located west of I-215, north of Cactus Avenue. The site was reportedly used only for disposal of inert construction debris.
31	Solvent Spill	1	The site is located in the eastern portion of the Main Base. Solvents were repeatedly discharged to the ground from the mid-1950s to the mid-1970s. TCE has been detected in the groundwater downgradient from this site.
32	Building Demolition Areas	2	This site consists of numerous locations of old buildings throughout the Main Base area that were razed and the foundation materials were left in place. No contamination has been identified in these areas.
33	Panero Aircraft Fueling System	3	Extensive soil and groundwater contamination was identified at this aircraft refueling facility, located in the central portion of the base, on the aircraft parking apron. This site included a pumphouse, tank farm, and associated underground piping.
34	Pritchard Aircraft Fueling System	1	Contaminated soils were identified at the site of an aircraft refueling facility located at the southeast end of the flightline. This facility was in operation from 1962 to 1990. Six 50,000-gallon USTs were removed in 1991.
35	15th Air Force Leaking USTs	2	This site includes USTs in the southwestern portion of West March that were identified to be leaking. These tanks contained diesel fuel and possibly volatile organic liquids, and have been removed.
36	Solvent Disposal Area	2	Site 36 is located in the central portion of the Main Base. Releases may have occurred at a UST connected to solvent sinks. The tank appears to have been disconnected from solvent sinks and possibly a drain in the facility. Discharge from the sinks and drain may have been discharged directly to the ground.

Note: See Figure 3.3-2 for site locations and refer to Appendix D for more detailed site descriptions and current status.

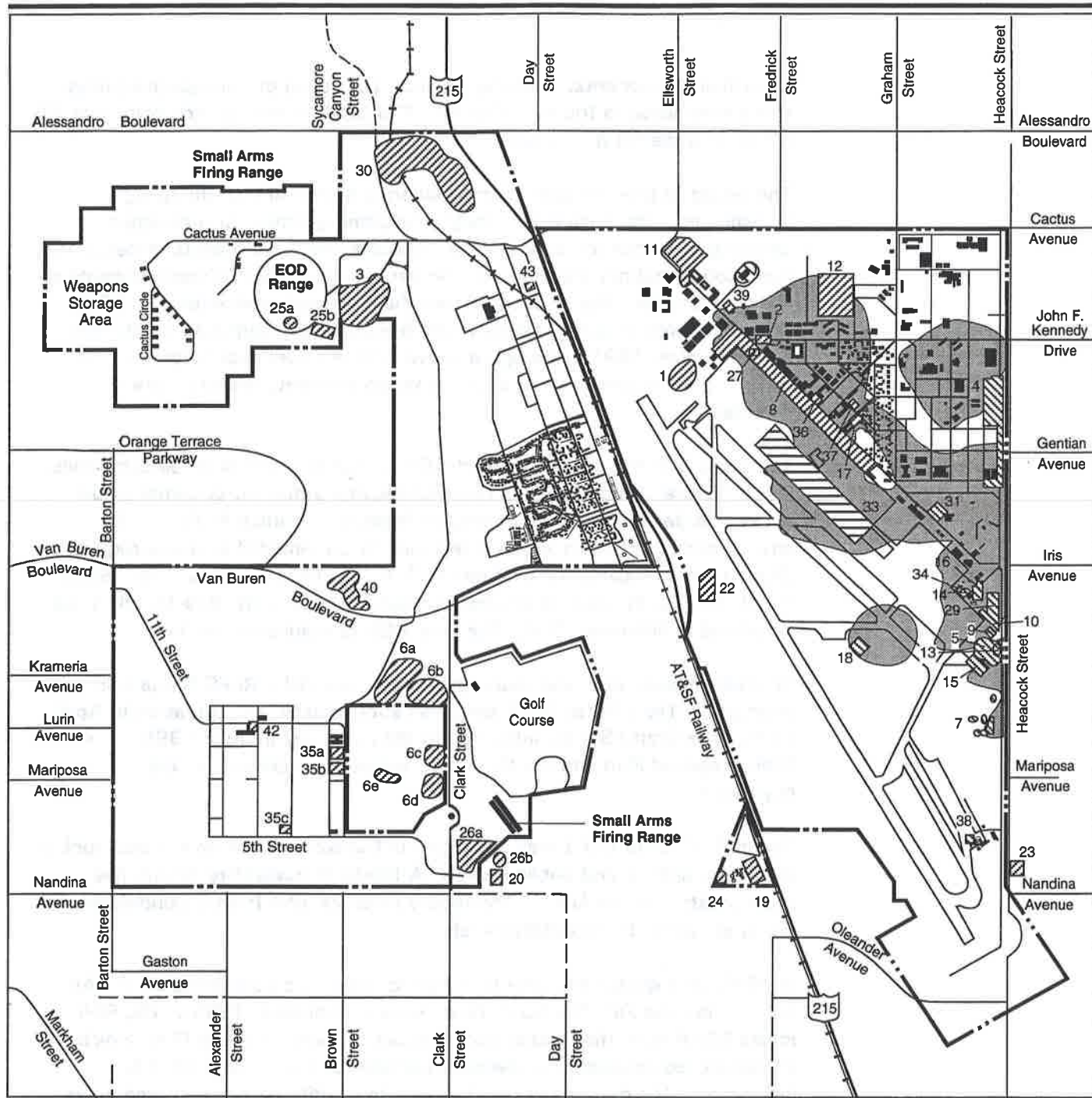
POL = petroleum, oil, and lubricants
TCE = trichloroethylene
UST = underground storage tank

Table 3.3-3. Summary of Installation Restoration Program Sites
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Site No.	Site Description/Location	Operable Unit (OU)	Location and Waste Description
37	Transformer at Facility 317	2	This facility is located in the central portion of the Main Base. PCB-contaminated soil, discovered in 1984, has been excavated and removed.
38	Transformer at Facility 1305	1	This facility is located at the Alert Facility in the southeastern portion of the Main Base. PCB-contaminated soil, discovered in 1984, has been excavated and removed.
39	Abandoned Gas Station	2	Site 39 is located on Graeber Street, northwest of Meyer Drive. Four 10,000-gallon USTs were installed in the early 1930s and abandoned in place about 1979.
40	Landfill No. 8	2	Site 40 is in the central portion of West March, north of Van Buren Boulevard. The landfill comprises natural gullies and abandoned gravel quarries. Some fill material consists of drums, battery casings, and construction rubble.
41	Hawes Radio Relay Site	2	The Radio Relay Annex, operated by the Air Force on leased land, is located in San Bernardino County near Edwards AFB. The site's features include a 500-foot-deep water well, a septic tank system, USTs, and transformers.
42	Transformer at Facility 3404	2	This site is located on West March, west of Air Force Village West. Various areas were determined to be contaminated with PCBs in 1989 as a result of a leaking sump.
43	Lubrication Rack and Pump Station	2	This former vehicle maintenance area is located on West March adjacent to I-215 and southeast of the DRMO. The facility was in operation prior to 1960. Quarterly groundwater monitoring results have detected localized benzene in the groundwater. In accordance with a Memorandum of Agreement, remediation is the responsibility of Caltrans.

Note: See Figure 3.3-2 for site locations and refer to Appendix D for more detailed site descriptions and current status.

Caltrans = California Department of Transportation
 DRMO = Defense Reutilization and Marketing Office
 PCB = polychlorinated biphenyl
 UST = underground storage tank



EXPLANATION

- IRP Site in Operable Unit 1
- IRP Site in Operable Unit 2
- IRP Site in Operable Unit 3
- Plume
- Unpaved Road
- Base Boundary

0 900 1800 3600 Feet



Site 28 (OU-2) is a group of monitoring wells associated with IRP Sites 5, 7, 9, 10, 13, and 15.

Site 32 (OU-2) is composed of numerous construction material deposits located throughout the main base, not shown.

Site 41 (OU-2) is Hawes Site located approximately 19 miles east of Barstow, CA.

Site 21 (OU-2) is located approximately 2.0 miles south of the Main Base.

Source: U.S. Air Force, 1994a.

Installation Restoration Program (IRP) Sites and Ordnance Ranges

Figure 3.3-2

other fuel components. Floating product, consisting of nonaqueous phase fuel components, is found at Site 18. The OU 1 Plume extends from Site 31 off base to the south and east.

The extent of groundwater contamination at March AFB is still being investigated. The base is presently conducting quarterly groundwater sampling and installing additional groundwater monitoring wells to define the type, concentration, areal extent, and vertical distribution of contaminants in the groundwater. Figure 3.3-2 shows the combined areal extent of PCE, TCE, and benzene at non-detect levels from quarterly sampling conducted during summer 1994. The figure shows only the combined lateral extent and not the concentration or depth at which the contaminants were detected.

The Stage 5 investigation placed the OU 1 sites into one of three categories: (1) No Further Action (NFA) is required because sufficient documentation exists that demonstrates no significant impacts to human health or the environment, (2) further study is required, or (3) remedial action is required. Sites in the NFA category are Sites 5, 7, 9, 13, 14, 16, 29, and 38. Sites 4, 10, 15, 18, 31, and 34 require remediation. The draft ROD for OU 1 was submitted in February 1994. The Final ROD is nearing completion.

The field investigation and report process for the OU 2 RI/FS Stage 5 is ongoing. A Draft RI for OU 2 sites was submitted to the regulators in April 1995. The Draft FS was submitted to the regulators in June 1995. The Draft Proposed Plan and the Draft ROD are pending delivery to the regulators.

The draft ROD for OU 3 was submitted in November 1994 and is undergoing regulatory agency and public review. A full-scale treatability facility has been constructed for OU 3. The facility removes JP-4 from groundwater and treats the water to acceptable levels.

In 1993, an Expanded Source Investigation RFA was completed by the Air Force under the IRP (The Earth Technology Corporation, 1993). The RFA meets RCRA permitting requirements under Section 17 of the FFA, which addresses requirements for statutory compliance and RCRA-CERCLA integration. The purpose of the RFA was to identify potential source areas where hazardous constituents may have been released to the environment. During the RFA, solid waste management units (SWMUs) and AOCs were identified and preliminary determinations regarding releases, need for further action, interim measures, or whether the SWMUs or AOCs pose a threat to human health and the environment were made. The RFA identified 104 SWMUs and 51 AOCs. Fifty-six SWMUs and one AOC were not recommended for further investigation. Forty-four SWMUs and 14 AOCs were recommended for further investigation; 1 SWMU and 9 AOCs were recommended for prompt response because contamination posed a threat to human health and/or the environment. Additionally, 3 SWMUs and 27 AOCs

were upgraded to potential release locations (PRLs) because a contaminant release had occurred or there was a high potential for a release to occur. Subsequent investigations have determined, and regulatory agencies have concurred, that no contamination is present at 19 of these PRLs and no further action is required. The remaining 30 PRL sites are currently being investigated (Appendix H, Table H-1).

Realignment Baseline. The realignment of March AFB will not affect the ongoing IRP activity. These IRP activities will continue in accordance with U.S. EPA, state, and local regulatory agency regulations to protect human health and the environment, regardless of the alternative chosen for reuse. The FFA among the U.S. Air Force, U.S. EPA Region IX, and the state assures this joint involvement in the IRP. The establishment of the RAB assures interaction among the local community, the U.S. Air Force, and regulators. IRP activities within SKR habitat areas will continue to be coordinated with the USFWS in accordance with the 1993 Biological Opinion.

IRP remedial activities will continue well past the March 1996 realignment date. The OL will assume management responsibilities for all IRP activities on disposal property. The AFRES will assume responsibility for IRP site remediation within the cantonment. The OL and AFRES will oversee the coordination of the contractors and assure that U.S. EPA, California EPA/DTSC, RWQCB Santa Ana Region, and local community concerns are addressed pursuant to the FFA. The Air Force will retain easements in order to perform operations and maintenance on remediation systems on disposal property. Funding for the restoration activities at closure and realignment installations was authorized by Congress in 1991 specifically for that purpose. It is anticipated that future authorization acts will continue to fund environmental restoration activities at closing/realigning installations.

Prior to the transfer of any property, the Air Force must comply with the provisions of CERCLA § 120(h), as amended by CERFA, P.L. 102-425. CERCLA § 120(h) requires that, before property can be transferred from federal ownership, the United States must provide notice of specific hazardous substance activities and conditions on the property and, when there have been any such hazardous substance activities, include in the deed a covenant warranting that all remedial action necessary to protect human health and the environment with respect to any hazardous substance remaining on the property has been taken before the date of such transfer. Furthermore, for all government property transfers by deed, a covenant must also warrant that any additional remedial action found to be necessary after the date of such sale or transfer shall be conducted by the United States.

The Air Force must complete the CERCLA process for the contaminated sites on disposal property and provide the assurances required by CERCLA §120(h) for all properties transferred. The Air Force will retain access rights in order to complete required remediation activities. The combination of

these requirements may delay parcel disposition or conveyance and affect reuse.

The Air Force is committed to the identification, assessment, and remediation of the contamination from hazardous substances at March AFB. This commitment will assure the protection of public health as well as restoration of the environment. Additionally, the Air Force will work aggressively with the regulatory community to ensure that parcel disposition or conveyance occurs at the earliest possible date so as not to impede the economic redevelopment of the area through reuse of disposal property. Quantification of those delays based on the conceptual plans for all redevelopment alternatives and what is currently known at this stage of the IRP is not possible.

3.3.4 Storage Tanks

Underground storage tanks (USTs) are subject to federal regulations within RCRA, 42 U.S.C. 6991, and U.S. EPA implementing regulations, Title 40 CFR 112 and 280. These regulations were mandated by the Hazardous and Solid Waste Amendments of 1984. The state of California has assumed implementation of federal UST standards by establishing state UST regulations. California regulates USTs under CCR Title 23, Section 2610 et seq. and the Health and Safety Code Sections 25280 through 25299.7 of Division 20, Chapter 6.7, which are more stringent than the federal regulations. California's regulations are enforced by the RWQCB and are intended to protect waters of the state from discharges of hazardous substances from USTs by establishing standards for construction, monitoring, release reporting, repair, upgrade, and closure of USTs. At March AFB, these regulations are implemented by the County of Riverside Health Services Agency, Department of Environmental Health, Hazardous Materials Management Division.

Aboveground storage tanks are subject to regulation under the Clean Water Act (CWA) (33 U.S.C. Sections 1251-1578) oil pollution provisions (40 CFR 112); South Coast Air Quality Management District (SCAQMD) Rules 463, 219, and 1170; and the California Aboveground Petroleum Storage (APS) Act (Division 20 of the Health and Safety Code, Chapter 6.67, Section 25270-25270.13). The APS Act establishes a regulatory program for applicable aboveground storage tanks and is administered by the RWQCB. The operation and construction of aboveground storage tanks are also subject to National Fire Protection Association fire code guidelines (Chapters 30, 58, and 329) and Article 79 of the Uniform Fire Code.

Prerealignment Reference. The Environmental Management Flight implements UST regulations and compliance strategies, monitoring alternatives, and operating procedures. An SPCC Plan (U.S. Air Force, 1995e) has also been implemented at March AFB and is discussed in Section 3.3.1.

There are 31 active and 3 inactive USTs at March AFB (Appendix H, Table H-2). All active USTs at March AFB are registered with the County of Riverside Health Services Agency, Department of Environmental Health, Hazardous Materials Management Division, in compliance with County Ordinance 617. USTs are subject to tank tightness testing, soil vapor monitoring, and inventory control for leak detection (CCR Title 23, Section 2640 et seq.). Permits obtained through the SCAQMD are listed in Appendix F.

March AFB currently has 100 active and 4 inactive aboveground storage tanks (Appendix H, Table H-3). A Bulk Fuel Storage Area in the northern portion of the Main Base and two hydrant fueling systems utilize the largest of these tanks. The bulk storage area consists of three aboveground storage tanks (Facilities 2203, 2204, and 2205) with a total capacity of 5.88 million gallons. JP-8 is delivered to these tanks via an 8-inch Santa Fe pipeline from Colton, California. A transfer line distributes the JP-8 fuel from the Bulk Fuel Storage Area to one of two Phillips Type III aircraft hydrant fueling systems. One hydrant fueling system, located in the center of the main aircraft parking apron, was constructed in 1993. A pumphouse (Building 485) and two 420,000-gallon aboveground storage tanks (Facilities 483 and 484) provide fuel to 20 hydrant fuel outlets on a constant-flow, closed-loop system. This system also delivers fuel to a truck fill stand. A second, similar hydrant fueling system was constructed in 1990. This system is located at the southern end of the flightline, and consists of a pumphouse (Building 1270), two 450,000-gallon aboveground storage tanks (Facilities 1272 and 1273), 20 hydrant fuel outlets, and a fuel truck fill stand.

Leak detection and monitoring for the JP-8 distribution systems are conducted in compliance with the APS Act and maintained by the Fuels Maintenance Group.

Thirty-four oil/water separators are present at March AFB; eight are currently inactive (Appendix H, Table H-4). Because oil/water separators are flow-through systems and are not considered USTs, they are exempt from UST regulations under CCR Title 23.

Realignment Baseline. When a UST is temporarily closed for more than 1 year, it must be permanently closed or upgraded to meet any new UST standards, except for spill and overfill protection, according to CCR Title 23 Sections 2670, 2671, and 2672. USTs that meet these standards may be left in place to support reuse activities. USTs that do not meet current regulations or have not been identified for reuse will be deactivated and removed. These operations will be monitored by the County of Riverside Health Services Agency, Department of Environmental Health, Hazardous Materials Management Division. The RWQCB, Santa Ana Region, will assume responsibility for cleanup if a UST is identified as having released contamination into the surrounding soil and/or groundwater prior to 1983. The aboveground storage tanks will be purged at base realignment to

minimize fire hazards. All oil/water separators will be pumped and cleaned of any contents in accordance with applicable regulations.

Management of storage tanks and oil/water separators on disposal property will be the responsibility of the OL.

AFRES and tenant organizations will continue to utilize a number of USTs, aboveground storage tanks, and oil/water separators in support of flight operations and maintenance activities within the military cantonment area. The Bulk Fuel Storage Area and the two fuel hydrant systems will remain in operation and will be maintained by the AFRES, who will be responsible for proper management of these systems or storage tanks.

3.3.5 Asbestos

Asbestos-containing material (ACM) abatement is regulated by the U.S. EPA and the Occupational Safety and Health Administration (OSHA). The state of California also has regulations pertaining to ACM abatement that are enforced by California EPA/DTSC. At the local level, SCAQMD Rule 1403 addresses ACM. Asbestos fiber emissions into the ambient air are regulated in accordance with Section 112 of the Clean Air Act (CAA), which established the National Emissions Standards for Hazardous Air Pollutants (NESHAP). The NESHAP regulations address the demolition or renovation of buildings with ACM. The Asbestos Hazard Emergency Response Act (AHERA) P.L. 99-519 and P.L. 101-637 provide the regulatory basis for handling ACM in kindergarten through 12th grade school buildings. AHERA and OSHA regulations cover worker protection for employees who work around or abate ACM.

Renovation or demolition of buildings with ACM has a potential for releasing asbestos fibers into the air. Asbestos fibers could be released due to disturbance or damage of various building materials, such as pipe and boiler insulation, acoustical ceilings, sprayed-on fireproofing, and other material used for soundproofing or insulation.

Prerealignment Reference. The current Air Force policy is to manage or abate ACM in active facilities, and remove ACM, following regulatory requirements, prior to facility demolition. ACM is abated when there is a potential for asbestos fiber release that would affect the environment or human health.

A basewide survey for ACM is required by FPMR disclosure requirements, Air Force policy, and by the California Health and Safety Code, Section 25915 et seq., prior to property disposal. Although a comprehensive basewide asbestos survey for March AFB has not been conducted, several partial surveys have been completed. These surveys, however, have not included complete sampling within each facility.

A partial survey of the base hospital (Building 2990) was conducted in summer 1991 and 14 military family housing units in Arnold Heights were surveyed in fall 1992. In fall 1993, a comprehensive basewide visual survey (no sampling) was conducted. The survey was intended to provide the data necessary to evaluate the need or extent for an asbestos survey prior to renovation, demolition, or maintenance (repair) of a specific facility. Findings were incorporated into the Base Facility Index (The Earth Technology Corporation, 1994d). Additionally, asbestos surveys of selected base buildings are conducted prior to renovation projects or as requested due to health concerns. Survey results, identifying the type and location of ACM, are summarized in an Asbestos Register, maintained by the Environmental Compliance section of the Environmental Management Flight.

The Asbestos Management Plan (The Earth Technology Corporation, 1994b) establishes policies to manage asbestos hazards at March AFB; this includes identifying individual and organizational responsibilities and establishing program management activities. The policies established under the Asbestos Management Plan are implemented under the Asbestos Operating Plan (The Earth Technology Corporation, 1994c). Implementation of these plans is the responsibility of the Environmental Management Flight and ensures that personnel are not exposed to excessive levels of airborne asbestos. Bioenvironmental Engineering provides support by conducting site surveys, bulk sampling, and air monitoring. Bioenvironmental Engineering personnel also monitor asbestos abatement projects, which are performed by the on-base Civil Engineering asbestos abatement team or by an outside contractor.

Realignment Baseline. An asbestos survey will be conducted prior to property transfer of all facilities identified for disposal. Asbestos that is in an unsafe condition will be abated in accordance with Air Force policy and applicable health laws, regulations, and standards, if it is determined that a health hazard exists. Asbestos survey results including type, quantity, and condition of ACM will be provided to recipients prior to lease, sale, conveyance, or transfer of the property.

3.3.6 Pesticide Usage

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. §136, regulates the registration and use of pesticides. Pesticide management activities are subject to federal regulations contained in Title 40 CFR 162, 165, 166, 170, and 171. Implementation of federal regulations by the state are found under CCR Title 3, Chapter 4.

Prerealignment Reference. Pest management at March AFB is conducted by the 722nd Civil Engineering Entomology Office, which implements the Pesticide Management Plan (U.S. Air Force, 1993h) and Herbicide Management Plan (U.S. Air Force, 1994d). These plans are revised annually and identify general areas and/or specific pests (i.e., insects, weeds) that may require application of pesticides. The plans also outline safety

procedures to protect workers and public health. The application of pesticides during golf course maintenance is the responsibility of the Morale, Welfare and Recreation (MWR) office and is conducted under the Pest Management Plan. All pesticide applications on March AFB are conducted under the supervision of a certified pesticide applicator. MWR stores and mixes pesticides at Building 6112. On-base application procedures, as well as health and safety practices, are regularly inspected by Bioenvironmental Engineering, and annual reviews are also conducted through the Air Force Environmental Compliance Assessment and Management Program (ECAMP) and by the U.S. Department of Agriculture. A private contractor provides grounds maintenance services on base and in doing so utilizes only herbicides, under a separate applicator certification.

An inventory of pesticides stored at March AFB is provided in Appendix H, Table H-5. The majority of these materials are stored in the Entomology Shop, within the Civil Engineering office (Building 2507). Most pesticides are utilized for grounds maintenance and pest management on an as-needed basis, such as pest management at military family housing; weed control on parking lots, sidewalks, aircraft parking aprons, and taxiways; and rodent control throughout the base. These activities are outlined in the Pest Management and Herbicide Management plans. Pesticides are ordered through base supply or directly from local vendors. Household pesticides are available for purchase at the Base Exchange (Building 758), the AAFES Shoppette (Building 660), and the Commissary (Building 1000).

Realignment Baseline. At the time of realignment, pesticides will be used by the OL, AFRES, and tenant organizations for pest management and grounds maintenance.

3.3.7 Polychlorinated Biphenyls

Commercial PCBs are industrial compounds produced by chlorination of biphenyls. PCBs persist in the environment, accumulate in organisms, and concentrate in the food chain. PCBs are used in electrical equipment, primarily in capacitors and transformers, because they are electrically nonconductive and stable at high temperatures.

The disposal of these compounds is regulated under the federal Toxic Substances Control Act (TSCA), 15 U.S.C. 2605, which banned the manufacture and distribution of PCBs, with the exception of PCBs used in enclosed systems, in 1978. By federal definition, PCB equipment contains 500 parts per million (ppm) PCBs or greater, whereas PCB-contaminated equipment contains PCB concentrations of greater than 50 ppm, but less than 500 ppm. The U.S. EPA, under TSCA, regulates the removal and disposal of all sources of PCBs containing 50 ppm or more; the regulations are more stringent for PCB equipment than for PCB-contaminated equipment. California regulates PCBs under CCR Title 22, Chapter 30 and California Health and Safety Code Chapter 6.5. These regulations are more stringent

than TSCA and U.S. EPA implementation regulation Title 40 CFR 761 when regulating the disposal of PCBs. Within California, fluids containing 5 to 49 ppm PCBs are defined as PCB items and are regulated as a hazardous waste.

Prerealignment Reference. The March AFB Civil Engineering Utility Element conducted a basewide survey to identify all PCB transformers on base in 1991. All transformers identified as containing 50 ppm or more PCBs have been replaced. The last Air Force-owned transformer containing 5 ppm or more of PCBs was removed from March AFB in February 1994.

Realignment Baseline. All federally and state-regulated PCBs were either removed and properly disposed of prior to realignment, or were below federal and state action levels.

3.3.8 Radon

Radon is a naturally occurring, colorless and odorless radioactive gas that is produced by radioactive decay of naturally occurring uranium. Uranium decays to radium, of which radon gas is a by-product. Radon is found in high concentration in rocks containing uranium, such as granite, shale, phosphate, and pitchblende. Atmospheric radon is diluted to insignificant concentrations. Radon that is present in soil, however, can enter a building through small spaces and openings, accumulating in enclosed areas, such as basements. The cancer risk caused by exposure, through the inhalation of radon, is currently a topic of concern.

There are no federal or state standards regulating radon exposure at the present time. U.S. EPA publishes a pamphlet, A Citizen's Guide to Radon (U.S. EPA, 1992b), which offers advice to persons concerned about radon in their homes. Air Force policy requires implementation of the Air Force Radon Assessment and Mitigation Program to determine levels of radon exposure of military personnel and their dependents. The U.S. EPA has made testing recommendations for both residential structures and schools. For residential structures, using a 2- to 7-day charcoal canister test, a level between 4 and 20 picocuries per liter (pCi/l) should lead to additional screening within a few years. For levels of 20 to 200 pCi/l, additional confirmation sampling should be accomplished within a few months. If the level is in excess of 200 pCi/l, the structure should be evacuated immediately. Schools are to use a 2-day charcoal canister test; if readings are 4 to 20 pCi/l, a 9-month school year survey is required. If levels are below 4 pCi/l, no further action is recommended. Table 3.3-4 summarizes the recommended radon surveys and action levels.

Prerealignment Reference. Air Force policy requires a detailed radon assessment program for levels of 4 pCi/l or greater. The radon screening survey at March AFB was conducted in May 1988 by base Bioenvironmental

Table 3.3-4. Recommended Radon Surveys and Mitigations

Facility	U.S. EPA Action Level	Recommendation
Residential	4 to 20 pCi/l	Additional screening. Expose detector for 1 year. Reduce radon levels within 3 years if confirmed high readings exist
Residential	20 to 200 pCi/l	Perform follow-up measurements. Expose detectors for no more than 6 months
Residential	Above 200 pCi/l	Follow-up measurements. Expose detectors for no more than one week. Immediately reduce radon levels
Two-Day Weekend Measurement		
School	4 to 20 pCi/l	Confirmatory 9-month survey. Alpha track or ion chamber survey
School	Greater than 20 pCi/l	Diagnostic survey or mitigation

Note: Congress has set a national goal for indoor radon concentration equal to the outdoor ambient levels of 0.2 to 0.7 pCi/l.

EPA = Environmental Protection Agency

pCi/l = picocuries per liter

Source: U.S. EPA, 1992b.

Engineering personnel. The survey consisted of 35 samples taken from 30 military family housing units (7 Green Acres units and 23 Arnold Heights units), the child-care center, the VOQ (Building 102), the short-term temporary military family housing facility (Building 501), an airmen's dormitory (Building 940), and the band center (Building 3418). All sample results were below the U.S. EPA's recommended mitigation level of 4 pCi/l; therefore, no detailed assessment survey is needed and mitigation activities are not necessary or advised.

Realignment Baseline. The radon screening sample results were all below 4 pCi/l; therefore, no follow-up assessment survey is required.

3.3.9 Medical/Biohazardous Waste

Current federal regulations do not provide for regulation of medical wastes, but do allow for states to individually regulate medical wastes. The state of California regulates medical waste under the Medical Waste Management Act, California Health and Safety Code Sections 25015-25099.3. The Act provides for treatment of such wastes, prior to disposal, by all generators of

medical wastes regardless of the amount generated. Article 9 of this Act details the approved treatment methods briefly described below:

- Incineration in a controlled-air multichambered incinerator, which provides complete combustion of the waste to carbonized or mineralized ash, rendering infectious waste noninfectious and disposable as nonhazardous waste
- Discharge to the sewage system if the waste is liquid or semiliquid
- Sterilization by heating in a steam sterilizer (autoclave).

Other sterilization techniques, approved by the California DHS, result in the destruction of pathologic organisms.

Riverside County Department of Health enforces the generation, storage, transportation, and disposal of medical waste within the county under Riverside County Ordinance 718.

Additionally, the 722nd Medical Group manages medical waste at March AFB according to Medical Group Regulation 167-2, Medical Treatment Facility (MTF) Waste Management (U.S. Air Force, 1992d). This regulation establishes responsibilities and defines the specific policies and procedures for the proper management of all medical waste generated in an MTF. This regulation is consistent with Air Force Occupational Safety and Health Standard 127-8, as well as with state and local regulations.

Prerealignment Reference. The 722nd Medical Group at March AFB operates a 75-bed hospital (Building 2990), which provides general surgical, maternity, radiological, pharmaceutical, and other medical services to active military and their dependents, as well as retirees and their dependents. The base dental clinic is adjacent to the base hospital within Building 2995. In 1993, the hospital and dental clinic generated approximately 9,000 pounds of biohazardous waste monthly. March AFB has been permitted by Riverside County Department of Health as a large quantity generator of biohazardous waste (Permit No. 86134) (see Appendix F). Medical and photochemical wastes generated by medical and dental operations are collected daily and stored in a secured portion of Building 2992. A licensed contractor picks up and disposes of the medical waste three times a week. Prior to 1992, biomedical wastes were destroyed using an incinerator located north of the hospital; any remaining ash was disposed of as municipal refuse. The county also makes regular announced and unannounced inspections of the medical facility.

The 163rd ARW (CAANG) operates a small clinic in Building 768. Small quantities of photochemical and medical wastes are generated from dental and medical activities.

Medical, dental, and nondestructive inspection (NDI) X-ray operations, as well as photographic operations, produce photochemical wastes. These wastes are collected and disposed of off base by a private contractor.

The Nuclear Medicine Group utilizes several radioactive sources as radiopharmaceuticals for various diagnostic and treatment purposes (see Appendix F). The management of these materials is the responsibility of the Nuclear Medicine Group with oversight by the base Radiation Safety Officer.

Realignment Baseline. The hospital will be inactive and existing biohazardous waste will be processed and removed prior to realignment in accordance with appropriate federal, state, and local regulations. AFRES and CAANG will operate a small medical/dental clinic/training facility within Building 2300. Services will include physical and dental examinations, injections, and drawing blood for analysis. These activities will generate small quantities of medical and photochemical waste, which will be disposed of in accordance with applicable federal, state, and local regulations.

3.3.10 Ordnance

Ordnance is or has been stored, used, or disposed of in seven locations on March AFB: the explosive ordnance disposal (EOD) facility, two munitions residue burial areas, the small arms range, the WSA, an ancillary explosives storage igloo (Building 1315), and an abandoned skeet range.

Prerealignment Reference. Facility 5060 (the EOD facility) is located in the northwest portion of the base, east of the WSA. The facility consists of a detonation pit and protective bunker, both constructed in 1967. The EOD facility was in operation until approximately 1991, when the U.S. EPA had the facility closed. Ammunition for small arms, flares, smoke grenades, and jet engine starter cartridges was disposed of by detonation with C-4 explosives. The EOD range was utilized on an as needed basis, and the type and amount of ordnance varied with each disposal. No EOD closure activities have been conducted at or around the EOD range. Ordnance awaiting disposal is removed and disposed of off base by the Sierra Army Depot or a civilian contractor.

The two munitions residue burial areas, located in the northwest portion of the base, are being investigated under the IRP as Sites 25a and 25b. These sites are described in Table 3.3-3.

The base small arms range (Buildings 6005 and 6006) in the southern portion of West March is operated by the Security Police Squadron. The facilities were constructed in 1942 as a bore sighting range for tanks. Only one of the four original firing bays is still used by approximately 100 personnel weekly. Bullets are fired into an earthen berm at the back of the range. There are no records of berm replacement or periodic removal of particulate lead from the soil. A November 1994 soil treatability study

showed that lead levels in soil samples from the berm exceeded the California Soluble Threshold Level Concentration (STLC) of 5 milligrams/liter. The study recommended that the bullets be removed and the soil treated to reduce lead levels to concentrations below the STLC.

The WSA in the northwestern corner of West March was constructed in 1955-1956 to support SAC operations. The WSA consists of 14 earthen-bermed munitions storage igloos (Buildings 5022 to 5030 and 5033 to 5037) and a number of munitions maintenance and support facilities (Buildings 5038 to 5044).

A vacant ancillary explosives storage igloo (Building 1315) is located in an open field immediately east of the alert apron. The igloo is partially covered with earth. Dates of operation and specific materials stored in the igloo have not been determined.

An abandoned skeet range was located northeast of Facility 6006, the small arms range (currently the base golf course). Dates of operation are unknown.

Realignment Baseline. The EOD range will be cleared of unexploded ordnance and properly closed prior to disposal of that parcel. All ordnance accumulated since the EOD range closure or held in storage at the WSA will be properly packaged and transported off base for proper disposal or use by other Air Force units. Prior to property disposal, soils at the small arms range will have been treated to reduce lead levels to concentrations below the STLC. The Air Force will conduct further evaluation at the abandoned skeet range to determine whether residual lead contamination is present. This area will be cleared prior to property disposal.

3.3.11 Lead-Based Paint

Human exposure to lead has been determined to be an adverse health risk by agencies such as OSHA and U.S. EPA. Sources of exposure to lead include dust, soils, and paint. Waste containing levels of lead exceeding a maximum concentration of 5.0 milligrams per liter, as determined using the U.S. EPA Toxic Characteristic Leaching Procedure that simulates the leaching behavior of landfill wastes, is defined as hazardous under Title 40 CFR 261 and Title 22, Chapter 11, Section 66261.24 of the CCR. If a waste is classified as hazardous, disposal must take place in accordance with U.S. EPA and state hazardous waste rules.

In 1973, the Consumer Product Safety Commission (CPSC) established a maximum lead content in paint of 0.5 percent by weight in a dry film of newly applied paint; in 1978, under the Consumer Product Safety Act, P.L. 101-608 as implemented by Title 16 CFR 1303, the CPSC lowered the allowable lead level in paint to 0.06 percent. The act also restricted the use of lead-based paints in nonindustrial facilities. In 1989, the U.S. EPA

established a cleanup criterion for lead in soil of 500 to 1,000 ppm total lead when the possibility of child contact exists. Specific cleanup levels are based on the characteristics of individual sites. The Lead-Based Paint Poisoning Prevention Act (LBPPPA), 42 U.S.C. 4821 et seq., as amended by the Residential Lead-Based Paint Hazard Reduction Act of 1992, requires that lead-based paint hazards in federal housing facilities be identified and abated. In 1993, under Title 29 CFR 1926, OSHA extended the permissible exposure limit for general industrial workers of 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) of air to include workers in the construction field.

Title X of the Residential Lead-Based Paint Hazard Reduction Act (effective 1 January 1995), 42 U.S.C. 4822, and Air Force policy require that a lead-based paint survey of high-priority facilities be conducted at March AFB. High-priority facilities consist of facilities or portions of facilities frequented by children under the age of seven, and may include military family housing, transient lodging facilities, DOD-maintained day care centers and schools, playgrounds, and playground equipment where lead-based paint is found in March AFB housing constructed prior to 1978. The Air Force will disclose that condition to potential transferees. Lead-based paint hazards identified on all housing units constructed prior to 1960 will be abated in a manner that will permanently eliminate the lead-based paint hazards (i.e., paint removed from surface, painted surface material replaced).

Abatement includes the removal of lead-based and lead-contaminated dust, the permanent containment or encapsulation of lead-based paint, the replacement of the lead-based painted surfaces or fixtures, and the removal or covering of lead-contaminated soil; and the preparation, cleanup, disposal, and post-abatement clearance testing activities associated with such measures. Deteriorated surfaces identified as containing lead-based paint in housing constructed between 1961 and 1978 will be treated (i.e., wet scraped and repainted) prior to facility disposal. Finally, lead-based paint survey results and a lead-based paint warning statement will be provided to recipients prior to property disposal, in accordance with P.L. 102-550 Title X, Sections 1013 and 1018.

Prerealignment Reference. March AFB has conducted three limited lead-based paint surveys. The first survey was performed in 1992 and consisted of 55 samples of paint scrapings taken from 14 military family housing units. The samples were analyzed for total lead content and reported results ranged from trace amounts to 2.73 percent by weight. The second survey, also performed in 1992, evaluated paint samples taken from a cross-section of 51 randomly selected military family housing and garage units on the Main Base. Sample results ranged from trace amounts to 9.4 percent by weight. In April 1994, a third survey was conducted at randomly selected military family housing units and other high-priority facilities. The survey consisted of a visual inspection of the interiors of 649 military family housing units and 28 nonresidential facilities and the exteriors of 416 military family housing units and 26 nonresidential facilities. Samples of deteriorated paint were

collected from interior and exterior surfaces. Sampling results indicated lead-based paint above the HUD-recommended action level of 0.5 percent lead-based paint by weight at five military family housing units and one day care center.

In support of federal real property disposal requirements for closing and realigning bases, the Air Force conducted a lead-based paint survey of high-priority facilities at March AFB in January 1995 (U.S. Air Force, 1995c). The survey assessed the presence of lead-based paint and associated soil contamination at a random sampling of military family housing units and high-priority facilities. The facilities included in this survey were 14 of 581 military housing units on West March (built in 1952), 13 of 129 housing units on the Main Base (built in 1928), two Child Development Centers, and playground equipment located at a picnic area on West March. In addition, 44 composite soil samples were collected. The survey results indicated the presence of lead-based paint on some surfaces in most of the facility types sampled. Of the 44 soil samples collected, 20 contained lead at concentrations in excess of 400 ppm.

Realignment Baseline. All identified lead-based paint hazards will be abated from all housing structures constructed prior to 1960. Deteriorated surfaces identified as containing lead-based paint in housing constructed between 1961 and 1978 will be treated (i.e., wet scraped and repainted), where appropriate, prior to facility disposal.

The presence of lead-based paint will be assumed for all nonsurveyed facilities constructed prior to or during 1978. Disclosure of the possible presence of lead-based paint will be included on property leases or transfer documents.

3.4 NATURAL ENVIRONMENT

This section describes the affected environment for natural resources: geology and soils, water resources, air quality, noise, biological resources, and cultural resources.

3.4.1 Geology and Soils

Geology and soils include those aspects of the natural environment related to the earth that may be affected by the disposal and reuse of March AFB property. These features include physiography, geologic units and their structure, the presence/availability of mineral and related natural resources, the potential for natural hazards, and soil conditions and capabilities.

In general, the ROI for geology is the regional geologic setting (to provide context) and specific features on the base (to determine impacts); the ROI for soils is March AFB.

3.4.1.1 Geology and Physiography

Physiography. March AFB lies in the northern end of the Perris Plain, within the Santa Ana basin, which covers an area of approximately 2,000 square miles and is part of the Peninsular Ranges Province. Other major features in the area are the Pacific Coastal Plain to the west, the Transverse Ranges (including the San Bernardino and San Gabriel mountains) and the Mojave Desert to the north, and the San Jacinto Mountains and Colorado Desert to the east (Figure 3.4-1) (Norris and Webb, 1990).

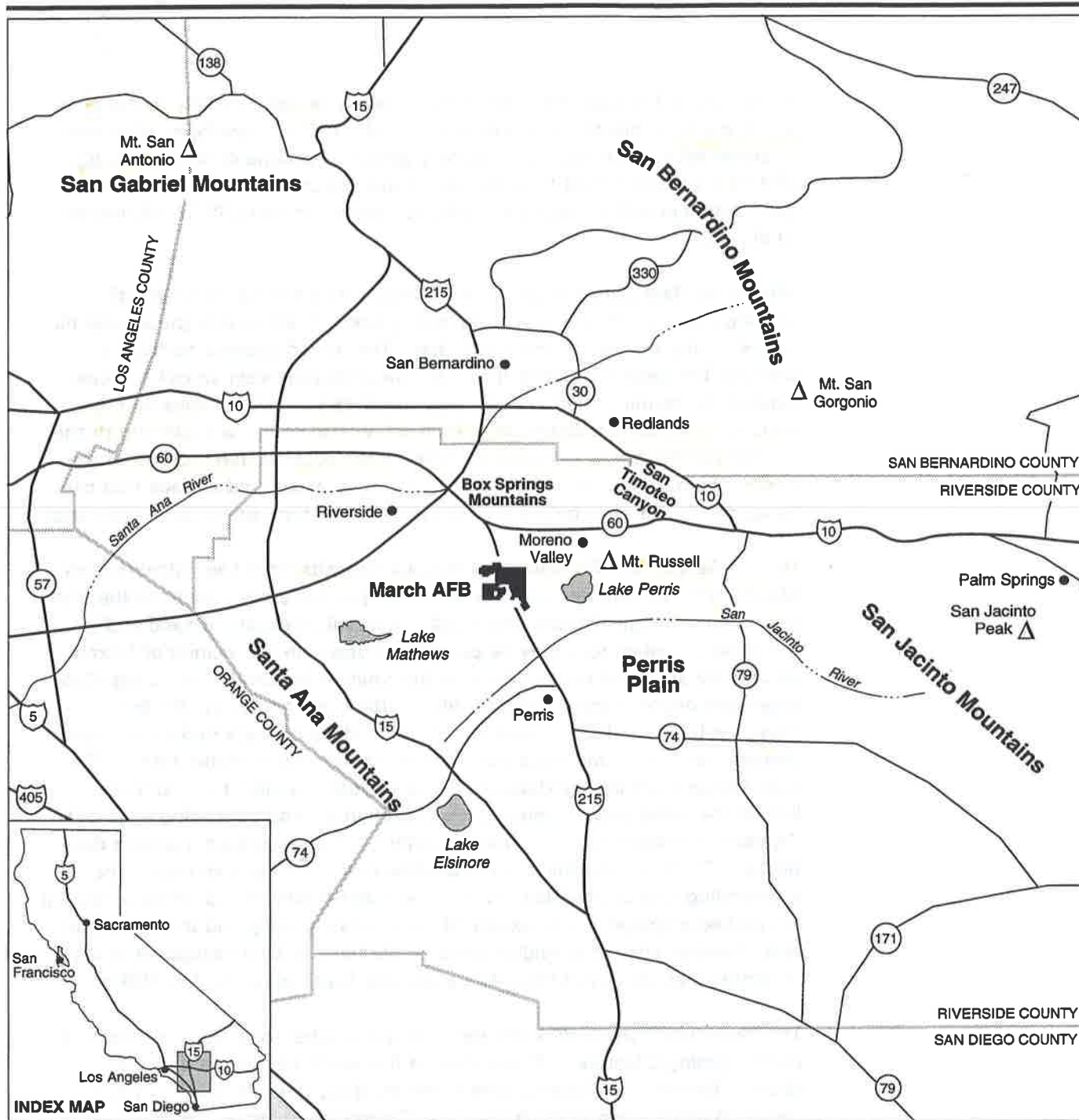
The Perris Plain is a semi-arid, north-south-trending alluvial valley bounded by low-lying granitic bedrock on the west and a series of tributary valleys and granitic mountains on the east. The valley floor has a gentle slope of approximately 20 feet per mile in a south-southeasterly direction (Norris and Webb, 1990). West March is characterized by hilly terrain with small canyons, whereas the Main Base and March Water System No. 2 are situated on the valley floor.

Ground surface elevations at March AFB range from approximately 1,465 feet above MSL in the southeast to approximately 1,760 feet MSL in the northwest. The Box Springs Mountains, 4 miles north of the base, reach elevations of 3,000 feet MSL, and the Mount Russell Range, 2.5 miles east of the base, reaches an elevation of 2,700 feet MSL.

Geology. The region around March AFB is characterized by rugged mountain ranges composed of igneous and metamorphic rocks, broad erosional plains composed of deeply eroded sedimentary and crystalline basement rocks, and a broad, flat valley composed of younger alluvial material.

March AFB overlies part of the eroded Cretaceous and older crystalline basement rock (Perris Erosional Surface) and the alluvial-filled valley (Perris Plain). West March is predominantly on the Perris Erosional Surface; the Main Base and March Water System No. 2 lie predominantly on the Paloma Surface/Perris Plain (Woodford et al., 1971). The Perris Erosional Surface consists of exposed crystalline igneous and metamorphic bedrock eroded to form a very hilly topography. The bedrock is granitic in composition, ranging from granodiorite to tonalite. The major minerals are quartz, plagioclase feldspar, biotite, and hornblende (Dudley, 1935). These rocks are typically moderately jointed, exhibit layering, and often weather to boulders. The Perris Erosional Surface is typically 300 feet higher in elevation than the adjacent Perris Plain. Several gravel pits in the West March area indicate that significant amounts of coarse alluvial deposits can be found on the Perris Erosional Surface.

The Perris Plain is a broad, nearly flat plain where alluvium is found at the surface. The numerous bedrock hills that interrupt this flat surface are described as erosional remnants of the underlying crystalline basement rocks. Early gravity surveys suggest that a surface of low relief developed



EXPLANATION

- * Airports
- 5 Interstate Highways
- 74 State Highways
- △ Mountain Peaks



Geologic Map

Figure 3.4-1

on the crystalline basement material and drainage was typically to the east along the San Jacinto River (Woodford et al., 1971). Development of this channelized surface was followed by a period of sedimentation. Drainage shifted toward the Pacific (to the west) and deposition of recent alluvium buried the Perris Surface, forming the relatively flat Perris Plain (Woodford et al., 1971).

The Perris Plain alluvial deposits are composed of alternating layers of varying amounts of clay, silt, sand, and gravel. Thickness of the alluvial fill varies from a few feet to over 800 feet. The buried bedrock surface is irregular but generally slopes from northwest to southeast across the base toward the center of Perris Plain. Bedrock data from IRP studies on base indicate that bedrock depths vary from a few feet near the south end of the aircraft parking apron to nearly 300 feet in the southeastern portion of the base. The basement rock may exhibit a deeply weathered surface that can be up to 70 feet thick before encountering competent, unweathered material.

Natural Resources. No significant mineral deposits have been identified on March AFB. Historically, small-scale gravel pits have been mined in the West March area, suggesting that potentially economic deposits of sand and gravel and crushed rock may be present on base. In the vicinity of March AFB, there are areas where adequate information indicates that no significant aggregate deposits are present or where little likelihood exists for their presence (Miller, 1987). These include both Holocene-age rocks containing predominantly silts and clays and older schistose metamorphic rocks. The valley areas underlain by Quaternary-age deposits, similar to areas with known sand and gravel deposits, are classified as land containing aggregate deposits, the significance of which cannot be evaluated from available data (Miller, 1987). Crystalline and metasedimentary bedrock exposed in the surrounding hills is classified in the same way because it is a potential source of crushed aggregate. The extent of surface weathering and the aggregate test characteristics of individual units would have to be investigated in order to further classify any of the rock exposed in these areas (Miller, 1987).

The Peninsular Ranges Province includes many other mineral resources and unique geologic features. These include the world famous Pala, Mesa Grande, Rincon, and Ramona gem localities along the San Luis Rey River about 80 miles south of the base. The Crestmore Quarries, approximately 15 miles northwest of March AFB, contain one of the world's largest suites of contact metamorphic minerals, which have been altered in composition, texture, or structure by great heat or pressure (Norris and Webb, 1990). No unique mineral finds, such as gems or contact metamorphic minerals, have been reported at March AFB.

Natural Hazards. March AFB lies between two major fault zones: the Elsinore-Whittier, 13 miles to the southwest, and the San Jacinto, 7 miles to the northeast. The area between the two faults is known as the Perris Block or Perris Plain (Dudley, 1935). These northwest-trending fault zones are

considered active faults by the California Division of Mines and Geology. Movement along these fault zones is predominantly right lateral strike-slip (horizontal displacement along fault trace) accompanied by a smaller component of dip-slip (vertical displacement along fault trace). Strike-slip movement along these faults ranges from 3 to 18 miles since mid-Cretaceous time, with vertical displacement of several hundred feet. Recent movement along the San Jacinto fault zone has produced prominent scarps and scarplets showing movement generally up on the east and down on the west (Woodford et al., 1971).

There are no active faults on base. The Casa Loma fault, approximately 6 miles to the east-northeast (Rogers, 1965), is the closest splay of the San Jacinto fault zone to the base. This fault has a maximum credible earthquake magnitude of 7.5 (Greensfelder, 1974). Earthquakes along other major faults in the area, such as the Elsinore-Whittier fault zone, could also cause damage to buildings and services at March AFB. A 20 to 30 percent probability of a major earthquake (7.0 magnitude or greater) is estimated within the next 30 years in the San Bernardino-Riverside region (U.S. Geological Survey, 1988).

The base is located in Seismic Hazard Zone IV (International Conference of Building Officials, 1991). Seismic Hazard Zone IV is characterized by areas likely to sustain major damage from earthquakes and corresponds to intensities of VIII or higher on the Modified Mercalli Scale. Structures designed, and older buildings with upgrades, to meet current Uniform Building Code (UBC) design standards generally tend to withstand effects of most earthquakes.

Other seismic-related hazards include the potential for liquefaction and seismically induced dynamic settlement of soils. However, because of the relatively dense and cohesive nature of the underlying alluvium and the absence of a shallow (less than 50 feet below ground surface) regional groundwater table, the potential for these seismically induced hazards is considered low. Additional problems could include flooding of low-lying areas within the base should Perris Lake Dam fail during a large earthquake.

In areas with granitic bedrock or where sediments derived from granitic material are present, such as March AFB, naturally occurring radon may be present. Long-term exposure to radon may pose a potential health hazard. Sampling conducted at military family housing units on base in 1988 indicated that naturally occurring radon is present in concentrations below U.S. EPA recommended action levels (see Section 3.3.8, Radon).

3.4.1.2 Soils. The USDA Natural Resources Conservation Service has identified and characterized the soils in western Riverside County, including soils on March AFB (U.S. Department of Agriculture, 1971). Selected

properties for all soil series occurring on base are listed in Table 3.4-1. A brief description of the main soil associations is presented below. The distribution of the major soil types on the base is shown on Figure 3.4-2.

Two major soil associations are present in the March AFB area: the Cieneba-Rocky Fallbrook association and the Monserate-Arlington-Exeter association.

→ The Cieneba-Rocky Fallbrook association is derived from granitic rock and occurs on the western portion of the base. These soils are typically 1 to 3 feet thick, have a surface layer of sandy loam to fine sandy loam, are well drained, are coarse to medium grained, and have slopes ranging from 2 to 50 percent. These soils occur on undulating to steep terrain, such as granitic rock uplands and low mountains. → The Monserate-Arlington-Exeter association is derived from granitic alluvium and occurs on the eastern side of the base. These soils have a surface layer of sandy loam to loam, are well drained, are fine to medium grained, and are gently sloping. The soils are typically underlain by a shallow, relatively low permeability silica hardpan at a depth of 28 to 50 inches, resulting in a moderately high runoff potential. These soils occur on alluvial fans, terraces, and valleys.

Both soil associations are generally fair to good sources of topsoil, fair to good sources of road fill, have variable but generally low permeability, and generally exhibit severe restrictions for septic systems either because of shallow bedrock or low permeability silica hardpans (U.S. Department of Agriculture, 1971). More detailed information on engineering properties of these soils is presented in Table 3.4-1.

Large areas of March AFB consist of soils with characteristics that make them eligible as Farmlands of Statewide Importance and other soils that are prime farmland soils when irrigated. However, these areas are not irrigated for agricultural purposes. The Farmlands of Statewide Importance soils are found throughout the base, and a majority of the potential (i.e., nonirrigated) Prime Farmland soils are found along the eastern portion of the base. However, approximately 90 percent of the base consists of areas where the soils are covered by existing structures or the soils have been disturbed to some degree by human activities and, therefore may not be suitable for classification as Prime Farmland or Farmlands of Statewide Importance. Prime Farmland is eligible for protection under the Farmland Protection Policy Act. The USDA Natural Resources Conservation Service has determined that no prime, unique, statewide, or local important farmland is present at March AFB (see Appendix J).

3.4.2 Water Resources

Water resources include those portions of the natural environment related to surface water and groundwater. Wetlands are considered as part of the biological resource analysis (Section 3.4.5.4, Sensitive Habitats), and existing water contamination associated with base or nearby operations is

Table 3.4-1. March AFB Soil Properties
Page 1 of 2

Soil Type	Texture	Slope %	Runoff	Permeability	Erosion Potential	Septic System Restrictions ^(a)	Prime/State Important Farmland ^(b)
Cieneba Rocky	Sandy loam	8 to 15	Moderate	Rapid	Moderate	Severe (bedrock)	
Cieneba Rocky	Sandy loam	15 to 50	Rapid	High	High	Severe (bedrock)	
Exeter	Sandy loam	0 to 2	Slow	Moderate	Slight	Severe (hardpan)	S
Exeter Deep	Sandy loam	0 to 2	Slow	Moderate	Slight	Severe (hardpan)	P
Exeter Deep	Sandy loam	0 to 5	Slow	Moderate	Slight	Severe (hardpan)	P
Exeter Deep	Sandy loam	2 to 8	Slow to moderate	Moderate	Slight to moderate	Severe (hardpan)	P
Fallbrook	Fine sandy loam	2 to 8	Slow	Moderate	Slight	Severe (bedrock)	S
Fallbrook	Sandy loam	5 to 8	Moderate	Moderate	Moderate	Severe (bedrock)	
Fallbrook	Sandy loam	8 to 15	Moderate	Moderate	Moderate	Severe (bedrock)	S
Fallbrook Shallow	Sandy loam	8 to 15	Moderate	Moderate	Moderate	Severe (bedrock)	
Fallbrook Shallow	Fine sandy loam	8 to 15	Moderate	Moderate	Moderate	Severe (bedrock)	
Fallbrook Rocky	Sandy loam	15 to 50	Rapid	Moderate	High	Severe (bedrock)	
Greenfield	Sandy loam	0 to 2	Slight to moderate	Moderate	Slight to moderate	Slight	P

Table 3.4-1. March AFB Soil Properties
Page 2 of 2

Soil Type	Texture	Slope %	Runoff	Permeability	Erosion Potential	Septic System Restrictions ^(a)	Prime/State Important Farmland ^(b)
Hanford	Fine sandy loam	0 to 2	Slow	Moderate	Slight	Slight	P
Monserate	Sandy loam	0 to 5	Moderate	Moderate	Moderate	Severe (hardpan)	S
Monserate	Sandy loam	5 to 8	Moderate	Moderate	Moderate	Severe (hardpan)	S
Monserate	Sandy loam	8 to 15	Moderate	Moderate	Moderate	Severe (hardpan)	S
Monserate Shallow	Sandy loam	5 to 15	Rapid	Moderate	High	Severe (hardpan)	
Pachappa	Fine sandy loam	0 to 2	Slight	Moderate	Slight	Moderate	P
Ramona	Sandy loam	0 to 2	Slow	Moderate	Slight	Severe	P
Vista Rocky	Coarse sandy loam	2 to 35	Moderate	Rapid	Moderate	Severe (bedrock)	

Notes: (a) (bedrock) indicates that bedrock is present at a shallow depth which generally causes severe conditions for septic system development.

(b) (hardpan) indicates that a shallow silica hardpan exists which generally causes severe conditions for septic system development.

P indicates Prime Farmland, land that is best suited for producing food or used as pasture land.

S indicates Farmland of Statewide Importance, land other than Prime Farmland that has a good combination of physical and chemical characteristics for producing food.

Source: U.S. Department of Agriculture, 1971.



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- Cieneba sandy loam
- Exeter sandy loam
- Fallbrook sandy loam
- Greenfield sandy loam
- Hanford fine sandy loam

- Monserate sandy loam
- Pachappa fine sandy loam
- Ramona sandy loam
- Vista coarse sandy loam
- 1995 Base Boundary
- Unpaved Road

Soils Map

Figure 3.4-2

Source: U. S. Department of Agriculture, 1971.


discussed in Section 3.3, Hazardous Materials and Hazardous Waste Management.

The ROI for surface water is the drainage system/watershed in which the base is located; the ROI for groundwater is the local aquifer(s), which are directly or indirectly used by the base.

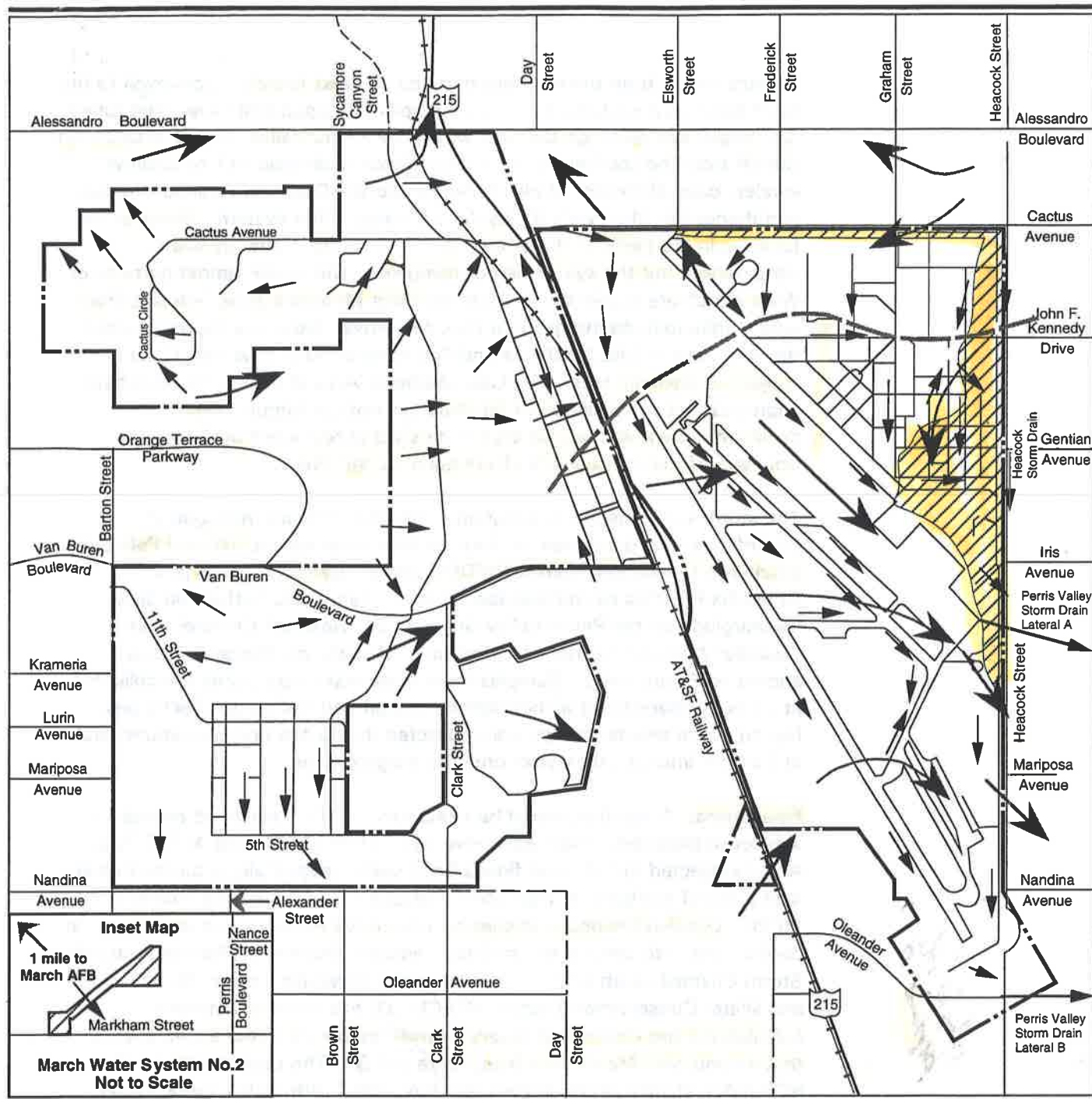
3.4.2.1 Surface Water. Most of March AFB lies within the San Jacinto watershed, one of the three major geographical subdivisions of the Santa Ana Basin. The San Jacinto watershed encompasses 760 square miles, and the San Jacinto River is its major drainage feature (see Figure 3.4-1). The northwestern corner and part of the southwestern corner of the base lie within the Upper Santa Ana watershed, which drains tributaries of the Upper Santa Ana River (CH2M Hill, 1984; Engineering-Science, 1988).

With the exception of small surface water impoundments that are used for agricultural purposes, there are no permanent surface water bodies within 2.5 miles of March AFB (U.S. Geological Survey, 1967a, 1967b, 1967c, 1967d). A portion of the Colorado River Aqueduct, part of the California State Water Project, passes approximately 1 mile south of the base. This aqueduct carries water from the Colorado River in eastern California for storage in Lake Mathews, about 10 miles west of March AFB (see Figure 3.4-1). Lake Mathews is the primary source of potable water for the base and surrounding communities.

3.4.2.2 Surface Drainage. Streams near March AFB are ephemeral, flowing only when precipitation occurs. During short or light precipitation events, a large portion of the rainfall may infiltrate into the ground, reducing the amount of surface runoff. However, during long or heavy precipitation events, the ground may become saturated, thereby reducing infiltration and increasing surface runoff. Standing water remaining after a storm event infiltrates or evaporates relatively quickly (Engineering-Science, 1988).



Large portions of March AFB are covered with roads, runways, and buildings. These impermeable, man-made features reduce infiltration and increase surface runoff at the base. Consequently, the surface runoff at March AFB is higher than that of surrounding, less developed areas. Surface water runoff from the Main Base drains to the Perris Valley Storm Drain via the Heacock Storm Drain (Figure 3.4-3). These man-made drains collect surface runoff from the Perris Plain and Pigeon Pass and Moreno valleys. Runoff from the runway and the southern portion of the flightline area is channeled through storm drains and through the main oil/water separator before discharging into the Perris Valley Storm Drain. The Perris Valley Storm Drain in turn discharges into the San Jacinto River approximately 6 miles southeast of the base (Engineering-Science, 1988).



EXPLANATION

- 1995 Base Boundary
- Surface Drainage
- Groundwater Flow
- Local Groundwater Divide
- Unpaved Road



100-Year Floodplain

Hydrology



Figure 3.4-3

Surface runoff from the northern portions of West March is conveyed to the Main Base via a system of storm drainpipes and open channels. The runoff discharges into drainage facilities within the Perris Valley Area Drainage Plan. Runoff from the southern part of West March is channeled into shallow swales, open channels, or pipe culverts into the Oleander Avenue Channel, and thence into the Perris Valley Area Drainage Plan system. Some of the facilities in the Perris Valley Area Drainage Plan have already been constructed, but the system is not complete. The westernmost portions of West March are within the limits of the Lake Mathews Area Drainage Plan, which ultimately discharges into Lake Mathews. New development within the limits of the Lake Mathews and Perris Valley Area Drainage Plans is subject to drainage fees. The Lake Mathews Area Drainage Plan has been approved, but construction of facilities has not yet begun. New development within the plan area watershed is restricted until major elements of the drainage plan have been constructed.

The storm water discharge programs at March AFB are managed in accordance with guidelines set forth in their most recent National Pollutant Discharge Elimination System (NPDES) permit, issued in 1994 (see Appendix F). This permit was issued to regulate three outfalls on base, discharging into the Perris Valley Storm Drain, Heacock Channel, and Oleander Avenue Channel. The locations of these discharge points are shown on Figure 3.4-3. Samples from these discharge points are collected at 24-hour intervals for all non-storm-induced and accidental discharges. During storm events, samples are collected during the first 60 minutes and at 24-hour intervals thereafter until discharge ceases.

*when to file
March 1994*

Floodplains. Areas that would be inundated by 100-year flood events are subject to protection under Executive Order (EO) 11988 and AFI 32-7064. Areas subjected to 100-year floods have been mapped along the north and east sides of the base by the FEMA (National Flood Insurance Program, 1984). Detailed floodplain studies on base have not been accomplished. In conjunction with various channel improvement alternatives for the Heacock Storm Channel south of Cactus Avenue, the Riverside County Flood Control and Water Conservation District (RCFCWCD) has made preliminary calculations and drawn preliminary boundaries for 100-year storm events that extend onto March AFB (see Figure 3.4-3). The boundaries identified by RCFCWCD closely approximate areas inundated with water during heavy rains in January and February 1992.

General plan and infrastructure improvement plan data were considered in the RCFCWCD analysis. The study used existing topographic data (circa 1969-1979), but drainages on base were not field verified. Further, the hydraulic modeling did not reflect recent and in-progress improvements to the Heacock Storm Channel. Therefore, these boundaries must be considered as very preliminary. Detailed studies have not been conducted to support civilian reuse planning and property disposal that account for the

improvements to the Heacock Storm Channel and planned improvements to Lateral A of the Perris Valley Storm Drain.

Although March Water System No. 2 has not been mapped, it is considered within a floodplain because all of the surrounding land has been designated floodplain by FEMA.

3.4.2.3 Groundwater. In the Perris Valley, coarse-grained alluvial deposits form the main aquifer. These deposits are highly permeable and capable of yielding large amounts of water under unconfined conditions. The groundwater system in the Perris and Moreno valleys is almost completely surrounded by non-water-bearing rocks such that the amount of water flowing into or out of the basin is considered negligible (The Earth Technology Corporation, 1994a). Natural recharge to the aquifer results primarily from infiltration and precipitation.

Artificial recharge on the base occurs near the central portion of the base shop and housing areas and from the Heacock Storm Drain along the eastern base boundary. Recharge occurs as a result of infiltration of irrigation water and seepage from unlined canals and septic systems. This artificial recharge, especially in the area of Heacock Storm Drain, appears to cause localized groundwater highs, which, in turn, locally affect the direction of groundwater flow.

Regional groundwater movement in the vicinity of March AFB tends to follow the surface topography. Figure 3.4-3 shows regional groundwater flow directions based on water level elevations taken in 1974 and information provided by base personnel (U.S. Air Force, 1994a). East of March AFB, groundwater generally flows southwest through Moreno Valley and into Perris Valley. In Perris Valley, southeast of the base, groundwater flows in a southeasterly direction. Groundwater flow directions in Perris and Moreno valleys may be affected locally by pumping.

The groundwater gradient slopes gently to the southeast over the majority of the base. In the northwest portion of the base, groundwater flows toward the northwest, indicating the presence of a groundwater divide. Groundwater north of this divide generally flows to the north-northwest toward Sycamore Canyon, and groundwater south of the divide generally flows southeast toward the Perris Plain. Groundwater measurements in February and April 1993, after a period of heavy rains, indicated the presence of a linear groundwater high along the Heacock Storm Drain. This mounding has redirected the groundwater flow toward the west-southwest along the eastern portion of the base. Groundwater elevations decrease gradually from the center of the base toward the southeast corner. In the southwest corner of the base the gradient becomes much steeper.

Locally, the amount of water removed by pumping has historically exceeded the amount of water naturally recharged to the aquifer. Groundwater

pumping caused water levels in some wells to decrease as much as 185 feet between 1941 and the mid-1980s (CH2M Hill, 1984; Engineering-Science, 1988). However, monitoring of the groundwater level on base from 1987 to 1993 suggests an average rise in groundwater levels of approximately 7.4 feet. This may be due to development of areas off base, with a corresponding reduction in pumping for farmland irrigation.

Groundwater provides approximately 35 percent of the water supply in the ROI. Many wells south, east, and north of March AFB provide water for industrial, agricultural, and domestic uses. Four on-base wells (BPW-1 through BPW-4) and two off-base wells (BPW-5 and BPW-6) were formerly used for the base water supply. BPW-1, BPW-3, and BPW-4 are in the northeast portion of the base. Use of BPW-3 and BPW-4 was discontinued in July 1978 because yields from these wells were not sufficient to meet water supply demands. Although BPW-1 has not been abandoned, it has not been used as a source of water since February 1984 due to TCE contamination. All on-base wells are scheduled for closure.

BPW-5 and BPW-6 are high-capacity wells located at March Water System No. 2. They were drilled in areas of greater aquifer thickness and permeability than the on-base production wells. Although both wells are operative, BPW-5 is not currently being used. BPW-6 is occasionally used for emergency water supplies (CH2M Hill, 1984; Engineering-Science, 1988).

Water Quality. Surface water quality records have not been collected at the U.S. Geological Survey (USGS) gaging stations along the San Jacinto River near March AFB, but have been collected at a USGS gaging station for the Santa Ana River at the MWD crossing near Arlington, California (USGS station number 11066460), northeast of the base. Between 1985 and 1986, the temperature of the Santa Ana River at this station varied between 14 degrees Celsius (°C) in the winter and 29.5°C in the summer. During the same period, the suspended solid concentrations at the station ranged from 274 to 697 ppm, although no seasonal patterns were evident. In general, water in the Santa Ana River is considered of good quality, but hard to very hard.

The quality of the groundwater in the northern portions of the Perris Plain and Moreno Valley is considered good. Total dissolved solids (TDS) concentrations in these areas range from 250 ppm to 1,000 ppm. In the southern portion of the Perris Plain, TDS values can exceed 12,000 ppm. The poorest groundwater quality occurs near the San Jacinto River where brackish water formed as a result of large evapotranspiration losses during past high groundwater table conditions. TDS concentrations in areas north and south of the river increase as groundwater levels decline in response to increased pumping in areas of better water quality. Wells have periodically been abandoned in these areas as brackish water moved into the pumping zones (Engineering-Science, 1988).

The TDS values in wells BPW-5 and BPW-6 are more than 1,000 ppm. Between 1976 and 1987, the TDS concentrations in March AFB production wells BPW-1 and BPW-4 increased from 410 ppm to 1,090 ppm, and 844 ppm to 1,960 ppm, respectively (Engineering-Science, 1988).

Groundwater monitoring on base has identified contamination by TCE and PCE, as well as chlorinated hydrocarbons, benzene, bromochloromethane, diobromochloromethane, chloroform, methylene chloride, and a variety of other volatile organic compounds (VOCs). The groundwater contamination at March AFB generally underlies the flightline and apron areas, but does extend off the southeastern corner of the base for several thousand feet (see Figure 3.3-2). Groundwater contamination is discussed in more detail in Section 3.3.3, Installation Restoration Program Sites.

3.4.3 Air Quality

Air quality in a given location is described as the concentration of various pollutants in the atmosphere, generally expressed in units of ppm or $\mu\text{g}/\text{m}^3$ or in a pollution standard index. Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. The significance of a pollutant concentration is determined by comparing it to federal and state ambient air quality standards. These standards represent the maximum allowable atmospheric concentrations that may occur and still protect public health and welfare with a reasonable margin of safety. The federal standards are established by the U.S. EPA and termed the National Ambient Air Quality Standards (NAAQS). The state standards are established by the California Air Resources Board (CARB) and are termed the California Ambient Air Quality Standards (CAAQS). The NAAQS and CAAQS are presented in Table 3.4-2.

The main criteria pollutants considered in this EIS are ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and particulate matter equal to or less than 10 microns in diameter (PM_{10}). The previous NAAQS for particulate matter was based upon total suspended particulate (TSP) levels; it was replaced in 1987 by an ambient standard based only on the PM_{10} fraction of TSP. Airborne emissions of lead are not addressed in this EIS because there are no known lead emission sources in the region or in the reuse alternatives. Lead concentrations are monitored in a number of densely populated areas in the state, and all sites meet the 30-day mean California standard of $1.5 \mu\text{g}/\text{m}^3$ and the quarterly primary and secondary national standards of $1.5 \mu\text{g}/\text{m}^3$.

Ozone is a secondary pollutant formed in the atmosphere by photochemical reactions of previously emitted pollutants, or precursors. Ozone precursors are mainly nitrogen oxides (NO_x) and reactive organic gases (ROGs) in the form of hydrocarbons (organic compounds that contain only carbon and hydrogen in the molecule). ROGs and VOCs are subsets of the group of

Table 3.4-2. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^(a,c)	National Standards ^(b)	
			Primary ^(c,d)	Secondary ^(c,e)
Ozone	1-hour	0.09 ppm (180 $\mu\text{g}/\text{m}^3$)	0.12 ppm (235 $\mu\text{g}/\text{m}^3$)	Same as primary standard
Carbon monoxide	8-hour	9 ppm (10,000 $\mu\text{g}/\text{m}^3$)	9 ppm (10,000 $\mu\text{g}/\text{m}^3$)	--
	1-hour	20 ppm (23,000 $\mu\text{g}/\text{m}^3$)	35 ppm (40,000 $\mu\text{g}/\text{m}^3$)	--
Nitrogen dioxide	Annual	--	0.053 ppm (100 $\mu\text{g}/\text{m}^3$)	Same as primary standard
	1-hour	0.25 ppm (470 $\mu\text{g}/\text{m}^3$)	--	--
Sulfur dioxide	Annual	--	0.03 ppm (80 $\mu\text{g}/\text{m}^3$)	--
	24-hour	0.04 ppm (105 $\mu\text{g}/\text{m}^3$)	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	--
	3-hour	--	--	0.5 ppm (1,300 $\mu\text{g}/\text{m}^3$)
	1-hour	0.25 ppm (655 $\mu\text{g}/\text{m}^3$)	--	--
PM ₁₀	Annual	30 $\mu\text{g}/\text{m}^3$ ^(f)	50 $\mu\text{g}/\text{m}^3$ ^(g)	Same as primary standard
	24-hour	50 $\mu\text{g}/\text{m}^3$	150 $\mu\text{g}/\text{m}^3$	Same as primary standard
Sulfates	24-hour	25 $\mu\text{g}/\text{m}^3$	--	--
Lead	30-day	1.5 $\mu\text{g}/\text{m}^3$	--	--
	Quarterly	--	1.5 $\mu\text{g}/\text{m}^3$	Same as primary standard
Hydrogen sulfide	1-hour	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	--	--
Vinyl chloride	24-hour	0.010 ppm (26 $\mu\text{g}/\text{m}^3$)	--	--
Visibility reducing particles ^(h)	8-hour (10 a.m. to 6 p.m., Pacific Standard Time)	In a sufficient amount to produce an extinction coefficient of 0.23 per km due to particles when the relative humidity is less than 70% CARB Method V.	--	--

- Notes: (a) California standards for ozone, carbon monoxide, sulfur dioxide (1 hour and 24 hour), nitrogen dioxide, particulate matter less than 10 microns in diameter (PM₁₀), and visibility reducing particles are values that are not to be exceeded. The sulfates, lead, hydrogen sulfide, and vinyl chloride standards are not to be equaled or exceeded.
- (b) National standards, other than ozone and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year, with maximum hourly average concentrations above the standards, is equal to or less than one.
- (c) Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 millimeters (mm) of mercury. All measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to parts per million by volume, or micromoles of pollutant per mole of gas.
- (d) National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- (e) National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of pollutant.
- (f) Calculated as geometric mean.
- (g) Calculated as arithmetic mean.
- (h) This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range when relative humidity is less than 70 percent.
- CARB = California Air Resources Board
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 PM₁₀ = particulate matter equal to or less than 10 microns in diameter
 ppm = parts per million

Source: CARB, 1992.

total hydrocarbons. VOCs are defined by the U.S. EPA as compounds containing carbon, excluding CO, carbon dioxide (CO₂), carbonic acid, metallic carbides, metallic carbonates, ammonium carbonate, methane, or other nonreactive methane and ethane derivatives. ROGs are gaseous forms of VOCs. The U.S. EPA excludes ethane from the VOC definition; however, the state of California considers ethane to be an ozone precursor and includes it in the definition of ROGs. NO_x is the designation given to the group of all oxygenated nitrogen species, including NO₂, nitrous oxide (N₂O), nitric oxide (NO), nitrogen trioxide (NO₃), nitrogen tetroxide (N₂O₄), nitric anhydride (N₂O₅), and nitrous anhydride (N₂O₃). Although all of these compounds can exist in the air, only N₂O, NO, and NO₂ are found in any appreciable quantities.

Like ozone, NO₂ emissions are regionally distributed. NO₂ is primarily formed by the conversion of NO to NO₂ in the presence of oxygen (either during combustion or in the atmosphere). NO is produced by fuel combustion in both stationary and mobile sources, such as automobiles and aircraft. The amount of production is dependent upon the combustion temperature conditions and the rate of exhaust gas cooling. Higher temperatures and rapid cooling rates produce greater quantities of NO. Where higher NO concentrations and temperatures exist, some of the NO is immediately oxidized to NO₂. The amount of immediate NO₂ combustion generation generally varies from 0.5 to 10 percent of the NO present (U.S. EPA, 1971). The remaining unconverted NO is oxidized to NO₂ in the atmosphere primarily through photochemical secondary reactions initiated by the presence of sunlight. These photochemical reactions may take place hours after the initial NO release and many miles from the original source, dependent upon the prevailing meteorological conditions.

The existing air quality of the affected environment is defined by air quality data and emissions information. Air quality data are obtained by examining records from air quality monitoring stations maintained by the SCAQMD. Information on pollutant concentrations measured for short-term (24 hours or less) and long-term (annual) averaging periods is extracted from the monitoring station data in order to characterize the existing air quality background of the area.

Emission inventory information for the affected environment was obtained from the SCAQMD, the CARB, and from March AFB. Inventory data are separated by pollutant and reported in tons per year in order to describe the baseline conditions of pollutant emissions in the area.

3.4.3.1 Regulatory Framework. According to the U.S. EPA guidelines, an area with air quality better than the NAAQS is designated as being in attainment; areas with worse air quality are classified as nonattainment areas. A nonattainment designation is given to a region if the primary NAAQS for any criteria pollutant is exceeded at any point in the region for more than 3 days during a 3-year period. Pollutants in an area may be

designated as unclassified when there is a lack of data from which the U.S. EPA can form a basis of attainment status. An area designated as unclassified is assumed to be in attainment. The CARB designates areas of the state that are in attainment or nonattainment of the CAAQS. An area is in nonattainment for a pollutant if its CAAQS has been exceeded more than once in 3 years.

March AFB is in the South Coast Air Basin (SCAB) (Figure 3.4-4), which has been designated by both the U.S. EPA and CARB as being in attainment of the NAAQS and CAAQS for SO₂ but nonattainment for O₃, CO, NO₂, and PM₁₀. According to the federal classification, the SCAB is designated as being in the "extreme" ozone nonattainment category (ozone concentrations greater than 0.28 ppm). An area designated as "extreme" is subject to a number of special requirements, including provisions for use of reasonably available control technology (RACT) on all major sources, vapor recovery and motor vehicle inspection and maintenance programs, emission offsets, transportation control measures, and reductions in VOCs. Areas with classifications other than "extreme" are subject to less stringent requirements. Attainment for extreme ozone classification areas must be achieved by November 15, 2010.

The SCAB is also designated as "serious" nonattainment for the federal CO standards. An area designated as serious for CO (ambient concentrations greater than 16.4 ppm) must implement various special requirements, including use of oxygenated fuels, an enhanced motor vehicle inspection and maintenance program, attainment demonstration plans, and implementation of transportation control measures. Attainment of the CO NAAQS is required by the year 2000.

The SCAB was designated serious PM₁₀ nonattainment because the currently proposed State Implementation Plan (SIP) for the SCAB projects nonattainment of the 24-hour PM₁₀ NAAQS until the year 2000 and nonattainment of the annual PM₁₀ NAAQS until 2006. These projections exceed the "moderate" PM₁₀ attainment deadline of December 31, 1994.

The SIP is the vehicle by which states demonstrate adherence to the NAAQS. The SIP must contain specific measures to attain this goal for areas currently designated as nonattainment. The 1990 Clean Air Act Amendments (CAAA) established interim milestones to ensure reasonable further progress toward achievement of the NAAQS for ozone. The CAAA require interim reductions in VOC emissions. In all but "marginal" ozone nonattainment areas, the 1990 CAAA require that states submit a 1996 Rate-of-Progress Plan that explains how VOC emissions will be reduced by 15 percent from the adjusted base year inventory over a period of 6 years. Extreme nonattainment areas must further reduce VOC emissions by an average of 3 percent per year for the 3-year period after 1996 or until the air quality standard is achieved. A plan must be submitted to accomplish this additional 3 percent per year reduction after 1996 and to achieve attainment



EXPLANATION

- Gaseous pollutant or multipollutant monitoring site
- Particulate sampling only

South Coast Air Basin

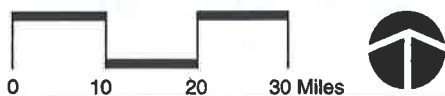


Figure 3.4-4

of the NAAQS by 2010. The SCAQMD plans to revise their current 1994 Air Quality Management Plan (AQMP) in 1997. The revised 1997 AQMP will establish a 1993 baseline and "backcast" historic emissions in order to analyze the effectiveness of existing and future control measures and demonstrate the region's rate of progress. According to the SCAQMD, the 1997 AQMP will identify and account for the specific emissions for March AFB realignment and reuse (Wallerstein, 1994).

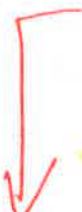
Emission reduction requirements necessary to attain the NAAQS are achieved by rules and measures incorporated into the SIP. Emission reduction requirements and rule effectiveness are accounted for in projecting emissions for the various reuse scenarios discussed in Section 4.4.3, Air Quality.

The SCAB is designated by the CARB as an "extreme" nonattainment area for O₃ under the CAAQS. The designation extreme is given to an area if its ozone design-day value concentration is greater than 0.20 ppm. The design-day value is defined as the fourth highest pollutant concentration recorded in a 3-year period. Extreme nonattainment areas such as the SCAB are required by the California Clean Air Act (CCAA) to implement new emission control measures. These control measures include indirect and area source control programs, application of best available retrofit control technology (BARCT) to existing stationary sources, consideration of transportation control measures, and significant use of low-emission motor vehicles by operators of motor vehicle fleets.

The CCAA also includes some additional requirements that can significantly affect control strategy selection. These additional requirements are to: reduce emissions of nonattainment pollutants and their precursors at a rate of 5 percent per year (an exception to the 5 percent per year reduction requirement is allowed if all feasible measures to control emissions and an expeditious implementation schedule are considered in the attainment planning process); ensure no net increase in mobile emissions after 1997; achieve an average vehicle ridership during peak commute hours of 1.5 persons per vehicle by 1999; reduce population exposure to severe nonattainment pollutants (i.e., O₃, CO, and NO₂ for the SCAB) according to a prescribed schedule; and rank control measures by cost effectiveness and implementation priority.

The SCAQMD has developed the 1994 AQMP to meet the requirements of the CCAA. The 1994 AQMP is designed to demonstrate attainment of both federal and state ambient air quality standards. In February 1995, the U.S. EPA issued a final Federal Implementation Plan (FIP) for attaining the NAAQS in the SCAB for O₃ and CO. The U.S. EPA relied on the 1994 AQMP to replace, in whole or in part, many of the measures set forth in the FIP if it is determined that the AQMP meets the federal attainment goals and requirements for control measures. In that case, the 1994 AQMP would be the air quality plan enforced in the SCAB. If the U.S. EPA determines,

however, that the AQMP is deficient in whole or in part, it could incorporate any approved AQMP measures into the FIP. The FIP would then serve as the plan for the SCAB until the AQMP deficiencies are corrected.



As part of the 1994 AQMP, facilities in the SCAB that emit more than 4 tons per year of VOC, NO_x, or SO_x (including March AFB) will be subject to Phase II of the SCAQMD's Regional Clean Air Incentives Market (RECLAIM) program for NO_x and SO_x and/or the new RECLAIM program for VOC. Phase I of the RECLAIM emission reduction program for NO_x and SO_x took effect on January 1, 1994. Under the RECLAIM program, facilities can use the most cost-effective means available to reduce emissions. Instead of the previous practice whereby SCAQMD applied specific command and control rules to each piece of equipment, RECLAIM subsumes a number of these rules and give source owners more flexibility by requiring them to reduce their overall facility emissions each year by whatever methods they choose. If a facility reduces more than the required amount in a given year, emission reduction credits (ERCs) can be earned which can be sold on the open market. Likewise, a facility falling short of its annual emission reduction target can purchase credits from other sources in the basin. In return for giving facilities greater flexibility, the program includes strict monitoring requirements, including real-time measurements of emissions for the largest emitters to ensure compliance with the rules.

In addition to SIP requirements, new or modified major stationary sources in the area of March AFB would also be subject to Prevention of Significant Deterioration (PSD) review to ensure that these sources are constructed without significant adverse deterioration of the clean air in the area (SO₂, in particular). Emissions from any new or modified source must be controlled using best available control technology (BACT). The air quality impacts in combination with other PSD sources in the area must not exceed the maximum allowable incremental increases identified in Table 3.4-3. Certain national parks and wilderness areas are designated as Class I areas, where any appreciable deterioration in air quality is considered significant. Class II areas are those where moderate, well controlled industrial growth could be permitted. Class III areas allow for greater industrial development. The area surrounding March AFB is designated by the U.S. EPA as Class II. The San Geronio Wilderness Area, the nearest Class I area, is approximately 23 miles northeast of March AFB. Other PSD Class I areas within 50 miles of March AFB are the Cucamonga Wilderness Area (26 miles north-northwest), the San Jacinto Wilderness Area (32 miles east-southeast), the Agua Tibia Wilderness Area (34 miles south-southeast), the San Gabriel Wilderness Area (42 miles northwest), and the Joshua Tree Wilderness Area (47 miles east-northeast).

Prior to the 1990 Amendments to the CAA, federal regulation of hazardous air emissions was very limited. Section 112, as amended in 1990, requires the U.S. EPA to regulate a greatly expanded list of hazardous air pollutants (HAPs). After identifying and listing regulated HAPs and their sources, U.S.

Table 3.4-3. Maximum Allowable Pollutant Concentration Increases under PSD Regulations

Pollutant	Averaging Time	Maximum Allowable Increment ($\mu\text{g}/\text{m}^3$)		
		Class I	Class II	Class III
Nitrogen dioxide	Annual	2.5	25	50
Sulfur dioxide	Annual	2	20	40
	24-hour	5	91	182
	3-hour	25	512	700
PM ₁₀	Annual	4	17	34
	24-hour	8	30	60

Note: Class I areas are regions in which the air quality is intended to be kept pristine, such as national parks and wilderness areas. All other lands are initially designated Class II. Individual states have the authority to redesignate Class II lands as Class III to allow maximum industrial use.

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

PM₁₀ = particulate matter equal to or less than 10 microns in diameter

PSD = Prevention of Significant Deterioration

Source: Title 40 CFR Parts 51 and 52, as revised June 3, 1993.

EPA must promulgate emission standards that are equivalent to maximum achievable control technology (MACT). Final U.S. EPA regulations that will control HAP emissions from most medium and large sources, and require adoption of costly control measures, are expected by the year 2000.

3.4.3.2 Region of Influence. The ROI for the air quality analysis is defined by both the areal extent of potential local and regional ambient air quality impacts and the air control district(s) that would be affected by the new emission sources.

Ambient Air Quality ROI. Identifying the ambient air quality ROI requires knowledge of the pollutant types, source emission rates and release parameters, the proximity relationships of project emission sources to other emission sources, and local and regional meteorological conditions. For inert pollutants (all pollutants other than ozone, its precursors, and NO₂), the ambient air quality ROI is generally limited to an area extending a few miles downwind from the source.

The ambient air quality ROI for ozone and NO₂ may extend much farther downwind than the ROI for inert pollutants. In the presence of solar radiation, the maximum effect of precursor emissions on ozone levels usually occurs several hours after emission and, therefore, many miles from the source. Likewise, oxidation of NO to NO₂ can take hours to occur. Ozone and its precursors transported into or from other regions can also combine with local emissions to produce high local ozone concentrations. Ozone concentrations are generally the highest during the summer months and coincide with periods of maximum solar radiation. Maximum ozone

concentrations tend to be regionally distributed because precursor emissions are homogeneously dispersed in the atmosphere.

The ROI for emissions of ozone precursors and NO_2 from the reuse-related construction and operational activities would primarily be the existing airshed surrounding March AFB, i.e., the SCAB. This basin includes Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside counties (see Figure 3.4-4). The CARB has determined that at times pollutants may be transported from the SCAB into the South Central Coast Air Basin, the San Diego Air Basin, or the Southeast Desert Air Basin (CARB, 1989). Therefore, depending on the condition of wind speed, duration, and direction, the ROI can at times include one of these other air basins. The ROI for emissions of the inert pollutants (CO , SO_2 , and PM_{10}) is limited to the more immediate area of March AFB. The dispersion modeling for March AFB has indicated that maximum impact occurs within 0.5 kilometer of the base boundary. Impacts at all further distances are less than the maximum. Impacts in Chapter 4 are based on comparison of the maximum to applicable standards.

Regulatory ROI. The CAA, as amended, dictates that project emission sources must comply with the air quality standards and regulations that have been established by federal, state, and county regulatory agencies. These standards and regulations focus on: (1) the maximum allowable ambient pollutant concentrations resulting from project emissions, both separately and combined with other surrounding sources, and (2) the maximum allowable emissions from the project. The regulatory ROI includes the jurisdictional region of the SCAQMD, which is responsible for establishing emission limits and control measures to reach or maintain the air quality standards in the SCAB.

Climate. The distinctive climate of the SCAB is determined by its terrain and geographical location. The basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest and by high mountains on the remainder of the perimeter. The region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or heavy winds.

The annual average temperature for the Riverside area is 70°F. The eastern portion of the basin, with a less pronounced oceanic influence, shows variability in annual minimum and maximum temperatures. The inland city of San Bernardino, for example, has an annual average temperature range from 37 to 97°F, while the coastal city of Santa Monica has an annual range between 47 and 75°F. All portions of the SCAB have had recorded temperatures well above 100°F in recent years. Generally, January is the coldest month, and July and August are the hottest.

Most of the precipitation in the basin falls during November through April. Summer rainfall normally is restricted to widely scattered thunderstorms near the coast and slightly heavier shower activity in the east and over the mountains. Annual average rainfall varies from 9 inches in Riverside to 14 inches in downtown Los Angeles, but higher amounts are measured at foothill locations. Monthly and yearly rainfall totals are extremely variable. The percentage of rainy days in the basin varies from 5 to 10 percent of all days, with the higher percentage near the coast.

Although the SCAB has a semi-arid climate, the air near the surface is surprisingly moist because of the presence of a shallow marine layer on most days. Except for infrequent periods when dry, continental air is brought into the basin by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent and low stratus clouds, sometimes referred to as "high fog," are a characteristic climatic feature. Annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the basin.

Despite the frequent morning fog and low stratus clouds, 73 percent of possible sunshine is recorded in downtown Los Angeles, an important factor considering the necessary role of sunshine in the process of producing photochemical smog (ozone). There are an average of 185 clear days (zero to 30 percent of the sky obscured by clouds), 106 partly cloudy days (40 to 70 percent cloud cover), and 74 cloudy days (80 to 100 percent cloud cover) each year. Coastal areas are about 25 percent cloudier than the eastern portions of the basin.

With very light average wind speeds, the basin's atmosphere has a limited capability to disperse air contaminants horizontally. Wind speed in downtown Los Angeles averages 5.7 mph with little seasonal variation, although wind speeds average slightly higher in summer than in winter. Inland areas record slightly lower wind speeds than downtown Los Angeles, whereas coastal wind speeds average about 2 mph higher. The dominant daily wind pattern is a daytime sea breeze and a nighttime land breeze. This regime is broken only by occasional winter storms and infrequent strong northeasterly (Santa Ana) winds from the mountains and desert north of the basin.

On practically all spring and early summer days, most of the pollution produced during one day is moved out of the basin through mountain passes or is lifted by the warm, vertical currents produced by the heating of mountain slopes. In those seasons, the basin can be "flushed" of pollutants by a transport of ocean air of 60 miles or more during the afternoon. From late summer through the winter months, the flushing is less pronounced because of lower wind speeds and the earlier appearance of off-shore (drainage) winds. With extremely stagnant wind conditions, the drainage winds may begin near the mountains by late afternoon. Pollutants remaining in the basin are trapped and begin to accumulate during the night and the

following morning. A low average morning wind speed in pollution source areas is an important indicator of stagnation potential. In Los Angeles, the average morning wind speed is 5 mph; on about 244 days per year, it is equal to or less than 5 mph.

Inversions. The vertical dispersion of air pollutants in the SCAB is hampered by the presence of a persistent temperature inversion in the layers of the atmosphere near the surface of the earth. Typically, temperature decreases with altitude. A reversal of this condition, in which temperature increases with altitude, is termed an inversion, which can exist at the surface or at any height above the ground. The height of the base of the inversion at any given time is known as the "mixing height." The mixing height can change under conditions when the top of the inversion does not change. Usually inversions are lower before sunrise than during the daylight hours. The mixing height normally increases as the day progresses because the sun warms the ground, which in turn warms the surface air layer. As this heating continues, the temperature of the surface layer approaches the potential temperature of the base of the inversion layer. When these temperatures become equal, the inversion layer begins to erode at its lower edge. If enough warming takes place, the inversion layer becomes weaker and weaker and finally "breaks." The surface air layers can then mix upward without limit. This phenomenon is frequently observed in the middle to late afternoon on hot summer days when the smog appears to clear up suddenly. Winter inversions frequently break up by mid-morning, thereby preventing contaminant buildup.

The net input of pollutants into the basin atmosphere from mobile and stationary sources varies little by season. Pollutants enter the surface air layers and can mix with less contaminated air from anywhere below the inversion base. The contaminants in the surface layers tend to diffuse and form a relatively uniform mixture (in some cases higher concentrations exist immediately below the inversion base) to the mixing height. They cannot rise through the inversion. As a result, these air pollutants become more and more concentrated unless the inversion layer lifts, is broken, or surface winds are strong enough to disperse the pollutants horizontally. The combination of low wind speeds and low inversions produces the greatest concentration of pollutants. On days of no inversion or on days of winds averaging over 15 mph, there will be no important smog effects, summer or winter. In the winter, the pollutants of greatest concern are CO and NO_x because of extremely low inversions and air stagnation during the late night and morning hours and the lack of intense sunlight, which is needed for the photochemical reactions that produce ozone.

In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_x to form more of the typical photochemical smog (ozone). CO is not as great a problem in summer because horizontal ventilation is better and because inversions are not as low and intense in the surface boundary layer (within 100 feet of the

ground) as in winter, although the higher summertime inversions typically are stronger and last much later in the day.

Along the southern California coast, surface air temperatures are relatively cool. The resultant shallow layer of cool air at the surface coupled with the warm, dry, subsiding air from above produces early morning inversions on about 87 percent of the days. The basinwide average occurrence of inversions at the ground surface is 11 days per month; the monthly averages vary from 2 days in June to 22 days in December and January. Higher inversions, but less than 2,500 feet above sea level, occur 22 days each month, from a monthly average of 25 days in June and July to 4 days in December and January. Restricted maximum mixing heights, at 3,500 feet above sea level or less, occur an average of 191 days each year.

3.4.3.3 Regional Air Quality

Prerealignment Reference. The SCAQMD currently operates air quality monitoring stations throughout the SCAB (see Figure 3.4-4). The monitoring stations nearest to March AFB are in Riverside and Perris. The Riverside-Rubidoux station, 9 miles north-northwest of the base, monitors all pollutants of concern in this EIS, i.e., O₃, CO, NO₂, SO₂, and PM₁₀. The Riverside-Magnolia station, 6 miles west-northwest, monitors CO only. The Perris monitoring station, approximately 7 miles south-southeast of the base, monitors O₃ and PM₁₀ (NO₂ monitoring was discontinued in June 1990).

The SCAB is in nonattainment for O₃, CO, NO₂, and PM₁₀. However, only the 1-hour ozone standard and the annual and 24-hour PM₁₀ standards have been exceeded at the three monitoring stations in the vicinity of March AFB during the time period of 1990 through 1992 (Table 3.4-4). The NAAQS for O₃ was exceeded an average of 77 days per year during the 1990-1992 period, while the CAAQS for O₃ was exceeded an average of 136 days. State and federal annual PM₁₀ standards were exceeded in each of the years 1990 through 1992. The 24-hour PM₁₀ NAAQS was exceeded by an average of 2.2 percent of the samples taken during the period from 1990 through 1992, and the 24-hour PM₁₀ CAAQS was exceeded by an average of 57.3 percent of the samples. In January 1995, the SCAQMD announced that the SCAB had no violations of the NAAQS for NO₂ in 3 years, and requested that U.S. EPA designate the basin as an attainment area for that criteria pollutant.

The ambient effects of aircraft and related vehicular emissions from prerealignment, realignment, and reuse are analyzed by modeling. The Emissions and Dispersion Modeling System (EDMS) is used to simulate the dispersion of emissions from airport operations (Segal, 1991a, 1991b, 1991c). EDMS was developed jointly by the FAA and the U.S. Air Force specifically for the purpose of generating airport and air base emission inventories and to calculate the concentrations caused by these emissions as they disperse downwind. U.S. EPA added EDMS to its list of approved

Table 3.4-4. Existing Air Quality in Area of March AFB

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Pollutant/Station	Averaging Time	Maximum Concentration by Year ^(a) in $\mu\text{g}/\text{m}^3$ (ppm)			Number of Days ^(b) Federal Standard Exceeded			Number of Days ^(b) State Standard Exceeded		
		1990	1991	1992	1990	1991	1992	1990	1991	1992
Ozone										
Perris	1-hour	0.19 (378)	0.20 (398)	0.21 (418)	62	71	83	116	128	147
Rubidoux	1-hour	0.29 (578)	0.24 (478)	0.26 (518)	90	79	75	142	139	142
Nitrogen Dioxide										
Perris	Annual	0.028 ^(c) (53)	ND	ND	0	ND	ND	NA	NA	NA
Rubidoux	Annual	0.034 (65)	0.035 (67)	0.030 (57)	0	0	0	NA	NA	NA
Perris	1-hour	0.11 ^(c) (210)	ND	ND	NA	NA	NA	0	ND	ND
Rubidoux	1-hour	0.16 (305)	0.16 (305)	0.23 (439)	NA	NA	NA	0	0	0
Carbon Monoxide										
Magnolia	8-hour	7.3 (8,481)	6.9 (8,016)	6.1 (7,087)	0	0	0	0	0	0
Rubidoux	8-hour	6.3 (7,319)	7.4 (8,597)	5.3 (6,158)	0	0	0	0	0	0
Magnolia	1-hour	15.0 (17,427)	14.0 (16,265)	11.0 (12,780)	0	0	0	0	0	0
Rubidoux	1-hour	10.0 (11,618)	8.0 (9,294)	7.0 (8,133)	0	0	0	0	0	0

Notes: (a) Pollutant concentrations are presented in units of ppm and $\mu\text{g}/\text{m}^3$, except for PM_{10} which is presented in units of $\mu\text{g}/\text{m}^3$ only.

(b) Annual averaging periods are presented as either being exceeded or not being exceeded. PM_{10} 24-hour standard exceedance measured as percentage of total samples that exceed the standard. Percentage is used because PM_{10} sampling is not performed on a daily basis.

(c) Data presented are valid, but incomplete in that insufficient number of valid data points were collected to meet the U.S. EPA and/or the California Air Resources Board criteria for representativeness.

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

NA = not applicable

ND = no data

ppm = parts per million

Table 3.4-4. Existing Air Quality in Area of March AFB
Page 2 of 2

Pollutant/Station	Averaging Time	Maximum Concentration by Year ^(a) in $\mu\text{g}/\text{m}^3$ (ppm)			Number of Days ^(b) Federal Standard Exceeded			Number of Days ^(b) State Standard Exceeded		
		1990	1991	1992	1990	1991	1992	1990	1991	1992
Sulfur Dioxide										
Rubidoux	Annual	0.000 (<1.3)	0.000 (<1.3)	0.000 (<1.3)	0	0	0	NA	NA	NA
Rubidoux	24-hour	0.006 (15.9)	0.009 (23.9)	0.006 (15.9)	0	0	0	0	0	0
Rubidoux	1-hour	0.03 (79.7)	0.02 (53.1)	0.02 (53.1)	NA	NA	NA	0	0	0
PM ₁₀										
Perris	Annual (arithmetic)	58.9	48.8	44.7	1	0	0	NA	NA	NA
Rubidoux	Annual (arithmetic)	78.4	76.0	61.5	1	1	1	NA	NA	NA
Perris	Annual (geometric)	49.6	43.0	38.4	NA	NA	NA	1	1	1
Rubidoux	Annual (geometric)	66.9	65.5	49.3	NA	NA	NA	1	1	1
Perris	24-hour	250	113	115	4.9%	0.0%	0.0%	52.5%	43.3%	41.4%
Rubidoux	24-hour	207	179	126	4.9%	3.3%	0.0%	75.4%	68.3%	62.9%

Notes: (a) Pollutant concentrations are presented in units of ppm and $\mu\text{g}/\text{m}^3$, except for PM₁₀ which is presented in units of $\mu\text{g}/\text{m}^3$ only.
 (b) Annual averaging periods are presented as either being exceeded or not being exceeded. PM₁₀ 24-hour standard exceedance measured as percentage of total samples that exceed the standard. Percentage is used because PM₁₀ sampling is not performed on a daily basis.

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

NA = not applicable

PM₁₀ = particulate matter equal to or less than 10 microns in diameter

ppm = parts per million

< = less than

models in July 1993 (Federal Register, Vol. 58, No. 137, 338816). The EDMS model uses U.S. EPA aircraft emission factors and information on peak and annual landing and takeoff cycles to produce an emissions inventory report for aircraft operations.

Prerealignment pollutant concentrations in the immediate vicinity of March AFB calculated using EDMS are shown in Table 3.4-5. The values in Table 3.4-5 represent the maximum concentrations that occurred at receptors in the vicinity of the runways as a result of civilian and military aircraft operations during 1992. The sum of all aircraft-related pollutant concentrations plus background concentrations is less than the applicable standards except for PM₁₀, which exceeds the standards due to background concentrations alone.

Table 3.4-5. Air Quality Modeling Results for Prerealignment Conditions in the Vicinity of the Runways at March AFB ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Time	Maximum Impact ^(a)	Background Concentration ^(b)	Limiting Standard ^(c)
Carbon monoxide	8-hour	41.5	7,610	10,000
	1-hour	250	12,586	23,000
Sulfur dioxide	Annual	0.004	1	80
	24-hour	0.28	19	105
PM ₁₀	1-hour	5.3	62	655
	Annual	0.004	61	50
	(arithmetic)			
	Annual	0.004	52	30
	(geometric)			
	24-hour	0.30	165	50

- Notes: (a) Maximum impact in all cases occurred at a receptor located along I-215, approximately 350 meters from the north end of the main runway.
- (b) Background concentrations assumed to equal the mean of maximum concentrations measured during the period from 1990-1992 (refer to Table 3.4-4).
- (c) Limiting standard is equal to the more stringent of the CAAQS or NAAQS (refer to Table 3.4-2).
- $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
- PM₁₀ = particulate matter equal to or less than 10 microns in diameter

Realignment Baseline. It can be reasonably assumed that pollutant concentrations at realignment would be similar to, or somewhat less than, concentrations experienced under prerealignment conditions. This is because numerous emission sources would be reduced by realignment of the base (e.g., aircraft operations and aerospace ground activity). In addition, emissions associated with motor vehicles assigned to the base, military and commuting civilian employees, retirees visiting March AFB facilities, and truck traffic associated with base operations would be reduced or eliminated, with the exception of activities associated with the OL and retained military cantonment area.

Realignment emission concentrations in the vicinity of March AFB modeled using EDMS are shown in Table 3.4-6.

Table 3.4-6. Air Quality Modeling Results for Realignment Conditions in the Vicinity of the Runways at March AFB ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Time	Maximum Impact ^(a)	Background Concentration ^(b)	Limiting Standard ^(c)
Carbon monoxide	8-hour	11.3	7,610	10,000
	1-hour	53.8	12,586	23,000
Sulfur dioxide	Annual	0.002	1	80
	24-hour	0.12	19	105
	1-hour	1.9	62	655
PM ₁₀	Annual	0.016	61	50
	(arithmetic)			
	Annual	0.016	52	30
	(geometric)			
	24-hour	0.37	165	50

- Notes: (a) Maximum impact in all cases occurred at a receptor located along I-215, approximately 350 meters from the north end of the main runway.
 (b) Background concentrations assumed to equal the mean of maximum concentrations measured during the period from 1990-1992 (refer to Table 3.4-4).
 (c) Limiting standard is equal to the more stringent of the CAAQS or NAAQS (refer to Table 3.4-2).
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 PM₁₀ = particulate matter equal to or less than 10 microns in diameter

3.4.3.4 Air Pollutant Emission Sources

Prerealignment Reference. Prerealignment emission inventories for March AFB and the SCAB are presented in Table 3.4-7. The March AFB inventory information is for 1992. The March AFB emissions presented in Table 3.4-7 are based on inventory calculations for on-base military and civilian sources and off-base employee commuting and secondary population sources. (Refer to Appendix I for details of the emission estimation procedures.) The primary on-base emission sources include aircraft flying operations, aerospace ground equipment, aircraft ground operations, motor vehicles, heating and power production, area sources, and other major identifiable sources (see Appendix F).

The most recent emission inventory representative of prerealignment conditions in the SCAB was 1990 data from Appendix III-A of the 1994 AQMP (SCAQMD and SCAG, 1994). Mobile source emissions (from both on- and off-road sources) account for 57 percent of the VOC and 83 percent of the NO_x emissions in the SCAB. On-road mobile sources alone contribute about 50 percent of the total VOC and NO_x emissions and almost 80 percent of the total CO emissions. Of stationary sources (point and area sources), point sources contribute two to three times more NO_x and sulfur oxides (SO_x) emissions than area sources. However, area sources play a major role

Table 3.4-7. Prerealignment (1992) Emissions Inventory at March AFB (tons per year)

Emission Source	NO _x	CO	SO ₂	PM ₁₀	VOC
March AFB					
On-Base Sources^(a)					
Aircraft Flying Operations (U) ^(b)	501.8	645.4	13.1	15.6	241.0
Aircraft Ground Operations (P) ^(c)	0.0	0.1	0.0	0.0	0.1
Aircraft Ground Operations (U) ^(c)	2.4	7.1	0.3	0.1	5.3
Aerospace Ground Equipment (P) ^(d)	12.1	15.2	1.2	1.5	2.7
Aerospace Ground Equipment (U)	0.7	3.7	0.1	0.1	0.5
Motor Vehicles (U) ^{(c)(e)}	102.0	1,056.1	5.1	8.4	128.3
Heating and Power Production (P) ^(c)	25.1	4.8	1.3	1.8	1.4
Heating and Power Production (U) ^(c)	1.1	0.9	0.1	0.2	0.3
Area Sources (P) ^(c)	--	--	--	--	6.7
Area Sources (U) ^(c)	4.2	412.3	0.1	6.2	60.4
Other Major Sources (P) ^(c)	--	--	--	--	48.9
Other Major Sources (U) ^(c)	--	--	--	--	531.0
Subtotal - On-Base Sources	649.4	2,145.6	21.3	33.9	1,026.6
Off-Base Sources					
Motor Vehicles ^(e)	540.6	3,731.9	40.0	63.2	382.2
Secondary Population ^(f)	241.4	1,278.9	22.8	161.7	271.0
Subtotal - Off-Base Sources	782.0	5,010.8	62.8	224.9	653.2
Total Base-Related Emissions	1,431.4	7,156.4	84.1	258.8	1,679.8
ROI (SCAB)^(g)	470,901	2,494,293	44,180	305,958	536,484

Notes: (a) On-base permitted sources are designated by (P). Unpermitted sources are designated (U). Split between permitted and unpermitted sources based on 1992 annual emission calculations and fees submitted to the SCAQMD for March AFB.

(b) Aircraft flight operation emissions based on EDMS results.

(c) Data obtained from Pacific Environmental Services, Inc., 1994.

(d) Aerospace equipment emissions for military aircraft for 1992 obtained from Pacific Environmental Services, Inc. (1994). Aerospace emissions for civilian aircraft based on EDMS results.

(e) Privately-owned vehicle emissions calculated from estimates of vehicle miles traveled provided by the transportation resource. Emission factors obtained from the SCAQMD's CEQA Handbook.

(f) Secondary population does not represent total emission levels; only the emissions for persons residing off-base who would out-migrate from the Basin due to base realignment.

(g) Data obtained from Appendix III-A of the 1994 Air Quality Management Plan (SCAQMD and SCAG, 1994).

CO = carbon monoxide

EDMS = Emissions and Dispersion Modeling System

NO_x = nitrogen oxides

PM₁₀ = particulate matter equal to or less than 10 microns in diameter

ROI = region of influence

SCAB = South Coast Air Basin


SCAQMD = South Coast Air Quality Management District

SO₂ = sulfur dioxide

VOC = volatile organic compound

in VOC emissions, emitting almost 70 percent more VOC than point sources. Furthermore, area sources are the predominant source (87 percent) of PM₁₀ emissions due to inclusion of travel-related fugitive dust emissions (SCAQMD and SCAG, 1994).

Realignment Baseline. The base-related emissions for March ARB at realignment (1996) were estimated by calculating the on- and off-base emissions associated with only the retained cantonment area and OL activities, including short-term construction activities (U.S. Air Force Reserve, 1995) (Table 3.4-8). The reduction in base-related emissions from prerealignment conditions reflects the loss of both direct and indirect sources due to reduced Air Force activities, reduced facility heating and power requirements, and the reduction in the on-base and secondary populations. Emission reductions also reflect the application of those emission control measures contained in the SCAQMD's 1994 AQMP that would apply to March AFB sources. Details of the 1996 inventory calculations are provided in Appendix I. Emissions projected to occur in the SCAB in 1996 are also shown in Table 3.4-8. The 1996 SCAB inventory was obtained from Appendix III-A of the 1994 AQMP (SCAQMD and SCAG, 1994).

 **Localized Intersection Impacts.** CO concentrations were modeled at receptors in the vicinity of six intersections in the project area. One-hour and 8-hour average concentrations were calculated at the following intersections:

Alessandro Boulevard/Mission Grove Parkway
Elsworth Street/Alessandro Boulevard
Elsworth Street/Cactus Avenue
Graham Street/Alessandro Boulevard
Graham Street/Cactus Avenue
Trautwein Road/Van Buren Boulevard

Results of localized CO modeling for the realignment baseline (1996) are presented in Table 3.4-9. The maximum predicted 1-hour and 8-hour concentrations plus background occur at the Graham Street/Alessandro Boulevard intersection. The maximum predicted 1-hour concentration of 25.8 ppm exceeds the 1-hour CAAQS for CO (20 ppm; see Table 3.4-2) by 5.8 ppm. Exceedances of the CAAQS 1-hour standard would occur at all of the intersections in 1996. The maximum predicted 8-hour concentration of 18.6 ppm exceeds the 8-hour CAAQS and NAAQS (9 ppm; see Table 3.4-2) by 9.6 ppm. All intersections have maximum predicted concentrations above the CAAQS and NAAQS for the 8-hour period.

3.4.4 Noise

The ROL for noise sources at March AFB is defined using land use compatibility guidelines presented in the AICUZ and those developed by the state of California. The area most affected by noise includes the area in and

Table 3.4-8. Projected Realignment (1996) Emissions Inventory at March ARB (tons per year)

Emission Source	NO _x	CO	SO ₂	PM ₁₀	VOC
March AFB					
On-Base Sources^(a)					
Aircraft Flying Operations (U) ^(b)	115.2	352.7	1.6	11.4	235.6
Aircraft Ground Operations (P) ^(c)	0.0	0.1	0.0	0.0	0.1
Aircraft Ground Operations (U) ^(c)	1.8	5.3	0.2	0.1	4.0
Aerospace Ground Equipment (P) ^(c)	5.7	7.2	0.6	0.7	1.3
Aerospace Ground Equipment (U) ^(c)	0.3	1.8	0.0	0.0	0.2
Motor Vehicles (U) ^(d)	35.5	292.4	2.3	4.4	32.3
Heating and Power Production (P) ^(c)	12.1	2.4	0.7	0.9	0.7
Heating and Power Production (U) ^(c)	0.6	0.4	0.0	0.2	0.2
Area Sources (P) ^(c)	--	--	--	--	0.8
Area Sources (U) ^(c)	1.6	49.4	0.0	4.3	5.1
Other Major Sources (P) ^(c)	--	--	--	--	1.2
Other Major Sources (U) ^(c)					531.0
Subtotal - On-Base Sources	172.8	711.7	5.4	22.0	812.5
Off-Base Sources					
Motor Vehicles ^(d)	113.4	710.8	8.3	14.4	64.8
Total Base-Related Emissions	286.2	1,422.5	13.7	36.4	877.3
Construction Emissions^(e)	8.7	1.9	0.9	24.6	2.0
ROI (SCAB)^(f)	382,976	1,827,548	39,227	327,420	394,397

- Notes: (a) On-base permitted sources are designated by (P). Unpermitted sources are designated (U). Split between permitted and unpermitted sources assumed to be the same as in 1992.
- (b) Aircraft flight operation emissions based on Emissions and Dispersions Modeling System results.
- (c) Emissions based on data from 1992 emissions survey prepared by Pacific Environmental Services, Inc. (1994) and on factors which reflect reduced on-base activities, reduced heating and power requirements, reduction in on-base and secondary population associated with the base, and application of control measures contained in the SCAQMD's 1994 Air Quality Management Plan. Refer to Appendix I for details of the calculations.
- (d) Motor vehicle emissions calculated from estimates of vehicle miles traveled provided by the transportation resource. Emission factors obtained from the SCAQMD's CEQA Handbook.
- (e) Based on a total of the expected construction within the cantonment in 1996-1997.
- (f) Data obtained from Appendix III-A of the 1994 Air Quality Management Plan (SCAQMD and SCAG, 1994).
- CO = carbon monoxide
- NO_x = nitrogen oxides
- PM₁₀ = particulate matter equal to or less than 10 microns in diameter
- ROI = region of influence
- SCAB = South Coast Air Basin
- SCAQMD = South Coast Air Quality Management District
- SO₂ = sulfur dioxide
- VOC = volatile organic compound

**Table 3.4-9. Maximum 1-hour and 8-hour Concentrations in 1996
(Realignment Plus Background, parts per million)**

Intersection	1-Hour	8-Hour
Alessandro Blvd/Mission Grove Pkwy	20.5	14.4
Elsworth St/Alessandro Blvd	20.2	14.2
Elsworth St/Cactus Ave	20.8	14.6
Graham St/Alessandro Blvd	25.8	18.6
Graham St/Cactus Ave	21.8	15.4
Trautwein Rd/Van Buren Blvd	20.7	14.6

around the base within the CNEL 60 dB contour. This includes, but is not limited to, the communities of Moreno Valley, Perris, and Riverside.

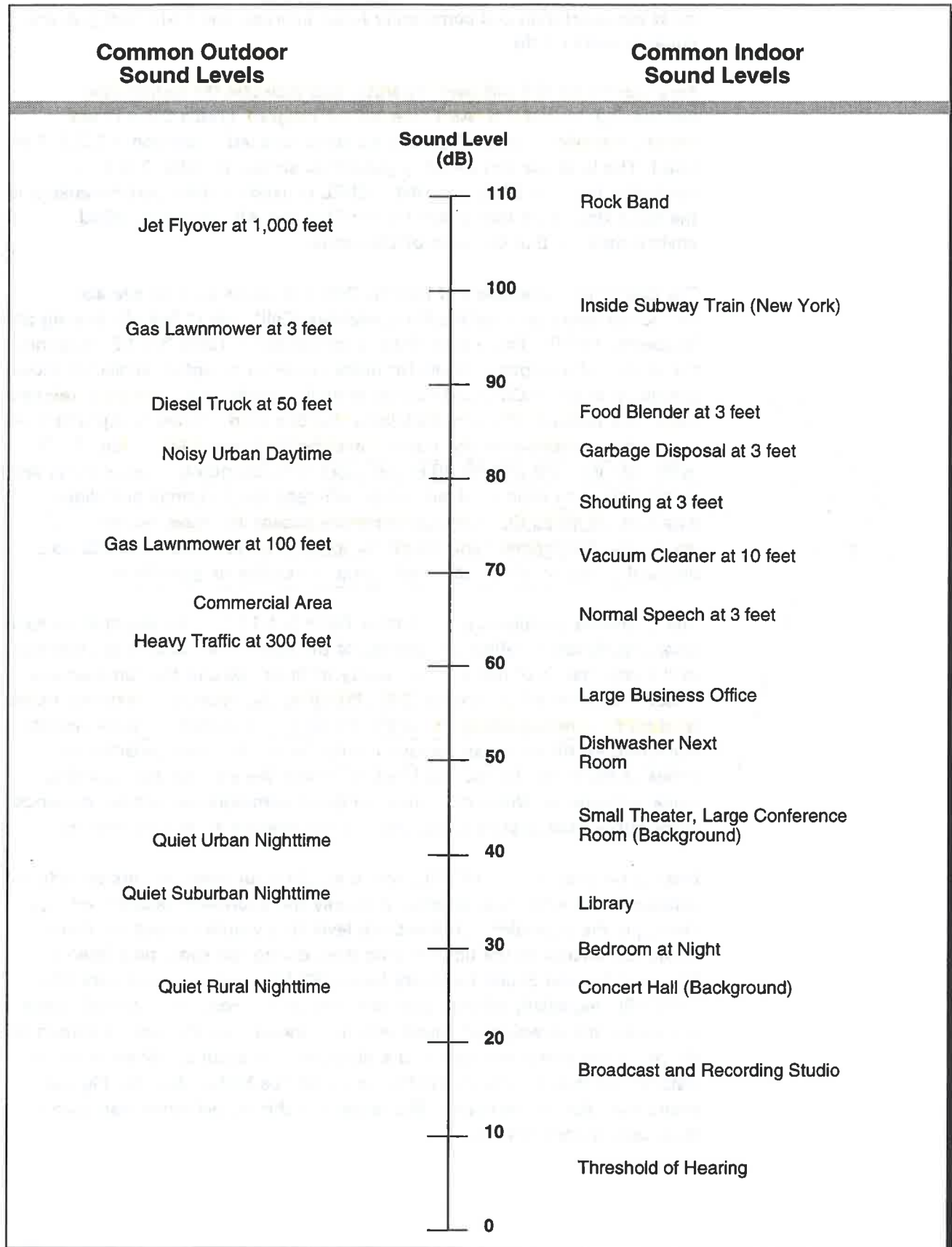
Noise is usually defined as sound that is undesirable because it interferes with speech communication and hearing, is intense enough to damage hearing, or is otherwise annoying. The characteristics of sound include parameters such as amplitude, frequency, and duration. Sound can vary over an extremely large range of amplitudes. The dB, a logarithmic unit that accounts for the large variations in amplitude, is the accepted standard unit for the measurement of sound. Table 3.4-10 presents examples of typical sound levels. Different sounds may have different frequency contents. When measuring sound to determine its effects on a human population, A-weighted (dB) sound levels are typically used to account for the frequency response of the human ear. A-weighted sound levels represent the sound level according to a prescribed frequency response established by the American National Standards Institute (1983).

Noise levels often change with time; therefore, to compare levels over different time periods, several descriptors were developed that take into account this time-varying nature. These descriptors are used to assess and correlate the various effects of noise on man and animals, including land use compatibility, sleep interference, annoyance, hearing loss, speech interference, and startle effects.

The DNL was developed to evaluate the total community noise environment. DNL (sometimes abbreviated as Ldn) is the average A-weighted acoustical energy during a 24-hour period with a 10 dB adjustment added to the nighttime levels (between 10 p.m. and 7 a.m.). This adjustment is an effort to account for the increased sensitivity to nighttime noise events. DNL was endorsed by the U.S. EPA in 1974 for use by federal agencies and has been adopted by HUD, FAA, and DOD.

In California, a descriptor similar to DNL, the CNEL, is used to evaluate impacts due to noise. The CNEL is identical to the DNL with the one exception that a 5-dB adjustment is added to those noises occurring during evening hours (7:00 p.m. to 10:00 p.m.). Both DNL and CNEL represent a 24-hour average of the A-weighted noise levels at a particular location. For

Table 3.4-10. Comparative Sound Levels



most transportation and community noise sources, the CNEL and DNL are equal to within 1 dB.

Because the AFRES will own, operate, and maintain the airfield (see Section 2.2.1), the U.S. Air Force AICUZ Program (Table 3.4-11) will continue in effect. (AICUZ guidelines are discussed in Section 3.2.2.1, Land Use.) The land use compatibility guidelines shown in Table 3.4-11 are applicable for both CNEL and DNL. CNEL is used in this report because it is the noise descriptor recognized by the FAA and Air Force for airfield environments within the state of California.

The California Department of Health, Office of Noise Control has also developed land use compatibility guidelines (California Office of Planning and Research, 1987). These guidelines, summarized in Table 3.4-12, determine the ranges of acceptable levels for noise-sensitive receptors similar to those presented in the AICUZ land use compatibility guidelines. The most relevant difference between the two guidelines, for this study, is the acceptable level for residential (single family, duplex, and mobile homes) land uses. DOD guidelines indicate that 65 dB is the maximum acceptable exterior noise level compatible with residential land uses, whereas the California guidelines establish 60 dB as the maximum normally acceptable level for new residential development and 65 dB for existing units. Noise impacts on disposal property will be assessed using the California guidelines.

The California guidelines presented in Table 3.4-12 may be adjusted by each local jurisdiction to reflect the desires of the community and its assessment of the importance of noise. The county of Riverside and the communities effected by March AFB accept CNEL 60 dB as the acceptable external noise level for new residential lands (CNEL 70 dB if noise reduction is incorporated) and CNEL 45 dB as the acceptable interior level. The local jurisdictions (cities of Riverside, Perris, and Moreno Valley) were contacted regarding noise ordinances. Noise ordinances in these communities address nuisance noise rather than aircraft noise, and are not relevant to this discussion.

Metrics such as DNL and CNEL, which are 24-hour averages, are sometimes supplemented with other metrics, primarily the equivalent sound level (L_{eq}). The L_{eq} is the equivalent, steady-state level that would contain the same acoustical energy as the time-varying level during the same time interval. Occasionally, the Sound Exposure Level (SEL) is used to supplement DNL and CNEL, especially where sleep disturbance is a concern. The SEL value represents the A-weighted sound level integrated over the entire duration of the noise event and referenced to a duration of 1 second. When an event lasts longer than 1 second, the SEL value will be higher than the highest sound level during the event. SEL is used in this report when discussing sleep disturbance effects.

Table 3.4-11. Air Force AICUZ Land Use Compatibility with Respect to Noise Zones

Page 1 of 4

SLUCM No.	Land Use	Noise Zones (DNL/CNEL)			
		65-70dB	70-75dB	75-80dB	80 + dB
10	Residential				
11	Household units				
11.11	Single units; detached	A ^(a)	B ^(a)	N	N
11.12	Single units; semidetached	A ^(a)	B ^(a)	N	N
11.13	Single units; attached row	A ^(a)	B ^(a)	N	N
11.21	Two units; side-by-side	A ^(a)	B ^(a)	N	N
11.22	Two units; one above the other	A ^(a)	B ^(a)	N	N
11.31	Apartments; walk up	A ^(a)	B ^(a)	N	N
11.32	Apartments; elevator	A ^(a)	B ^(a)	N	N
12	Group quarters	A ^(a)	B ^(a)	N	N
13	Residential hotels	A ^(a)	B ^(a)	N	N
14	Mobile home parks or courts	N	N	N	N
15	Transient lodgings	A ^(a)	B ^(a)	C ^(a)	N
16	Other residential	A ^(a)	B ^(a)	N	N
20	Manufacturing				
21	Food and kindred products; manufacturing	Y	Y ^(b)	Y ^(c)	Y ^(d)
22	Textile mill products; manufacturing	Y	Y ^(b)	Y ^(c)	Y ^(d)
23	Apparel and other finished products made from fabrics, leather, and similar materials; manufacturing	Y	Y ^(b)	Y ^(c)	Y ^(d)
24	Lumber and wood products (except furniture); manufacturing	Y	Y ^(b)	Y ^(c)	Y ^(d)
25	Furniture and fixtures; manufacturing	Y	Y ^(b)	Y ^(c)	Y ^(d)
26	Paper and allied products; manufacturing	Y	Y ^(b)	Y ^(c)	Y ^(d)
27	Printing, publishing, and allied industries	Y	Y ^(b)	Y ^(c)	Y ^(d)
28	Chemicals and allied products manufacturing	Y	Y ^(b)	Y ^(c)	Y ^(d)
29	Petroleum refining and related industries	Y	Y ^(b)	Y ^(c)	Y ^(d)
30	Manufacturing				
31	Rubber and miscellaneous plastic products, manufacturing	Y	Y ^(b)	Y ^(c)	Y ^(d)
32	Stone, clay, and glass products manufacturing	Y	Y ^(b)	Y ^(c)	Y ^(d)

Table 3.4-11. Air Force AICUZ Land Use Compatibility with Respect to Noise Zones
Page 2 of 4

SLUCM No.	Land Use	Noise Zones (DNL/CNEL)			
		65-70dB	70-75dB	75-80dB	80 + dB
33	Primary metal industries	Y	Y ^(b)	Y ^(c)	Y ^(d)
34	Fabricated metal products; manufacturing	Y	Y ^(b)	Y ^(c)	Y ^(d)
35	Professional, scientific, and controlling instruments; photographic and optical goods; watches and clocks manufacturing	Y	A	B	N
39	Miscellaneous manufacturing	Y	Y ^(b)	Y ^(c)	Y ^(d)
40	Transportation, communications, and utilities				
41	Railroad, rapid rail transit, and street railroad transportation	Y	Y ^(b)	Y ^(c)	Y ^(d)
42	Motor vehicle transportation	Y	Y ^(b)	Y ^(c)	Y ^(d)
43	Aircraft transportation	Y	Y ^(b)	Y ^(c)	Y ^(d)
44	Marine craft transportation	Y	Y ^(b)	Y ^(c)	Y ^(d)
45	Highway and street right-of-way	Y	Y ^(b)	Y ^(c)	Y ^(d)
46	Automobile parking	Y	Y ^(b)	Y ^(c)	Y ^(d)
47	Communication	Y	A ^(e)	B ^(e)	N
48	Utilities	Y	Y	Y ^(b)	Y ^(c)
49	Other transportation; communication and utilities	Y	A ^(e)	B ^(e)	N
50	Trade				
51	Wholesale trade	Y	Y ^(b)	Y ^(c)	Y ^(d)
52	Retail trade - building materials; hardware and farm equipment	Y	Y ^(b)	Y ^(c)	Y ^(d)
53	Retail trade - general merchandise	Y	A	B	N
54	Retail trade - food	Y	A	B	N
55	Retail trade - automotive, marine craft, aircraft, and accessories	Y	A	B	N
56	Retail trade - apparel and accessories	Y	A	B	N
57	Retail trade - furniture, home furnishings, and equipment	Y	A	B	N
58	Retail trade - eating and drinking establishments	Y	A	B	N
59	Other retail trade	Y	A	B	N

Table 3.4-11. Air Force AICUZ Land Use Compatibility with Respect to Noise Zones
Page 3 of 4

SLUCM No.	Land Use	Noise Zones (DNL/CNEL)			
		65-70dB	70-75dB	75-80dB	80 + dB
60	Services				
61	Finance, insurance, and real estate services	Y	A	B	N
62	Personal services	Y	A	B	N
62.4	Cemeteries	Y	A	Y ^(c)	Y ^(d,i)
63	Business Services	Y	A	B	N
64	Repair Services	Y	Y ^(b)	Y ^(c)	Y ^(d)
65	Professional services	Y	A	B	N
65.13	Hospitals, nursing homes	A*	B*	N	N
65.19	Other medical facilities	Y	A	B	N
66	Contract construction services	Y	A	B	N
67	Governmental services	Y*	A*	B*	N
68	Educational services <i>CTC</i>	A*	B*	N	N
69	Miscellaneous services	Y	A	B	N
70	Cultural, entertainment, and recreational				
71	Cultural activities (including churches)	A*	B*	N	N
71.2	Nature exhibits	Y*	N	N	N
72	Public assembly	Y	N	N	N
72.1	Auditoriums, concert halls	A	B	N	N
72.11	Outdoor music shells, amphitheaters	N	N	N	N
72.2	Outdoor sports arenas, spectator sports	Y ^(f)	Y ^(f)	N	N
73	Amusements	Y	Y	N	N
74	Recreational activities (including golf courses, riding stables, water recreation)	Y*	A*	B*	N
75	Resorts and group camps	Y*	Y*	N	N
76	Parks	Y*	Y*	N	N
80	Resource production and extraction				
81	Agriculture (except livestock)	Y ^(g)	Y ^(h)	Y ⁽ⁱ⁾	Y ^(i,j)
81.5	Livestock farming and animal	Y ^(g)	Y ^(h)	Y ⁽ⁱ⁾	Y ^(i,j)
81.7	Breeding	Y ^(g)	Y ^(h)	Y ⁽ⁱ⁾	Y ^(i,j)
82	Agricultural-related activities	Y ^(g)	Y ^(h)	N	N

Table 3.4-11. Air Force AICUZ Land Use Compatibility with Respect to Noise Zones

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SLUCM No.	Land Use	Noise Zones (DNL/CNEL)			
		65-70dB	70-75dB	75-80dB	80 + dB
83	Forestry activities and related services	Y ^(g)	Y ^(h)	Y ⁽ⁱ⁾	Y ^(i,j)
84	Fishing activities and related services	Y	Y	Y	Y
85	Mining activities and related services	Y	Y	Y	Y
89	Other resource production and extraction	Y	Y	Y	Y

Notes: * The designation of these uses as "compatible" in this zone reflects individual federal agencies, and program consideration of general cost and feasibility factors as well as past community experiences and program objectives. Localities, when evaluating the application of these guidelines to specific situations, may have different concerns or goals to consider.

- (a) 1. Although local conditions may require residential use, it is discouraged in DNL/CNEL 65-70 and strongly discouraged in DNL/CNEL 70-75. The absence of viable alternative development options should be determined and an evaluation indicating that a demonstrated community need for residential use would not be met if development were prohibited in these zones should be conducted prior to approvals.
2. Where the community determines that residential uses must be allowed, measures to achieve outdoor to indoor NLR for DNL/CNEL 66-70 and DNL/CNEL 71-75 should be incorporated into building codes and be considered in individual approvals.
3. NLR criteria will not eliminate outdoor noise problems. However, building location and site planning, design, and use of berms and barriers can help mitigate outdoor exposure particularly from level sources. Measures that reduce noise at a site should be used whenever practical in preference to measures that only protect interior spaces.
- (b) Measures to achieve the NLR for 66-70 DNL/CNEL must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
- (c) Measures to achieve the NLR for 71-75 DNL/CNEL must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where normal noise level is low.
- (d) Measures to achieve the NLR for 76-80 DNL/CNEL must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
- (e) If noise sensitive use indicated NLR; if not, use is compatible.
- (f) Land use compatible provided special sound reinforcement systems are installed.
- (g) Residential buildings require the NLR for 66-70 DNL/CNEL.
- (h) Residential buildings require the NLR for 71-75 DNL/CNEL.
- (i) Residential buildings not permitted.
- (j) Land use not recommended; built if community decides use is necessary; hearing protection devices should be worn by personnel.

A, B, or C = Land use and related structures generally compatible; measures to achieve NLR for 66-70, 71-75, or 76-80 DNL/CNEL

A*, B*, or C* = Land use generally compatible with NLR; however, measures to achieve an overall noise level reduction do not necessarily solve noise difficulties and additional evaluation is warranted

Ax, Bx = NLR: see footnotes

CNEL = Community Noise Equivalent Level

DNL = day-night average noise level

N (No) = Land use and related structures are not compatible and should be prohibited

NLR = Noise level reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure

Nx = (No with exceptions) - See notes a through j

SLUCM = Standard Land Use Coding Manual

Y (Yes) = Land use and related structures compatible without restriction

Y^x = (Yes with Restrictions) - Land use and related structures generally compatible; see notes a through j

Table 3.4-12. California Land Use Compatibility for Community Noise Environments

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE DNL OR CNEL, dB					
	55	60	65	70	75	80
RESIDENTIAL - LOW DENSITY SINGLE-FAMILY, DUPLEX, MOBILE HOMES						
RESIDENTIAL - MULTI-FAMILY						
TRANSIENT LODGING - MOTELS, HOTELS						
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES						
AUDITORIUMS, CONCERT HALLS, AMPHITHEATRES						
SPORTS ARENA, OUTDOOR SPECTATOR SPORTS						
PLAYGROUNDS, NEIGHBORHOOD PARKS						
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES						
BUSINESS, COMMERCIAL AND PROFESSIONAL OFFICE BUILDINGS						
INDUSTRIAL, MANUFACTURING, UTILITIES, AGRICULTURE						

INTERPRETATION



NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will suffice.



NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

Source: California Office of Planning and Research, 1987.

Appendix G provides additional information about the measurement and prediction of noise. This appendix also provides more information on the units used in describing noise, as well as information about the effects of noise such as annoyance, sleep and speech interference, health effects, and effects on animals.

3.4.4.1 Existing Noise Levels. Typical noise sources in and around airfields usually include aircraft, surface traffic, and other human activities. Military aircraft operations and surface traffic on local streets and highways are the existing primary sources of noise in the vicinity of March AFB. In airport analyses in California, areas with CNEL above 60 dB are often considered in land use compatibility planning and impact assessment; therefore, the contours of CNEL greater than 60 dB are of particular interest. For this analysis, contours above CNEL 60 dB are presented in 5-dB intervals.

Prerealignment Reference. Aircraft noise at March AFB occurs during aircraft engine warmup, maintenance and testing, taxiings, takeoffs, approaches, and landings. Noise contours for prerealignment (1992) aircraft operations (see Table 3.2-4) were modeled using information on aircraft types; runway use; runup locations; takeoff and landing flight tracks; aircraft altitude, speeds, and engine power settings; and number of daytime (7:00 a.m. to 7:00 p.m.), evening (7:00 p.m. to 10:00 p.m.), and nighttime (10:00 p.m. to 7:00 a.m.) operations. The noise contours for 1992 were developed using the Air Force developed Noise Exposure Model (NOISEMAP) version 6.4 and are shown in Figure 3.4-5. The noise contours shown in Figure 3.4-5 differ from those in the 1992 AICUZ because an updated version of the NOISEMAP model was used, to provide consistency with noise modeling for realignment and reuse projections. Only those contours equal to or above CNEL 60 dB are shown.

Surface vehicle traffic noise levels for roadways in the vicinity of March AFB were analyzed using the Federal Highway Administration's Highway Noise Model (1978). This model incorporates vehicle mix, traffic volume projections, day/evening/night splits, and speed to generate CNEL. The noise levels are then presented as a function of distance from the centerline of the road. The results of the modeling for surface traffic are presented in Table 3.4-13. Prior to realignment, 3,211 people would reside in areas exposed to surface traffic noise levels of CNEL 60 dB or greater. The actual distances to the CNELs may be less than those presented in the table because the screening effects of intervening buildings, terrain, and walls were not accounted for in the modeling.

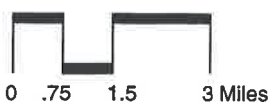
Realignment Baseline. The noise environment due to aircraft operations at realignment was defined using NOISEMAP Version 6.4 to predict CNEL 60, 65, 70, and 75 dB noise contours. These noise contours reflect projected operations of both based and transient military aircraft using the runway at March ARB in 1996 (see Chapter 2). The results of the modeling are presented as noise contours in Figure 3.4-6.



EXPLANATION

— 65 — CNEL Noise Contours (5dB intervals)

Prerealignment Aircraft Noise Contours



Map Source: U.S. Geological Survey, 1959.

Figure 3.4-5

Table 3.4-13. Distance to CNEL from Roadway Centerline and Number of Residents

Page 1 of 2

Roadway	Segment	Prerealignment Reference		Realignment Baseline	
		Distance ^(a) (feet)	No. of ^(b) Residents	Distance ^(a) (feet)	No. of ^(b) Residents
Alessandro Blvd	Trautwein Rd to I-215	310	48	330	74
Alessandro Blvd	I-215 to Elsworth St	270	25	280	23
Alessandro Blvd	Elsworth St to Graham St	250	112	260	122
Alessandro Blvd	Graham St to Heacock St	290	0	300	0
Alessandro Blvd	Heacock St to Perris Blvd	260	250	260	249
Cactus Ave	I-215 to Elsworth St	250	0	270	0
Cactus Ave	Elsworth St to Graham St	240	0	260	0
Cactus Ave	Graham St to Heacock St	180	0	200	0
Cactus Ave	Heacock St to Perris Blvd	140	269	160	317
John F. Kennedy Dr	Heacock St to Perris Blvd	70	106	70	106
Van Buren Blvd	Wood Rd to Trautwein Rd	210	58	220	61
Van Buren Blvd	Trautwein Rd to Orange Terrace Pkwy	340	358	350	371
Van Buren Blvd	Orange Terrace Pkwy to Plummer Rd	360	0	380	0
Van Buren Blvd	Plummer Rd to I-215	370	0	380	0
Nandina Ave	Wood Rd to Barton St	0	0	0	0
Nandina Ave	Barton St to Alexander St	90	3	100	3
Nandina Ave	Alexander St to Clark St	20	0	30	0
Oleander Ave	I-215 to Heacock St	100	6	110	10
Markham St	Wood Rd to Alexander St	60	3	70	3
Markham St	Alexander St to Clark St	50	0	60	0
Cajalco Rd	Alexander St to Wood Rd	330	41	350	41
Cajalco Rd	Alexander St to Clark St	290	112	300	125
Cajalco Rd	Clark St to I-215	340	144	360	153
Wood Rd	Trautwein Rd to Van Buren Blvd	90	3	90	3
Wood Rd	Van Buren Blvd to Lurin Ave	240	29	250	29
Trautwein Rd	Alessandro Blvd to Wood Road	130	16	160	29
Trautwein Rd	Wood Rd to Van Buren Blvd	170	0	180	0
Barton St	Van Buren Blvd to Nandina Ave	110	6	110	6
Alexander St	Nandina Ave to Markham St	50	0	60	6
Alexander St	Markham St to Cajalco St	30	0	40	3
Clark St	Nandina Ave to Markham St	30	0	40	3

Table 3.4-13. Distance to CNEL 60 dB from Roadway Centerline and Number of Residents

Page 2 of 2

Roadway	Segment	Prerealignment Reference		Realignment Baseline	
		Distance ^(a) (feet)	No. of ^(b) Residents	Distance ^(a) (feet)	No. of ^(b) Residents
Clark St	Markham St to Cajalco Rd	60	10	70	26
I-215	Alessandro Blvd to Cactus Ave	1,110	0	1,220	0
I-215	Cactus Ave to Van Buren Blvd	1,200	397	1,350	496
I-215	Van Buren Blvd to Oleander Ave	1,230	0	1,410	0
I-215	Oleander Ave to Cajalco Rd	1,160	29	1,320	32
Elsworth St	Cottonwood Ave to Alessandro Blvd	50	13	50	13
Elsworth St	Alessandro Blvd to Cactus Ave	90	0	100	0
Frederick St	Alessandro Blvd to Cactus Ave	100	0	110	0
Graham St	Alessandro Blvd to Cactus Ave	170	0	180	0
Heacock St	Cactus Ave to John F. Kennedy Dr	160	115	180	122
Heacock St	John F. Kennedy Dr to Iris Dr	90	38	100	48
Heacock St	Iris Dr to Nandina Ave	90	3	100	3
Heacock St	Nandina Ave to Oleander Ave	70	0	90	0
Perris Blvd	Alessandro Blvd to Cactus Ave	240	176	250	189
Perris Blvd	Cactus Ave to John F. Kennedy Dr	230	365	240	365
Perris Blvd	John F. Kennedy Dr to Iris Dr	190	227	210	269
Perris Blvd	Iris Dr to Nandina Ave	180	246	190	249
Perris Blvd	Nandina Ave to Oleander Ave	140	3	150	3
Total			3,211		3,552

Notes: (a) Distance from roadway centerline to CNEL 60 dB contour.
 (b) Total number of residents exposed to CNEL 60 dB or greater.
 CNEL = Community Noise Equivalent Level
 dB = decibel

Upon realignment, the AFRES will assume responsibility for operation of the airfield. The AFRES will follow the guidelines established in the Air Force AICUZ handbook and will manage the airfield in accordance with Air Force regulations. Measures established by the AFRES in accordance with AICUZ guidelines would be similar to those in place prior to realignment, and would include local government cooperation, operational modification of flights, and identification of a community liaison officer. Local government cooperation would include continuing to maintain compatible zoning ordinances, building codes, and permitting authority for areas affected by airfield operations. The AFRES could modify flight operations by limiting nighttime operations, revising flight patterns, or modifying aircraft operational parameters to minimize noise impacts. Upon realignment, a community liaison officer would be identified to coordinate public information, interface with



EXPLANATION

— 65 — CNEL Noise Contours (5dB intervals)

Realignment Aircraft Noise Contours



Map Source: U.S. Geological Survey, 1959.

Figure 3.4-6

community leaders and citizens, and respond to complaints and inquiries about noise.

The projected roadway noise levels for the realignment baseline were calculated using the surface traffic projections at realignment. The results of the modeling for the roadways analyzed are presented in Table 3.4-13. At realignment, 3,552 people would reside in areas exposed to surface traffic noise levels of CNEL 60 dB or greater. This increase from prerealignment would result from the increase in traffic due to regional growth. Again, the actual distances to the CNELs may be less than those presented in the table because the model does not account for screening effects of intervening buildings, terrain, and walls.

3.4.4.2 Noise-Sensitive Areas. The prerealignment ROI for March AFB includes noise-sensitive receptors such as residences, schools, and hospitals that are within the CNEL 60-dB contour.

Table 3.4-14 presents the approximate number of acres and residents within each CNEL range, based on the NOISEMAP data modeled for 1992 aircraft operations. The table shows that in 1992, there were approximately 33,977 acres and 46,404 residents within the 60 CNEL contours. At realignment in 1996, the model predicts that 15,213 acres will be exposed to CNEL 60 dB or above; 16,768 people would reside in that area. Land uses on and near the base are described in Section 3.2.2, Land Use and Aesthetics.

Table 3.4-14. CNEL Exposure from Aircraft Operations

Exposure Level	1992	1996
CNEL 60-65 dB	17,811 acres	9,257 acres
	26,957 residents	12,549 residents
CNEL 65-70 dB	8,826 acres	3,184 acres
	15,030 residents	3,538 residents
CNEL 70-75 dB	4,029 acres	1,481 acres
	4,367 residents	665 residents
CNEL ≥ 75 dB	3,311 acres	1,291 acres
	50 residents	16 residents
Total ≥ CNEL 60 dB	33,977 acres	15,213 acres
	46,404 residents	16,768 residents

CNEL = Community Noise Equivalent Level

≥ = Equal to or more than

3.4.5 Biological Resources

Biological resources include the native and introduced plants and animals in the project area. For discussion purposes, these are divided into vegetation, wildlife, threatened and endangered species, and sensitive habitats.

3.4.5.1 Vegetation. Vegetation on the open areas of March AFB consists of grasslands comprising non-native species, urban landscape, and localized riparian communities. Naturally occurring vegetation on March AFB consists of native grasslands and coastal sage scrub. While the exact species composition of native grasslands is uncertain, a few remnant species of coastal sage scrub occur on a small portion of the non-native grasslands currently dominant throughout undeveloped areas on base.

Non-native grasslands are characterized by exotic annual forbs, such as mustards and filarees, and by exotic grasses, such as wild oats, red brome, cheat grass, Mediterranean grass, and barley. Native lupines and goldfields are seasonally abundant in this community. Planted and naturalized landscape species are common throughout the base. Only a few disjunct stands of brittlebush, valley cholla, prickly pear, California sagebrush, and California buckwheat are representative of a former coastal sage scrub community on West March.

The disturbances associated with agricultural activities at March Water System No. 2 have created ideal conditions for a variety of non-native grasses such as split grass, red brome, cheat grass, and slender wild oats. Weedy forbs such as short-pod mustard, dove weed, and Russian thistle are also present. Together, these species comprise the dominant vegetation.

Planted and escaped landscape species are common throughout the base. Stands of Brazilian and Peruvian pepper, eucalyptus, European olive, and oleander are common near buildings, along roadsides, and along sections of the base perimeter. A more diverse assortment of non-native trees, shrubs, forbs, and grasses has been planted on the golf course and in residential and administrative areas.

Riparian communities are often considered wetlands under Section 404 of the CWA; they are discussed further in Section 3.4.5.4, Sensitive Habitats.

3.4.5.2 Wildlife. Wildlife surveys conducted at March AFB (James and Hanlon, 1994a; James and Vizgirdas, 1993; Tetra Tech, 1993) have demonstrated a high diversity of resident amphibians, reptiles, mammals, and permanent and seasonal birds, particularly on West March. The surveys have also identified several listed and candidate species, which are discussed more fully in Section 3.4.5.3, Threatened and Endangered Species.

The Pacific treefrog is known to occur in every plant community on base and is the most common amphibian species. The Pacific slender salamander,

western toad, and bullfrog may occur on the base but have not been identified from past surveys. Western spadefoot toad, a federal Category 2 candidate species for listing, is the only sensitive amphibian identified on base (James and Vizgirdas, 1993).

The most common of the several reptile species on base is the side blotched lizard. Western fence lizard, granite spiny lizard, southern alligator lizard, gopher snake, and Pacific rattlesnake are also common. Orange-throated whiptail, coastal western whiptail, San Diego horned lizard, and northern red-diamond rattlesnake are federal candidate Category 2 species for listing that are known to occur on March AFB.

Birds comprise the most diverse taxonomic group of animals on base. Native and non-native, seasonal and permanent bird species are known to occur. Non-native starlings and native house finches are found throughout the base. Mourning dove, killdeer, American kestrel, black phoebe, common raven, northern mockingbird, and Brewer's blackbird are common native resident species.

The expansive grasslands are attractive to many seasonal granivores (seed-eaters) such as white-crowned sparrow, western meadowlark, American pipit, and savannah sparrow as well as raptors, including northern harrier, prairie falcon, and golden eagle. Grasslands are also habitat for several federal candidate Category 2 species: ferruginous hawk, mountain plover, tricolored blackbird, loggerhead shrike, and California horned lark. The burrowing owl, a California Special Concern (CSC) species, is known to be present on March AFB. The base has provided artificial burrows for burrowing owls in the northeastern portion of the base.

Riparian areas are habitat for permanent and migratory passerines, such as yellow-rumped warbler, black-throated gray warbler, and song sparrow. The federally listed endangered Least Bell's vireo is known to occur on willow riparian habitat on West March.

Typical grassland mammals include California ground squirrel, Beechey ground squirrel, Botta's pocket gopher, and Audubon's cottontail. Small rodents such as the deer mouse, western harvest mouse, and Pacific kangaroo rat have been identified from trapping surveys. Coyote, the most common mammalian predator at March AFB, is found in all habitats. In addition the endangered SKR, the federal candidate (Category 2) San Diego black-tailed jackrabbit and Los Angeles pocket mouse have been identified at March AFB and are discussed in Section 3.4.5.3, Threatened and Endangered Species.

3.4.5.3 Threatened and Endangered Species. A number of federally and state-listed threatened, endangered, candidate, or special concern species are known to be present in the vicinity of March AFB. The status and distribution of these species were determined through contacts with the base

biologist and review of other studies that have been conducted on the base. A letter was sent to the USFWS requesting a list of sensitive species for the March AFB area, initiating informal consultation under Section 7 of the federal Endangered Species Act, as amended. In response, the USFWS identified listed or candidate species and subspecies that are known to occur on or near March AFB (Appendix J).

All endangered, threatened, and candidate species known or suspected to be present on or near March AFB are listed in Table 3.4-15. Comprehensive surveys for most taxonomic groups have been performed at March AFB. The noted occurrence of individual sensitive species or the probability that species not identified in previous surveys are present at March AFB is summarized in the last column of the table.

Of the eight sensitive plant species with historical ranges on or in the proximity of March AFB, none were found during a 1992 USFWS survey (James, 1992). Payson's jewelflower (*Caulanthus simulans*), a federal candidate (Category 2), is a fire ephemeral (post-fire) plant with a moderate probability of occurrence on base following grassland fires. March AFB lacks suitable conditions for all other sensitive plant species considered.

Two federally listed endangered species are known to be present on March AFB: Least Bell's vireo and SKR. Least Bell's vireo was identified along drainages with willow riparian habitat on West March (James and Hanlon, 1994b). SKR inhabits level to slightly sloping terrain with grassy or herbaceous ground cover throughout West March.

A single immature bald eagle (a federally listed threatened species) occurrence was documented on West March in 1993. This occurrence is likely a random event, and not an indication of permanent habitat for bald eagles. West March supports roosting habitat of marginal quality, and does not support suitable nesting and foraging habitat. The nearest foraging habitat is at Lake Perris (approximately 6 miles east) and Lake Mathews (about 9 miles west). Riverside County is outside the breeding range of this species. Therefore, it is unlikely that bald eagles would be present on March AFB.

Four candidate (Category 2) reptile species for federal listing are known to be present on March AFB: the northern red diamond rattlesnake, coastal western whiptail, orange-throated whiptail, and San Diego horned lizard. The northern red diamond rattlesnake inhabits rock outcrops in scrub and grasslands on base. Coastal western whiptails are common in a variety of arid and semi-arid habitats. Orange-throated whiptails inhabit washes and sandy areas where plants are sparse. San Diego horned lizards occupy a variety of habitats where their preferred prey, harvester ants, is present. One candidate amphibian species for federal listing (Category 2), western

Table 3.4-15. Listed and Candidate Species Occurring on and near March AFB
Page 1 of 5

Sensitive Species and Associated Habitat	Status Federal^(a) State^(b)	Occurrence Probability/ Sightings
San Diego button celery	E ^(a)	Low
<i>Eryngium aristulatum</i> var. <i>parishii</i>	E ^(b)	
Vernal pools		
California orcutt grass	E ^(a)	Low
<i>Orcuttia californica</i>	E ^(b)	
Vernal pools		
Munz's onion	C1 ^(a)	Low
<i>Allium fimbriatum</i> var. <i>munzii</i>	T ^(b)	
Clay soils		
Thread-leaf brodiaea	C1 ^(a)	Low
<i>Brodiaea filifolia</i>	E ^(b)	
Heavy clay soils in coastal sage scrub		
Payson's jewelflower	C2 ^(a)	Moderate
<i>Caulanthus simulans</i>	ND ^(b)	
Chaparral, granitic soils		
Many-stemmed dudleya	C2 ^(a)	Low
<i>Dudleya multicaulis</i>	ND ^(b)	
Clay soils		
Little mouse-tail	C2 ^(a)	Low
<i>Myosurus minimus</i> spp. <i>apus</i>	ND ^(b)	
Vernal pools and alkaline marshes		
Moreno currant	C2 ^(a)	Low
<i>Ribes canthariforme</i>	ND ^(b)	
Chaparral		
Riverside fairy shrimp	E ^(a)	Low
<i>Streptocephalus woottoni</i>	ND ^(b)	
Vernal pools and vernal wet areas		
Vernal pool fairy shrimp	T ^(a)	Moderate
<i>Branchinecta lynchi</i>	ND ^(b)	
Vernal pools and vernal wet areas		
Conservancy fairy shrimp	E ^(a)	Moderate
<i>Branchinecta conservatio</i>	ND ^(b)	
Vernal pools and vernal wet areas		

Table 3.4-15. Listed and Candidate Species Occurring on and near March AFB

Page 2 of 5

Sensitive Species and Associated Habitat	Status Federal ^(a) State ^(b)	Occurrence Probability/ Sightings
Wright's checkerspot butterfly <i>Euphydryas editha wrighti</i> Dependent on California plantain (<i>Plantago erecta</i>)	C1 ^(a) ND ^(b)	Moderate
Quino checkerspot butterfly <i>Euphydryas editha quino</i> Rocky outcrops with coastal sage scrub	E ^(a) ND ^(b)	Low
Arroyo southwestern toad <i>Bufo microscaphus californicus</i> Loose gravelly stream areas and sandy banks	E ^(a) CSC ^(b)	Low
California red-legged frog <i>Rana aurora draytonii</i> Permanent water with extensive vegetation	C1 ^(a) CSC ^(b)	Low
Western spadefoot toad <i>Scaphiopus hammondi</i> Sandy or gravelly areas with short grasses and open vegetation	C2 ^(a) CSC ^(b)	Occurs James and Vizgirdas, 1993
San Diego horned lizard <i>Phrynosoma coronatum blainvillei</i> A variety of habitats where harvester ants occur	C2 ^(a) CSC ^(b)	Occurs Tetra Tech, 1993
Southern sagebrush lizard <i>Sceloporus graciosus vandenburgianus</i> Rocky and gravelly areas	C2 ^(a) ND ^(b)	Low
San Diego banded gecko <i>Coleonyx variegatus abbotti</i> Canyon walls and rocky tracts; hides under debris and in crevices during the day	C2 ^(a) ND ^(b)	Low
Coastal western whiptail <i>Cnemidophorus tigris multiscutatus</i> Semi-arid habitats	C2 ^(a) ND ^(b)	Occurs Tetra Tech, 1993
Orange-throated whiptail <i>Cnemidophorus hyperythrus</i> Sandy banks and brushy areas	C2 ^(a) CSC ^(b)	Occurs Tetra Tech, 1993
San Bernardino ringneck snake <i>Diadophis punctatus modestus</i> Moist areas	C2 ^(a) ND ^(b)	Low
Coastal rosy boa <i>Lichanura trivirgata rosafusca</i> Rocky chaparral-covered foothills	C2 ^(a) ND ^(b)	Moderate

Table 3.4-15. Listed and Candidate Species Occurring on and near March AFB

Page 3 of 5

Sensitive Species and Associated Habitat	Status Federal ^(a) State ^(b)	Occurrence Probability/ Sightings
Southern rubber boa <i>Charina bottae umbratica</i> Damp sandy areas and grasslands	C2 ^(a) T ^(b)	Low
Two-striped garter snake <i>Thamnophis hammondi</i> Near water	C2 ^(a) ND ^(b)	Low
Northern red diamondback rattlesnake <i>Crotalus ruber ruber</i> Dense chaparral and coastal sage scrub	C2 ^(a) CSC ^(b)	Occurs Tetra Tech, 1993
Coast patch-nosed snake <i>Salvadora hexalepis virgultea</i> Chaparral	C2 ^(a) ND ^(b)	Moderate
Bald eagle <i>Haliaeetus leucocephalus</i> Seacoasts and inland waterways such as lakes and rivers	T ^(a) E ^(b)	Occurs James and Hanlon, 1994a
American peregrine falcon <i>Falco peregrinus anatum</i> Open foraging areas; nests in rock crevices	E ^(a) E ^(b)	Low
Arctic peregrine falcon <i>Falco peregrinus tundrius</i> Open foraging areas; nests in rock crevices	T ^(a) ND ^(b)	Low
California brown pelican <i>Pelecanus occidentalis californicus</i> Large open bodies of water	E ^(a) E ^(b)	Low
Least Bell's vireo <i>Vireo bellii pusillus</i> Riparian habitats with willow stands	E ^(a) E ^(b)	Occurs Tetra Tech, 1993
California gnatcatcher <i>Poliophtila californica</i> Coastal sage scrub and chamise chaparral	T ^(a) CSC ^(b)	Low
Ferruginous hawk <i>Buteo regalis</i> Grassland	C2 ^(a) CSC ^(b)	Occurs James and Hanlon, 1994a
Burrowing owl <i>Speotyto cunicularia</i> Burrows; open fields with low herbaceous vegetation	ND ^(a) CSC ^(b)	Occurs Zemba 1992, James and Hanlon, 1994
Mountain plover <i>Charadrius montanus</i> Wet areas in grasslands	C2 ^(a) CSC ^(b)	Occurs James and Hanlon, 1994a

Table 3.4-15. Listed and Candidate Species Occurring on and near March AFB

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Sensitive Species and Associated Habitat	Status	Occurrence Probability/ Sightings
	Federal ^(a) State ^(b)	
California horned lark	C2 ^(a)	Occurs
<i>Eremophila alpestris actia</i>	CSC ^(b)	James and
Grasslands, agricultural fields		Hanlon, 1994a
Southwestern willow flycatcher	E ^(a)	Moderate
<i>Empidonax traillii extimus</i>	E ^(b)	
Willow thickets		
San Diego cactus wren	C2 ^(a)	Low
<i>Campylorhynchus brunneicapillus</i>	CSC ^(b)	
<i>sandiegoense</i>		
Arid and semi-arid habitats, Riversidean alluvial sage scrub		
Loggerhead shrike	C2 ^(a)	Occurs
<i>Lanius ludovicianus</i>	CSC ^(b)	James and
A variety of open habitats		Vizgirdas, 1993; The Earth Technology Corporation, 1994a; Tetra Tech, 1993
Tricolored blackbird	C2 ^(a)	Occurs
<i>Agelaius tricolor</i>	CSC ^(b)	James and
Wetlands and grasslands		Hanlon, 1994a
Southern California rufous-crowned sparrow	C2 ^(a)	Low
<i>Aimophila ruficeps canescens</i>	CSC ^(b)	
Grassy or rocky slopes with low bushes		
Bell's sage sparrow	C2 ^(a)	Low
<i>Amphispiza belli belli</i>	CSC ^(b)	
Chaparral and deserts		
Stephens' kangaroo rat	E ^(a)	Occurs
<i>Dipodomys stephensi</i>	T ^(b)	Montgomery, 1992
Grassy hills and slopes		
Spotted bat	C2 ^(a)	Low
<i>Euderma maculatum</i>	CSC ^(b)	
Arid areas, occasionally roosts in buildings		
Greater western mastiff-bat	C2 ^(a)	Low
<i>Eumops perotis californicus</i>	CSC ^(b)	
Roosts in natural crevices, trees, and buildings		
San Diego black-tailed jackrabbit	C2 ^(a)	Occurs
<i>Lepus californicus bennettii</i>	CSC ^(b)	Tetra Tech, 1993
Scrub and grassland habitats		

Table 3.4-15. Listed and Candidate Species Occurring on and near March AFB

Page 5 of 5

Sensitive Species and Associated Habitat	Status	Occurrence Probability/ Sightings
	Federal ^(a) State ^(b)	
California leaf-nosed bat <i>Macrotis californicus</i> Roosts in buildings and natural crevices	C2 ^(a) CSC ^(b)	Low
Occult little brown bat <i>Myotis lucifugus occultus</i> Roosts in buildings, trees, and natural crevices	C2 ^(a) CSC ^(b)	Low
Southwestern cave myotis <i>Myotis velifer brevis</i> Roosts in caves, mines, and buildings	C2 ^(a) CSC ^(b)	Low
San Diego desert woodrat <i>Neotoma lepida intermedia</i> Dense scrub	C2 ^(a) CSC ^(b)	Low
Los Angeles little pocket mouse <i>Perognathus longimembris brevinasus</i> Coastal sage scrub and grassland	C2 ^(a) CSC ^(b)	Occurs
Northwestern San Diego pocket mouse <i>Perognathus fallax fallax</i> Scrub areas	C2 ^(a) ND ^(b)	Low

Status designations:

(a) Federal

- E = Federally listed, endangered
- T = Federally listed, threatened
- C1 = Category 1 candidate species. Enough data are on file to support the federal listing
- C2 = Category 2 candidate species. Threat and/or distribution data are insufficient to support federal listing
- ND = Not designated

(b) State

- E = State listed, endangered
- T = State listed, threatened (previously listed as rare)
- CSC = California Department of Fish and Game Species of Special Concern
- ND = Not designated

spadefoot toad, is also known to occur on base. Spadefoot toad is a lowland species that prefers areas of open vegetation and short grasses with sandy or gravelly substrates on base.

Five candidate (Category 2) bird species for federal listing are known to be present on March AFB: ferruginous hawk, loggerhead shrike, tricolored blackbird, mountain plover, and California horned lark. The ferruginous hawk is a wintering species that has been commonly observed foraging in grasslands on West March. The loggerhead shrike is a common permanent resident of a variety of habitats throughout March AFB. Large flocks of

tricolored blackbirds have been observed on West March. The mountain plover is a rare transient species that has been observed infrequently on the base. The California horned lark (*Eremophila alpestris actia*), a protected subspecies in southern California, is a common fall and winter visitor to March AFB.

Los Angeles little pocket mouse and San Diego black-tailed jackrabbit are the only candidate (Category 2) mammal species for federal listing known to occur on March AFB. The Los Angeles pocket mouse inhabits lowland grassland and coastal sage scrub associations. The San Diego blacktailed jackrabbit is common throughout West March.

Previous surveys identified fairy shrimp on West March (Tetra Tech, 1993). Additional sampling surveys were conducted in January-April 1995 to confirm the presence or absence of federally listed endangered or threatened fairy shrimp species (Entomological Consulting Services, Ltd., 1995). No listed species were identified during the survey.

3.4.5.4 Sensitive Habitats. Sensitive habitats include wetlands, plant communities that are unusual or of limited distribution, and important use areas for sensitive wildlife (e.g., migratory flyways, breeding areas, or crucial seasonal habitat). Sensitive habitats at March AFB consist of jurisdictional wetlands at the northeastern corner of the base and on West March, and habitat for the endangered SKR, Least Bell's vireo, and fairy shrimp species (Figure 3.4-7). The ROI does not contain any coastal zones, coastal barriers, or wild and scenic rivers.

Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Environmental Laboratory, 1987).

Approximately 86 acres of wetlands occur on base. The U.S. Army Corps of Engineers (USACE) has formally delineated approximately 3.3 acres of jurisdictional wetlands along the Heacock and Cactus flood control channels in the northeastern portion of the base (Gill, 1992). The remaining acreage occurs primarily on West March. Willow-dominated riparian corridors are the most common form of this community on the base. Sycamore and mulefat are also associated with this community. Although willow-dominated riparian corridors have been fragmented by invasive activities, they support the highest diversity of animal species on base.

A small area south of Cactus Avenue and west of the WSA supports four ephemeral (temporary) pools of water totaling less than 0.1 acre. Unique plant species and pool morphology suggest that these areas are vernal pools. Vernal pools are considered jurisdictional wetlands, and are protected by federal regulations.

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(B)

primary law governing the treatment of cultural resources is the NHPA, which requires a federal agency to consider potential impacts on historic properties from any proposed undertaking. Methods used to achieve compliance with these requirements are presented in Appendix E.

Only those potential historic properties determined to be significant under cultural resources legislation are subject to protection or consideration by a federal agency. The quality of significance, in terms of integrity and applicability to NRHP criteria, is discussed in Appendix E. Significant cultural resources, either prehistoric or historic in age, are referred to as "historic properties."

In compliance with the NHPA, the Air Force has initiated the Section 106 review process with the California SHPO. In April 1994, record and literature searches were performed at the California Archaeological Inventory and at March AFB. The records search included a review of maps for the specific project area and a 1-mile radius of the project area, a review of the listings in NRHP Volumes I and II, California Historic Landmarks (California Department of Parks and Recreation, 1990), and the California Inventory of Historic Resources. Results are discussed under the appropriate resource category.

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Information gained from the records search was supplemented by results of ongoing and recently completed investigations. All undeveloped lands on March AFB have been subjected to intensive survey for the purpose of identifying cultural resources. Follow-on evaluations have been recommended for three sites recorded during that study. Once those investigations are complete, the identification process as defined by Section 106 of the NHPA will be complete for the disposal and reuse of March AFB. The results and status of aforementioned projects are described under the appropriate resource category.

The disposal of federal property is classified as an undertaking, or a project that falls under the requirements of cultural resources legislative mandates. The conveyance of federal property to a private party or non-federal agency could constitute an adverse effect, because any historic properties located on that property would then cease to be protected by federal law. However, impacts resulting from conveyance could be mitigated to a non-adverse level by placing preservation covenants on the lease or disposal document. Reuse activities within designated parcels would require the reuser to comply with the requirements contained in the preservation covenants.

3.4.6.1 Prehistoric Resources

Prehistoric Context. The physiography and climate of southern California have supported aboriginal people since early Holocene time (circa 10,000 B.C.); prior to this time occupational patterns are both speculative and controversial. Five major periods of prehistory, or the time prior to

European contact, based upon a temporal range of distinctive projectile points and associated radiocarbon dates, identify a cultural chronology for the region: Lake Mojave Period (10,000 - 5000 B.C.), Pinto Period (5000 - 2000 B.C.), Gypsum Period (2000 B.C. - A.D. 500), Saratoga Springs Period (A.D. 500 - A.D. 1200), and the Protohistoric (A.D. 1200 - historic) (Warren and Crabtree, 1986).

What is known of the pre-contact period at March AFB is extrapolated from data collected from investigations conducted elsewhere in the region, specifically at Lake Perris (O'Connell et al., 1974). The archaeological record reflects gradual population movement into the San Jacinto Plain area beginning approximately 2300 Before Present (B.P.) (300 B.C.) with a dramatic increase in the population density around 500 B.P. (A.D. 1500). Because this occurrence coincides with the desiccation of Lake Cahuilla, a freshwater Pleistocene lake in the Salton Basin (east of the San Jacinto Mountains), it is speculated that there was an influx of people seeking more productive environs. The Native American groups, Luiseno and Cahuilla, who utilized the resources on and around March AFB during protohistoric (between European contact and established written history) and historic periods are described in ethnographic data that have been collected since the early 1900s (Bean, 1978; Bean and Shipek, 1978; Kroeber, 1925; Sparkman, 1908).

Archaeological Investigations. The records search indicated that several archaeological surveys have been conducted at March AFB (Drover, 1987, 1989; McCarthy, 1986; Spanne, 1986; Swope and Neiditch, 1987; Tetra Tech, 1990) encompassing approximately 2,170 acres. These surveys resulted in the recordation of 40 prehistoric sites, primarily grinding slicks located on exposed granitic rock with no associated artifacts; none of these sites were deemed eligible for inclusion in the National Register. The SHPO has requested confirmation on the determination of eligibility for 20 of these previously recorded sites (see letter dated February 6, 1995, in Appendix J).

An intensive survey that covered the remaining 2,500 acres of undeveloped land within the base boundaries was conducted between April 13 and May 4, 1994 (Brian F. Mooney Associates, 1994). Fifty prehistoric milling sites where plants were processed for food were recorded. Of these sites, 48 are similar in nature to other sites identified in and around March AFB in that (1) they cannot be temporally placed within a regional chronology because they lack associated artifacts, and (2) they lack midden (an indication of the presence of subsurface deposits) that would indicate long-term use or occupation. They have been recommended as ineligible for listing in the NRHP because additional data recovery would not contribute to furthering our understanding of the prehistory of the region.

Although no midden was observed during the survey, visibility was generally poor because of tall, dense vegetation. Two large sites, West-25 (in association with a mano [grinding implement] fragment) and West-52, are

located in close association with waterways and with easy access to presumably abundant food resources. These sites have been recommended for subsurface testing to assess their eligibility for inclusion in the National Register (Brian F. Mooney Associates, 1994). Visibility at both sites was obscured due to the aforementioned dense vegetation and the sites may contain additional artifacts and/or midden upon further investigation. The results of the subsurface testing may address the lack of surface artifacts at other milling sites identified in the area and also determine the presence, depth, and extent of possible archaeological deposits at West-25 and West-52 that could provide important data about prehistoric settlement and subsistence patterns at a regional level (Brian F. Mooney Associates, 1994; Sutton and Parr, 1991). The SHPO has requested further clarification regarding the justification for a formal testing program prior to concurring with the proposed investigation.

In addition, cultural resource surveys have been conducted within a 1-mile search radius of March AFB, which resulted in the recordation of 139 archaeological sites.

3.4.6.2 Historic Structures and Resources

Premilitary History. California's historic period began in 1769 with the first Spanish expedition into Alta California led by Gaspar de Portola. Spain's three-fold strategy to colonize the region included the establishment of missions, pueblos, and presidios. In 1775-1776, Juan Bautista de Anza led an expedition from Mexico to San Francisco, resulting in the founding of the presidio and mission in San Francisco. Part of the route followed by the expedition crossed what is now the northeastern corner of March AFB. In 1990, de Anza's 1,200-mile route was designated by the National Park Service as a National Historic Trail, under the National Trails System Act (P.L. 90-543, as amended).

Early settlement in Riverside County was slow and sporadic (Brown, 1985). In 1818, the first European settler, Leandro Serrano, obtained rights from the priests at San Luis Rey Mission to settle on five leagues of land in Temescal Valley. Three years later, the fathers of San Gabriel Mission established a rancho in the San Bernardino Valley managed by neophytes (missionized Indians) and another in 1824 located near Banning and Beaumont. Following Mexican independence and secularization of the Spanish missions in 1833, the number of privately held California ranchos increased dramatically.

Between 1834 and 1836, 16 Mexican land grants were confirmed within western Riverside County. Rancho Jurupa (32,000 acres) extended 17 miles across the Santa Ana River valley and the 48,000-acre Sobrante de San Jacinto Rancho was located in the Lake Mathews area. Southeast of March AFB was the San Jacinto Nuevo Potrero Rancho, which covered 48,000 acres of land in what is now Moreno Valley and the Perris Plain (Tetra Tech, 1990). The rancho period in California's history was colorful, but brief.

During the 1820s and 1830s Anglo-American fur trappers, wanderers, and speculators had been coming to California; many of them stayed and married into California society. When hostilities broke out between the United States and Mexico during the mid-1840s, the American conquest of California created havoc among the Mexicans, Anglos, and Indians. The signing of the Treaty of Guadalupe Hidalgo on February 2, 1848, ended the Mexican War and marked the beginning of the American Period when California became a possession of the United States and a state in 1850.

The mild climate, availability of water, and transportation networks brought settlers and prosperity to southern California. The Butterfield Overland Mail Route operated from 1858 to 1861, and connected Aguanga and Temecula with Los Angeles (Tetra Tech, 1990). I-10, which crosses the Colorado Desert from the east, and SR 11, which runs north through Coachella Valley, were originally stagecoach routes. In what was to become Riverside County, access to water from the Santa Ana River and irrigation transformed this semi-arid area into an important citrus-producing area. The Southern Pacific and AT&SF railroads were built in 1876 and 1886, respectively, providing improved transport of produce and freight. Riverside County, established in 1893, became an important California agricultural and industrial center.

The nationwide military buildup that took place prior to the United States entering World War I initiated another historical development in Riverside County, the construction of Alessandro Aviation Field, later to be renamed March Air Field.

Military History. Between 1917 and 1918, the War Department established ten new airfields across the country to support mobilization and entry into World War I. One of these airfields was located at the site of what is now March AFB. The site, just outside of the city of Riverside, had the advantages of water, electricity, rail access, unobstructed topography, and excellent weather conditions for flying for most of the year. The 1-square-mile air base was declared officially open by the War Department on February 7, 1918, as Alessandro Aviation Field (Saunders, 1993). It was later renamed March Field in honor of Lt. Peyton C. March (son of the then Army Chief of Staff) following his death in a flying accident at Fort Worth, Texas.

The base, which had been closed in 1923, was reactivated in 1927. From 1928 to 1943, the base was operated as the principal tactical training base for all of the western United States. A hard-surfaced flightline was constructed along the northwest-southeast diagonal of the 1-square mile tract. Many of the existing permanent facilities, including 129 military family housing units, the commanding officer's residence, the administration building, barracks, the hospital, hangars, and other support facilities were constructed within a distinctive triangular area northeast of the flightline.

Architecturally, this period of base construction (1928-1934) represents the successful integration of the principles of the City Beautiful Movement and innovative technological design to create a highly formal, yet functional, environment that coordinated architecture, landscape, and transportation.

In 1940, as part of the World War II military buildup taking place nationwide, 930 additional acres were acquired to the north, east, and south of the base increasing the holdings to 1,590 acres. The base's mission included hosting bombardment and pursuit groups and later fighter groups. The base was also involved in anti-aircraft protection training and testing of new ideas and equipment. The secret testing of jet-assisted and liquid rocket takeoffs helped the United States enter the jet age. The Works Progress Administration built a power station, hangar additions, bridges, runways, and taxiways. The following year the War Department approved additional funding for housing, maintenance, storage, and other strategic support facilities as part of the mobilization effort. Eventually an 800-foot extension of the railroad spur was also completed (Saunders, 1993). This new construction phase was not integrated either architecturally or technologically with the earlier construction. The majority of the frame-type buildings have since been removed.

March AFB remained an operational fighter base until 1949, when SAC took control of the base. The 22nd BMW was assigned as the host unit and Headquarters 15th Air Force was transferred to March AFB. A major period of construction took place during the early 1950s; new land was acquired and the runway was lengthened to accommodate B-47 strategic bombers and later B-52 bombers and KC-135 refueling aircraft. In 1959, the 452nd Troop Carrier Wing (later redesignated the 452nd ARW) arrived at March AFB with a full complement of tactical, maintenance, and support squadrons. New support facilities were needed, and maintenance hangars, an armament-electronics building, navigation facilities, and a base operations building were constructed. The 583 Wherry housing units at Arnold Heights on West March were also built during this time period (U.S. Air Force, 1985). In 1982, the 22nd BMW was deactivated and the B-52s were retired or reassigned to other installations (U.S. Air Force, 1985). The wing was redesignated the 22nd ARW, operating KC-10 and KC-135 aircraft.

During the late 1980s, a series of worldwide events reduced the perceived Cold War threat of attack from the Soviet Union, and the DOD responded with a reduction in American military forces. As part of this reduction, Norton AFB, 20 miles north of March AFB, was selected for closure; its missions and aircraft were planned for transfer to March AFB. In 1993, the Defense Base Closure and Realignment Commission decided to discontinue active duty flying missions at March AFB and transfer the base to the AFRES in 1996. As a result of this new realignment program, the 22nd ARW (redesignated the 722nd ARW in 1994) will inactivate and its aircraft will be reassigned to other units (Saunders, 1993). The 452nd ARW (Air Force

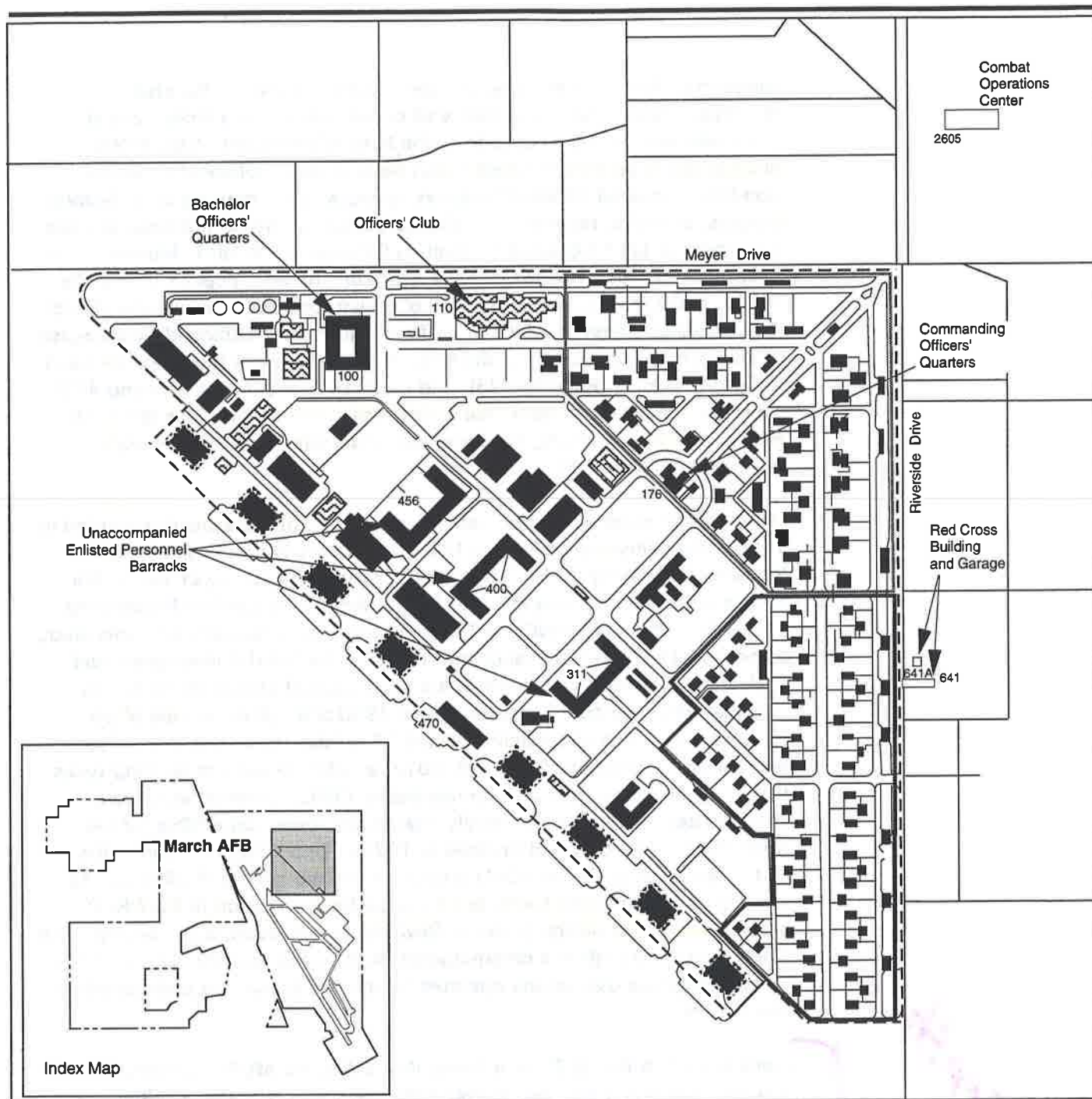
Reserve) and the 445th Airlift Wing (previously transferred from Norton AFB), combined as the 452nd AMW in 1994, will remain as host unit.

Identification of Historic Buildings and Structures. An inventory and evaluation of historic buildings at March AFB conducted in 1985 recommended nomination of an historic district. The district was to include the original square mile of March AFB and a few adjacent buildings, which were constructed between 1928 and 1943 (Perault, 1985). Eligibility criteria cited to support a nomination included (1) association with an event that made significant contribution to the broad patterns of history; (2) association with the lives of persons significant in our past; and (3) the Comprehensive Plan of 1928-1934 of the base that included buildings, structures, and landscape that embodied the distinctive characteristics of its type, period and method of construction. Additional research was conducted, a statement of significance was prepared, and a historic management program was designed for the preservation and maintenance of the March Field Historic District in 1992 (Mikesell and Wee). In 1994, the March Field Historic District was nominated for listing on the NRHP with the concurrence of the California SHPO; it has yet to be formally listed on the NRHP.

The March Field Historic District (Figure 3.4-8) is located within a triangular area of about 158 acres northeast of the flightline. It consists of essentially all buildings and structures constructed between 1928 and 1943 as "part of the second generation of March Field (Mikesell and Wee, 1992)" and one extant building from the original 1918 March Field. Of the 228 buildings and structures within the district there are 192 contributing buildings, 15 noncontributing buildings, 4 contributing structures (including the stone drainage canal), 5 noncontributing structures (including 9 aircraft displays), 1 contributing object (flagpole), and associated landscape features.

The district is significant for a number of reasons, including the continuity and integrity of architectural style and technological construction within a planned community environment. Constructed of stucco or poured concrete, the buildings are surfaced with concrete and roofed with mission tiles, consistent with the original Mediterranean or "Mission Revival" motif of the base. For example, two of the three personnel barracks were constructed in 1928 using the hollow-wall concrete method and are located facing the original parade ground. The third barracks, which has standard reinforced concrete walls, was completed in 1939 and is sited elsewhere. Yet, all three of these elegant buildings are identical in style and represent the essential character of the historic district (Mikesell and Wee, 1992). This unity of design encompasses residential, administrative, and industrial buildings.

Throughout this portion of the base, Myron Hunt, a nationally famous architect, used a Mission Revival architectural style that was characteristic of



EXPLANATION

- District Boundary
- NCO Family Housing
- Officers' Family Housing
- Hangars

Within Historic District

- Contributing
- ▨ Non-Contributing

Historic Properties

0 75 150 600 Feet



Figure 3.4-8

southern California at the time (Perault, 1985). However, the steel-reinforced, cast-in-place concrete wall construction was a technological innovation seldom found outside of the base (Mikesell and Wee, 1992). Building types identified include seven basic groups: Officers' Quarters, Non-Commissioned Officers' Quarters, garages in the housing area, historic hangars, barracks, repetitive warehouse buildings, and 33 buildings that are not repetitive (JRP Historical Consulting Services and Brian F. Mooney Associates, 1994). Concrete hollow-wall construction, popular during the 1920s, is the most common method of construction used within the district (116 buildings, most of which are officers' quarters). Outstanding examples of this technology are two of the three massive barracks (Buildings 311 and 400), the hospital (Building 323), and the base headquarters (Building 470). "In sheer numbers and scale, the hollow wall concrete buildings at March Field probably rank among the most significant examples in the world" (Mikesell and Wee, 1992).

Under the terms of a Programmatic Memorandum of Agreement, executed in 1986 and amended in 1991, the U.S. Army Construction Engineering Research Laboratory (CERL) conducted a nationwide survey of World War II temporary buildings (Landreth, 1991; U.S. Army Construction Engineering Research Laboratory, 1990). All building types documented under this study do not require individual evaluation. In 1991, the USACE inventoried and evaluated all existing World War II-era buildings and structures on March AFB that had been constructed between 1939 and 1945. A total of 56 temporary and permanent buildings and 12 utilities were evaluated. Four wastewater facilities (6007, 6009, 6012, and 6013) were of building types that could not be verified as documented by CERL; however, they were characterized as being substantially altered and, thus, not eligible for the NRHP (U.S. Army Corps of Engineers, 1991). Two intact structures, the Red Cross building (Facility 641) and its associated garage (Facility 641A) (see Figure 3.4-8), were found to be eligible for nomination to the NRHP because of original design (Colonial Revival), construction, and integrity. The SHPO concurred with this determination (letter dated July 29, 1991). These two buildings are owned and operated by the Red Cross, but maintained by March AFB.

Camp Haan

Camp Haan (CA-Riv-3285H), a World War II Antiaircraft Replacement Training Center and prisoner-of-war camp, was first recorded in 1987. Three additional areas within West March have subsequently been recorded as part of Camp Haan, none of which were determined to be significant, primarily because they had been substantially impacted by demolition activities. This \$6 million installation, which covered 8,058 acres, was opened on November 11, 1940, and eventually hosted the Army Services Depot, Southwest Branch; U.S. Disciplinary Services Barracks; and an Italian prisoner-of-war camp. Camp Haan consisted of 350 buildings and 2,500 tent platforms for both walled and sided tents. The first buildings to be constructed were described as "early mobilization type;" later construction was described as "theater of operations type" (Swope and Neiditch, 1987).

When the camp was closed in August 1946, many of the wooden buildings and 2,459 tent floors were removed (Neihaus & Associates, 1987). Remains on West March consist of foundations, building piers, and paved roads near the military housing area and the site occupied by Headquarters 15th Air Force.

The 1994 survey described in Section 3.4.6.1 included previously unsurveyed portions of Camp Haan (Brian F. Mooney Associates, 1994). Five historic sites were recorded. Four are associated with Camp Haan, three concrete building foundations and one boulder exhibiting World War II-era graffiti. The fifth historic site is a glass shard deposit that is approximately 20 centimeters in depth. The site has been tentatively dated between 1880 and 1920 because of the presence of sun-altered amethyst glass that was not manufactured after 1915 (Brian F. Mooney Associates, 1994). Additional testing and evaluation have been recommended in order to assess the site's eligibility for listing on the NRHP. The SHPO has suggested the reassessment of Camp Haan, especially considering that the complex is now more than 50 years old. The Air Force is reexamining the data concerning Camp Haan in response to the SHPO's request. However, it appears unlikely that the determination of eligibility will be reversed because the integrity of the site has been severely compromised. Formal testing was not recommended for the four sites associated with Camp Haan because they exhibit no potential for subsurface deposits.

One historic site was recorded during a December 1994 survey of March Water System No. 2. The site consists of two water supply buildings (3001 and 3002) that house wells BP5 and BP6, respectively. These buildings were constructed in 1941. The construction methods for the reinforced concrete facilities and wells are not significant, nor are there any significant events or persons associated with the complex. The site has been adequately recorded and additional archaeological investigation is not recommended. These findings are preliminary pending SHPO review and concurrence.

A historic building inventory and evaluation was conducted at March AFB in April 1995 to identify buildings and/or structures at March AFB that may demonstrate exceptional importance under the Cold War context (William Manley Consulting and EARTH TECH, 1995). The command center for the 15th Air Force, Building 2605 (Combat Operations Center), has been determined to be eligible to the NRHP, and the SHPO has concurred (see letter in Appendix J, dated November 27, 1995).

A draft Historic Preservation Plan (HPP) addressing the treatment and long-term management of all formally evaluated historic properties at March AFB has been prepared (JRP Historical Consulting Services and Brian F. Mooney Associates, 1994). The HPP does not address potential historic properties that could be identified in the Cold War-era investigation. The SHPO has

reviewed the draft HPP and provided minor comments. Plans for finalization of the document are now in progress.

3.4.6.3 Traditional Resources. Traditional resources can include archaeological sites, burial sites, ceremonial areas, caves, mountains, water sources, plant habitat or gathering areas, or any other natural area important to a culture for religious or heritage reasons. Significant traditional sites are subject to the same regulations, and are afforded the same protection as other types of historic properties. Any modern traditional resources at March AFB would be associated with the Cahuilla or the Luiseno Indian groups; to date, no such resources have been identified.

To ensure that any Native American concerns relating to the disposal and reuse of March AFB are adequately considered, consultation with local tribal chairpersons has been initiated (Appendix J). Eight tribal groups have been contacted. To date, no responses have been received.

3.4.6.4 Paleontological Resources. Quaternary-age fossils have been found in alluvial deposits near March AFB, but very few finds are of significant scientific quality. North of the base, in San Timoteo Canyon, vertebrate fossils have been found and have been used to date local rock formations (Norris and Webb, 1990). Other fossils, both marine and nonmarine, are found throughout the Peninsular Ranges Province in sedimentary rock units. These rocks are not present on March AFB. Therefore, there is little likelihood that significant paleontological resources are present on the base.

3.5 ENVIRONMENTAL JUSTICE

3.5.1 Background

EO 12898, Environmental Justice, was issued by the President on February 11, 1994. Objectives of the EO, as it pertains to this reuse and disposal document, include development of federal agency implementation strategies, identification of low-income and minority populations potentially impacted because of proposed federal actions, and participation of low-income and minority populations. Accompanying EO 12898 was a Presidential Transmittal Memorandum which referenced existing federal statutes and regulations to be used in conjunction with EO 12898. One of the items in this memorandum was the use of the policies and procedures of the NEPA. Specifically, the memorandum indicates that, "Each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by the NEPA 42 U.S.C. Section 4321, et seq."

Environmental Justice is not a legal part of NEPA nor this document as an EO and any attachment documents can neither amend a federal statute nor its implementing regulations. However, an Environmental Justice analysis is

included in this document as the latter is the most logical place to consider existing Environmental Justice conditions and possible impacts from reuse and disposal. Environmental justice analysis methods are described in Appendix L.

3.5.2 Demographic Analysis

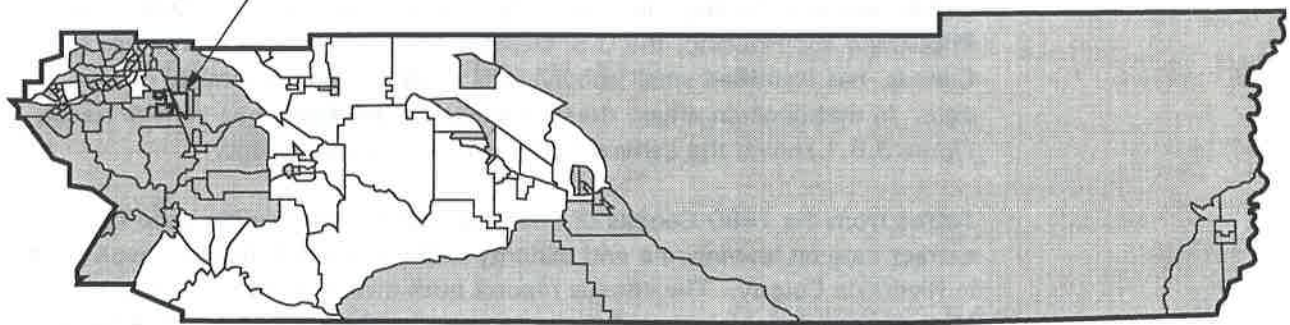
The demographic analysis provides information on the approximate locations of low-income and minority populations in the area potentially affected by the disposal and reuse of March AFB property. Although the ROI for population and economic effects consists of Riverside and San Bernardino counties, most environmental impacts from disposal and reuse would occur within Riverside County. In developing statistics for the 1990 Census of Population and Housing, the U.S. Department of Commerce, Bureau of the Census, has identified small subdivisions used to group statistical census data. In metropolitan areas, these subdivisions are known as census tracts. Figure 3.5.1 shows the census tracts within Riverside County.

Tables from the 1990 Census of Population and Housing were used to extract data on low-income and minority populations within the census tracts in Riverside County. The census reports both minority and poverty status. Minority populations included in the census are identified as Black; American Indian, Eskimo or Aleut; Asian or Pacific Islander; Hispanic; or other. Poverty status (used in this EIS to define low-income status) is reported for families with income below poverty level (\$12,764 for a family of four in 1989, as reported in the 1990 Census of Population and Housing).




In order to determine whether an individual census tract contains a disproportionately high low-income or minority population, data for each tract were compared to data for the regional political jurisdiction surrounding the tract. For this analysis, this region of comparison (ROC) is defined as Riverside County. The environmental impact analysis indicates that all potential impacts would occur within Riverside County. Based upon the 1990 Census of Population and Housing, Riverside County had a population of 1,170,413 persons. Of this total, 113,479 persons, or 17.07 percent, were low income; and 412,704 persons, or 35.26 percent, were minority.

Riverside County is subdivided into 124 census tracts, of which 85 have a higher percentage of low-income or minority population than the county as a whole (Table 3.5-1; also see Figure 3.5-1). These census tracts have, therefore, been determined to have disproportionately high low-income and/or minority populations, and may be subject to environmental justice analysis depending on whether adverse effects are expected to impact these census tracts.

March Air Force Base



EXPLANATION

-  County Boundary
-  Census Tracts
-  High Minority/Low Income Populations

**Riverside County
Census Tracts**



Figure 3.5-1

Table 3.5-1. Census Tracts in Riverside County
Page 1 of 4

	Percent Minority	Disproportionate ^(a)	Percent Low Income ^(b)	Disproportionate ^(a)
United States	16.08	--	13.51	--
California	31.03	--	13.87	--
Riverside County	35.26	--	17.07	--
Census Tracts in Riverside County				
0301	52.19	Y	16.30	N
0302	28.16	N	16.92	N
0303	52.48	Y	28.18	Y
0304	90.24	Y	26.08	Y
0305	84.39	Y	25.32	Y
0306	14.90	N	1.81	N
0307	24.18	N	9.05	N
0308	25.31	N	8.06	N
0309	45.16	Y	12.26	N
0310	37.84	Y	13.74	N
0311	19.18	N	9.97	N
0312	27.03	N	3.43	N
0313	94.85	Y	17.39	Y
031401	22.74	N	27.99	Y
031402	25.71	N	30.83	Y
031501	28.14	N	38.67	Y
031502	25.54	N	25.30	Y
0316	33.28	N	38.20	Y
0317	38.29	Y	25.62	Y
0401	57.83	Y	39.34	Y
0402	49.00	Y	48.03	Y
0403	38.83	Y	36.12	Y
0404	25.29	N	32.87	Y
0405	30.02	N	32.91	Y
040601	31.43	N	30.93	Y
040602	24.08	N	8.20	N
0407	16.48	N	39.58	Y
040802	35.08	N	16.49	N
040803	20.91	N	9.00	N
040804	14.38	N	24.40	Y
040805	58.53	Y	0.00	N
0409	38.69	Y	19.06	Y
0410	36.07	Y	5.60	N

Notes: (a) Disproportionality exists if the census tract percentage is higher than the Riverside County percentage.
(b) Low income is defined as below poverty level (\$12,764 for a family of four in 1989, as reported in the 1990 Census of Population and Housing).

Source: U.S. Bureau of the Census, 1991

Table 3.5-1. Census Tracts in Riverside County

Page 2 of 4

	Percent Minority	Disproportionate ^(a)	Percent Low Income ^(b)	Disproportionate ^(a)
0411	58.46	Y	44.27	Y
0412	42.93	Y	32.84	Y
0413	49.89	Y	25.23	Y
041401	30.49	N	40.96	Y
041402	49.63	Y	25.18	Y
0415	77.95	Y	10.89	N
0416	73.28	Y	15.72	N
041701	66.72	Y	69.85	Y
041702	33.82	N	22.63	Y
041801	25.84	N	66.84	Y
041802	31.54	N	85.43	Y
041901	31.43	N	71.46	Y
041902	28.64	N	47.27	Y
042001	23.47	N	35.58	Y
042002	36.16	Y	98.95	Y
0421	36.39	Y	80.98	Y
042201	23.88	N	89.37	Y
042202	42.95	Y	71.74	Y
042203	44.51	Y	96.49	Y
042204	32.99	N	94.69	Y
0423	47.54	Y	65.03	Y
0424	35.23	N	100.00	Y
042501	58.43	Y	98.35	Y
042502	45.79	Y	84.53	Y
042503	43.85	Y	90.25	Y
042601	41.42	Y	79.71	Y
042602	37.47	Y	53.17	Y
042603	44.27	Y	68.88	Y
042702	9.04	N	70.97	Y
042703	12.49	N	91.86	Y
042705	24.31	N	35.47	Y
042706	54.35	Y	33.86	Y
042707	18.52	N	38.25	Y
0428	67.44	Y	32.98	Y
0429	50.61	Y	36.86	Y
0430	30.60	N	88.16	Y
043198	19.08	N	70.04	Y
043201	15.76	N	3.17	N
043202	19.20	N	4.16	N

Notes: (a) Disproportionality exists if the census tract percentage is higher than the Riverside County percentage.

(b) Low income is defined as below poverty level (\$12,764 for a family of four in 1989, as reported in the 1990 Census of Population and Housing).

Source: U.S. Bureau of the Census, 1991

Table 3.5-1. Census Tracts in Riverside County

Page 3 of 4

	Percent Minority	Disproportionate ^(a)	Percent Low Income ^(b)	Disproportionate ^(a)
043203	13.94	N	9.31	N
043204	19.75	N	5.66	N
043205	15.79	N	6.43	N
043301	9.40	N	7.44	N
043302	20.11	N	11.95	N
043303	16.39	N	7.09	N
043401	36.41	Y	26.58	Y
043402	16.33	N	17.59	Y
043501	14.34	N	9.65	N
043502	23.95	N	11.18	N
0436	51.19	Y	21.89	Y
0437	13.56	N	8.71	N
043802	12.24	N	7.74	N
043803	12.42	N	10.90	N
043805	23.30	N	16.52	N
043806	25.70	N	15.72	N
0439	28.09	N	17.86	Y
0440	38.05	Y	32.63	Y
0441	27.42	N	10.98	N
0442	69.77	Y	28.43	Y
0443	53.79	Y	22.92	Y
044401	7.02	N	4.48	N
044402	16.53	N	8.95	N
044403	21.20	N	15.64	N
044501	20.99	N	11.96	N
044502	23.82	N	19.33	Y
0446	32.32	N	15.26	N
0447	41.86	Y	14.54	N
044802	28.34	N	10.33	N
044803	9.67	N	9.13	N
044901	38.25	Y	12.83	N
044902	15.01	N	7.64	N
044903	7.99	N	6.16	N
0450	51.08	Y	18.83	Y
045102	19.83	N	7.37	N
045103	13.39	N	8.94	N
045104	24.55	N	6.30	N
045201	29.53	N	7.99	N

Notes: (a) Disproportionality exists if the census tract percentage is higher than the Riverside County percentage.

(b) Low income is defined as below poverty level (\$12,764 for a family of four in 1989, as reported in the 1990 Census of Population and Housing).

Source: U.S. Bureau of the Census, 1991

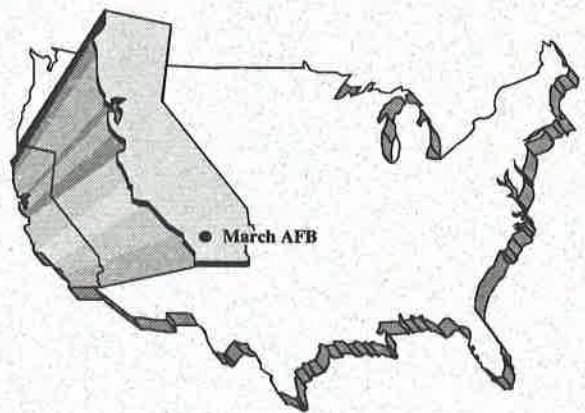
Table 3.5-1. Census Tracts in Riverside County
Page 4 of 4

	Percent Minority	Disproportionate ^(a)	Percent Low Income ^(b)	Disproportionate ^(a)
045202	58.39	Y	16.87	N
0453	82.30	Y	17.23	Y
0454	92.13	Y	31.92	Y
0455	77.53	Y	23.33	Y
045601	80.97	Y	25.12	Y
045602	91.05	Y	37.60	Y
045701	97.67	Y	25.32	Y
045702	94.65	Y	22.36	Y
0458	51.56	Y	33.02	Y
0459	61.69	Y	25.32	Y
0460	21.90	N	19.34	Y
0461	53.96	Y	19.63	Y
0462	70.56	Y	24.15	Y
046398	0.00	N	0.00	N

Notes: (a) Disproportionality exists if the census tract percentage is higher than the Riverside County percentage.

(b) Low income is defined as below poverty level (\$12,764 for a family of four in 1989, as reported in the 1990 Census of Population and Housing).

Source: U.S. Bureau of the Census, 1991



CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter discusses the potential environmental consequences associated with the Proposed Action and alternatives. To provide the context in which potential environmental impacts may occur, discussions of potential changes to the local communities, including population, land use and aesthetics, transportation, and community and public utility services, are included in this section. In addition, issues related to current and future management of hazardous materials and wastes are discussed. Impacts to the physical and natural environment are evaluated for geology and soils, water resources, air quality, noise, biological resources, and cultural resources. An environmental justice analysis was conducted to examine potential disproportionately high and adverse impacts to low-income and minority populations. Environmental impacts may occur as a direct result of disposal and reuse activities or as an indirect result caused by changes within the local communities. Possible mitigation measures to minimize or eliminate the adverse environmental impacts are also presented.

Cumulative impacts result from "the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (Council on Environmental Quality, 1978). Section 2.6 summarizes other future projects planned within the region around March AFB over the next 20 years. These other projects are generally being planned and implemented within the context of general and specific plans of local jurisdictions. As such, they are incorporated within the regional plans and projections for growth that were considered in developing the reuse alternatives and conducting the EIS analysis (i.e., regional transportation model, regional growth projections, AQMP, local area drainage plans). In this sense, the cumulative impacts that are not accounted for in local and regional planning are those represented by reuse of March AFB property, and those impacts are addressed as part of the EIS analysis for each resource for each reuse alternative.

Means of mitigating substantial adverse environmental impacts that may result from implementation of the alternatives by property recipients are discussed as required by NEPA. Potential mitigation measures are described for those components likely to experience substantial and adverse changes under any or all of these alternatives. Potential mitigation measures depend upon the particular resource affected. In general, however, mitigation measures are defined in CEQ regulations as actions that include:

- (a) Avoiding the impact altogether by not taking an action or certain aspect of the action
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action
- (e) Compensating for the impact by replacing or providing substitute resources or environments.

Mitigation measures that are clearly required by law or standard industry practices are generally considered to be part of the Proposed Action and alternatives. Additional potential mitigation measures beyond those clearly required by law or standard practices are described for each resource area where appropriate. Such measures include those the Air Force could implement, those the property recipients could implement, those discretionary mitigations or choices available to other governmental bodies (such as zoning, permit conditions, etc.), or lease and deed restrictions available to a possible primary recipient of the property such as the JPA.

For each resource area, suggested actions to mitigate substantial adverse environmental impacts will be described as follows to the extent applicable:

- A reasonable selection of feasible alternative mitigative actions will be identified and described.
- The benefits derived from each of the alternative mitigations to the environmental impact will be described.
- The burdens/costs associated with each of the mitigations will be described.
- The effectiveness and probability of adoption for each of the mitigations will be described.
- The party(ies) who could implement and enforce, if applicable, each action will be identified, especially non-Air Force entities.

Because most potential environmental impacts would result directly from the reuse by others, full responsibility for these suggested mitigations would generally be borne by future property recipients or local government agencies. However, the Air Force may place specific restrictions in leases or covenants in deeds that would limit the use of the property, alert transferees

to special concerns or legal requirements, or provide for notice and reporting demands before taking actions affecting the property.

Although reuse of disposal property will be decided by the property recipients and local authorities, probable reuse scenarios were evaluated to analyze potential environmental impacts. Alternatives were defined for this analysis on the basis of (1) plans of local communities and interested individuals, (2) general land use planning considerations, and (3) Air Force-generated plans to provide a broad range of reuse options. Reuse scenarios considered in this EIS must be sufficiently detailed to permit environmental analysis. Initial concepts and plans are taken as starting points for scenarios to be analyzed. Available information on any reuse alternative is then supplemented with economic, demographic, transportation, and other planning data to provide a reuse scenario for analysis.

4.2 LOCAL COMMUNITY

This section discusses potential effects on local communities as a result of disposal and reuse of March AFB property.

4.2.1 Community Setting

The following discussion focuses on key employment and population effects of the Proposed Action and alternatives in comparison to projected conditions under the No-Action Alternative.

Under the No-Action Alternative, the total employment in the ROI (Riverside and San Bernardino counties) is forecasted to increase from 1,209,100 at realignment (1996) to 2,274,632 by 2016, which represents an average annual growth rate of approximately 3.2 percent per year (extrapolated from projections by SCAG, 1994). Without reuse of disposal property, the total ROI population would increase from 3,306,623 persons at realignment to 5,779,846 by 2016. This represents an average annual growth of 2.8 percent.

This analysis recognizes the potential for community impacts arising from "announcement effects" stemming from information regarding the base realignment or reuse. Such announcements may impact community perceptions and, in turn, could have important local economic effects. An example would be the in-migration of people anticipating employment under one of the reuse options. If it were later announced that the No-Action Alternative was chosen, many of the newcomers would leave the area to seek employment elsewhere. Such an effect could, therefore, result in an initial, temporary increase in population followed by a decline in population as people leave the area. Changes associated with announcement effects, while potentially important, are highly unpredictable and difficult to quantify; therefore, such effects are excluded from the quantitative analysis in this study, and are not included in numeric data presented in this report.

*Community
Siting*

4.2.1.1 Proposed Action. Reuse activities under the Proposed Action would increase employment in the ROI by 61,239 jobs (37,486 direct and 23,753 secondary) by 2016, over the 1,661 direct jobs and 951 secondary jobs under the No-Action Alternative. Direct jobs would be located on base property and secondary jobs would be created throughout the ROI. Approximately 10 percent of direct jobs and 1 percent of secondary jobs are projected to be filled by workers moving into the ROI (in-migrating workers). Total employment in the ROI would be 2,335,871 in 2016, an increase of 2.7 percent over the No-Action Alternative projections for that year. Reuse-related employment growth in the ROI is projected to average 3.3 percent annually between 1996 and 2016. Figure 4.2-1 shows the effects of the Proposed Action and alternatives on employment levels in the ROI.

Under the Proposed Action, population in the ROI would increase from 3,306,623 at realignment to 5,794,381 in 2016, compared to a projected population of 5,779,846 without reuse (Figure 4.2-2). Population effects from reuse would represent an increase of 0.3 percent over No-Action Alternative projections for that year. Most of the in-migrating workers are expected to locate in Riverside County, primarily in Moreno Valley.

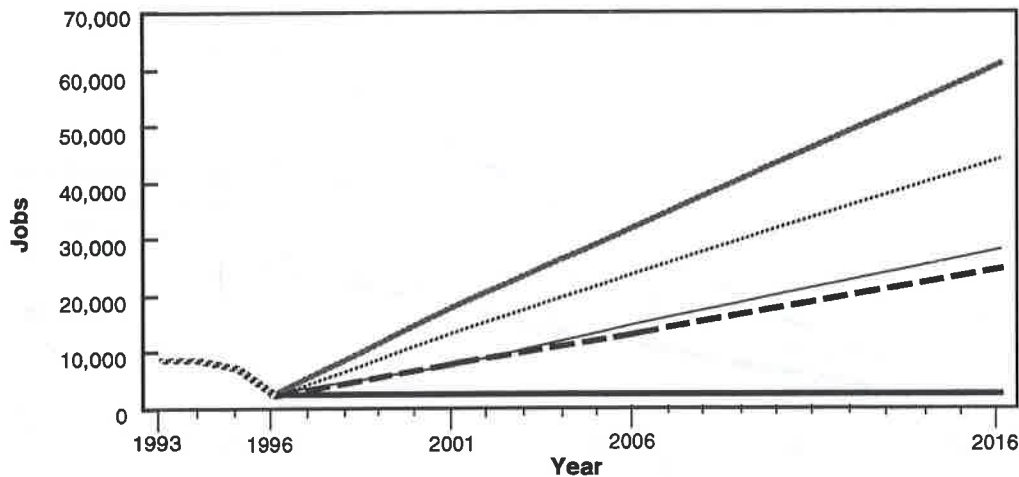
4.2.1.2 SKR/Aviation Alternative. The level of economic activity under this alternative would be less than reported for the Proposed Action. Reuse of disposal property under this alternative would increase employment in the ROI by 43,516 jobs (25,911 direct and 17,605 secondary) by 2016 (see Figure 4.2-1), over the 1,661 direct jobs and 951 secondary jobs under the No-Action Alternative. Approximately 10 percent of direct jobs and 1 percent of secondary jobs are projected to be filled by in-migrating workers. Total employment in the ROI would be 2,318,148 by 2016 under this alternative, an increase of about 1.9 percent over the No-Action Alternative projections for that year. ROI employment growth is projected to average 3.3 percent per year between 1996 and 2016. The geographic distribution of employment and population growth would be similar to that discussed for the Proposed Action.

Under the SKR/Aviation Alternative, population in the ROI would increase from 3,306,623 at realignment to 5,789,929 in 2016, compared to a projected population of 5,779,846 without reuse (see Figure 4.2-2). Population effects from reuse would represent an increase of 0.2 percent over No-Action Alternative projections.

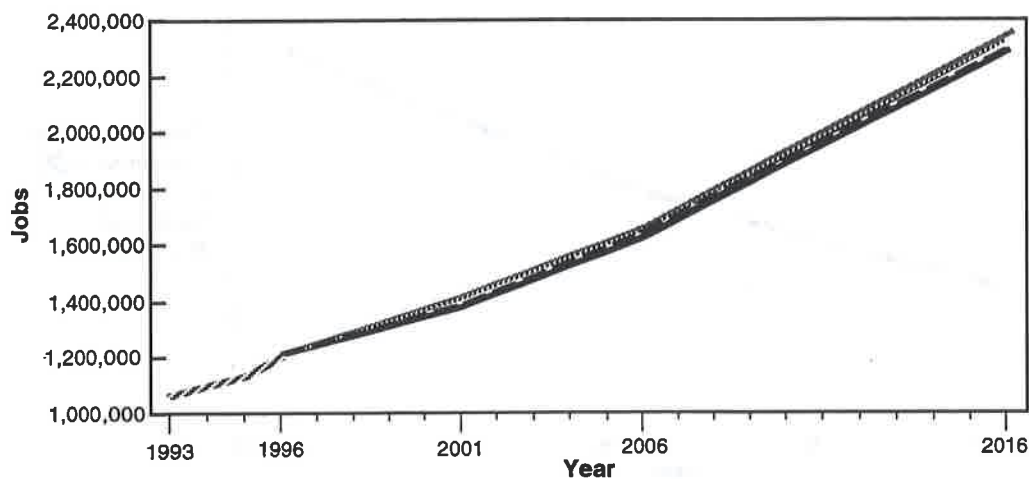
4.2.1.3 SKR/Cargo Alternative. The level of economic activity under this alternative would be the lowest of the four reuse alternatives. Reuse of disposal property under this alternative would increase employment in the ROI by 24,110 jobs (14,793 direct and 9,317 secondary) by 2016 (see Figure 4.2-1), over the 1,661 direct jobs and 951 secondary jobs under the No-Action Alternative. Approximately 10 percent of direct jobs and 1 percent of secondary jobs are projected to be filled by in-migrating workers. Total employment in the ROI would be 2,298,742 by 2016 under

ALTERNATIVE	1996 ^(a)	2001	2006	2016
Proposed Action	2,612	18,144	32,225	61,239
SKR/Aviation Alternative	2,612	12,977	23,017	43,516
SKR/Cargo Alternative	2,612	7,511	13,092	24,110
Military Aviation Alternative	2,612	7,249	14,494	28,069

**Reuse-Related
Employment
Effects ^(b)**



**Reuse-Related
Employment
Effects ^(b)**



**Total Region of
Influence (ROI)
Employment
Including
Reuse Effects**

EXPLANATION

- ////// Prerealignment
- Proposed Action
- SKR/Aviation Alternative
- SKR/Cargo Alternative
- Military Aviation Alternative
- No-Action Alternative

(a) The 1996 values represent total base-related employment under the No-Action Alternative.

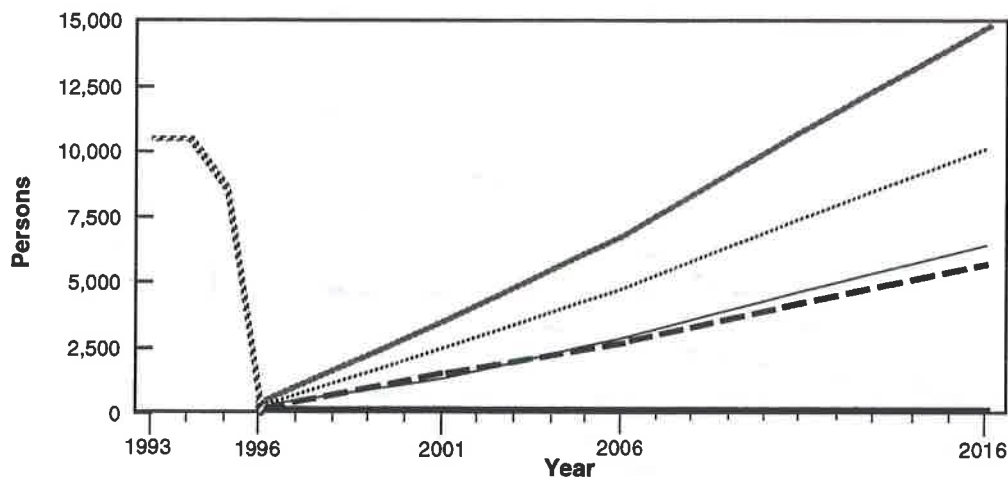
(b) Employment effects represent the change in employment relative to the No-Action Alternative.

Reuse-Related Employment Effects

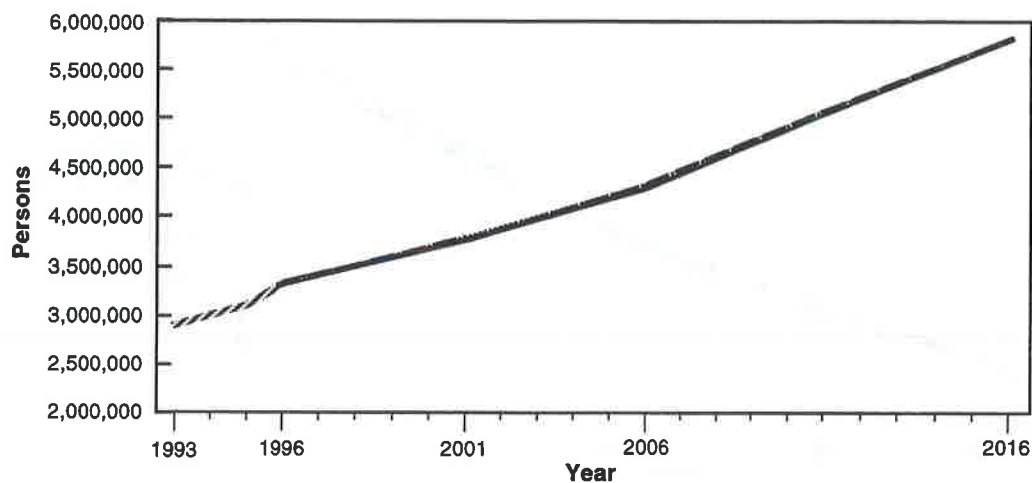
Figure 4.2-1

ALTERNATIVE	1996 (a)	2001	2006	2016
Proposed Action	0	3,475	6,712	14,535
SKR/Aviation Alternative	0	2,407	4,650	10,083
SKR/Cargo Alternative	0	1,397	2,703	5,721
Military Aviation Alternative	0	1,291	2,889	6,407

**Reuse-Related
Population
Effects (b)**



**Reuse-Related
Population
Effects (b)**



**Total Region of
Influence (ROI)
Population
Including
Reuse Effects**

EXPLANATION

- ////// Prerealignment
- Proposed Action
- SKR/Aviation Alternative
- SKR/Cargo Alternative
- Military Aviation Alternative
- No-Action Alternative

Reuse-Related Population Effects

- (a) 1996 represents realignment conditions.
- (b) Reuse (migratory)-related population effects are the persons who would move into the ROI solely as a result of reuse.

Figure 4.2-2

this alternative, an increase of 1.1 percent over the No-Action Alternative projections for that year. ROI employment growth is projected to average 3.3 percent per year between 1996 and 2016. The geographic distribution of employment and population growth would be similar to that discussed for the Proposed Action.

Under the SKR/Cargo Alternative, population in the ROI would increase from 3,306,623 at realignment to 5,785,567 in 2016, compared to a projected population of 5,779,846 without reuse (see Figure 4.2-2). Population effects from reuse would represent an increase of 0.1 percent over No-Action Alternative projections.

4.2.1.4 Military Aviation Alternative. The level of economic activity under this alternative would be less than that reported for the Proposed Action. Reuse of disposal property under this alternative would increase employment in the ROI by 28,069 jobs (16,449 direct and 11,620 secondary) by 2016 (see Figure 4.2-1), over the 1,661 direct jobs and 951 secondary jobs under the No-Action Alternative. Approximately 10 percent of direct jobs and 1 percent of secondary jobs are projected to be filled by in-migrating workers. Total employment in the ROI would be 2,302,701 by 2016 under this alternative, an increase of 1.2 percent over the No-Action Alternative projections for that year. ROI employment growth is projected to average 3.3 percent per year between 1996 and 2016. The geographic distribution of employment and population growth would be similar to that discussed for the Proposed Action.

Under the Military Aviation Alternative, population in the ROI would increase from 3,306,623 at realignment to 5,786,253 in 2016, compared to a projected population of 5,779,846 without reuse (see Figure 4.2-2). Population effects from reuse would represent an increase of 0.1 percent over No-Action Alternative projections.

4.2.1.5 No-Action Alternative. Under the No-Action Alternative, site-related employment would be similar to that under realignment baseline conditions throughout the 20-year analysis period. Approximately 1,661 direct and 951 secondary jobs would continue to be associated with the military cantonment and caretaker activities. By 2016, total employment in the ROI is projected to reach 2,274,632 and total population is expected to be 5,779,846.

4.2.1.6 Other Land Use Concepts. The potential effects of federal transfers and independent land use concepts are discussed in relation to their effects on the Proposed Action and other reuse alternatives.

Stephens' Kangaroo Rat Habitat. Implementation of this concept would result in no changes to the SKR/Cargo Alternative. However, implementation with any of the other alternatives would result in less total development on disposal property, and a resultant reduction in employment.

Implementation with the Proposed Action would result in 1,294 (3 percent) fewer direct jobs by 2016; under the SKR/Aviation Alternative there would be 2,410 (9 percent) fewer direct jobs, and 3,263 (18 percent) fewer direct jobs under the Military Aviation Alternative. Also under the Military Aviation Alternative, the SKR land use concept would preclude residential development around the WSA, resulting in a reduction in on-site population of 3,087 people.

U.S. Department of Agriculture Forest Service Operations Coordination Center. The 60 full-time employees associated with this center would represent a negligible percent of the overall employment projected for any of the reuse alternatives.

Riverside National Cemetery Expansion. Because no increase in employment would be associated with this land use concept, there would be no socioeconomic effects.

Navy and Marine Corps Reserve Center. Employment associated with this land use concept would be similar to that anticipated under the Proposed Action and other reuse alternatives for the buildings in question.

Army and Air Force Exchange Service. Employment associated with this land use concept would be similar to that anticipated under the Proposed Action and other reuse alternatives for the buildings in question.

Army Reserve. Employment associated with this land use concept would be similar to that anticipated under the Proposed Action and other reuse alternatives for the buildings in question.

California Army National Guard. Employment associated with this land use concept would be similar to that anticipated under the Proposed Action and other reuse alternatives for the buildings in question.

4.2.2 Land Use and Aesthetics

This section discusses the Proposed Action and alternatives relative to land use, planning, and zoning to determine potential impacts in terms of land use and aesthetics. Land use compatibility with aircraft noise is discussed in Section 4.4.4.

4.2.2.1 Proposed Action

Land Use Plans and Regulations. The Riverside County Comprehensive General Plan (Riverside County, 1983) identifies the disposal property as federal. Adjacent areas are planned for rural residential, industrial, or service-related commercial development. Civilian reuse of disposal property would require modifications to the comprehensive plan. As described in Section 2.2, the JPA is responsible for planning the civilian reuse and

development of the disposal property. The JPA is considering several options for jurisdictional control of the disposal property. These options include:

- Maintaining the unincorporated status within Riverside County
- Creating a redevelopment authority for portions of the disposal property
- Allowing the adjacent cities of Riverside, Moreno Valley, and Perris to annex property into their jurisdictions
- Incorporating the disposal property, or portions of it, as a separate jurisdiction.

Depending on the selected scenario, civilian reuse of the disposal property would involve the creation of a new comprehensive plan and/or modifications to existing local comprehensive plans, to include the proposed aviation support, industrial, business park, institutional (medical), commercial, mixed use, residential, and public facilities/recreation land uses. The retained military cantonment would remain federal property. The Proposed Action would be consistent with the Western Riverside Subregional Comprehensive Plan (WRCOG, 1994) in that it would provide jobs, retain over 1,200 acres for public facilities/recreation land use, and promote compact mixed use development.

Zoning. Property that is conveyed from federal to public or private ownership would have to be zoned accordingly. Depending on the scenario selected by the JPA for jurisdictional control of the disposed property, creation of a new zoning ordinance or modifications to existing local zoning may be required. It is assumed that the appropriate zoning ordinances would include proposed aviation support, industrial, business park, institutional (medical), commercial, mixed use, residential, and public facilities/recreation land uses.

Land Use. The Proposed Action would more than double the commercial and public facilities/recreation land use acreages, and slightly increase the industrial acreage over prerealignment conditions. A large decrease in the residential land use and minor decreases in the aviation support and institutional (medical) land uses would occur when compared with prerealignment. The prerealignment land use designations of airfield, institutional (educational), and vacant land would be eliminated. Business park and mixed use land uses would be created under this alternative. In addition, a 2,258-acre military cantonment would be retained.

On the Main Base, aviation support areas would be created from prerealignment airfield and vacant land uses. No on- or off-base parks or

recreational facilities would be directly impacted by airport or aviation-related development activities. Light emissions associated with airfield operations would be similar to No-Action Alternative conditions, because all lighting for military operations would remain unchanged. Additional ramp lighting required to support civilian operations would be shielded or redirected to reduce impacts to nearby residents.

The scattered commercial, industrial, residential, and institutional areas in the northeast corner of the Main Base would be converted to cohesive groupings of commercial, business park, institutional (medical), mixed use, and recreational use. On West March, the airfield land use areas within the clear zone and APZs would be converted to industrial reuse. Large areas of vacant land would be developed to support business park, industrial, commercial, public facilities/recreation, and mixed uses, as well as expansion of the Air Force Village West residential community to the north and south. The WSA and military family housing would be demolished to create public facilities/recreation use areas. The golf course would be managed by a private or public entity. The DOD and Homeless Assistance Provider requests for property and facilities would generally be compatible with the Proposed Action land uses. Industrial use of the March Water System No. 2 would be compatible with adjacent existing and planned uses.

In developing its draft reuse plan, the JPA has indicated that it will preclude any land use incompatibilities through appropriate planning. The JPA recognizes that development standards must be implemented prior to development to achieve harmony among land uses. The runway clear zone and APZs would be conveyed for civilian use with restrictions to ensure that development is compatible with ongoing AFRES operations, in accordance with AICUZ guidelines. The proposed transit station would be compatible with AICUZ land use guidelines, which allow transportation and industrial uses within APZ II. However, the potential population density associated with the transit station may exceed AICUZ recommended guidelines (U.S. Air Force, 1992a). Final site planning and design for the transit station should consider AICUZ guidelines.

Aesthetics. Civilian reuse of the disposal property is expected to improve the general aesthetics by providing a "sense of place" and by consolidating areas of development. In addition, civilian reuse associated with the Proposed Action would visually integrate the disposal property with the surrounding area. The scenic vistas from and on West March could be preserved through appropriate planning and careful siting of facilities.

Mitigation Measures. No substantial adverse land use impacts are anticipated under this alternative; therefore, no mitigation measures would be required.

4.2.2.2 SKR/Aviation Alternative

Land Use Plans and Regulations. Depending upon the disposition of surplus property, Riverside County and other local jurisdictions may need to update their comprehensive plans. The comprehensive plans would incorporate proposed aviation support, industrial, institutional (medical), commercial, residential, public facilities/recreation, agriculture, and mixed use land uses, as well as provide for the retained military cantonment and SKR habitat. The SKR/Aviation Alternative would be consistent with the Western Riverside Subregional Comprehensive Plan (WRCOG, 1994) in that it promotes compact development and designates areas for SKR habitat preservation. In addition, this alternative would provide a variety of housing types to area residents.

Zoning. Depending upon the disposition of surplus property, Riverside County and other local jurisdictions may need to update their zoning ordinances. The zoning for disposal property would incorporate proposed aviation support, industrial, institutional (medical), commercial, residential, public facilities/recreation, and mixed use land uses, as well as provide for the retained military cantonment and SKR habitat.

Land Use. The SKR/Aviation Alternative would result in large increases in commercial and public facilities/recreation land use areas compared to prerealignment conditions. There would also be large decreases in aviation support and industrial land use acreages. The airfield, institutional (educational), and vacant land uses would be eliminated, and these areas would be absorbed into the SKR habitat, retained military cantonment, mixed use, and business park land use acreages.

On the Main Base, aviation support areas would be created from prerealignment airfield and vacant land uses. No on- or off-base parks or recreational facilities would be directly impacted by airport or aviation-related development activities. Light emissions associated with airfield operations would be similar to No-Action Alternative conditions, because all lighting for military operations would remain unchanged. Additional ramp lighting required to support civilian operations would be shielded or redirected to reduce impacts to nearby residents.

A residential district would be created out of the housing in the historic district and prerealignment commercial and vacant land uses. Scattered industrial and vacant land uses would be converted to commercial uses. On West March, the airfield land use associated with the clear zone and APZs would be converted to commercial and public facilities/recreation land uses. Scattered vacant lands would be designated as SKR habitat, as would the WSA and portions of the military family housing. The buildings in these areas would be demolished and the land would be managed for habitat conservation. Other prerealignment vacant and residential land uses on

West March would support commercial and mixed use development under the SKR/Aviation Alternative.

The runway clear zone and APZs would be conveyed for civilian use with restrictions to ensure that development is compatible with ongoing AFRES operations, in accordance with AICUZ guidelines.

The mixed use development proposed for the southwest portion of West March could be incompatible with the adjacent residential uses. However, impacts could be avoided through use of appropriate land use planning techniques, such as proper site design, landscaping, or by incorporating "transfer of development" principles. Transfer of development would allow higher densities in one portion of the land use area in order to maintain a desired lower density, or no development, adjacent to the rural residential uses.

Agricultural uses of the March Water System No. 2 would be compatible with adjacent existing and planned uses.

Aesthetics. Compared to the Proposed Action, the SKR/Aviation Alternative would have less development and more undeveloped land areas. The preservation of a large portion of the SKR habitat and development of public facilities/recreation areas would leave a large portion of West March as open space. The residential district in the northeast quadrant could be developed utilizing the Mission Revival architectural style of the historic district, unifying the new residential housing units with existing units. As under the Proposed Action, civilian reuse of the disposal property would improve the visual sensitivity by concentrating development, creating a "sense of place", and visually integrating the property into the surrounding area. Because the northwest quadrant would remain primarily as SKR habitat, the scenic vista from the adjacent residential development is not expected to be impacted. A view preservation ordinance could be implemented prior to development to ensure that these views are not adversely affected by proposed development, by limiting building height, development density, etc.

Mitigation Measures. No substantial adverse land use impacts are anticipated under this alternative; therefore, no mitigation measures would be required.

4.2.2.3 SKR/Cargo Alternative

Land Use Plans and Regulations. Depending on the disposition of surplus property, Riverside County and other local jurisdictions may need to update their comprehensive plans. These plans would incorporate proposed aviation support, industrial, institutional (educational), commercial, residential, public facilities/recreation, agricultural, and business park land uses, as well as provide for the retained military cantonment and SKR habitat. The SKR/Cargo Alternative would be consistent with the Western Riverside

Subregional Comprehensive Plan (WRCOG, 1994) in that it would provide jobs, promote compact development, and preserve SKR habitat.

Zoning. Depending on the disposition of the surplus property, Riverside County and other local jurisdictions may need to update their zoning ordinances to include the disposal property. The zoning documents would incorporate proposed aviation support, industrial, institutional (educational), commercial, residential, public facilities/recreation, agricultural, and business park land uses, as well as provide for the retained military cantonment and SKR habitat.

Land Use. The SKR/Cargo Alternative would result in large increases in commercial, residential, and public facilities/recreation land uses, with a smaller increase in the institutional (educational) land use. Aviation support, industrial, and vacant land use areas would be reduced significantly. Airfield and institutional (medical) land uses would be eliminated, and business park and agricultural land uses categories would be created. The SKR/Cargo Alternative includes the retained military cantonment and preservation of all SKR habitat on disposal property.

On the Main Base, vacant land southeast of the runway would be developed for aviation support uses. No on- or off-base parks or recreational facilities would be directly impacted by airport or aviation-related development activities. Light emissions associated with airfield operations would be similar to No-Action Alternative conditions, because all lighting for military operations would remain unchanged. Additional ramp lighting required to support civilian operations would be shielded or redirected to reduce impacts to nearby residents.

The portion of the airfield southwest of the runway would be preserved as SKR habitat. The scattered commercial, industrial, and residential areas in the northeast corner would support large commercial and business park developments. The recreational area in the northeast corner would be converted to public recreational facilities. On West March, large areas of vacant land would be designated as SKR habitat and managed for habitat conservation. Recreational areas of open space or landscaped parks would serve as buffers between the SKR habitat and surrounding development. A large business park development would be created on vacant land within and surrounding the clear zone. The military family housing would be converted to public housing for low- to moderate-income families. Vacant land in the southwest corner of West March would be developed as a residential area and a college campus. As in the other reuse alternatives, the golf course would be operated for public use.

This alternative would not create any land use incompatibilities between existing adjacent uses or proposed uses on disposal property. The runway clear zone would be conveyed for civilian use with restrictions to ensure that

development is compatible with ongoing AFRES operations, in accordance with AICUZ guidelines.

Agricultural use of the March Water System No. 2 would be compatible with adjacent existing and planned uses.

Aesthetics. The SKR/Cargo Alternative would preserve all SKR habitat on disposal property, with public facilities/recreation land use areas buffering the habitat from surrounding development. Additional public facilities/recreation land uses would maintain approximately 40 percent of the total property as open space. As under the Proposed Action, civilian reuse of the disposal property would improve the visual sensitivity by concentrating development, creating a "sense of place", and visually integrating the base into the surrounding area. The military family housing on West March would be retained for residential use, but with decreased densities. This would provide more open space between units, making the housing area more attractive and increasing its aesthetic value.

Mitigation Measures. No substantial adverse land use impacts are anticipated under this alternative; therefore, no mitigation measures would be required.

4.2.2.4 Military Aviation Alternative

Land Use Plans and Regulations. Depending upon the disposition of surplus property, Riverside County and other local jurisdictions may need to update their comprehensive plans. The plans would incorporate proposed industrial, institutional (educational), commercial, residential, public facilities/recreation, and business park land uses, as well as provide for the retained military cantonment. The Military Aviation Alternative would be consistent with the Western Riverside Subregional Comprehensive Plan (WRCOG, 1994) in that it would create jobs, promote compact development, and provide over 900 acres of open space.

Zoning. Depending upon the disposition of surplus property, Riverside County and other local jurisdictions may need to update their zoning ordinances to include the surplus property. The zoning would incorporate proposed industrial, institutional (educational), commercial, residential, public facilities/recreation, and business park land uses, as well as provide for the retained military cantonment.

Land Use. Large increases in the industrial, institutional (educational), commercial, residential, and public facilities/recreation land uses would occur under the Military Aviation Alternative. There would be no airfield, aviation support, institutional (medical), or vacant land use areas. A large business park would be created. The area retained within the military cantonment (2,492 acres) in this alternative would be larger than that in the other reuse alternatives, because it would also incorporate the area southwest of the

airfield, the electrical substation, and the STP. Because only military aircraft operations would be conducted, airfield light emissions would be the same as under No-Action Alternative conditions.

On the Main Base, the vacant parcel southeast of the runway would be converted to industrial reuse. The scattered commercial, industrial, and residential development in the northeast corner would support a large university campus and an adjacent commercial area. On West March, the vacant land along I-215 and under the clear zone would be developed for industrial uses, with two small commercial parcels at the north and south. The WSA would be redeveloped as a residential community centered around a golf course. Open space recreational area would buffer the industrial area from the existing residential development to the west. A large business park development would be created on vacant land in the southwest corner of West March. Air Force Village West would be expanded to the south, and the golf course would be operated for public use.

The proposed business park land use in the southwest portion of West March could be incompatible with the adjacent residential uses. As described under the Proposed Action, adverse impacts could be avoided through use of appropriate land use planning techniques. The runway clear zone would be conveyed for civilian use with restrictions to ensure that development is compatible with ongoing AFRES operations, in accordance with AICUZ guidelines. As discussed for the Proposed Action, final site planning and design for the proposed transit station should consider AICUZ guidelines.

Industrial reuse of the March Water System No. 2 would be compatible with adjacent existing and planned uses.

Aesthetics. Under the Military Aviation Alternative, a new residential and golf course development in the northwest portion of West March would integrate this area into the surrounding residential neighborhood. The northwest portion of West March would be buffered by a corridor of public facilities/recreation land, to separate it from the industrial and business park land uses to the east and south. Appropriate planning could create a cohesive and aesthetically significant development in the northeast corner by incorporating the Mission Revival architectural theme, prevalent in the historic district, in development of the campus and commercial area. Civilian reuse of the disposal property would improve visual sensitivity by concentrating development, creating a "sense of place", and visually integrating the property into the surrounding area. As under the SKR/Aviation Alternative, a view preservation ordinance could be implemented to ensure that residential, business park, commercial, and industrial land use development on West March does not impact the scenic vista from nearby residential communities.

Mitigation Measures. No substantial adverse land use impacts are anticipated under this alternative; therefore, no mitigation measures would be required.

4.2.2.5 No-Action Alternative. The No-Action Alternative would not cause any physical changes in on-base land use from realignment conditions. Military aviation and support operations would continue in the retained cantonment area. The caretaker status of the base property would not require modifications to existing land use plans and zoning. However, placing the majority of the base property in a vacant, caretaker status would be inconsistent with the policies for efficient growth in the Western Riverside Subregional Comprehensive Plan (WRCOG, 1994), as the base property would be largely unused. All SKR habitat on base property would be preserved, and no buildings would be demolished. Undeveloped areas, and possibly landscaped areas, would be allowed to revert to a more natural condition. No substantial adverse land use-related environmental impacts are anticipated under this alternative; therefore, no mitigation measures would be required.

4.2.2.6 Other Land Use Concepts. Impacts of each proposed federal transfer and independent land use concept are evaluated for compatibility with land use plans and regulations, impacts to on-site and adjacent land uses, and general land use trends in the region.

Stephens' Kangaroo Rat Habitat. This land use concept would be consistent with the Western Riverside Subregional Comprehensive Plan (WRCOG, 1994) in that it promotes the preservation of endangered species habitat and conserves open space. The habitat area would most likely remain under federal control and would not need to be zoned. However, if the property is conveyed to private ownership, it would need to be zoned.

Under the Proposed Action, the SKR overlay would replace, on West March, most of the business park and portions of the industrial, commercial, mixed use, and public facilities/recreation land uses. On the Main Base, the aviation support land use area southwest of the airfield would be maintained as SKR habitat. The portion of the habitat within the military cantonment boundary would continue to be managed by the Air Force. Major land uses that would be replaced by SKR habitat include the proposed passenger terminal on the 155-acre parcel southwest of the airfield. In addition, some land use areas would be broken up into small, irregularly shaped parcels. For analysis purposes, it is assumed that proper site design and planning would allow most of the development replaced by the SKR habitat to occur outside the areas designated for SKR habitat. If the JPA desires the passenger terminal to remain as part of the Proposed Action, it could be located in the remaining aviation support land use area, east of the airfield. However, to accommodate this relocation, the area reserved for cargo activities would be reduced. The changes to development factors that would occur with

implementation of the SKR habitat for the affected reuse plans are presented in Table 4.2-1.

Table 4.2-1. Increase or Decrease in Development Factors for Each of the Reuse Plans with SKR Habitat Overlay at 2016

Development Factor	Proposed Action	SKR/Aviation	Military Aviation
Disturbed acres	-259	-325	-450
Existing facility demolition (1,000 SF)	+ 100	+ 141	+ 261
Existing facility retention (1,000 SF)	+ 54	no change	-7
New facility construction (1,000 SF)	-691	-1,781	-3,008
Direct employment	-1,259	-2,410	-3,263
Population	no change	no change	-3,087
Trips	-13,250	-1,550	-29,500

Note: There would be no change to the SKR/Cargo Alternative

SF = square feet

SKR = Stephens' kangaroo rat

Retaining the SKR habitat areas would preserve the visual sensitivity of the views from West March and the adjacent residential area. Appropriate site planning for the remaining areas could maintain visual sensitivity by integrating new development with both the natural, open space areas of SKR habitat and development in the surrounding communities.

Under the SKR/Aviation Alternative, the SKR overlay would replace, on West March, the industrial land use area, and portions of the commercial, mixed use, and public facilities/recreation land uses. On the Main Base, the aviation support land use area southwest of the airfield would be maintained as SKR habitat. As described under the Proposed Action, the portion of the habitat within the military cantonment boundary would also remain preserved. It is assumed that most of the development replaced by SKR habitat could still occur outside the SKR habitat, with the exception of the aviation support and industrial development. Major land uses replaced by SKR habitat include the proposed passenger terminal from the 155-acre parcel southwest of the airfield, and the elimination of the industrial land use area near Cactus Avenue on West March. The passenger terminal could be located in the remaining aviation support land use area, east of the airfield. However, to accommodate this relocation, the area reserved for cargo activities would be reduced. Retaining the SKR habitat areas would preserve the visual sensitivity of the views from West March and the adjacent residential area. Appropriate site planning for the remaining areas could maintain visual sensitivity by integrating new development with both the

natural, open space areas of SKR habitat and development in the surrounding communities.

The SKR/Cargo Alternative, because it already includes the entire SKR habitat within proposed land uses, would not change with implementation of the SKR habitat land use concept.

Under the Military Aviation Alternative, the SKR overlay would replace, on West March, most of the residential and commercial land use areas, and portions of the industrial, business park, and public facilities/recreation land uses. As described under the Proposed Action, the portion of the habitat within the military cantonment boundary would also remain preserved. It is assumed that most of the development replaced by SKR habitat could occur, with the exception of the commercial and residential development on West March. Major land uses replaced by SKR habitat include the elimination of the residential/golf course development in the northwest quadrant and the loss of approximately one-half of the commercial land use areas. The commercial land use areas on West March would be reduced to three small parcels. Retaining the SKR habitat areas would preserve the visual sensitivity of the views from West March and the adjacent residential area. Appropriate site planning for the remaining areas could maintain visual sensitivity by integrating new development with both the natural, open space areas of SKR habitat and development in the surrounding communities.

U.S. Department of Agriculture Forest Service Operations Coordination Center. This land use concept would be consistent with the Western Riverside Subregional Comprehensive Plan (WRCOG, 1994), in that it provides for necessary services for public health and safety.

Under the Proposed Action, this concept would reduce the amount of business park, mixed use, and commercial land uses on West March and the Main Base. This concept would generally be compatible with adjacent business park, commercial, mixed use, and public facilities/recreation land uses, but would need to be properly buffered from Air Force Village West to avoid incompatibilities. Under the SKR/Aviation Alternative, this concept would reduce proposed mixed use and commercial land uses. This concept would generally be compatible with adjacent commercial and mixed use land uses, but would need to be properly buffered from Air Force Village West and proposed residential uses on the Main Base. Under the SKR/Cargo Alternative, this concept would reduce proposed commercial and institutional (educational) land uses and SKR habitat. This concept would generally be compatible with these land uses, but would need to be properly buffered from Air Force Village West. Under the Military Aviation Alternative, this concept would reduce the proposed commercial and business park land uses. This concept would generally be compatible with these land uses, but would need to be properly buffered from Air Force Village West. This concept has the potential to improve the visual sensitivity of the base, except in times of emergency, as it would retain a large open space area.

Riverside National Cemetery Expansion. This land use concept would be consistent with the Western Riverside Subregional Comprehensive Plan (WRCOG, 1994) in that it provides open space area needed for public health and safety. Because the disposal property is not included in current zoning ordinances, it would need to be zoned to allow for cemetery use.

A portion of the Riverside National Cemetery expansion is included under the Proposed Action, and would not change with implementation of the cemetery land use concept. The remainder of the expansion would reduce the business park and commercial land uses. Under the SKR/Aviation Alternative, this land use concept would reduce the amount of proposed mixed use and residential land uses. The cemetery would be compatible with these and the adjacent public facilities/recreation land use. Under the SKR/Cargo Alternative, this land use concept would reduce proposed residential development and most of the proposed golf course expansion area, and would overlap a portion of the SKR habitat. The cemetery land use concept would be compatible with adjacent residential, public facilities/recreation, and military cantonment areas, but would preclude the golf course expansion. Disturbance in SKR habitat areas could not exceed the acreages set forth in the 1993 Biological Opinion; it is likely that appropriate site planning could be implemented to allow co-use. Under the Military Aviation Alternative, the cemetery would reduce the business park and residential land use areas. It would be compatible with these and the public facilities/recreation and the military cantonment areas. This land use concept could improve the visual sensitivity in the southwest quadrant, as it would increase the amount of undeveloped land under all alternatives and would maintain a greenbelt along the north side of Nandina Avenue.

Navy and Marine Corps Reserve Center. This land use concept would be consistent with the Western Riverside Subregional Comprehensive Plan (WRCOG, 1994) by contributing to the jobs/housing balance in the region.

Under the Proposed Action, this land use concept would be consistent and compatible with surrounding commercial and mixed use land uses and the military cantonment. Under the SKR/Aviation Alternative, the portions of the land use concept north of A Street would be consistent and compatible with the surrounding commercial land use. The land use concept would reduce the residential development south of A Street. Under the SKR/Cargo Alternative, this land use concept would be consistent and compatible with surrounding commercial land uses. Under the Military Aviation Alternative, the portion north of A Street would be consistent and compatible with surrounding commercial land uses. The portion south of A Street would reduce the proposed campus development. The Navy and Marine Corps Reserve Center is not expected to impact the visual sensitivity of the area under any of the reuse plans.

Army and Air Force Exchange Service. This land use concept would be consistent with the Western Riverside Subregional Comprehensive Plan (WRCOG, 1994) by contributing to the jobs/housing balance in the region.

Under the Proposed Action, this land use concept would be consistent and compatible with the surrounding mixed use and commercial land uses. Under the SKR/Aviation Alternative, portions of this land use concept would be consistent and compatible with the surrounding commercial land use. This land use concept would reduce the residential development and would be compatible with the surrounding residential development. However, because the facilities would not be open to the general public, this use would not integrate well with the residential environment. Under the SKR/Cargo Alternative, this land use concept would be consistent and compatible with surrounding commercial and business park land uses. Under the Military Aviation Alternative, a portion of the area would be consistent and compatible with surrounding commercial land uses. Other portions of this land use concept would reduce the proposed campus development, but would be compatible with the institutional (educational) land use. However, because the facilities would not be open to the general public, this use would not integrate well with the campus environment. The AAFES land use concept is not expected to impact the visual sensitivity of the area under any of the reuse plans.

Army Reserve. This land use concept would be consistent with the Western Riverside Subregional Comprehensive Plan (WRCOG, 1994) by contributing to the jobs/housing balance in the region.

Under the Proposed Action, this land use concept would be consistent and compatible with the surrounding commercial and mixed use land uses. Under the SKR/Aviation Alternative, this land use concept would reduce the area within the institutional (medical) and residential land uses, respectively. The administrative activities associated with this land use concept would be compatible with both institutional (medical) and residential land uses. Under the SKR/Cargo Alternative, this land use concept would be consistent and compatible with surrounding commercial and business park land uses. Under the Military Aviation Alternative, these parcels would be located within the proposed campus area. These parcels would be compatible with the institutional (educational) land use but, because the facilities would not be open to the general public, this use would not integrate well with the campus environment. The Army Reserve land use concept is not expected to impact the visual sensitivity of the area under any of the reuse plans.

California Army National Guard. This land use concept would be consistent with the Western Riverside Subregional Comprehensive Plan (WRCOG, 1994) by contributing to the jobs/housing balance in the region.

Under the Proposed Action, this land use concept would be consistent and compatible with the surrounding mixed use and business park land uses.

Under the SKR/Aviation Alternative, this land use concept would reduce the residential land use area, but would not integrate well into this area. Under the SKR/Cargo Alternative, this land use concept would be consistent and compatible with surrounding commercial land uses. Under the Military Aviation Alternative, these parcels would be located within the proposed campus area. These parcels would be compatible with the institutional (educational) land use but, because the facilities would not be open to the general public, this use would not integrate well with the campus environment. The armory and parking area for tactical military vehicles would require buffering from adjacent, non-military-related land uses, to avoid visual sensitivity impacts.

4.2.3 Transportation

The effects of the Proposed Action and alternatives on each component of the transportation system, including roadways and railroads, are presented in this section. Possible mitigation measures are discussed for those components likely to experience substantial adverse impacts under the Proposed Action or alternatives.

Roadways. Reuse-related effects on roadway traffic were assessed by estimating the number of trips generated by each land use, considering employees, visitors, residents, and service vehicles associated with construction and all other on-site activities for the Proposed Action and each alternative. Transportation inputs used to determine ADT values included total population, number of employees, building square footage, number of dwelling units, number of golf course holes, acres of city park, number of motel rooms, and number of parking spaces.

Principal trip-generating land uses under reuse include aviation support (airport), industrial, business park, institutional (medical and educational), commercial, mixed use, residential, and the retained military cantonment. Project trip generation was based on applying the trip rates from the Institute of Transportation Engineers' trip generation database (1991) to the proposed land uses to obtain daily reuse-related traffic volumes. Trips associated with these land uses were distributed to the roadway system based on traditional transportation demand modeling using the Comprehensive Transportation Plan (CTP) model, developed for the RCTC (DKS Associates, 1992). The model incorporates the existing highway network within the western portions of Riverside and San Bernardino counties. The model incorporates transit and automobile modes, such as carpool programs, and high-occupancy vehicle (HOV) lanes, in response to a variety of applications that represent the range of travel modes and submodes presently included or forecast to occur within the region. Traffic volumes and patterns (independent of reuse) and daily traffic volumes related to each alternative were modeled to determine expected traffic volumes in 2015. These traffic volumes were used to determine anticipated traffic expected in the

intermediate years using project build-out rates and rates of projected traffic growth.

Reuse-related effects on local roadways were added to the growth in traffic projected between 1990 and 2015 by the CTP model to predict post-realignment traffic volumes. Traffic impacts were based on LOS changes for the key roads and standards established by the general plans of the jurisdictions within the ROI.

SCAG and cities within the ROI have identified several proposed improvements to the roadways within the ROI that would improve LOS. These include upgrading Cactus Avenue to six lanes; connecting Heacock Street from Cactus Avenue to Alessandro Boulevard; connecting Oleander Avenue from Day Street to I-215 and from Heacock Street to Perris Boulevard; upgrading Heacock Street to four lanes; upgrading Perris Boulevard to six lanes; and connecting A Street from Markham Street to Oleander Avenue. For the analysis for the Proposed Action and alternatives, these improvements were assumed to be in place by 2016.

The No-Action Alternative (presented in detail in Section 4.2.3.5) represents a reduction in impacts to the regional and local roadway system, because of the reduction in the number of employees and population from prerealignment levels. Nevertheless, under the No-Action Alternative conditions, as a result of growth in the region (unassociated with base reuse), by 2016 a number of roadways will be operating at an LOS that is below the standards provided in general plans for the jurisdiction in which the road segment is located. Because the Proposed Action and alternatives would add trips to the roadway system, those roadways would continue to operate at an LOS that is below the standards provided in general plans and other roadways would be degraded to unacceptable LOS.

By 2016 under the No-Action Alternative, the following roadways in the ROI would be operating at an LOS below that of the standard within applicable general plans. Within Moreno Valley, Alessandro Boulevard between Elsworth Street and Perris Boulevard, Elsworth Street north of Alessandro Boulevard, Heacock Street between Oleander and Cactus avenues, and Perris Boulevard between John F. Kennedy Drive and Oleander Avenue would be operating at LOS D, E, or F. In the city of Riverside, Alessandro Boulevard west of Trautwein Road to I-215, Van Buren Boulevard from Orange Terrace Parkway to Wood Road, and Trautwein Road between Alessandro and Van Buren boulevards would be operating at LOS E or F. Within the city of Perris, Oleander Avenue between I-215 and Heacock Street would be operating at LOS F. In Riverside County, Nandina Avenue between Barton and Clark streets, Markham Street between Wood Road and Clark Street, Cajalco Road between Alexander Street and I-215, Barton Street between Van Buren Boulevard and Nandina Avenue, and Wood Road south of Van Buren Boulevard would be operating at LOS F. I-215 southbound and

northbound would be operating at LOS F by 2016 under the No-Action Alternative.

The trip distribution analysis for the reuse alternatives was based on the existing and proposed access points described in Chapter 2, and the relative locations of the proposed land uses.

Airspace/Air Traffic. The airspace analysis examines the type and level of aircraft operations projected for the Proposed Action and alternatives and compares them to the airspace configuration used under the prerealignment reference. The impact analysis considers the relationship of the projected aircraft operations to the operational capacity of the airfield, using criteria established by the FAA for determining airport service volumes (ASV). Potential effects on airspace were assessed based on the extent to which the Proposed Action and alternatives could (1) require modifications of the airspace structure or ATC systems and/or facilities; (2) restrict, limit, or otherwise delay other air traffic in the region; or (3) encroach on other airspace areas and uses.

The FAA is ultimately responsible for evaluating the specific effects that reuse of an airport would have on the safe and efficient use of navigable airspace by aircraft. Such a study is based on details from the airport proponent's ALP and consists of an airspace analysis, flight safety review, and a review of the potential effect of the proposal on ATC and air navigational facilities. Once this study is completed, the FAA can then determine the actual requirements for facilities, terminal and en route airspace, and instrument flight procedures. The FAA and SCAG are working closely with the JPA in the preparation of a joint use feasibility study for March ARB.

Other Transportation Modes. The transit network component of the CTP model accounts for fixed-route transit service and includes local service provided by RTA for Riverside County and Omnitrans for San Bernardino County. Within the transportation ROI, RTA operates bus service along I-215, Van Buren Boulevard, and Perris Boulevard, and serves the project site via Frederick Street and Alessandro Boulevard. The CTP model distributes traffic in the region considering commuter rail. The areas served by the Metrolink rail line are outside the ROI for traffic.

4.2.3.1 Proposed Action

Roadways. By 2016, the major traffic generators would be the 38,619 employees and over 900 residents associated with the Proposed Action. Access to the military cantonment would continue to be provided at the West Gate. Access to disposal property would continue to be provided at Graham Street on Cactus Avenue (Main Gate) and John F. Kennedy Drive on Heacock Street (East Gate). Additional access points would be provided north of the WSA off of Alessandro Boulevard, a connection along Plummer

Road from Sycamore Canyon Street to Alexander Street, and at Lurin Avenue (see Figure 2.2-1).

The Proposed Action would generate an estimated ADT of 194,550 on an average weekday. The number of estimated reuse-related trips distributed on key local roadways within the ROI is presented in Table 4.2-2.

Table 4.2-2. Total Average Daily Trips Generated by Reuse Alternative

Alternative	2001	2006	2016
Proposed Action	66,150	108,450	194,550
SKR/Aviation Alternative	51,000	88,100	160,600
SKR/Cargo Alternative	32,900	51,600	86,300
Military Aviation Alternative	32,250	51,650	89,050
No-Action Alternative	10,100	10,100	10,100

Note: All values are rounded to the nearest 50.

SKR = Stephens' kangaroo rat

As discussed in Section 4.2.3, local planning authorities will be implementing measures to improve the LOS on regional roadways to acceptable levels.

Regional. Table 4.2.3 shows the reuse-generated PHVs for 2001, 2006, and 2016 and the associated LOS on key roadways. As for the No-Action Alternative, the I-215 in the ROI would operate at LOS F by 2006.

Local. Table 4.2-3 also shows reuse-generated PHVs and LOS for key local roadways. Under the Proposed Action, 23 percent of these road segments would operate at acceptable levels, and the remaining 77 percent would operate at an LOS below the standards specified in the applicable general plans. However, as discussed above, many of these roads are projected to operate below general plan standards under No-Action Alternative conditions as a result of regional growth. The following roads are projected to operate at an LOS below general plan standards due to Proposed Action-related traffic, compared to the No-Action Alternative.

- Within the city of Moreno Valley, Perris Boulevard between Alessandro Boulevard and John F. Kennedy Drive is projected to operate at LOS D compared to LOS C under the No-Action Alternative, and Graham Street between Alessandro Boulevard and Cactus Avenue is expected to operate at LOS D compared to LOS B under the No-Action Alternative.
- In the city of Riverside, Wood Road between Trautwein Road and Van Buren Boulevard is expected to operate at LOS D compared to LOS C under the No-Action Alternative.

Table 4.2-3. Peak-Hour Traffic Volumes and LOS on Key Roads - Proposed Action

Page 1 of 2

Roadway/Segment	2001		2006		2016	
	PHV	LOS	PHV	LOS	PHV	LOS
Alessandro Boulevard - West of I-215	4,200	F	4,650	F	5,850	F
Alessandro Boulevard - I-215 to Elsworth Street	3,350	E	3,700	F	5,250	F
Alessandro Boulevard - Elsworth Street to Graham Street	2,800	C	3,200	C	4,100	E
Alessandro Boulevard - Graham Street to Perris Boulevard	3,450	C	3,800	D	4,100	E
Cactus Avenue - I-215 to Elsworth Street	2,100	C	2,650	D	3,550	C
Cactus Avenue - Elsworth Street to Graham Street	2,100	C	2,650	D	3,500	C
Cactus Avenue - Graham Street to Heacock Street	1,850	F	2,300	F	2,950	C
Cactus Avenue - Heacock Street to Perris Boulevard	1,450	D	1,850	F	2,450	B
John F. Kennedy Drive - Heacock Street to Perris Boulevard	950	A	1,300	B	2,000	C
Van Buren Boulevard - Wood Road to I-215	3,900	F	4,650	F	5,500	F
Nandina Avenue - West of Barton Street to Clark Street	1,150	E	1,550	E	2,400	F
Oleander Avenue - I-215 to Heacock Street	1,350	E	1,700	E	2,500	F
Markham Street - Wood Road to I-215	950	D	1,300	E	2,250	F
Cajalco Road - Wood Road to I-215	2,050	D	2,300	D	2,200	D
Wood Road - Trautwein Road to Van Buren Boulevard	750	C	850	D	800	D
Wood Road - South of Van Buren Boulevard	1,700	E	2,050	F	3,050	F
Trautwein Road - Alessandro Boulevard to Van Buren Boulevard	2,550	E	3,050	E	3,900	F
Barton Street - Van Buren Boulevard to Nandina Avenue	1,200	C	1,550	E	2,750	F
Alexander Street - Nandina Avenue to Cajalco Road	700	B	950	C	2,050	F
Clark Street - Nandina Avenue to Cajalco Road	500	A	750	B	2,050	F
I-215 Southbound - Alessandro Boulevard to Oleander Avenue	5,600	D	6,800	F	9,500	F
I-215 Northbound - Alessandro Boulevard to Oleander Avenue	5,000	D	6,400	F	8,900	F
Elsworth Street - North of Alessandro Boulevard	750	C	900	D	1,100	D

I = Interstate

LOS = level of service

PHV = peak-hour volumes

Table 4.2-3. Peak-Hour Traffic Volumes and LOS on Key Roads - Proposed Action**Page 2 of 2**

Roadway/Segment	2001		2006		2016	
	PHV	LOS	PHV	LOS	PHV	LOS
Elsworth Street - Alessandro Boulevard to Cactus Avenue	700	A	900	A	1,350	B
Frederick Street - Alessandro Boulevard to Cactus Avenue	750	A	1,100	A	1,550	B
Graham Street - Alessandro Boulevard to Cactus Avenue	500	A	450	A	2,650	D
Heacock Street - Cactus Avenue to John F. Kennedy Drive	1,600	E	1,950	F	2,700	E
Heacock Street - John F. Kennedy Drive to Oleander Avenue	2,050	F	2,700	F	3,200	E
Perris Boulevard - Alessandro Boulevard to Cactus Avenue	2,850	D	3,200	E	4,050	D
Perris Boulevard - Cactus Avenue to John F. Kennedy Drive	2,850	D	3,350	E	4,150	D
Perris Boulevard - John F. Kennedy Drive to Oleander Avenue	2,400	C	3,100	D	4,750	E

LOS = level of service

PHV = peak-hour volumes

- In Riverside County, Markham Street between Wood Road and Clark Street, Barton Street between Van Buren Boulevard and Nandina Avenue, Alexander Street between Nandina Avenue and Cajalco Road, and Clark Street between Nandina Avenue and Cajalco Road are projected to operate at LOS F compared to LOS E, D, C, and C, respectively, under the No-Action Alternative.

In addition, within the city of Moreno Valley, John F. Kennedy Drive between Heacock Street and Perris Boulevard would operate at LOS C compared to LOS A under the No-Action Alternative. Street improvements on Cactus Avenue between I-215 and Perris Boulevard are expected to be in place by 2016. These improvements are projected to improve the LOS on Cactus Avenue to LOS C from I-215 to Heacock Street and to LOS B from Heacock Street to Perris Boulevard in 2016, compared to LOS D and F, respectively, in 2006. Improvements to Heacock Street by 2016 are expected to provide LOS E, compared to LOS F in 2006. In addition, improvements to Perris Boulevard by 2016 are projected to change the service on this arterial to LOS D between Alessandro Boulevard and John F. Kennedy Drive and to LOS E from John F. Kennedy Drive to Oleander Avenue, compared to LOS E and D, respectively, in 2006.

On-Site. The Proposed Action assumes that existing roadways on disposal property would be used in the short term during the construction period. As part of the construction programs for civilian reuse, internal roadways would

be improved to accommodate the increased vehicular and pedestrian activities and provide acceptable LOS. These improvements would include providing access from the local road network. Civilian reuse plans are expected to incorporate internal circulation requirements that meet local planning objectives.

Airspace/Air Traffic. The Proposed Action assumes joint military and civilian use of the March ARB airfield and includes military, commercial passenger, and air cargo operations. The ATC tower would remain in use to control the airspace around March ARB. An analysis conducted by SCAG as part of the joint use feasibility study concluded that the airspace, ATC, and radar sector capacity for IFR operations in the ROI are adequate to handle the aviation activity levels forecasted for the Proposed Action.

The FAA uses ASV to estimate an airport's annual capacity, based on a specific airport's runway use, aircraft mix, weather conditions, and configuration. SCAG has estimated the ASV of the existing March ARB airfield and airspace to be approximately 200,000 operations. The total number of flight operations projected under the Proposed Action is approximately 97,500 by 2016, a decrease from the 104,000 operations in 1992. This represents 49 percent of the ASV, and is well within the capacity of the airport. No airspace impacts are anticipated under the Proposed Action.

Air Transportation. The Proposed Action flight operations projections were developed under the assumption that capacity at Los Angeles International Airport would be constrained by physical capacity, but that Ontario International Airport could continue to expand without constraints. Demand for passenger and cargo operations in the southern California area was projected, and March ARB was assumed to capture a share of the market. Thus, joint use to support civilian aviation operations would have a beneficial effect on regional air transportation by helping to assure that there would be sufficient capacity to meet projected demand for the next 20 years.

Other Transportation Modes. It is likely that ridership on local RTA bus routes in the vicinity would increase, but the Proposed Action would have little overall effect on other transportation modes in the region. Establishing a Metrolink commuter rail station on disposal property would provide additional regional connectivity with Los Angeles and Orange counties.

Mitigation Measures. By 2016, reuse-related increases in traffic would result in degradation of LOS below the general plan standards of the local jurisdictions within the ROI on several road segments. The RCTC and local jurisdictions could add lanes to roadways to bring these segments to an acceptable LOS. As noted in Section 3.2.3, WRCOG is studying transportation issues associated with projected baseline population growth and development in the region (WRCOG, 1994).

4.2.3.2 SKR/Aviation Alternative

Roadways. By 2016, the major traffic generators would be the 27,204 employees and over 5,100 residents associated with the SKR/Aviation Alternative. Existing access points would continue to be used. Additional access points would be provided along Cactus Avenue east of Elsworth Street and at Frederick Street; Mariposa Avenue on both the east and west sides of the disposal property; Clark, Brown, and Alexander streets along Nandina Avenue; and at Krameria Avenue along Barton Street (see Figure 2.3-1).

The SKR/Aviation Alternative would generate an estimated ADT of 160,600 on an average weekday. The number of estimated reuse-related trips distributed on key local roadways within the ROI is presented in Table 4.2-2.

As discussed in Section 4.2.3, local planning authorities will be implementing measures to improve the LOS on regional roadways to acceptable levels.

Regional. Table 4.2-4 shows the post-realignment conditions and reuse-generated PHV for 2001, 2006, and 2016 and the associated LOS on key roadways. As for the No-Action Alternative, the I-215 would operate at LOS F by 2006.

Local. Table 4.2-4 also shows reuse-generated PHVs and LOS for key local roadways. Under the SKR/Aviation Alternative, 26 percent of these road segments would operate at acceptable levels, and the remaining 74 percent would operate at an LOS below the standards specified in the applicable general plans. However, as discussed above, many of these roads are projected to operate below general plan standards under the No-Action Alternative as a result of regional growth. The following road segments are projected to operate at an LOS below general plan standards by 2016 due to reuse-related traffic, compared to the No-Action Alternative.

- Within the city of Moreno Valley, Alessandro Boulevard between Elsworth and Graham streets and between Graham Street and Perris Boulevard would be further constrained by reuse-related traffic. These road segments are expected to operate at LOS E and F, respectively, compared to LOS D and E under the No-Action Alternative. Elsworth Street north of Alessandro is projected to operate at LOS E compared to LOS D without reuse-related traffic.
- Wood Road between Trautwein Road and Van Buren Boulevard within the city of Riverside is projected to operate at LOS D compared to LOS C under the No-Action Alternative.

Table 4.2-4. Peak-Hour Traffic Volumes and LOS on Key Roads - SKR/Aviation Alternative

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Roadway/Segment	2001		2006		2016	
	PHV	LOS	PHV	LOS	PHV	LOS
Alessandro Boulevard - West of I-215	4,550	F	5,150	F	5,250	F
Alessandro Boulevard - I-215 to Elsworth Street	3,600	E	4,100	F	5,350	F
Alessandro Boulevard - Elsworth Street to Graham Street	2,950	C	3,400	D	4,200	E
Alessandro Boulevard - Graham Street to Perris Boulevard	3,350	D	3,800	E	4,350	E
Cactus Avenue - I-215 to Elsworth Street	1,950	C	2,450	C	3,650	C
Cactus Avenue - Elsworth Street to Graham Street	1,950	C	2,500	C	3,250	C
Cactus Avenue - Graham Street to Heacock Street	1,750	E	2,100	D	2,900	C
Cactus Avenue - Heacock Street to Perris Boulevard	1,350	D	1,650	F	2,350	B
John F. Kennedy Drive - Heacock Street to Perris Boulevard	821	A	1,100	A	1,600	B
Van Buren Boulevard - Wood Road to I-215	4,000	F	4,850	F	5,300	F
Nandina Avenue - West of Barton Street to Clark Street	1,050	D	1,400	E	1,900	F
Oleander Avenue - I-215 to Heacock Street	1,350	E	1,700	E	2,550	F
Markham Street - Wood Road to I-215	1,000	D	1,350	E	2,050	F
Cajalco Road - Wood Road to I-215	2,150	D	2,500	E	2,400	E
Wood Road - Trautwein Road to Van Buren Boulevard	750	C	850	D	950	D
Wood Road - South of Van Buren Boulevard	1,550	E	1,900	F	2,650	F
Trautwein Road - Alessandro Boulevard to Van Buren Boulevard	2,650	E	3,250	F	3,600	F
Barton Street - Van Buren Boulevard to Nandina Avenue	1,300	D	1,750	E	1,900	F
Alexander Street - Nandina Avenue to Cajalco Road	900	B	1,250	C	1,450	F
Clark Street - Nandina Avenue to Cajalco Road	750	B	1,100	C	1,950	D
I-215 Southbound - Alessandro Boulevard to Oleander Avenue	5,250	D	6,450	F	9,050	F
I-215 Northbound - Alessandro Boulevard to Oleander Avenue	3,900	C	4,800	D	6,500	F

I = Interstate
LOS = level of service
PHV = peak-hour volumes

Table 4.2-4. Peak-Hour Traffic Volumes and LOS on Key Roads - SKR/Aviation Alternative
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Roadway/Segment	2001		2006		2016	
	PHV	LOS	PHV	LOS	PHV	LOS
Elsworth Street - North of Alessandro Boulevard	750	C	900	D	1,200	E
Elsworth Street - Alessandro Boulevard to Cactus Avenue	700	A	900	A	1,150	A
Frederick Street - Alessandro Boulevard to Cactus Avenue	750	A	1,000	A	1,450	B
Graham Street - Alessandro Boulevard to Cactus Avenue	1,500	B	1,850	B	2,500	C
Heacock Street - Cactus Avenue to John F. Kennedy Drive	1,700	E	2,150	F	3,000	E
Heacock Street - John F. Kennedy Drive to Oleander Avenue	2,200	F	2,900	F	4,400	F
Perris Boulevard - Alessandro Boulevard to Cactus Avenue	2,750	D	3,050	D	3,450	C
Perris Boulevard - Cactus Avenue to John F. Kennedy Drive	2,600	C	2,950	D	3,800	C
Perris Boulevard - John F. Kennedy Drive to Oleander Avenue	2,250	C	2,900	D	4,850	E

LOS = level of service
PHV = peak-hour volumes

- In Riverside County, Markham Street between Wood Road and Clark Street, Barton Street between Van Buren Boulevard and Nandina Avenue, and Alexander Street between Nandina Avenue and Cajalco Road are projected to operate at LOS F, compared to LOS E, D, and C, respectively, without reuse-related traffic. Clark Street between Nandina Avenue and Cajalco Road is expected to operate at LOS D compared to LOS C under the No-Action Alternative.

In addition, within the city of Moreno Valley, John F. Kennedy Drive between Heacock Street and Perris Boulevard would operate at LOS B compared to LOS A under the No-Action Alternative. Graham Street between Alessandro Boulevard and Cactus Avenue is projected to operate at LOS C compared to LOS B without reuse-related traffic. Street improvements on Cactus Avenue between I-215 and Perris Boulevard are expected to be in place by 2016. These improvements are projected to improve conditions on Cactus Avenue to LOS C from Graham to Heacock streets and to LOS B from Heacock Street to Perris Boulevard in 2016, compared to LOS D and F, respectively, in 2006. Improvements to Heacock Street by 2016 are expected to provide LOS E, compared to LOS F from Cactus Avenue to John F. Kennedy Drive in 2006. However, even with these improvements, Heacock Street would remain at LOS F from John F.

Kennedy Drive to Oleander Avenue. In addition, improvements to Perris Boulevard by 2016 are projected to improve the service on this arterial to LOS C between Alessandro Boulevard and John F. Kennedy Drive. Perris Boulevard is expected to operate at LOS E from John F. Kennedy Drive to Oleander Avenue, compared to LOS D in 2006.

On-Site. The SKR/Aviation Alternative assumes that existing roadways on disposal property would be used in the short term during the construction period. As part of the construction programs for civilian reuse, internal roadways would be improved to accommodate the increased vehicular and pedestrian activities and provide acceptable LOS. These improvements would include providing access from the local road network. Civilian reuse plans are expected to incorporate internal circulation requirements that meet local planning objectives.

Airspace/Air Traffic. As discussed under the Proposed Action, the airspace, ATC, and radar sector capacity for IFR operations in the ROI are adequate to handle the aviation activity levels forecasted for the SKR/Aviation Alternative. The total number of flight operations projected under this alternative is approximately 125,000 by 2016, an increase from the 104,000 operations in 1992. This represents 63 percent of the ASV, and is well within the capacity of the airport. No airspace impacts are anticipated under the SKR/Aviation Alternative.

Air Transportation. The SKR/Aviation Alternative flight operations projections were developed under the assumption that capacity at both Ontario and Los Angeles international airports would be constrained by physical capacity and/or air quality restrictions. As for the Proposed Action, demand for passenger and cargo operations in the southern California area was projected, and March ARB was assumed to capture a share of the market. Joint use for civilian aviation operations would have a beneficial effect on regional air transportation by helping to assure that there would be sufficient capacity to meet projected demand for the next 20 years.

Other Transportation Modes. It is likely that ridership on local RTA bus routes in the vicinity would increase, but the SKR/Aviation Alternative would have little effect overall on other transportation modes in the region.

Mitigation Measures. The SKR/Aviation Alternative would require implementation of the same mitigation measures as described under the Proposed Action.

4.2.3.3 SKR/Cargo Alternative

Roadways. By 2016, the major traffic generators would be the 16,214 employees, more than 2,600 residents, and 1,300 non-resident students associated with the SKR/Cargo Alternative. Existing access points would continue to be used. Additional access points would be provided along

Cactus Avenue east of Elsworth Street and at Frederick Street, Mariposa Avenue on both the east and west sides of the disposal property, Clark and Alexander streets along Nandina Avenue, and at Krameria Avenue along Barton Street (see Figure 2.3-3).

The SKR/Cargo Alternative would generate an estimated ADT of 86,300 on an average weekday. The number of estimated reuse-related trips distributed on key local roadways within the ROI is presented in Table 4.2-2.

As discussed under Section 4.2.3, local planning authorities will be implementing measures to improve the LOS on regional roadways to acceptable levels.

Regional. Table 4.2-5 shows the post-realignment conditions and reuse-generated PHV for 2001, 2006, and 2016 and the associated LOS on key roadways. As for the No-Action Alternative, the I-215 would operate at LOS F by 2006.

Local. Table 4.2-5 also shows reuse-generated PHVs and LOS for key local roadways. Under the SKR/Cargo Alternative, 29 percent of these road segments would operate at acceptable levels, while the remaining 71 percent would operate at an LOS below the standards specified in the applicable general plans. However, as discussed above, many of these roads are projected to operate below general plan standards under the No-Action Alternative as a result of regional growth. The following road segments are projected to operate at an LOS below general plan standards because of reuse-related traffic by 2016 under this alternative:

- Wood Road from Trautwein Road to Van Buren Boulevard in the city of Riverside would operate at LOS E by 2016 compared to a projected LOS C under the No-Action Alternative.
- Barton Street from Van Buren Boulevard to Nandina Avenue in Riverside County would operate at LOS E under this alternative compared to a projected LOS D without reuse.

In addition, Graham Street between Alessandro Boulevard and Cactus Avenue in the city of Moreno Valley is projected to operate at LOS C compared to LOS B under the No-Action Alternative.

Street improvements on Cactus Avenue between I-215 and Perris Boulevard are expected to be in place by 2016. These improvements are projected to improve conditions on Cactus Avenue to LOS B from Elsworth to Graham streets, to LOS C from Graham to Heacock streets, and to LOS B from Heacock Street to Perris Boulevard in 2016, compared to LOS C, F, and E, respectively, in 2006. Improvements to Heacock Street by 2016 are expected to provide LOS D from Cactus Avenue to John F. Kennedy Drive and LOS E from John F. Kennedy Drive to Oleander Avenue, compared to

Table 4.2-5. Peak-Hour Traffic Volumes and LOS on Key Roads - SKR/Cargo Alternative

Page 1 of 2

Roadway/Segment	2001		2006		2016	
	PHV	LOS	PHV	LOS	PHV	LOS
Alessandro Boulevard - West of I-215	4,050	F	4,450	F	5,150	F
Alessandro Boulevard - I-215 to Elsworth Street	3,600	E	4,100	F	5,200	F
Alessandro Boulevard - Elsworth Street to Graham Street	2,550	C	2,850	C	3,700	D
Alessandro Boulevard - Graham Street to Perris Boulevard	3,200	C	3,600	D	4,300	E
Cactus Avenue - I-215 to Elsworth Street	1,950	C	2,500	C	3,250	C
Cactus Avenue - Elsworth Street to Graham Street	1,850	B	2,300	C	2,550	B
Cactus Avenue - Graham Street to Heacock Street	1,850	F	2,300	F	3,000	C
Cactus Avenue - Heacock Street to Perris Boulevard	1,350	D	1,650	E	2,300	B
John F. Kennedy Drive - Heacock Street to Perris Boulevard	600	A	750	A	1,100	A
Van Buren Boulevard - Wood Road to I-215	3,900	F	4,650	F	6,050	F
Nandina Avenue - West of Barton Street to Clark Street	1,050	D	1,400	E	2,100	F
Oleander Avenue - I-215 to Heacock Street	1,350	E	1,700	E	2,400	F
Markham Street - Wood Road to I-215	750	C	1,000	D	1,500	E
Cajalco Road - Wood Road to I-215	1,950	D	2,150	D	2,650	E
Wood Road - Trautwein Road to Van Buren Boulevard	750	C	850	D	900	E
Wood Road - South of Van Buren Boulevard	1,700	E	2,100	F	2,300	F
Trautwein Road - Alessandro Boulevard to Van Buren Boulevard	2,300	D	2,700	E	3,650	F
Barton Street - Van Buren Boulevard to Nandina Avenue	950	B	1,200	C	1,650	E
Alexander Street - Nandina Avenue to Cajalco Road	750	B	1,100	C	1,150	C
Clark Street - Nandina Avenue to Cajalco Road	500	A	750	B	1,050	C
I-215 Southbound - Alessandro Boulevard to Oleander Avenue	5,600	E	6,850	F	9,100	F
I-215 Northbound - Alessandro Boulevard to Oleander Avenue	4,000	C	5,000	D	6,500	F
Elsworth Street - North of Alessandro Boulevard	750	C	900	D	1,100	D

I = Interstate
 LOS = level of service
 PHV = peak-hour volumes

Table 4.2-5. Peak-Hour Traffic Volumes and LOS on Key Roads - SKR/Cargo Alternative**Page 2 of 2**

Roadway/Segment	2001		2006		2016	
	PHV	LOS	PHV	LOS	PHV	LOS
Elsworth Street - Alessandro Boulevard to Cactus Avenue	600	A	700	A	1,100	A
Frederick Street - Alessandro Boulevard to Cactus Avenue	750	B	1,000	B	1,350	B
Graham Street - Alessandro Boulevard to Cactus Avenue	1,400	B	1,700	B	2,100	C
Heacock Street - Cactus Avenue to John F. Kennedy Drive	1,700	E	2,150	F	2,700	D
Heacock Street - John F. Kennedy Drive to Oleander Avenue	2,200	F	2,900	F	3,400	E
Perris Boulevard - Alessandro Boulevard to Cactus Avenue	2,600	C	2,900	D	3,400	C
Perris Boulevard - Cactus Avenue to John F. Kennedy Drive	2,600	C	3,000	D	3,700	C
Perris Boulevard - John F. Kennedy Drive to Oleander Avenue	2,250	C	2,900	D	4,550	D

LOS = level of service

PHV = peak-hour volumes

LOS F in 2006. In addition, improvements to Perris Boulevard by 2016 are projected to improve the service on this arterial to LOS C between Alessandro Boulevard and John F. Kennedy Drive compared to LOS D in 2006.

On-Site. The SKR/Cargo Alternative assumes that existing roadways on disposal property would be used in the short term during the construction period. As part of the construction programs for civilian reuse, internal roadways would be improved to accommodate the increased vehicular and pedestrian activities and provide acceptable LOS. These improvements would include providing access from the local road network. Civilian reuse plans are expected to incorporate internal circulation requirements that meet local planning objectives.

Airspace/Air Traffic. As discussed under the Proposed Action, the airspace, ATC, and radar sector capacity for IFR operations in the ROI are adequate to handle the aviation activity levels forecasted for the SKR/Cargo Alternative. The total number of flight operations projected under the SKR/Cargo Alternative is approximately 75,000 by 2016, a decrease from the 104,000 operations in 1992. This represents 37 percent of the ASV, and is well within the capacity of the airport. No airspace impacts are anticipated under this alternative.

Air Transportation. FAA and SCAG are projecting an increasing demand for cargo capacity, both for domestic and international traffic. Available capacities at Los Angeles and Ontario international airports are anticipated to be insufficient to meet demand, and the SKR/Cargo Alternative flight operations were projected to provide supplemental capacity for this market. Joint use to support civilian cargo operations would have a beneficial effect on regional air transportation by helping to assure that there would be sufficient capacity to meet projected cargo demand for the next 20 years.

Other Transportation Modes. It is likely that ridership on local RTA bus routes in the vicinity would increase, but the SKR/Cargo Alternative would have little effect overall on other transportation modes in the region.

Mitigation Measures. Mitigation measures would be the same as those described under the Proposed Action.

4.2.3.4 Military Aviation Alternative

Roadways. By 2016, the major traffic generators would be the 17,839 employees, approximately 3,900 residents, and 675 students associated with the Military Aviation Alternative. Existing access points would continue to be used. Additional access points would be provided along Alessandro Boulevard north of the WSA, along Cactus Avenue east of Elsworth Street and at Frederick Street, Mariposa Avenue both on the east and west sides of the disposal property, Clark and Alexander streets along Nandina Avenue, and at Krameria Avenue along Barton Street (see Figure 2.3-5).

The Military Aviation Alternative would generate an estimated ADT of 89,050 on an average weekday. The number of estimated reuse-related trips distributed on key local roadways within the ROI is presented in Table 4.2-2.

As discussed under Section 4.2.3, local planning authorities will be implementing measures to improve the LOS on regional roadways to acceptable levels.

Regional. Table 4.2-6 shows the post-realignment conditions and reuse-generated peak-hour traffic for 2001, 2006, and 2016 and the associated LOS on key roadways. As under the No-Action Alternative, the I-215 in the ROI would operate at LOS F by 2006.

Local. Table 4.2-6 also shows reuse-generated PHVs and LOS for key local roadways. Under the Military Aviation Alternative, 29 percent of these roads would operate at acceptable levels, while the remaining 71 percent would operate at an LOS below the standards specified in the applicable general plans. However, as discussed above, many of these roads are projected to operate below general plan standards under the No-Action Alternative as a result of regional growth. The following road segments are

Table 4.2-6. Peak-Hour Traffic Volumes and LOS on Key Roads - Military Aviation Alternative
Page 1 of 2

Roadway/Segment	2001		2006		2016	
	PHV	LOS	PHV	LOS	PHV	LOS
Alessandro Boulevard - West of I-215	4,050	F	4,450	F	5,700	F
Alessandro Boulevard - I-215 to Elsworth Street	3,600	E	4,100	F	5,500	F
Alessandro Boulevard - Elsworth Street to Graham Street	2,550	C	2,850	C	4,200	E
Alessandro Boulevard - Graham Street to Perris Boulevard	3,200	C	3,600	D	4,600	F
Cactus Avenue - I-215 to Elsworth Street	1,950	C	2,500	C	3,400	C
Cactus Avenue - Elsworth Street to Graham Street	1,850	B	2,300	C	2,850	B
Cactus Avenue - Graham Street to Heacock Street	1,850	F	2,300	F	3,100	C
Cactus Avenue - Heacock Street to Perris Boulevard	1,350	D	1,650	E	1,100	A
John F. Kennedy Drive - Heacock Street to Perris Boulevard	600	A	750	A	800	A
Van Buren Boulevard - Wood Road to I-215	3,900	F	4,650	F	6,050	F
Nandina Avenue - West of Barton Street to Clark Street	1,050	D	1,400	E	2,250	F
Oleander Avenue - I-215 to Heacock Street	1,350	E	1,700	E	2,500	F
Markham Street - Wood Road to I-215	750	C	1,000	D	1,700	E
Cajalco Road - Wood Road to I-215	1,950	D	2,150	D	2,500	E
Wood Road - Trautwein Road to Van Buren Boulevard	750	C	850	D	1,000	D
Wood Road - South of Van Buren Boulevard	1,700	E	2,100	F	2,200	F
Trautwein Road - Alessandro Boulevard to Van Buren Boulevard	2,300	D	2,700	E	3,750	F
Barton Street - Van Buren Boulevard to Nandina Avenue	950	B	1,200	C	1,950	F
Alexander Street - Nandina Avenue to Cajalco Road	750	B	1,100	C	1,100	C
Clark Street - Nandina Avenue to Cajalco Road	500	A	750	B	1,100	C
I-215 Southbound - Alessandro Boulevard to Oleander Avenue	5,600	E	6,850	F	9,400	F
I-215 Northbound - Alessandro Boulevard to Oleander Avenue	4,900	D	6,250	F	6,450	F
Elsworth Street - North of Alessandro Boulevard	750	C	900	D	1,200	E

I = Interstate
LOS = level of service
PHV = peak-hour volumes

Table 4.2-6. Peak-Hour Traffic Volumes and LOS on Key Roads - Military Aviation Alternative
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Roadway/Segment	2001		2006		2016	
	PHV	LOS	PHV	LOS	PHV	LOS
Elsworth Street - Alessandro Boulevard to Cactus Avenue	600	A	700	A	1,250	B
Frederick Street - Alessandro Boulevard to Cactus Avenue	750	A	1,000	A	1,450	B
Graham Street - Alessandro Boulevard to Cactus Avenue	1,400	B	1,700	B	1,700	B
Heacock Street - Cactus Avenue to John F. Kennedy Drive	1,700	E	2,150	F	2,950	E
Heacock Street - John F. Kennedy Drive to Oleander Avenue	2,200	F	2,900	F	3,350	E
Perris Boulevard - Alessandro Boulevard to Cactus Avenue	2,600	C	2,900	D	3,350	C
Perris Boulevard - Cactus Avenue to John F. Kennedy Drive	2,600	C	3,000	D	3,650	C
Perris Boulevard - John F. Kennedy Drive to Oleander Avenue	2,250	C	2,900	D	3,800	C

LOS = level of service
PHV = peak-hour volumes

projected to operate at an LOS below general plan standards by 2016 due to reuse-related traffic, compared to the No-Action Alternative.

- Elsworth Street north of Alessandro Boulevard in the city of Moreno Valley would operate at LOS E by 2016 compared to a projected LOS D without reuse-related traffic.
- Wood Road from Trautwein Road to Van Buren Boulevard in the city of Riverside would operate at LOS D by 2016 compared to a projected LOS C under the No-Action Alternative.
- Barton Street from Van Buren Boulevard to Nandina Avenue in Riverside County would operate at LOS F under this alternative compared to a projected LOS D without reuse.

Street improvements on Cactus Avenue between I-215 and Perris Boulevard are expected to be in place by 2016. These improvements are projected to improve conditions on Cactus Avenue to LOS B between Elsworth and Graham streets, to LOS C between Graham and Heacock streets, and to LOS A from Heacock Street to Perris Boulevard in 2016 compared to LOS C, F, and E, respectively, in 2006. Improvements to Heacock Street by 2016 are expected to provide LOS E between Cactus and Oleander avenues, compared to LOS F in 2006. In addition, improvements to Perris Boulevard by 2016

are projected to improve the service on this arterial to LOS C between Alessandro Boulevard and Oleander Avenue, compared to LOS D in 2006.

On-Site. The Military Aviation Alternative assumes that existing roadways on disposal property would be used in the short term during the construction period. As part of the construction programs for civilian reuse, internal roadways would be improved to accommodate the increased vehicular and pedestrian activities and provide acceptable LOS. These improvements would include providing access from the local road network. Civilian reuse plans are expected to incorporate internal circulation requirements that meet local planning objectives.

Airspace/Air Traffic. Under this alternative, the AFRES would use the airfield at the same activity levels as at realignment, with no civilian operations. Therefore, there would be no change to airspace use or air traffic from the realignment baseline.

Air Transportation. The implementation of the Military Aviation Alternative is expected to have minimal effects on regional air transportation, resulting from a small increase in business-related travel at regional airports.

Other Transportation Modes. It is likely that ridership on local RTA bus routes in the vicinity would increase, but the Military Aviation Alternative would have little effect overall on other transportation modes in the region.

Mitigation Measures. Mitigation measures would be the same as those described under the Proposed Action.

4.2.3.5 No-Action Alternative

Roadways. By 2016, the major traffic generators would be the 1,661 employees associated with the No-Action Alternative. Access to the military cantonment would continue to be provided at the existing Main Gate. The East and West gates would be closed.

The No-Action Alternative would generate an estimated ADT of 10,100 on an average weekday. The number of estimated reuse-related trips distributed on key local roadways within the ROI is presented in Table 4.2-2.

Regional. Table 4.2-7 shows the post-realignment conditions and PHV for 2001, 2006, and 2016 and the associated LOS on key roadways. Because there would be no reuse of the disposal property, and no increase in base-related traffic over the 20-year analysis period, all increases in traffic volumes and associated degradations in LOS on key roads would be associated with regional growth. I-215 through the base would operate at LOS F by 2006.

Table 4.2-7. Peak-Hour Traffic Volumes and LOS on Key Roads - No-Action Alternative

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Roadway/Segment	2001		2006		2016	
	PHV	LOS	PHV	LOS	PHV	LOS
Alessandro Boulevard - West of I-215	4,100	F	4,500	F	5,200	F
Alessandro Boulevard - I-215 to Elsworth Street	3,700	F	4,250	F	4,450	F
Alessandro Boulevard - Elsworth Street to Graham Street	2,750	C	3,150	C	3,800	D
Alessandro Boulevard - Graham Street to Perris Boulevard	3,250	C	3,700	D	4,400	E
Cactus Avenue - I-215 to Elsworth Street	1,850	B	2,300	C	3,300	C
Cactus Avenue - Elsworth Street to Graham Street	1,650	B	2,050	C	2,700	B
Cactus Avenue - Graham Street to Heacock Street	1,850	F	2,250	F	3,100	C
Cactus Avenue - Heacock Street to Perris Boulevard	1,400	D	1,750	E	2,350	B
John F. Kennedy Drive - Heacock Street to Perris Boulevard	400	A	500	A	500	A
Van Buren Boulevard - Wood Road to I-215	3,500	E	4,100	E	5,200	F
Nandina Avenue - West of Barton Street to Clark Street	1,050	D	1,350	E	2,100	F
Oleander Avenue - I-215 to Heacock Street	1,300	E	1,600	E	2,400	F
Markham Street - Wood Road to I-215	750	C	1,000	D	1,500	E
Cajalco Road - Wood Road to I-215	1,950	D	2,200	D	3,100	E
Wood Road - Trautwein Road to Van Buren Boulevard	750	C	850	D	700	C
Wood Road - South of Van Buren Boulevard	1,550	E	1,850	F	2,450	F
Trautwein Road - Alessandro Boulevard to Van Buren Boulevard	2,350	E	2,800	F	3,400	F
Barton Street - Van Buren Boulevard to Nandina Avenue	950	B	1,200	C	1,300	D
Alexander Street - Nandina Avenue to Cajalco Road	600	B	900	B	1,300	C
Clark Street - Nandina Avenue to Cajalco Road	450	A	600	B	1,050	C
I-215 Southbound - Alessandro Boulevard to Oleander Avenue	5,650	E	6,900	F	9,450	F
I-215 Northbound - Alessandro Boulevard to Oleander Avenue	4,850	D	6,200	F	9,000	F

I = Interstate
 LOS = level of service
 PHV = peak-hour volumes

Table 4.2-7. Peak-Hour Traffic Volumes and LOS on Key Roads - No-Action Alternative

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Roadway/Segment	2001		2006		2016	
	PHV	LOS	PHV	LOS	PHV	LOS
Elsworth Street - North of Alessandro Boulevard	600	C	700	C	1,050	D
Elsworth Street - Alessandro Boulevard to Cactus Avenue	600	A	750	A	1,200	B
Frederick Street - Alessandro Boulevard to Cactus Avenue	650	A	850	A	1,200	B
Graham Street - Alessandro Boulevard to Cactus Avenue	1,250	B	1,500	B	1,800	B
Heacock Street - Cactus Avenue to John F. Kennedy Drive	1,550	E	1,950	F	2,600	E
Heacock Street - John F. Kennedy Drive to Oleander Avenue	1,900	F	2,500	F	3,550	E
Perris Boulevard - Alessandro Boulevard to Cactus Avenue	2,650	D	2,900	D	3,300	C
Perris Boulevard - Cactus Avenue to John F. Kennedy Drive	2,700	D	3,100	D	3,800	C
Perris Boulevard - John F. Kennedy Drive to Oleander Avenue	2,300	C	2,950	D	4,300	D

LOS = level of service

PHV = peak-hour volumes

Local. Table 4.2-7 also shows reuse-generated PHVs and LOS for key local roadways. By 2016, the following roadways in the ROI would be operating at an LOS below the standards specified in the applicable general plans under the No-Action Alternative. Within the city of Moreno Valley, Alessandro Boulevard from I-215 to Perris Boulevard; Cactus Avenue from I-215 to Heacock Street; Elsworth Street north of Alessandro Boulevard; Heacock Street between Cactus and Oleander avenues; and Perris Boulevard from Alessandro Boulevard to Oleander Avenue are projected to operate at an LOS below that considered acceptable by the city's general plan. In the city of Riverside, Alessandro Boulevard west of I-215; Van Buren Boulevard; and Trautwein Road between Alessandro and Van Buren boulevards are projected to operate at an LOS below that considered acceptable by the city's general plan. In the city of Perris, Oleander Avenue is expected to operate at an LOS below that considered acceptable by the city's general plan. Within Riverside County, Nandina Avenue; Markham Street; Cajalco Road west of I-215; Wood Road south of Van Buren Boulevard; and Barton Street from Van Buren Boulevard to Nandina Avenue are projected to operate at an LOS below that considered acceptable by the county's general plan.

On-Site. Under the No-Action Alternative, existing on-base roadways would be maintained at existing levels to accommodate ongoing military activities.

Airspace/Air Traffic. The approximately 41,000 military flight operations projected under the No-Action Alternative represents 21 percent of the ASV, and is well within the capacity of the airport. No airspace impacts are anticipated under this alternative.

Air Transportation. Implementation of the No-Action Alternative is not expected to have any effects on regional air transportation.

Other Transportation Modes. Because there would be no reuse-related change in local employment or population, there would be no effects on other transportation modes.

Mitigation Measures. It is anticipated that the No-Action Alternative would result in no transportation-related environmental impacts, and, therefore, no mitigation measures are required.

4.2.3.6 Other Land Use Concepts. Transportation effects are discussed for each independent land use concept. The analysis considers the impact resulting from the implementation of these plans in conjunction with the Proposed Action or alternatives.

Stephens' Kangaroo Rat Habitat. There would be no traffic associated with this land use concept; therefore, a net reduction in total trips would occur when combined with any of the reuse alternatives, except the SKR/Cargo Alternative (see Section 2.3.5). Some of the access points proposed for each of the alternatives on West March would likely not be required, because access to SKR areas would not be necessary.

U.S. Department of Agriculture Forest Service Operations Coordination Center. The number of trips associated with this land use concept would be negligible when combined with the Proposed Action or the other reuse alternatives, and no transportation impacts are expected.

Riverside National Cemetery Expansion. No additional trips would be associated with this land use concept; therefore, no transportation impacts are expected.

Navy and Marine Corps Reserve Center. The number of trips associated with this land use concept would be negligible when combined with the Proposed Action or the other reuse alternatives, and no transportation impacts are expected.

Army and Air Force Exchange Service. The number of trips associated with this land use concept would be negligible when combined with the Proposed

Action or the other reuse alternatives, and no transportation impacts are expected.

Army Reserve. The number of trips associated with this land use concept would be negligible when combined with the Proposed Action or the other reuse alternatives, and no transportation impacts are expected.

California Army National Guard. The number of trips associated with this land use concept would be negligible when combined with the Proposed Action or the other reuse alternatives, and no transportation impacts are expected.

4.2.4 Utilities

Direct and indirect changes in future regional utility demand for the Proposed Action and alternatives were estimated by applying prerealignment per capita rates based on average daily use within the ROI for each utility. The portion of in-migration (future residents and employees associated with the Proposed Action and each of the alternatives) that is estimated to occur within each utility ROI was used for project-related per capita projections.

Table 4.2-8 shows the projected changes in utility demand at 5, 10, and 20 years after realignment. The figures shown for the No-Action Alternative generally reflect the change expected in utility usage (without reuse of the base) at March ARB on the disposal property; in the nearby communities of Moreno Valley, Perris, and Riverside; and in the unincorporated areas of western Riverside County south and west of the base. The utility estimates are based on projected changes in population. The overall population projections for each utility ROI (generally Moreno Valley, Perris, Riverside, and portions of unincorporated Riverside County) under the No-Action Alternative reflect projected average daily utility use without reuse of the disposal property. The estimates for the other alternatives reflect the total ROI demand anticipated with reuse.

Effects of reuse on utility systems were assessed by comparing projected demand under each reuse alternative to projected demand under the No-Action Alternative for each period of analysis (2001, 2006, 2016). On-site utility demands were estimated by applying use rates to appropriate units of land uses (employees, residents, square footage, etc.).

The following assumptions were made in the analysis of potential effects to on-site utilities:

- The site would be serviced by local utility providers.
- The existing distribution/collection systems would be available in their current condition for reuse.

Table 4.2-8. Projected Utility Consumption in the ROI

Alternative	2001	Percent Change ^(a)	2006	Percent Change ^(a)	2016	Percent Change ^(a)
Water Consumption (MGD)						
No-Action	109.5		124.9		163.7	
Proposed Action	110.2	0.6	126.4	1.2	166.9	2.0
SKR/Aviation	109.6	0.1	125.9	0.8	166.5	1.7
SKR/Cargo	109.5	0.0	125.6	0.6	165.4	1.0
Military Aviation	109.7	0.2	126.0	0.9	166.1	1.5
Wastewater Treatment (MGD)						
No-Action	52.5		59.8		78.0	
Proposed Action	53.0	1.0	60.7	1.5	80.0	2.6
SKR/Aviation	52.9	0.8	60.7	1.5	79.9	2.4
SKR/Cargo	52.7	0.4	60.4	1.0	79.2	1.4
Military Aviation	52.8	0.6	60.5	1.2	79.5	1.9
Solid Waste Disposal (tons/day)						
No-Action	653		764		1,037	
Proposed Action	655	0.3	768	0.5	1,044	0.7
SKR/Aviation	654	0.2	767	0.4	1,042	0.5
SKR/Cargo	653	0	766	0.3	1,040	0.3
Military Aviation	653	0	766	0.3	1,040	0.3
Electrical Consumption (MWH/day)						
No-Action	28,327		33,206		45,638	
Proposed Action	28,468	0.5	33,470	0.8	46,164	1.2
SKR/Aviation	28,424	0.3	33,396	0.6	46,018	0.8
SKR/Cargo	28,372	0.2	33,332	0.4	45,875	0.5
Military Aviation	28,395	0.2	33,348	0.4	45,928	0.6
Natural Gas Consumption (MMCF/day)						
No-Action	206.6		242.7		334.9	
Proposed Action	207.9	0.6	245.1	1.0	339.6	1.4
SKR/Aviation	207.5	0.4	244.4	0.7	338.2	1.0
SKR/Cargo	207.2	0.3	243.8	0.5	337.0	0.6
Military Aviation	207.2	0.3	243.9	0.5	337.4	0.7

Note: (a) Change from No-Action Alternative.

MGD = million gallons per day
MMCF = million cubic feet
MWH = megawatt-hours
SKR = Stephens' kangaroo rat

- The STP would continue to serve the military cantonment area, disposal property, and Air Force Village West.
- Irrigation water for the golf course and Riverside National Cemetery would continue to be provided by the effluent from the STP, supplemented as required by nonpotable water from Lake Mathews.

The major effects on utility systems in the ROI over the 20-year analysis period would be associated with baseline growth in the region. Increases in utility usage associated with reuse of the disposal property would contribute less than 3 percent of the total projected increase in ROI utility use by 2016.

4.2.4.1 Proposed Action. Table 4.2-8 summarizes the projected utility demand under the Proposed Action at 5, 10, and 20 years after realignment. In 2016, the increase in demand would range from 0.7 percent for solid waste disposal to 2.6 percent for wastewater treatment when compared to the No-Action Alternative. Projected ROI utility demands in 2016 would be greater than prerealignment (1994) demands for all utilities; however, most of the increase would be associated with regional growth (No-Action Alternative).

Water Consumption. Water consumption in the ROI would increase from the No-Action Alternative projections by 3.2 MGD, or 2 percent under the Proposed Action, increasing the total consumption in the ROI to 166.9 MGD in 2016. All communities in the ROI would experience increased water consumption. The RPU would treat an estimated 87.2 MGD, which is 12.4 percent above its prerealignment capacity. The RPU water distribution system would require additional capacity by 2006, with or without reuse of the disposal property. The EMWD's Moreno Valley and Perris distribution systems would use an estimated 72 MGD, requiring an additional capacity of approximately 1 MGD by 2016. These systems would require additional capacity by 2016 under the No-Action Alternative as well. All other systems in the region would continue to operate within capacity.

On-site water consumption would increase to approximately 3.2 MGD by 2016, an increase of 1.1 MGD over prerealignment use. Supplemental irrigation water for the golf course and Riverside National Cemetery, pumped from Lake Mathews, would be reduced to 0.2 MGD in 2006 because of increased flow from the STP. By 2016, effluent from the STP would be sufficient to meet the irrigation requirements of the golf course and cemetery, and supplemental water would not be required.

Wastewater. Wastewater flow in the ROI would increase from the No-Action Alternative projections by 2 MGD, or 2.6 percent, under the Proposed Action, increasing the total wastewater flow in the ROI to 80 MGD in 2016. All communities in the ROI would experience increased flow rates. The RPU would treat an estimated 44.3 MGD, and additional capacity would be required by 2010; additional capacity would be required by 2010 under the No-Action Alternative as well. The EMWD's Moreno Valley and Perris wastewater treatment plants would be operating at 93 percent of capacity by 2006 and would treat an estimated 34.1 MGD by 2016. Both of these wastewater treatment plants would require expanded capacity by 2008, with or without reuse of the disposal property.

On-site wastewater flow would increase to approximately 1.6 MGD by 2016. This volume represents an increase of 0.9 MGD over prerealignment conditions, and would exceed the plant's capacity of 1.2 MGD. An additional capacity of 0.4 MGD would be required by 2006. The increased wastewater flows would offset the nonpotable irrigation water requirements for the golf course and Riverside National Cemetery, as discussed under Water Consumption above. Wastewater from the groundwater treatment system would continue to be discharged to the STP to alleviate low-flow conditions. Over the long term as the STP capacity is reached, discharge from the groundwater treatment system would be released into the base storm water system.

New industrial users would be required to obtain discharge permits from the operators of the STP or municipal wastewater treatment systems. The plant operators would monitor effluent from the plants to ensure compliance with NPDES permit requirements.

Solid Waste Disposal. Solid waste generation rates in the ROI would remain relatively constant over the 20-year analysis period, with some reduction anticipated as a result of source-reduction technologies. Source-reduction, recycling, and composting activities required by the California Integrated Solid Waste Management Act of 1989 would divert 50 percent of the solid waste from disposal or transformation facilities by 2000. This would result in an increase of 7 tons per day, or 0.7 percent, of solid waste disposed over the No-Action Alternative projections. The El Sobrante and Badlands landfills are expected to be the only available landfills by 1998. Riverside County is expected to expand the permitted capacity at these landfills through the development of a regional system of waste processing facilities in order to achieve mandated diversion goals.

Energy

Electricity

By 2016, the Proposed Action would increase electrical use by 526 MWH per day, or 1.2 percent, over the No-Action Alternative, increasing the total electricity use in the ROI to 46,164 MWH per day. Consumption of electricity on site would increase from 52.8 MWH per day at realignment to 463.2 MWH per day in 2016. Electricity consumption on site as a percentage of the consumption within the ROI would increase slightly from 0.9 percent under prerealignment conditions in 1993 to 1.3 percent in 2016.

Natural Gas

The Proposed Action would increase natural gas use in the ROI to 339.6 MMCF per day by 2016. This is an increase of 4.7 MMCF per day, or 1.4 percent, over the No-Action Alternative. Consumption of natural gas on site would increase from 0.2 MMCF per day in 1996 to 4.1 MMCF per day

by 2016. Natural gas use on site as a percentage of the natural gas use within the ROI would increase slightly from 0.3 percent under prerealignment conditions in 1993 to 1.0 percent in 2016.

Mitigation Measures. No adverse environmental impacts are anticipated; therefore, no mitigation measures would be required.

4.2.4.2 SKR/Aviation Alternative. Table 4.2-8 summarizes the projected utility demand under the SKR/Aviation Alternative at 5, 10, and 20 years after realignment. In 2016, the increase in demand would range from 0.5 percent for solid waste disposal to 2.4 percent for wastewater treatment compared to the No-Action Alternative conditions. Projected utility demands in 2016 would be greater than prerealignment (1994) demands for all utilities but, as discussed for the Proposed Action, most of the increase would be the result of growth in the ROI, unrelated to reuse of disposal property.

Water Consumption. Under this alternative, water consumption in the ROI would increase from the No-Action Alternative projections by 2.8 MGD, or 1.7 percent, increasing the total consumption in the ROI to 166.5 MGD in 2016. All communities in the ROI would experience increased water consumption. The RPU would treat an estimated 87.1 MGD, which is 12.4 percent above its current capacity. Additional water distribution capacity would be required by 2006 under this alternative and under the No-Action Alternative. The EMWD's Moreno Valley and Perris distribution systems would use an estimated 71.7 MGD, requiring an additional water supply capacity of approximately 0.7 MGD by 2016. These systems would require additional capacity by 2016 under the No-Action Alternative as well. All other systems in the region would continue to operate within capacity.

Under this alternative, on-site water consumption would increase to approximately 3.2 MGD by 2016, an increase of 1.1 MGD over prerealignment use. Supplemental irrigation water for the golf course and Riverside National Cemetery, pumped from Lake Mathews, would be reduced to 0.2 MGD in 2006 because of increased flow from the STP. By 2016, effluent from the STP would be sufficient to meet the irrigation requirements of the golf course and cemetery, and supplemental water from other sources would not be required.

Wastewater. Under the SKR/Aviation Alternative, wastewater flow in the ROI would increase from the No-Action Alternative projections by 1.9 MGD, or 2.4 percent, increasing the total wastewater flow in the ROI to 79.9 MGD in 2016. All communities in the ROI would experience increased flow rates. The RPU would treat an estimated 44.3 MGD, which is approximately 4.3 MGD above the plant's capacity. Additional wastewater treatment capacity would be required by 2010, with or without reuse of the disposal property. The EMWD's Moreno Valley and Perris wastewater treatment plants would be operating at 93 percent of capacity by 2006 and would treat an estimated 33.9 MGD by 2016, approximately 8.9 MGD higher than

their combined capacity. Additional wastewater treatment capacity would be required for the Moreno Valley and Perris treatment plants by 2008, under this alternative and under the No-Action Alternative.

On-site wastewater flow would increase to approximately 1.7 MGD by 2016. This is an increase of 1.0 MGD over prerealignment, and would exceed the plant's capacity of 1.2 MGD. An additional 0.5 MGD of capacity would be required by 2009. The increased wastewater flows would offset the nonpotable irrigation water requirements for the golf course and cemetery, as discussed under Water Consumption above. Wastewater from the groundwater treatment system would continue to be discharged to the STP to alleviate low-flow conditions. Over the long term as the STP capacity is reached, discharge from the groundwater treatment system would be released into the base storm water system.

New industrial users would be required to obtain discharge permits from the operators of the STP or municipal wastewater treatment systems. The plant operators would monitor effluent from the plants to ensure compliance with NPDES permit requirements.

Solid Waste Disposal. Solid waste generation rates in the ROI would remain relatively constant over the 20-year analysis period, with some reduction anticipated as a result of source-reduction technologies. Source-reduction, recycling, and composting activities required by the California Integrated Solid Waste Management Act of 1989 are expected to divert 50 percent of the solid waste from disposal or transformation facilities by 2000. This would result in an increase of 5 tons per day, or 0.5 percent, in solid waste disposal over No-Action Alternative conditions. As discussed under the Proposed Action, the El Sobrante and Badlands landfills would require additional permitted capacity, which is expected to be made available through the development of regional facilities for solid waste processing.

Energy

Electricity

By 2016, the SKR/Aviation Alternative would increase electricity use by 380 MWH per day, or 0.8 percent, over the No-Action Alternative, increasing the total electricity use in the ROI to 46,018 MWH per day. Consumption of electricity on site would increase from 52.8 MWH per day at realignment to 353.3 MWH per day in 2016. Electricity consumption on site in 2016 as a percentage of the electricity consumption within the ROI would be the same as under prerealignment conditions in 1993, or approximately 0.9 percent.

Natural Gas

The SKR/Aviation Alternative would increase natural gas use in the ROI to 338.2 MMCF per day by 2016. This is an increase of 3.3 MMCF per day, or 1 percent, over the No-Action Alternative. Consumption of natural gas on site would increase from 0.2 MMCF per day in 1996 to 3.0 MMCF per day by 2016. Natural gas use on site as a percentage of the natural gas use within the ROI would increase from 0.3 percent under prerealignment conditions in 1993 to 0.9 percent in 2016.

Mitigation Measures. No adverse environmental impacts are anticipated; therefore, no mitigation measures would be required.

4.2.4.3 SKR/Cargo Alternative. Table 4.2-8 summarizes the projected utility demand under the SKR/Cargo Alternative at 5, 10, and 20 years after realignment. In 2016, the increase in demand would range from 0.3 percent for solid waste disposal to 1.4 percent for wastewater treatment when compared to the No-Action Alternative. Projected ROI utility demands in 2016 would be greater than prerealignment (1994) demands for all utilities; but, as discussed for the Proposed Action, most of the increase would be the result of growth in the ROI, unrelated to reuse of disposal property.

Water Consumption. Under the SKR/Cargo Alternative, water consumption in the ROI would increase from the No-Action Alternative projections by 1.7 MGD, or 1.0 percent, increasing the total consumption in the ROI to 165.4 MGD in 2016. All communities in the ROI would experience increased water consumption. The RPU would treat an estimated 87.1 MGD, which is 12.4 percent above its prerealignment capacity. Additional water distribution system capacity would be required by 2006, with or without reuse of the disposal property. The EMWD's Moreno Valley and Perris distribution systems would use an estimated 71.4 MGD, requiring an additional capacity of approximately 0.4 MGD by 2016. These systems would require additional capacity by 2016 under the No-Action Alternative as well. All other systems in the region would continue to operate within capacity.

On-site water consumption would increase to approximately 2.4 MGD by 2016, an increase of 0.3 MGD over prerealignment use. By 2016, effluent from the STP would be sufficient to meet the irrigation requirements of the golf course and cemetery, and supplemental water would not be required.

Wastewater. Wastewater flow in the ROI would increase from the No-Action Alternative projections by 1.2 MGD, or 1.4 percent, under the SKR/Cargo Alternative, increasing the total wastewater flow in the ROI to 79.2 MGD in 2016. All communities in the ROI would experience increased flow rates. The RPU would treat an estimated 44.2 MGD and would require additional capacity by 2010, under this alternative and under the No-Action Alternative. The EMWD's Moreno Valley and Perris wastewater treatment

plants would be operating at 93 percent of capacity by 2006 and would treat an estimated 33.8 MGD by 2016. These plants would require approximately 8.8 MGD of additional capacity by 2016, with or without reuse of disposal property.

On-site wastewater flow would increase to approximately 1.1 MGD by 2016. This volume represents an increase of 0.4 MGD over prerealignment conditions; however, it would remain within the plant's prerealignment capacity of 1.2 MGD. The increased wastewater flows would offset the nonpotable irrigation water requirements for the golf course and Riverside National Cemetery, as discussed in the Water Consumption section, above. Wastewater from the groundwater treatment system would continue to be discharged to the STP to alleviate low-flow conditions. Over the long term as the STP capacity is reached, discharge from the groundwater treatment system would be released into the base storm water system.

New industrial users would be required to obtain discharge permits from the operators of the STP or municipal wastewater treatment systems. The plant operators would monitor effluent from the plants to ensure compliance with NPDES permit requirements.

Solid Waste Disposal. Solid waste generation rates in the ROI would remain relatively constant over the 20-year analysis period, with some reduction anticipated as a result of source-reduction technologies. Source-reduction, recycling, and composting activities required by the California Integrated Solid Waste Management Act of 1989 would divert 50 percent of the solid waste from disposal or transformation facilities by 2000. This would result in an increase of 3 tons per day, or 0.3 percent, of solid waste disposed over the No-Action Alternative projections. The El Sobrante and Badlands landfills are expected to be the only available landfills by 1998. Additional permitted capacity at these landfills is expected to be made available through the development of regional facilities for solid waste processing.

Energy

Electricity

By 2016, the SKR/Cargo Alternative would increase electrical use by 237 MWH per day, or 0.5 percent, over the No-Action Alternative, increasing the total electrical use in the ROI to 45,875 MWH per day. Consumption of electricity on site would increase from 52.8 MWH per day at realignment to 245.2 MWH per day in 2016. Electricity consumption on site as a percentage of the electricity consumption within the ROI would decrease slightly from 0.9 percent under prerealignment conditions in 1993 to 0.6 percent in 2016.

Natural Gas

The SKR/Cargo Alternative would increase natural gas use in the ROI to 337 MMCF per day by 2016. This is an increase of 2.1 MMCF per day, or 0.6 percent, over the No-Action Alternative. Consumption of natural gas on site would increase from 0.2 MMCF per day in 1996 to 2.0 MMCF per day by 2016. Natural gas use on site as a percentage of the natural gas use within the ROI would increase slightly from 0.3 percent under prerealignment conditions to 0.6 percent in 2016.

Mitigation Measures. No adverse environmental impacts are anticipated; therefore, no mitigation measures would be required.

4.2.4.4 Military Aviation Alternative. Table 4.2-8 summarizes the projected utility demand under the Military Aviation Alternative at 5, 10, and 20 years after realignment. In 2016, the increase in demand would range from 0.3 percent for solid waste disposal to 1.9 percent for wastewater treatment when compared to the No-Action Alternative. Projected utility demands in 2016 would be greater than prerealignment (1994) demands for all utilities; but, as discussed for the Proposed Action, most of the increase would be the result of growth in the ROI, unrelated to reuse of disposal property.

Water Consumption. Water consumption in the ROI would increase from the No-Action Alternative projections by 2.4 MGD, or 1.5 percent, under the Military Aviation Alternative, increasing the total consumption in the ROI to 166.1 MGD in 2016. All communities in the ROI would experience increased water consumption. The RPU would treat an estimated 87.1 MGD, which is 12.4 percent above its prerealignment capacity. Additional water supply capacity would be required by 2006, with or without reuse of the disposal property. The EMWD's Moreno Valley and Perris distribution systems would use an estimated 71.5 MGD, requiring an additional capacity of approximately 0.5 MGD by 2016. These systems would require additional capacity by 2016 under the No-Action Alternative as well. All other systems in the region would continue to operate within capacity.

On-site water consumption would increase to approximately 3.1 MGD by 2016, an increase of 1.0 MGD over prerealignment use. Supplemental irrigation water for the golf course and Riverside National Cemetery, pumped from Lake Mathews, would be reduced to 0.3 MGD in 2006 because of increased flow from the STP. By 2016, effluent from the base STP would be sufficient to meet the irrigation requirements of the golf course and cemetery, and supplemental water would not be required.

Wastewater. Wastewater flow in the ROI would increase from the No-Action Alternative projections by 1.5 MGD, or 1.9 percent, under the Military Aviation Alternative, increasing the total wastewater flow in the ROI to 79.5 MGD in 2016. All communities in the ROI would experience

increased flow rates. The RPU would treat an estimated 44.2 MGD, and additional wastewater treatment capacity would be required by 2010, under this alternative and under the No-Action Alternative. The EMWD's Moreno Valley and Perris wastewater treatment plants would operate at 92 percent of capacity by 2006 and would treat an estimated 33.8 MGD by 2016. These plants would require approximately 8.8 MGD of additional wastewater treatment capacity by 2016. Even without reuse, these plants would require additional capacity by 2016.

On-site wastewater flow would increase to approximately 1.5 MGD by 2016. This volume represents an increase of 0.8 MGD over prerealignment conditions, and would exceed the plant's capacity of 1.2 MGD. An additional capacity of 0.3 MGD would be required by 2012. The increased wastewater flow would offset the nonpotable irrigation water requirements for the golf course and Riverside National Cemetery, as discussed under Water Consumption above. Wastewater from the groundwater treatment system would continue to be discharged to the STP to alleviate low-flow conditions. Over the long term as the STP capacity is reached, discharge from the groundwater treatment system would be released into the base storm water system.

New industrial users would be required to obtain discharge permits from the operators of the STP or municipal wastewater treatment systems. The plant operators would monitor effluent from the plants to ensure compliance with NPDES permit requirements.

Solid Waste Disposal. Solid waste generation rates in the ROI would remain relatively constant over the 20-year analysis period, with some reduction anticipated as a result of source-reduction technologies. Source-reduction, recycling, and composting activities required by the California Integrated Solid Waste Management Act of 1989 would divert 50 percent of the solid waste from disposal or transformation facilities by 2000. This would result in an increase of 3 tons per day, or 0.3 percent, of solid waste disposal over the No-Action Alternative projections. The El Sobrante and Badlands landfills are expected to be the only available landfills by 1998. Additional permitted capacity at these landfills is expected to be made available through the development of regional facilities for solid waste processing.

Energy

Electricity

By 2016, the Military Aviation Alternative would increase electricity use by 290 MWH per day, or 0.6 percent, over the No-Action Alternative, increasing the total electrical use in the ROI to 45,928 MWH per day. Consumption of electricity on site would increase from 52.8 MWH per day at realignment to 292 MWH per day in 2016. Electricity consumption on site as a percentage of the electricity consumption within the ROI would

decrease slightly from 0.9 percent under prerealignment conditions in 1993 to 0.7 percent in 2016.

Natural Gas

The Military Aviation Alternative would increase natural gas use in the ROI to 337.4 MMCF per day by 2016. This is an increase of 2.5 MMCF per day, or 0.7 percent, over the No-Action Alternative. Consumption of natural gas on site would increase from 0.2 MMCF per day in 1996 to 2.3 MMCF per day by 2016. Natural gas use on site as a percentage of the natural gas use within the ROI would increase slightly from 0.3 percent under prerealignment conditions to 0.7 percent in 2016.

Mitigation Measures. No adverse environmental impacts are anticipated; therefore, no mitigation measures would be required.

4.2.4.5 No-Action Alternative. Table 4.2-8 summarizes the projected utility demand under the No-Action Alternative at 5, 10, and 20 years after realignment. In 2016, the increase in demand would range from 2 percent for solid waste disposal to 121 percent for natural gas consumption, compared to prerealignment (1994) conditions. Projected utility demands in 2016 would be greater than 1994 demands for all utilities.

Water Consumption. Water consumption in the ROI would increase from the prerealignment baseline by 74.6 MGD, or 84 percent, under the No-Action Alternative, increasing the total consumption in the ROI to 163.7 MGD in 2016. All of the communities in the ROI would experience increased water consumption. The RPU would use an estimated 86.9 MGD, which is 12 percent above its capacity. Additional water supply capacity would be required by 2006. The EMWD's Moreno Valley and Perris distribution systems would use an estimated 71.1 MGD, and would require approximately 0.1 MGD of additional capacity by 2016. All other systems in the region would operate within capacity.

Water consumption on March ARB would decrease to approximately 1.2 MGD. This includes approximately 0.9 MGD in irrigation water required to supplement wastewater effluent from the STP for the golf course and Riverside National Cemetery.

Wastewater. Wastewater flow in the ROI would increase from 1994 by 34.8 MGD, or 85 percent, under the No-Action Alternative, increasing the total wastewater flow in the ROI to 78 MGD in 2016. All communities in the ROI would experience increased flow rates. The RPU would treat an estimated 44.2 MGD, and would require additional wastewater treatment plant capacity by 2010. The EMWD's Moreno Valley and Perris wastewater treatment plants would be operating at 93 percent of capacity by 2006 and would treat an estimated 33.6 MGD by 2016, which is approximately

8.6 MGD higher than their combined capacity. These plants would require additional wastewater treatment capacity by 2008.

Wastewater flow on March ARB would decrease to approximately 0.2 MGD. The decreased wastewater flow would require an additional 0.4 MGD of nonpotable irrigation water over that provided prior to realignment to meet requirements for the golf course and Riverside National Cemetery.

Wastewater from the groundwater treatment system would continue to be discharged to the STP to alleviate low-flow conditions.

Solid Waste Disposal. Solid waste generation rates in the ROI would remain relatively constant over the 20-year analysis period, with some reduction anticipated as a result of source-reduction technologies. Source-reduction, recycling, and composting activities required by the California Integrated Solid Waste Management Act of 1989 are expected to divert 50 percent of the solid waste from disposal or transformation facilities by 2000. By 2016, it is projected that 953 tons per day of solid waste would be deposited in landfills in the ROI, a reduction of 2 percent from the 1994 figure of 1,025 tons per day. By 1998, only the El Sobrante and Badlands landfills would be serving the ROI. Additional permitted capacity at the El Sobrante and Badlands landfills is expected to be made available to meet disposal requirements through 2016.

Energy

Electricity

By 2016, use of electricity in the ROI would increase by 24,593 MWH per day, or 116 percent, from 1994 ROI consumption. Total use of electricity in the ROI would be 45,638 MWH per day. Consumption of electricity on base would decrease from 183 MWH per day in 1993 to 52.9 MWH per day. Electricity consumption on base as a percentage of the electricity consumption within the ROI would decrease from 0.9 percent under prerealignment conditions in 1993 to 0.1 percent in 2016.

Natural Gas

Under the No-Action Alternative, natural gas use in the ROI would increase to 334.9 MMCF per day by 2016. This is an increase of 183.1 MMCF per day, or 121 percent, over the prerealignment (1994) baseline. Consumption of natural gas on base would decrease from 0.53 MMCF per day in 1993 to 0.2 MMCF per day by 2016. Natural gas use on base as a percentage of the natural gas use within the ROI would decrease slightly from 0.3 under prerealignment conditions percent in 1993 to 0.1 percent in 2016.

Mitigation Measures. No adverse environmental impacts are anticipated; therefore, no mitigation measures would be required.

4.2.4.6 Other Land Use Concepts. Estimated changes in utility demand for each independent land use concept, and resulting net changes in utility demand in combination with the Proposed Action and alternatives, are discussed below.

Stephens' Kangaroo Rat Habitat. There would be no utility usage associated with this land use concept. Utility usage would decrease because less development would occur on West March; therefore, no impacts are expected.

U.S. Department of Agriculture Forest Service Operations Coordination Center. In combination with the Proposed Action or other reuse alternatives, the utility usage associated with this land use concept would be negligible, and no impacts are anticipated.

Riverside National Cemetery Expansion. In combination with the Proposed Action or other reuse alternatives, the utility usage associated with this land use concept would be negligible, and no impacts are anticipated.

Navy and Marine Corps Reserve Center. In combination with the Proposed Action or other reuse alternatives, the utility usage associated with this land use concept would be negligible, and no impacts are anticipated.

Army and Air Force Exchange Service. In combination with the Proposed Action or other reuse alternatives, the utility usage associated with this land use concept would be negligible, and no impacts are anticipated.

Army Reserve. In combination with the Proposed Action or other reuse alternatives, the utility usage associated with this land use concept would be negligible, and no impacts are anticipated.

California Army National Guard. In combination with the Proposed Action or other reuse alternatives, the utility usage associated with this land use concept would be negligible, and no impacts are anticipated.

4.3 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

This section addresses the potential impacts of existing contaminated sites on the various reuse options, and the potential for environmental impacts caused by hazardous materials/waste management practices associated with the reuse alternatives. Hazardous materials/waste, IRP sites, storage tanks, asbestos, pesticides, PCBs, radon, medical/biohazardous waste, ordnance, and lead-based paint will be discussed within this section.

The Air Force is committed to the remediation, as necessary, of all contamination on March AFB property resulting from Air Force activities. Delays or restrictions in disposal and reuse of property may occur due to the extent of contamination and the results of both the risk assessment and

remedial designs determined for contaminated sites. Examples of conditions resulting in land use restrictions would be the capping of landfills, constraints from methane generation and capped integrity, and the location of long-term monitoring wells. These conditions would have to be considered in the layout of future development. Options to recipients include creation of parks, greenbelts, or open spaces over these areas.

Regulatory standards and guidelines have been applied to determine the impacts that would be caused by the presence of hazardous materials/waste. The following criteria were used to identify potential impacts:

- Accidental release of friable asbestos during the demolition or modification of a structure
- Generation of 100 kilograms (or more) of hazardous waste or 1 kilogram (or more) of an acutely (California Health and Safety Code Chapter 6.95, Section 25532) hazardous waste in a calendar month, resulting in increased regulatory requirements
- New operational requirements or service for all UST and tank systems
- Any spill or release of a reportable quantity of a hazardous material
- Manufacturing of any compound that requires notifying the pertinent regulatory agency
- Exposure of the environment or public to any hazardous material through release or disposal practices.

4.3.1 Proposed Action

4.3.1.1 Hazardous Materials Management. The hazardous materials likely to be used for activities occupying the proposed land use areas are identified in Table 4.3-1. The types of hazardous materials used would be similar to those used prior to and at realignment. The quantity of hazardous materials used under the Proposed Action would increase over realignment conditions due to the establishment of civilian aviation support activities, and industrial, business park, institutional (medical), and commercial land uses. The specific chemical compositions and exact use rates associated with proposed reuse activities are not known.

With implementation of the Proposed Action, separate organizations would be responsible for the management of hazardous materials on disposal property according to the applicable regulations. Each organization would have to comply with EPCRA, which requires that local communities be

Table 4.3-1. Hazardous Material Usage - Proposed Action

Land Use	Operation Process	Hazardous Materials
Aviation support	Operations associated with aircraft maintenance, air transportation-related industry and warehousing, administrative offices, fire station	Corrosives, cyanides, degreasers, fuels, glycols, heating oils, heavy metals, hydraulic fluids, ignitibles, paints, pesticides, POL, reactives, solvents, thinners
Industrial	Activities associated with light industry and manufacturing, research and development, warehousing, corporate offices	Aerosols, catalysts, corrosives, fuels, heavy metals, heating oils, ignitibles, pesticides, POL, solvents
Business Park	Activities associated with administrative, financial, service, government, community service uses	Aerosols, cleaners, corrosives, fuels, heating oils, household chemicals, ignitibles, paints, pesticides, POL, solvents, thinners
Institutional (medical)	Hospital/clinic, hospital administration, X-ray unit	Heavy metals, household chemicals, pesticides, pharmaceuticals, radiological sources
Commercial	Activities associated with offices, warehousing, retail, service industries, restaurants	Aerosols, cleaners, corrosives, fuels, heating oils, household chemicals, ignitibles, paints, pesticides, POL, solvents, thinners
Mixed Use	Activities associated with offices, retail, and service industries	Aerosols, cleaners, corrosives, fuels, heating oils, household chemicals, ignitibles, paints, pesticides, POL, solvents, thinners
Residential	Utilization/maintenance of residential units, swimming pools, landscaping	Chlorine, fertilizers, fuels, household chemicals, oils, pesticides
Public facilities/recreation	Maintenance of existing recreational facilities, including swimming pools, small arms range, and other recreational facilities	Aerosols, chlorine, cleaners, fertilizers, fuels, heating oils, paints, pesticides, POL, solvents, thinners
Retained military cantonment ^(a)	Airfield and airfield support; aircraft refueling and maintenance; utilization of clear zones, runways, and taxiways; aircraft parking; light industrial; munitions storage; administrative offices; security; medical/dental clinic	Aviation fuels, corrosives, degreasers, glycols, heating oils, heavy metals, hydraulic fluids, ignitibles, ordnance, paints, pesticides, POL, solvents, thinners, pharmaceuticals, radiological sources

Note (a) Similar to realignment baseline.
POL = petroleum, oil, and lubricants

informed of the use of hazardous materials. Hazardous materials management in the workplace would be regulated under OSHA (Title 29 CFR 1910.1200).

A cooperative planning body for hazardous materials and hazardous waste management could be established with the support of the new individual reuse operators on the disposal property. Establishment of such a body could reduce the costs of environmental compliance training, health and safety training, and waste management, and could increase recycling, minimize waste, and assist in mutual aid spill responses. Implementation of such a planning body would be the responsibility of all property recipients (i.e., individual owners/operators).

Activities associated with the military cantonment would continue to require use of similar types and quantities of hazardous materials as under the realignment conditions. The hazardous materials pharmacy would continue to operate at Building 2310. Management of hazardous materials by the Air Force under the Proposed Action would be the same as discussed under the realignment baseline, and compliance with applicable regulations would reduce the potential for impacts. A spill prevention and response plan will be prepared for March ARB operations.

4.3.1.2 Hazardous Waste Management. Under the Proposed Action, hazardous wastes generated would consist of waste fuels, POL; solvents; paints; thinners; heavy metals; and batteries. These wastes would be generated from the hazardous materials and the processes which utilize those materials and would be implemented under this reuse proposal.

Recipients of disposal property would be required to coordinate disposal of their own hazardous wastes. Once the responsibilities of hazardous waste management are allocated to individual organizations, proficiency with those materials and spill responses is required by federal, state, and local regulations. Mutual aid agreements with surrounding communities may require additional scrutiny and training of emergency staff.

The presence of numerous independent owners/operators on disposal property would change the regulatory requirements and could increase the regulatory burden relative to hazardous waste management. Activities associated with the Proposed Action would lead to an increase in the amount of hazardous waste generated compared to the realignment baseline. However, hazardous waste management by all independent owners/operators in accordance with applicable regulations would preclude any unacceptable impacts. In addition, each owner/operator would be required to obtain the appropriate permits for generation and disposal of hazardous waste.

The scheduling of collection days for household products, such as paints, pesticides, and cleaners, on disposal property could reduce the potential for

discharge of such materials to publicly owned treatment works and storm water systems. Articles in the local newspapers and classes offered by community educational groups could increase public awareness of recycling, appropriate use of pesticides, waste minimization, and waste disposal. Proper collection and disposal of household products would reduce the amount of hazardous substances released to the environment via domestic landfills, storm water systems, or other illicit means. Implementation of disposal of these substances as regulated hazardous waste would be the responsibility of the state or county. Recycling household waste by the property recipients could follow the recommendations of the Hazardous Waste Reduction and Management Review Act of 1989.

The military cantonment activities would continue to generate similar types and quantities of hazardous waste as those generated under realignment conditions. Disposal of this waste would continue to be coordinated through the DRMO. Management of hazardous waste by the Air Force under the Proposed Action would be the same as discussed under the realignment baseline, and compliance with applicable regulations would reduce the potential for impacts. A pollution prevention plan will be prepared for March ARB operations, in accordance with AFI 32-7080, Pollution Prevention Program.

4.3.1.3 Installation Restoration Program Sites. The Air Force is responsible for remediation of all IRP sites on March AFB property, and is committed to continue IRP activities at the base under DERP, CERCLA, and the FFA. The OL will continue to coordinate and manage these activities on disposal property, and AFRES will assume responsibility for IRP site remediation within the cantonment. Establishment of the RAB assures interaction among the local community, the Air Force, and the regulators. The public may also obtain information on the IRP through the Information Repository located at the on-base Environmental Management Flight office and in the Moreno Valley library. Remediation of IRP Site 43 by Caltrans would continue in accordance with all applicable regulations, as required in the MOA between the Air Force and Caltrans. If it is determined that any of the PRL sites require remediation, it would be conducted under the IRP.

The type of development that is appropriate for property adjacent to or over an IRP site may be limited by the risk to human health and the environment posed by contaminants at the site. For example, residential development over an IRP site is generally not appropriate. The risk posed by IRP sites is measured by a risk assessment that analyzes the types of substances present at a site and the potential means by which the public and the environment may be exposed to them. The ROD, or approach for remediating the IRP site, considers the results of the risk assessment and the geographical extent of the contamination. As discussed in Section 3.3.3, the IRP is an ongoing process, and the status of IRP sites as of January 1996 is provided within Appendix D. The ROD for these sites has not yet been finalized and approved. Regulatory review for the ROD of the IRP sites

would identify current monitoring well locations and future land use limitations associated with IRP sites. Property recipients would be notified concerning the construction and locations of any additional monitoring wells.

The IRP sites within land use areas are depicted in Figure 4.3-1 for the Proposed Action. Table 4.3-2 provides a summary of IRP sites within each proposed land use area. A more detailed description of these sites is presented in Appendix D. Disposal and reuse of some properties may be delayed or limited by the extent and type of contamination at IRP sites and by current and future IRP remediation activities. Based on the results of IRP investigations and the remedial actions decided upon, the Air Force may place limits on reuse through deed restrictions on conveyances and use restrictions on leases. The Air Force may also retain right of access to other properties to inspect monitoring wells or conduct other remedial activities. As addressed in Section 3.3.3, Installation Restoration Program Sites, the Air Force will comply with provisions of CERCLA Section 120(h) prior to transfer of base property.

Table 4.3-2. IRP Sites within Land Use Areas - Proposed Action

Proposed Land Use	IRP Sites
Aviation support	7, 38, and groundwater contamination plume
Industrial	19, 24, 30, and 43
Business park	3, 25a, 25b, 42, a portion of Site 12, and groundwater contamination plume
Institutional (medical)	None
Commercial	35a, 35b, and portions of Sites 4 and 40
Mixed use	17, a portion of Site 12, and groundwater contamination plume
Residential	Portions of Sites 6a and 6b
Public facilities/recreation	26a, and portions of Sites 4, 6a, 6b, and 22, and groundwater contamination plume
Retained military cantonment	1, 2, 5, 8, 9, 10, 11, 13, 14, 15, 16, 18, 27, 29, 31, 33, 34, 35c, 36, 37, 39, a portion of Site 22, and groundwater contamination plume

IRP = Installation Restoration Program

All of the IRP sites may not need to be remediated; however, all of them must be addressed and properly closed out. A proactive land use planning approach to reuse would require coordination and enforcement among the OL, the RAB, and the JPA in order to reduce potential delays in reuse or redevelopment on disposal property. Land use impacts could be mitigated by implementing a phased construction schedule. Such an approach would allow redevelopment to begin in areas without IRP sites; areas with IRP sites would be developed in a later project phase. Phased redevelopment would allow for IRP site remediation with minimal impacts to redevelopment. Redevelopment could be coordinated between the OL and the JPA in order



EXPLANATION

- ① Airfield*
- ② Aviation Support
- ③ Industrial
- ③ Business Park
- ④ Institutional (Medical)

- ⑤ Institutional (Educational)*
- ⑥ Commercial
- ⑥ Mixed Use
- ⑦ Residential
- ⑧ Public Facilities/ Recreation
- ⑨ Agriculture*
- ⑩ Vacant Land *

- ⑪ Primary Cantonment
- ⑪ Secondary Cantonment
- ⑫ SKR Conservation*
- 1995 Base Boundary
- Unpaved Road
- IRP Sites
- Plume

IRP Sites - Proposed Action

Figure 4.3-1

*Standard land use designation not applicable to this figure.

to identify existing and future locations of groundwater monitoring wells. This would allow for coordinating right-of-access or establishing easements, as well as preventing redevelopment conflicts with existing monitoring wells.

Mitigation measures implemented during construction activities could prevent impacts to nearby IRP sites. For example, excessive surface water runoff as a result of construction activities may degrade a landfill cap or erode and transport (spread) contaminated soils. In addition, with appropriate planning, areas of restricted land use at IRP sites could be incorporated into the redevelopment plans as greenbelts, parks, or landscaped open spaces.

Figure 4.3-1 and Table 4.3-2 present the IRP sites within the retained military cantonment area under the Proposed Action. In addition, a portion of the groundwater contamination plume underlies the military cantonment. Remediation and long-term monitoring associated with these sites would be the responsibility of the AFRES, and should not result in long-term impacts to military cantonment activities. Minor disruptions to daily activities could occur (e.g., short-term interruptions of activities to conduct monitoring). No land use restrictions would occur, since the property within the retained military cantonment land use category would remain under DOD/Air Force ownership.

4.3.1.4 Storage Tanks. Reuses under the Proposed Action would require both aboveground tanks and USTs. Reused and new tanks required by the recipients of disposal property would be subject to all applicable federal, state, and local regulations. These regulations include providing acceptable leak detection methodologies, spill and overfill protection, cathodic protection, secondary containment for the tank systems including the piping, and liability insurance. Existing USTs that do not meet current regulations and have not been identified for reuse will be deactivated and removed. Aboveground storage tanks on disposal property will be purged at realignment to minimize fire hazards. Existing oil/water separators on disposal property that are not identified for reuse will be pumped and cleaned of any contents in accordance with applicable regulations. Management of these systems in accordance with all applicable regulations would minimize the potential for impacts.

Flight operations and maintenance activities within the retained military cantonment will continue to require the use of USTs, aboveground storage tanks, and oil/water separators. The AFRES and tenant organizations will be responsible for adhering to all applicable federal, state, and local regulations regarding proper use and maintenance of these systems, and no impacts are anticipated.

The Bulk Fuels Storage Area and the two hydrant fuel systems will remain in operation and will be maintained by the AFRES, which will be responsible for proper management of these systems and storage tanks. No impacts are anticipated with proper management under this alternative.

4.3.1.5 Asbestos. Renovation and demolition of existing structures with ACM would be subject to all applicable federal, state, and local regulations to minimize potential risks to health and the environment. Management of ACM on disposal property would be the responsibility of the new owner.

AFRES and other tenant organizations will be responsible for the management of ACM in the retained military cantonment, in accordance with Air Force policy and federal regulations, and no impacts are anticipated.

4.3.1.6 Pesticide Usage. Pesticide usage associated with the Proposed Action would increase from amounts used under realignment baseline conditions because of the increase in landscaping associated with commercial, business park, industrial, and public facilities/recreation land uses on disposal property. Pesticides would continue to be used in the military cantonment to maintain the airfield and other military-related facilities. Management practices would be subject to FIFRA and state guidelines; therefore, no impacts are anticipated.

4.3.1.7 Polychlorinated Biphenyls. All federally and state-regulated PCBs were either removed and properly disposed of prior to realignment, or were below federal and state action levels.

4.3.1.8 Radon. All sample results from a radon screening survey at March AFB were below the U.S. EPA's recommended mitigation level of 4 pCi/l. A detailed assessment is, therefore, not required and mitigation activities are not necessary.

4.3.1.9 Medical/Biohazardous Waste. Under the Proposed Action, the hospital and dental clinic would be reused for similar medical purposes. Waste generated from these activities would be managed in accordance with applicable regulations, and no impacts are anticipated.

Activities within the medical clinic in Building 2300 would generate small quantities of medical and photochemical waste. The quantity of waste generated would be significantly less than at realignment. AFRES and CAANG will manage waste generated from these activities in accordance with applicable regulations, and no impacts are anticipated.

4.3.1.10 Ordnance. Use of ordnance would decrease from that used under prerealignment conditions. Operation of the CAANG munitions igloos within the retained military cantonment would be conducted in accordance with Air Force Manual (AFM) 91-201, Explosive Safety Standards, and no impacts are anticipated. Prior to disposal of the small arms range, soils will have been treated to reduce lead levels to concentrations below the STLC. Continued use of the small arms range under civilian management could result in accumulation of lead in the soil at the range. Appropriate maintenance, including periodic removal of spent bullets, would minimize the potential for environmental impacts. The abandoned skeet range will be

evaluated by the Air Force, and if required, cleared of any residual lead contamination.

4.3.1.11 Lead-Based Paint. Reuse development proposals may involve the demolition or renovation of existing structures that may contain lead-based paint. Compliance with applicable federal, state, and local regulations would minimize potential risks to human health and the environment due to abatement of lead-based paint. Property recipients would be provided results of lead-based paint surveys, if applicable, or notified of the potential of lead-based paint in high-priority facilities constructed before or during 1978, prior to property disposal.

AFRES and tenant organizations will be responsible for the management of structures within the retained military cantonment containing lead-based paint in accordance with Air Force policy and federal regulations, and no impacts are anticipated.

4.3.1.12 Mitigation Measures. Because all users would be required to comply with applicable federal, state, and local regulations regarding use, storage, and handling of hazardous substances, these activities would not result in substantial environmental impacts, and no mitigations would be required.

4.3.2 SKR/Aviation Alternative

4.3.2.1 Hazardous Materials Management. The types of hazardous materials used under the SKR/Aviation Alternative (Table 4.3-3) would be similar to those used under the Proposed Action. The quantity of hazardous materials used under this alternative would increase over baseline conditions due to the establishment of civilian aviation support activities, and industrial, business park, institutional (medical), and commercial land uses, and could continue to increase with time over quantities used under the Proposed Action because more aircraft operations are proposed.

The specific chemical compositions and exact use rates associated with proposed reuse activities are not known. Management of hazardous materials would be the same as discussed under the Proposed Action, and no impacts are anticipated.

Activities within the military cantonment would continue to require use of hazardous materials. Management of hazardous materials within the military cantonment would be the same as discussed under the Proposed Action, and no impacts are expected.

4.3.2.2 Hazardous Waste Management. Hazardous wastes generated under the SKR/Aviation Alternative would be similar to those generated under the Proposed Action. These wastes would be generated from the hazardous materials and the processes that utilize those materials and would be implemented under this reuse proposal. Quantities of waste would be

Table 4.3-3. Hazardous Material Usage - SKR/Aviation Alternative

Land Use	Operation Process	Hazardous Materials
Aviation support	Operations associated with aircraft maintenance, air transportation-related industry and warehousing, administrative offices, fire station	Corrosives, cyanides, degreasers, fuels, glycols, heating oils, heavy metals, hydraulic fluids, ignitibles, paints, pesticides, POL, reactives, solvents, thinners
Industrial	Activities associated with light industry and manufacturing, research and development, warehousing, corporate offices	Aerosols, catalysts, corrosives, fuels, heating oils, heavy metals, ignitibles, pesticides, POL, solvents
Institutional (medical)	Hospital/clinic, hospital administration; rehabilitation facilities; X-ray unit; patient, family, and staff housing	Heavy metals, household chemicals, pesticides, pharmaceuticals, radiological sources
Commercial	Activities associated with offices, warehousing, retail, service industries, restaurants	Aerosols, cleaners, corrosives, fuels, heating oils, household chemicals, ignitibles, paints, pesticides, POL, solvents, thinners
Mixed use	Activities associated with offices, retail, and service industries	Aerosols, cleaners, corrosives, fuels, heating oils, household chemicals, ignitibles, paints, pesticides, POL, solvents, thinners
Residential	Utilization/maintenance of residential units, swimming pools, landscaping	Chlorine, fertilizers, fuels, household chemicals, oils, pesticides
Public facilities/ recreation	Maintenance of existing recreational facilities, including aircraft museum, sports complex, swimming pools, small arms range, and other recreational facilities	Aerosols, chlorine, cleaners, fertilizers, fuels, heating oils, paints, pesticides, POL, solvents, thinners
Agriculture	Weed and pest control	Fertilizer, pesticides
SKR Conservation	Area would be maintained as SKR habitat in accordance with Biological Opinion	Pesticides
Retained military cantonment ^(a)	Airfield and airfield support; aircraft refueling and maintenance; utilization of clear zones, runways, and taxiways; aircraft parking; light industrial; munitions storage; administrative offices; security; medical/dental clinic	Aviation fuels, corrosives, degreasers, glycols, heating oils, heavy metals, hydraulic fluids, ignitibles, ordnance, paints, pesticides, POL, solvents, thinners, pharmaceuticals, radiological sources

Note: (a) Similar to realignment baseline.

POL = petroleum, oil, and lubricants

SKR = Stephens' kangaroo rat

greater than those produced at realignment due to an increase in reuse activities, and could increase with time over the quantities generated under the Proposed Action because of the larger number of aircraft operations. The number of independent owners/operators associated with this alternative could increase the regulatory burden of hazardous waste management. Hazardous wastes generated within the military cantonment would continue to be disposed through DRMO and managed under all applicable regulations, as discussed under the Proposed Action. No impacts are anticipated.

4.3.2.3 Installation Restoration Program Sites. The IRP sites within each land use area for the SKR/Aviation Alternative are identified in Figure 4.3-2 and summarized in Table 4.3-4. A more detailed description of these sites is provided in Appendix D.

Table 4.3-4. IRP Sites within Land Use Areas - SKR/Aviation Alternative

Proposed Land Use	IRP Sites
Aviation support	7, 38, and groundwater contamination plume
Industrial	19, 24, and a portion of Site 30
Institutional (medical)	None
Commercial	12, a portion of Site 4, and groundwater contamination plume
Mixed use	35a, 35b, 35c, and 42
Residential	17, portions of Sites 6a and 6b, and groundwater contamination plume
Public facilities/recreation	26a, portions of Sites 4, 6a, 6b, and 22
Agriculture	None
SKR conservation	3, 25a, 25b, and 40
Retained military cantonment	1, 2, 5, 8, 9, 10, 11, 13, 14, 15, 16, 18, 27, 29, 31, 33, 34, 36, 37, 39, a portion of Site 22, and groundwater contamination plume

IRP = Installation Restoration Program
SKR = Stephens' kangaroo rat

As discussed under the Proposed Action, remediation of IRP sites would continue. Disposal and reuse of some properties may be limited by the presence of IRP sites. Coordination of redevelopment activities between the OL and the JPA would continue under the SKR/Aviation Alternative, and restrictions may be placed on certain land reuse activities. The OL would support the utility requirements for these contractors and provide security for the IRP areas on disposal property. AFRES will be responsible for remediation activities within the retained military cantonment. IRP activities within SKR habitat would continue to be coordinated with the USFWS in accordance with the 1993 Biological Opinion. Impacts would be the same as those described under the Proposed Action.

4.3.2.4 Storage Tanks. Civilian aviation and industrial activities under the SKR/Aviation Alternative would require both aboveground tanks and USTs. New and existing tanks would be managed as discussed under the Proposed



EXPLANATION

- ① Airfield *
- ② Aviation Support
- ③ Industrial
- ③ Business Park*
- ④ Institutional (Medical)

- ⑤ Institutional (Educational) *
- ⑥ Commercial
- ⑥ Mixed Use
- ⑦ Residential
- ⑧ Public Facilities/ Recreation
- ⑨ Agriculture
- ⑩ Vacant Land *

- ⑪ Primary Cantonment
- ⑪ Secondary Cantonment *
- ⑫ SKR Conservation
- 1995 Base Boundary
- - - Unpaved Road
- Plume
- IRP Sites

0 900 1800 3600 Feet



* Standard land use designation not applicable to this figure.

IRP Sites - SKR/Aviation Alternative

Figure 4.3-2

Action. Management of these systems in accordance with all applicable regulations would minimize the potential for impacts.

Flight operations and maintenance activities within the retained military cantonment would continue to require the use of USTs, aboveground storage tanks, and oil/water separators. The AFRES and tenant organizations would be responsible for adhering to all applicable federal, state, and local regulations regarding proper use and maintenance of these systems, as discussed under the Proposed Action.

The Bulk Fuels Storage Area and the two hydrant fuel systems would remain in operation and would be maintained by AFRES, which would be responsible for proper management of these systems and storage tanks. No impacts are anticipated with proper management under this alternative.

4.3.2.5 Asbestos. Renovation and demolition of existing structures with ACM would be subject to all applicable federal, state, and local regulations to minimize potential risks to health and the environment. Management of ACM on disposal property would be the responsibility of the new owner.

AFRES and other tenant organizations would be responsible for ACM management in the retained military cantonment, in accordance with Air Force policy and federal regulations, and no impacts are anticipated.

4.3.2.6 Pesticide Usage. Pesticide usage associated with the SKR/Aviation Alternative would increase from amounts used under realignment baseline conditions as a result of the increase in landscaping associated with commercial, industrial, and residential land uses on disposal property. The amount of pesticides utilized under the SKR/Aviation Alternative would be less than under the Proposed Action because there would be less development overall. Management practices would be subject to FIFRA and state guidelines; therefore, no impacts are anticipated.

4.3.2.7 Polychlorinated Biphenyls. All federally and state-regulated PCBs were either removed and properly disposed of prior to realignment, or were below federal and state action levels.

4.3.2.8 Radon. All sample results from a radon screening survey at March AFB were below the U.S. EPA's recommended mitigation level of 4 pCi/l. A detailed assessment is, therefore, not required and mitigation activities are not necessary.

4.3.2.9 Medical/Biohazardous Waste. Under this alternative, the hospital would be reused as an emergency services center. A substantial decrease in the amount of medical waste generated can be anticipated compared to the amount generated under the Proposed Action. Waste generated from these activities would be managed in accordance with applicable regulations, and no impacts are anticipated.

Medical and photochemical waste generated from activities within the medical clinic in the retained military cantonment would be the same as that discussed under the Proposed Action, and would be less than under realignment conditions; no impacts are anticipated.

4.3.2.10 Ordnance. Ordnance use and management would be similar to that discussed under the Proposed Action, and no impacts are anticipated.

4.3.2.11 Lead-Based Paint. Management practices regarding lead-based paint would be the same as those discussed under the Proposed Action.

4.3.2.12 Mitigation Measures. Because all users would be required to comply with applicable federal, state, and local regulations regarding use, storage, and handling of hazardous substances, these activities would not result in substantial environmental impacts, and no mitigations would be required.

4.3.3 SKR/Cargo Alternative

4.3.3.1 Hazardous Materials Management. The types of hazardous materials used under the SKR/Cargo Alternative (Table 4.3-5) would be similar to those used under the Proposed Action. The quantity of hazardous materials used under this alternative would increase over baseline conditions due to the establishment of civilian aviation support activities, and business park, institutional (educational), and commercial land uses. However, the amount of hazardous materials utilized under this alternative is expected to be less than for the Proposed Action and the SKR/Aviation Alternative because there would be fewer aircraft operations and less proposed development on disposal property.

The specific chemical compositions and exact use rates associated with proposed reuse activities are not known. Management of hazardous materials would be the same as discussed under the Proposed Action, and no impacts are anticipated.

Activities within the retained military cantonment would be the same as those under the Proposed Action. Management of hazardous materials would be the same as discussed under the Proposed Action, and no impacts are anticipated.

4.3.3.2 Hazardous Waste Management. Hazardous wastes generated under the SKR/Cargo Alternative would be similar to those generated under the Proposed Action. These wastes would be generated from the hazardous materials and processes which utilize those materials, and would be implemented under this alternative. Quantities of waste would be greater than those produced at realignment due to an increase in reuse activities. However, the amount of hazardous waste generated under this alternative is expected to be less than for the Proposed Action and the SKR/Aviation

Table 4.3-5. Hazardous Material Usage - SKR/Cargo Alternative

Land Use	Operation Process	Hazardous Materials
Aviation support	Operations associated with aircraft maintenance, air transportation-related industry and warehousing, administrative offices, fire station	Corrosives, cyanides, degreasers, fuels, glycols, heating oils, heavy metals, hydraulic fluids, ignitibles, paints, pesticides, POL, reactives, solvents, thinners
Industrial	Activities associated with light industry and manufacturing, research and development, warehousing, corporate offices	Aerosols, catalysts, corrosives, fuels, heating oils, heavy metals, ignitibles, pesticides, POL, solvents
Business park	Activities associated with administrative, financial, service, government, and community service uses	Aerosols, cleaners, corrosives, fuels, heating oils, household chemicals, ignitibles, paints, pesticides, POL, solvents, thinners
Institutional (educational)	Public education, higher education, training facilities, vocational schools	Cleaners, corrosives, fuels, heating oils, household chemicals, ignitibles, paints, pesticides, POL, solvents, thinners
Commercial	Activities associated with offices, warehousing, retail, service industries, restaurants	Aerosols, cleaners, corrosives, fuels, heating oils, household chemicals, ignitibles, paints, pesticides, POL, solvents, thinners
Residential	Utilization/maintenance of residential units, swimming pools, landscaping	Chlorine, fertilizers, fuels, household chemicals, oils, pesticides
Public facilities/recreation	Maintenance of existing recreational facilities, including aircraft museum, sports complex, swimming pools, and other recreational facilities	Aerosols, chlorine, cleaners, fertilizers, fuels, heating oils, paints, pesticides, POL, solvents, thinners
Agriculture	Weed and pest control	Fertilizer, pesticides
SKR conservation	Area would be maintained as SKR habitat in accordance with Biological Opinion	Pesticides
Retained military cantonment ^(a)	Airfield and airfield support; aircraft refueling and maintenance; utilization of clear zones, runways, and taxiways; aircraft parking; light industrial; munitions storage; small arms range; administrative offices; security; medical/dental clinic	Aviation fuels, corrosives, degreasers, glycols, heating oils, heavy metals, hydraulic fluids, ignitibles, ordnance, paints, pesticides, POL, solvents, thinners, pharmaceuticals, radiological sources

Note: (a) Similar to realignment baseline.

POL = petroleum, oil, and lubricants

SKR = Stephens' kangaroo rat

Alternative because there would be fewer aircraft operations and less proposed development. The number of independent owners/operators associated with this alternative could increase the regulatory burden of hazardous waste management. Management under all applicable regulations would be required, as under the Proposed Action; therefore, no impacts are anticipated.

Hazardous wastes generated within the military cantonment would continue to be disposed of in coordination with the DRMO. Management under all applicable regulations would be required, as under the Proposed Action; therefore, no impacts are anticipated.

4.3.3.3 Installation Restoration Program Sites. The IRP sites within each land use area for the SKR/Cargo Alternative are identified in Figure 4.3-3 and summarized in Table 4.3-6. A more detailed description of these sites is provided in Appendix D.

Table 4.3-6. IRP Sites within Land Use Areas - SKR/Cargo Alternative

Proposed Land Use	IRP Sites
Aviation support	7, 38, and groundwater contamination plume
Industrial	19 and 24
Business park	17, a portion of Site 4, and groundwater contamination plume
Institutional (educational)	None
Commercial	12 and groundwater contamination plume
Residential	None
Public facilities/recreation	6a, 6b, portions of Sites 4, 22, and 30, and groundwater contamination plume
Agriculture	None
SKR conservation	3, 25a, 25b, 26a, 35a, 35b, 40, and a portion of Site 30
Retained military cantonment	1, 2, 5, 8, 9, 10, 11, 13, 14, 15, 16, 18, 27, 29, 31, 33, 34, 36, 37, 39, and a portion of Site 22, groundwater contamination plume

IRP = Installation Restoration Program

SKR = Stephens' kangaroo rat

As discussed under the Proposed Action, remediation of IRP sites would continue. Disposal and reuse of some properties may be limited by the presence of IRP sites. Coordination of redevelopment activities between the OL and the JPA would continue under the SKR/Cargo Alternative, and restrictions may be placed on certain land reuse activities. The OL would support the utility requirements for these contractors and provide security for the IRP areas on disposal property. AFRES will be responsible for remediation activities within the retained military cantonment. IRP activities



IRP Sites - SKR/Cargo Alternative

Figure 4.3-3

EXPLANATION

- ① Airfield *
- ② Aviation Support
- ③ Industrial
- ③ Business Park
- ④ Institutional (Medical) *

- ⑤ Institutional (Educational)
- ⑥ Commercial
- ⑥ Mixed Use *
- ⑦ Residential
- ⑧ Public Facilities/ Recreation
- ⑨ Agriculture
- ⑩ Vacant Land *

- ⑪ Primary Cantonment
- ⑪ Secondary Cantonment
- ⑫ SKR Conservation
- 1995 Base Boundary
- - - Unpaved Road
- Plume
- IRP Sites

0 900 1800 3600 Feet



* Standard land use designation not applicable to this figure.

within SKR habitat would continue to be coordinated with the USFWS in accordance with the 1993 Biological Opinion. Impacts would be the same as described under the Proposed Action.

4.3.3.4 Storage Tanks. Civilian aviation and industrial activities under the SKR/Cargo Alternative would require both aboveground tanks and USTs. New and existing tanks would be managed as discussed under the Proposed Action. Management of these systems in accordance with all applicable regulations would minimize the potential for impacts.

As discussed under the Proposed Action, continued military activities would require the use of USTs, aboveground storage tanks, and oil/water separators. The AFRES and tenant organizations would be responsible for adhering to all applicable federal, state, and local regulations regarding proper use and maintenance of these systems.

The Bulk Fuels Storage Area and the two hydrant fuel systems would remain in operation and would be maintained by the AFRES, which would be responsible for proper management of these systems or storage tanks. No impacts are anticipated with proper management under this alternative.

4.3.3.5 Asbestos. Renovation and demolition of existing structures with ACM would be subject to all applicable federal, state, and local regulations to minimize potential risks to health and the environment. Management of ACM on disposal property would be the responsibility of the new owner.

AFRES and tenant organizations would be responsible for ACM management in the retained military cantonment, in accordance with Air Force policy and federal regulations, and no impacts are anticipated.

4.3.3.6 Pesticide Usage. Pesticide usage associated with the SKR/Cargo Alternative would increase from amounts used under realignment baseline conditions as a result of the increase in landscaping commercial, residential, and public facilities/recreation land uses. Pesticides would continue to be used in the military cantonment to maintain the airfield and other military-related facilities. Management practices would be subject to FIFRA and state guidelines; therefore, no impacts are anticipated.

4.3.3.7 Polychlorinated Biphenyls. All federally and state-regulated PCBs were either removed and properly disposed of prior to realignment, or were below federal and state action levels.

4.3.3.8 Radon. All sample results from a radon screening survey at March AFB were below the U.S. EPA's recommended mitigation level of 4 pCi/l. A detailed assessment is, therefore, not required, and mitigation activities are not necessary.

4.3.3.9 Medical/Biohazardous Waste. No medical uses would be associated with the disposal property under this alternative. Medical and photochemical waste generated by activities within the medical clinic in the retained military cantonment would be the same as that discussed under the Proposed Action, and would be less than realignment conditions; therefore, no impacts are anticipated.

4.3.3.10 Ordnance. Ordnance use and management would be similar to that discussed under the Proposed Action, in accordance with AFM 91-201. The small arms range would continue to be used by AFRES and military tenants and would be operated and managed under applicable regulations, and no impacts are anticipated.

4.3.3.11 Lead-Based Paint. Management practices regarding lead-based paint would be the same as those discussed under the Proposed Action, and no impacts are anticipated.

4.3.3.12 Mitigation Measures. Because all users would be required to comply with applicable federal, state, and local regulations regarding use, storage, and handling of hazardous substances, these activities would not result in substantial environmental impacts, and no mitigations would be required.

4.3.4 Military Aviation Alternative

4.3.4.1 Hazardous Materials Management. The types of hazardous materials used under the Military Aviation Alternative (Table 4.3-7) would be similar to those used under the Proposed Action. The quantity of hazardous materials used under this alternative would increase over baseline conditions due to the development of industrial, business park, institutional (educational), commercial, and residential land uses. However, the quantities of hazardous materials used under the Military Aviation Alternative are expected to be less than those for the Proposed Action and the SKR/Aviation Alternative because there would be fewer aircraft operations. Hazardous materials use under this alternative is expected to be greater than under the SKR/Cargo Alternative because more industrial, business park, commercial, and residential development is proposed. The specific chemical compositions and exact use rates associated with proposed reuse activities are not known. Management of hazardous materials would be the same as that discussed under the Proposed Action, and no impacts are anticipated if these materials are properly managed under all applicable regulations.

Activities within the military cantonment would continue to require use of hazardous materials. Management of hazardous materials would be the same as discussed under the Proposed Action, and no impacts are anticipated.

Table 4.3-7. Hazardous Material Usage - Military Aviation Alternative

Land Use	Operation Process	Hazardous Materials
Industrial	Activities associated with light industry and manufacturing, research and development, warehousing, and corporate offices	Aerosols, catalysts, corrosives, fuels, heavy metals, heating oils, ignitibles, pesticides, POL, solvents
Business park	Activities associated with administrative, financial, service, government, and community service uses	Aerosols, cleaners, corrosives, fuels, heating oils, household chemicals, ignitibles, paints, pesticides, POL, solvents, thinners
Institutional (educational)	Public education, higher education, training facilities, vocational schools	Cleaners, corrosives, fuels, heating oils, household chemicals, ignitibles, paints, pesticides, POL, solvents, thinners
Commercial	Activities associated with offices, warehousing, retail, service industries, restaurants	Aerosols, cleaners, corrosives, fuels, heating oils, household chemicals, ignitibles, paints, pesticides, POL, solvents, thinners
Residential	Utilization/maintenance of residential units, swimming pools, landscaping	Chlorine, fertilizers, fuels, household chemicals, oils, pesticides
Public facilities/recreation	Maintenance of existing recreational facilities including aircraft museum, sports complex, swimming pools, small arms range, and other recreational facilities	Aerosols, chlorine, cleaners, fertilizers, fuels, heating oils, paints, pesticides, POL, solvents, thinners
Retained military cantonment ^(a)	Airfield and airfield support; aircraft refueling and maintenance; utilization of clear zones, runways, and taxiways; aircraft parking; light industrial; munitions storage; administrative offices; security; medical/dental clinic	Aviation fuels, corrosives, degreasers, glycols, heating oils, heavy metals, hydraulic fluids, ignitibles, ordnance, paints, pesticides, POL, solvents, thinners, pharmaceuticals, radiological sources

Note: (a) Similar to realignment baseline.

POL = petroleum, oil, and lubricants

4.3.4.2 Hazardous Waste Management. The types of hazardous wastes generated under the Military Aviation Alternative would be similar to those generated under the Proposed Action. These wastes would be generated from the hazardous materials and the processes which utilize those materials, and would be implemented under this reuse proposal. Quantities of waste would be greater than those produced at realignment due to an

increase in reuse activities. However, the quantities of hazardous waste generated under the Military Aviation Alternative are expected to be less than under the Proposed Action and the SKR/Aviation Alternative because there would be fewer aircraft operations. Hazardous waste generation under this alternative is expected to be greater than under the SKR/Cargo Alternative because more industrial, business park, commercial, and residential development is proposed. The number of independent owners/operators associated with this alternative could increase the regulatory burden of hazardous waste management. Management under all applicable regulations would be the same as discussed under the Proposed Action, and no impacts are anticipated.

Hazardous wastes generated within the military cantonment would continue to be disposed of through DRMO. Management under all applicable regulations would be the same as that discussed for the Proposed Action, and no impacts are anticipated.

4.3.4.3 Installation Restoration Program Sites. The IRP sites within each land use area for the Military Aviation Alternative are identified in Figure 4.3-4 and summarized in Table 4.3-8. A more detailed description of these sites is provided in Appendix D.

Table 4.3-8. IRP Sites within Land Use Areas - Military Aviation Alternative

Proposed Land Use	IRP Sites
Industrial	7, 38, 43, and groundwater contamination plume
Business park	17, 35a, 35b, and 42
Institutional (educational)	4 and groundwater contamination plume
Commercial	12 and a portion of Site 30
Residential	25a and 25b
Public facilities/recreation	3, 6a, 6b, 26a, 40 and a portion of Site 30
Retained military cantonment	1, 2, 5, 8, 9, 10, 11, 13, 14, 15, 16, 18, 19, 22, 24, 27, 29, 31, 33, 34, 35c, 36, 37, 39, and groundwater contamination plume

IRP = Installation Restoration Program

As discussed under the Proposed Action, remediation of IRP sites would continue. Disposal and reuse of some properties may be limited by the presence of IRP sites. Coordination of redevelopment activities between the OL and the JPA would continue under the Military Aviation Alternative, and restrictions may be placed on certain land reuse activities. The OL would support the utility requirements for these contractors and provide security for the IRP areas on disposal property. AFRES will be responsible for remediation activities within the retained military cantonment. Impacts would be the same as described under the Proposed Action.



EXPLANATION

- ① Airfield *
- ② Aviation Support *
- ③ Industrial
- ③ Business Park
- ④ Institutional (Medical) *

- ⑤ Institutional (Educational)
- ⑥ Commercial
- ⑥ Mixed Use *
- ⑦ Residential
- ⑧ Public Facilities/ Recreation
- ⑨ Agriculture *
- ⑩ Vacant Land *

- ⑪ Primary Cantonment
- ⑪ Secondary Cantonment
- ⑫ SKR Conservation *
- 1995 Base Boundary
- Unpaved Road
- Plume
- IRP Sites

IRP Sites - Military Aviation Alternative

Figure 4.3-4

0 900 1800 3600 Feet



* Standard land use designation not applicable to this figure.

4.3.4.4 Storage Tanks. New tanks required by recipients of disposal property would be subject to all applicable federal, state, and local regulations as discussed under the Proposed Action. Existing tanks on disposal property would be managed as discussed under the Proposed Action, and would be the responsibility of the OL. Management of these systems in accordance with all applicable regulations would minimize the potential for impacts.

Flight operations and maintenance activities under the Military Aviation Alternative would require the use of aboveground storage tanks, USTs, and oil/water separators. New tanks required by AFRES and tenant organizations would be subject to the same federal, state, and local regulations as discussed under the Proposed Action.

The Bulk Fuels Storage Area and the two hydrant fuel systems will remain in operation and will be maintained by the AFRES, who will be responsible for proper management of these systems or storage tanks. No impacts are anticipated with proper management under this alternative.

4.3.4.5 Asbestos. Renovation and demolition of existing structures with ACM would be subject to all applicable federal, state, and local regulations to minimize potential risks to health and the environment. Management of ACM on disposal property would be the responsibility of the new owner.

AFRES and tenant organizations will be responsible for ACM management in the retained military cantonment, in accordance with Air Force policy and federal regulations, and no impacts are anticipated.

4.3.4.6 Pesticide Usage. Pesticide usage associated with the Military Aviation Alternative would increase from amounts used under realignment baseline conditions, as a result of the increase in commercial, industrial, residential, and public facilities/recreation land uses. Amounts of pesticides utilized are expected to be similar to those used under the Proposed Action. Pesticides would continue to be used in the military cantonment to maintain the airfield and other military-related facilities. Management practices would be subject to FIFRA and state guidelines; therefore, no impacts are anticipated.

4.3.4.7 Polychlorinated Biphenyls. All federally and state-regulated PCBs were either removed and properly disposed of prior to realignment, or were below federal and state action levels.

4.3.4.8 Radon. All sample results from a radon screening survey at March AFB were below the U.S. EPA's recommended mitigation level of 4 pCi/l. A detailed assessment is, therefore, not required, and mitigation activities are not necessary.

4.3.4.9 Medical/Biohazardous Waste. No medical uses would be associated with the disposal property under this alternative. Medical and photochemical waste generated by activities within the medical clinic in the retained military cantonment would be the same as that discussed under the Proposed Action, and would be less than realignment conditions; therefore, no impacts are anticipated.

4.3.4.10 Ordnance. Ordnance use and management would be similar to that discussed under the Proposed Action, and no impacts are anticipated.

4.3.4.11 Lead-Based Paint. Management practices regarding lead-based paint would be the same as those discussed under the Proposed Action, and no impacts are anticipated.

4.3.4.12 Mitigation Measures. Because all users would be required to comply with applicable federal, state, and local regulations regarding use, storage, and handling of hazardous substances, these activities would not result in substantial environmental impacts, and no mitigations would be required.

4.3.5 No-Action Alternative

4.3.5.1 Hazardous Materials Management. Hazardous materials would be utilized in preventive and regular facility maintenance activities, grounds maintenance activities, and water and wastewater treatment. Types and quantities would be similar to those described under the realignment baseline.

The OL would be responsible for activities on disposal property, and AFRES and tenant organizations would be responsible for activities within the military cantonment. These groups would be individually responsible for hazardous materials management handling, training, and hazardous materials communication requirements of OSHA regulations. AFRES would continue to operate the hazardous materials pharmacy distribution system at Building 2310. Management of these materials in accordance with applicable regulations would minimize the potential for impacts.

4.3.5.2 Hazardous Waste Management. The amount of hazardous wastes generated would be similar to that generated at realignment. The small amount of waste generated from caretaker activities under the No-Action Alternative may enable the OL to become an exempt, small-quantity generator if the OL operates under a separate waste generator permit from the AFRES. The generator status within the military cantonment would remain the same as under realignment conditions. Management of these wastes in accordance with applicable regulations would minimize the potential for impacts.

4.3.5.3 Installation Restoration Program Sites. Ongoing sampling and remedial design activities by the individual IRP contractors would continue. The OL would support the utility requirements for these contractors and provide security for the IRP areas on disposal property. AFRES will be responsible for remediation activities within the retained military cantonment. IRP activities in SKR habitat would continue to be coordinated with the USFWS in accordance with the 1993 Biological Opinion.

4.3.5.4 Storage Tanks. USTs remaining on caretaker property would be managed by the OL. Additionally, cathodic protection and leak detection systems on the USTs would be the responsibility of the OL. Storage tanks out of service for more than 1 year would be closed in accordance with all applicable federal, state, and local regulations. All aboveground storage tanks would be purged at realignment, and the OL would provide cathodic protection, repair, and general maintenance for the aboveground storage tanks and piping. All oil/water separators on disposal property would be pumped and cleaned of any contents in accordance with applicable regulations. Management of these systems in accordance with applicable regulations would minimize the potential for impacts.

The AFRES and tenant organizations would be responsible for maintenance and regulatory compliance of all USTs, aboveground storage tanks, and oil/water separators utilized to support military cantonment activities.

4.3.5.5 Asbestos. Vacated buildings would be secured to prevent contact with ACM. ACM would be managed by the OL, AFRES, and tenant organizations in accordance with Air Force policy and federal regulations to minimize potential risks to human health and the environment, and no impacts are anticipated.

4.3.5.6 Pesticide Usage. Under the No-Action Alternative, the grounds and golf course would be maintained by the OL in a manner to facilitate economic resumption of use. Use of pesticides should not appreciably increase from the realignment baseline. AFRES and tenant organization grounds maintenance personnel would be responsible for maintenance of property within the retained military cantonment. Application of pesticides would be conducted in accordance with FIFRA and state regulations to assure the proper and safe handling of all chemicals; therefore, no impacts are expected.

4.3.5.7 Polychlorinated Biphenyls. All federally and state-regulated PCBs were either removed and properly disposed of prior to realignment, or were below federal and state action levels.

4.3.5.8 Radon. All sample results from a radon screening survey at March AFB were below the U.S. EPA's recommended mitigation level of 4 pCi/l. A detailed assessment is, therefore, not required and mitigation activities are not necessary.

4.3.5.9 Medical/Biohazardous Waste. Medical and photochemical waste generated by activities within the medical clinic in the retained military cantonment would be the same as under realignment conditions; therefore, no impacts are anticipated.

4.3.5.10 Ordnance. Ordnance use and management would be similar to that discussed under the Proposed Action in accordance with AFM 91-201. The small arms range would continue to be used by AFRES and military tenants and would be operated and managed with applicable regulations, and no impacts are anticipated.

4.3.5.11 Lead-Based Paint. Under the No-Action Alternative, the impacts from lead-based paint would be minimal. Vacated facilities outside the retained military cantonment would be secured to prevent exposure to lead-based paint. Facilities within the retained military cantonment would be managed in accordance with all applicable regulations and Air Force policy to minimize exposure to lead-based paint, and no impacts are anticipated.

4.3.5.12 Mitigation Measures. Because the OL, AFRES, and tenant organizations would be required to comply with applicable federal, state, and local regulations regarding use, storage, and handling of hazardous substances, these activities would not result in substantial environmental impacts, and no mitigations would be required.

4.3.6 Other Land Use Concepts

This section discusses transfers/conveyances within the framework of the IRP and within the context of the hazardous materials typically associated with their reuses.

Stephens' Kangaroo Rat Habitat. No hazardous materials would be utilized under this proposal. AFRES and military tenants would continue to use the small arms range under all applicable regulations. Facility demolition activities within this area would be conducted in accordance with all federal, state, and local regulations to avoid an ACM or lead-based paint release. Impacts from implementation of this proposal are not expected.

Ten IRP sites are located within the SKR habitat area. Remediation of these sites would continue to be coordinated with the USFWS in accordance with the 1993 Biological Opinion.

U.S. Department of Agriculture Forest Service Operations Coordination Center. Hazardous materials utilized under this proposal would include household cleaning products, pesticides, paints, thinners, fuels, and oils for facility maintenance purposes. Application of pesticides would be conducted in accordance with FIFRA and state guidelines; therefore, no impacts are anticipated.

IRP sites 35a, 35b, and 42 are within the parcel west of Air Force Village West. A portion of Site 12 and part of the groundwater contamination plume are in the parcel north of the main cantonment area. Redevelopment delays and land use restrictions could occur as a result of ongoing investigations at these sites.

Riverside National Cemetery Expansion. This proposal would require utilization of pesticides and herbicides for grounds maintenance activities. Application of pesticides and herbicides would be conducted in accordance with FIFRA and state guidelines; therefore, no impacts are anticipated.

IRP Site 26a is within the proposed cemetery expansion area. Redevelopment delays and land use restrictions could occur as a result of ongoing investigations at this site.

Navy and Marine Corps Reserve Center. Under this proposal, hazardous materials utilized would include lithium batteries for communications equipment and small quantities of solvents/lubricants for cleaning rifles. The U.S. Navy would be responsible for ensuring that all activities are conducted in accordance with all applicable federal, state, and local regulations. Spent lithium batteries and waste cotton swabs used for applying solvents would be disposed of off base in accordance with applicable regulations. Reuse facilities may contain ACM or lead-based paint. Management of these resources would be conducted in accordance with applicable federal, state, and local regulations.

There are no IRP sites within the Navy and Marine Corps Reserve Center area. No impacts are anticipated from hazardous materials or waste management activities.

Army and Air Force Exchange Service. Hazardous materials utilized or stored under this proposal would include fuel, motor oil, pesticides, paints, and thinners. AAFES would be responsible for management of existing USTs and associated piping at Building 550 (gas station) in accordance with all applicable federal, state, and local regulations. Reuse facilities may contain ACM or lead-based paint. Management of these resources would be conducted in accordance with applicable federal, state, and local regulations.

There are no IRP sites within the AAFES overlay area. However, a portion of the groundwater contamination plume underlies several of the facilities. Short-term interruptions in daily activities or land use restrictions could occur as a result of ongoing investigations and well monitoring activities.

Army Reserve. No hazardous materials would be utilized under this proposal. Reuse facilities may contain ACM or lead-based paint. Management of these resources would be conducted in accordance with applicable federal, state, and local regulations.

Facility 602 is underlain by a portion of the groundwater contamination plume. Short-term interruptions in daily activities or land use restrictions could occur as a result of ongoing investigations and well monitoring activities.

California Army National Guard. Small quantities of vehicle maintenance supplies, including hazardous materials, would be utilized under this proposal. Wastes generated would be disposed of off base in accordance with all applicable federal, state, and local regulations, and no impacts are anticipated. There are no IRP sites within the property.

4.4 NATURAL ENVIRONMENT

This section describes the potential effects of the Proposed Action and alternatives on the natural resources of geology and soils, water resources, air quality, noise, biological resources, and cultural resources in the ROI.

4.4.1 Geology and Soils

Geology and soils would be affected mostly by earthwork associated with land development activities, such as surface grading and excavation, and impacts on geologic or soil resources due to changes in their availability or condition.

4.4.1.1 Proposed Action. Effects on local soils and geology would result primarily from the construction activities associated with the Proposed Action, such as grading, excavating, and recontouring soils, and are expected to be minor.

Acres subject to disturbance under the Proposed Action during the 20-year analysis period are presented in Chapter 2 (see Table 2.2-4). The largest amount of ground disturbance would occur during the first 5 years, with 540 acres affected. By 2006, an additional 291 acres would be disturbed and by 2016, an additional 533 acres would be disturbed. Most of this disturbance would take place on the moderately to highly erodible soils on West March. Because of the hilly terrain in this area, extensive grading and excavation would be necessary, increasing the potential for erosion by creating adverse slope conditions and exposed subsoil. However, following standard construction practices, excavated soils would not be exposed for extended periods of time.

Ground-disturbing activities associated with development under the Proposed Action could alter soil profiles and the local topography. Section 402(P) of the CWA clarifies that storm water discharges associated with industrial activities to waters of the United States must be authorized by an NPDES permit. On November 16, 1990, U.S. EPA published regulations under the NPDES program which defined the term "storm water discharge associated with industrial activity" to include storm water discharges from construction

activities (including clearing, grading, and excavation activities) that result in the disturbance of 5 or more acres of total land area, including areas that are part of a larger, common plan of development or sale (Title 40 CFR 122.26(b)(14)(x)).

Each developer would be required to obtain an NPDES permit before embarking upon any construction activity. The NPDES permit together with the required accompanying Storm Water Pollution Prevention Plan (SWPPP) would outline strict limitations that are designed to protect the quality of the surface water and groundwater, and the natural environment through which they flow. The SWPPP describes the necessity of prevention and control of soil erosion associated with development by requiring each NPDES permittee to provide specific areas of existing and potential soil erosion, locations of structural measures for sediment control, and management practices and controls. Use of the management practices and controls would reduce the potential for erosion of disturbed soils and their transport off site to natural channels or agricultural drainage canals.

As part of the NPDES permit requirement, measures for controlling pollutants from construction activities include sediment and erosion controls and storm water management measures. Sediment and erosion controls generally address pollutants in storm water generated from the site during the time when construction activities are occurring. Storm water management measures generally are installed during and before completion of construction, but primarily result in reductions of pollutants in storm water discharged from the site after the construction has been completed. Storm water management measures include infiltration of runoff on site; flow attenuation by vegetation or natural depressions; outfall velocity dissipation devices; storm water retention structures and artificial wetlands; and storm water detention structures. For many sites, a combination of these controls is appropriate. Additional measures include housekeeping best management practices.

General sediment and erosion controls (stabilization practices) can include temporary seeding (for areas of the site where disturbance has temporarily ceased), permanent seeding, mulching, sod stabilization, and vegetative buffer strips. Sediment and erosion controls include engineered structures to divert flow, store flow, or limit runoff. Sediment and erosion control devices include earth dikes that channel flow to desired locations, silt fences to intercept sediment in diffuse runoff, drainage swales, sediment traps, check dams, level spreaders, subsurface drains, and other structures used to control or direct surface discharge and limit/control erosion.

Construction projects on sites less than 5 acres would not be subject to NPDES permit requirements. However, the required NPDES measures described for sediment and erosion control are typically implemented as part of standard construction practices on sites with highly erodible soils. Implementation of these measures would minimize the erosion effects of construction activities on soils.

Of the 6,705 acres of potential prime and state farmland soils on site, approximately 4,447 acres would be reused for nonagricultural purposes. A Farmland Conversion Impact Rating Form AD-1006 was prepared to evaluate impacts to prime and state farmland soils. The USDA Natural Resources Conservation Service has determined that no prime, unique, statewide, or local important farmland is present at March AFB (see Appendix J).

The limited supply of sand and gravel on disposal property for use in the construction phase would not be impacted because adequate reserves are accessible elsewhere in the region to meet demands associated with reuse.

Any new facilities or major alterations to existing facilities would have to comply with current UBC design and construction standards for Seismic Hazard Zone IV. Upgrades to existing structures would be required only if the modifications would cause the structure to be in violation of any UBC provisions.

Mitigation Measures. No mitigation measures would be necessary because any construction-related activity of 5 acres or more would be controlled and monitored under an NPDES permit. Use of standard construction practices would minimize soil erosion effects from all construction activities.

4.4.1.2 SKR/Aviation Alternative. Impacts from the SKR/Aviation Alternative would be similar to those described under the Proposed Action. The primary difference would be in the designation of 1,207 acres in the northern portion of West March as SKR habitat. Effects on regional soils and geology are expected to be minor.

The potential for soil erosion and other impacts due to construction activities associated with the SKR/Aviation Alternative would be similar to that described under the Proposed Action. Acreages subject to disturbance under the SKR/Aviation Alternative are presented in Chapter 2 (see Table 2.3-4).

During the first 5-year period under the SKR/Aviation Alternative, 394 acres would be disturbed. A total of 259 and 503 acres would be disturbed by 2006 and 2016, respectively. The total disturbed area during the 20-year development period is 80 percent of that expected for the Proposed Action. As under the Proposed Action, most of the development would occur on West March, which is hilly and has moderately to highly erodible soils that require extensive grading and excavation and thus would increase the

potential for erosion. Because a large number of acres on West March would be designated for SKR conservation under this alternative and because very little disturbance would be allowed in these areas, the total disturbed acreage on West March would be less than under the Proposed Action, and soil erosion effects would similarly be lower. As discussed for the Proposed Action, compliance with requirements of the NPDES permit and SWPPP, as well as implementation of standard construction practices, would minimize soil erosion impacts.

Of the 6,705 acres of potential prime and state farmland soils on site, approximately 3,251 acres would be reused for nonagricultural purposes and 1,207 would be designated as SKR habitat. A Farmland Conversion Impact Rating Form AD-1006 was prepared to evaluate impacts to prime and state farmland soils. The Natural Resources Conservation Service has determined that no prime, unique, statewide, or local important farmland is present at March AFB (see Appendix J).

As under the Proposed Action, the SKR/Aviation Alternative would pose no significant impact on the availability of sand and gravel resources.

Any new facilities or major alterations to existing facilities would have to comply with current UBC design and construction standards for Seismic Hazard Zone IV. Upgrades to existing structures would be required only if the modifications would cause the structure to be in violation of any UBC provisions.

Mitigation Measures. No mitigation measures would be necessary because any construction-related activities of 5 acres or more would be controlled and monitored under an NPDES permit. Use of standard construction practices would minimize soil erosion effects from all construction activities.

4.4.1.3 SKR/Cargo Alternative. Impacts from the SKR/Cargo Alternative would be similar to those under the Proposed Action. The primary difference would be in the designation of 1,874 acres as SKR habitat. Effects on the regional soils and geology are expected to be minimal except in the area to be developed in the southern portion of West March.

The potential for soil erosion and other impacts due to construction activities associated with the SKR/Cargo Alternative would be similar to that for the Proposed Action. Acreages subject to disturbance under the SKR/Cargo Alternative are presented in Chapter 2 (see Table 2.3-10).

The most intense period of ground disturbance under the SKR/Cargo Alternative would occur during the 5-year period from 1996 to 2001, with 366 acres expected to be disturbed. The amount of ground disturbance would decrease to 171 acres during the following 5 years and increase again to 310 acres during the 10 years from 2006 to 2016. During the 20-year analysis period, the total disturbed area would be 59 percent of that

expected for the Proposed Action. Most of the development would occur on West March, where the terrain is hilly with moderately to highly erodible soils, which necessitate extensive grading and excavation and increase the potential for erosion. As under the SKR/Aviation Alternative, the designation of a large acreage as SKR habitat with little disturbance allowed would result in less ground disturbance and lower soil erosion effects than under the Proposed Action. As discussed for the Proposed Action, compliance with requirements of the NPDES permit and SWPPP, and implementation of standard construction practices, would minimize soil erosion impacts.

Of the 6,705 acres of potential prime and state farmland soils on site, approximately 2,569 acres would be reused for nonagricultural purposes and 1,874 acres would be designated as SKR management and open space areas. A Farmland Conversion Impact Rating Form AD-1006 was prepared to evaluate impacts to prime and state farmland soils. The Natural Resources Conservation Service has determined that no prime, unique, statewide, or local important farmland is present at March AFB (see Appendix J).

As under the Proposed Action, the SKR/Cargo Alternative poses no significant impact on the availability of sand and gravel resources.

Any new facilities or major alterations to existing facilities would have to comply with current UBC design and construction standards for Seismic Hazard Zone IV. Upgrades to existing structures would be required only if the modifications would cause the structure to be in violation of any UBC provisions.

Mitigation Measures. No mitigation measures would be necessary because any construction-related activities of 5 acres or more would be controlled and monitored under an NPDES permit. Use of standard construction practices would minimize soil erosion effects from all construction activities.

4.4.1.4 Military Aviation Alternative. Impacts from the Military Aviation Alternative would be similar to those described under the Proposed Action, and effects on regional soil and geology would be minor.

The potential for soil erosion and other impacts due to construction activities associated with the Military Aviation Alternative would be similar to that described for the Proposed Action. Acreages subject to disturbance under the Military Aviation Alternative are presented in Chapter 2 (see Table 2.3-13).

Under the Military Aviation Alternative, most ground disturbance would occur during the first 5 years, with 411 acres expected to be disturbed. The area of disturbance would be reduced to 219 acres during 2001 to 2006 and 399 acres from 2006 to 2016. During the 20-year development period, the total disturbed area would be 71 percent of that expected for the Proposed

Action. Most of the development would occur on West March, where the terrain is hilly with moderately to highly erodible soils that necessitate extensive grading and excavation and increase the potential for erosion. As discussed for the Proposed Action, compliance with requirements of the NPDES permit and SWPPP, as well as implementation of standard construction practices, would minimize soil erosion impacts.

Of the 6,705 acres of potential prime and state farmland soils on site, approximately 4,213 acres would be reused for nonagricultural purposes. A Farmland Conversion Impact Rating Form AD-1006 was prepared to evaluate impacts to prime and state farmland soils. The Natural Resources Conservation Service has determined that no prime, unique, statewide, or local important farmland is present at March AFB (see Appendix J).

As under the Proposed Action, the Military Aviation Alternative poses no significant impact on the availability of sand and gravel resources.

Any new facilities or major alterations to existing facilities would have to comply with current UBC design and construction standards for Seismic Hazard Zone IV. Upgrades to existing structures would be required only if the modifications would cause the structure to be in violation of any UBC provisions.

Mitigation Measures. No mitigation measures would be necessary because any construction-related activities of 5 acres or more would be controlled and monitored under an NPDES permit, and use of standard construction practices would minimize soil erosion effects.

4.4.1.5 No-Action Alternative. No impacts would be expected under the No-Action Alternative. There would be no development on the base property and, therefore, no surface disturbance and no demand on sand and gravel resources. Because no impacts would be expected, no mitigation measures would be necessary.

4.4.1.6 Other Land Use Concepts. Effects on soils and geology, as a result of other land use concepts that may be implemented in conjunction with one of the integrated reuse alternatives, are discussed below.

Stephens' Kangaroo Rat Habitat. This proposal would involve limited ground disturbance associated with demolition of structures. If implemented in conjunction with any of the reuse alternatives, there would be much less development on West March than otherwise planned and, consequently, erosion effects would be reduced.

U.S. Department of Agriculture Forest Service Operations Coordination Center. Implementation of this land use concept with any of the reuse alternatives would result in a small increase in disturbance and associated

soil erosion effects, but this increase would be minor in comparison to the overall disturbance projected under reuse.

Riverside National Cemetery Expansion. If implemented in conjunction with the Proposed Action, there would be no effect, because this use is incorporated within the Proposed Action. If implemented with any one of the other reuse alternatives, there would be a small amount of increased disturbance associated with development of roadways and gravesites. However, this increase would be minor in comparison to the overall disturbance projected under reuse.

Navy and Marine Corps Reserve Center. The 2 acres of disturbance planned on the Main Base would represent negligible erosion effects.

Army and Air Force Exchange Service. Because no construction is proposed under this land use concept, there would be no soil erosion effects.

Army Reserve. Construction of the 4-acre parking lot would represent minimal disturbance compared to the overall projected disturbance.

California Army National Guard. Construction of the proposed armory would entail disturbance of up to 15 acres, a negligible amount compared to overall disturbance projected under reuse.

4.4.2 Water Resources

The following section describes the potential impacts on water resources as a result of the Proposed Action and reuse alternatives. Construction activities would alter soil profiles and natural drainages, which, in turn, may temporarily alter water flow patterns. Impacts on water quality from hazardous waste contamination are addressed in Section 4.3, Hazardous Materials and Hazardous Waste Management.

4.4.2.1 Proposed Action

Surface Water. Under the Proposed Action, soils would be compacted during new construction and overlain by asphalt, asphaltic concrete, or buildings, all of which create impervious surfaces that cause increased surface runoff to local storm drains and drainage systems. In addition, drainage patterns could be altered to divert runoff away from and around construction sites and completed facilities. Although the project site is already moderately developed (paved, built on, and artificially drained), the additional construction is still expected to substantially alter the surface runoff. Effects of increased runoff on surface water would be reduced through compliance with requirements of the NPDES permit and SWPPP, as described in Section 4.4.1.1.

Runoff from reuse development would exceed the planned capacity of local area drainage plans, and could have impacts on downstream facilities, particularly during more severe storm events. Development within the limits of the Lake Mathews and Perris Valley Area drainage plans is restricted until the major elements of the plans are completed. New property owners may have to coordinate with the RCFCWCD regarding drainage studies and design and construction of additional facilities.

A 100-year floodplain has been mapped along the north and east sides of the March AFB property. It is likely that this floodplain also includes portions of the disposal property that are expected to be used for aviation support, commercial, business park, institutional, and mixed use under the Proposed Action. With careful planning, development of these properties could reduce or avoid potential floodplain encroachment that would increase the flooding potential for this area. As required by EO 11988 and AFI 32-7064, the Air Force would implement appropriate procedures to minimize impacts, including identifying federal, state, and local restrictions on development of floodplains on any applicable land transfer deeds. Encroachment of buildings onto the 100-year floodplains delineated by FEMA is also regulated by local planning jurisdictions. Encroachment is limited to fixed areas delineated on FEMA maps, and must meet elevation criteria to reduce the potential for property damage from flooding and to limit the amount of fill that can be placed on floodplains.

Surface water from small impoundments near March ARB is used exclusively for agricultural purposes, primarily as irrigation water. Development activities planned under the Proposed Action should not have an effect on the quantity of water available for agricultural uses in the region or impact the existing surface water delivery system.

Surface Water Quality. Storm water discharge (non-point source) from the airfield, aviation support areas, and other heavy industrial areas may contain fuels, oils, and other residual contaminants that could degrade surface water resources. In addition, the non-point source runoff could cause higher sediment loads in the drainage system, especially during construction, when soil erosion potential is at its maximum. Storm water and treated wastewater from the military cantonment will be sampled and discharged under the existing NPDES permit issued in 1992. Civilian reuse activities may also be subject to NPDES permit requirements for storm water discharge during the construction period and during operations. Issuance of an NPDES permit is contingent on the development of an SWPPP by the permittee, who would then be subject to approval by the California RWQCB, Santa Ana Region. SWPPP requirements under the NPDES permit include an outline of the storm water drainage system for each discharge point, actual and potential pollutant contact, and surface water locations. The SWPPP would also incorporate storm water management controls and preventive maintenance for each building.

Standard practices that would minimize the impact of contaminants on the water quality during construction and during operations and maintenance would differ by land use but, generally, may include the following:

- Performing regular maintenance on storm drainpipes, oil/water separators, waste storage holding tanks, runoff tributaries, pipe culverts, channels, weirs, and swales
- Creating and maintaining large areas of pervious surfaces
- Monitoring effluent discharge under the established guidelines for pH, TDS concentrations of toxic pollutants, and emission rates of waste streams
- Pretreating effluent according to the established guidelines and limiting discharge.

Groundwater. Impacts to groundwater quality are possible during the construction phase of any new development, and could result from a spill, a line break, or some other accident to release contaminants onto the ground surface. Because such occurrences are uncommon and the likelihood that highly toxic chemicals, such as solvents, would be present is small, the potential for groundwater contamination from such an event is considered slight.

Long-term groundwater contamination is more likely to occur from the general operations of an airfield and industrial facilities than from construction activities. Minor spills of contaminants onto the ground surface over time can result in contaminants being flushed through the soil to the groundwater. However, RCRA regulations for safe handling of hazardous materials make even minor occurrences unlikely and the potential contamination of groundwater is considered slight.

EMWD has indicated an intent to acquire base production wells BPW-5 and BPW-6, which are downgradient of the OU 1 plume. Excessive pumping from these wells could draw the plume to the southeast toward the production wells. On-base groundwater modeling studies are being conducted to evaluate the effects of pumping from large production wells in the area on the various groundwater contaminated plumes identified in the March AFB IRP. Regional groundwater studies are planned for 1996.

Mitigation Measures. New property owners may have to coordinate with the RCFCWCD regarding drainage studies and design and construction of additional facilities. Construction of detention basins would likely be required, in accordance with local jurisdiction requirements.

Deed restrictions would probably be imposed on parcels overlying the plume to prevent groundwater pumping.

4.4.2.2 SKR/Aviation Alternative

Surface Water. The SKR/Aviation Alternative is expected to have runoff and erosion effects similar to those described for the Proposed Action.

Under this alternative, portions of the commercial, institutional, airfield, aviation support, and residential land use areas may be included in the floodplain. As with the Proposed Action, areas within the 100-year floodplain may be affected by ground-disturbing activities associated with the SKR/Aviation Alternative. There are some concerns about upstream flooding, but the Air Force would comply with EO 11988 and AFI 32-7064, as appropriate, in the disposal of federal property. Property recipients would be subject to RCFCWCD requirements for development in floodplains.

Reuse activities planned under the SKR/Aviation Alternative should not have an effect on the quantity of water available for agricultural uses in the region or impact the existing surface water delivery system.

Surface Water Quality. Concerns about impacts to surface water quality from the SKR/Aviation Alternative would be similar to those identified for the Proposed Action. Non-point-source runoff would be subject to SWPPP requirements under the NPDES permit.

Groundwater. As discussed under the Proposed Action, impacts to groundwater quality are possible. However, compliance with RCRA regulations for the safe handling of hazardous materials minimizes the potential for spills and subsequent contamination of groundwater.

As under the Proposed Action, pumping from production wells BPW-5 and BPW-6 could have an adverse effect on the groundwater plume.

Mitigation Measures. The mitigation measures discussed for the Proposed Action would also be applicable for the SKR/Aviation Alternative.

4.4.2.3 SKR/Cargo Alternative

Surface Water. The SKR/Cargo Alternative would have runoff and erosion effects similar to those described for the Proposed Action.

Portions of the airfield, aviation support, business park, and commercial land uses are likely to be developed in the northern portion of the 100-year floodplain. Floodplain concerns would be similar to those described for the Proposed Action, with possible flooding upstream. As required, the Air Force would comply with EO 11988 and AFI 32-7064, as appropriate, in the

disposal of property. Property recipients would be subject to RCFCWCD requirements for development in floodplains.

Reuse activities planned under the SKR/Cargo Alternative should not have an effect on the quantity of water available for agricultural uses in the region or impact the existing surface water delivery system.

Surface Water Quality. Concerns about impacts to surface water quality from the SKR/Cargo Alternative would be similar to those identified for the Proposed Action. Non-point-source runoff would be subject to SWPPP requirements under the NPDES permit.

Groundwater. As discussed under the Proposed Action, impacts to groundwater quality are possible. However, compliance with RCRA regulations for the safe handling of hazardous materials minimizes the potential for spills and subsequent contamination of groundwater.

As under the Proposed Action, pumping from production wells BPW-5 and BPW-6 could have an adverse effects on the groundwater plume.

Mitigation Measures. The mitigation measures discussed for the Proposed Action would also be applicable for the SKR/Cargo Alternative.

4.4.2.4 Military Aviation Alternative

Surface Water. The Military Aviation Alternative would have runoff and erosion effects similar to those described for the Proposed Action. Portions of institutional, commercial, and industrial land uses are likely to be developed in the vicinity of the 100-year floodplain. Floodplain concerns would be similar to those described for the Proposed Action, with possible flooding upstream. As required, the Air Force would comply with EO 11988 and AFI 32-7064, as appropriate, in the disposal of property. Property recipients would be subject to RCFCWCD requirements for development in floodplains.

Reuse activities planned under the Military Aviation Alternative should not have an effect on the quantity of water available for agricultural uses in the region or impact the existing surface water delivery system.

Surface Water Quality. Concerns about impacts to surface water quality from the Military Aviation Alternative would be similar to those identified for the Proposed Action. Non-point-source runoff would be subject to SWPPP requirements under the NPDES permit.

Groundwater. As discussed under the Proposed Action, impacts to groundwater quality are possible. However, compliance with RCRA regulations for the safe handling of hazardous materials minimizes the potential for spills and subsequent contamination of groundwater.

As under the Proposed Action, pumping from production wells BPW-5 and BPW-6 could have an adverse effect on the groundwater plume.

Mitigation Measures. The mitigation measures discussed for the Proposed Action would also be applicable for the Military Aviation Alternative.

4.4.2.5 No-Action Alternative. No adverse impacts would be expected under the No-Action Alternative. There would be no increase in impervious surfaces and, therefore, no increase in surface runoff and channel erosion. Further, there would be no new construction activity that would encroach on floodplain areas and increase the potential for flooding. Groundwater use would decrease and surface water quality should remain the same. No adverse impacts are expected, and no mitigation measures would be necessary.

4.4.2.6 Other Land Use Concepts. Effects on water resources as a result of other land uses that may be implemented individually or in combination with one of the reuse alternatives are discussed below.

Stephens' Kangaroo Rat Habitat. This proposal could have minor runoff impacts associated with exposed soils during demolition of facilities. If this proposal is implemented with any of the reuse alternatives, it would result in fewer impacts to water resources because total disturbed acreage and increase in water use would be smaller.

U.S. Department of Agriculture Forest Service Operations Coordination Center. Runoff during construction for this facility would slightly increase impacts to surface and groundwater resources. NPDES permit restrictions and guidelines as described for the Proposed Action should be implemented to minimize impacts. During the operations phase, groundwater use would be negligible when compared to the total water requirements for the Proposed Action or any of the reuse alternatives.

Riverside National Cemetery Expansion. This use is incorporated within the Proposed Action; therefore, there would be no effect if the cemetery is implemented in conjunction with the Proposed Action. If implemented with any of the other reuse alternatives, there would be a small amount of increased disturbance and runoff associated with development of roadways and gravesites. There would also be a small increase in water use for landscaping. However, these effects would be minor in comparison to the overall effects on water resources projected under reuse.

Navy and Marine Corps Reserve Center. The 2 acres of disturbance planned on the Main Base would represent negligible runoff effects, and water use would be minimal.

Army and Air Force Exchange Service. Because no construction is proposed under this land use concept, there would be no runoff effects. Water use would be minimal.

Army Reserve. The 4 acres of disturbance planned would represent negligible runoff effects, and water use would be minimal.

California Army National Guard. Construction of the proposed armory could result in small amounts of runoff from disturbance of up to 15 acres, but this would be a negligible amount compared to overall disturbance projected under reuse. Water use would be minimal. The proposed location is within the 100-year floodplain. As discussed in Section 4.4.2.1, appropriate development planning would be required to avoid encroachment that would increase the flooding potential in this area.

4.4.3 Air Quality

Air quality impacts would occur during construction and operations associated with the Proposed Action and alternatives. Intermittent construction-related impacts would result from fugitive dust (particulate matter) released during construction activities, architectural coating emissions (VOC), and construction equipment combustive emissions (CO, NO_x, PM₁₀, SO_x, and VOC). Operational impacts would occur from (1) mobile sources, such as aircraft, aircraft operation support equipment, commercial vehicles, and personal vehicles; (2) point sources, such as boilers and aircraft engine test cells; (3) area sources, such as architectural coating and solvent usage; and (4) secondary emission sources associated with population increase, such as residential heating and increased vehicle miles traveled (VMT).

The methods selected to analyze impacts depend upon the type of emission source being examined. Air quality analytical methods are summarized here and presented in detail in Appendix I. Analysis during the construction phase consists of estimating the amount of uncontrolled fugitive dust emitted during grading, excavation, and demolition activities and the combustion emissions associated with construction equipment and worker vehicles. Analysis for mobile, point, area, and secondary source emissions during the operations phase consists of quantifying the emissions associated with the retained military, reuse-related employment and population, and immigrating secondary population. These emissions are then evaluated to determine how they would affect the region's ability to reach or maintain the CAAQS and NAAQS.

Ambient effects on local air quality are analyzed by modeling pollutant concentrations at receptor locations likely to receive maximum air quality impacts. For aviation-related alternatives, the receptors are typically selected at the downwind end of the runway to analyze the impacts from airport operations.

The ambient effects of aircraft are analyzed by modeling with the EDMS (Segal, 1991a, 1991b, 1991c) (see Section 3.4.3). The EDMS model uses U.S. EPA and U.S. military emission factors for aircraft and information on peak and annual landing and takeoff cycles to produce an emissions inventory of vehicle and aircraft operations. Typical aircraft operations include takeoff, runway climb and approach, runway queuing, taxi-in and taxi-out, and idling at the gates.

Air quality modeling is presented for the Proposed Action and alternatives through 2010 (the latest attainment year for the SCAB). The effects of the 1990 CAAA, such as electric and other low-emission vehicle ownership percentages, cannot be accurately predicted very far into the twenty-first century. The uncertainties of long-range population and traffic projections, future CAA changes, and the complex interaction of meteorology with emission inventories make longer term emission and pollution concentration projections too speculative.

The following methodologies and assumptions were used in estimating the effects of the Proposed Action and alternatives:

- EDMS was used to calculate annual aircraft emissions for airfield operations. Aircraft activity levels in 2010 were assumed to be similar to those projected for 2016.
- Methods outlined in the CEQA Air Quality Handbook (SCAQMD, 1993) were utilized to estimate all construction-related emissions, energy consumption emissions, and privately owned vehicle emissions.
- Half of all civilians who would out-migrate from San Bernardino and Riverside counties, if the base were to be realigned without subsequent reuse, were assumed to move into Orange or Los Angeles counties and the other half were assumed to move out of the SCAB completely. All out-migrating off-base retirees, military personnel, and their dependents were assumed to move out of the SCAB.
- Emissions associated with the off-site secondary population were assumed to occur at the same per capita rate as emissions from the general population of the SCAB.
- All demolition activity was assumed to occur during the 1996-2001 time period.

As discussed in Section 3.4.3, the SCAB is designated by the U.S. EPA as "extreme" nonattainment for ozone, "serious" nonattainment for CO and PM₁₀, and nonattainment for NO₂. The deadlines for achieving attainment of

NAAQS are November 15, 2010, for ozone; December 31, 2000, for CO; December 31, 2001, for PM₁₀; and November 15, 1995, for NO₂. The SCAQMD developed the 1994 AQMP to attain the standards as expeditiously as possible by implementing all feasible emission control measures.

In addition, under the New Source Review provisions of the federal CAAA, any new or modified major stationary source emitting more than 10 tons per year of VOC (ROG) or NO_x in an extreme ozone nonattainment area must satisfy technology standards reflecting the lowest achievable emission rate and must provide offsets representing emission reductions from other sources at a ratio of at least 1.5 to 1.0. Another major effect of the CAAA is the establishment of new federal permitting requirements for new source construction. The new requirements will necessitate permit approval from the SCAQMD, not only for projects that historically would have required a New Source Review permit, but also for other smaller stationary sources that in the past would not have required a permit. Federal permitting requirements have not yet been fully established. However, it is anticipated that, in addition to ozone precursors, the regulations will also require offsetting of PM₁₀ emissions from new or modified major stationary sources located in PM₁₀ nonattainment areas.

The New Source Review requirements governing the control of attainment pollutants (SO₂) differ somewhat from the requirements for nonattainment pollutants described above. New or modified major stationary sources of SO₂ in an attainment area must not cause or contribute to an exceedance of an ambient air quality standard. In addition, the PSD program prevents emissions of pollutants in an attainment area from creating a nonattainment condition by limiting the allowable ambient impact of SO₂ emissions from new or modified major stationary sources to specific increments (refer to Table 3.4-3). These increments are designed to prevent new or modified sources from causing significant degradation of an area's air quality. For PSD purposes, major stationary sources are generally defined as those sources that emit more than 100 tons per year of an attainment pollutant. Ambient impacts from new or modified air pollution sources are generally determined through air quality modeling. Although the PSD process provides adequate means for assessing and regulating impacts from stationary sources of air pollution, this process does not provide a mechanism for dealing with nonstationary sources, such as motor vehicles and aircraft.

Section 176(c) of the CAA provides that a federal agency cannot support an activity in any way unless the federal agency determines that activity will conform to a U.S. EPA-approved SIP's purpose of attaining and maintaining the NAAQS. This means that federally supported or funded activities will not (1) cause or contribute to any new violation of any air quality standard, (2) increase the frequency or severity of any existing violation of any standard, or (3) delay the timely attainment of any standard or any required interim emission reductions or other milestones in any area. In accordance

with Section 176(c), the U.S. EPA promulgated the final conformity rule for general federal actions on November 30, 1993, which is codified as Title 40 CFR 51 Subpart W, and Title 40 CFR 93 Subpart B. Title 40 CFR 93 Subpart B applies to federal agencies until states revise their SIPs to adopt a conformity rule at least as stringent as U.S. EPA's rule (Title 40 CFR 51 Subpart W). U.S. EPA's rule contains several exemptions from conformity procedures for certain actions, on the basis that they are clearly below the threshold of significance (de minimis). These exemptions include the transfer of ownership of real property (Title 40 CFR 93.153 [c][2][xiv] and [xx]), as well as leasing agreements pending environmental restoration under CERCLA (Title 40 CFR 93.153 [c][2][xix]). As such, it is not necessary for the Air Force to prepare a conformity determination for disposal of the property. However, federal agencies would be required to comply with the conformity regulations and, if necessary, prepare conformity determinations prior to implementing federal actions associated with reuse of the property.

The conformity rule applies to federal actions occurring in federal nonattainment or maintenance areas. As noted previously, the project site is located in an area designated by the U.S. EPA as nonattainment for ozone, NO₂, CO, and PM₁₀.

The conformity rule defines the applicability criteria, including several source exemptions and emission thresholds, which determine whether the federal action requires a conformity determination. For example, non-exempt federal actions with total direct and indirect emissions that would remain below the de minimis emission thresholds and regionally significant thresholds do not require written conformity determinations prior to taking action. The specific de minimis emission thresholds for the SCAB are 10 tons per year for ozone precursors (VOCs or NO_x), 100 tons per year for CO, and 70 tons per year for PM₁₀ and its precursors. The definitions of total direct and indirect emissions for conformity purposes distinguish emissions according to timing and location rather than the type of emission source. Direct emissions occur at the same time and place as the federal action. Indirect emissions include those which may occur later in time or at a distance from the federal action. In addition, the conformity rule limits the scope of indirect emissions to those that can be quantified and are reasonably foreseeable by the federal agency at the time of analysis, and those that the federal agency can practicably control and maintain control through its continuing program responsibility.

If the federal reuse action is subject to a conformity determination, one of five criteria may be used to demonstrate positive conformity. These criteria are based on the type of pollutant and status of the applicable SIP. Examples include revising the applicable SIP to incorporate enforceable control measures to fully offset net emission increases, or fully offsetting net emission increases from other surplus emission reductions that become available in the region.

If a written conformity determination is required, the regulations include provisions for public notice and review, including a 30-day public review period for draft determination, and notification to applicable federal, state, and local regulatory agencies.

Specific conformity determination requirements will be evaluated by the responsible federal agencies prior to their reuse actions. If the airfield is utilized as a civil airport, the FAA would likely be required to prepare a conformity determination for their ALP approval actions associated with federally funded airport developments at March ARB.

Emission Offsets. For purposes of demonstrating conformity under the U.S. EPA's rule for general federal actions, emission offsets are emission reductions that are quantifiable, consistent with the applicable SIP attainment and progress demonstrations, surplus to reductions already required by the SIP, enforceable, and permanent. These "conformity offsets" include ERCs and emission reductions that may not qualify as ERCs under local district rules. ERCs, as a subset of conformity offsets, are emission reductions traditionally derived from the shutdown or reduced operation of stationary sources and, in limited circumstances, from certain mobile sources, such as scrapped motor vehicles. Conformity offsets can include emission reductions from additional sources, such as aircraft and employee motor vehicle commutes to and from work. Conformity offsets generally cannot be derived from emission sources that are beyond the agency's ability to control, such as off-duty employee motor vehicle trips for shopping or other personal errands off base.

Realignment of a military installation can result in a substantial amount of emission reductions that qualify as conformity offsets but are not ERCs. Reduction in military aircraft activity and federal employee motor vehicle commutes generate large annual tonnages of emission reductions. These reductions can be allocated to other federal agencies for use as conformity offsets within the air basin. Potential conformity offset emissions from March AFB, based on the difference between prerealignment and realignment conditions, are shown in Table 4.4-1.

The amount of conformity offsets shown in Table 4.4-1 differs from the difference of prerealignment and realignment emission amounts listed in Tables 3.4-7 and 3.4-8. The tables in Chapter 3 represent total direct and indirect base-related emissions, including indirect sources that are beyond the Air Force's ability to control, and thereby do not qualify as conformity offsets.

4.4.3.1 Proposed Action

Construction. Fugitive dust would be generated during construction activities associated with the retained military, aviation support, industrial, business park, institutional, commercial, mixed use, residential, and public

Table 4.4-1. Potential Conformity Offset Emissions from Realignment of March AFB
(tons per year)

Emission Category	CO	NO _x	PM ₁₀	SO _x	VOC
Aircraft flight operations	292.7	386.6	4.2	11.5	5.4
Aircraft ground operations	1.9	0.6	0.1	0.1	1.4
Aerospace ground equipment	9.9	6.7	0.8	0.7	1.6
Motor vehicles ^(a)	643.0	59.7	6.2	4.1	75.8
Heating and power production	2.9	13.6	1.0	0.7	0.9
Area sources	--	--	--	--	61.3
Other identifiable sources	--	--	--	--	47.8
Total	950.4	467.2	12.3	17.1	194.2

Notes: Conformity emission offsets are equal to prerealignment emissions minus realignment emissions (1996) for those sources directly under the control of the Air Force.

(a) Motor vehicle emissions include only those vehicle miles traveled that are under the direct control of the Air Force, i.e., all on-base work trips and all off-base trips of the home to work type.

CO = carbon monoxide

NO_x = nitrogen oxides

PM₁₀ = particulate matter equal to or less than 10 microns in diameter

SO_x = sulfur oxide

VOC = volatile organic compound

facilities/recreation land uses proposed as part of the Proposed Action. Emissions from construction equipment, grading, excavation, demolition, and architectural coatings were calculated according to methods of the SCAQMD's CEQA Handbook, as detailed in Appendix I. Total PM₁₀ emissions from equipment, grading, excavation, and demolition were estimated to be 0.030 ton per day during the time period 1996-2001, 0.022 ton per day during 2001-2006, and 0.025 ton per day during 2006-2010. The impact of these PM₁₀ emissions would cause elevated short-term concentrations at receptors close to the construction areas. However, the elevated concentrations would be temporary and would fall off rapidly with distance.

Construction equipment combustion emissions and architectural coating emissions of CO, NO_x, SO_x, and VOC were determined to be 0.116 ton per day of CO, 0.533 ton per day of NO_x, 0.036 ton per day of SO_x, and 0.702 ton per day of VOC during the period 1996-2001. Emissions of CO, NO_x, SO_x, and VOC in the period 2001-2006 would be 0.100, 0.460, 0.031, and 0.593 ton per day, respectively. Emissions of these same pollutants from 2006 to 2010 would be 0.102, 0.541, 0.036, and 0.610 ton per day.

Operations. A summary of construction and operation emissions for the Proposed Action, including military and civilian activities, is presented in Table 4.4-2 for 2001, 2006, and 2010. The methods and results for emission source categories, including military and civilian operations, are presented in Appendix I.

Table 4.4-2. Emissions Associated with the Proposed Action (tons/year)

Pollutant	South Coast Air Basin ^(a)	March AFB			Reuse-related Emissions ^(b)	
	Prerealignment	Prerealignment	Realignment			
	1990	1992	1996	2001	2006	2010
CO	2,494,293	7,156.4	1,422.4	6,454.3	8,035.6	10,112.9
NO _x	470,901	1,431.4	286.2	1,434.4	1,884.0	2,490.4
PM ₁₀	305,958	258.8	36.3	337.7	568.7	939.3
SO ₂	44,180	84.1	13.7	92.8	139.1	185.1
VOC	536,484	1,679.8	877.1	1,935.1	2,091.8	2,217.0

Notes: (a) Data obtained from Appendix III-A of the 1994 Air Quality Management Plan (SCAQMD and SCAG, 1994).

(b) Emissions are total construction and operation emissions from both direct and indirect sources, as described in Appendix I.

CO = carbon monoxide

NO_x = nitrogen oxides

PM₁₀ = particulate matter equal to or less than 10 microns in diameter

SO₂ = sulfur dioxide

VOC = volatile organic compound

Potential impacts to air quality as a result of operational emissions from the Proposed Action were evaluated in terms of two spatial scales: regional and local. The regional-scale analysis considered the potential for total project emissions to cause the airshed to reach nonattainment for SO₂ as indicated by large increases in the regional SO₂ inventory or to hinder progress towards reaching attainment as indicated by emission increases greater than anticipated in the AQMP (CO, NO₂, PM₁₀, and VOC emissions). The local-scale analysis evaluated the potential for aircraft and traffic emissions to exceed the CAAQS and/or NAAQS in the immediate vicinity of the project site. If one of these conditions were to occur, the project would have an adverse impact on air quality.

Regional Scale. Emissions of pollutants from the Proposed Action may adversely impact regional levels. However, with the application of control measures identified in the 1994 AQMP and mitigations identified in this document, the impacts of the Proposed Action would be minimized. For this reason, and other reasons as discussed in the paragraphs below, it is not expected that the Proposed Action would delay regional progress toward attainment or affect maintenance of any standard in the SCAB or other potentially affected transport regions.

Reuse-Related Emissions. Table 4.4-2 provides a comparison of emission estimates for the SCAB (prerealignment), March AFB (prerealignment and realignment), and the Proposed Action for 2001, 2006, and 2010. This table shows that the total direct and indirect reuse-related emissions of VOC would increase from realignment conditions by 1,339.9 tons per year (3.67 tons per day) and would increase from prerealignment conditions by 537.2 tons per year (1.47 tons per day) in 2010. Reuse-related emissions of NO_x would increase by 2,204.2 tons per year (6.04 tons per day) from

realignment conditions and 1,059.0 tons per year (2.90 tons per day) over prerealignment conditions.

Table 4.4-2 provides a means to compare emissions from the Proposed Action to prerealignment and realignment emission levels. All NO_x emissions in Table 4.4-2 are assumed to convert to NO₂ emissions on a regional basis. Direct and indirect reuse-related CO, NO₂, PM₁₀, and SO₂ emissions would increase by 8,690.5 tons per year (23.80 tons per day), 2,204.1 tons per year (6.04 tons per day), 903.0 tons per year (2.47 tons per day), and 171.4 tons per year (0.47 ton per day) over realignment conditions, respectively. Emission increases over prerealignment conditions would be 2,956.5, 1,058.9, 680.4, and 101.0 tons per year (8.10, 2.90, 1.86, and 0.28 tons per day) for the same pollutants, respectively.

Regional Burden. Although the reuse-related annual emissions of CO, NO_x, PM₁₀, SO₂, and VOC appear to increase substantially over prerealignment conditions, the actual emission increases realized throughout the SCAB would be far lower, for three major reasons. First, the calculated reuse emissions are conservative in that a number of emission reductions planned as part of the AQMP process were not quantifiable and thus have not been taken into account. Second, vehicle emission factors used to calculate VMT emissions do not fully account for planned technological advancements that could significantly reduce future emissions. Finally, most of the emissions associated with reuse would merely be transferred from other areas of the basin and would occur within the basin with or without reuse activity.

A number of the control measures planned for implementation as part of the 1994 AQMP are designed to achieve emission reductions, although the amount of projected reduction cannot be quantified by the SCAQMD. Many of these measures would also reduce emissions associated with reuse activity by some unquantifiable amount. In particular, the following Stationary and Mobile Source Control Measures would provide reuse-related emission reductions for the indicated pollutants:

CM #94CTS-03 - Consumer Product Education Labeling Program (VOC)

CM #94CTS-04 - Public Awareness/Education Programs - Area Sources (VOC)

CM #94FUG-03 - Further Emission Reductions from Floating Roof Tanks (VOC)

CM #94CMB-03 - Area Source Credits for Commercial and Residential Combustion Equipment (NO_x)

CM #94CMB-04 - Area Source Credits for Energy Conservation/Efficiency (NO_x)

CM #94BCM-01 - Emission Reductions from Paved Roads (PM₁₀)

CM #94BCM-02 - Further Emission Reductions from Construction and Demolition Activities (PM₁₀)

CM #94BCM-03 - Further Emission Reductions from Unpaved Roads, Unpaved Parking Lots and Staging Areas (PM₁₀)

CM #94BCM-04 - Emission Reductions from Agricultural Activities (PM₁₀)

CM #94BCM-05 - Emission Reductions from Miscellaneous Sources (PM₁₀)

CM #94MSC-01 - Promotion of Lighter Color Roofing and Road Materials and Tree Planting Programs (CO, NO_x, PM₁₀, SO₂, and VOC)

CM #94MSC-02 - In-Use Compliance Program for Air Pollution Control Equipment (CO, NO_x, PM₁₀, SO₂, and VOC)

CM #94WST-02 - Emission Reductions from Composting of Dewatered Sewage Sludge (VOC and PM₁₀)

CM #94MON-01 - Emission Reduction Credit for Low-Emission Retrofit Fleet Vehicles (CO, NO_x, and VOC)

CM #94MON-02 - Eliminate Excessive Car Dealership Vehicle Starts (VOC)

CM #94MON-03 - Enhanced Inspection and Maintenance Program (CO, NO_x, and VOC)

CM #94MON-04 - Eliminate Excessive Curb Idling (CO and VOC)

CM #94MON-06 - Emission Reduction Credit for Heavy-Duty Trucks (CO, NO_x, PM₁₀, SO₂, and VOC)

CM #94MON-08 - Further NO_x Reductions for Heavy-Duty Engines (NO_x)

CM #94FIP-01 - Enhanced In-Use Compliance Program for Cars and Light- and Medium-Duty Trucks (CO, NO_x, and VOC)

CM #94FIP-02 - Restriction on Importation of 49-State Motor Vehicles (CO, NO_x, and VOC)

CM #94FIP-05 - Nonroad Vehicles and Engines, On-Highway Motorcycles (CO, NO_x, and VOC)

CM #94MOF-03 - Emission Reduction Credits for Leaf Blowers (VOC)

CM #94MOF-04 - Off-Road Mobile Source Emission Reduction Credit Programs (VOC and NO_x)

In addition, seven Indirect Source Control Measures identified in the AQMP are directed toward reducing emissions from vehicle trips and VMT from sources that generate or attract vehicle trips. Although presently not quantifiable, each of these Indirect Source Control Measures would provide some amount of reduction in reuse-related emissions.

CM #94ISR-01 - Special Event Centers (CO, NO_x, PM₁₀, SO₂, and VOC)

CM #94ISR-02 - Regional Shopping Centers (CO, NO_x, PM₁₀, SO₂, and VOC)

CM #94ISR-03 - Registration and Commercial Vehicles (CO, NO_x, PM₁₀, SO₂, and VOC)

CM #94ISR-04 - Airport Ground Access (CO, NO_x, PM₁₀, SO₂, and VOC)

CM #94ISR-05 - Trip Reduction for Schools (CO, NO_x, PM₁₀, SO₂, and VOC)

CM #94ISR-06 - Enhanced Rule 1501 (CO, NO_x, PM₁₀, SO₂, and VOC)

CM #94ISR-07 - Parking Cash-Out (CO, NO_x, PM₁₀, SO₂, and VOC)

Five Advanced Transportation Technology Measures identified in the AQMP would reduce emissions from mobile sources but, again, the reductions cannot be quantified at this time. Implementation of these Advanced Transportation Technology Measures would reduce mobile emissions associated with reuse activity by some indeterminate amount.

CM #94ATT-01 - Telecommunications (CO, NO_x, PM₁₀, SO₂, and VOC)

CM #94ATT-02 - Advanced Shuttle Transit (CO, NO_x, PM₁₀, SO₂, and VOC)

CM #94ATT-03 - Zero-Emission Vehicles/Infrastructure (CO, NO_x, PM₁₀, SO₂, and VOC)

CM #94ATT-04 - Alternative Fuel Vehicles/Infrastructure (CO, NO_x, PM₁₀, SO₂, and VOC)

CM #94ATT-05 - Intelligent Vehicle Highway Systems (CO, NO_x, PM₁₀, SO₂, and VOC)

In addition, one of the three Market Incentive Measures identified in the 1994 AQMP would result in emission reductions prior to 2010. CM #94MKT-02 (At-the-Pump Pricing) would reduce CO, NO_x, PM₁₀, and VOC emissions from passenger vehicles by levying a fee on the price of fuel based on the emission products of the fuel. The at-the-pump measure would increase the competitiveness of clean fuel technologies and reduce emissions by some as yet unquantifiable amount.

In 2010, approximately 56 percent of reuse-related NO_x emissions and 19 percent of VOC emissions would result from motor vehicles. It is difficult to accurately estimate the emission reductions that would result from implementation of the Mobile, Indirect, Advanced Transportation Technology, and Market Incentive control measures. However, because each of the control measures in these categories would reduce motor vehicle emissions, it is expected that the overall effect of the reductions would be significant and total Proposed Action emissions would be substantially lower than indicated in Table 4.4-2.

The second primary reason why reuse-related emissions would be less than indicated in Table 4.4-2 is that vehicle emission factors used to calculate VMT emissions do not fully account for planned technological advancements that could significantly reduce future emissions. The emission factors used in the VMT calculations were obtained from the SCAQMD's CEQA Handbook (see Appendix I for a description of the methodology used to calculate VMT emissions). The CEQA Handbook is being revised and updated by the SCAQMD. As part of this revision process, the vehicle emission factors currently available from the CARB's EMFAC7EP program will be updated. The new emission factors will account for more stringent emission standards being promulgated by both CARB and the U.S. EPA, accelerated fleet turnover to low-emission vehicles, and increased use of alternative fuels. The effect of these considerations will be to lower the emission factors.

The third, and perhaps most significant, reason why basinwide emissions would not actually increase by the amounts indicated in the previous two subsections (Ozone Precursors; CO, NO_x, PM₁₀, and SO₂) is that most of the emissions associated with reuse would merely be transferred from other areas of the basin and would occur within the basin with or without reuse activity. For example, there are currently five major commercial airports in the basin: Los Angeles International, Ontario International, Burbank, Long Beach Municipal, and John Wayne International airports. If the Proposed Action is implemented, it was assumed that some of the projected regional growth in passenger and cargo activities would be absorbed by March ARB

because of greater convenience and/or lower cost. As the passenger and cargo activities shift, so would the emissions. However, it is difficult to estimate what portion of the estimated aircraft emissions and aircraft-related ground equipment and VMT emissions would be new emissions within the basin versus emissions transferred from another location within the basin. An additional benefit from the shifting of airport activities would be the reduction of delays and emissions generated because of those delays. Aircraft queuing times (waiting for clearance to takeoff or land) would be reduced, and passengers and cargo would be able to reach the terminal in less time because of less ground traffic.

It can also be assumed that most of the population, along with their associated emissions, attracted to the planned reuse would be transferred from other areas of the basin. Many people who now live in the Riverside area and commute to work in Los Angeles or Orange counties would transfer to a job on the disposal property, requiring a shorter commuting distance. Only the new population that would in-migrate from areas outside the basin would truly contribute new emissions to the basinwide total. Therefore a more accurate estimate of new basinwide emissions can be calculated by considering only the sum of emissions from new aircraft-related activity (assume 75 percent of aircraft-related emissions would be from new activity and 25 percent would be transferred from elsewhere in the SCAB), new in-migrating population (defined as secondary population emissions in Appendix I), and new reuse-related construction activity. Some new emissions would also be associated with VMTs generated by increased commercial and cargo activity. However, it is assumed that this increase would be offset by the decrease in VMT caused by the more efficient location of a local terminal. Under these circumstances, the estimates of 2010 basinwide emission increases caused by the Proposed Action would be as follows: 467.0 tons per year (1.28 tons per day) of CO, 565.5 tons per year (1.55 tons per day) of NO_x, 44.5 tons per year (0.12 ton per day) of PM₁₀, 28.3 tons per year (0.08 ton per day) of SO₂, and 333.7 tons per year (0.91 ton per day) of VOC.

These estimates, although still conservative because of unquantifiable control measure reductions and use of outdated mobile emission factors, represent only small fractions of the 2010 emission inventories projected in the 1994 AQMP. In particular, these emission estimates projected for the Proposed Action represent increases of 0.03, 0.16, 0.01, 0.07, and 0.09 percent over emissions projected in the AQMP for CO, NO_x, PM₁₀, SO₂, and VOC, respectively. These small increases are not expected to interfere with attainment or maintenance of the NAAQS for any pollutant.

Local Scale. A summary of the EDMS analysis for the Proposed Action is presented in Table 4.4-3. The modeling results show that during peak hours of airfield operation, the maximum 1-hour pollutant concentration would occur at a receptor located approximately 350 meters from the north end of the runway. The primary contributing factor would be aircraft exhaust emitted during takeoffs.

Table 4.4-3. Air Quality Modeling Results for Airport Operations Associated with the Proposed Action ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Time	March AFB					Reuse-Related Impact ^(a)		Limiting Standard ^(c)	
		Pre-realignment 1992	Realignment 1996	2001	2006	2016	Background Concentration ^(b)		NAAQS	CAAQS
Carbon monoxide	8-hour	41.5	11.3	26.8	35.7	31.7	7,610		10,000	10,000
	1-hour	250.4	53.8	124.1	162.8	218.5	12,586		40,000	23,000
Sulfur dioxide	Annual	0.004	0.002	0.033	0.046	0.069	1		80	---
	24-hour	0.28	0.12	0.60	0.82	1.20	19		365	105
	3-hour	4.8	1.7	9.5	13.0	17.7	62		1,300	---
	1-hour	5.3	1.9	10.6	14.4	19.7	62		---	655
PM ₁₀	Annual (arithmetic)	0.004	0.016	0.020	0.021	0.025	59.7 ^(d)		50	---
	Annual (geometric)	0.004	0.016	0.020	0.021	0.025	49.5 ^(d)		---	30
	24-hour	0.30	0.37	0.41	0.47	0.49	143.8 ^(d)		150	50

- Notes: (a) Project pollutant concentrations determined from the Emissions and Dispersion Modeling System results. Concentrations represent continued military aircraft operations and incremental increase of civilian airport operations.
- (b) Background concentrations are assumed to equal the mean of maximum concentrations measured during the period 1990-1992 (refer to Table 3.4-4).
- (c) Impacts determined by comparing the aggregate of reuse-related impact and background concentration to the limiting standard.
- (d) PM₁₀ background values are representative of concentrations predicted by the South Coast Air Quality Management District for the year 2000 in the Rubidoux area (see Chapter 6 of Technical Report V-C (Part 1) of the 1994 Air Quality Management Plan). PM₁₀ background concentrations obtained from this same source for the year 2006 are: annual average arithmetic mean = 49.6 $\mu\text{g}/\text{m}^3$; annual geometric mean = 44.0 $\mu\text{g}/\text{m}^3$; and 24-hour average = 104.1 $\mu\text{g}/\text{m}^3$.
- CAAQS = California Ambient Air Quality Standards
 NAAQS = National Ambient Air Quality Standards
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 PM₁₀ = particulate matter equal to or less than 10 microns in diameter

The modeling results indicate that the sums of maximum aircraft-related pollutant concentrations plus background concentrations are less than the applicable standards except for PM₁₀. In 2001, PM₁₀ would exceed the federal and state annual standards and the state 24-hour standard due to background concentrations alone. By 2006, the exceedance of the federal annual standard would be eliminated because the PM₁₀ background concentration is predicted to decrease. However, the state standards for PM₁₀ would continue to be exceeded.

Localized Intersection Impacts. CO concentrations were modeled at receptors in the vicinity of six intersections in the project area (Appendix I). The model accounts for expected decreases in background concentrations for the region, as well as for future technology and control measures that would reduce exhaust emission factors. Therefore, background CO concentrations projected for future years are lower than those projected for 1996. Modeling results for the Proposed Action are presented in Table 4.4-4.

**Table 4.4-4. Proposed Action, Summary of Maximum 1-hour and 8-hour CO Concentrations
(Alternative Plus Background, ppm)**

Intersection	2001		2006		2010	
	1-hour	8-hour	1-hour	8-hour	1-hour	8-hour
Alessandro Blvd/ Mission Grove Pkwy	15.4	10.2	13.9	9.0	13.8	8.9
Elsworth St/Alessandro Blvd	16.8	11.3	14.0	9.1	13.0	8.3
Elsworth St/Cactus Ave	19.8	13.7	17.0	11.5	16.0	10.7
Graham St/Alessandro Blvd	20.0	13.9	16.6	11.2	15.6	10.4
Graham St/Cactus Ave	20.6	14.4	18.8	12.9	18.4	12.6
Trautwein Rd/ Van Buren Blvd	16.0	10.7	14.0	9.1	12.8	8.1

Note: Ambient Air Quality Standards National: 1-hour = 35 ppm 8-hour = 9 ppm
California: 1-hour = 20 ppm 8-hour = 9 ppm
CO = carbon monoxide
ppm = parts per million

The maximum predicted 1-hour concentration of 20.6 ppm in 2001 is an increase of 0.1 ppm over the maximum predicted 1-hour concentration in 2001 for the No-Action Alternative, and would result in an exceedance at one additional intersection in that year. The maximum predicted 8-hour concentration of 14.4 ppm in 2001 is an increase of 0.1 ppm over the maximum predicted 8-hour concentration in 2001 under the No-Action Alternative. However, CO concentrations at several intersections would be lower under the Proposed Action than under the No-Action Alternative.

Under the No-Action Alternative, regional growth would result in exceedances of the 8-hour CO standards at the Elsworth Street/Cactus Avenue, Graham Street/Alessandro Boulevard, and Graham Street/Cactus Avenue intersections in 2010. Reuse-related traffic emissions under the Proposed Action would increase CO concentrations at two of these intersections. At the Graham Street/Alessandro Boulevard intersection, 8-hour CO concentrations would be less than under the No-Action Alternative, but would still exceed the standards.

Mitigation Measures. Because the projected Proposed Action emissions of all pollutants would be greater than emissions under prerealignment conditions, the reuse proponents should incorporate all feasible mitigation measures to reduce emissions to the maximum extent possible.

Several mitigation measures may be implemented to reduce the air quality impacts associated with the construction and operation activity emissions from the Proposed Action. As part of the environmental impact analysis process required under the California Environmental Quality Act (CEQA), the project proponent and lead agencies would be responsible for identifying and quantifying feasible mitigation measures capable of being accomplished in a successful manner within a reasonable period of time, while taking into

account economic, environmental, legal, social, and technological factors. Recommended mitigation measures to lessen air quality impacts would be provided by SCAQMD, the cognizant local regulatory agency, through the consultation process. According to the SCAQMD, only mitigation measures that meet the following criteria should be used to reduce a project's emissions. The following are suggested as potential mitigation measures that may be negotiated to reduce reuse-related construction and operation emissions.

- The effect of the mitigation measures should coincide with the cause of the impact.
- The agency responsible for implementing the mitigation measures should have the resources to carry out the mitigation.
- To ensure implementation and enforcement, the mitigation should be enforceable by a legally binding contract.
- The mitigation measures should define the basis for their monitoring and enforcement.
- The mitigation measure can be reasonably accomplished within a reasonable time frame by the project proponent.
- Public agencies should verify the effectiveness assumed for any public improvements or permitting requirements that are used as mitigation measures.

Resolution of these above criteria will be dependent upon the size and scope of the reuse actions. Reuse proponents and developers will need to work closely with the lead agencies and the SCAQMD to develop feasible mitigation measures for their particular project. Negotiation between the involved parties could be conducted as part of the CEQA process, soon after the identified action is fully described. The suggested mitigation measures discussed below may be negotiated to reduce reuse-related construction and operation emissions.

Construction Mitigation Measures. Emissions from various components of construction activities could be reduced through the measures identified below (SCAQMD, 1993). The project proponent would be responsible for implementing these measures.


- Emissions from on-road mobile sources due to construction activities could be reduced approximately 1 percent through providing temporary traffic control to improve traffic flow, scheduling construction activities during off-peak hours, and

developing a trip reduction plan to achieve an average vehicle ridership (AVR) of 1.5 among construction employees.

- Emissions from off-road mobile sources due to construction activities could be reduced approximately 99 percent by suspending construction activities during second-stage smog alerts, using electricity from power poles rather than temporary gasoline- or diesel-powered generators, prohibiting trucks from idling longer than 2 minutes, and using alternative fuels (such as methanol or natural gas) in place of diesel fuel.
- Fugitive dust emissions due to grading activities could be reduced approximately 50 percent through watering exposed graded areas twice daily, replacing ground cover in disturbed areas, covering hauled loads, and suspending grading operations when wind gusts exceed 25 mph.
- Fugitive dust emissions due to travel of construction equipment on paved roads could be reduced approximately 65 percent through sweeping access roads daily, and washing dust from construction equipment leaving the construction site.
- Fugitive dust emissions due to travel of construction equipment on unpaved roads could be reduced approximately 85 percent by watering unpaved roads three times daily, limiting traffic speeds to 15 mph, and paving construction access roads at least 100 feet from the main road.

Operations Mitigation Measures. Emissions from operational activities could be reduced through the measures identified below (SCAQMD, 1993). The residential and commercial developers would be responsible for implementing these measures.

- Emissions from on-road mobile sources due to increased residential populations could be reduced approximately 15 percent by synchronizing traffic lights on streets impacted by the development, constructing overpasses and wider sidewalks to encourage travel by foot, including satellite telecommunication centers in residential subdivisions, establishing a shuttle service, and including retail services within or adjacent to residential subdivisions. Residential developers would be responsible for implementing these measures.
- Emissions from on-road mobile sources due to increased commercial or industrial populations could be reduced approximately 15 percent by providing preferential parking spaces for carpools and vanpools, implementing compressed



work week schedules, developing trip reduction plans to achieve a 1.5 AVR, utilizing satellite offices to reduce VMT, providing on-site child care facilities, implementing parking structure modifications to reduce vehicle queuing, providing video conference facilities, minimizing use of fleet vehicles during smog alerts, and using low-emission fleet vehicles. Employers and commercial/industrial developers would be responsible for implementing these measures.

- Stationary source emissions from residential, commercial, and industrial structures could be reduced approximately 45 percent through measures designed to reduce energy demands, such as installing solar or low-emission water heaters and double-glass paned windows, using light colored roofing materials to reflect heat, orienting buildings to the north for natural cooling, and increasing wall and attic insulation beyond Title 24 requirements. Residential and commercial/industrial developers would be responsible for implementing these measures.

Ozone precursor emissions could be controlled by the following methods:

- All internal combustion engine-driven equipment should be properly maintained and tuned according to manufacturer specifications.
- Idling of all internal combustion equipment should be limited to 10 minutes at any given time.
- Developers should use building materials that do not require the use of paints/solvents.

Future reuse proponents will be responsible for complying with all applicable permitting requirements for new or modified emission sources subject to SCAQMD rules and regulations. These requirements may include provisions to mitigate and offset emission increases and/or impacts associated with the new sources.

4.4.3.2 SKR/Aviation Alternative

Construction. Construction impacts from the SKR/Aviation Alternative would be less than those for the Proposed Action because less renovation, demolition, and new construction is scheduled to occur under this alternative. Using the same methodology as the Proposed Action, emissions of PM₁₀ are estimated to be 0.020 ton per day from 1996 to 2001 and 0.018 ton per day during both the 2001-2006 and 2006-2016 time periods. The impact of these emissions would cause short-term elevated

concentrations of particulates at receptors close to the construction areas. The concentrations would decrease rapidly with distance from the site.

Combustion emissions from construction equipment and architectural coating emissions were calculated in the same manner as described previously for the Proposed Action. The average daily combustive emissions due to construction from 1996 to 2001 were estimated to be 0.073 ton of CO, 0.366 ton of NO_x, 0.022 ton of SO_x, and 0.466 ton of VOC; from 2001 to 2006 emissions were estimated to be 0.083 ton of CO, 0.380 ton of NO_x, 0.025 ton of SO_x, and 0.508 ton of VOC; and from 2006 to 2016, emissions were estimated to be 0.079 ton of CO, 0.365 ton of NO_x, 0.024 ton of SO_x, and 0.500 ton of VOC.

Operations. Table 4.4-5 summarizes the results of the construction and operation emission calculations associated with the SKR/Aviation Alternative, including military and civilian activities, for 2001, 2006, and 2010. Aircraft emissions were estimated with the EDMS model. The methods and results for emission source categories, including military and civilian operations, are presented in Appendix I.

Table 4.4-5. Emissions Associated with the SKR/Aviation Alternative (tons/year)

Pollutant	South Coast Air Basin ^(a)	March AFB		Reuse-related Emissions ^(b)		
	Prerealignment	Prerealignment	Realignment	2001	2006	2010
	1990	1992	1996			
CO	2,494,293	7,156.4	1,422.4	4,797.7	6,014.3	7,706.6
NO _x	470,901	1,431.4	286.2	1,209.3	1,640.4	2,171.1
PM ₁₀	305,958	258.8	36.3	249.3	407.1	657.3
SO ₂	44,180	84.1	13.7	72.4	110.2	146.5
VOC	536,484	1,679.8	877.1	1,493.3	1,625.3	1,723.5

Notes: (a) Data obtained from Appendix III-A of the 1994 Air Quality Management Plan (SCAQMD and SCAG, 1994).

(b) Emissions are total construction and operation emissions from both direct and indirect sources, as described in Appendix I.

CO = carbon monoxide

NO_x = nitrogen oxides

PM₁₀ = particulate equal to or less than 10 microns in diameter

SO₂ = sulfur dioxide

VOC = volatile organic compound

Regional Scale. Emissions of pollutants due to the SKR/Aviation Alternative may adversely impact regional levels. However, the impacts from the SKR/Aviation Alternative would be minimized by the application of mitigation measures identified in this document and control measures identified in the 1994 AQMP. For this reason, and other reasons previously discussed for the Proposed Action, the SKR/Aviation Alternative is not expected to delay regional progress toward attainment or maintenance of any ambient air quality standard in the SCAB or other potentially affected transport region.

Reuse-Related Emissions. Table 4.4-5 shows that total reuse-related emissions of NO_x would increase by 1,884.9 tons per year (5.16 tons per day) over realignment conditions and would exceed prerealignment emissions by 739.7 tons per year (2.03 tons per day) by 2010. Emissions of VOC would increase over realignment conditions by 846.4 tons year (2.32 tons per day) by 2010, and would be 43.7 tons per year (0.12 ton per day) over prerealignment levels in 2010.

Reuse-related emissions of CO, NO₂, PM₁₀, and SO₂ would increase from prerealignment and realignment levels as shown in Table 4.4-5 (all NO_x are assumed to convert to NO₂ on a regional basis). By 2010, emissions of CO, NO₂, PM₁₀, and SO₂ would be 550.2 tons per year (1.51 tons per day), 739.7 tons per year (2.03 tons per day), 398.4 tons per year (1.09 tons per day), and 62.4 tons per year (0.17 ton per day) over prerealignment emissions levels, respectively.

Regional Burden. As discussed for the Proposed Action, the only new reuse-related emissions that would occur in the SCAB would be those associated with new civilian aircraft activity, in-migrating population, and construction. The estimated net regional burden (75 percent of the total civilian aircraft emissions, 100 percent of the in-migrating population emissions, and 100 percent of the construction emissions) is expected to be 662.6 tons per year (1.82 tons per day) of NO_x and 349.1 tons per year (0.96 ton per day) of VOC by 2010. These amounts represent emission increases of only 0.18 and 0.10 percent over the 2010 emission inventories projected in the 1994 AQMP for NO_x and VOC, respectively. With the NO_x and VOC emission reductions from the unquantifiable AQMP control measures discussed under the Proposed Action, absorption of a portion of projected regional growth in passenger and cargo activity, and the intra-basin transfer of population and VMT emissions, the SKR/Aviation Alternative would not delay the attainment of the NAAQS for O₃.

Accounting only for the new emissions that would occur in the SCAB (i.e., 75 percent of civilian aircraft emissions and 100 percent of in-migrating and construction emissions), the net regional burden of CO, NO₂, PM₁₀, and SO₂, would be 641.5 tons per year (1.76 tons per day), 662.6 tons per year (1.82 tons per day), 36.0 tons per year (0.10 ton per day), and 30.0 tons per year (0.08 ton per day), respectively, by 2010. These amounts represent emission increases of only 0.05, 0.18, 0.01, and 0.07 percent over the 2010 emission inventories projected in the 1994 AQMP for the same pollutants, respectively. With NO₂, PM₁₀, SO₂, and CO emission reductions from the unquantifiable AQMP control measures discussed under the Proposed Action, absorption of a portion of projected regional growth in passenger and cargo activity, and the intra-basin transfer of emissions, the SKR/Aviation Alternative is not expected to delay the progress toward attainment or affect maintenance for any standard.

Local Scale. A summary of the EDMS analysis for the SKR/Aviation Alternative is presented in Table 4.4-6. The modeling results determined that for the peak-hour airport operation scenario, the maximum 1-hour pollutant concentration would occur at the same receptor location described under the Proposed Action. The modeling results indicate that all of the total pollutant concentrations, except for PM₁₀, would be below the applicable standards and would have no adverse impact on the local air quality. By 2001, the PM₁₀ federal and state annual standards and the state 24-hour standard would be exceeded by the background concentrations alone. Because PM₁₀ background concentrations are predicted to decrease, the federal standards would all be met by 2006. However, state standards would continue to be exceeded by background concentrations alone through 2010.

Table 4.4-6. Air Quality Modeling Results for Airport Operations Associated with the SKR/Aviation Alternative (µg/m³)

Pollutant	Averaging Time	March AFB		Reuse-Related Impact ^(a)			Background Concentration ^(b)	Limiting Standard ^(c)	
		Prerealignment 1992	Realignment 1996	2001	2006	2010		NAAQS	CAAQS
Carbon monoxide	8-hour	41.5	11.3	35.1	28.7	45.7	7,610	10,000	10,000
	1-hour	250.4	53.8	160.4	197.9	327.1	12,586	40,000	23,000
Sulfur dioxide	Annual	0.004	0.002	0.046	0.064	0.102	1	80	---
	24-hour	0.28	0.12	0.82	1.10	1.73	19	365	105
	3-hour	4.8	1.7	12.9	16.1	23.8	62	1,300	---
	1-hour	5.3	1.9	14.3	17.9	26.4	62	---	655
PM ₁₀	Annual	0.004	0.016	0.021	0.025	0.034	59.7 ^(d)	50	---
	(arithmetic)								
	Annual	0.004	0.016	0.021	0.025	0.034	49.5 ^(d)	---	30
	(geometric)								
	24-hour	0.30	0.37	0.45	0.50	0.65	143.8 ^(d)	150	50

- Notes: (a) Project pollutant concentrations determined from Emissions and Dispersion Modeling System results. Concentrations represent continued military aircraft operations and incremental increase of civilian airport operations.
- (b) Background concentrations assumed to equal the mean of maximum concentrations measured during the period 1990-1992 (refer to Table 3.4-4).
- (c) Impacts determined by comparing the aggregate of reuse-related impact and background concentration to the limiting standard.
- (d) PM₁₀ background values are representative of concentrations predicted by the South Coast Air Quality Management District for the year 2000 in the Rubidoux area (see Chapter 6 of Technical Report V-C (Part 1) of the 1994 Air Quality Management Plan). PM₁₀ background concentrations obtained from this same source for the year 2006 are: annual average arithmetic mean = 49.6 µg/m³; annual geometric mean = 44.0 µg/m³; and 24-hour average = 104.1 µg/m³.
- CAAQS = California Ambient Air Quality Standards
- NAAQS = National Ambient Air Quality Standards
- µg/m³ = micrograms per cubic meter
- PM₁₀ = particulate matter equal to or less than 10 microns in diameter

Localized Intersection Impacts. CO concentrations were modeled at receptors in the vicinity of six intersections in the project area (Appendix I). Modeling results for the SKR/Aviation Alternative are presented in Table 4.4-7.

Table 4.4-7. SKR/Aviation Alternative, Summary of Maximum 1-Hour and 8-Hour CO Concentrations (Alternative Plus Background, ppm)

Intersection	2001		2006		2010	
	1-hour	8-hour	1-hour	8-hour	1-hour	8-hour
Alessandro Blvd/Mission Grove Pkwy	15.5	10.3	14.7	9.6	14.5	9.5
Elsworth St/Alessandro Blvd	16.4	11.0	14.9	9.8	13.7	8.8
Elsworth St/Cactus Ave	20.9	14.6	16.0	10.7	15.4	10.2
Graham St/Alessandro Blvd	21.0	14.7	16.7	11.2	15.9	10.6
Graham St/Cactus Ave	21.0	14.7	18.9	13.0	17.4	11.8
Trautwein Rd/Van Buren Blvd	16.3	10.9	15.0	9.9	13.6	8.8

Note: Ambient Air Quality Standards National: 1-hour = 35 ppm 8-hour = 9 ppm
 California: 1-hour = 20 ppm 8-hour = 9 ppm

CO = carbon monoxide
 ppm = parts per million

The maximum predicted 1-hour concentration of 21.0 ppm in 2001 is an increase of 0.5 ppm over the maximum predicted 1-hour concentration in 2001 for the No-Action Alternative. There would be exceedances of the 1-hour standard at two additional intersections in that year. The maximum predicted 8-hour concentration of 14.7 ppm in 2001 is an increase of 0.4 ppm over the maximum predicted 8-hour concentration in 2001 under the No-Action Alternative. However, CO concentrations at some intersections would be lower under the SKR/Aviation Alternative than under the No-Action Alternative.

Under the No-Action Alternative, regional growth would result in exceedances of the 8-hour CO standards at the Elsworth Street/Cactus Avenue, Graham Street/Alessandro Boulevard, and Graham Street/Cactus Avenue intersections in 2010. Reuse-related traffic emissions under the SKR/Aviation Alternative would increase CO concentrations at two of these intersections and create an exceedance of the 8-hour CO standards at the Alessandro Boulevard/Mission Grove Parkway intersection in 2010. At the Graham Street/Alessandro Boulevard intersection, 8-hour CO concentrations would be less than under the No-Action Alternative, but would still exceed the standards.

Mitigation Measures. Mitigation measures would be similar to those described under the Proposed Action.

4.4.3.3 SKR/Cargo Alternative

Construction. With less renovation, demolition, and new construction planned for the SKR/Cargo Alternative than for the Proposed Action and SKR/Aviation Alternative, construction impacts would also be less. Total PM₁₀ emissions from equipment, grading, excavation, and demolition were determined to be 0.017 ton per day from 1996 to 2001, 0.015 ton per day from 2001 to 2006, and 0.013 ton per day from 2006 to 2010. The impact of these emissions would cause short-term elevated concentrations of particulates at receptors close to the construction areas. The concentrations would decrease rapidly with distance from the site.

Equipment combustion and architectural coating emissions were calculated in the same manner as described previously for the Proposed Action. The average daily combustive emissions due to construction were determined to be 0.061 ton of CO, 0.281 ton of NO_x, 0.019 ton of SO_x, and 0.323 ton of VOC during the period 1996-2001. Emissions of CO, NO_x, SO_x, and VOC from 2001 to 2006 would be 0.069, 0.317, 0.021, and 0.357 ton per day, respectively. Emissions of the same pollutants from 2006 to 2010 would be 0.063, 0.291, 0.019, and 0.333 ton per day.

Operations. A summary of construction and operation emissions that would occur in the SCAB as a result of the SKR/Cargo Alternative, including military and civilian activities, is presented in Table 4.4-8 for 2001, 2006, and 2010. Aircraft emissions were estimated with the EDMS model. The methods and results for emission source categories, including military and civilian operations, are presented in Appendix I.

Regional Scale. Emissions of CO, NO_x, PM₁₀, SO₂, and VOC from operations and activities associated with the SKR/Cargo Alternative may adversely affect regional pollutant levels. However, the impacts from the SKR/Cargo Alternative would be minimized by the application of mitigation measures identified in this document and control measures identified in the 1994 AQMP. For this reason and other reasons previously discussed for the Proposed Action, this alternative is not expected to delay attainment or maintenance of any ambient air quality standard in the SCAB or other potentially affected transport region.

Reuse-Related Emissions. As shown in Table 4.4-8, NO_x emissions in 2010 would increase by 197.0 tons per year (0.54 ton per day) over prerealignment levels. However, the VOC emission levels would be 228.0 tons per year (0.62 ton per day) below prerealignment emission levels.

Project-related emissions of NO₂, PM₁₀, and SO₂ would exceed prerealignment emission levels in 2010 by 197.0 tons per year (0.54 ton per day), 101.6 tons per year (0.28 ton per day), and 10.1 tons per year (0.03 ton per day), respectively. (All NO_x are assumed to convert to NO₂ on

Table 4.4-8. Emissions Associated with the SKR/Cargo Alternative (tons/year)

Pollutant	South Coast Air Basin ^(a)	March AFB		Reuse-related Emissions ^(b)		
	Prerealignment	Prerealignment	Realignment	2001	2006	2010
	1990	1992	1996			
CO	2,494,293	7,156.4	1,422.4	3,180.6	3,833.9	4,886.2
NO _x	470,901	1,431.4	286.2	871.5	1,161.3	1,628.4
PM ₁₀	305,958	258.9	36.3	159.9	239.5	360.5
SO ₂	44,180	84.1	13.7	47.9	70.8	94.2
VOC	536,484	1,679.8	877.1	1,259.4	1,346.9	1,451.8

Notes: (a) Data obtained from Appendix III-A of the 1994 Air Quality Management Plan (SCAQMD and SCAG, 1994).

(b) Emissions are total construction and operation emissions from both direct and indirect sources, as described in Appendix I.

CO = carbon monoxide

NO_x = nitrogen oxides

PM₁₀ = particulate equal to or less than 10 microns in diameter

SO₂ = sulfur dioxide

VOC = volatile organic compound

a regional basis.) Emissions of CO would be 2,270.2 tons per year (6.22 tons per day) less than the prerealignment levels.

Regional Burden. As discussed for the Proposed Action, the only new reuse-related emissions that would occur in the SCAB would be those associated with new civilian aircraft activity, in-migrating population, and construction. The net regional burden (75 percent of the total civilian aircraft emissions, 100 percent of the in-migrating population emissions, and 100 percent of the construction emissions) is expected to be 600.0 tons per year (1.64 tons per day) of NO_x and 288.9 tons per year (0.79 ton per day) of VOC by 2010. These amounts represent emission increases of only 0.17 and 0.08 percent over the 2010 emission inventories projected in the 1994 AQMP for NO_x and VOC, respectively. With the NO_x and VOC emission reductions from the unquantifiable AQMP control measures discussed under the Proposed Action, absorption of a portion of the projected regional growth in cargo activity, the intra-basin transfer of emissions, and the reduction in VOC emissions from prerealignment, the SKR/Cargo Alternative would not delay the attainment of the NAAQS for O₃.

Accounting only for the new emissions that would occur in the SCAB (i.e., 75 percent of civilian aircraft emissions and 100 percent of in-migrating and construction emissions), the net regional burden of CO, NO₂, PM₁₀, and SO₂ would be 554.1 tons per year (1.52 tons per day), 600.0 tons per year (1.64 tons per day), 29.0 tons per year (0.08 ton per day), and 23.2 tons per year (0.06 ton per day), respectively, by 2010. These amounts represent emission increases of only 0.04, 0.17, 0.01, and 0.05 percent over the 2010 emission inventories projected in the 1994 AQMP for the same pollutants, respectively. With NO₂, PM₁₀, SO₂, and CO emission

reductions from the unquantifiable control measures discussed under the Proposed Action, absorption of a portion of the projected regional growth in cargo activity, and the intra-basin transfer of emissions, the SKR/Cargo Alternative would not delay the progress toward attainment or affect maintenance for any standard.

Local Scale. Table 4.4-9 shows the EDMS analysis for the SKR/Cargo Alternative. The modeling results indicate that for the peak-hour airfield operation scenario, the maximum 1-hour pollutant concentration would occur at the same receptor location described under the Proposed Action. The modeling results indicate that all of the total pollutant concentrations, except for PM₁₀, would be below the applicable standards and would have no adverse impact on the local air quality. By 2001, the PM₁₀ federal and state annual standards and the state 24-hour standard would be exceeded by the background concentrations alone. Because PM₁₀ background concentrations are predicted to decrease, the federal standards would all be met by 2006. However, state standards would continue to be exceeded by background concentrations alone through 2010.

Table 4.4-9. Air Quality Modeling Results for Airport Activities Associated with the SKR/Cargo Alternative (µg/m³)

Pollutant	Averaging Time	March AFB			Reuse-Related Impact ^(a)			Limiting Standard ^(c)	
		Pre-realignment 1992	Realignment 1996	2001	2006	2010	Background Concentration ^(b)	NAAQS	CAAQS
Carbon Monoxide	8-hour	41.5	11.3	22.3	30.5	30.6	7,610	10,000	10,000
	1-hour	250.4	53.8	103.9	140.4	216.0	12,586	40,000	23,000
Sulfur Dioxide	Annual	0.004	0.002	0.031	0.048	0.085	1	80	---
	24-hour	0.28	0.12	0.55	0.85	1.47	19	365	105
	3-hour	4.8	1.7	8.9	13.8	21.7	62	1,300	---
	1-hour	5.3	1.9	9.9	15.3	24.1	62	---	655
PM ₁₀	Annual	0.004	0.016	0.025	0.030	0.042	59.7 ^(d)	50	---
	(arithmetic)								
	Annual	0.004	0.016	0.025	0.030	0.042	49.5 ^(d)	---	30
	(geometric)								
	24-hour	0.30	0.37	0.51	0.60	0.79	143.8 ^(d)	150	50

Notes: (a) Project pollutant concentrations determined from Emissions and Dispersion Modeling System results. Concentrations represent continued military aircraft operations and incremental increase of civilian airport operations.

(b) Background concentrations assumed to equal the mean of maximum concentrations measured during the period 1990-1992 (refer to Table 3.4-4).

(c) Impacts determined by comparing the aggregate of reuse-related impact and background concentrations to the limiting standard.

(d) PM₁₀ background values are representative of concentrations predicted by the South Coast Air Quality Management District for the year 2000 in the Rubidoux area (see Chapter 6 of Technical Report V-C (Part 1) of the 1994 Air Quality Management Plan). PM₁₀ background concentrations obtained from this same source for the year 2006 are: annual average arithmetic mean = 49.6 µg/m³; annual geometric mean = 44.0 µg/m³; and 24-hour average = 104.1 µg/m³.

CAAQS = California Ambient Air Quality Standards

NAAQS = National Ambient Air Quality Standards

µg/m³ = micrograms per cubic meter

PM₁₀ = particulate matter equal to or less than 10 microns in diameter

Localized Intersection Impacts. CO concentrations were modeled at receptors in the vicinity of six intersections in the project area (Appendix I). Modeling results for the SKR/Cargo Alternative are presented in Table 4.4-10.

Table 4.4-10. SKR/Cargo Alternative, Summary of Maximum 1-hour and 8-hour CO Concentrations (Alternative Plus Background, ppm)

	2001		2006		2010	
Intersection	1-hour	8-hour	1-hour	8-hour	1-hour	8-hour
Alessandro Blvd/Mission Grove Pkwy	15.4	10.2	13.2	8.4	12.9	8.2
Elsworth St/Alessandro Blvd	17.1	11.6	14.8	9.7	13.6	8.8
Elsworth St/Cactus Ave	20.6	14.4	18.0	12.3	16.4	11.0
Graham St/Alessandro Blvd	20.0	13.9	16.8	11.3	15.0	9.9
Graham St/Cactus Ave	20.6	14.4	18.2	12.4	16.3	10.9
Trautwein Rd/Van Buren Blvd	15.9	10.6	14.1	9.2	13.2	8.4
Note: Ambient Air Quality Standards						
			National:	1-hour = 35 ppm	8-hour = 9 ppm	
			California:	1-hour = 20 ppm	8-hour = 9 ppm	
CO	=	carbon monoxide				
ppm	=	parts per million				

The maximum predicted 1-hour concentration of 20.6 ppm in 2001 is an increase of 0.1 ppm over the maximum projected 1-hour concentration in 2001 for the No-Action Alternative, and would result in exceedances at two additional intersections in that year. The maximum predicted 8-hour concentration of 14.4 ppm in 2001 is an increase of 0.1 ppm over the maximum predicted 8-hour concentration in 2001 under the No-Action Alternative. Several intersections under the SKR/Cargo Alternative have projected CO concentrations lower than those predicted for the No-Action Alternative. Under the No-Action Alternative, regional growth would result in exceedances of the 8-hour CO standards at the Elsworth Street/Cactus Avenue, Graham Street/Alessandro Boulevard, and Graham Street/Cactus Avenue intersections in 2010. Reuse-related traffic emissions under the SKR/Cargo Alternative would increase CO concentrations at two of these intersections. At the Graham Street/Alessandro Boulevard intersection, 8-hour CO concentrations would be less than under the No-Action Alternative, but would still exceed the standards.

Mitigation Measures. Mitigation measures would be similar to those described under the Proposed Action.

4.4.3.4 Military Aviation Alternative

Construction. Construction impacts for the Military Aviation Alternative would be less than for the Proposed Action because less renovation, demolition, and new construction are scheduled for this alternative. Total PM₁₀ emissions from equipment, grading, excavation, and demolition would be 0.016, 0.014, and 0.013 ton per day during 1996 to 2001, 2001 to 2006, and 2006 to 2010, respectively. The impact of these emissions would cause short-term elevated concentrations of particulates at receptors close to the construction areas. The concentrations would decrease rapidly with distance from the site.

Architectural coating and equipment combustion emissions of CO, NO_x, SO_x, and VOC were determined to be 0.053 ton per day of CO, 0.243 ton per day of NO_x, 0.016 ton per day of SO_x, and 0.402 ton per day of VOC during 1996 to 2001. The daily emissions of CO, NO_x, SO_x, and VOC from 2001 to 2006 would be 0.058, 0.265, 0.018, and 0.429 ton, respectively. Daily emissions of these same pollutants from 2006 to 2010 would be 0.054, 0.250, 0.017, and 0.413 ton, respectively.

Operations. Table 4.4-11 summarizes the results of the construction and operation emission calculations for the Military Aviation Alternative, including military and civilian activities, for 2001, 2006, and 2010. Aircraft emissions were estimated with the EDMS model. The methods and results for emission source categories, including military and civilian operations, are presented in Appendix I.

Table 4.4-11. Emissions Associated with the Military Aviation Alternative (tons/year)

Pollutant	South Coast Air Basin ^(a)	March AFB		Reuse-related Emissions ^(b)		
	Prerealignment	Prerealignment	Realignment	2001	2006	2010
	1990	1992	1996			
CO	2,494,293	7,156.4	1,422.4	2,988.4	3,817.7	4,667.6
NO _x	470,901	1,431.4	286.2	671.7	878.0	1,050.5
PM ₁₀	305,958	258.8	36.3	162.2	276.2	437.5
SO ₂	44,180	84.1	13.7	42.7	68.8	82.7
VOC	536,484	1,679.8	877.1	1,263.1	1,364.2	1,384.3

Notes: (a) Data obtained from Appendix III-A of the 1994 Air Quality Management Plan (SCAQMD and SCAG, 1994).

(b) Emissions are total construction and operation emissions from both direct and indirect sources, as described in Appendix I.

CO = carbon monoxide

NO_x = nitrogen oxides

PM₁₀ = particulate equal to or less than 10 microns in diameter

SO₂ = sulfur dioxide

VOC = volatile organic compound

Regional Scale. Emissions of pollutants from the Military Aviation Alternative may adversely impact regional levels. However, application of mitigation measures identified in this document and control measures identified in the 1994 AQMP would minimize the impacts. For this reason, and other reasons previously discussed for the Proposed Action, it is not expected that the Military Aviation Alternative would delay regional progress toward attainment or affect maintenance of any ambient air quality standard in the SCAB or any other potentially affected transport region.

Reuse-Related Emissions. Table 4.4-11 shows that by 2010, total reuse-related NO_x and VOC emissions for the Military Aviation Alternative would increase to 1,050.5 tons per year (2.88 tons per day) and 1,384.3 tons per year (3.79 tons per day), respectively. These emission levels exceed the NO_x and VOC realignment emission levels by 764.3 tons per year (2.09 tons per day) and 507.2 tons per year (1.39 tons per day) but would be 380.9 tons per year (1.04 tons per day) and 295.5 tons per year (0.81 ton per day) less than the prerealignment emission levels, respectively. Table 4.4-11 allows a comparison between the Military Aviation Alternative and the prerealignment and realignment emissions levels. (All NO_x are assumed to convert to NO₂ on a regional basis.) In 2001, the CO emissions would be 2,988.4 tons per year (8.19 tons per day) and would exceed prerealignment CO emissions. By 2010, the CO emissions would increase to 4,667.6 tons per year (12.79 tons per day), but would not exceed prerealignment CO emissions. In all years analyzed, the NO₂ emission levels would exceed the prerealignment emission level, but the highest NO₂ emissions of 1,050.5 tons per year (2.88 tons per day) would not exceed the prerealignment emission level. Reuse-related emissions of PM₁₀ would exceed the realignment emission level by 2001 and the prerealignment emission level by 2006. PM₁₀ emissions would continue to increase to 437.5 tons per year (1.20 tons per day) by 2010 and would exceed prerealignment levels by 178.6 tons per year (0.49 ton per day). Emissions of SO₂ would increase to 42.7 tons per year (0.12 ton per day) in 2001 and would exceed realignment SO₂ emissions. In 2010, SO₂ emissions would increase to 82.7 tons per year (0.23 ton per day) but would be less than prerealignment emissions by 1.4 tons per year (0.00 ton per day).

Regional Burden. As discussed for the Proposed Action, the only new reuse-related emissions that would occur in the SCAB would be those associated with in-migrating population and construction. The net regional burden (100 percent of the in-migrating population emissions and 100 percent of the construction emissions) is expected to be 96.6 tons per year (0.26 ton per day) of NO_x and 156.5 tons per year (0.43 ton per day) of VOC by 2010. These amounts represent emission increases of only 0.03 and 0.04 percent over the 2010 emission inventories projected in the 1994 AQMP for NO_x and VOC, respectively. With the NO_x and VOC emission reductions from the unquantifiable AQMP control measures discussed under the Proposed Action, the intra-basin transfer of emissions, and the reduction

in NO_x and VOC emissions from prerealignment levels, the Military Aviation Alternative would not delay the attainment of the NAAQS for O₃.

Accounting only for the new emissions that would occur in the SCAB (i.e., 100 percent of in-migrating and construction emissions), the net regional burden of CO, NO₂, PM₁₀, and SO₂ would be 52.1 tons per year (0.14 ton per day), 96.6 tons per year (0.26 ton per day), 18.4 tons per year (0.05 ton per day), and 7.1 tons per year (0.02 ton per day), respectively, by 2010. These amounts represent emission increases of only 0.004, 0.03, 0.005, and 0.02 percent over the 2010 emission inventories projected in the 1994 AQMP for the same pollutants, respectively. With NO₂, PM₁₀, SO₂, and CO emission reductions from the unquantifiable AQMP control measures discussed under the Proposed Action and the intra-basin transfer of emissions, the Military Aviation Alternative would not delay the progress toward attainment or affect maintenance for any standard.

Local Scale. Under the Military Aviation Alternative, aircraft operations would remain unchanged from 1996 realignment aircraft operations. The EDMS results for the Military Aviation Alternative can be found in Table 4.4-12. The modeling results determined that, for the peak-hour airfield operation scenario, the maximum 1-hour pollutant concentration would occur at the same receptor location described under the Proposed Action. The modeling results indicate that all of the total pollutant concentrations, except for PM₁₀, would be below the applicable standards and would have no adverse impact on the local air quality. By 2001, the PM₁₀ federal and state annual standards and the state 24-hour standard would be exceeded by the background concentrations alone. Because PM₁₀ background concentrations are predicted to decrease, the federal standards would all be met by 2006. However, state standards would continue to be exceeded by background concentrations alone through 2010.

Localized Intersection Impacts. CO concentrations were modeled at receptors in the vicinity of six intersections in the project area (Appendix I). Modeling results for the Military Aviation Alternative are presented in Table 4.4-13.

The maximum predicted 1-hour concentration of 22.0 ppm in 2001 is an increase of 1.5 ppm over the maximum predicted 1-hour concentration in 2001 for the No-Action Alternative, and would result in an exceedance at one additional intersection in that year. The maximum predicted 8-hour concentration of 15.5 ppm in 2001 is an increase of 1.2 ppm over the maximum predicted 8-hour concentration in 2001 under the No-Action Alternative. However, CO concentrations at several intersections under the Military Aviation Alternative would be lower than under the No-Action Alternative.

Under the No-Action Alternative, regional growth would result in exceedances of the 8-hour CO standards at the Elsworth Street/Cactus

Table 4.4-12. Air Quality Modeling Results for Airport Activities Associated with the Military Aviation/No-Action Alternatives ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Time	March AFB		Reuse-Related Impact ^(a)			Limiting Standard ^(c)		
		Pre-realignment 1992	Realignment 1996	2001	2006	2010	Background Concentration ^(b)	NAAQS	CAAQS
Carbon monoxide	8-hour	41.5	11.3	11.3	11.3	11.3	7,610	10,000	10,000
	1-hour	250.4	53.8	53.8	53.8	53.8	12,586	40,000	23,000
Sulfur dioxide	Annual	0.004	0.002	0.002	0.002	0.002	1	80	---
	24-hour	0.28	0.12	0.12	0.12	0.12	19	365	105
	3-hour	4.8	1.7	1.7	1.7	1.7	62	1,300	---
PM ₁₀	1-hour	5.3	1.9	1.9	1.9	1.9	62	1,300	655
	Annual (arithmetic)	0.004	0.016	0.016	0.016	0.016	59.7 ^(d)	50	---
	Annual (geometric)	0.004	0.016	0.016	0.016	0.016	49.5 ^(d)	---	30
	24-hour	0.30	0.37	0.37	0.37	0.37	143.8 ^(d)	150	50

Notes: (a) Project pollutant concentrations determined from Emissions and Dispersion Modeling System results. Concentrations represent continued military aircraft operations.

(b) Background concentrations assumed to equal the mean of maximum concentrations measured during the period 1990-1992 (refer to Table 3.4-4).

(c) Impacts determined by comparing the aggregate of reuse-related impact and background concentrations to the limiting standard.

(d) PM₁₀ background values are representative of concentrations predicted by the South Coast Air Quality Management District for the year 2000 in the Rubidoux area (see Chapter 6 of Technical Report V-C (Part 1) of the 1994 Air Quality Management Plan). PM₁₀ background concentrations obtained from this same source for the year 2006 are: annual average arithmetic mean = 49.6 $\mu\text{g}/\text{m}^3$; annual geometric mean = 44.0 $\mu\text{g}/\text{m}^3$; and 24-hour average = 104.1 $\mu\text{g}/\text{m}^3$.

CAAQS = California Ambient Air Quality Standards

NAAQS = National Ambient Air Quality Standards

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

PM₁₀ = particulate matter equal to or less than 10 microns in diameter

Table 4.4-13. Military Aviation Alternative, Summary of Maximum 1-hour and 8-hour CO Concentrations (Alternative Plus Background, ppm)

Intersection	2001		2006		2010	
	1-hour	8-hour	1-hour	8-hour	1-hour	8-hour
Alessandro Blvd/Mission Grove Pkwy	15.0	9.9	13.2	8.4	12.5	7.9
Elsworth St/Alessandro Blvd	16.3	10.9	14.2	9.2	13.0	8.3
Elsworth St/Cactus Ave	19.5	13.5	16.0	10.7	14.6	9.6
Graham St/Alessandro Blvd	20.0	13.9	16.8	11.3	15.0	9.9
Graham St/Cactus Ave	22.0	15.5	19.2	13.2	17.8	12.1
Trautwein Rd/Van Buren Blvd	15.9	10.6	14.1	9.2	13.2	8.4

Note: Ambient Air Quality Standards

National: 1-hour = 35 ppm 8-hour = 9 ppm

California: 1-hour = 20 ppm 8-hour = 9 ppm

CO = carbon monoxide

ppm = parts per million

Avenue, Graham Street/Alessandro Boulevard, and Graham Street/Cactus Avenue intersections in 2010. Reuse-related traffic emissions under the Military Aviation Alternative would increase CO concentrations at two of these intersections. At the Graham Street/Alessandro Boulevard intersection, 8-hour CO concentrations would be less than under the No-Action Alternative, but would still exceed the standards.

Mitigation Measures. Mitigation measures would be similar to those described under the Proposed Action.

4.4.3.5 No-Action Alternative

Construction. Under the No-Action Alternative, no new construction projects are planned. If any construction projects are identified in the future, the impacts from those projects would be analyzed in project-specific NEPA documentation.

Operations. Table 4.4-14 summarizes the results of the operations emission calculations for the No-Action Alternative, including military and civilian activities, for 2001, 2006, and 2010. Aircraft emissions were estimated with the EDMS model. The methods and results for emission source categories, including military and civilian operations, are presented in Appendix I.

Table 4.4-14. Emissions Associated with the No-Action Alternative (tons/year)

Pollutant	South Coast Air Basin ^(a)	March AFB		Reuse-related Emissions ^(b)		
	Prerealignment	Prerealignment	Realignment	2001	2006	2010
	1990	1992	1996			
CO	2,494,293	7,156.4	1,422.4	1,177.2	1,005.8	987.3
NO _x	470,901	1,431.4	286.2	279.3	262.0	257.9
PM ₁₀	305,958	258.9	36.3	33.9	33.6	33.2
SO ₂	44,180	84.1	13.7	12.5	12.5	12.4
VOC	536,484	1,679.8	877.1	803.1	782.9	774.6

Notes: (a) Data obtained from Appendix III-A of the 1994 Air Quality Management Plan (SCAQMD and SCAG, 1994).

(b) Emissions are total construction and operation emissions from both direct and indirect sources, as described in Appendix I.

CO = carbon monoxide

NO_x = nitrogen oxides

PM₁₀ = particulate equal to or less than 10 microns in diameter

SO₂ = sulfur dioxide

VOC = volatile organic compound

Regional Scale. The No-Action Alternative would generate emissions of ozone precursors and would therefore impact regional ozone levels. However, since emissions of each pollutant are much less than emissions

under prerealignment conditions, this alternative would not delay attainment of any standard in the SCAB or other potentially affected transport region.

Table 4.4-14 shows that VOC emissions would decrease over time from the 1996 realignment VOC emission level to 774.6 tons per year (2.12 tons per day) in 2010. The NO_x emissions would also decrease from the 1996 realignment NO_x emission level to 257.9 tons per year (0.71 ton per day) in 2010. These emission levels are substantially below prerealignment emission levels.

With NO_x and VOC emission reductions from the unquantifiable AQMP control measures discussed under the Proposed Action, and the reduction in NO_x and VOC emissions from prerealignment levels, the No-Action Alternative would not delay the progress toward attainment for any standard.

Project-related emissions of CO, NO₂, PM₁₀, and SO₂ pollutants would decrease from realignment levels as shown in Table 4.4-14. (All NO_x are assumed to convert to NO₂ on a regional basis.) Total reuse-related emissions would be less than total prerealignment emission levels for each pollutant. Air quality impacts from these primary pollutants are, therefore, expected to be minor.

Local Scale. Under the No-Action Alternative, the aircraft operations would be the same as those modeled under the realignment scenario. The EDMS analysis for the No-Action Alternative would be the same as that presented for the Military Aviation Alternative (see Table 4.4-12). The modeling results determined that, for airfield operations, the maximum pollutant concentration would be similar to the maximum impacts identified under realignment conditions because the airport activities would remain the same as the realignment baseline. The modeling results indicate that all of the total pollutant concentrations, except for PM₁₀, would be below the applicable standards and would have no adverse impact on the local air quality. By 2001, the PM₁₀ federal and state annual standards and the state 24-hour standard would be exceeded by the background concentrations alone. Because PM₁₀ background concentrations are predicted to decrease, the federal standards would all be met by 2006. However, state standards would continue to be exceeded by background concentrations alone through 2010.

Localized Intersection Impacts. One-hour and 8-hour average CO concentrations were modeled at receptors in the vicinity of six intersections in the project area (Appendix I). Modeling results for the No-Action Alternative are presented in Table 4.4-15.

The maximum predicted 1-hour concentration of 20.5 ppm in 2001 exceeds the 1-hour CAAQS for CO by 0.5 ppm. Future year 1-hour CO concentrations do not exceed the standards. The maximum predicted 8-hour

Table 4.4-15. No-Action Alternative, Summary of Maximum 1-hour and 8-hour CO Concentrations (Alternative Plus Background, ppm)

Intersection	2001		2006		2010	
	1-hour	8-hour	1-hour	8-hour	1-hour	8-hour
Alessandro Blvd/ Mission Grove Pkwy	15.7	10.4	13.4	8.6	12.6	8.0
Elsworth St/Alessandro Blvd	16.2	10.8	14.2	9.2	13.3	8.5
Elsworth St/Cactus Ave	16.7	11.2	15.0	9.9	14.0	9.1
Graham St/Alessandro Blvd	20.5	14.3	17.3	11.7	16.7	11.2
Graham St/Cactus Ave	18.6	12.8	15.7	10.4	14.7	9.6
Trautwein Rd/Van Buren Blvd	16.1	10.8	14.0	9.1	13.3	8.5

Note: Ambient Air Quality Standards National: 1-hour = 35 ppm 8-hour = 9 ppm
California: 1-hour = 20 ppm 8-hour = 9 ppm

CO = carbon monoxide
ppm = parts per million

concentration of 14.3 ppm in 2001 exceeds the 8-hour CAAQS and NAAQS by 5.3 ppm. All intersections have maximum predicted concentrations above the CAAQS and NAAQS for the 8-hour period in 2001, but by 2010, standards would be exceeded at only three of the intersections.

Mitigation Measures. Mitigation measures would be similar to those described under the Proposed Action.

4.4.3.6 Other Land Use Concepts. Potential changes in air quality resulting from implementation of one or more of the land use concepts in conjunction with the Proposed Action or alternatives are described below. None of the independent land use proposals are expected to affect the attainment status of the region if control measures recommended in the 1994 AQMP are implemented. A qualitative analysis is provided for each of the seven land use concepts.

Stephens' Kangaroo Rat Habitat. Emissions would be generated during the facility demolition phase of this land use concept. Minimal ground disturbance would be associated with these activities. It is estimated that approximately 19 acres would be disturbed in the 5 years after realignment. The impact of emissions during this phase would cause short-term elevated concentrations of particulates at receptors close to the disturbed areas. The concentrations would decrease rapidly with distance from the sites.

There would be a decrease in the surface traffic associated with implementation of the SKR habitat concept; therefore, a net reduction in the amount of CO, SO₂, and PM₁₀ emissions would occur.

Due to the low level of activity under this alternative, negligible amounts of emissions would be produced, and no air quality impacts are anticipated.

U. S. Department of Agriculture Forest Service Operations Coordination Center. Emissions would be generated during the construction phase of this land use concept. It is estimated that any required construction would be completed in the 5 years after realignment. The impact of emissions during this phase would cause short-term elevated concentrations of particulates at receptors close to the disturbed areas. The concentrations would decrease rapidly with distance from the sites.

Emissions from surface traffic associated with normal operations under this concept are expected to be negligible. During times of emergency, there could be localized, short-term increases in CO, SO₂, and PM₁₀ emissions associated with operation of emergency vehicles.

Light aircraft and helicopters using the March ARB runway during emergency activities would generate emissions. However, when compared to the total annual number of aircraft operations projected for the Proposed Action and alternatives, negligible amounts of emissions would be produced from these activities, and no air quality impacts are expected.

Riverside National Cemetery Expansion. Emissions would be generated during the ground-disturbing activities associated with this land use concept. Approximately 50 percent of the acreage requested by the Department of Veterans Affairs would be disturbed in small increments during the 20 years after realignment. These activities would produce negligible emissions and, therefore, no air quality impacts are expected.

Navy and Marine Corps Reserve Center. Emissions would be generated from construction of a new parking lot and from the additional trips associated with active and reserve duty personnel under this land use concept. The construction of the parking lot would create localized, temporary PM₁₀ impacts. Standard construction measures (e.g., watering excavated or disturbed soil, cessation of work when wind speeds are greater than 20 mph) would be taken to control fugitive dust emissions. Because all emissions from these activities would be well below the de minimis levels (U.S. Air Force, 1995a), air quality impacts are not anticipated.

Army and Air Force Exchange Service. Emissions would be generated from the additional trips associated with active and reserve duty personnel under this land use concept. These activities would produce small amounts of emissions, and air quality impacts are not anticipated.

Army Reserve. Emissions would be generated from construction of a new parking lot and from the additional trips associated with active and reserve duty personnel under this land use concept. The construction of the parking lot would create localized, short-term temporary PM₁₀ impacts. Standard

construction measures (e.g., watering excavated or disturbed soil, cessation of work when wind speeds are greater than 20 mph) would be taken to control fugitive dust emissions. These activities would produce small amounts of emissions and air quality impacts are not anticipated.

California Army National Guard. Emissions would be generated from construction of the multi-unit armory on 15 acres of vacant land and from the additional trips associated with active and reserve duty personnel under this land use concept. The construction of the armory would create localized, short-term temporary PM₁₀ impacts. Standard construction measures (e.g., watering excavated or disturbed soil, cessation of work when wind speeds are greater than 20 mph) would be taken to control fugitive dust emissions. These activities would produce small amounts of emissions, and air quality impacts are not anticipated.

4.4.4 Noise

Environmental impact analysis related to noise includes the potential effects on the local human and animal populations. This analysis will estimate the extent and magnitude of noise levels generated by the Proposed Action and alternatives, using the predictive models discussed below. The change from the baseline noise conditions with respect to predicted noise levels will then be used as an indicator of land use impacts. Other effects of noise, such as potential annoyance, speech interference, and sleep interference will also be discussed. Units used to evaluate noise effects were described in Section 3.4.4, Noise.

Methods used to quantify the effects of noise, such as annoyance, speech and sleep interference, health and hearing loss, have undergone extensive scientific development during the past several decades. Currently, the most reliable measures are noise-induced hearing loss and annoyance. Extra-auditory effects (those not directly related to hearing capability) are also important, although they are not as well understood. The current scientific consensus is that "evidence from available research reports is suggestive, but it does not provide definitive answers to the question of health effects, other than to the auditory system, of long-term exposure to noise" (National Academy of Sciences, 1981). A detailed description of the effects of noise is provided in Appendix G.

Land Use Compatibility. Estimates of total noise exposure resulting from aircraft operations, as expressed using DNL or CNEL, can be interpreted in terms of the compatibility with designated land uses. Both the federal and state guidelines used in this analysis are presented in Section 3.4.4. The land use compatibility guidelines are based on annoyance and hearing loss considerations described in Appendix G. Compatible or incompatible land use is determined by comparing the predicted CNEL level at a site with the recommended land uses.

Noise Modeling. In order to define the noise impacts from aircraft takeoff, landing, touch-and-go, and run-up operations at March ARB, the FAA-approved NOISEMAP version 6.4 was utilized to predict CNEL noise contours and SEL values for noise-sensitive receptors. These descriptors are defined in Appendix G. The contours were generated for the military operations projected for the baseline year (realignment) and for projected conditions (military plus civilian operations) in 2016 for the Proposed Action, the SKR/Aviation Alternative, and the SKR/Cargo Alternative. Surface vehicle traffic noise levels for roadways were based on the Transportation Analysis (see Section 3.2.3) using the Highway Noise Model. Assumptions used for modeling for the Proposed Action and alternatives are provided in Appendix G.

4.4.4.1 Proposed Action. The results of the aircraft noise modeling for the Proposed Action for 2016 are presented as noise contours in Figure 4.4-1. The military aircraft provide the major noise component for the contours. Because the military operations are assumed to remain constant throughout the 20-year analysis period, the contours show little change from 1996 to 2016. The contours for 2016 encompass the largest acreage.

Table 4.4-16 presents the approximate number of acres and estimated population within each CNEL range for each of the study years. Compared to the 1992 prerealignment reference, this represents a decrease of 18,234 acres exposed to CNEL 60 dB or higher in 2016.

SEL was calculated at representative residential locations (Figure 4.4-2) for the noisiest and most common military and civilian jet aircraft; the results are presented in Table 4.4-17. The analysis suggests that, for the Proposed Action, some aircraft overflights could affect the sleep of some residents in the area. The noisiest military aircraft would be the F-18 and the most common would be the C-141 for all modeled years. The noisiest civilian aircraft for all modeled years would be the 747-400 and DC-10, which have approximately the same noise levels. The most common civilian aircraft would be the 737-300 in 2001 and 2006 and the MD-80 in 2016.

The state of California has published land use compatibility guidelines for new construction projects that establish ranges of acceptable noise levels for sensitive receptors (see Table 3.4-11). Under the Proposed Action, the new construction associated with the residential area south of Air Force Village West and the commercial and mixed land uses on West March would be within incompatible noise levels. New development in the local communities would continue to be planned in accordance with local zoning ordinances.

Surface traffic noise levels and number of residents exposed to CNEL 60 or greater for road segments in the ROI are presented in Table 4.4-18. There would be an estimated 6,824 residents in areas exposed to noise levels of CNEL 60 or greater due to surface traffic by 2016. This would be an increase of 779 people over the No-Action Alternative.



EXPLANATION

— 65 — CNEL Noise Contours (5dB intervals)

CNEL Noise Contours- Proposed Action (2016)

0 .75 1.5 3 Miles



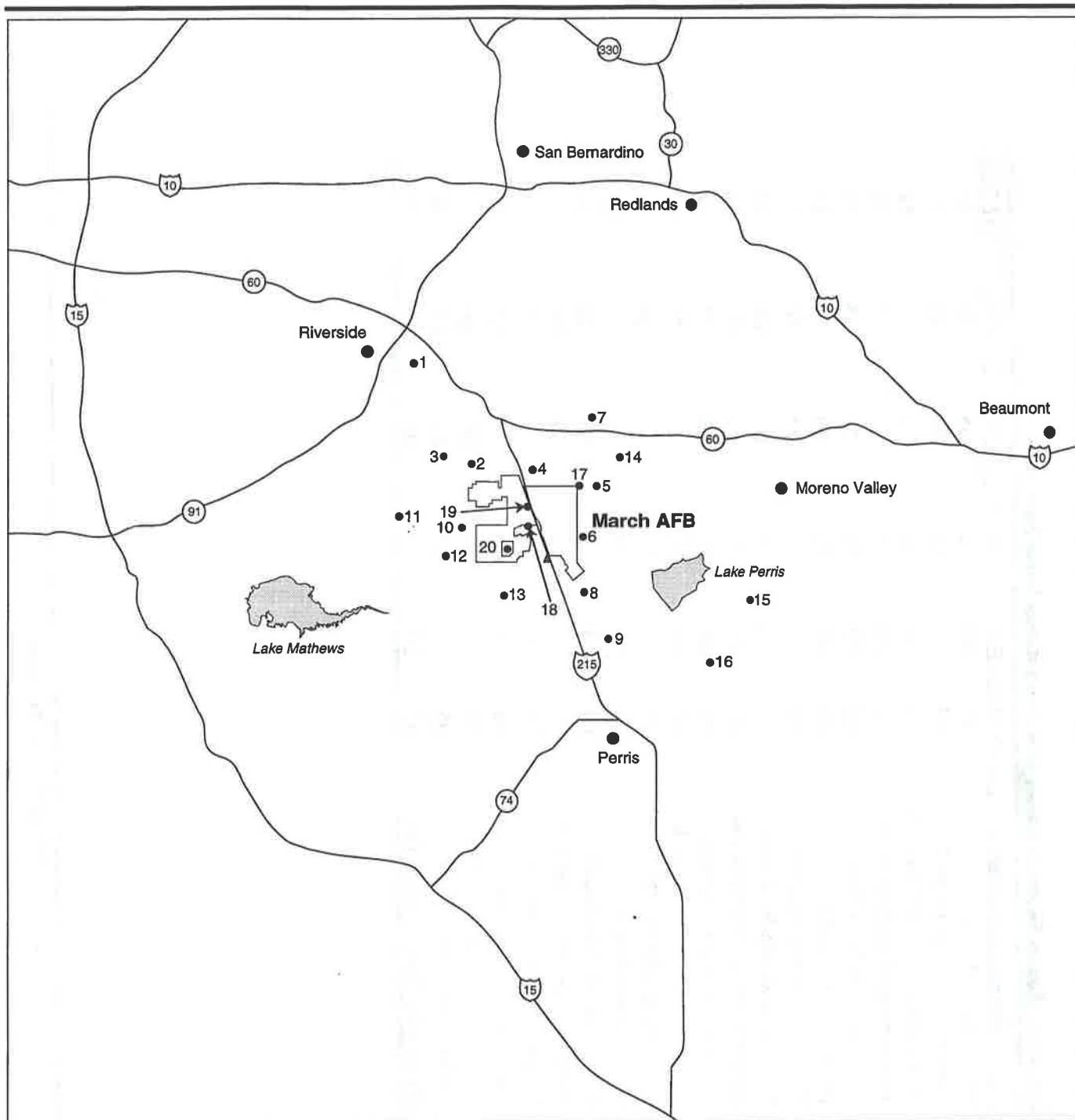
Map Source: U.S. Geological Survey, 1959.

Figure 4.4-1

Table 4.4-16. CNEL Exposure in 2016 Due to Aircraft, All Alternatives

CNEL (dB)	Proposed Action			SKR/Aviation Alternative			SKR/Cargo Alternative			Military Aviation Alternative			No-Action Alternative		
	Acres	People		Acres	People		Acres	People		Acres	People		Acres	People	
60-65	9,537	13,438		9,747	13,150		9,604	13,022		9,257	12,549		9,257	12,549	
65-70	3,274	3,171		3,320	3,035		3,310	3,594		3,184	3,538		3,184	3,538	
70-75	1,519	1,493		1,552	1,177		1,528	1,234		1,481	665		1,481	665	
> 75	1,324	23		1,312	22		1,331	22		1,291	16		1,291	16	
Total	15,654	18,125		15,931	17,384		15,773	17,872		15,213	16,768		15,213	16,768	

CNEL = Community Noise Equivalent Level
 dB = decibel
 SKR = Stephens' kangaroo rat



EXPLANATION

-  Interstate Highways
-  State Highways
-  SEL Receptor Location

Sound Exposure Level (SEL) Receptor Locations



Figure 4.4-2

Table 4.4-17. Sound Exposure Levels at Representative Noise Receptors

Community		Nearest Cross Streets					C-141B	F-18	DC-10-10	B-747	MD-80	737-300
1	Riverside	Vermont and Ottawa					71	80	56	65	58	68
2	Riverside	Alessandro Blvd and Barton St					99	94	83	89	79	84
3	Riverside	Alessandro Blvd and Trautwein Rd					88	94	73	78	75	82
4	Moreno Valley	Alessandro Blvd and Elsworth St					89	98	76	82	78	90
5	Moreno Valley	Cactus Ave and Perris Blvd					68	82	58	68	58	71
6	Moreno Valley	Iris Ave and Heacock St					84	97	73	80	74	84
7	Moreno Valley	Perris Blvd and Ironwood Ave					66	74	46	72	50	64
8	Perris	Ramona Expwy and Perris Blvd					94	101	82	87	83	79
9	Perris	Medical Center Dr and Flame Ave					98	97	78	82	81	78
10	Orangetown	Van Buren Blvd and Trautwein Rd					97	86	80	86	77	74
11	Woodcrest	Washington St and Van Buren Blvd					93	95	73	77	75	80
12	Glen valley	Wood Rd and Markham St					77	86	61	70	64	72
13	Mead valley	Clark St and Cajalco Rd					87	80	58	67	58	69
14	Sunnymead	Cottonwood Blvd and Laselle					65	73	50	62	49	64
15	Lakeview	Ramona Expwy and Hansen Ave					73	63	57	67	56	54
16	Nuevo	Lakeview Rd and Nuevo Rd					73	76	63	71	61	55
17	Base hospital	Cactus Ave and Heacock St					75	89	61	74	66	78
18	Arnold Heights	Van Buren Blvd and Harmon St					88	101	80	86	80	91
19	Arnold Heights	McCoy Ave and Yount					99	107	87	92	88	98
20	Air Force Village West	Village West Dr and Twining Ave					99	90	83	89	79	77

Table 4.4-18. Distance to CNEL 60 dB from Roadway Centerline and Number of Residents for the Proposed Action
Page 1 of 2

Roadway	Segment	2001		2006		2016	
		Distance (feet) ^(a)	No. of Residents ^(b)	Distance (feet) ^(a)	No. of Residents ^(b)	Distance (feet) ^(a)	No. of Residents ^(b)
Alessandro Blvd	Trautwein Rd to I-215	390	109	420	112	440	112
Alessandro Blvd	I-215 to Elsworth St	330	29	370	38	420	71
Alessandro Blvd	Elsworth St to Graham St	260	122	270	122	360	237
Alessandro Blvd	Graham St to Heacock St	320	0	350	0	390	0
Alessandro Blvd	Heacock St to Perris Blvd	290	294	310	345	340	400
Cactus Ave	I-215 to Elsworth St	360	0	410	0	500	0
Cactus Ave	Elsworth St to Graham St	360	0	420	0	510	0
Cactus Ave	Graham St to Heacock St	240	0	280	0	320	0
Cactus Ave	Heacock St to Perris Blvd	200	381	230	441	280	630
John F. Kennedy Dr	Heacock St to Perris Blvd	150	441	180	512	230	627
Van Buren Blvd	Wood Rd to Trautwein Rd	230	67	240	67	260	70
Van Buren Blvd	Trautwein Rd to Orange Terrace Pkwy	380	397	400	400	410	425
Van Buren Blvd	Orange Terrace Pkwy to Plummer Rd	510	0	580	0	690	0
Van Buren Blvd	Plummer Rd to I-215	500	16	560	32	660	67
Nandina Ave	Wood Rd to Barton St	60	3	80	3	110	22
Nandina Ave	Barton St to Alexander St	120	3	140	3	180	13
Nandina Ave	Alexander St to Clark St	50	0	60	0	80	0
Oleander Ave	I-215 to Heacock St	150	22	180	22	260	32
Markham St	Wood Rd to Alexander St	80	9	100	16	120	19
Markham St	Alexander St to Clark St	80	3	100	22	110	29
Cajalco Rd	Wood Rd to Alexander St	350	41	400	57	430	83
Cajalco Rd	Alexander St to Clark St	320	131	350	185	390	199
Cajalco Rd	Clark St to I-215	390	170	430	179	440	183
Wood Rd	Trautwein Rd to Van Buren Blvd	100	3	110	3	100	3
Wood Rd	Van Buren Blvd to Lurin Ave	250	29	250	29	310	32
Trautwein Rd	Alessandro Blvd to Wood Rd	240	35	300	44	380	67
Trautwein Rd	Wood Rd to Van Buren Blvd	230	0	260	0	320	0

Notes: (a) Distance from roadway centerline to CNEL 60 dB contour.

(b) Total number of residents exposed to CNEL 60 dB or greater.

CNEL = Community Noise Equivalent Level

Table 4.4-18. Distance to CNEL 60 dB from Roadway Centerline and Number of Residents for the Proposed Action
Page 2 of 2

Roadway	Segment	2001			2006			2016		
		Distance to (feet) ^(a)	No. of Residents ^(b)		Distance to (feet) ^(a)	No. of Residents ^(b)		Distance to (feet) ^(a)	No. of Residents ^(b)	
Barton St	Van Buren Blvd to Nandina Ave	130	13		160	13		180	13	
Alexander St	Nandina Ave to Markham St	80	35		100	58		150	102	
Alexander St	Markham St to Cajalco Rd	80	6		100	16		90	13	
Clark St	Nandina Ave to Markham St	70	45		90	64		190	141	
Clark St	Markham St to Cajalco Rd	70	26		80	35		130	68	
I-215	Alessandro Blvd to Cactus Ave	1,410	0		1,560	0		1,780	0	
I-215	Cactus Ave to Van Buren Blvd	1,700	733		1,820	822		2,020	944	
I-215	Van Buren Blvd to Oleander Ave	1,680	0		1,920	0		2,260	0	
I-215	Oleander Ave to Cajalco Rd	1,590	35		1,840	61		2,170	86	
Elsworth St	Cottonwood Ave to Alessandro Blvd	60	45		60	45		80	77	
Elsworth St	Alessandro Blvd to Cactus Ave	110	0		130	0		160	0	
Frederick St	Alessandro Blvd to Cactus Ave	150	0		170	0		200	0	
Graham St	Alessandro Blvd to Cactus Ave	230	0		260	0		300	0	
Heacock St	Cactus Ave to John F. Kennedy Dr	210	137		240	153		290	221	
Heacock St	John F. Kennedy Dr to Iris Dr	150	80		190	134		250	150	
Heacock St	Iris Dr to Nandina Ave	140	3		170	3		220	0	
Heacock St	Nandina Ave to Oleander Ave	120	0		140	0		170	0	
Perris Blvd	Alessandro Blvd to Cactus Ave	280	208		300	237		330	265	
Perris Blvd	Cactus Ave to John F. Kennedy Dr	270	372		290	402		350	482	
Perris Blvd	John F. Kennedy Dr to Iris Dr	250	362		290	391		350	439	
Perris Blvd	Iris Dr to Nandina Ave	230	282		270	378		330	502	
Perris Blvd	Nandina Ave to Oleander Ave	190	3		220	3		330	3	
Total			4,690			5,447			6,824	

Notes: (a) Distance from roadway centerline to CNEL 60 dB contour.

(b) Total number of residents exposed to CNEL 60 dB or greater.

CNEL = Community Noise Equivalent Level

Under the Proposed Action, the small arms range would be used by both the public and the military as well as local law enforcement agencies. Modeling conducted for use of the small arms range, based on information provided on historical operation of this facility, concluded that noise levels would be below 60 CNEL for the nearest sensitive receptor.

Mitigation Measures. For land uses within incompatible noise levels, new construction or development should be undertaken only after an analysis of the noise reduction requirements has been prepared and needed noise insulation features included in the design (see below). The local development agencies would be responsible for reviewing projects within these areas to ensure that new development considered noise compatibility guidelines. Barrier walls installed by the local transportation agency could be used to mitigate surface traffic noise along roadways with impacts. A noise barrier analysis would be necessary to determine the optimum locations, height, and/or feasibility of the barrier walls. Effectiveness and associated cost of barrier walls are dependent on a number of factors, including construction materials, length, height, and whether multiple barriers are used. Concrete and masonry block are generally more effective for sound attenuation than less massive materials such as steel, aluminum, and wood. Depending on the design and location, construction of multiple barriers may result in a greater sound reduction than one barrier alone, although the effectiveness of this mitigation may be outweighed by the additional costs and space requirements. A reasonable sound reduction from a barrier wall could be 10 dB; a 15-dB sound reduction is more difficult to achieve.

Other mitigation measures, such as a sound insulation program, could be implemented to reduce interior noise levels for sensitive receptors exposed to aircraft noise of CNEL 60 dB or greater. Noise reduction inside buildings can be accomplished by incorporating solid core wood or steel-faced exterior doors, non-opening dual-pane windows, and aggregate block walls into building design, and limiting the total square footage of windows to no more than 10 percent of exterior exposed walls. These features can reduce interior noise levels by as much as 26 to 53 dB when properly designed and constructed. For future development, county and city land use planning should incorporate noise compatibility measures when establishing residential zoning. Measures such as restricting residential development to areas outside the CNEL 60-dB contour and incorporating barriers and buffer zones into development plans, could also be implemented. The effectiveness of the operational and management noise mitigation measures presented here cannot be completely determined without extensive modeling and/or noise measurements.

4.4.4.2 SKR/Aviation Alternative. The results of the aircraft noise modeling for the SKR/Aviation Alternative for 2016 are presented as noise contours in Figure 4.4-3. As discussed for the Proposed Action, the contours over the 20-year analysis period would change slightly because the military aircraft dominate the noise contours, and the largest contours are those for 2016.

Table 4.4-16 presents the approximate number of acres and estimated population within each CNEL range at 2016. Compared to the 1992 prerealignment reference (see Table 3.4-14), this represents a decrease of 18,044 acres exposed to CNEL 60 dB or higher in 2016.

SEL was calculated at representative residential locations (see Figure 4.4-2) for the noisiest and most common jet aircraft; the results are presented in Table 4.4-17. The analysis suggests that, for the SKR/Aviation Alternative, some aircraft overflights could affect the sleep of some residents in the area. The noisiest military aircraft would be the F-18 and the most common would be the C-141 for all modeled years. The noisiest civilian aircraft for all modeled years would be the 747-400 and the DC-10, which have approximately the same noise levels. The most common civilian aircraft in 2001 and 2006 would be the 737-300, and the MD-80 in 2016.

Under the SKR/Aviation Alternative, the new construction associated with the residential area south of Air Force Village West and the eastern portion of the commercial land use on West March would be within incompatible noise levels. The proposed use of military family housing (Green Acres) on the Main Base would be incompatible with potential noise levels. New development in the local communities would continue to be planned in accordance with local zoning ordinances.

Surface traffic noise levels and number of residents exposed to noise levels of CNEL 60 or greater for several road segments are presented in Table 4.4-19. There would be an estimated 6,855 residents in areas exposed to noise levels of CNEL 60 or greater due to surface traffic by the year 2016. This would be an increase of 810 people over the No-Action Alternative.

Impacts from use of the small arms range would be similar to the Proposed Action.

Mitigation Measures. The same mitigation measures described for the Proposed Action would be appropriate for both aircraft and surface traffic noise except for the proposed residential use of the military family housing area. The existing housing proposed for use is within a noise level considered unacceptable for residential uses. Mitigation measures to reduce impacts could include modifying the housing by adding double pane windows, solid core doors, and increasing the amount of insulation. Such measures would be sufficient to reduce the aircraft noise to a level compatible with residential uses.

4.4.4.3 SKR/Cargo Alternative. The results of the aircraft noise modeling for the SKR/Cargo Alternative for 2016 are presented as noise contours in Figure 4.4-4. As described for the Proposed Action, the military aircraft would dominate the noise contours, and there would be little change in the

Table 4.4-19. Distance to CNEL 60 dB from Roadway Centerline and Number of Residents for the SKR/Aviation Alternative
Page 1 of 2

Roadway	Segment	2001		2006		2016	
		Distance ^(a) (feet)	No. of Residents ^(b)	Distance ^(a) (feet)	No. of Residents ^(b)	Distance ^(a) (feet)	No. of Residents ^(b)
Alessandro Blvd	Trautwein Rd to I-215	380	109	420	112	480	163
Alessandro Blvd	I-215 to Elsworth St	330	29	360	35	440	77
Alessandro Blvd	Elsworth St to Graham St	290	135	310	157	350	227
Alessandro Blvd	Graham St to Heacock St	320	0	350	0	390	0
Alessandro Blvd	Heacock St to Perris Blvd	290	294	310	345	330	394
Cactus Ave	I-215 to Elsworth St	360	0	420	0	510	0
Cactus Ave	Elsworth St to Graham St	350	0	400	0	500	0
Cactus Ave	Graham St to Heacock St	230	0	260	0	310	0
Cactus Ave	Heacock St to Perris Blvd	190	368	220	409	270	598
John F. Kennedy Dr	Heacock St to Perris Blvd	130	404	150	441	180	512
Van Buren Blvd	Wood Rd to Trautwein Rd	230	67	250	67	270	70
Van Buren Blvd	Trautwein Rd to Orange Terrace Pkwy	420	448	460	509	450	489
Van Buren Blvd	Orange Terrace Pkwy to Plummer Rd	440	0	490	0	680	0
Van Buren Blvd	Plummer Rd to I-215	510	16	580	35	690	83
Nandina Ave	Wood Rd to Barton St	70	3	90	10	130	32
Nandina Ave	Barton St to Alexander St	140	3	160	6	170	9
Nandina Ave	Alexander St to Clark St	50	0	60	0	80	0
Oleander Ave	I-215 to Heacock St	150	22	180	22	250	32
Markham St	Wood Rd to Alexander St	80	9	100	16	120	19
Markham St	Alexander St to Clark St	90	19	110	29	120	32
Cajalco Rd	Wood Rd to Alexander St	360	44	380	48	440	84
Cajalco Rd	Alexander St to Clark St	320	131	350	185	400	202
Cajalco Rd	Clark St to I-215	400	170	430	179	440	183
Wood Rd	Trautwein Rd to Van Buren Blvd	100	3	110	3	140	26
Wood Rd	Van Buren Blvd to Lurin Ave	280	29	290	28	310	32
Trautwein Rd	Alessandro Blvd to Wood Rd	200	32	250	38	390	70
Trautwein Rd	Wood Rd to Van Buren Blvd	190	0	210	0	340	0

Notes: (a) Distance from roadway centerline to CNEL 60 dB contour.

(b) Total number of residents exposed to CNEL 60 dB or greater.

CNEL = Community Noise Equivalent Level

dB = decibel

SKR = Stephens' kangaroo rat

Table 4.4-19. Distance to CNEL 60 dB from Roadway Centerline and Number of Residents for the SKR/Aviation Alternative

Page 2 of 2

Roadway	Segment	2001		2006		2016	
		Distance ^(a) (feet)	No. of Residents ^(b)	Distance ^(a) (feet)	No. of Residents ^(b)	Distance ^(a) (feet)	No. of Residents ^(b)
Barton St	Van Buren Blvd to Nandina Ave	150	13	170	13	200	12
Alexander St	Nandina Ave to Markham St	110	77	110	77	120	86
Alexander St	Markham St to Cajalco Rd	100	16	100	16	80	6
Clark St	Nandina Ave to Markham St	100	67	120	96	180	141
Clark St	Markham St to Cajalco Rd	100	51	120	64	140	74
I-215	Alessandro Blvd to Cactus Ave	1,410	0	1,560	0	1,810	0
I-215	Cactus Ave to Van Buren Blvd	1,620	682	1,840	826	2,190	1,040
I-215	Van Buren Blvd to Oleander Ave	1,650	0	1,880	0	2,240	0
I-215	Oleander Ave to Cajalco Rd	1,580	35	1,800	61	2,140	86
Elsworth St	Cottonwood Ave to Alessandro Blvd	60	45	60	45	80	77
Elsworth St	Alessandro Blvd to Cactus Ave	110	0	130	0	170	0
Frederick St	Alessandro Blvd to Cactus Ave	130	0	150	0	190	0
Graham St	Alessandro Blvd to Cactus Ave	220	0	240	0	280	0
Heacock St	Cactus Ave to John F. Kennedy Dr	210	137	250	170	290	221
Heacock St	John F. Kennedy Dr to Iris Dr	150	80	180	112	240	150
Heacock St	Iris Dr to Nandina Ave	140	3	180	3	210	3
Heacock St	Nandina Ave to Oleander Ave	120	0	150	0	170	0
Perris Blvd	Alessandro Blvd to Cactus Ave	270	208	290	224	310	253
Perris Blvd	Cactus Ave to John F. Kennedy Dr	270	372	290	402	340	483
Perris Blvd	John F. Kennedy Dr to Iris Dr	240	326	280	377	330	400
Perris Blvd	Iris Dr to Nandina Ave	230	282	260	368	320	486
Perris Blvd	Nandina Ave to Oleander Ave	180	3	210	3	320	3
Total			4,732		5,531		6,855

Notes: (a) Distance from roadway centerline to CNEL 60 dB contour.

(b) Total number of residents exposed to CNEL 60 dB or greater.

CNEL = Community Noise Equivalent Level

dB = decibel

SKR = Stephens' kangaroo rat



EXPLANATION

— 65 — CNEL Noise Contours (5dB intervals)

**CNEL Noise Contours-
SKR/Cargo
Alternative (2016)**



Map Source: U.S. Geological Survey, 1959.

Figure 4.4-4

contours over the 20-year analysis period. The contours for 2016 would encompass the largest acreage.

Table 4.4-16 presents the approximate number of acres and estimated population within each CNEL range for each of the study years. Compared to the 1992 prerealignment reference (see Table 3.4-14), this represents a decrease of 18,203 acres exposed to CNEL 60 dB or higher in 2016.

SEL was calculated at representative residential locations (see Figure 4.4-2) for the noisiest and most common jet aircraft; the results are presented in Table 4.4-17. The analysis suggests that, for the SKR/Cargo Alternative, some aircraft overflights could affect the sleep of some residents in the area. The noisiest military aircraft would be the F-18 and the most common would be the C-141 for all modeled years. The noisiest civilian aircraft for all modeled years would be the 747-400 and the DC-10, which have approximately the same noise levels. The most common civilian aircraft would be the 747 and the DC-10 in all analysis years.

Under the SKR/Cargo Alternative, the new construction associated with the business park land use on West March and the institutional (educational) land use on the western portion of West March would be within incompatible noise levels. The proposed use of military family housing (Arnold Heights) on West March would be incompatible with potential noise levels. New development in the local communities would continue to be planned in accordance with local zoning ordinances.

Surface traffic noise levels and number of residents exposed to noise levels of CNEL 60 or greater for several road segments are presented in Table 4.4-20. There would be an estimated 6,427 residents in areas exposed to noise levels of CNEL 60 or greater due to surface traffic by 2016. This would be an increase of 382 people over the No-Action Alternative.

Impacts from use of the small arms range would be similar to the Proposed Action.

Mitigation Measures. The same mitigation measures described for the Proposed Action would be appropriate for both aircraft and surface traffic noise except for the proposed residential use of the military family housing area. The existing housing proposed for use is within a noise level considered unacceptable for residential uses. Mitigation measures to reduce impacts could include modifying the housing by adding double pane windows, solid core doors, and increasing the amount of insulation. Such measures would be sufficient to reduce the aircraft noise to a level compatible with residential uses.

Table 4.4-20. Distance to CNEL 60 dB from Roadway Centerline and Number of Residents for the SKR/Cargo Alternative
Page 1 of 2

Roadway	Segment	2001		2006		2016	
		Distance ^(a) (feet)	No. of Residents ^(b)	Distance ^(a) (feet)	No. of Residents ^(b)	Distance ^(a) (feet)	No. of Residents ^(b)
Alessandro Blvd	Trautwein Rd to I-215	360	96	400	112	460	144
Alessandro Blvd	I-215 to Elsworth St	310	29	340	32	380	48
Alessandro Blvd	Elsworth St to Graham St	270	122	280	128	330	188
Alessandro Blvd	Graham St to Heacock St	320	0	340	0	380	0
Alessandro Blvd	Heacock St to Perris Blvd	280	268	300	316	340	400
Cactus Ave	I-215 to Elsworth St	330	0	380	0	430	0
Cactus Ave	Elsworth St to Graham St	320	0	370	0	450	0
Cactus Ave	Graham St to Heacock St	230	0	260	0	310	0
Cactus Ave	Heacock St to Perris Blvd	190	368	220	409	280	630
John F. Kennedy Dr	Heacock St to Perris Blvd	110	320	130	404	150	441
Van Buren Blvd	Wood Rd to Trautwein Rd	230	67	240	67	270	70
Van Buren Blvd	Trautwein Rd to Orange Terrace Pkwy	380	397	410	425	410	425
Van Buren Blvd	Orange Terrace Pkwy to Plummer Rd	480	0	540	0	590	0
Van Buren Blvd	Plummer Rd to I-215	440	6	490	13	550	29
Nandina Ave	Wood Rd to Barton St	40	0	50	3	80	3
Nandina Ave	Barton St to Alexander St	130	3	150	3	170	9
Nandina Ave	Alexander St to Clark St	50	0	60	0	80	0
Oleander Ave	I-215 to Heacock St	140	19	160	22	240	32
Markham St	Wood Rd to Alexander St	80	9	100	16	120	19
Markham St	Alexander St to Clark St	80	3	90	19	110	29
Cajalco Rd	Wood Rd to Alexander St	360	44	390	51	450	83
Cajalco Rd	Alexander St to Clark St	330	153	350	185	400	202
Cajalco Rd	Clark St to I-215	390	169	420	176	390	169
Wood Rd	Trautwein Rd to Van Buren Blvd	130	19	120	6	130	19
Wood Rd	Van Buren Blvd to Lurin Ave	240	29	240	29	310	32
Trautwein Rd	Alessandro Blvd to Wood Rd	220	35	280	38	360	61
Trautwein Rd	Wood Rd to Van Buren Blvd	210	0	230	0	270	0

Notes: (a) Distance from roadway centerline to CNEL 60 dB contour.

(b) Total number of residents exposed to CNEL 60 dB or greater.

CNEL = Community Noise Equivalent Level

dB = decibel

SKR = Stephens' kangaroo rat

Table 4.4-20. Distance to CNEL 60 dB from Roadway Centerline and Number of Residents for the SKR/Cargo Alternative
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Roadway	Segment	2001		2006		2016	
		Distance ^(a) (feet)	No. of Residents ^(b)	Distance ^(a) (feet)	No. of Residents ^(b)	Distance ^(a) (feet)	No. of Residents ^(b)
Barton St	Van Buren Blvd to Nandina Ave	130	13	150	13	170	13
Alexander St	Nandina Ave to Markham St	90	45	110	77	150	102
Alexander St	Markham St to Cajalco Rd	40	3	40	3	50	3
Clark St	Nandina Ave to Markham St	50	6	70	45	80	48
Clark St	Markham St to Cajalco Rd	90	45	100	51	120	64
I-215	Alessandro Blvd to Cactus Ave	1,380	0	1,520	0	1,750	0
I-215	Cactus Ave to Van Buren Blvd	1,570	662	1,780	787	2,110	973
I-215	Van Buren Blvd to Oleander Ave	1,680	0	1,910	0	2,290	0
I-215	Oleander Ave to Cajalco Rd	1,560	35	1,770	58	2,060	86
Elsworth St	Cottonwood Ave to Alessandro Blvd	50	13	60	45	80	77
Elsworth St	Alessandro Blvd to Cactus Ave	100	0	120	0	160	0
Frederick St	Alessandro Blvd to Cactus Ave	130	0	150	0	180	0
Graham St	Alessandro Blvd to Cactus Ave	210	0	230	0	260	0
Heacock St	Cactus Ave to John F. Kennedy Dr	210	137	240	153	290	221
Heacock St	John F. Kennedy Dr to Iris Dr	150	80	190	134	240	150
Heacock St	Iris Dr to Nandina Ave	140	3	180	3	220	3
Heacock St	Nandina Ave to Oleander Ave	140	0	170	0	170	0
Perris Blvd	Alessandro Blvd to Cactus Ave	280	208	280	208	310	253
Perris Blvd	Cactus Ave to John F. Kennedy Dr	270	372	290	402	340	483
Perris Blvd	John F. Kennedy Dr to Iris Dr	240	326	280	380	340	413
Perris Blvd	Iris Dr to Nandina Ave	230	282	260	368	330	502
Perris Blvd	Nandina Ave to Oleander Ave	180	3	210	3	320	3
Total			4,389		5,184		6,427

Notes: (a) Distance from roadway centerline to CNEL 60 dB contour.
(b) Total number of residents exposed to CNEL 60 dB or greater.

CNEL = Community Noise Equivalent Level

dB = decibel

SKR = Stephens' kangaroo rat

4.4.4.4 Military Aviation Alternative. Because there would be no civilian aviation operations and because military operations are projected to remain the same throughout the 20-year analysis period, the noise contours shown in Figure 3.4-4 for realignment conditions would reflect aircraft noise under the Military Aviation Alternative in 2016.

Table 4.4-16 presents the approximate number of acres and estimated population within each CNEL range for 2016. Compared to the 1992 prerealignment reference (see Table 3.4-14), this represents a decrease of 18,764 acres exposed to CNEL 60 dB or higher in 2016.

SEL was calculated at representative residential locations (see Figure 4.4-2) for the noisiest and most common jet aircraft; the results are presented in Table 4.4-17. The analysis suggests that, for the Military Aviation Alternative, some aircraft overflights could affect the sleep of some residents in the area. For all modeled years, the noisiest aircraft would be the F-18 and the most common would be the C-141.

Under the Military Aviation Alternative, the new construction associated with the industrial land use on West March, the business park on the northeast portion of West March, and the proposed housing area south of Air Force Village West would be within incompatible noise levels. New development in the local communities would continue to be planned in accordance with local zoning ordinances.

Surface traffic noise levels and number of residents exposed to noise levels for several road segments are presented in Table 4.4-21. By 2016, approximately 6,342 people are estimated to reside in areas exposed to CNEL 60 dB and above due to roadway noise. This would be an increase of 297 people over the No-Action Alternative.

Impacts from use of the small arms range would be similar to the Proposed Action.

Mitigation Measures. The same mitigation measures described for the Proposed Action would be appropriate for both aircraft and surface traffic noise.

4.4.4.5 No-Action Alternative. Under this alternative, there would be no civilian aviation operations, and military operations are projected to remain the same throughout the 20-year analysis period. Therefore, the noise contours shown in Figure 3.4-4 for realignment conditions would reflect aircraft noise under the No-Action Alternative in 2016.

Table 4.4-16 presents the approximate number of acres and estimated population within each CNEL range for 2016. Compared to the 1992 prerealignment reference (see Table 3.4-14), this represents a decrease of 18,764 acres exposed to CNEL 60 dB or higher in 2016.

Table 4.4-21. Distance to CNEL 60 dB from Roadway Centerline and Number of Residents for the Military Aviation Alternative
Page 1 of 2

Roadway	Segment	2001			2006			2016		
		Distance ^(a) (feet)	No. of Residents ^(b)		Distance ^(a) (feet)	No. of Residents ^(b)		Distance ^(a) (feet)	No. of Residents ^(b)	
Alessandro Blvd	Trautwein Rd to I-215	360	96		400	112		470	156	
Alessandro Blvd	I-215 to Elsworth St	310	29		340	32		490	87	
Alessandro Blvd	Elsworth St to Graham St	270	122		280	128		340	220	
Alessandro Blvd	Graham St to Heacock St	320	0		350	0		390	0	
Alessandro Blvd	Heacock St to Perris Blvd	280	268		300	316		330	394	
Cactus Ave	I-215 to Elsworth St	330	0		400	0		450	0	
Cactus Ave	Elsworth St to Graham St	320	0		370	0		430	0	
Cactus Ave	Graham St to Heacock St	230	0		260	0		310	0	
Cactus Ave	Heacock St to Perris Blvd	190	368		220	409		280	630	
John F. Kennedy Dr	Heacock St to Perris Blvd	110	320		130	404		100	266	
Van Buren Blvd	Wood Rd to Trautwein Rd	230	67		240	67		270	70	
Van Buren Blvd	Trautwein Rd to Orange Terrace Pkwy	380	397		410	425		420	448	
Van Buren Blvd	Orange Terrace Pkwy to Plummer Rd	480	0		540	0		660	0	
Van Buren Blvd	Plummer Rd to I-215	440	6		490	13		590	35	
Nandina Ave	Wood Rd to Barton St	40	0		50	3		160	41	
Nandina Ave	Barton St to Alexander St	130	3		150	3		180	13	
Nandina Ave	Alexander St to Clark St	50	0		60	0		80	0	
Oleander Ave	I-215 to Heacock St	140	19		160	22		240	32	
Markham St	Wood Rd to Alexander St	80	9		100	16		120	19	
Markham St	Alexander St to Clark St	80	3		90	19		120	32	
Cajalco Rd	Wood Rd to Alexander St	360	44		390	51		440	84	
Cajalco Rd	Alexander St to Clark St	330	153		350	185		370	199	
Cajalco Rd	Clark St to I-215	390	169		420	176		440	182	
Wood Rd	Trautwein Rd to Van Buren Blvd	110	3		120	6		130	19	
Wood Rd	Van Buren Blvd to Lurin Ave	240	29		240	29		310	23	
Trautwein Rd	Alessandro Blvd to Wood Rd	220	35		280	38		380	67	
Trautwein Rd	Wood Rd to Van Buren Blvd	210	0		230	0		290	0	

Notes: (a) Distance from roadway centerline to CNEL 60 dB contour.

(b) Total number of residents exposed to CNEL 60 dB or greater.

CNEL = Community Noise Equivalent Level

db = decibel

Table 4.4-21. Distance to CNEL 60 dB from Roadway Centerline and Number of Residents for the Military Aviation Alternative
Page 2 of 2

Roadway	Segment	2001		2006		2016	
		Distance ^(a) (feet)	No. of Residents ^(b)	Distance ^(a) (feet)	No. of Residents ^(b)	Distance ^(a) (feet)	No. of Residents ^(b)
Barton St	Van Buren Blvd to Nandina Ave	130	13	150	13	190	12
Alexander St	Nandina Ave to Markham St	90	45	110	77	110	77
Alexander St	Markham St to Cajalco Rd	40	3	50	3	50	3
Clark St	Nandina Ave to Markham St	50	6	70	45	110	73
Clark St	Markham St to Cajalco Rd	90	45	110	61	130	68
I-215	Alessandro Blvd to Cactus Ave	1,380	0	1,520	0	1,760	0
I-215	Cactus Ave to Van Buren Blvd	1,570	662	1,780	787	2,110	973
I-215	Van Buren Blvd to Oleander Ave	1,680	0	1,910	0	2,320	0
I-215	Oleander Ave to Cajalco Rd	1,560	35	1,770	58	2,080	86
Elsworth St	Cottonwood Ave to Alessandro Blvd	50	13	60	45	80	77
Elsworth St	Alessandro Blvd to Cactus Ave	100	0	120	0	160	0
Frederick St	Alessandro Blvd to Cactus Ave	130	0	150	0	180	0
Graham St	Alessandro Blvd to Cactus Ave	210	0	230	0	220	0
Heacock St	Cactus Ave to John F. Kennedy Dr	210	137	240	153	290	221
Heacock St	John F. Kennedy Dr to Iris Dr	150	80	190	134	230	144
Heacock St	Iris Dr to Nandina Ave	140	3	180	3	130	3
Heacock St	Nandina Ave to Oleander Ave	150	0	170	0	170	0
Perris Blvd	Alessandro Blvd to Cactus Ave	280	208	280	208	300	237
Perris Blvd	Cactus Ave to John F. Kennedy Dr	270	372	290	402	340	483
Perris Blvd	John F. Kennedy Dr to Iris Dr	240	326	280	380	330	401
Perris Blvd	Iris Dr to Nandina Ave	230	282	260	368	310	464
Perris Blvd	Nandina Ave to Oleander Ave	180	3	210	3	310	3
Total			4,373		5,194		6,342

Notes: (a) Distance from roadway centerline to CNEL 60 dB contour.

(b) Total number of residents exposed to CNEL 60 dB or greater.

CNEL = Community Noise Equivalent Level

db = decibel

SEL was calculated at representative residential locations (see Figure 4.4-2) for the noisiest and most common jet aircraft; the results are presented in

Table 4.4-17. The analysis suggests that, for the No-Action Alternative, some aircraft overflights could affect the sleep of some residents in the area. For all modeled years, the noisiest aircraft would be the F-18 and the most common would be the C-141.

Surface traffic noise levels and number of residents exposed to noise levels of CNEL 60 or greater for several road segments are presented in Table 4.4-22. In 2016, approximately 6,000 people are estimated to reside within areas exposed to CNEL 60 dB or greater due to roadway noise.

Use of the small arms range under this alternative would be similar to the Proposed Action.

Mitigation Measures. The same mitigation measures described for the Proposed Action would be appropriate for both aircraft and surface traffic noise.

4.4.4.6 Other Land Use Concepts. Potential noise impacts resulting from implementation of one or more of the land use concepts in conjunction with the Proposed Action or alternatives are described below.

Stephens' Kangaroo Rat Habitat. There would be a reduction in the amount of surface traffic noise associated with implementation of this land use concept, and no noise impacts are expected.

U.S. Department of Agriculture Forest Service Operations Coordination Center. Noise associated with light aircraft and helicopter operations during emergency activities would be short-term and negligible compared to ongoing military and civilian flight operations, and no noise impacts are expected.

Riverside National Cemetery Expansion. No noise impacts would be associated with this proposal.

Navy and Marine Corps Reserve Center. No noise impacts would be associated with this proposal.

Army and Air Force Exchange Service. No noise impacts would be associated with this proposal.

Army Reserve. No noise impacts would be associated with this proposal.

California Army National Guard. No noise impacts would be associated with this proposal.

Table 4.4-22. Distance to CNEL 60 dB from Roadway Centerline and Number of Residents for the No-Action Alternative
Page 1 of 2

Roadway	Segment	2001			2006			2016		
		Distance (feet) ^(a)	No. of Residents ^(b)		Distance (feet) ^(a)	No. of Residents ^(b)		Distance (feet) ^(a)	No. of Residents ^(b)	
Alessandro Blvd	Trautwein Rd to I-215	360	96		400	112		460	144	
Alessandro Blvd	I-215 to Elsworth St	320	29		350	32		400	51	
Alessandro Blvd	Elsworth St to Graham St	280	128		300	147		330	188	
Alessandro Blvd	Graham St to Heacock St	320	0		340	0		380	0	
Alessandro Blvd	Heacock St to Perris Blvd	280	269		300	313		330	394	
Cactus Ave	I-215 to Elsworth St	310	0		360	0		440	0	
Cactus Ave	Elsworth St to Graham St	300	0		340	0		410	0	
Cactus Ave	Graham St to Heacock St	230	0		260	0		310	0	
Cactus Ave	Heacock St to Perris Blvd	190	368		210	387		260	557	
John F. Kennedy Dr	Heacock St to Perris Blvd	70	105		80	153		80	153	
Van Buren Blvd	Wood Rd to Trautwein Rd	240	67		250	67		290	71	
Van Buren Blvd	Trautwein Rd to Orange Terrace Pkwy	380	397		400	400		420	448	
Van Buren Blvd	Orange Terrace Pkwy to Plummer Rd	1,620	0		470	0		630	0	
Van Buren Blvd	Plummer Rd to I-215	430	6		470	13		550	29	
Nandina Ave	Wood Rd to Barton St	(a)	NA		(a)	NA		0	0	
Nandina Ave	Barton St to Alexander St	110	3		130	3		180	13	
Nandina Ave	Alexander St to Clark St	50	0		60	0		80	0	
Oleander Ave	I-215 to Heacock St	140	19		160	22		230	32	
Markham St	Wood Rd to Alexander St	80	9		100	16		120	19	
Markham St	Alexander St to Clark St	70	3		90	19		100	22	
Cajalco Rd	Wood Rd to Alexander St	390	51		420	73		470	90	
Cajalco Rd	Alexander St to Clark St	330	153		360	192		400	202	
Cajalco Rd	Clark St to I-215	390	169		420	176		440	183	
Wood Rd	Trautwein Rd to Van Buren Blvd	100	3		110	3		130	19	
Wood Rd	Van Buren Blvd to Lurin Ave	260	29		270	29		320	32	
Trautwein Rd	Alessandro Blvd to Wood Rd	220	35		280	38		370	64	
Trautwein Rd	Wood Rd to Van Buren Blvd	210	0		230	0		290	0	

CNEL = Community Noise Equivalent Level

dB = decibel

Table 4.4-22. Distance to CNEL 60 dB from Roadway Centerline and Number of Residents for the No-Action Alternative
Page 2 of 2

Roadway	Segment	2001			2006			2016		
		Distance (feet) ^(b)	No. of Residents ^(a)	No. of Residents ^(a)	Distance (feet) ^(b)	No. of Residents ^(a)	No. of Residents ^(a)	Distance (feet) ^(b)	No. of Residents ^(a)	No. of Residents ^(a)
Barton St	Van Buren Blvd to Nandina Ave	130	13	13	150	13	13	170	13	13
Alexander St	Nandina Ave to Markham St	80	35	58	100	58	77	110	77	77
Alexander St	Markham St to Cajalco Rd	40	3	3	40	3	3	50	3	3
Clark St	Nandina Ave to Markham St	60	22	45	70	45	48	80	48	48
Clark St	Markham St to Cajalco Rd	80	35	45	90	45	64	120	64	64
I-215	Alessandro Blvd to Cactus Ave	1,380	0	0	1,530	0	0	1,770	0	0
I-215	Cactus Ave to Van Buren Blvd	1,570	662	774	1,770	774	1,002	2,140	1,002	1,002
I-215	Van Buren Blvd to Oleander Ave	1,670	0	0	1,910	0	0	2,340	0	0
I-215	Oleander Ave to Cajalco Rd	1,560	35	58	1,760	58	86	2,130	86	86
Elsworth St	Cottonwood Ave to Alessandro Blvd	50	13	45	60	45	70	70	70	70
Elsworth St	Alessandro Blvd to Cactus Ave	120	0	0	140	0	0	160	0	0
Frederick St	Alessandro Blvd to Cactus Ave	120	0	0	140	0	0	160	0	0
Graham St	Alessandro Blvd to Cactus Ave	190	0	0	210	0	0	220	0	0
Heacock St	Cactus Ave to John F. Kennedy Dr	210	137	153	240	153	221	290	221	221
Heacock St	John F. Kennedy Dr to Iris Dr	140	77	86	170	86	144	220	144	144
Heacock St	Iris Dr to Nandina Ave	140	3	0	170	0	0	210	0	0
Heacock St	Nandina Ave to Oleander Ave	120	0	0	140	0	0	170	0	0
Perris Blvd	Alessandro Blvd to Cactus Ave	260	201	208	280	208	237	300	237	237
Perris Blvd	Cactus Ave to John F. Kennedy Dr	270	372	406	300	406	483	340	483	483
Perris Blvd	John F. Kennedy Dr to Iris Dr	240	326	380	280	380	400	330	400	400
Perris Blvd	Iris Dr to Nandina Ave	230	282	368	260	368	486	320	486	486
Perris Blvd	Nandina Ave to Oleander Ave	180	3	3	210	3	3	320	3	3
Total			4,158	4,840		4,840	6,045		6,045	6,045

Notes: (a) Distance from roadway centerline to CNEL 60 dB contour.

(b) Total number of residents exposed to CNEL 60 dB or greater.

CNEL = Community Noise Equivalent Level

dB = decibel

4.4.5 Biological Resources

The Proposed Action and reuse alternatives (except the No-Action Alternative) could potentially affect biological resources through the alteration or loss of vegetation and wildlife habitat. These impacts are described below for each alternative.

In the absence of specific site development plans, certain assumptions were generated to consistently analyze the effects of the Proposed Action and alternatives. These assumptions include:

- All staging and other areas disturbed temporarily by construction would be placed in previously disturbed areas (e.g., paved or cleared areas) to the fullest extent possible.
- The amount of ground disturbance associated with each land use is presented in Tables 2.2-4, 2.3-4, 2.3-10, and 2.3-16 for the various reuse alternatives. Development within each parcel could occur at one or more locations within that parcel subject to constraints posed by infrastructure systems, IRP sites, topography, surface water, etc.

The areas with the highest potential for impacts under any alternative include potential jurisdictional wetlands (willow riparian, freshwater marsh, and vernal pool) on West March and habitat for SKR and Least Bell's vireo. Potential impacts are greatest in these areas because of their high habitat value.

The ROI for discussion of impacts to SKR is known habitat on disposal property. The ROI for direct impacts to wetlands consists of wetlands on West March. Jurisdictional wetlands along Heacock Street and Cactus Avenue are located in protected channelized storm water drainages; therefore, no direct impacts to wetlands are expected in these areas as a result of the Proposed Action or alternatives.

4.4.5.1 Proposed Action. Development of the joint military-civilian airport and associated facilities under the Proposed Action could adversely affect biological resources primarily through a potential loss of vegetation and wildlife habitat. Direct losses to some species may occur from construction and other activities in newly developed areas. Urban development could increase runoff of storm water and pollutants from developed areas to nondeveloped areas. Development of West March could affect grasslands and wetlands (willow riparian and freshwater marsh) that support sensitive animal species.

Vegetation. The Proposed Action could result in loss of grassland vegetation. Impacts to grasslands could include direct conversion to developed and/or landscaped vegetation by industrial, commercial, business

park, and mixed uses on West March. Activities in the public facilities/ recreation areas in the WSA and south of Van Buren Boulevard could directly impact grasslands through increased vehicle and foot traffic. Impacts to grasslands in the retained military cantonment would not differ substantially from existing impacts caused by routine maintenance of vacant land adjacent to the airfield.

The vegetation in surrounding and adjoining areas is similar to that on West March. Approximately 43 percent of the grassland plants are non-native species, and there are no known sensitive species (James, 1992). Remnant coastal sage scrub on base is currently fragmented and of low diversity and, therefore, of little floristic or wildlife habitat value. With the exception of wetlands (discussed under Sensitive Habitats), the Proposed Action is not expected to cause adverse impacts to vegetation on disposal property.

Wildlife. Direct impacts from implementation of the Proposed Action could occur through individual mortality as a result of construction or operational activities. Species directly impacted may include protected species (discussed in Threatened and Endangered Species) and less mobile wildlife species (small mammals, reptiles, amphibians, and invertebrates). The increased presence of equipment, aircraft, or vehicles could also lead to accidental mortality of more mobile birds and mammals. Losses of birds to aircraft collisions are expected to be somewhat higher than prerealignment conditions. Additional effects on wildlife could occur through habitat degradation and loss.

Development would displace mobile species (birds, large mammals) to surrounding undisturbed sites. Species displaced could include the less-mobile birds, such as burrowing owl (a CSC species), as well as mammals and reptiles. Wider-ranging species, including red-tailed hawk, northern harrier (CSC), coyote, and bobcat could be impacted to a lesser degree through the loss and fragmentation of foraging habitat in the region. Development under the Proposed Action would result in a minor overall decrease in population of regionally common wildlife species.

The proposed aircraft component (fleet mix and operations) of this alternative would produce less noise than under prerealignment conditions. The total number of aircraft operations (military and civilian) by 2016 would be similar to prerealignment conditions with similar potential for bird-aircraft collisions. The local species are familiar with aircraft noise and can be assumed to be tolerant of this disturbance. Other noise produced by construction and ground operations activities may cause short-term stress on wildlife species. The overall impact of noise on wildlife populations on and near March ARB would be minimal.

Threatened and Endangered Species. Habitat for two federally listed endangered and 11 candidate for federal listing (Category 2) species is known to be present on the disposal property (see Section 3.4.5.3). Direct

impacts to sensitive species could result from operational or construction activities, resulting in direct mortality and habitat loss. Development in undisturbed areas can result in indirect impacts, including fragmentation or isolation of sensitive species habitat.

The Air Force, with the JPA, has opened discussions with the USFWS to exchange SKR management and open space areas that are currently managed pursuant to the USFWS 1993 Biological Opinion for suitable, but as yet unprotected, SKR habitat elsewhere in Riverside County. If approved by the USFWS, the exchange would mitigate impacts to SKR as a result of implementation of the Proposed Action. Consequently, no further impacts to SKR would be expected as a result of implementation of the Proposed Action.

Least Bell's vireo (a federally listed endangered species) occurs in willow riparian areas on West March and could be directly impacted by development activities through direct mortality, decreased nesting success, and habitat loss during the breeding and nesting season. Indirect impacts to Least Bell's vireo could occur from increased sedimentary and chemical runoff (e.g., motor oil, pesticides) into the streams containing vireo habitat, resulting in decreased habitat quality.

San Diego horned lizard, coastal western whiptail, northern red diamond rattlesnake, and western spadefoot toad, all federal Category 2, could be directly impacted by development through direct mortality and habitat loss. These species could suffer indirect impacts from habitat alteration and increased human presence.

Direct impacts to ferruginous hawk (a federal Candidate 2 species) could occur from aircraft collisions and potential power line electrocution. Development of grasslands could indirectly contribute to the loss of foraging and nesting habitat for ferruginous hawk, loggerhead shrike, and California horned lark (all federal Candidate 2 species) in the ROI and adjacent lands. Tricolored blackbirds (federal Candidate 2 species) could be directly impacted by development activities resulting in direct mortality and habitat loss during the breeding and nesting season. Indirect impacts to tricolored blackbirds from development of grasslands could result in loss of foraging habitat for this species. No direct impacts to mountain plover (federal Candidate 2 species) are expected although indirect impacts such as habitat loss and increased human presence may occur.

Los Angeles little pocket mouse and San Diego black-tailed jackrabbit (federal Candidate 2 species) could be directly impacted by the development of grasslands, resulting in direct mortality. Indirect impacts could result from fragmentation and loss of foraging habitat.

If property that is known to contain federally listed endangered species is transferred to another federal agency, that agency would be required to

conduct additional consultation under Section 7 of the Endangered Species Act (16 U.S.C. § 1538) prior to irreversible or irretrievable commitment of resources to any project that could adversely affect the species. Formal consultation under Section 7 of the Endangered Species Act is required if the federal agency determines that its action may affect listed species. Formal consultation is a process between the USFWS and the federal agency that concludes with the USFWS's issuance of a biological opinion stating whether or not the federal action is likely to jeopardize the continued existence of listed species. A no-jeopardy opinion may include restrictions on the amount of incidental adverse effects to listed species. A USFWS opinion that the project could jeopardize the continued existence of a listed species, known as a jeopardy opinion, would also include reasonable and prudent alternatives, if any, that the federal agency could implement to avoid jeopardizing the listed species. If a jeopardy opinion is issued, the federal agency must either alter or cease its action to comply with the no-jeopardy mandate in Section 7(a)(2) of the Endangered Species Act or seek an exemption from this mandate under Section 7(h) of the Act.

Non-federal and private parties who receive disposal property will be subject to the prohibitions listed in Section 9 of the Endangered Species Act and Title 50 CFR 17 Subparts C, D, F, and G. For certain activities involving the export, possession, taking, sale, or transport of threatened or endangered animal species, non-federal and private parties will be required to obtain a permit under Section 10 of the Endangered Species Act and Title 50 CFR 17 Subparts C and D. Reuse of the facilities and resultant potential impacts on state-listed species will be subject to compliance with the California Fish and Game Code Article 5, Chapter 1.5, Division 3, Section 2090 et seq. If the California Department of Fish and Game (CDFG) determines that state-listed species will be affected by a project, a take permit would be required, as defined under California Fish and Game Code Article 5, Chapter 1.5, Division 3, Section 2083 et seq.

In addition to the federal Endangered Species Act, property recipients would have to comply with the California Endangered Species Act. In compliance with this Act, the CDFG may require the property recipients to conduct additional surveys for species not listed by the USFWS.

Sensitive Habitats. Impacts to sensitive habitats could include disturbance to wetlands (vernal pools, freshwater marsh, and willow riparian), which are federally regulated under the CWA and EO 11990 and state regulated under the California Fish and Game Code Sections 1600-1607. Impacts to endangered SKR and Least Bell's vireo habitat (regulated under the Endangered Species Act) are discussed above under Threatened and Endangered Species.

Wetlands serve several important functions that include providing habitat for fish and wildlife, purifying water through sediment and toxicant retention, maintaining groundwater supplies, and preventing floods. These functions

can be degraded or lost through direct and indirect impacts. Direct impacts can result from potential filling, dredging, or flooding associated with initial development. Indirect impacts can occur from disturbance on adjacent lands resulting in increased chemical and sedimentary runoff that degrades water quality. Wildlife habitat, a beneficial value of wetlands, can become fragmented by disturbance adjacent to wetland areas. Direct and indirect impacts to wetlands vegetation can decrease their overall value as pollutant and sediment traps and floodwater regulators.

Wetlands are defined in Title 33 CFR Section 328.3 as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." The majority of jurisdictional wetlands in the United States meet three wetland delineation criteria (hydrophytic vegetation, hydric soils, and wetland hydrology) and are subject to protection under Section 404 of the CWA. Riparian wetlands (those occurring on streams) on West March are also subject to the California Fish and Game Code Sections 1600-1607. Property recipients would have to consult with the USACE and CDFG to develop appropriate mitigation measures for wetlands impacts.

Section 404 of the CWA provides the regulatory mechanism necessary to minimize or avoid wetland impacts resulting from reuse. Under Section 404, any action implemented by reusers that would directly involve the placement of fill material, dredging from, or flooding of wetlands or other waters of the United States requires permitting prior to implementation. According to the U.S. EPA regulations issued under Section 404(b)(1), the permitting of fill activities will not be approved unless the following conditions are met: no practicable, less environmentally damaging alternative to the action exists; the activity does not cause or contribute to violations of state water quality standards or jeopardize endangered or threatened species; the activity does not contribute to significant degradation of waters of the United States; and all practicable and appropriate steps have been taken to minimize potential adverse impacts to the aquatic ecosystem (Title 40 CFR 230.10). Further, the guidelines establish a rebuttable presumption that, for non-water-dependent projects, a practicable alternative to filling of wetlands exists.

Federal agency responsibility to protect wetlands is discussed in EO 11990. The EO states that when federally owned wetlands or portions of wetlands are proposed for disposal to non-federal or private parties, the Air Force shall (a) reference in the conveyance those uses that are restricted under federal, state, or local wetlands regulations; and (b) attach other appropriate restrictions to the uses of properties by recipients (except where prohibited by law); or (c) withhold such properties from disposal. Section (2)1 of the EO states that a federal agency, to the extent permitted by law, shall avoid providing assistance for new construction in wetlands unless the head of the agency concludes that there is no practicable alternative to such construction, and that the proposed project includes all practicable measures

to minimize harm to wetlands that may result from such use. In determining whether an alternative is practicable, the agency may consider costs, existing technology, logistics, environmental effects, and the purpose of the project that causes the discharge of fill or dredged material into the affected wetlands. Secondary development that is attracted to the area by improved infrastructure or redevelopment will also be regulated by the USACE.

Under the Proposed Action, disturbance would total 1,364 acres (see Table 2.2-4). Development, including redevelopment or demolition of existing facilities, is proposed for all land use categories; all land use categories except aviation support contain wetlands. Consequently, there is a potential that filling, draining, flooding, alteration, or other activities that impact wetlands could occur in land use parcels proposed for development.

Table 4.4-23 shows the direct impacts anticipated as a result of implementation of the Proposed Action. A total of 79 acres of wetlands are known to exist on West March (see Figure 3.4-7). If all 1,364 acres of disturbance were to occur without regard to wetland impact avoidance, all 79 acres of wetlands on West March could be affected. However, there is ample upland (non-wetland) acreage available on disposal property to accommodate all planned development under the Proposed Action.

Table 4.4-23 presents, within each land use category, the total number of wetland acres and the amount of disturbance that is projected over the 20-year planning period for each parcel on West March. By subtracting the amount of wetland acreage from the total acreage of each land use parcel, the total non-wetland acreage is determined. For example, the 799 acres in the northern business park parcel consist of 24 acres of wetlands and 775 acres of non-wetland areas. These 775 acres would be available to accommodate 160 acres of proposed disturbance within this parcel under the Proposed Action. As the table indicates, each parcel contains ample non-wetland acreage for any anticipated disturbance. Therefore, given that practicable infrastructure and facility siting alternatives are available, it is anticipated that no wetlands would be directly impacted.

As previously discussed, indirect impacts to wetlands can occur from disturbance on adjacent lands resulting in increased or changed chemical and sedimentary runoff that degrades water quality. This, in turn, affects the biotic elements and decreases the ability of wetlands to provide beneficial functions, such as wildlife habitat and sediment and toxicant retention. Indirect impacts to wetlands caused by disturbance of adjacent uplands are not expected as a result of implementation of the Proposed Action, because sufficient acreage would be left to create buffers between wetlands and proposed development. Further, all construction activities that may increase runoff to waters of the United States (including wetlands) would be subject to conditions of the required NPDES permit (see Section 4.4.1).

Table 4.4-23. Land Use Parcels with Wetlands, Direct Impacts - Proposed Action

Land Use Category	Total Land Use Acres ^(a)	Wetland Acres	Disturbed Acres ^(b)	Non-Wetland Acres ^(c)	Likely Impact
Business Park					
North	799	24	160	775	0
South	406	0	83	406	0
Industrial					
Warehouse	489	4	197	485	0
Commercial					
North of Van Buren Blvd	87	6	19	81	0
South of Van Buren Blvd	213	2	45	211	0
Along I-215	44	0	37	44	0
Residential					
South	38	0	32	37.5	0
North	26	2	22	24	0
Public Facilities/ Recreation					
WSA	101	0	73	101	0
North of Van Buren Blvd	149	0	134	149	0
South of Van Buren Blvd	594	30	42	563.5	0
South of Golf Course	5	0	0	5	0
West of Air Force	4	0	0	4	0
Village West					
South of 5th St	287	9	29	278	0
Along I-215	12	0	0	12	0
Retained Military Cantonment					
North	19	0	0	19	0
Southwest	21	0	0	21	0
Mixed Use					
Plummer Rd	242	1	91	241	0
Total	3,536	79	1,040	3,457	0

Notes: (a) Includes only land use parcels on West March. No impacts are anticipated to jurisdictional wetlands on the Main Base.
(b) Potentially developed or disturbed acreage.
(c) Upland areas within which potential development could occur.

Mitigation Measures. Potential direct and indirect impacts to threatened and endangered species would have to be mitigated in consultation with the USFWS or CDFG, in accordance with the federal Endangered Species Act and the California Endangered Species Act, as described under Threatened and Endangered Species, and in accordance with EO 11990. If avoidance of wetlands proves infeasible for individual projects, the project proponent will be required to go through individual permit reviews. In accordance with Sections 1601-1604 of the CDFG code, project proponents would have to obtain permits for projects that may alter streams, streambeds, or associated wetlands. The proponent will be required to demonstrate that no practicable alternative to the project's wetland impacts exists. Consideration should then be given to minimizing the project's impacts through design and mitigation, which may include the following:

- Avoidance of direct or indirect disturbance through appropriate land use planning and facility design
- At-site (if possible) replacement of any sensitive habitat lost, by creation or expansion of existing sensitive habitat at ratio determined through consultation with the USFWS, USACE, or CDFG
- Re-creation of sensitive habitat elsewhere within the site, or purchase and fencing of sensitive habitat away from the site as replacement
- Monitoring (until sensitive habitat becomes established) of any replacement habitat required to determine the effectiveness of replacement and necessary remedial measures.

Indirect impacts to wetlands could be minimized by controlling runoff from demolition and construction sites into drainages through the use of berms, silt curtains, and other appropriate techniques. Equipment could be washed in areas where wash water could be contained, treated, or evaporated.

Avoidance of wetlands is the environmentally preferred mitigation. Potential developers/reusers whose projects may potentially affect the wetlands on West March should confirm any identified boundaries through delineation, where such studies have not been performed, prior to the onset of any construction activities. EO 11990 directs the Air Force to "avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands in carrying out (each agency's) responsibilities for disposing of Federal lands and facilities. When Federally-owned wetlands or portions of wetlands are proposed for lease, easement, right-of-way or disposal to non-Federal public or private parties, the federal agency shall (a) reference in the conveyance those uses that are restricted

under identified Federal, State or local wetlands regulations; and (b) attach appropriate restrictions to the uses of properties by the grantee or purchaser and any successor, except where prohibited by law; or (c) withhold such property from disposal."

Conveyance restrictions to mitigate impacts to wetland areas would be identified in the ROD. Such restrictions would include conservation easements or deed restrictions for wetlands that might allow for public enjoyment and wildlife usage, while protecting wetlands from direct impacts associated with development. Conservation easements would be managed by responsible agencies such as USFWS or other entities that would maintain and monitor the wetlands, and should be considered for all wetlands to the extent practicable. Deed restrictions would place the responsibility for wetlands protection on the property recipients. Indirect impacts can be mitigated through the protection of uplands adjacent to wetlands. Deed restrictions and easements should include uplands adjacent to wetlands as buffers to mitigate indirect impacts.

4.4.5.2 SKR/Aviation Alternative. Impacts under this alternative would be similar in extent to those described for the Proposed Action. Portions of SKR habitat would continue to be protected; others would be developed, assuming that provision is made for suitable in habitat elsewhere exchange for development rights on disposal property.

Vegetation. The SKR/Aviation Alternative could result in the disturbance of vegetation, including grasslands. Although 1,207 acres of SKR habitat on West March would remain largely undisturbed, the vegetation in this area could be affected by increased human presence. Impacts to grasslands elsewhere on West March could include direct conversion to developed and/or landscaped vegetation by industrial, commercial, residential, public facilities/recreation, and military uses. Impacts to grasslands in the retained military cantonment would not differ substantially from existing impacts due to routine maintenance of open lands adjacent to the airfield. As for the Proposed Action, overall impacts to vegetation under the SKR/Aviation Alternative would be minor.

Wildlife. Impacts to wildlife under the SKR/Aviation Alternative would be less than those under the Proposed Action because of continued preservation of portions of existing SKR habitat. Direct impacts from implementation of the SKR/Aviation Alternative could occur through individual mortality as a result of construction or operational activities. Less mobile species (small mammals, reptiles, amphibians, and invertebrates) would be affected by these types of activities, although the increased presence of equipment, aircraft, or vehicles could also lead to accidental mortality of larger birds and mammals. Additional effects on wildlife could occur through habitat degradation and increased human presence.

Development would displace mobile species (birds, large mammals) to surrounding sites and reduce foraging habitat. As described for the Proposed Action, this alternative could result in a minor overall decrease in population of regionally common wildlife species.

The proposed aircraft component (fleet mix and operations) of this alternative would produce less noise than prerealignment conditions. The total number of aircraft operations (military and civilian) by 2016 would exceed prerealignment operations by approximately 20 percent, thereby increasing the potential for bird-aircraft collisions. The local species are accustomed to aircraft noise and are assumed to be tolerant of this disturbance. Other noise produced by construction and ground operations activities may cause short-term stress on wildlife species. The overall impact of noise on wildlife populations at or near March ARB would be minimal.

Threatened and Endangered Species. Direct and indirect impacts to protected species under the SKR/Aviation Alternative would be similar to, but less than, those described under the Proposed Action because portions of the SKR habitat areas would be preserved. Indirect impacts to SKR as a result of increased development in adjacent areas could be reduced through use of appropriate land use planning techniques, such as open space buffers and careful siting of facilities.

Sensitive Habitats. Under the SKR/Aviation alternative, disturbance would total 1,156 acres. Impacts to threatened and endangered species are discussed above. As with the Proposed Action, development, including redevelopment or demolition of existing facilities, is proposed for all land use categories; portions of these land use acres contain wetlands. Consequently, there is a potential that filling, draining, flooding, alteration, or other activities that reduce the functional value of wetlands could occur in land use categories proposed for development. Approximately 51 wetland acres could be lost if this alternative were fully implemented without protecting wetlands. The proposed acreage of disturbance in SKR habitat is smaller than the acreage of wetlands present, so not all 79 acres of wetlands would be affected.

Applying the analysis criteria used for the Proposed Action, sufficient non-wetland acreage is available in individual land use parcels containing wetlands to accommodate proposed disturbance (Table 4.4-24). Consequently, it is anticipated that wetlands would not be directly impacted by development under the SKR/Aviation Alternative.

Indirect impacts to wetlands under this alternative would be similar to those described for the Proposed Action.

Mitigation Measures. Mitigation measures for impacts to threatened and endangered species and wetlands would be the same as those for the Proposed Action.

Table 4.4-24. Land Use Parcels with Wetlands, Direct Impacts - SKR/Aviation Alternative

Land Use Category	Total Land Use Acres ^(a)	Wetland Acres	Disturbed Acres ^(b)	Non-Wetland Acres ^(c)	Likely Impact
SKR					
Near WSA	1,207	40	12	1,167	0
Mixed Use					
South of Van Buren Blvd	964	18.5	204	945.5	0
Commercial					
Northernmost	34	0	18	34	0
North of Van Buren Blvd	337	0	178	337	0
Along I-215	39	0	0	39	0
Industrial					
Alessandro Blvd	149	4.5	119	144.5	0
Residential					
North of Air Force Village West	25	1.5	21	23.5	0
South of Air Force Village West	71	0.5	60	69.5	0
Retained Military Cantonment					
Northern	19	0	0	19	0
Southern	21	0	0	21	0
Public Facilities/ Recreation					
Northernmost	177	0	0	177	0
Golf Course	501	14	24	493	0
South of Golf Course	5	0	0	5	0
Total	3,549	79	636	3,470	0

Notes: (a) Includes only land use parcels in West March. No impacts are anticipated to jurisdictional wetlands on the Main Base.

(b) Potentially developed or disturbed acreage.

(c) Upland areas within which potential development could occur.

SKR = Stephens' kangaroo rat

WSA = weapons storage area

4.4.5.3 SKR/Cargo Alternative. Potential direct impacts to sensitive species and habitats from development would be similar to those described for the Proposed Action.

Vegetation. The SKR/Cargo Alternative could result in disturbance of vegetation, including grasslands. Impacts to the grassland vegetation on West March under this alternative would be similar to those described under the SKR/Aviation Alternative. Impacts to grasslands in the retained military cantonment would not differ substantially from existing impacts due to

routine maintenance of open lands adjacent to the airfield. Overall impacts to vegetation under this alternative would be minor.

Wildlife. Impacts to wildlife under the SKR/Cargo Alternative would be less than those under the Proposed Action because of continued preservation of all SKR habitat. Direct impacts from implementation of the SKR/Cargo Alternative could occur through individual mortality as a result of construction or operational activities. Less mobile species (small mammals, reptiles, amphibians, and invertebrates) would be affected by these types of activities, although the increased presence of equipment, aircraft, or vehicles could also lead to accidental mortality of larger birds and mammals. Additional effects on wildlife could occur through habitat degradation and increased human presence.

Development would displace mobile species (birds, large mammals) to surrounding sites and reduce foraging habitat. As described for the Proposed Action, this alternative could result in a minor overall decrease in population of regionally common wildlife species.

The proposed aircraft component (fleet mix and operations) of this alternative would produce less noise than prerealignment conditions. The total number of aircraft operations (military and civilian) projected by 2016 would be approximately 20 percent fewer than under prerealignment operations, thereby decreasing the potential for bird-aircraft collisions. The local species are familiar with aircraft noise and can be assumed to be tolerant of this disturbance. Other noise produced by construction and ground operations activities may cause short-term stress on wildlife species. The overall impact of noise on wildlife populations at or near March ARB would be minimal.

Threatened and Endangered Species. Direct and indirect impacts to protected species under the SKR/Cargo Alternative would be similar to, but less than, the Proposed Action because all SKR habitat areas would be preserved. Indirect impacts to SKR habitat as a result of increased development in adjacent areas could be reduced through use of appropriate land use planning techniques, such as open space buffers and careful siting of facilities.

Sensitive Habitats. Under the SKR/Cargo Alternative, disturbance would total 847 acres. Development, including redevelopment or demolition of existing facilities, is proposed for seven of nine land use categories; portions of the land use acres contain wetlands. Consequently, there is a potential that filling, draining, flooding, alteration or other activities that reduce the functional value of wetlands could occur in land use categories proposed for development. Approximately 25.7 wetland acres could be lost if this alternative were fully implemented without protecting wetlands. The proposed acreages of disturbance in several land use categories are smaller

than acreages of wetlands present, so not all 79 acres of wetlands would be affected.

Applying the analysis criteria used for the Proposed Action, Table 4.4-25 illustrates that each land use parcel containing wetlands also contains ample acreage to accommodate proposed disturbance for reuse development.

Table 4.4-25. Land Use Parcels with Wetlands, Direct Impacts - SKR/Cargo Alternative

Land Use Category	Total Land Use Acres ^(a)	Wetland Acres	Disturbed Acres ^(b)	Non-Wetland Acres ^(c)	Likely Impact
SKR					
West	1,615	62	19	1,553	0
Northernmost	27	0	0	27	0
Southernmost	77	2	0	75	0
Retained Military Cantonment					
North	19	0	0	19	0
South	21	0	0	21	0
Residential					
North of Van Buren Blvd	224	0	56	224	0
South of Van Buren Blvd	268	0	214	268	0
Institutional					
North of Van Buren Blvd	14	0	0	14	0
South of Van Buren Blvd	234	0.2	187	233.8	0
Business Park I-215	207	0	29	207	0
Public Facilities/ Recreation					
Northernmost	124	0	0	124	0
South of Cactus Ave	9	0	0	9	0
Near Plummer North	39	0	0	39	0
Near Plummer South	12	0	0	12	0
North of Van Buren Blvd	14	0	0	14	0
South of Van Buren Blvd	34	1.8	0	32.2	0
Golf Course	277	0	0	277	0
West of Golf Course	97	6.5	0	90.5	0
Near 11th St	28	0	11	28	0
Southernmost	191	6.5	120	184.5	0
Total	3,531	79	636	3,452	0

Notes: (a) Includes only land use parcels in West March. No impacts are anticipated to jurisdictional wetlands on the Main Base.

(b) Potentially developed or disturbed acreage.

(c) Upland areas within which potential development could occur.

SKR = Stephens' kangaroo rat

Consequently, it is anticipated that direct wetland impacts would not occur under this alternative.

Indirect impacts to wetlands would be less than those described for the Proposed Action, because 64 acres of wetlands would be within the SKR habitat, where disturbance caused by development would be limited.

Mitigation Measures. Mitigation measures for impacts to threatened and endangered species and wetlands would be the same as for the Proposed Action.

4.4.5.4 Military Aviation Alternative. Potential direct impacts to sensitive species and habitats due to development would be similar to those described for the Proposed Action.

Vegetation. Impacts to grasslands and other natural vegetation could include direct conversion to developed and/or landscaped vegetation by proposed land uses. Impacts to vegetation on West March would be minor, similar to those described for the Proposed Action. Impacts to grasslands in the retained military cantonment would not differ substantially from existing impacts caused by routine maintenance of open lands adjacent to the airfield.

Wildlife. Impacts to wildlife under the Military Aviation Alternative would be slightly less than under the Proposed Action. Direct impacts from implementation of the Military Aviation Alternative could occur through individual mortality as a result of construction or operational activities. Less mobile species (small mammals, reptiles, amphibians, and invertebrates) would be affected by these types of activities, although the increased presence of equipment, aircraft, or vehicles could also lead to accidental mortality of larger birds and mammals. Additional effects on wildlife could occur through habitat degradation and increased human presence.

Development would displace mobile species (birds, large mammals) to surrounding sites and reduce foraging habitat. As described for the Proposed Action, this alternative could result in a minor overall decrease in population of regionally common wildlife species.

The proposed aircraft component (fleet mix and operations) of this alternative would produce less noise than under prerealignment conditions. The total number of aircraft operations by 2016 would be approximately 60 percent of prerealignment operations, thereby decreasing the potential for bird-aircraft collisions. The local species are accustomed to aircraft noise and are assumed to be tolerant of this disturbance. Other noise produced by construction and ground operations activities may cause short-term stress on wildlife species. The overall impact of noise on wildlife populations at or near March ARB would be minimal.

Threatened and Endangered Species. Under the Military Aviation Alternative, direct and indirect impacts to protected species would be similar to those for the Proposed Action. As described under the Proposed Action, a land exchange for SKR habitat would have to be approved by the USFWS in order to allow the proposed development on West March.

Sensitive Habitats. Under the Military Aviation Alternative, disturbance would total 1,029 acres. Development, including redevelopment or demolition of existing facilities, is proposed for six of the seven land use categories; portions of the land use areas contain wetlands. Consequently, there is a potential that filling, draining, flooding, alteration or other activities that reduce the value of wetlands could occur in land use categories proposed for development. Approximately 77 wetland acres could be lost if this alternative were fully implemented without protecting wetlands. The proposed acreage of disturbance in the golf course is less than the acreage of wetlands present, so all 79 acres of wetlands would not be affected.

Applying the analysis criteria used for the Proposed Action, Table 4.4-26 illustrates that each land use parcel that contains wetlands also contains ample non-wetland acreage to accommodate proposed disturbance for reuse development. Consequently, it is anticipated that direct wetland impacts would not occur under this alternative.

Indirect impacts to wetlands would be similar to those described for the Proposed Action.

Mitigation Measures. Mitigation measures for impacts to threatened and endangered species and wetlands would be the same as for the Proposed Action.

4.4.5.5 No-Action Alternative. Continuing AFRES, tenant, and maintenance activities of base property would have minimal adverse effects on biological resources.

Vegetation. No impacts to vegetation are expected from implementation of the No-Action Alternative. An overall increase in the value of habitat is expected as a result of reduced human presence.

Wildlife. No adverse impacts to wildlife species are expected as a result of implementation of the No-Action Alternative. With decreased human presence, wildlife populations are expected to benefit.

Threatened and Endangered Species. No direct or indirect impacts are expected from implementation of the No-Action Alternative. All habitat for SKR and least Bell's vireo would remain protected under federal control.

Sensitive Habitats. No direct or indirect impacts are expected from implementation of the No-Action Alternative. Little or no disturbance would

Table 4.4-26. Land Use Parcels with Wetlands, Direct Impacts - Military Aviation Alternative

Land Use Category	Total Land Use Acres ^(a)	Wetland Acres	Disturbed Acres ^(b)	Non-Wetland Acres ^(c)	Likely Impact
Business Park					
South of Van Buren Blvd	866	11	70	855	0
Northernmost	34	0	3	34	0
Retained Military Cantonment					
North	19	0	0	19	0
South	21	0	0	21	0
Public Facilities/ Recreation					
Golf Course	358	2	0	356	0
Near Van Buren Blvd	514	43	90	471	0
Northernmost	106	0	38	106	0
Industrial					
Plummer Rd	610	1	123	609	0
Along I-215	39	0	0	39	0
Commercial					
Alessandro Blvd	107	1	72	106	0
Van Buren Blvd	92	7	64	85	0
Residential					
South of Air Force Village West	95	1	48	94	0
Northwest Portion of Base	675	13	385	662	0
Total	3,536	79	893	3,457	0

Notes: (a) Includes only land use parcels in West March. No impacts are anticipated to jurisdictional wetlands on the Main Base.

(b) Potentially developed or disturbed acreage.

(c) Upland areas within which potential development could occur.

occur on West March, and wetlands would continue to be protected on federal property.

4.4.5.6 Other Land Use Concepts. This section describes the impacts to biological resources associated with implementing individual other land use concepts in conjunction with any of the reuse alternatives.

Stephens' Kangaroo Rat Habitat. If implemented with the Proposed Action or the SKR/Aviation or Military Aviation alternatives, this land use concept would reduce impacts to SKR habitat by continued protection under federal control. By association, all wetlands within the SKR habitat areas would

also be protected from disturbance. If implemented with the SKR/Cargo Alternative, there would be no change in impacts because all SKR habitat would be protected under that alternative.

U.S. Department of Agriculture Forest Service Operations Coordination Center. The site north of the cantonment supports no biological resources of concern. The site on West March is within identified SKR habitat. Impacts to SKR and mitigation would be similar to that described under the Proposed Action.

Riverside National Cemetery Expansion. Because the area proposed for expansion includes approximately 150 acres of SKR habitat, impacts to this species would result from ground-disturbing activities. Impacts would be reduced if a land exchange could be negotiated. In addition, there is one wetland area of approximately 4 acres in this parcel. There is ample non-wetland acreage for development of roads and gravesites; the wetland could be avoided and incorporated into the cemetery landscaping to preserve its functional value.

Navy and Marine Corps Reserve Center. There are no biological resources of concern present in this area, so there would be no impacts.

Army and Air Force Exchange Service. There are no biological resources of concern present in this area, so there would be no impacts.

Army Reserve. There are no biological resources of concern present in this area, so there would be no impacts.

California Army National Guard. There are no biological resources of concern present in this area, so there would be no impacts.

4.4.6 Cultural Resources

Potential impacts were assessed by (1) identifying types and possible locations of reuse activities that could directly or indirectly affect cultural resources, and (2) identifying the nature and potential significance of cultural resources in potentially affected areas. Pursuant to the NHPA, consultation, as directed by the Section 106 review process, has been initiated with the California SHPO.

Historic properties, are defined under Title 36 CFR Part 800, as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP. This term includes, for the purposes of these regulations, artifacts, records, and remains that are related to and located within such properties. The term 'eligible for inclusion in the National Register' includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria." Therefore, sites not yet evaluated are considered

potentially eligible to the NRHP and, as such, are afforded the same regulatory consideration as nominated historic properties.

As a federal agency, the Air Force is responsible for identifying any historic properties at March AFB. This identification process includes not only field surveys and recording of cultural resources, but also evaluations to develop determinations of significance in terms of NRHP criteria. (NRHP criteria and related qualities of significance are discussed in Appendix E, Methods of Analysis.) Completion of this process results in a listing of historic properties subject to federal regulations regarding the treatment of cultural resources.

The identification process as defined by the NHPA is currently ongoing at March AFB. Additional evaluation and testing have been recommended at two prehistoric and one historic site on West March. Until investigations are complete and concurrence is received from the California SHPO, these sites will be considered potentially eligible to the NRHP. The evaluation of these sites is expected to be completed prior to disposal.

Regulations implementing Section 106 of the NHPA indicate that conveyance of a historic property without adequate measures to ensure preservation is procedurally considered to be an adverse impact, thereby ensuring full regulatory consideration in federal project planning and execution. All confirmed and potential historic properties on disposal property could be impacted by conveyance.

Any identified historic properties will be managed in accordance with directives set forth in Title 36 CFR Part 800. Mitigation developed in consultation with the SHPO will be implemented to minimize or eliminate any adverse impact. Mitigation measures will be designed on a site-specific basis and could include archaeological data recovery, adherence by property recipients to guidelines equivalent to Section 106, Historic American Building Survey/Historic American Engineering Record (HABS/HAER) documentation, or placing preservation covenants on disposal documents.

The AFRES will construct a security fence around the retained military cantonment area under any reuse alternative, including the No-Action Alternative. This fence will transect the historic district. The California SHPO has concurred with a determination of no adverse effect from this project (see letter dated August 25, 1995, in Appendix J).

4.4.6.1 Proposed Action. Under the Proposed Action, the housing in the March Field Historic District, the Red Cross building and garage, Building 2605, and the prehistoric and historic sites on West March that have been recommended for further evaluation are located on disposal property. Conveyance to a non-federal entity could constitute an adverse impact on these properties.

A portion of the March Field Historic District will remain within the military cantonment. Any demolition, renovation, or deterioration of any historic properties that remain under federal control would be subject to consultation under Section 106 of the NHPA. Such actions would be managed in accordance with the finalized HPP. Therefore, no adverse impacts to these resources are anticipated.

Because there are no paleontological resources on disposal property, reuse under the Proposed Action would have no effect on this type of cultural resource. The Native American groups contacted for consultation have not responded; therefore, impacts to traditional resources are not anticipated. However, the consultation process is continuing.

Mitigation Measures. Mitigation measures would have to be designed for any development that could impact historic properties. Mitigation measures must meet the Secretary of the Interior's Standards and Guidelines for Historic Preservation Projects (Title 36 CFR 68), or Archaeology and Historic Preservation (Federal Register, Vol. 48, No. 190, September 29, 1983, pages 44716-44742) and could include avoidance, stabilization, preservation in place, or data recovery. In the case of historic structures, documentation may be considered adequate data recovery; documentation should include, but not be limited to, as-built and alteration drawings and historic photographs. If buildings or sites determined to be eligible for listing on the NRHP are conveyed to a non-federal entity (state, local, or private), preservation covenants may be placed on the disposal document to reduce the impact associated with conveyance to a nonadverse level. Appropriate covenants could include those that require management of all historic properties minimally to a level that meets or exceeds federal standards.

The Air Force will consult with the SHPO and the Advisory Council on Historic Preservation to develop and implement appropriate mitigation alternatives. Consultation will proceed in compliance with Section 106 of the NHPA and its implementing regulations (Title 36 CFR 800). An agreement document will be developed to document the accepted mitigations. An agreement document for cultural resources must be coordinated with, at a minimum, the SHPO, the Advisory Council on Historic Preservation, and the Air Force. Other interested parties (e.g., the JPA, Native Americans, Certified Local Governments) may be included, as appropriate.

4.4.6.2 SKR/Aviation Alternative. Under the SKR/Aviation Alternative, the housing in the March Field Historic District, the Red Cross building and garage, and Building 2605 are on disposal property. Conveyance to a non-federal entity could constitute an adverse impact on these properties.

The prehistoric and historic sites on West March that have been recommended for further evaluation are located in areas that would be protected as SKR habitat. Because the property would probably be

controlled by a federal agency, there would likely be no impacts to these cultural sites.

As under the Proposed Action, any demolition, renovation, or deterioration of historic properties in the retained military cantonment would be subject to consultation under Section 106 of the NHPA. Such actions would be managed in accordance with the finalized HPP. Therefore, no adverse impacts to these resources are anticipated.

Because there are no paleontological resources on disposal property, reuse under the Proposed Action would have no effect on this type of cultural resource. The Native American groups contacted for consultation have not responded; therefore, impacts to traditional resources are not anticipated. However, the consultation process is continuing.

Mitigation Measures. Appropriate mitigation measures would be the same as those outlined for the Proposed Action.

4.4.6.3 SKR/Cargo Alternative. Impacts under this alternative would be similar to those described for the SKR/Aviation Alternative.

As under the SKR/Aviation Alternative, conveyance to a non-federal entity could constitute an adverse impact to the housing in the March Field Historic District, the Red Cross building and garage, and Building 2605, all located on disposal property.

As under the SKR/Aviation Alternative, the prehistoric and historic sites on West March that have been recommended for further evaluation are located in areas that would be protected as SKR habitat. For the reasons described in Section 4.4.6.2, there would likely be no impacts to these cultural sites.

As under the Proposed Action, any demolition, renovation, or deterioration of historic properties in the retained military cantonment would be subject to consultation under Section 106 of the NHPA. Such actions would be managed in accordance with the finalized HPP. Therefore, no adverse impacts to these resources are anticipated.

Because there are no paleontological resources on disposal property reuse under the Proposed Action would have no effect on this type of cultural resource. The Native American groups contacted for consultation have not responded; therefore, impacts to traditional resources are not anticipated. However, the consultation process is continuing.

Mitigation Measures. Appropriate mitigation measures would be the same as those outlined for the Proposed Action.

4.4.6.4 Military Aviation Alternative. Impacts under this alternative would be similar to those described for the Proposed Action.

As under the Proposed Action, the housing in the March Field Historic District, the Red Cross building and garage, the prehistoric and historic sites on West March that have been recommended for further evaluation, and Building 2605 would be located on disposal property. Conveyance to a non-federal entity could constitute an adverse impact on these properties.

As under the Proposed Action, historic properties within the military cantonment area would be managed in accordance with the finalized HPP. No adverse impacts to these resources are anticipated.

Because there are no paleontological resources on disposal property, reuse under the Military Aviation Alternative would have no effect on this type of cultural resource. The Native American groups contacted for consultation have not responded; therefore, impacts to traditional resources are not anticipated. However, the consultation process is continuing.

Mitigation Measures. Appropriate mitigation measures would be the same as those outlined for the Proposed Action.

4.4.6.5 No-Action Alternative. There would be no effect on cultural resources resulting from the implementation of the No-Action Alternative if all base property remains under federal jurisdiction. The Air Force would maintain structures (and/or sites) to prevent deterioration and maintain any historic character. The OL would continue to ensure adequate security to discourage illegal looting of the archaeological sites, and thus inadvertent violation of the Archaeological Resources Protection Act.

Mitigation Measures. No mitigation measures would be required.

4.4.6.6 Other Land Use Concepts. The effects on cultural resources of other land use concepts that could be implemented with any of the reuse alternatives are discussed in this section.

Stephens' Kangaroo Rat Habitat. If implemented in combination with the Proposed Action or the Military Aviation Alternative, SKR habitat containing the prehistoric and historic sites on West March would be retained within federal control. Therefore, there would be no impacts to these sites.

Effects to other historic properties would be unchanged. If implemented with the SKR/Aviation or SKR/Cargo alternatives, there would likely be no change in effects to cultural resources, because SKR habitat is preserved as part of both alternatives.

U.S. Department of Agriculture Forest Service Operations Coordination Center. There are no cultural resources present in either of the two sites under consideration for this use, so there would be no impacts.

Riverside National Cemetery Expansion. There are no cultural resources present in this area, so there would be no impacts.

Navy and Marine Corps Reserve Center. There are no cultural resources present in this area, so there would be no impacts.

Army and Air Force Exchange Service. There are no cultural resources present in this area, so there would be no impacts.

Army Reserve. There are no cultural resources present in this area, so there would be no impacts.

California Army National Guard. There are no cultural resources present in this area, so there would be no impacts.

4.5 ENVIRONMENTAL JUSTICE

As described in Section 3.5, disproportionately high low-income and minority populations have been identified in 85 of 124 census tracts within Riverside County (see Figure 3.5-1). Environmental justice analysis methods are described in Appendix L.

The analysis conducted for this EIS included a review of influencing factors (local community resources), and a discussion of resulting impacts associated with hazardous materials and hazardous waste management and the natural environment. Local community resources (e.g., community setting, land use and aesthetics, transportation, utilities) have been identified as influencing factors only, and therefore would not have disproportionately high and adverse human health and environmental effects on low-income and minority populations.

Environmental justice impacts can arise, however, as a result of the use of hazardous materials and generation of hazardous waste. Impacts associated with the IRP may occur regardless of implementation of the Proposed Action and alternatives. Impacts may also occur to soils and geology, water resources, air quality, noise, biological resources, and cultural resources as a result of reuse-related development activities.

Based upon the analysis conducted for this EIS, it was determined that reuse activities associated with the Proposed Action and alternatives would not have adverse effects on low-income and minority populations for the following: hazardous materials and generation of hazardous waste, geology and soils water resources, biological resources, and cultural resources. Moreover, impacts associated with such factors in the disposal and reuse of March AFB property would be contained within the base boundary. Additionally, activities associated with reuse and development affecting air quality would be basin-wide; thus, no disproportionately high and adverse air quality impacts to low-income and minority populations would be expected.

Consequently, environmental justice analysis for all of these resources was determined to be unnecessary and was not conducted.

Reuse activities may, however, cause potential noise impacts associated with off-base surface transportation and aircraft CNEL of levels 60 dB and above, as discussed in Section 4.4.4. These impacts could affect some of the 85 census tracts identified as having disproportionately high low-income and minority populations in Riverside County. These off-base noise effects are discussed below.

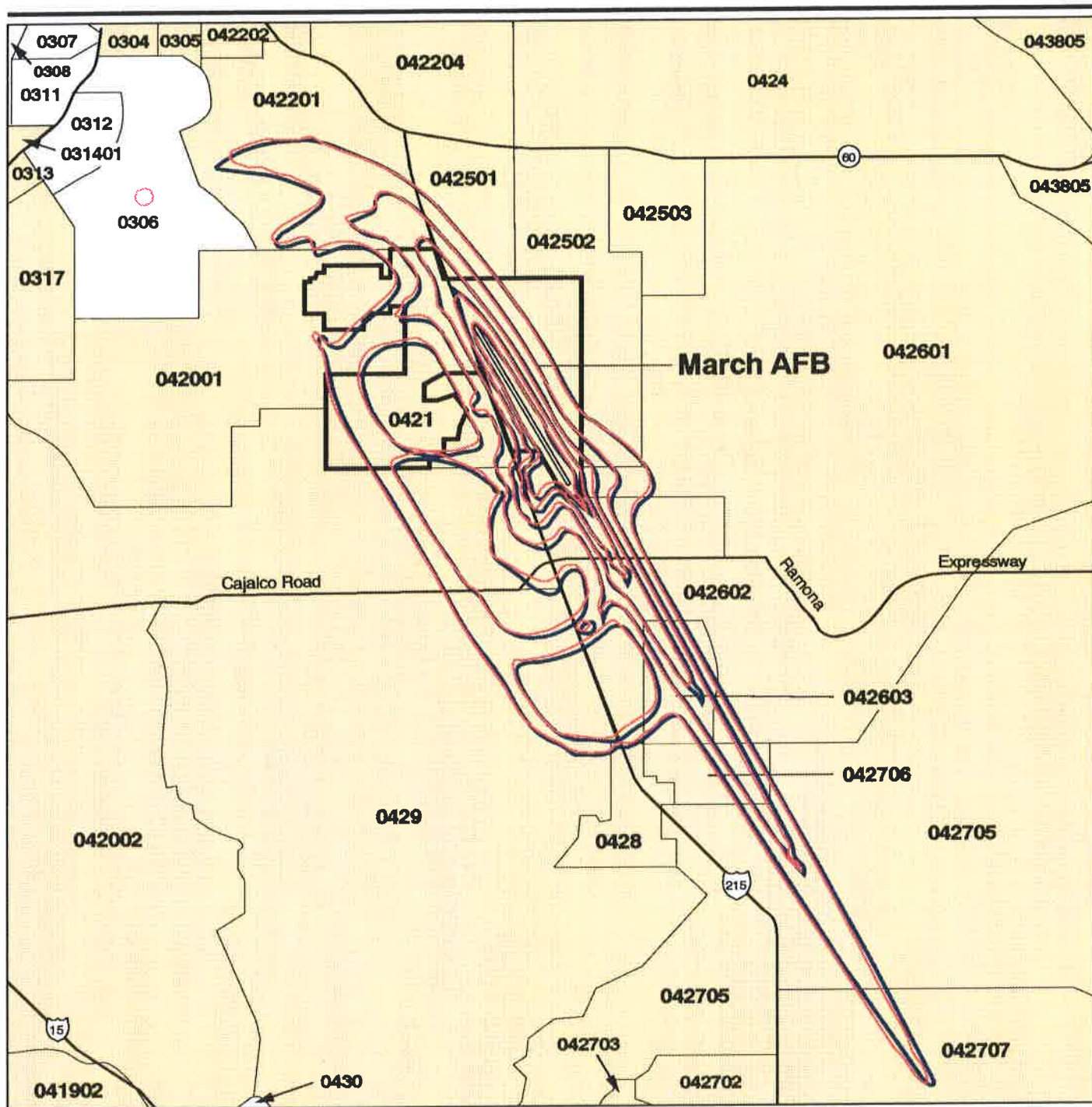
4.5.1 Aircraft Noise

Aircraft noise contours were developed for the Proposed Action and each of the reuse alternatives. Aircraft noise related impacts are associated with those areas within the noise contours of CNEL 60 dB or greater. However, due to continuing military aircraft activities under realignment, certain areas would be exposed to noise levels of 60 dB under the No-Action Alternative. Therefore, reuse-related noise impacts would occur where the noise contours for a reuse alternative cover a greater area than the contours for the No-Action Alternative. Impacts to areas in which there are no residences are eliminated from analysis, as are census tracts that do not contain disproportionately high low-income or minority populations.

4.5.1.1 Proposed Action. Under the Proposed Action, increased aircraft noise would occur as a result of reuse within 11 census tracts surrounding March AFB. All of these tracts contain disproportionately high low-income or minority populations. However, based on a review of aerial photographs, residential areas are present under the noise contours in only 4 of the 11 tracts: 042001, 042002, 042201, and 042603 (Figure 4.5-1). Within these four census tracts, it is estimated that by 2016 an additional 1,357 residents would be exposed to aircraft noise levels of CNEL 60 dB or greater (see Table 4.4-16). This number represents an increase of 8 percent over No-Action Alternative projections.

4.5.1.2 SKR/Aviation Alternative. Under the SKR/Aviation Alternative, the noise contours would be similar to those projected for the Proposed Action (see Figure 4.5-1), and the same four census tracts would be affected. Within these four census tracts, it is estimated that by 2016 an additional 616 residents would be exposed to aircraft noise levels of CNEL 60 dB or greater (see Table 4.4-16). This number represents an increase of 4 percent over No-Action Alternative projections.

4.5.1.3 SKR/Cargo Alternative. Under the SKR/Cargo Alternative, the noise contours would affect three census tracts (042002, 042201, and 042603) (see Figure 4.5-1). Within these three census tracts, it is estimated that by 2016 an additional 1,104 residents would be exposed to aircraft noise levels of CNEL 60 dB or greater (see Table 4.4-16). This number represents an increase of 7 percent over No-Action Alternative projections.



EXPLANATION

- Census Tract Boundary
- High Minority/Low Income Populations
- 042002 Census Tract Designation
- Interstate Highway
- State Highway

- Proposed Action
- No-Action Alternative

Increase in Aircraft Noise (Proposed Action)



Figure 4.5-1

4.5.1.4 Military Aviation Alternative. Because there would be no civilian aviation operations under the Military Aviation Alternative, the noise contours would be the same as under the No-Action Alternative, and there would be no reuse-related aircraft noise impacts to any census tract.

4.5.2 Surface Traffic Noise

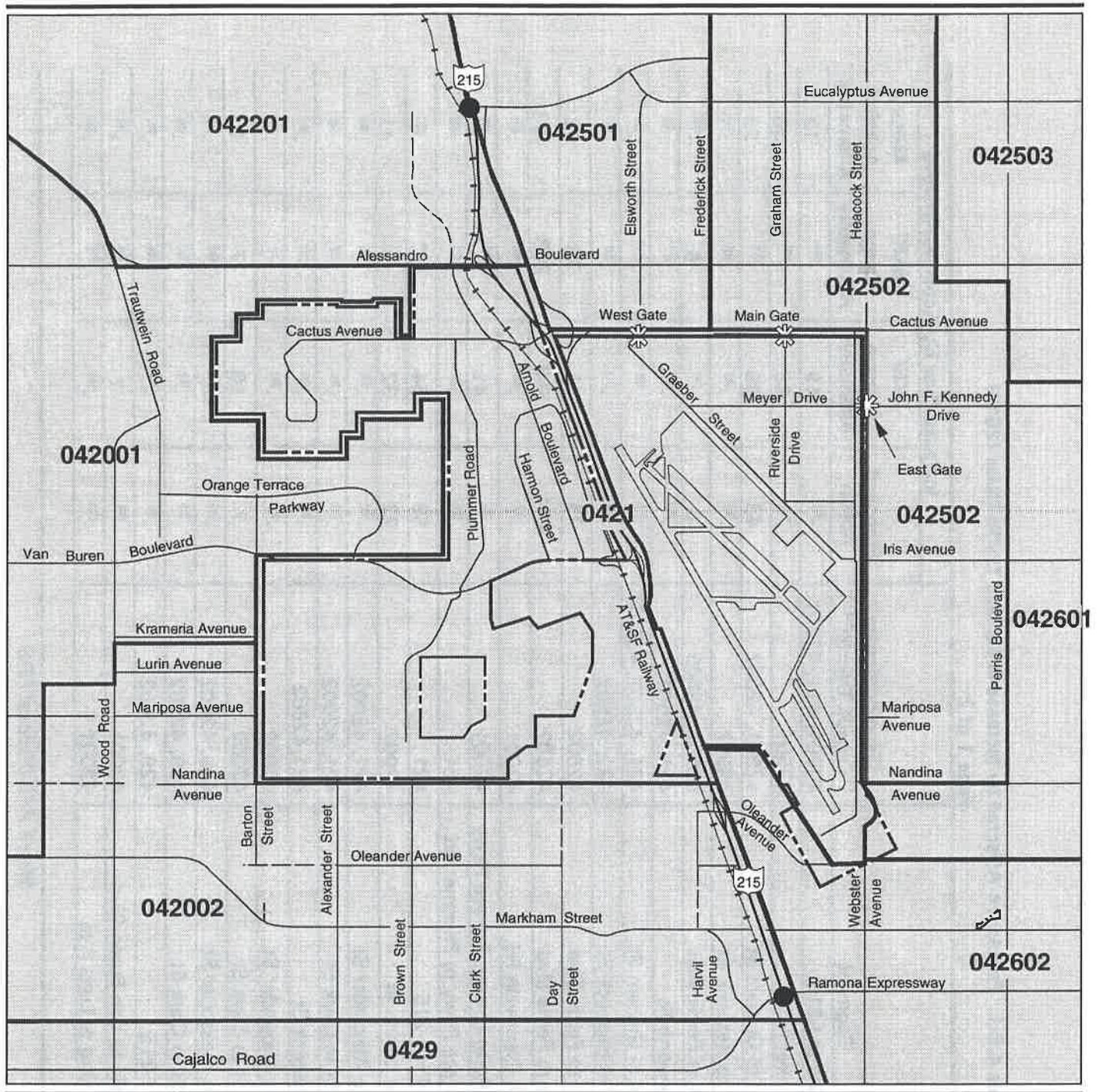
Surface traffic impacts were identified for the Proposed Action and each of the alternatives. Surface traffic noise impacts are associated with those roadway segments where residents would be exposed to surface traffic noise of CNEL 60 dB and above. However, some road segments would be exposed to noise levels of CNEL 60 dB under the No-Action Alternative. Therefore, reuse-related noise impacts would occur on those segments where a greater number of people would be exposed to noise levels of CNEL 60 dB or above than under the No-Action Alternative. Impacts to road segments that are not located within disproportionately high census tracts have been eliminated from analysis, subject to field verification.

4.5.2.1 Proposed Action. Under the Proposed Action, increased surface traffic noise as a result of reuse would occur along some road segments within seven census tracts surrounding March AFB (042001, 042002, 0421, 042501, 042502, 042503, and 042601) (Figure 4.5-2 and Table 4.5-1). All of these census tracts contain disproportionately high low-income or minority populations.

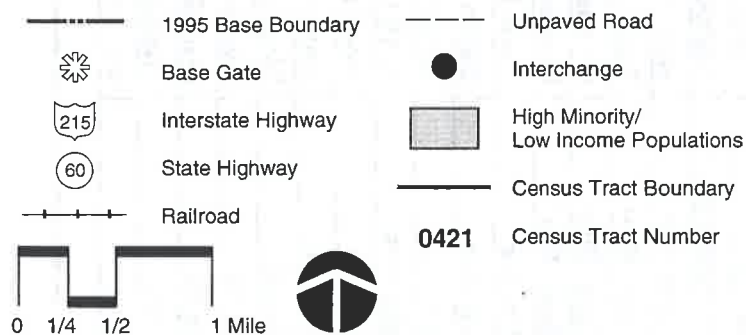
4.5.2.2 SKR/Aviation Alternative. Under the SKR/Aviation Alternative, increased surface traffic noise as a result of reuse would occur along some road segments within eight census tracts (042001, 042002, 0421, 042201, 042501, 042502, 042503, and 042601) (see Figure 4.5-2 and Table 4.5-1). All of these census tracts contain disproportionately high low-income or minority populations.

4.5.2.3 SKR/Cargo Alternative. Under the SKR/Cargo Alternative, increased surface traffic noise as a result of reuse would occur along some road segments within six census tracts (042002, 0421, 042501, 042502, 042503, and 042601) (see Figure 4.5-2 and Table 4.5-1). All of these census tracts contain disproportionately high low-income or minority populations.

4.5.2.4 Military Aviation Alternative. Under the Military Aviation Alternative, increased surface traffic noise as a result of reuse would occur along some road segments within eight census tracts (042001, 042002, 0421, 042201, 042501, 042502, 042503, and 042601) (see Figure 4.5-2 and Table 4.5-1). All of these census tracts contain disproportionately high low-income or minority populations.



EXPLANATION



Roadway Segments within Disproportionate Census Tracts

Figure 4.5-2

Table 4.5-1. Population Affected by Increase in Surface Traffic Noise (2016)

Page 1 of 2

Roadway	Segment	Disproportionate Census Tract(s) ^(a)	Increase Over No-Action Alternative			
			Proposed Action	SKR/ Aviation Alternative	SKR/ Cargo Alternative	Military Aviation Alternative
Alessandro Blvd	Trautwein Rd to I-215	42001, 421, 42201	(b)	19	(b)	12
Alessandro Blvd	I-215 to Elsworth St	42501	20	26	(b)	36
Alessandro Blvd	Elsworth St to Graham St	42501, 42502	49	39	(b)	32
Alessandro Blvd	Graham St to Heacock St	42502	(b)	(b)	(b)	(b)
Alessandro Blvd	Heacock St to Perris Blvd	42502, 42503	6	(b)	6	(b)
Cactus Ave	I-215 to Elsworth St	421, 42501	(b)	(b)	(b)	(b)
Cactus Ave	Elsworth St to Graham St	421, 42501, 42502	(b)	(b)	(b)	(b)
Cactus Ave	Graham St to Heacock St	421, 42502	(b)	(b)	(b)	(b)
Cactus Ave	Heacock St to Perris Blvd	42502	73	41	73	73
John F. Kennedy Dr	Heacock St to Perris Blvd	42502	474	359	288	113
Van Buren Blvd	Wood Rd to Trautwein Rd	42001	(b)	(b)	(b)	(b)
Van Buren Blvd	Trautwein Rd to Orange Terrace Pkwy	42001	(b)	41	(b)	(b)
Van Buren Blvd	Orange Terrace Pkwy to Plummer Rd	421	(b)	(b)	(b)	(b)
Van Buren Blvd	Plummer Rd to I-215	421	38	54	NC	6
Nandina Ave	Wood Rd to Barton St	42002	22	32	3	41
Nandina Ave	Barton St to Alexander St	421, 42002	(b)	(b)	(b)	(b)
Nandina Ave	Alexander St to Clark St	421, 42002	(b)	(b)	(b)	(b)
Oleander Ave	I-215 to Heacock St	421, 42602	(b)	(b)	(b)	(b)
Markham St	Wood Rd to Alexander St	42002	(b)	(b)	(b)	(b)
Markham St	Alexander St to Clark St	42002	7	10	7	10
Cajalco Rd	Wood Rd to Alexander St	429, 42002	(b)	(b)	(b)	(b)
Cajalco Rd	Alexander St to Clark St	429, 42002	(b)	(b)	(b)	(b)
Cajalco Rd	Clark St to I-215	429, 42002	(b)	(b)	(b)	(b)
Wood Rd	Trautwein Rd to Van Buren Blvd	42001	(b)	7	(b)	(b)
Wood Rd	Van Buren Blvd to Lurin Ave	42001	(b)	(b)	(b)	(b)

March AFB Disposal FEIS

Table 4.5-1. Population Affected by Increase in Surface Traffic Noise (2016)

Page 2 of 2

Roadway	Segment	Disproportionate Census Tract(s) ^(a)	Increase Over No-Action Alternative			
			Proposed Action	SKR/Aviation Alternative	SKR/Cargo Alternative	Military Aviation Alternative
Trautwein Rd	Alessandro Blvd to Wood Rd	42001	3	6	(b)	3
Trautwein Rd	Wood Rd to Van Buren Blvd	42001	(b)	(b)	(b)	(b)
Barton St	Van Buren Blvd to Nandina Ave	42001, 421, 42002	(b)	(b)	(b)	(b)
Alexander St	Nandina Ave to Markham St	42002	25	9	25	(b)
Alexander St	Markham St to Cajalco Rd	42002	10	3	(b)	(b)
Clark St	Nandina Ave to Markham St	42002	93	93	(b)	25
Clark St	Markham St to Cajalco Rd	42002	4	10	(b)	4
I-215	Alessandro Blvd to Cactus Ave	421, 42501	(b)	(b)	(b)	(b)
I-215	Cactus Ave to Van Buren Blvd	421	(b)	38	(b)	(b)
I-215	Van Buren Blvd to Oleander Ave	421, 42002, 42602	(b)	(b)	(b)	(b)
I-215	Oleander Ave to Cajalco Rd	42002, 42602	(b)	(b)	(b)	(b)
Elsworth St	Cottonwood Ave to Alessandro Blvd	42501	7	7	7	7
Elsworth St	Alessandro Blvd to Cactus Ave	42501	(b)	(b)	(b)	(b)
Frederick St	Alessandro Blvd to Cactus Ave	42502	(b)	(b)	(b)	(b)
Graham St	Alessandro Blvd to Cactus Ave	42502	(b)	(b)	(b)	(b)
Heacock St	Cactus Ave to John F. Kennedy Dr	421, 42502	(b)	(b)	(b)	(b)
Heacock St	John F. Kennedy Dr to Iris Dr	421, 42502	6	6	6	(b)
Heacock St	Iris Dr to Nandina Ave	421, 42502	(b)	3	3	3
Heacock St	Nandina Ave to Oleander Ave	421, 42601, 42602	(b)	(b)	(b)	(b)
Perris Blvd	Alessandro Blvd to Cactus Ave	42502, 42503	28	16	16	(b)
Perris Blvd	Cactus Ave to John F. Kennedy Dr	42502, 42503	(b)	(b)	(b)	(b)
Perris Blvd	John F. Kennedy Dr to Iris Dr	42502, 42601	39	(b)	13	1
Perris Blvd	Iris Dr to Nandina Ave	42502, 42601	16	(b)	16	(b)
Perris Blvd	Nandina Ave to Oleander Ave	42601	(b)	(b)	(b)	(b)

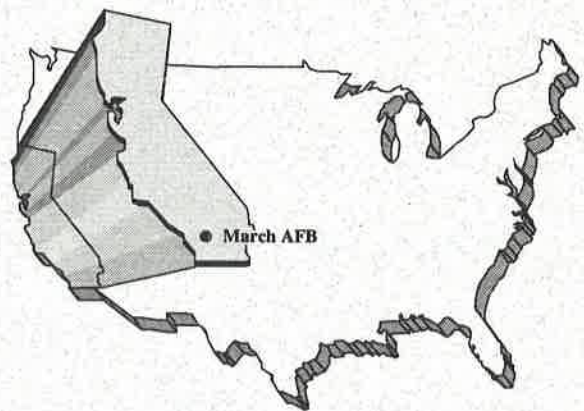
Note: (a) Disproportionality exists if the census tract percentage is higher than the Riverside County percentage.

(b) Decrease or no change from No-Action Alternative.

Mitigation Measures

The following mitigation measures for potential environmental justice impacts associated with aircraft noise and surface traffic noise could be implemented by the new property owners and/or local planning jurisdictions:

- Incorporate noise insulation features, such as barriers and buffer zones, into development plans
- Conduct a noise barrier analysis along affected roadways and install barrier walls as needed
- Use insulating materials in new buildings to reduce interior noise levels
- Restrict new residential development to areas outside the CNEL 60 dB contour.



CHAPTER 5

CONSULTATION AND COORDINATION

5.0 CONSULTATION AND COORDINATION

The federal, state, and local agencies and private agencies and organizations that were contacted during the preparation of this Environmental Impact Statement are listed below.

FEDERAL AGENCIES

American Forces Information Service
Army and Air Force Exchange Service
California Air National Guard
California Army National Guard
Native American Heritage Commission
United States Army Reserve Command
United States Customs Aviation Operation Center West
United States Department of Agriculture, Forest Service
United States Department of Agriculture, Natural Resources Conservation Service
United States Department of Commerce, Bureau of the Census
United States Department of the Interior, Bureau of Indian Affairs
United States Department of the Interior, Fish and Wildlife Service
United States Department of Transportation, Federal Aviation Administration -
Western Pacific Region
United States Department of Veterans Affairs
United States Environmental Protection Agency (Region IX)
United States Marine Reserve Force
United States Naval Reserve Force

STATE AGENCIES

California Archaeological Inventory, Eastern Information Center
California Department of Finance
California Department of Fish and Game
California Department of Transportation
California Employment Development Department
California Environmental Protection Agency
California Regional Water Quality Control Board
State Office of Historic Preservation

LOCAL/REGIONAL AGENCIES

City of Moreno Valley Planning Department
City of Moreno Valley Traffic Engineering Department
City of Perris Planning Department
City of Perris Redevelopment Agency

LOCAL/REGIONAL AGENCIES (Continued)

City of Riverside Neighborhood and Community Services
City of Riverside Planning Department
City of Riverside Traffic Engineering Division
Los Angeles Department of Airports
March Joint Powers Authority
Ontario International Airport
Riverside County Administrative Office
Riverside County Department of Community Action
Riverside County Department of Public and Social Services
Riverside County Flood Control and Water Conservation District
Riverside County Habitat Conservation Agency
Riverside County Health Agency
Riverside County Housing Authority
Riverside County Mead Valley Community Center
Riverside County Planning Department
Riverside County Roads Department
Riverside County Solid Waste Management
Riverside County Transportation Commission
Riverside Public Utility
San Bernardino County Airports Department
South Coast Air Quality Management District
Southern California Association of Governments
University of California, Riverside
Western Riverside Council of Governments

PRIVATE AGENCIES AND ORGANIZATIONS

Air Force Village West
Behavioral Health, Inc.
Catholic Charities
Community Assistance Program
Eastern Municipal Water District
Family Services Association of Western Riverside
First Apostolic Faith Church
God's Helping Hand
Home of Neighborly Service
Inland Empire Economic Development Agency
Lutheran Social Services
Moreno Valley Chamber of Commerce
Morongo Tribe
National Association for the Advancement of Colored People
Perris Hispanic Chamber of Commerce
Riverside/San Bernardino Indian Health
Salvation Army
Self-Help and Resource Exchange (SHARE) of Southern California

PRIVATE AGENCIES AND ORGANIZATIONS (Continued)

Soboba Tribe
Southern California Edison Company
Southern California Gas Company
The Concerned Family
The Nature Conservancy
The Survive Food Bank
Volunteer Center of Riverside
Western Municipal Water District

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**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, DC**

14 FEB 1996

**MEMORANDUM FOR INTERESTED INDIVIDUALS, ORGANIZATIONS, AND PUBLIC
AND ACADEMIC REFERENCE LIBRARIES**

**FROM: HQ USAF/CEV
1260 Air Force Pentagon
Washington, DC 20330-1260**

**SUBJECT: Final Environmental Impact Statement (FEIS) for the Disposal of Portions of
March Air Force Base, California**

We are pleased to provide you the FEIS for the Disposal of Portions of March Air Force Base, California. This document is provided in compliance with the regulations of the President's Council on Environmental Quality.

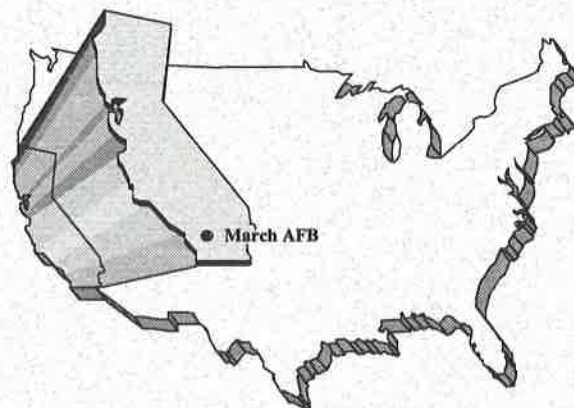
In response to the Defense Secretary's Commission on Base Realignment and Closure (Public Law 101-510, Title XXIX), March AFB will realign to become March Air Reserve Base on March 31, 1996. This FEIS has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of disposal of portions of the base.

Please maintain this document in your library reference collection for public review. If additional information is needed, or to comment on the FEIS, please contact Mr. Jonathan D. Farthing, Chief, Environmental Analysis Division, HQ AFCEE/ECA, 3207 North Road, Brooks AFB, TX 78235-5363; Phone (210) 536-3668.

Robert M. Wallett

**ROBERT M. WALLETT, Lt Colonel, USAF
Director of Environment
Office of The Civil Engineer**

**Attachment:
Final EIS**



CHAPTER 6

LIST OF PREPARERS AND CONTRIBUTORS

6.0 LIST OF PREPARERS AND CONTRIBUTORS

Thomas F. Adamcyk, Economist, HQ AFCEE/ECP

B.S., 1972, Education, History and Economics, Eastern Illinois University, Charleston

M.A., Economics, Eastern Illinois University, Charleston

Years of Experience: 19

W. David Ahlborn, Senior Project Environmental Professional, EARTH TECH

B.A., 1980, Geography, California State University, San Bernardino

Years of Experience: 11

Sandra E. Andres, Senior Project Environmental Professional, EARTH TECH

B.A., 1972, Sociology, University of Connecticut, Storrs

M.U.P., 1978, Urban Planning, Michigan State University, East Lansing

Years of Experience: 16

Brian Q. Armstrong, Airport Planner, Federal Aviation Administration

B.S., 1992, Aviation Administration, California State University, Los Angeles

Years of Experience: 7

Byron D. (Doug) Baur, Chief Counsel, Air Force Base Conversion Agency

B.A., 1963, Economics, Allegheny College, Meadville, Pennsylvania

J.D., 1966, Law, University of Pittsburgh, Pennsylvania

LL.M., 1977, Environmental Law, George Washington University, Washington, DC

Years of Experience: 28

Daniel T. Brechbuhl, Staff Economist, EARTH TECH

B.A., 1992, Economics, University of Colorado, Boulder

Years of Experience: 3

Charles J. Brown, Environmental Protection Specialist, HQ AFCEE/ECA

B.E.T., 1976, Civil Engineering, University of North Carolina, Charlotte

B.A., 1977, Civil Engineering, University of North Carolina, Charlotte

Years of Experience: 13

John Carr, Program Manager, NW Region, HQ AFBCA

B.A., 1974, English/Political Science/Economics, University of Washington

J.D., 1984, George Mason University, Fairfax, Virginia

Years of Experience: 15

Jon Ciarletta, Consultant, Acentech, Inc.

B.A., 1987, Psychology, California State University, Northridge

M.S., 1992, Experimental Psychology, California State University, Northridge

Years of Experience: 6

Dale Clark, Environmental Project Manager, HQ AFCEE/ECA

B.S., 1982, Civil Engineering, Auburn University, Auburn, Alabama

M.S., 1989, Civil Engineering, North Carolina State University, Raleigh

Years of Experience: 12

Katherine S. Cowell, Environmental Planner, Robert D. Niehaus, Inc.

B.A., 1977, Psychology, Wellesley College, Wellesley, Massachusetts

M.A., 1981, Social Environmental Psychology, Claremont Graduate School, California

Years of Experience: 18

Patricia Curran, Senior Associate, Hammer, Siler, George Associates

B.A., 1969, Sociology, Mount Holyoke College, South Hadley, Massachusetts

M.S., 1977, Regional and Urban Planning, George Washington University

Years of Experience: 18

Sandra Lee Cuttino, P.E., Environmental Manager, EARTH TECH

B.S., 1979, Civil Engineering, University of California, Davis

Years of Experience: 13

Dave P. Derrig, Jr., Senior Transportation Planner, EARTH TECH

B.S., 1980, Urban Planning, Worcester Polytechnic Institute

Years of Experience: 10

Eugenia Diehl, Senior Staff Archaeologist, EARTH TECH

B.S., 1990, Anthropology, University of California, Riverside

Years of Experience: 10

Carol Duecker, Senior Project Environmental Professional, EARTH TECH

B.S., 1984, Geology, University of California, Santa Cruz

Years of Experience: 10

Sondra L. Eisberg, Aviation Market Analysis Consultant, Aviation Information Resources

B.S., 1985, Aviation Administration, Embry Riddle Aeronautical University, Prescott,
Arizona

Years of Experience: 12

Brent A. Evans, Assistant Chief Counsel, Air Force Base Conversion Agency

B.A., 1975, Philosophy, Westmont College, Santa Barbara, California

M.T.S., 1977, Social Ethics, Gordon-Conwell Theological Seminary,
South Hamilton, Massachusetts

J.D., 1982, New England School of Law, Boston, Massachusetts

Years of Experience: 13

Gregory Fronimos, Major, U.S. Air Force, HQ AFCEE/JA

B.A., 1977, University of Michigan

J.D., 1982, Wayne State University

LL.M., 1993, National Law Center, George Washington University

Years of Experience: 12

Jane N. Hildreth, Senior Project Environmental Professional, EARTH TECH
B.S., 1983, Biology and Environmental Science, University of California, Riverside
M.S., 1989, Biology, California State University, San Bernardino
Years of Experience: 11

Meredith Hixson, Environmental Protection Specialist, Air Force Base Conversion Agency
Operating Location
B.S., 1971, Wildlife Management, Humboldt State College, Arcata, California
Years of Experience: 7

Lyne Hunter, Realty Specialist, HQ AFBCA/NW
B.S., 1961, History, University of Utah, Salt Lake City
M.S.W., 1966, University of Utah, Salt Lake City
Years of Experience: 10

Brian E. Isaacson, Jr., Staff Transportation Planner, EARTH TECH
B.A., 1992, Political Science, University of Massachusetts, Amherst
M.R.P., 1994, Regional Planning, University of Massachusetts, Amherst
Years of Experience: 1

Vincent J. Izzo, Senior Project Environmental Specialist, EARTH TECH
B.A., 1985, Geography, California State University, Northridge
Years of Experience: 7

Maria Langmaack, Project Environmental Professional, EARTH TECH
B.A., 1987, Geography, California State University, San Bernardino
Years of Experience: 7

Robin M. Lee, P.E., Senior Staff Air Quality Specialist, EARTH TECH
B.S., 1986, Chemical Engineering, California Polytechnic University, Pomona
Years of Experience: 8

Stephen Lind, Consultant, Acentech, Inc.
B.A., 1984, Physics, University of Northern Iowa, Cedar Falls
M.S., 1988, Engineering, University of Texas at Austin
Years of Experience: 8

Loretta S. Martin, Technical Writer, Robert D. Niehaus, Inc.
B.A., 1969, English, University of California, Riverside
Years of Experience: 17

Shari P. McTiver, Site Manager, Air Force Base Conversion Agency Operating Location
B.S., 1982, Mechanical Engineering Technology, Lake Superior State College, Sault Ste
Marie, Michigan
Years of Experience: 10

Richard Montijo, Project Biologist, EARTH TECH

B.A., 1989, Geography and Ecosystems, University of California, Los Angeles

Years of Experience: 7

William Muir, Senior Project Geologist, EARTH TECH

B.S., 1980, Geology, California State University, Long Beach

M.S., 1984, Geology, California State University, Long Beach

Years of Experience: 14

Robert D. Niehaus, Principal Economist, Robert D. Niehaus, Inc.

B.A., 1972, Government, Oberlin College, Oberlin, Ohio

Ph.D., 1979, Economics, University of Maryland, College Park

Years of Experience: 22

James L. O'Neill, Environmental Protection Specialist, March AFB

B.A., 1973, History, California State Polytechnic University, Pomona

M.A., 1993, Human Behavior, National University, San Diego, California

Years of Experience: 19

Barry S. Porter, Senior Transportation Planner, EARTH TECH

**Certificate 1984, State Agency Management Development Program, Institute of
Governmental Services, University of Massachusetts**

B.A., 1975, Political Science, American International College

M.P.A., 1976, Public Administration, Suffolk University

Years of Experience: 18

Sue Reinholtz, Analyst, EARTH TECH

Geology and Civil Engineering, California State Polytechnic University, Pomona

Years of Experience: 3

David T. Savinsky, Chemical Engineer, Science Applications International Corporation

B.S., 1987, Chemical Engineering, University of California, Los Angeles

Years of Experience: 5

Norma L. Schildgen, Airspace and Aviation Analysis Consultant, Aviation Information Resources

B.S., 1985, Psychology, Christopher Newport College, Newport News, Virginia

Years of Experience: 7

Paul R. Schildgen, Airspace Consultant, Aviation Information Resources

B.S., 1960, Education, Ball State University, Muncie, Indiana

M.S., 1969, International Relations, University of Southern California, Los Angeles

Years of Experience: 17

Lee Schoenecker, Air Force Community Planner, HQ USAF/CEVP

B.S., 1961, Political Science, University of Wisconsin, Madison

M.S., 1964, Urban and Regional Planning, University of Wisconsin, Madison

Years of Experience: 31

Robert M. Silsbee, Economic Analyst, Robert D. Niehaus, Inc.
B.A., 1980, Economics/Environmental Studies, University of California, Santa Barbara
M.A., 1989, Economics, University of California, Santa Barbara
Years of Experience: 14

David B. Smith, San Bernardino Operations Manager, Robert D. Niehaus, Inc.
B.A., 1975, Business Administration/Economics, Chapman College, Orange, California
M.B.A., 1978, Business Administration, Chapman College
Years of Experience: 20

Wayne Snowbarger, Senior Engineer, EARTH TECH
B.S., 1970, Civil Engineering, Colorado State University
M.S., 1975, Civil Engineering, Purdue University, West La Fayette, Indiana
Years of Experience: 22

Maria J. Spitzak, Senior Meteorologist, EARTH TECH
B.S., 1986, Meteorology, Cornell University, Ithaca, New York
M.S., 1990, Environmental Studies, University of Lowell, Lowell, Massachusetts
Years of Experience: 9

Michael J. Spray, Land Use Planner, EARTH TECH
B.S., 1977, Landscape Architecture, Rutgers University, New Jersey
Years of Experience: 16

Nancy Summers, Land Use Planner, EARTH TECH
B.A., 1988, Geography, California State University, Long Beach
Years of Experience: 7

Joseph R. Trnka, Project Environmental Professional, EARTH TECH
B.A., 1988, Geography/Russian, University of North Dakota, Grand Forks
Years of Experience: 5

Jeff D. Vitucci, Senior Economist, Robert D. Niehaus, Inc.
B.A., 1974, Environmental Studies, San Jose State University, San Jose, California
M.A., 1978, Urban Economics, University of California, Santa Barbara
Years of Experience: 16

John F. Walcher, Staff Economist, EARTH TECH
B.S., 1991, Economics, University of California, Riverside
Years of Experience: 3

Brian Weith, Senior Staff Geologist, EARTH TECH
B.S., 1985, Geology, Colorado State University, Fort Collins
Years of Experience: 6

Terri Caruso Wessel, Senior Environmental Professional, EARTH TECH
B.A., 1979, Anthropology, California State University, Northridge
M.A., 1988, Anthropology, California State University, Northridge
Years of Experience: 15

Barbara Zeman, Senior Project Environmental Professional, EARTH TECH

B.S., 1976, Electrical Engineering, Rutgers University, New Jersey

M.S., 1978, Biomedical Engineering, University of Southern California, Los Angeles

Years of Experience: 14

Stephen E. Ziemer, Senior Air Quality Specialist, Science Applications International Corporation

B.S., 1976, Environmental Engineering, Southern Illinois University, Carbondale

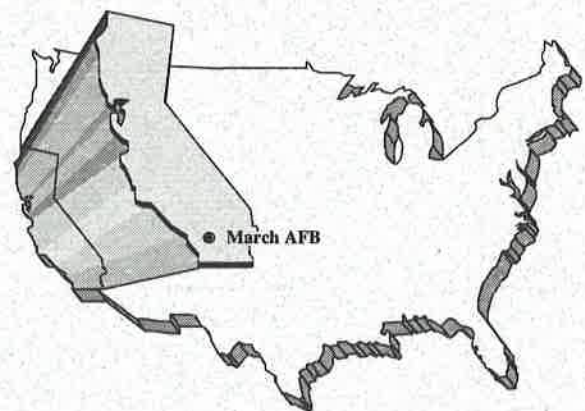
M.S., 1978, Environmental Engineering, Southern Illinois University, Carbondale

Years of Experience: 13

Keith R. Zwick, Site Planning Manager, EARTH TECH

B.S., 1966, Landscape Architecture, Kansas State University, Manhattan

Years of Experience: 25



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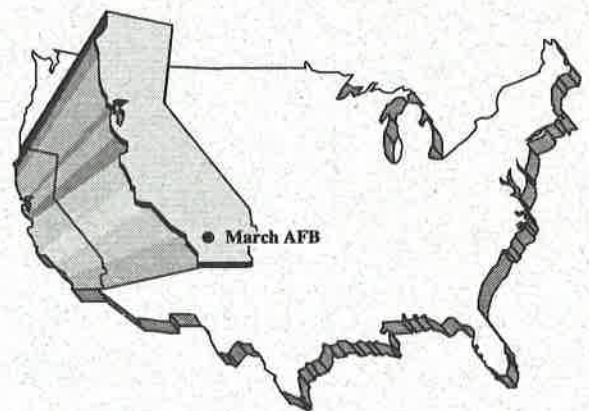
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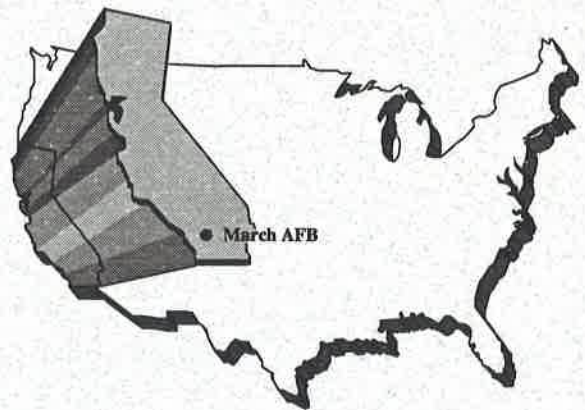
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CHAPTER 9

PUBLIC COMMENTS AND RESPONSES

9.0 PUBLIC COMMENTS AND RESPONSES

INTRODUCTION

The Air Force has complied with the NEPA mandate of public participation in the EIAP primarily in two ways:

- A public hearing was held in Moreno Valley, California, on September 14, 1995, at which the Air Force presented the findings of the DEIS for disposal of portions of March AFB and invited public comments.
- The subject DEIS was made available for public review and comment between August 1995 and January 1996.

Public comments received both verbally at the DEIS public meeting and in writing during the response period have been reviewed and are addressed by the Air Force in this section.

ORGANIZATION

This Public Comment and Response section is organized into several subsections, as follows:

- This Introduction, which describes the process, organization, and approach taken in addressing public comments
- An index of commentors
- A consolidated comment-response document
- A transcript of the public hearing
- Photocopies of all written comments received.

These sections are described below.

Comments received that are similar in nature or address similar concerns have been consolidated to focus on the issue of concern, and a response is provided that addresses all of the similar comments. Some comments simply state a fact or an opinion; for example, "the DEIS adequately assesses the impacts on [a resource area]." Such comments, although appreciated, do not require a specific response and are not called out herein. The comments and responses are grouped by area of concern, as follows:

- 1.0 Air Force Policy
- 2.0 Purpose and Need for Action
- 3.0 Alternatives Including the Proposed Action
- 4.0 Land Transfer/Disposal
- 5.0 Local Community
- 6.0 Land Use/Aesthetics
- 7.0 Transportation
- 8.0 Airspace
- 9.0 Utilities
- 10.0 Hazardous Materials/Waste Management
- 11.0 Geology and Soils
- 12.0 Water Resources
- 13.0 Air Quality
- 14.0 Noise
- 15.0 Biological Resources
- 16.0 Cultural Resources
- 17.0 Environmental Justice

Within each area, each consolidated comment-response is numbered sequentially. For example, under 7.0 Transportation, individual comments-responses are numbered 7.1, 7.2, etc. At the end of each numbered comment is a set of numbers that refer to the specific comment(s) in the documents received that were combined into that consolidated comment. The numbers of the individual comments are indicated in parentheses (e.g., 6-8, 11-13, 15-6, 15-22). Comment 6-8, for example, refers to document 6, comment number 8. A reader who wishes to read the specific comment(s) received may turn to the photocopies of the documents included in this section. Below each comment number is the number of the consolidated comment in which the specific comment has been encompassed (e.g., 7.5). Thus, the reader may reference back and forth between the consolidated comments-responses and the specific comment documents as they were received.

It should be further noted that some comments in the documents received are not included in the consolidated comment-response document. These comments fall into two categories:

- Comments to which no response is required, as explained above
- Comments regarding the socioeconomic impact analysis study (SIAS).

Effects upon the physical or natural environment that may result from projected changes in certain socioeconomic factors that are associated with or caused by the disposal or reuse of the base are addressed within this EIS. Other socioeconomic issues such as the region's employment base; school budgets; municipal/state tax revenues; municipal land planning; medical care for military retirees and dependents; local governments and services; real estate; and economic effects on utility systems and specific businesses are beyond the scope of NEPA requirements. Comments related to socioeconomic factors that are addressed in this EIS (e.g., population, employment) have been included in this comment-response section.

Finally, it should be emphasized that not only have responses to EIS comments been addressed in this comment-response section, as explained, but the text of the EIS itself has also been revised, as appropriate, to reflect the concerns expressed in the public comments.

The list of commentors includes the name of the commentor, the identifying document number that has been assigned to it, and the page number in this section on which the photocopy of the document is presented.

INDEX OF COMMENTORS

Page	Document #	Author	Title Agency
9-69	1	Transcript of Hearing	
9-82	2	Robert E. Hummel	Member, Board of Managers, March Field Museum Foundation
9-82	3	Robert E. Hummel	Facility Planner, Moreno Valley Unified School District
9-82	4	Gerald Budlong	
9-83	5	Stephen E. Stump	Federal Projects Coordinator, Riverside County Flood Control and Water Conservation District
9-83	6	Patricia Sanderson Port	Regional Environmental Officer, U.S. Department of the Interior
9-84	7	Thomas H. Safford	Principal Engineer, Western Municipal Water District
9-86	8	Robert C. Mease	Principal Planner, City of Riverside Planning Department
9-87	9	Stephen Albright	Executive Director, March Joint Powers Authority
9-92	10	David J. Farrel	Chief, Office of Federal Activities, U.S. Environmental Protection Agency, Region IX
9-94	11	Thomas M. DeSantis	Deputy County Administrative Officer, County of Riverside
9-96	12	Sharon C. Lemieux	Environmental Assessment and Reuse Specialist, California EPA, Department of Toxic Substances Control
9-97	13	Pete R. Clark	San Bernardino Valley Audubon Society
9-98	14	Stephen Albright	Executive Director, March Joint Powers Authority

1.0 AIR FORCE POLICY

- 1.1 Comment: Although the socioeconomic impact analysis study is not required by NEPA, it is referenced as the source of many assumptions utilized in the document. As of October 10th, this document has not been made available to the public. Access to this document is essential to the ability of the public to generate relevant comments. The public review for the draft EIS should be extended through December 4th based upon the anticipated October 20th public release of the socioeconomic impact study. (9-88)

Response: The Socioeconomic Impact Analysis Study, Disposal of Portions of March Air Force Base, California, was released for public review on October 24, 1995. The

SIAS was not used as a source document for the EIS. Population and employment figures developed for the EIS are consistent with those in the SIAS because they were developed concurrently. Due to the release of the environmental justice analysis in December 1995, the public comment period for the Draft EIS was extended until January 15, 1996.

1.2 Comment: Provide all correspondence with cooperating, responsible and trustee agencies as appendices to the final EIS. (9-117)

Response: Correspondence with regulatory agencies regarding the EIS and NEPA requirements are included in Appendix J.

1.3 Comment: Revise the text to address cumulative/growth inducing impacts with respect to extension of services and infrastructure to the reuse area. (9-118)

Response: In accordance with NEPA, the EIS analysis addresses cumulative impacts to the extent that data are available regarding major planned and programmed development projects in the vicinity of the base. Additional text addressing cumulative impacts has been added to Section 4.1.

1.4 Comment: The draft EIS does not consistently define significance criteria as they are applied to the impact analysis. Impacts should be clearly stated along with their level-of-significance. Mitigation measures should correspond to specific impacts and level-of-significance should be identified after mitigation. This information should be provided in the Final EIS. (10-4, 10-10)

Response: The intent of this EIS is to provide sufficient information and context for the Air Force decision maker to make an informed decision on the significance of the environmental impacts anticipated to result from the Proposed Action and alternatives, and to provide interested parties the opportunity to review and comment on the draft EIS. Mitigation measures, their potential for success, and the party who would be responsible for those measures (i.e., the U.S. Air Force, the local government, or third party reusers) are described where appropriate.

2.0 PURPOSE AND NEED

- 2.1 Comment:** Discussion of FAA involvement and airport planning issues is unclear relative to the need for future documentation of civilian airport uses (Section 1.3). Clarify the level of clearance provided by this EIS for conveyance of lands for airport use and Air Force/FAA position relative to need for any subsequent environmental compliance documentation. (9-28)

Response: As a Cooperating Agency, the FAA intends to use this EIS in its decision-making process relative to the approval of plans, such as the Airport Layout Plan, which may be necessary to support the development of civilian aviation operations at March AFB. A fuller discussion of the FAA's role is provided in Section 1.3.

- 2.2 Comment:** Expand this section (Section 1.4) to explain how the EIS is used in the disposal process and to recognize the state and local reviews required after disposal and prior to development. (9-89)

Response: The EIS is produced to provide the Air Force decision-makers and the public with a clear understanding of the potential environmental impacts which may result from the disposal and subsequent reuse of property at March AFB. This environmental information is one of the factors to be considered in making property disposal decisions for the base. These decisions are documented in the Record of Decision, or ROD, which can be provided no earlier than 30 days after release of the Final EIS. Section 1.4 has been expanded to provide further discussion of this issue. State and local regulatory agencies may have additional specific review and documentation requirements beyond those required for the federal decision which the EIS supports. It will be the obligation of the recipients of March AFB excess/surplus property to satisfy those state and local requirements for purposes of redevelopment.

- 2.3 Comment:** (In Table 1.8-1) Include state and local permits also. (9-90)

Response: This section presents representative types of federal permits that may be required, in accordance with CEQ regulations. State and local permits currently held by the base are listed in Appendix F. State and local permitting requirements will be, to a large extent,

dependent on detailed land use plans and on the specific new property owners or project proponents.

3.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

3.1 Comment: The Moreno Valley School District operates Arnold Heights Elementary School shown as #5 Figure 3.2-6 but omitted on maps (Figures 3.2-7, 4.3-1, 4.3-2, 4.3-4, 2.3-5, 2.3-1, and 2.2-1). The District has applied for a public benefit conveyance to acquire the (leased from DOD) site. District paid to construct buildings. (3-1)

Response: Educational use of this property is indicated in the Prerealignment Land Use figure (Figure 3.2-6). Continued use of the property as a school is analyzed as part of the SKR/Cargo Alternative (Figures 2.3-3 and 4.3-3). Other possible uses for this property are analyzed as part of the other reuse alternatives, including the Proposed Action, which reflects the JPA's preferred alternative.

3.2 Comment: The SKR/Cargo Alternative would keep most of the existing SKR habitat protection in place (1,874 acres). (6-1)

Response: Please note that under the SKR/Cargo Alternative, all existing SKR habitat protected under the terms of the 1990 Cooperative Agreement would continue to be protected. Most of this area (1,874 acres) is on disposal property; however, 326 acres of SKR habitat is within the retained cantonment area, and would continue to be protected by the Air Force in accordance with the terms of the 1993 Biological Opinion.

3.3 Comment: Identification of acres of disturbance for each of the build alternatives (Chapter 2) does not appear to be reasonably related to the total area devoted to each use. Disturbance area figures for aviation support uses for the Proposed Action and SKR/Aviation alternatives don't make sense - the areas of disturbance exceed the total areas absorbed. Conversely, the SKR/Cargo alternative identifies a disturbance area that appears too small considering the total acres absorbed. Explain the derivation of these figures, their use in impact analysis, and any resultant changes to impact analysis due to corrections in response to this comment. (9-2)

Response: The text in Appendix E, Methods, has been expanded to provide a more detailed definition of ground disturbance and percent development as developed for the reuse alternatives.

The percentage of each land use parcel that is developed generally reflects the utilization at the end of the 20-year analysis period. The utilization rate would apply to such factors as demolition, renovation, new construction, and occupancy of building space; employment and population; utility and trip generation; and ground disturbance. A parcel that is said to be 50 percent developed would be at one-half its carrying capacity. This percentage is market-based for each of the different proposed land uses and for each of the different phasing periods (5, 5, and 10 year increments).

Ground disturbance within a land use parcel could range from 0 to 100 percent of the parcel, depending on whether existing facilities would be utilized without renovation or the entire parcel must be cleared for building and infrastructure development.

The facility development tables in Sections 2.2 and 2.3 show building demolition, retention, and new construction within the land uses at the end of the 20-year analysis period. In the analysis of the aviation support land use parcels under the Proposed Action and SKR/Aviation Alternative, it was assumed that the airport infrastructure would need to be in place before the end of the 20-year analysis period, although these parcels would be only approximately 50 percent utilized. Disturbance associated with the development of the airport infrastructure (pavement, lighting, etc.) would encompass almost the entire land use acreage.

3.4 **Comment:** The text describes educational uses being 50% complete by 2016 (Section 2.3.3.4); however, only 31 acres of disturbance is cited. Explain the apparent discrepancy and any resultant corrections to impact analysis. (9-3)

Response: This use assumes reuse of existing facilities, with small amounts of facility demolition and construction. Therefore, the amount of ground disturbance is small even when the parcel is 50-percent utilized.

water
usage

3.5 Comment: The factors utilized to derive projected utility usage are not evident (Section 2.2.12). Utilizing standard factors (500 gallons per unit for single family residential, 3,000 gallons per acre for commercial, 100 gallons per square foot for mixed use and 4,000 gallons per acre for parks) applied in water facility master planning, the projected use for the Proposed Action would be approximately 6.2 MGD. A similar observation is applicable to the remaining alternatives. Explain the derivation of projected utility consumption and any resultant changes in impact analysis as a result of response to this comment. (9-4)

Response: Water and other utility projections were derived using standard planning rates from the Environmental Impact Analysis Handbook (Rau and Wooten, 1980), which were then adjusted to reflect historical consumption data collected from local utility purveyors and base personnel. Irrigation and evaporation rates obtained from Eastern Municipal Water District were added to the water consumption projections.

3.6 Comment: Discussion of the SKR Habitat land use concept concludes that the level of impact would be reduced. This is inconsistent with later statements (pages 4-15, 16, and 17) that suggest that development intensity for various alternatives could be accommodated on remaining lands if the SKR management and/or open space areas are retained as non-development areas. Explain this discrepancy and any resultant adjustments to the impact analysis in Chapter 4. (9-27, 9-74)

Response: Development of the Proposed Action and alternatives at the end of the 20-year analysis period is based on projected market conditions. For analysis purposes, it is generally assumed that if only 50 percent of a land use would be absorbed by the end of the 20 years, only 50 percent of the acreage would be utilized. Development of the remaining 50 percent of the land use acreage would occur sometime after the 20-year analysis period. Because most land uses in the reuse alternatives were assumed to be approximately 50 percent developed at 20 years, most of that projected development could be accommodated outside the areas designated for SKR habitat, but at a much higher absorption (i.e., 80 to 90 percent by the end of the 20-year analysis period). Changes in development factors (disturbed acres, building retention, demolition and new construction,

employment, population, and trips) are presented in Table 4.2-1.

- 3.7 Comment: The text recognizes preparation of a Homeless Assistance Plan. Update the final EIS to recognize completion of the plan and to assess compatibility with the alternatives addressed in the EIS. (9-29)

Response: The Master Reuse Plan (March Joint Powers Authority, 1995), including the Homeless Assistance Plan, was adopted in December 1995. The EIS text has been revised to address the Homeless Assistance Plan.

- 3.8 Comment: Descriptions of the Proposed Action and SKR/Aviation alternative (Chapter 2) state that designated lands will be 50% utilized by 2016. It is not clear how this is accounted for in assessing airfield use. Explain the meaning of 50% utilization in the context of assumptions regarding acreage absorbed, building square footage, employment generation, number of flights and numbers of passengers. Address any resultant changes to the impact analysis presented in Chapter 4. (9-30)

Response: See response to Comment 3.3.

- 3.9 Comment: Water System Annex No. 1 is mentioned in describing the affected environment (Section 3.2), with no further mention. Explain the intent with regard to long-term operation of this facility and potential impacts. (9-91)

Response: Water Annex No. 1 has not been requested for reuse. However, the AFBCA/OL at March AFB assumes that a local utility provider would be interested in acquiring this parcel to support existing water distribution systems.

- 3.10 Comment: The U.S. Air Force is required by 40 CFR 1502.14(e) and 1502.2(b) to identify a Preferred Alternative and an Environmentally Preferable Alternative (these may or may not be the same Alternative). EPA strongly encourages the Air Force to focus on developing an environmentally preferable alternative that best balances environmental quality with economic productivity. Such an alternative should protect site-specific natural resources, maintain regional environmental quality for such resources as air quality and water resources, and, if feasible, promote short- and long-term socioeconomic needs through employment and revenue generation. March AFB's endangered species habitat and wetlands should be

given particular consideration during this process. The environmentally preferable alternative should be developed in cooperation with relevant state and federal agencies (e.g., U.S. Fish and Wildlife Service, etc.). (10-2)

Response: The references cited require the Air Force to identify a preferred alternative in the EIS, if one exists; and to identify the environmentally preferred alternative or alternatives in the Record of Decision (ROD). Although no preferred alternative will be identified by the Air Force prior to the ROD, the intent in decision-making for the disposal of property at the base is to strike an appropriate balance among such issues as economic development and the protection of natural and cultural resources. The input of other agencies into this decision-making process has been sought as a part of the EIS process. In addition, the Air Force will work directly with agencies such as the U.S. Fish and Wildlife Service and the State Historic Preservation Officer during consultations required prior to disposal of property at the base.

3.11 Comment: Impacts of civilian passenger reuse of the primary March runway include the need to construct, and provide access to, a new passenger terminal to be constructed westerly of said runway. There are many buildings easterly of the runways which could be utilized for this purpose if the smaller runway were not juxtaposed between this already developed area and the primary runway. Is the continued use of the smaller runway the primary reason for siting the passenger terminal westerly of the primary runway? Would conversion of existing facilities on the Main Base to passenger terminal usage be more likely to increase the viability of planned commercial uses - especially services catering to airport users (such as automobile rental offices, hotels, and restaurants) in that area? (11-6)

Response: The west side of the runway was identified as the site for passenger terminal facilities, based on the JPA's Draft Land Use Plan, which cites access to I-215 as the primary factor in this layout.

3.12 Comment: The proposed plan did not specifically mention what was to become of the onsite hospital. The closure of this facility will increase the load of patients for the surrounding hospitals. The closure of the Emergency

Department has already increased the ambulance usage for the installation. This is primarily due to the loss of the ambulance service that had been provided by the E.D. Even with the projected increases in occupancy and traffic, only one to two additional EMS calls will be generated per day from this area. This will have minimal impact on the EMS protection for this area. (11-18)

Response: Section 2.2.5 of the EIS specifically states that "the existing hospital and dental clinic would be reused for similar medical purposes" under the Proposed Action.

3.13 Comment: The proposed alternative assumes that the SKR management and open space areas would be eliminated provided that suitable habitat elsewhere can be identified. The final EIS should include the status of the SKR land swap and if this assumption is still valid. Also, the proposed alternative should state that this action would comply with the California Fish and Game regulations. (12-6)

Response: At FEIS publication, discussions are continuing among the Air Force, USFWS, JPA, BLM, and RCHCA regarding the possible exchange of SKR habitat on March AFB for suitable SKR habitat elsewhere. Consultation requirements under Section 7 of the Endangered Species Act will be completed prior to disposal of this property. All mitigations adopted by the Air Force to avoid impacts to endangered species will be identified as part of the Section 7 consultation process. Additional requirements under California Fish and Game regulations may also be required of the new property owner(s), subject to consultation with the California Department of Fish and Game.

3.14 Comment: Figure 2.2-1 shows the land use under the proposed action. It should be noted that the Base Realignment and Closure (BRAC) Cleanup Team (BCT) may be proposing industrial cleanup levels for some IRP sites. The final EIS should ensure that the proposed action is consistent with cleanup levels and establishment of any institutional controls (i.e., deed restrictions). (12-7, 12-8)

Response: Section 2.1 of the EIS states that "During the development of alternatives addressed in the EIS, the Air Force considered the compatibility of future land uses with current site conditions that may restrict reuse

activities to protect human health and the environment....IRP remediation at March AFB and other environmental studies may result in lease/deed restrictions that would limit redevelopment at certain locations on base." Section 4.3 addresses potential impacts of IRP sites on proposed land uses. The public, including the JPA, may participate in decision-making in the IRP program through the Restoration Advisory Board (RAB).

- 3.15 Comment: SKR lands on March AFB are not suitable for residential development since they are laced with toxic sites (including a munitions dump) and/or within high noise areas. (13-2)

Response: Two of the residential areas proposed on West March include expansion of Air Force Village West and reuse of Arnold Heights, which are existing residential use areas. A combination of residential development and a golf course is also proposed in the area of the WSA. Appropriate planning of this complex would be incorporated into site design to place open space areas over the IRP sites. As Section 3.3 states, all IRP sites will be remediated in accordance with regulations and the FFA prior to disposal of property, and the EOD range will be cleared prior to disposal. The WSA area would be outside the CNEL 60 dB or greater noise contours for that alternative, as shown on Figure 3.4-6.

4.0 LAND TRANSFER/DISPOSAL

- 4.1 Comment: The document recognizes preparation of decision documents that will establish terms and conditions of property dispositions (Section 1.2). Explain how the partial buildout assumptions which are the basis for impact analysis in the draft EIS will be considered in establishing terms and conditions of conveyance decisions. This question is posed in light of the recognition of potential need for separate environmental analyses to address actions not deemed covered by the EIS (Section 2.5). (9-25)

Response: Environmental impacts as described in the EIS is only one of the many factors considered in the property disposal process. The alternatives analyzed in the EIS are developed with input from the JPA and other interested agencies, and are designed to cover the range of reasonably foreseeable future actions. After

considering all of these factors, the ultimate decisions will be published in a Record of Decision, which will state the terms of disposal. The EIS must not prejudice the decision-making process. Reuse activities not covered by the EIS analysis must be analyzed in appropriate environmental documentation prior to lease or disposal of the property in question.

- 4.2 Comment: Explain how the range of uses identified in the alternatives can be drawn from in the conveyance and reuse process (Section 1.2). This comment is posed in the context of ability to proceed without subsequent environmental documentation. (9-26)

Response: See response to Comment 4.1.

- 4.3 Comment: Considering the NPL status for March AFB, address the latest position on partial conveyances. (9-40)

Response: As stated in Section 3.3.3, ongoing investigations or remediation at IRP sites may delay or limit some proposed land uses. EPA guidance has clarified that NPL status refers only to areas of contamination, and not to the entire base. Therefore, pursuant to President Clinton's five-point plan to facilitate economic redevelopment in communities affected by closing and realigning military installations, and in accordance with the Community Environmental Response Facilitation Act (CERFA), the Air Force plans to transfer or lease those parcels on the base found to be suitable for such action. The Basewide EBS (U.S. Air Force, 1994a) identifies properties that are suitable for transfer by deed.

5.0 LOCAL COMMUNITY

- 5.1 Comment: The conclusion that population and employment-related effects (traffic, noise, air and utilities) are small in the context of defined ROIs mischaracterizes impacts. While this may reflect the regional context, it ignores the lack of existing infrastructure and localized issues that are diluted when viewed in the context of the larger ROIs. Include more detailed discussion of any major infrastructure improvements required to support proposed land uses in the final EIS. (9-1)

Response: Within the Local Community section, an appropriate ROI is defined for each influencing factor (population, employment, transportation, utilities) based on the likely

environmental effects of the Proposed Action and alternatives. Similarly, appropriate ROIs are defined for each environmental resource that may be affected by disposal and reuse of March AFB property. Appendix E, Methods, provides a description of each factor and resource and explains how the corresponding ROI is defined. Major utility system improvements are identified in terms of additional capacity required. All of these effects are described in more detail in Chapter 4 of the EIS.

- 5.2 **Comment:** The ROI for employment and population impacts is described as all of Riverside and San Bernardino counties (Section 3.2.1). Local experience indicates minimal connection between western and desert portions of these massive counties. An ROI defined by the greater Riverside/San Bernardino area would be more reflective of the potential impact to local communities. Revise the analysis accordingly. (9-32)

Response: In order to effectively use readily available data regarding population and employment, the analysis focuses on jurisdictional units. Thus, Riverside and San Bernardino counties are the larger units of comparison. Recognizing that effects in such a large area may be diluted, the analysis further identifies (Section 3.2.1) more localized areas of effect, i.e., local communities. The text has been revised to clarify the multilevel ROI used in the analysis.

- 5.3 **Comment:** The assumptions that 10 percent of direct jobs and one percent of indirect jobs will be filled by new residents (Section 4.2.1.1) significantly underestimate the level of immigration that could reasonably be expected by future reuse. In contrast, projections included in the Southern California Association of Governments regional plan show minimal change in the relationship between number of households and number of jobs through 2010. Expand the discussion to support the assumptions as identified by WRCOG and local jurisdictions for the western Riverside subregion. (9-49)

Response: Immigration projections made by Air Force economists are based on the fact that March AFB is located within a large population center which has experienced a recent economic downturn. It is also anticipated that skilled workers who currently live in Riverside County and commute to jobs in Los Angeles or Orange counties

disposal property. Thus, it was considered that the region will be able to provide the requisite number of skilled workers within commuting distance, without the need to import such skills from outside the southern California area.

- 5.4 Comment: The text indicates that most in-migrating workers are expected to locate to new residences in Riverside County, primarily Moreno Valley (Section 4.2.1.1). In contrast, many impact analyses are based upon allocation of impacts over wider ROIs defined as all of Riverside and San Bernardino counties. Clarify the approach taken with respect to each population-based impact analysis category and make necessary revisions to reflect a more localized distribution of population and employment-related impacts. (9-50)

Response: See response to Comment 5.2.

- 5.5 Comment: Explain the difference in population-related effects as reported in Table 4.2-2 and Table K-3 and make resultant changes in the impact analysis. (9-51)

Response: The data in Table K-3 have been corrected, and now agree with the data presented in Figure 4.2-2.

- 5.6 Comment: The impacts of disposal and reuse of portions of March Air Force Base on fire protection services, law enforcement services, schools, libraries, health services, parks and recreation, regional housing needs, and needs for additional flood control infrastructure were not addressed in this EIS. However, impacts on fire protection, law enforcement, schools (to a limited extent), and health services were addressed in the Socioeconomic Impact Analysis Study (SIAS). Inclusion of the SIAS as an Appendix to the EIS would facilitate review of the SIAS by (and availability to) local government agencies, services providers, and citizen groups. (If it is not possible to include the SIAS in the Final EIS, we would recommend that the SIAS be incorporated by reference.) Section 4 of the SIAS should be amended to include an analysis of the impacts of the proposed action (reuse) on affected school districts. Additionally, either the EIS or SIAS should address impacts of reuse on demand for library services, parks and recreational services, requirements for flood control infrastructure, and housing needs. (11-8)

Response: The purpose of the EIS is to analyze potential environmental impacts of disposal and reuse of March AFB property. Socioeconomic factors that do not result in biophysical effects are not addressed in the EIS. The Air Force voluntarily prepares the SIAS to assist local communities in redevelopment planning. The SIAS addresses effects of reuse on employment, population, housing, public services, public finance, transportation, and utilities. Employment and population data presented in the EIS are consistent with the data presented in the SIAS. The SIAS is prepared as a separate document and is not included within the EIS.

6.0 LAND USE/AESTHETICS

6.1 Comment: I did not see the March Field Museum listed specifically other than identified as in Figure 3.2-6 as Public Facilities-Recreation. (2-1)

Response: The March Field Museum is not called out on figures in the EIS, but the continued operation of the facility is specified in each alternative within the appropriate land use description.

6.2 Comment: The proposed transit station is unfortunately sited within the APZ II of the north runway of March AFB, and on the border of the APZ I (Chapter 2). A proposed transit station while desired in the community, would: (1) Have the potential to attract concentrations of youth, senior citizens, and handicapped, who would need extra help in the case of an airplane crash. (2) The proposed use would have the potential to exceed maximum recommended density of 50 persons per acre at one time of Appendix F, Vol II of March AFB AICUZ report. As a result, it is recommended the numbers be recalculated using the methodology of Appendix F. Better siting opportunities would appear further north outside the APZ II boundaries. (4-1)

Response: The transit station mentioned (Metrolink) has been proposed as one of several possible locations and is being studied by the Riverside County Transportation Commission (RCTC); it is part of the JPA's preferred land use alternative. As stated in the text, final site planning and design will incorporate AICUZ guidelines. The EIS text has been revised for clarification.

- 6.3 **Comment:** Correct information pertaining to the City of Riverside zoning, existing land uses, and City limits (Section 3.2.2.1), as shown in the attached exhibits. (8-2)
- Response:** The EIS text and figure have been revised.
- 6.4 **Comment:** The Lake Mathews Community Plan is cited as establishing planned land uses for areas south and southwest of the base (Section 3.2.2.1). The northeast extreme of the Lake Mathews Community Plan is in the vicinity of Cajalco and Wood Roads. The immediately adjoining County lands are in unmapped (i.e., no specific land use designation is mapped) portions of the Lake Mathews Community Land Use Planning Area which are subject to the land use determination system defined in the County's policy-based general plan. Correct the text accordingly. (9-6)
- Response:** The EIS text has been revised.
- 6.5 **Comment:** Apparent editing errors in sentences 4, 5, and 6 (Section 3.2.2.1) make this paragraph unintelligible. Correct the text to establish intended meaning. (9-7)
- Response:** The EIS text has been revised.
- 6.6 **Comment:** The meaning of "vacant land zoning" (Section 3.2.2.1) is not clear. Correct the text to establish intended meaning. (9-8)
- Response:** The EIS text has been revised.
- 6.7 **Comment:** The exhibit depicting existing zoning (Figure 3.2-5) is inaccurate, particularly for areas along Alessandro Boulevard, west of Interstate 215. Correct this figure and address resultant correction to the impact analysis in Chapter 4. (9-9)
- Response:** The EIS text and figure have been revised.
- 6.8 **Comment:** The discussion of City of Riverside zoning (Section 3.2.2.1) omits recognition of the open space zoning applied to Sycamore Canyon Wilderness Park lands. Correct the text and address resultant changes in discussion of impacts in Chapter 4. (9-10, 9-92)
- Response:** The discussion omits the open space zoning of the Sycamore Canyon Wilderness Park because this zoning category is located outside the map window.

6.9 Comment: Characterization of the area north of the base (Section 3.2.2.1) omits recognition of recent commercial development generally extending from Old Interstate 215 to Sycamore Canyon Boulevard. This area is now developed with three gasoline service stations and two automobile service facilities. Correct the text and address resultant changes in discussion of impacts in Chapter 4. (9-11)

Response: The EIS text has been revised.

6.10 Comment: The Prerealignment Off-Base Land Use graphic (Figure 3.2-7) contains several inaccuracies. The Mills Filtration Plant northwest of Alessandro Boulevard and Barton Street is more appropriately represented as Public Facilities/Recreation; frontage along Alessandro Boulevard from Old Interstate 215 to just west of Sycamore Canyon Boulevard is commercial; frontage along old Interstate 215 north of the Alessandro frontage is a mix of residential and commercial uses; Sycamore Canyon Wilderness Park lands north of Alessandro Boulevard should be recognized as Public Facilities/Recreation; frontage along the north side of Alessandro Boulevard from Frederick Street to Old Interstate 215 is primarily commercial; and the schools in the Orangecrest development in the vicinity of the area defined by Barton Street, Orange Terrace Parkway, and Van Buren Boulevard are not identified. Correct the map as noted and address resultant changes to the impact analysis presented in Chapter 4. (9-12)

Response: The text and figure have been revised.

6.11 Comment: The characterization of pre-realignment land uses (Section 3.2.2.1) does not accurately characterize use in terms of establishing a baseline for comparison against future use in the various alternatives. For instance, the training area south of Cactus Avenue and west of Interstate 215 may serve an educational function for the Air Force, but is not comparable to the educational facility uses contemplated in the proposed action and alternatives. In addition, the areas identified for industrial uses are not comparable to private industrial activity that could be reasonably anticipated. Explain how the acreages assigned to various uses were accounted for in addressing incremental land use

intensity increase for the various alternatives and any resultant effect upon impact analysis. (9-33)

Response: The text has been revised to clarify land use characterization. Impact analysis is not based on incremental land use intensity increase, but rather on compatibility of proposed land use acreage increases and development with surrounding development and applicable land use plans and regulations.

6.12 Comment: The discussion (Section 3.2.2.1) references pending preparation of a new AICUZ study to govern use of March AFB by Reserve units. Given the detail provided regarding anticipated aircraft operations and noise contours, identify reasonable assumptions about compatibility in the realignment condition based upon existing information and the results of the FAA-approved NOISEMAP version 6.4 modeling analysis. (9-34)

Response: Reuse compatibility with the 1992 AICUZ is addressed in Section 4.2.2. It is assumed that local planning would continue to follow AICUZ guidelines, including the new AICUZ to be prepared by AFRES, in development standards and implementation.

6.13 Comment: It is stated that this land use concept (AAFES; Section 4.2.2.6) will contribute to jobs/housing balance in the region. Explain the rationale for this conclusion considering that jobs are existing in the baseline condition and make resultant changes in the impact analysis. (9-52)

Response: Since the Base Exchange facilities are assumed to close at realignment, the jobs associated with the AAFES land use concept are not included in the realignment baseline, and are therefore considered "new" or added jobs. Any new jobs associated with reuse of March AFB disposal property were assumed to contribute to economic growth in the region.

6.14 Comment: For purposes of summarizing local land use plans and providing an accurate basis for projections of land use impacts, include an exhibit depicting general plan land use designations within the same boundaries for which land use and zoning information is provided (Section 3.2.2.1). (9-93)

Response: General plan information for the local jurisdictions is provided in Section 3.2.2, and the text has been expanded and updated.

6.15 Comment: The discussion does not recognize existing local plans adopted by the City of Moreno Valley, City of Perris, and City of Riverside. Revise the text to include a summary of pertinent components of these local plans and make any resultant revisions to the impact analysis. (9-97)

Response: Pertinent components of local plans are discussed in Chapter 3 (Affected Environment). The text discussion in Chapter 4 (Environmental Consequences) addresses the consistency of the reuse of the base property with the Riverside County (which has jurisdictional control of base property) and subregional plans and regulations.

6.16 Comment: Transportation system improvements include a commuter rail station in the vicinity of Interstate 215 and Alessandro Boulevard. Revise the text to address the suitability of this use, and any other uses within the designated clear zone and accident potential zones, in the context of AICUZ population density criteria. (9-98)

Response: Reuse compatibility with AICUZ is addressed in Section 4.2.2. It is assumed that local planning would continue to follow AICUZ guidelines in development standards and implementation. See also response to Comment 6.2.

6.17 Comment: Discussion of aesthetic impacts (Section 4.2.2) omits recognition of means to integrate the cantonment area with private reuse lands, particularly with isolated "island" components of the cantonment area and related federal uses recognized as Other Land Use Concepts. Expand the text to discuss federal commitment to address community concerns in the regard - particularly community interface (i.e., relative to likely security measures) and compatibility with community design standards (i.e., architecture and landscaping). (9-99)

Response: The reuse plans presented and analyzed in the EIS are conceptual in nature. Site-specific designs for construction and renovation of facilities within the retained military cantonment area will be developed subsequently, with consideration of surrounding civilian land uses. Similarly, it is assumed that site-specific design of civilian development on disposal property will

incorporate appropriate planning techniques, with due consideration given to surrounding uses.

- 6.18 **Comment:** Discussion of Aesthetics (Section 4.2.2) avoids recognition of the visual relief provided by views onto existing open areas, particularly West March. Expand the text to include discussion of this issue. (9-100)

Response: The EIS text has been revised.

- 6.19 **Comment:** The analysis (Section 4.2.2) concludes that reduction of density in the existing Arnold Heights area through demolition of half of the units would "make these units more attractive and increase their aesthetic value". Provide substantiation for this conclusion. (9-101)

Response: The EIS text has been revised.

- 6.20 **Comment:** This discussion of aesthetics (Section 4.2.2) does not address recommended noise walls. Revise the text to recognize potential wall locations and heights, assess related impacts, and recommend appropriate mitigation measures. (9-102, 13-6)

Response: Mitigations are recommendations only. Implementation and design of specific mitigations would be the responsibility of the new property owner(s) and the appropriate planning authority. It is assumed that applicable design guidelines would be followed with mitigation implementation.

- 6.21 **Comment:** Discussion of the Proposed Action, SKR/Aviation and SKR/Cargo alternatives (Chapter 4) recognizes an assumption that most of the development replaced by the SKR habitat in this sub-alternative could be accommodated elsewhere within non-restricted areas. Considering the approximately 4,400 acres available for reuse and the approximately 2,200 acres within SKR management and open space areas, this would represent an approximate doubling of land use intensity on remaining lands. Explain how the concentration effect of this option is addressed with respect to land use compatibility, air quality, noise and transportation impacts. (9-103)

Response: Impacts of the land use concepts are addressed in the appropriate resource sections in Chapter 4.

6.22 **Comment:** The Draft EIR/EIS does not include an analysis of potential cumulative effects in the March AFB's planning and land use "Region of Influence" (ROI), which comprises Riverside and San Bernardino counties. According to 40 CFR 1508.7, "(c)umulative impacts can result from individually minor but collectively significant actions taking place over a period of time". The Final EIS should provide a cumulative impacts analysis which includes "the incremental impact of the action when added to other past, present and reasonably foreseeable future actions". A description of all major planned, pending and approved projects in the ROI should be presented along with a map illustrating the locations of those projects in relation to March AFB. The incremental effects of the proposed disposal and reuse of March AFB property should then be added to the expected development effects in the region to determine the total cumulative impact of those projects. (10-1)

Response: Please note that this document is an EIS, and is not intended to be a joint EIS/EIR to satisfy CEQA requirements. A description of all major planned projects within the vicinity of March AFB has been included in Section 2.6, as well as in Section 3.2.2.1. These projects are being planned and implemented generally in accordance with local and subregional general and specific plans of local jurisdictions. As such, they are incorporated within the regional plans and projections for growth that were considered in developing the reuse alternatives and conducting the EIS analysis (i.e, regional transportation model, regional growth projections, Air Quality Management Plan, local area drainage plans). In this sense, the cumulative impacts that are not accounted for in local and regional planning are those represented by reuse of March AFB property, and those impacts are addressed as part of the EIS analysis for each resource for each reuse alternative.

6.23 **Comment:** In Section 3.2.2.1 and on Figure 3.2-5 the Environmental Impact Statement (EIS) indicates that March Air Force Base is "not zoned". This is not a correct statement. It would be correct to state that "Federal government projects are not subject to the provisions of Riverside County Land Use (zoning) Ordinance No. 348, pursuant to Section 18.2.b.(1) of said ordinance". Upon disposal of March Air Force Base property, private landowners (federal, state, county, and city excluded) would be subject to the provisions of

Ordinance No. 348, including the underlying zoning. Most portions of March Air Force Base are zoned R-R (Rural Residential); however, portions of West March located northerly of Cactus Avenue are zoned W-2 and C-P-S. (11-1)

Response: The EIS text and figure have been revised.

- 6.24 Comment: The discussion of Riverside County zoning of the off-base land northerly of the weapons storage area (Section 3.2.2.1) is also inaccurate. The R-A zone does not provide for industrial park uses. The area westerly of Gem Lake (located approximately 1/4 mile westerly of Brown Street) is zoned R-A and R-A-1. The area easterly of Gem Lane and westerly of Brown Street is zoned I-P (Industrial Park). The mapping of this area on Figure 3.2-5 is correct. (11-2)

Response: The EIS text has been revised.

- 6.25 Comment: Figure 3.2-5 does not reflect the full extent of industrial zoning south of the Riverside National Cemetery. The M-M and I-P zoning extends farther westerly than depicted in the exhibit (although not as far west as Day Street). A copy of the portion of the Mead Valley Zoning District map adjacent to the southerly boundary of West March and the Cemetery is attached to this response for your convenience. (11-3)

Response: The EIS text and figure have been revised.

- 6.26 Comment: The EIS (Section 3.2.2.1) does not reference the Comprehensive Land Use Plan (CLUP) prepared for the County of Riverside Airport Land Use Commission by Aries Consultants in March, 1994. More generally, the provisions of California Government Code regarding Airport Land Use Commissions are not addressed. Airport Land Use Commissions are required to "formulate a comprehensive land use plan for the area surrounding each public use airport" (page 1-2, Draft Report, March Air Force Base Comprehensive Land Use Plan. County of Riverside Airport Land Use Commission, prepared by Aries Consultants, Ltd.). (11-5)

Response: The EIS text has been revised.

- 6.27 Comment: Riverside County is preparing a community plan designating appropriate future land usage in the Mead Valley area, which is located directly southerly of West

March and the Riverside National Cemetery. (The Lake Mathews Community Plan, which is referenced in the EIS (Section 3.2.2.1), applies to an area which, while located southwesterly of March AFB, is not contiguous to West March and does not include areas directly west and southwest of the Base). Preliminary drafts of the map designating land use allocations for the Mead Valley community identify residential development at a density not exceeding one dwelling unit per acre as the most appropriate usage for properties along the southerly side of Nandina Avenue from Barton Street to a point approximately 1000 feet easterly of Day Street, and industrial development as the most appropriate usage for properties from that point easterly to I-215. (11-7)

Response: The EIS text has been revised.

- 6.28 Comment: It is our understanding that the Joint Powers Authority (JPA) is considering the concept of establishing a quasi-municipal entity to provide municipal services to the disposal property. Under such a scenario, the County of Riverside would not be the jurisdiction which would assume responsibility for provision of services to the disposal property (unless the new entity entered into contracts with the County for the provision of services). The description of the proposed action and alternatives in Chapter 2 should acknowledge this possibility, and the Local Community section in Chapter 4, which "discusses potential effects on local communities as a result of disposal and reuse of March AFB property", should evaluate the impacts of transferring responsibility for provision of municipal services to such an entity on the level of services provided (relative to provision by existing entities which would otherwise assume jurisdiction, including the County of Riverside). (11-9)

Response: Text in Section 4.2.2.1 recognizes the possibility of incorporating the disposal property as a separate jurisdiction, and addresses this possibility with regard to land use planning compatibility. However, the focus of the environmental impact analysis is on potential impacts to the environment, which would be independent of jurisdictional responsibility.

7.0 TRANSPORTATION

- 7.1 Comment: The document erroneously identifies a six lane configuration (Section 3.2.3) for Alessandro Boulevard

east of Elsworth Street. The existing improvements are actually four lanes from I-215 to Indian Avenue. Correct the assumed capacity presented in Table 3.2-3 and the impact analysis presented in Chapter 4. (9-13)

Response: The EIS text has been revised.

- 7.2 Comment: The description of Cactus Avenue does not recognize the current bottleneck at Heacock Street. Correct the assumed capacity presented in Table 3.2-3 and the impact analysis presented in Chapter 4. (9-14)

Response: The EIS text has been revised.

- 7.3 Comment: Discussion of Cactus Avenue on West March (Section 3.2.3) does not accurately reflect the changes completed in conjunction with the Interstate 215 improvements. Correct the text to reflect existing conditions. (9-15)

Response: The text refers to the portion of Cactus Avenue that is located within the March AFB boundary, and was not changed as a result of improvements to I-215. The EIS text has not been revised.

- 7.4 Comment: The discussion of LOS (Section 3.2.3) identifies an acceptable level as LOS E based upon the Riverside County Congestion Management Plan. This reference does not accurately identify County CMP policy, nor does it recognize standards contained in the individual general plans of the jurisdictions of the County of Riverside, City of Moreno Valley, City of Riverside and City of Perris. To correctly reflect local plans, the text should state that: 1) the CMP identifies LOS E as acceptable on arterials and LOS F as acceptable on freeways; 2) the City of Moreno Valley General Plan calls for LOS C as the standard for facility design; 3) the City of Perris General Plan calls for an LOS E or better at signalized intersections; 4) the City of Riverside General Plan identifies LOS D as acceptable, LOS E as a minimum acceptable standard for facility design, LOS F as continuing in some circumstances, and policy to minimize occurrence of streets operating at LOS F; and 5) the County of Riverside General Plan establishes LOS C as the target level, recognizing acceptability of LOS D at intersections of major routes, within one mile of freeways or at freeway ramp intersections. Explain the rationale for selection of LOS threshold for the impact analysis in Chapter 4. Expand the impact analysis in

Chapter 4 to address relevant criteria for each jurisdiction's adopted criteria. (9-16, 11-4)

Response: The EIS text has been revised.

7.5 Comment: Average daily traffic figures are provided (Section 3.2.3) for each "build" alternative. These numbers represent a mid-range of the more detailed figures presented in Appendix I (Tables I-2 and I-13). Explain the rationale for the ADT projections presented in Chapter 2 and the resultant effect upon transportation, air quality and noise impact assessment presented in Chapter 4. (9-31, 9-54, 9-104)

Response: The rationale for ADT projections presented in chapter 2 and the vehicle trips shown in Tables I-2 and I-13 are explained in Appendix E, Methods. The ADTs provided in Chapter 2 reflect the vehicle traffic expected to enter and exit the project site during the analysis period for each alternative. The vehicle trips shown in Tables I-2 and I-13 reflect the total vehicle trips expected in the ROI as a result of the project, which includes vehicle trips that do not cross the project boundary. The ADT established in Chapter 2 provides the basis for reuse-related transportation, air quality, and noise impacts.

7.6 Comment: Explain the derivation of identified capacity values (Section 3.2.3). It is not clear, for instance, why the segments of Alessandro Boulevard between I-215 and Elsworth and Elsworth and Graham are assigned different capacities when the number of lanes are comparable. Please correct and make necessary adjustments to the identified capacities and resultant changes to conclusions in the impact analysis in Chapter 4. (9-35)

Response: The EIS text has been revised.

7.7 Comment: It is stated that the traffic modeling results (Section 4.2.3) are based upon completion of several planned improvements by 2010. Clarify the assumptions for years 2001 and 2006. Modeling on the basis of the planned system assumes construction of major improvements that would not be tied directly to development of reuse lands, nor which are likely to be funded by local municipalities. Revise the impact analysis to also provide results of: (1) modeling based upon existing conditions and (2) modeling based upon a

scenario where planned improvements are not completed. (9-53)

Response: The Southern California Association of Governments (SCAG) comprehensive transportation model was used for the EIS traffic analysis. The model includes improvements to roadway segments that had been identified by SCAG through local general plans. Some of these improvements are not included in existing capital improvement programs, but have been identified for construction as development in the surrounding area proceeds. In the traffic analysis, therefore, it was assumed that these improvements would not occur prior to the year 2010, but would occur by 2016. The data were modeled once with the improvements, which was used for analysis of year 2016, and once without the improvements, which was used for the analysis of the years 2001 and 2006.

7.8 **Comment:** The document cites construction of new lanes as mitigation for impacts to area roadways (Section 4.2.3). Quantify the number of additional lanes necessary to attain desired LOS for links identified as deficient (LOS F) or nearing capacity (LOS D and E) per the threshold criteria identified in the EIS and also to meet the respective LOS criteria of local municipalities. Impacts should also be addressed for a condition in which planned improvements are not completed. (9-56)

Response: The EIS suggests mitigation measures that could be adopted to reduce identified impacts. Specific roadway improvement design would be the responsibility of the local jurisdictions, conducted in the context of regional traffic considerations. The EIS text has been revised to address the different standards of various local planning agencies with respect to acceptable LOS. Planned improvements are incorporated into the SCAG model used for the analysis.

7.9 **Comment:** It is noted that local authority measures to reduce ADTs were considered in the impact analysis (Section 4.2.3). Identify assumptions and related influence on the projected number of trips. (9-57)

Response: Local authority measures to reduce ADTs are incorporated into the SCAG regional transportation model. The projected number of trips for each reuse

alternative incorporates local guidelines for carpooling, reduced workweeks, etc.

7.10 Comment: Explain the rationale for definition of the ROI (Appendix E). Considering the wider ROI identified for population and employment analysis, it is reasonable to expect project-related traffic effects to extend beyond the network identified in EIS graphics, particularly with regard to Alessandro Boulevard through to Arlington/Central and Route 91, Van Buren Boulevard through to Route 91, north-south trending roads in Moreno Valley that provide access to State Route 60, and Interstate 10, which would serve as the primary route for trips from areas in San Bernardino County. Explain the rationale for selection of segments included in the EIS analysis and identify impacts to the larger circulation system apparent in the model runs. (9-85)

Response: Regional and local key arterial routes were analyzed for traffic impacts associated with disposal and reuse of March AFB property. The ADTs related to the project site were assigned on the key regional and local roads to determine effects on level of service. Roadways on which there would noticeable changes in LOS as a result of reuse-related traffic loading were included within the ROI. Reuse-related effects on Route 91, I-10, and State Route 60 were negligible and, hence, these roads were not included in the transportation ROI.

7.11 Comment: Discussion of the regional transportation network omits reference to State Route 91 and Interstate 10 as primary access routes to and from March AFB and the surrounding communities (Section 4.2.3). Explain the rationale for this omission and the resultant effect upon impact analysis presented in Chapter 4. (9-94)

Response: See response to comment 7.12.

7.12 Comment: Local circulation patterns (Section 3.2.3) demonstrate use of Van Buren Boulevard as a through route to the City of Riverside and State Route 91; however, the EIS omits discussion of Van Buren west of Wood Street. Explain the rationale for this omission and resultant changes in impact analysis with inclusion of Van Buren west to SR 91. (9-95)

Response: See response to Comment 7.12. The model indicated negligible effects on Van Buren Boulevard west of Wood

Road; therefore, this segment was not included in the transportation ROI.

- 7.13 **Comment:** Discussion of the transportation system in Chapter 3 omits discussion of the planned circulation system. Given the statement that modeling is based upon the planned system, a description of the planned system is essential for the reader to review the results presented in Chapter 4. Amend the text to include identification of the planned widths for various segments assumed in transportation modeling. (9-96)

Response: Section 4.2.3 identifies the roadway improvements that are incorporated into the SCAG regional transportation model used for the EIS traffic analysis.

- 7.14 **Comment:** The discussion of local roadway impacts (Section 4.2.3) for the Proposed Action and the SKR/Aviation alternatives does not address roadways that would operate near capacity (i.e., LOS D or E) when compared to the No Action scenario. Revise the text to address this point. (9-105)

Response: The EIS text has been revised.

- 7.15 **Comment:** Revise these tables (4.2-3, 4.2-4, 4.2-5, 4.2-6) to include comparison of LOS in the No-Action alternative for each link. (9-106)

Response: LOS on each road segment in the ROI is presented in Table 4.2-7 for comparison to projected LOS under each reuse alternative. Deterioration in LOS as a result of reuse-related traffic increases is discussed in the text in Section 4.2.3.

- 7.16 **Comment:** The analysis of roadway impacts assesses only the partial utilization of reuse lands (Section 4.2.3). Provide comparative analysis of the build-out condition. (9-107)

Response: The population and employment projections, as well as projected ground disturbance and new facility construction presented in Chapter 2 for each alternative are projected to 20 years from realignment. Beyond 20 years, other influencing factors become too variable to allow for accurate projections.

- 7.17 **Comment:** The Draft EIS Summary of Environmental Impacts and Suggested Mitigations table (Table S-2) provides comparative information for traffic and circulation

impacts under each of the proposed reuse alternatives. Under the four action alternatives, impacts are described in terms of reuse-generated traffic alone. Under the No-Action alternative, however, impacts are described cumulatively in terms of reuse-generated and regional growth-related traffic. As a result, the No-Action alternative, which should contribute the least impact to traffic and circulation of the five alternatives, appears to cause the greatest impacts. (10-9)

Response: The footnote at the bottom of each page of the table indicates that effects of reuse alternatives are additions to conditions projected under the No-Action Alternative, which shows the impacts of realignment (baseline) conditions. The EIS focuses on analysis of reuse-related effects, but presents a description of conditions under the No-Action Alternative to provide a basis for comparison of impacts. The EIS impact analysis, which is discussed in more detail in Chapter 4 of the EIS, indicates that for the local community resources of population, employment, traffic, and utilities, reuse-related effects would represent only a small percentage of overall projected growth in the region.

8.0 AIRSPACE/AIR TRANSPORTATION

8.1 Comment: The text at this location (Section 3.2.3.3) states that no appreciable change in either passenger or cargo demand is expected at area airports. This is in contrast to the approach represented in the discussion of air quality impacts on page 4-103, where projected air pollutant emissions are reduced by 25% on the basis of assumed transfer of activity from existing airports in the region. Explain the rationale behind this inconsistency, identify any necessary correction, and make resultant changes in the impact analysis. (9-36, 9-55)

Response: The FAA and SCAG have projected an increase in demand for commercial aviation operations within the region as a result of regional growth. The reuse of March AFB for civilian aviation operations will not have an effect on this projected demand in the region, but would provide additional capacity to help meet that demand. Thus, additional future operations that might otherwise be conducted at LAX or Ontario International could be accommodated at March ARB instead, which would represent a transfer of associated emissions within the South Coast Air Basin.

9.0 UTILITIES

- 9.1 Comment:** The text (Chapter 2) recognizes the potential for disposal of the existing sewage treatment plant to a "local utility purveyor." As designated wastewater service provider for the disposal lands and surrounding areas generally west of MAFB, Western has previously discussed acquisition of this facility through acquisition or lease with the March Joint Powers Authority or directly with the Air Force with the U.S. Air Force (Air Force) representatives and reiterates the desire to operate this facility in the event it is identified for disposal. (7-1)

Response: The Record of Decision will identify which parcels will be disposed and to whom. The environmental impact analysis presented in the EIS is independent of who would actually operate the facility. The EIS text has been revised to recognize that March AFB property is within the wastewater service area of Western Municipal Water District. Reuse alternatives analyzed in the EIS include conveying the STP to a local utility purveyor.

- 9.2 Comment:** The factors utilized to derive projected utility usage with regard to water and wastewater are not presented (Section 2.2.12). A similar observation is applicable to the other alternatives. Explanation and derivation of projected utility consumption must be provided to allow analysis of this data. (7-2)

Response: As described in Appendix E, Methods, utility projections are based on land use, projected population and employment, and historic consumption rates in the region.

- 9.3 Comment:** The introductory text defines the Region of Influence (ROI) as all or portions of the provider service areas. This definition is too vague to allow Western to identify and verify the assumptions presented in the document which results in an inability to evaluate the accuracy of the impact assessment. Definition of the specific water and wastewater service providers and ROI boundaries for the various years analyzed is necessary. (7-3, 9-37)

Response: The text in Section 3.2.4 describes the service areas of the local purveyors in the introductory discussion for each utility system.

9.4 Comment: The discussion of the existing water supply regime and wastewater service responsibility omits or inaccurately characterizes Western's responsible authority. The attached "Western's Plan of Service to MAFB" outlines Western's Plan of Service. The text for the final EIS needs revision to reflect this information. (7-4)

Response: Sections 3.2.4.1 and 3.2.4.2 describe existing conditions. Western's Plan of Service is a proposal that has not yet been approved, and is not explicitly incorporated into any of the reuse proposals. See also response to Comment 9.1.

9.5 Comment: The discussion of the existing MAFB sewage treatment plant (Section 3.2.4.2) fails to address the issue of seasonal storage of effluent when production exceeds irrigation needs. This is particularly relevant given the recent history of violation notices for discharges during wet weather conditions. Revise the text to recognize effluent storage requirements under both existing and future conditions. (7-5, 9-19)

Response: The EIS text has been revised.

9.6 Comment: Detailed analysis of the impact of the potentially significant flows to the wastewater treatment plant from the Environmental Restoration Program ("Base Clean-up") should be included (Section 3.2.4.2). (7-6)

Response: Since March 1995, wastewater from the Groundwater Extraction and Treatment System (GETS) installed under the IRP has been discharged to the March AFB STP to help alleviate low-flow conditions associated with drawdown and departure of the 722nd ARW. In the long-term, as flow volumes to the STP increase, the GETS discharge could be released into the stormwater system. Text describing this situation has been added to Sections 3.2.4 and 4.2.4 of the EIS but, because this discharge is not anticipated to be a permanent contribution to the wastewater flow, it is not included in the wastewater analysis.

9.7 Comment: Suggested below is an amplified version on the paragraph titled "on-Base" to address the MAFB wastewater collection system (Section 3.2.4.2).

"On-Base". MAFB operates a 0.75 (see footnote) MGD sewage treatment plant (STP), which was constructed in

1941. The plant provides secondary treatment for wastewater from MAFB and AFVW using a trickling filter process. The average daily flow in 1994 was 0.7 MGD, including 0.06 MGD from AFVW. Treatment effluent from the plant is used for irrigation at the base golf course (approximately 0.40 MGD) and RNC (approximately 0.30 MGD)."

Footnote: Refer to Page 1-4 of Department of the Air Force "Final Operations and Maintenance Manual Treatment Plan Environmental Study March Air Force Base, California. Contract Number F3361589D-4003, Order 050". Prepared by Engineering Science, Inc., March 1993.

MAFB sewer collection system contains approximately 36 miles of sewer pipelines, varying in size from 2" to 21" in diameter. In addition, MAFB also provides sewer service to RNC and AFVW. Generally, effluent west of Interstate 215 flows by gravity to the wastewater treatment plant. Wastewater generated from the Weapons Storage Area, 15th Air Force Area, and AFVW is pumped to the gravity sewer system. All wastewater from east of Interstate 215 is pumped from a main sewer station to the wastewater treatment plant. In addition, there are 7 small lift stations that pump into the gravity system, which ultimately flows to the main lift station, which in turn pumps through a 10" diameter force main to the treatment plant. (7-7)

Response: Relevant portions of the foregoing description of the sewer system have been added to the EIS (Section 3.2.4.2). The Final Operations and Maintenance Manual Treatment Plan Environmental Study March Air Force Base, California (Engineering Science, 1993), incorrectly identifies the design capacity of the STP as 0.75 MGD. The 1.2-MGD design capacity was confirmed by Mr. Russell Campbell, plant operator, and is correctly presented in the EIS.

9.8 Comment: The text identifies splits for allocation of utility demand in the ROI. Revise the text to explain the derivation of assumed percentages and anticipated split to each servicing entity. (7-8, 9-59)

Response: The projected utility demand is allocated based on projected population growth within each service area, as described in Section 4.2.4.

9.9 Comment: The discussion of utilities in the context of the larger ROIs (Section 4.2.4) fails to address the important local issue of identification of the agencies that are responsible for supplying utility services to the proposed disposal lands, their indication of ability to serve, and identification of any major utility system improvements that may be necessary. Please note that the MAFB wastewater treatment plan capacity is 0.75 MGD (see footnote at Comment 9-7) (average daily wastewater flow). (7-9)

Response: The analysis identifies the additional quantities of each utility required at the 5, 10, and 20 year points and provides a comparison of these quantities to the capacity of the utility systems expected to be in place at the year of projected need. It is beyond the scope of this document to address potential jurisdictional or management issues. Major utility system improvements are identified in terms of additional capacity required. See also response to Comment 9.7.

9.10 Comment: The discussion of water consumption (Section 4.2.4) recognizes the potential need for supplemental irrigation water for the RNC and/or Golf Course in the No Action Alternative. This would also be true for early years of the other various alternatives until redevelopment occurs and increases the quantity of reclaimed water available for reclamation. As designated water purveyor for the Cantonment and reuse lands, Western is prepared to assist the Air Force and the Joint Powers Authority in providing supplemental water supply as needed. (7-10)

Response: The EIS analysis considers the need for supplemental water in all cases.

9.11 Comment: The analysis of utility impacts (Section 4.2.4) assumes that wastewater service for the Cantonment Area, AFVW, and disposal lands is provided by the existing Sewage Treatment Plant (STP). The discussion omits any analysis of ability to accommodate the necessary expansion at the existing site. Revise the text to address site constraints and permitting issues surrounding expansion of the existing STP. (7-11, 9-60)

Response: Expansion of this facility is not part of any of the reuse alternatives analyzed in this EIS. The EIS analysis identifies additional capacity required to meet projected demand. Specific plans to expand capacity will be the

responsibility of the local utility purveyors at the time such expansion is needed.

- 9.12 **Comment:** The discussion of impacts of increased demand for water and wastewater service for each alternative (Section 4.2.4) entirely omits recognition of increased demand upon Western. With the corrected supply regime provided in the comment related to pages 3-47 and 3-49 above, revise the discussion at these locations to address allocation of demand to Western. (7-12)

Response: The scope of this EIS is bounded by existing infrastructure and any future expansions that are currently included in future capital improvement programs. The analysis is based on the capacity of the utility system to accommodate the demands expected under each alternative and to identify the need for physical expansion of the system. Allocation of the additional utility demands among the utility purveyors is not within the scope of this effort.

- 9.13 **Comment:** Analysis of wastewater flows (Section 4.2.4) identifies a need for expansion of the existing sewage treatment plant by volumes varying up to approximately 0.4 MGD, based upon an existing plant capacity of 1.2 MGD. Clarify this assessment basis in light of the existing permitted capacity of 0.7 MGD. Revise the text accordingly. (7-13)

Response: The analysis is based on the 1.2-MGD design capacity of the STP, not on the 0.75-MGD permitted capacity. It would be the responsibility of the new owner/operator of the facility to obtain required operating permits.

- 9.14 **Comment:** Analyze a region of influence (ROI) for utilities (Section 4.2.4) that more accurately reflects the impacts of the project on a regional basis, as such directly affects the City of Riverside. (8-1)

Response: See response to Comment 9.3.

- 9.15 **Comment:** The description of the Western Municipal Water District (WMWD) supply regime (Section 3.2.4) is inaccurate. Contact representatives of WMWD to obtain correct information. Also correct the text at this location to recognize that WMWD is the designated service provider for the base and disposal lands. (9-17, 9-18)

Response: See response to Comments 9.1 and 9.4.

- 9.16 Comment: The discussion of utilities and services in general (Section 3.2.4) mischaracterizes existing and future service responsibilities. Coordinate with applicable providers and local municipalities to correct the affected environment and environmental consequences discussions. For example, the March Joint Powers Authority has recently been delegated land use authority for the reuse area. It is expected that other typical municipal services within the reuse area may also be subsumed by the JPA. (9-21)

Response: The EIS analysis identifies potential impacts to the environment as a result of disposal and reuse of March AFB property. Specific jurisdictional responsibility is independent of the environmental impacts of reuse activities and, in most cases, has not yet been decided.

- 9.17 Comment: The discussion of utilities in the context of the larger ROIs (Section 3.2.4) fails to address the more important local issue of identification of the agencies that are responsible for supply to the disposal lands, their indication of ability to serve, and identification of any major system improvements that may be necessary. Revise the utility discussion to address these points. (9-58)

Response: See response to Comments 9.12 and 9.16.

10.0 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

- 10.1 Comment: Several features extending beyond the base boundaries are identified in discussion of the ROI for hazardous materials, including groundwater plumes, two burial trenches and six IRP sites (Section 3.3). It is not clear that these off-base features are addressed in the impact analysis in Chapter 4. Clarify this apparent inconsistency and make resultant changes to the impact assessment in Chapter 4. (9-38)

Response: Since the EIS is intended to analyze the potential environmental impacts from disposal of property at the base, environmental impacts on or from the IRP sites due to base disposal and reuse have been addressed. These sites will continue to be studied and/or remediated under the IRP, regardless of base reuse. The Federal

Facility Agreement (FFA) among the Air Force, the U.S. EPA, Region IX, and the state assures joint involvement in the IRP. Establishment of the Restoration Advisory Board (RAB) assures interaction among the local community, the Air Force, and the regulators.

- 10.2 Comment: The text notes that DRMO at MCAS El Toro will coordinate hazardous material disposal. Clarify the accuracy and longevity of this arrangement given the impending closure of MCAS El Toro. (9-39)

Response: The text in Sections 3.3.2 and 4.3.1.2 has been revised.

- 10.3 Comment: The document states that Caltrans is responsible for remediation of several sites within their easements associated with Interstate 215. Clarify the manner in which long-term assurances for these sites are provided by the CERCLA and FFA assurances stated as mitigating factors in Chapter 4. (9-41)

Response: The 1990 Memorandum of Agreement between the Air Force (March AFB) and Caltrans assures that all clean-up activities at IRP Site 43 will be conducted to the full satisfaction of March AFB and the regulatory agencies. The Air Force will continue to have the responsibility of ensuring that these clean-up activities are completed in accordance with the terms of the FFA. The text in Chapters 3 and 4 has been clarified.

- 10.4 Comment: Several potential release locations are identified; it is not clear how these are addressed in the impact analysis in Chapter 4. Clarify and make any necessary revisions to Chapter 4. (9-42)

Response: Text has been added to Chapter 4 to address the potential release locations discussed in Chapter 3. If contamination is determined to be present at any of the locations being studied, remediation, if required, would occur under the IRP.

- 10.5 Comment: The mention of CAANG munitions igloos requires clarification (Section 4.3.1.10). Identify location, quantity and type of munitions, and compatibility with adjacent existing and planned uses. (9-61)

Response: The munitions storage complex is mentioned in Section 2.2.1. The entire complex, including associated explosive safety quantity distances, is within the

cantonment and is compatible with surrounding uses. An Environmental Assessment and Finding of No Significant Impacts have been prepared for this project (U.S. Air Force, 1995b).

- 10.6 Comment: The discussion recognizes that restrictions may be placed upon future reuse due to need for protection and monitoring of IRP sites (Section 4.3). Tables 4.3-2, 4.3-4, 4.3-6 and 4.3-8 delineate the IRP sites located within each proposed land use. Expand the text to address potential conditions and obvious incompatibilities for IRP sites that have been evaluated to a sufficient degree to define constraints. (9-62)

Response: The four reuse alternatives analyzed in this EIS encompass a range of reasonable alternatives for reuse of base property. Constraints posed by IRP sites were considered in developing these plans. Constraints and impacts associated with IRP sites are addressed in Sections 3.3 and 4.3 of the EIS.

- 10.7 Comment: The summary on page S-23 states; "All federally and state regulated polychlorinated biphenyl (PCB) equipment, PCB-contaminated equipment, and PCB items were removed prior to realignment". Did the Air Force conduct the study and abatement or a contractor? How many transformers are on base? Has every transformer been accounted for, screened and tested? (11-10)

Response: The Air Force conducted the PCB study and the base's hazardous waste contractor performed the abatement in accordance with State of California guidelines. All transformers were screened and tested during the study; all transformers currently contain less than 5 parts per million PCBs. The text has been revised to clarify this.

- 10.8 Comment: Page 3-53, Section 3.3.1 *Hazardous Materials Management, Realignment Baseline*. This section states that the Air Force will provide a business plan to the County of Riverside, Health Services Agency. The County of Riverside, Health Services Agency, Department of Environmental Health, Hazardous Materials Management Division **has not** received an updated business emergency plan from March AFB. Additionally, the Draft EIS should state that any private tenants qualifying as a hazardous material handler must submit a business emergency plan to the County of Riverside, Health Services Agency, Department of

Environmental Health, Hazardous Materials Management Division. (11-11)

Response: The revised hazardous materials handler business plan would be prepared by the AFRES after base realignment in March 1996. Any tenant organization not covered under the AFRES Plan will be required to submit a separate plan to the County of Riverside, Health Services Agency, Department of Environmental Health, Hazardous Materials Management Division. The text in Section 3.3.1 has been revised to reflect the agency's proper name.

10.9 Comment: Page 3-70, Section 3.3.3, *Installation Restoration Program Sites*. This section states; "It is anticipated that future authorization acts will continue to fund environmental restoration activities at closing/realigning installations". Has the Department of Defense established a contingency plan should congress restrict funding for IRP activities at March AFB? (11-12)

Response: The Air Force remains responsible for all remedial action necessary on property that will be or has been transferred, in accordance with CERCLA § 120(h)(3)(B). The government is prohibited from making obligations or expenditures in excess of appropriations and contracting in advance of an appropriation, as specified in 31 USC § 1341(a)(1)(A). Therefore, the implementation of the Air Force's commitment to remediate past contamination is subject to the availability of funds.

10.10 Comment: Section 3.3.1.10, Ordnance. This section states that two munitions burial sites and IRP Sites 25a and 25b were tested for soluble lead (STLC). Has the soil at site 25a and 25b been tested using the U.S. EPA test method of Toxic Characteristic Leaching Procedure (TCLP) for lead in addition to EPA test method 8240 for the suspected solvents? (11-13)

Response: The two munitions burial areas are IRP Sites 25a and 25b. These sites will be remediated in accordance with the terms of the FFA. The public may stay abreast of the status of the IRP through the RAB. The public may also access IRP information at the Information Repository located in the on-base Environmental Management Flight office and in the Moreno Valley library.

10.11 **Comment:** Has the explosive Ordnance Disposal Facility (EOD), two munitions burial areas, the Weapons Storage Area (WSA) or Building 1315 ever been monitored for any radiological sources or biochemical contaminants (Section 3.3)? Was the soil analyzed for ordnance propellants such as hydrazine? or other hazardous components of projectile ordinances such as White Phosphorous? This should have been required by the FFA. (11-14)

Response: Environmental conditions based on past practices and ongoing investigations are documented in the Basewide Environmental Baseline Survey (EBS) in accordance with CERCLA, as amended by CERFA. The Air Force will conduct all required studies and remediation activities prior to any property disposal actions in accordance with regulatory requirements under CERFA, by preparing site-specific EBS documents. The public may also access IRP information at the Information Repository located in the on-base Environmental Management Flight office and in the Moreno Valley library.

10.12 **Comment:** Section 3.3.4, *Storage Tanks*. This section states that there are 43 active and 7 inactive USTs at March AFB (Appendix H, Table H-2). Where was this data obtained? Records at March AFB Environmental Management Flight and the County of Riverside Hazardous Materials Management Division indicate 29 active and 6 inactive USTs at March AFB. (11-15)

Response: The storage tank information provided in the draft EIS was current as of June 1995. Updated information has since been collected from the base and incorporated into Section 3.3.4 and tables within Appendix H. The base underground storage tank removal program is ongoing and will continue as property is vacated by the active-duty Air Force. Prior to property disposal, the Air Force will ensure that all real property requirements have been satisfied.

10.13 **Comment:** There are no known USTs at Bldg.. No. 414, 458, 1251, 2202, 2314, 2321, 5052, 10003-1&2 and 22022. Buildings numbered, #1203, #1244, #1246 and #2305 are oil/water separators. Table H-2 must be updated by the final draft. (11-16)

Response: See response to Comment 10.12.

- 10.14 Comment: Section 3.3.4, *Storage Tanks*. The last sentence in the first paragraph reads "...the Riverside County Health Services Agency, Department of Environmental Health." The last sentence in the paragraph should read County of Riverside, Health Services Agency, Department of Environmental Health, Hazardous Materials Management Division. (11-17)

Response: The EIS text has been revised.

- 10.15 Comment: According to the AFBCA, a full asbestos survey has not been completed, therefore, it may not be completely accurate to state that mitigation will not be required under the proposed action. Please revise this statement accordingly. (12-1, 12-11)

Response: Refer to Section 3.3.5, Asbestos (Realignment Reference), for a discussion on asbestos abatement.

- 10.16 Comment: The ordnance resource category (Section 3.3.10) should mention the abandoned skeet range located on the golf course property and state if any mitigation will be required. (12-2, 12-10, 12-21)

Response: The text has been revised to reflect that further evaluation will be conducted by the Air Force to determine whether residual lead contamination is present at the abandoned skeet range, prior to disposal of the property. If necessary, the area will be cleared prior to property disposal. This abandoned skeet range is also discussed in the Basewide EBS, which is available for public review at the Information Repository in the on-base Environmental Management Flight office and in the Moreno Valley library.

- 10.17 Comment: The conditions for polychlorinated biphenyls (PCBs) under the realignment baseline (Section 3.3.7) should be amended to state that "all federally and state regulated PCBs have *either* been removed and properly disposed of *or are below federal and state action levels*." (12-3, 12-9, 12-20)

Response: The EIS text has been revised.

- 10.18 Comment: The hazardous materials and hazardous waste management resource category (Section 3.3.11) states that for the realignment baseline, lead-based paint may exist at all facilities constructed prior to 1978; however,

the proposed action says that no mitigation is required. We recommend this section be revised to state mitigation may be required for the proposed action as some buildings were built prior to 1978. (12-4, 12-12)

Response: Refer to Section 3.3.11, Lead-Based Paint (Realignment Reference), for a discussion regarding abatement of lead-based paint.

10.19 **Comment:** Hazardous Materials and Hazardous Waste Management (Section 3.3): All oil/water separators that will not be reused should be closed in accordance with the State of California's Permit-By-Rule (PBR) regulations. (12-5, 12-18)

Response: Permit-By-Rule regulations apply to USTs, not oil/water separators. The EIS text has been revised.

10.20 **Comment:** Section 3.3.2, Hazardous Waste Management: This section should state that after realignment, all hazardous waste on disposal property will be collected and disposed of at a permitted hazardous waste treatment, storage and/or disposal facility. Also, all 90-day accumulation areas on disposal property will be closed in accordance with appropriate local regulatory agency requirements. (12-13)

Response: The EIS text has been revised.

10.21 **Comment:** Section 3.3.3. This section should read, "The California Department of Health Services, Toxic Substance Control Program, is now the Department of Toxic Substances Control." (12-14)

Response: The EIS text has been revised.

10.22 **Comment:** Figure 3.3-2 should be amended to show the location of the sites being remediated under the MOA between the Air Force and Caltrans. (12-15)

Response: The figure shows the location of this site (IRP Site 43), and Table 3.3-3 describes the site in more detail.

10.23 **Comment:** Section 3.3.3. The most current status of the OU RODs should be included in this section. (12-16, 12-17)

Response: The dates shown in Table 3.3-2 for submittal of Draft RODs to the regulators are correct. The text in Section 3.3.3 identifies the current status of the RODs at the

time of FEIS publication. The public may stay abreast of the status of the IRP through the RAB. The public may also access IRP information at the Information Repository in the on-base Environmental Management Flight office and in the Moreno Valley library.

10.24 Comment: Section 3.3.6, Pesticide Usage: This section should reference the recent pesticide sampling event that took place at the golf course and its findings. (12-19)

Response: Preliminary sampling results indicated that no pesticides are present within soils. However, small amounts of PCBs were encountered. Quantities are so minute that it is unlikely that remediation will be required by the EPA. In the event that remediation is required, it will occur under the IRP with regulator approval.

10.25 Comment: Section 4.3.1.3. This section should include a tentative schedule for implementation of the proposed alternative (what land uses have the highest priority for the JPA) and see if it is compatible with the IRP schedule. (12-22)

Response: IRP activities on March AFB property identified for disposal are coordinated with the JPA regarding reuse preferences. The schedule for implementation of reuse plans is dependent on many factors other than the IRP. In any event, the Air Force will complete cleanup of sites in accordance with CERCLA § 120.

10.26 Comment: The DTSC strongly recommends that all redevelopment plans be coordinated between the OL, JPA, and the appropriate regulatory agencies. As the cleanup and remediation at March AFB clearly impacts any reuse of the property, all reuse proposals should be brought to the BCT's attention as soon as possible. (12-23)

Response: The JPA is apprised of the status of remediation plans for IRP sites as they proceed with their site-specific reuse planning. The JPA has been advised of the appropriate regulatory agencies who must be consulted regarding proposed new development on disposal property, both through this EIS and in continuing discussions with local jurisdictions and the AFBCA.

11.0 GEOLOGY AND SOILS

- 11.1 Comment:** Update the status of USDA consultation related to designated farmlands and characterize any necessary revisions to impact assessment (Section 4.4). Include all correspondence with USDA in the final EIS appendices. (9-63)

Response: Since publication of the draft EIS, the Natural Resources Conservation Service has reviewed the information regarding soils, and has determined that no prime or unique farmlands are present in the project area. The EIS text has been amended, and a copy of the signed form is provided in Appendix J.

12.0 WATER RESOURCES

- 12.1 Comment:** Disposed portions of the base would be within the limits of the Perris Valley Area Drainage Plan and the Lake Mathews Area Drainage Plan for which drainage fees have been adopted. These fees are imposed on new development within the watershed. Development within the Lake Mathews watershed is restricted until major elements of the drainage plan have been constructed. The document does not mention that any of the reuse area drains to Lake Mathews. This information should be included in the Water Resources section of Chapter 3. (5-1)

Response: The EIS text has been revised.

- 12.2 Comment:** The proposed land use densities of the four civilian reuse alternatives are less than what was assumed in the Perris Valley Area Drainage Plan, which is good, but there would still be impacts to downstream properties due to increased runoff. The document is incorrect to assert that, "No mitigation would be necessary for surface water and runoff because any construction-related activities and completed operations would be controlled and monitored under the NPDES permit requirements and use of standard construction and maintenance practices" (Section 4.4.2.1). It is the District's position that until downstream drainages facilities of the Perris Valley Area Drainage Plan are constructed, development would adversely impact the downstream properties. The impacts would be most noticeable during the more frequent storm events.

Therefore, properly maintained detention basins or other appropriate flood control facilities may be required to mitigate the impact of increased runoff. Furthermore, the NPDES requirements mentioned in the document only mitigate impacts to water quality and not to impacts from increased runoff. This issue should be addressed in the Water Resources section of Chapter 4.

The proposed land used densities of the four civilian reuse alternatives are much greater than what was assumed in the Lake Mathews Area Drainage Plan. This may adversely impact the design of downstream facilities proposed in the Area Drainage Plan. The comments made above about increased runoff apply to this watershed, too. (5-2, 9-64)

Response: The EIS text has been revised.

- 12.3 Comment: We would like to clarify a statement made in Section 4.2.2.1 that development within the 100 year flood plain on east March would be subject to District review. This is true only if 1) the District moves to amend the County of Riverside's Flood Plain Management Ordinance No. 458 to include the preliminary flood plain delineation shown on Figure 3.4-3 of the document and 2) the area at the time of transfer is within the unincorporated area of the County. If at the time of transfer the area is within an incorporated City, then that City is responsible for flood plain review. (5-3)

Response: The EIS text has been revised.

- 12.4 Comment: The general characterization of drainage patterns on West March is inaccurate. Correct the text to reflect patterns indicated in Figure 3.4-3. (9-5)

Response: The EIS text has been revised.

- 12.5 Comment: The description of drainage areas (Section 3.4.2.1) fails to recognize two intermediate receiving waters in the upper Santa Ana River watershed that are of local importance. Revise the text and related figures to recognize portions of the base and disposal lands are within the Lake Mathews and Sycamore Canyon watersheds and address the associated special issues with these receiving waters. (9-20)

Response: The EIS text has been revised.

- 12.6 **Comment:** The document (Section 4.4.2) references ongoing groundwater studies evaluating the effects of well pumping upon contamination plumes. Update the status of these reports in the final EIS. (9-65)

Response: The EIS text has been revised.

3.0 AIR QUALITY

- 13.1 **Comment:** The first paragraph in this section [Section 4.4.3.3] is unintelligible due to editing error. Please correct. (9-22)

Response: The EIS text has been revised.

- 13.2 **Comment:** PM₁₀ numbers for 2006 Reuse-Related emissions are in error (Table 4.4-9). Evaluate and correct. (9-23)

Response: The EIS text has been revised.

- 13.3 **Comment:** Explain the reason for the selection of the indicated intersections for CO analysis. The impact analysis presented in Chapter 4 on the basis of these six intersections is likely understated. There are many additional locations that would also warrant evaluation. Revise the text to extend the results of modeling at these intersections to other major intersections in the study area. (9-43)

Response: The intersections modeled are appropriate for the environmental analysis of potential CO impacts to the ambient air quality. CO modeling was performed for six fully signalized intersections having the worst LOS and the highest traffic volumes under the Proposed Action, as recommended by the EPA for modeling CO levels at roadway intersections (EPA-454/R-92-005). It is assumed that these intersections would have the highest CO impacts and that intersections with lower traffic volumes would have lower ambient air quality impacts.

- 13.4 **Comment:** A statement (Section 4.4.3) is made that model output is considered to overstate impact. Revise the text to either support this assertion, eliminate the statement, or estimate the degree of overstatement. Please provide specific documentation. (9-45)

Response: Appendix I, Section 4.2, provides a detailed discussion of the modeling parameters and assumptions used in the impact analysis, including a discussion to support the

assertion that the 8-hour CO concentrations may be overestimated due to conservative persistence factors.

- 13.5 **Comment:** Construction-period emissions are presented in a manner that does not allow comparison to SCAQMD thresholds (Section 4.4.3). Revise the text to split equipment and architectural coating emissions and address estimated emissions in the context of SCAQMD thresholds. (9-66)

Response: The impact analysis presented in Section 4.4.3 summarizes the emissions and air quality impacts associated with the Proposed Action and alternatives, pursuant to NEPA. Appendix I provides additional details regarding the reuse-related emissions, including a breakout of the emissions from construction equipment and architectural coating. The future reuse proponents will be responsible for addressing reuse-related emissions in the context of SCAQMD thresholds for their specific redevelopment projects.

- 13.6 **Comment:** Conclusions regarding adverse impacts and mitigation reductions are without quantitative basis. Revise the text to clearly substantiate the conclusion regarding significance of regional impacts. (9-67)

Response: The impact analysis and mitigations are based on the estimated reuse-related emission rates presented in Tables 4.4.-2, 4.4.-5, 4.4.-8 and 4.4.-11, and the air dispersion modeling results presented in Tables 4.4-3, 4.4-4, 4.4-6, 4.4-7, 4.4-9, 4.4-10, 4.4-12, and 4.4-13. In addition, an estimate of the potential emission reductions due to promulgated control measures, net regional burdens, and future technologies are provided to further evaluate potential air quality impacts. Potential mitigations to minimize adverse air quality impacts are evaluated in this document, in accordance with NEPA. As discussed in Section 4.4.3, the new property owners and lead agencies would be responsible for identifying and quantifying feasible mitigation measures for their specific redevelopment plans to meet CEQA requirements.

- 13.7 **Comment:** Emissions presented in Tables 4.4-2, 4.4-5, 4.4-8, and 4.4-11 are not compared to threshold criteria established by the SCAQMD. Revise the text to compare to adopted AQMD thresholds. (9-68)

Response: The emissions data and impact analyses presented in Section 4.4.3 are in compliance with NEPA requirements. Comparison to the SCAQMD thresholds is a procedural requirement set forth by SCAQMD to determine the significance of the impacts associated with a project, pursuant to the state's CEQA Guidelines. The future property owners and lead agencies will be responsible for addressing the estimated emissions in the context of SCAQMD thresholds for their specific redevelopment projects, as required under CEQA.

13.8 Comment: Statements minimizing reuse-related emissions based on the fact that emissions would just be transferred or would occur anyway are unsubstantiated or inconsistent with positions taken in other portions of the document (Section 4.4.3). For instance, emissions related to aircraft emissions are minimized by stating the operations will be transferred from other airports or would occur anyway, whereas the document states at another location that civilian operations are necessary to meet unmet demand. Also, the contention that employee-related emissions will just be transferred assumes that there would be no net increase in employment basin-wide as a result of reuse. Substantiate the basis for emission reduction assumptions or revise the text to address a more reasonable emission regime. (9-69)

Response: Section 4.4.3 presents the total reuse-related emissions under the Proposed Action and alternatives, based on the additional capacity expected at March ARB to meet the future regional demand. The narrative also addresses the conservative nature of these emission estimates, which do not take into account the effects of the AQMP control measures, future technology advancements to reduce motor vehicle emissions and the net regional burden from shifts in market demands. To demonstrate the potential net regional emission increases that could result when considering the potential shift or transfers of the emission sources within the basin, assumptions were made based on professional judgment. As described in Section 4.4.3, it was assumed that development of a civilian airport at March ARB would absorb a portion of the projected regional growth in demand in passenger and cargo aircraft activity in the basin. Thus, operations that might otherwise be conducted at LAX or Ontario International could be accommodated at March ARB instead, which

would represent a transfer of associated emissions within the South Coast Air Basin and not new emissions to the region. For purposes of analysis, it was assumed that 75 percent of the total reuse-related aircraft emissions would be new to the Basin. However, 100 percent of the immigrant-related emissions, including those associated with new employment, would be new to the region.

- 13.9 **Comment:** Clarify the conclusion regarding need for mitigation in light of the conclusion on page 4-104 that emissions are not expected to interfere with attainment. (9-70)

Response: The EIS provides suggested mitigation measures to reduce air emissions in the region. The region's Air Quality Management Plan (AQMP) includes provisions to reduce emissions to bring the region into attainment. The future project proponents will be required to coordinate with SCAQMD to ensure consistency with those provisions. Some of the potential control measures in the AQMP, as well as other mitigations, are presented in the EIS as possible measures that could be implemented.

- 13.10 **Comment:** The text (Section 4.4.3) defers identification of necessary mitigation measures to the CEQA process in conjunction with future development. Clarify the means of addressing air quality issues in conveyance decisions. (9-71)

Response: Allocation of emission credits is a disposal decision which will be documented in the ROD.

- 13.11 **Comment:** The document recognizes an inventory of potential air quality mitigation measures that could be included in future development project approval (Section 4.4.3). Clarify the need for mitigation in the context of (1) the conclusion regarding non-impedance of attainment on page 4-104, and (2) the ability to utilize other measures if mitigation is indeed necessary. (9-72)

Response: See response to Comment 13. 9.

- 13.12 **Comment:** The conclusion (Section 4.4.3) regarding localized project impacts is not clear given the project contribution to additional and more severe exceedances. Clarify and make necessary revisions to conclusions. (9-73)

Response: The text has been revised.

13.13 Comment: The discussion of Clean Air Act conformity (Section 4.4.3) recognizes the need to demonstrate conformity to the applicable SIP, in this case the SCAQMP. Although the air quality analysis recognizes utilization of the SCAQMD handbook for calculation of certain emission inventories, the EIS does not include an analysis of consistency as described in Chapter 12 of the handbook. Revise the text to address consistency with regional plans pursuant to SCAQMD handbook Chapter 12. (9-108)

Response: As discussed in Section 4.4.3, the specific procedural requirements for conformity, including consistency with the applicable SIP, will be evaluated by the responsible federal agency prior to their reuse actions. The EIS also recognizes that the future reuse activities will be required to comply with the local air rules and regulations. The EIS adequately analyzes the potential air quality impacts of the Proposed Action and alternatives pursuant to the NEPA requirements. The guidelines presented in Chapter 12 of the SCAQMD Handbook provide information on the procedural requirements to determine whether an EIR should be prepared pursuant to the CEQA requirements.

13.14 Comment: The document concludes (Section 4.4.3) that insufficient information is available to conduct analysis of Clean Air Act conformity for proposed civilian aviation activity. This conclusion is not clear given the specific number of operations and aircraft inventories presented in the project description. Revise text to include a preliminary analysis based upon present assumptions. (9-109)

Response: The air quality analyses presented in this document are sufficient to assess the potential impacts from the Proposed Action and alternatives, and include information to support subsequent analysis for the proposed civilian aviation activity. The EIS adequately discusses the conformity provisions and process, and states that the specific conformity determination requirements will be evaluated by the responsible federal agencies prior to implementing their reuse actions. It further states that, if the airfield is utilized as a civilian airport, the FAA would likely be required to prepare a conformity determination for their ALP approval actions associated with federally funded airport developments at March ARB. However, conformity analysis is not a

requirement under NEPA and this EIS is not the appropriate forum to present the conformity determination.

- 13.15 **Comment:** The analysis (Section 4.4.3) does not address the relationship between emission credits and feasibility of future development, particularly civilian aviation uses. Revise the text to address use of emissions credits to support civilian aviation operations. (9-110)

Response: The analysis provides information on both future emissions and potential conformity offset emissions from the realignment of the base (Table 4.4-1). Actual allocation of emission credits is a disposal decision which will be documented in the ROD.

14.0 NOISE

- 14.1 **Comment:** The discussion of noise modeling notes that noise contours along surface corridors is based upon the transportation impact analysis in Section 3.2.3. Make necessary adjustments to tables defining noise contours based upon any changes in response to comments regarding transportation analysis. (9-75)

Response: Noise modeling is dependent upon projected traffic volumes, which were provided by the Southern California Association of Governments (SCAG) model. The modeled traffic volumes remain unchanged, as does the surface traffic noise analysis.

- 14.2 **Comment:** The document notes that projected SEL values could affect the sleep of some residents. It appears that the 80 to 100 decibel values projected for certain portions of West March could also adversely affect suitability for office or commercial use. Clarify the conclusion here and note any measures that would be necessary to provide suitable interior noise levels. (9-76)

Response: SEL measures instantaneous sound levels (see definition in Section 3.4.4 and Appendix A). Land use compatibility guidelines are based upon DNL or CNEL, which are time-averaged noise levels. The portions of West March that may be subject to noise levels of CNEL 60 dB or greater are generally proposed for commercial or industrial uses, which would be either normally or conditionally compatible with the projected noise levels, as indicated in Table 3.4-12.

**FINAL
ENVIRONMENTAL ASSESSMENT**

**of the
Land Conveyance
for the**

**Proposed
Air Force Village West
Project
March Air Force Base
California**



**Prepared for:
The United States Air Force
Strategic Air Command**

**Prepared by:
Niehaus & Associates**

Table 5.2-1
Air Force Village West Project Trip Ends by Phase

<u>Land Use</u>	<u>Dwelling Units/Beds</u>	<u>A.M. Peak Hour</u>		<u>P.M. Peak Hour</u>		<u>Daily</u>
		<u>In</u>	<u>Out</u>	<u>In</u>	<u>Out</u>	
<u>Phase 1:</u>						
Residential	150 units	15	75	105	75	1,170
Apartments	250 units	25	100	100	50	1,525
Personal Care	20 beds	3	1	4	5	52
Skilled Nursing	59 beds	43	10	24	46	673
<hr/>						
Total Phase 1		86	186	233	176	3,420
 <u>Phase 2:</u>						
Residential	292 units	29	146	204	146	2,278
Apartments	250 units	25	100	100	50	1,525
Personal Care	20 beds	3	1	4	5	52
Skilled Nursing	59 beds	43	10	24	46	673
<hr/>						
Total Phase 2		100	257	332	247	4,528
 <u>Full Build Out:</u>						
Residential	442 units	44	221	309	221	3,448
Apartments	500 units	50	200	200	100	3,050
Personal Care	40 beds	6	2	8	10	104
Skilled Nursing	118 beds	86	20	48	92	1,346
<hr/>						
Total Full Build Out		186	443	565	423	7,948

Source: J.F. Davidson Associates, 1987b.

Table 5.2-2
Revised Planned Air Force Village West Units by Phase

<u>Phase 1:</u>	
Residential	196 units
Apartments	204 units
	<hr/>
Total Phase 1	400 units
<u>Phase 2:</u>	
Residential	237 units
Apartments	305 units
	<hr/>
Total Phase 2	542 units
<u>Full Build-Out:</u>	
Residential	433 units
Apartments	509 units
	<hr/>
Total Full Build-Out	942 units

Source: J.F. Davidson Associates, 1987a.

Table 6.1-1
Air Quality Data, Cities of Riverside and Perris, 1985 and 1986.

	<u>City of Riverside #1</u>		<u>City of Riverside #2</u>		<u>City of Perris</u>	
	1985	1986	1985	1986	1985	1986
<u>Carbon Monoxide</u>						
Maximum Concentration (ppm ¹ , 1-hour)	8	9	14	18	NM ⁶	NM
Number of Days Standard Exceeded						
Federal (>9.3 ppm, 8-hours)	0	0	0	0	NM	NM
(>35 ppm, 1-hour)	0	0	0	0	NM	NM
State (>9.1 ppm, 8-hours)	0	0	1	0	NM	NM
(>20 ppm, 1-hour)	0	0	0	0	NM	NM
<u>Ozone</u>						
Maximum Concentration (ppm, 1-hour)	0.35	0.25	NM	NM	0.29	0.22
Number of Days Standard Exceeded						
Federal (>.12 ppm, 1-hour)	125	106	NM	NM	96	79
State (≥.10 ppm, 1-hour)	173	161	NM	NM	146	133
<u>Nitrogen Dioxide</u>						
Maximum Concentration (ppm, 1-hour)	0.16	0.16	NM	NM	NM	NM
Number of Days Standard Exceeded						
State (≥.25 ppm, 1-hour)	0	0	NM	NM	NM	NM
Percent AAM ² Exceeded						
Federal (>.0532 ppm)	0	0	NM	NM	NM	NM
<u>Sulfur Dioxide</u>						
Maximum Concentration (ppm, 1-hour)	0.02	0.02	NM	NM	NM	NM
Number of Days Standard Exceeded						
Federal (>.14 ppm, 24-hours)	0	0	NM	NM	NM	NM
(>.5 ppm, 3-hours)	0	0	NM	NM	NM	NM
State (≥.05 ppm, 24-hours)	0	0	NM	NM	NM	NM
(≥.25 ppm, 1-hour)	0	0	NM	NM	NM	NM
Percent AAM Exceeded						
Federal (>.03 ppm)	0	0	NM	NM	NM	NM

Table 6.1-1

Page 2

	City of Riverside #1		City of Riverside #2		City of Perris	
	1985	1986	1985	1986	1985	1986
<u>Total Suspended Particulates</u>						
Maximum Concentration ($\mu\text{g}/\text{m}^3$, 24-hours) ³	335	347	229	326	201	215
Number of Samples Standard Exceeded						
Federal ($>260 \mu\text{g}/\text{m}^3$, 24-hours)	4	1	0	1	0	0
State ($>150 \mu\text{g}/\text{m}^3$, 24-hours)	29	24	15	8	7	8
Percent AGM ⁴ Standard Exceeded						
Federal ($>75 \mu\text{g}/\text{m}^3$ AGM)	76.4%	60.5%	43.3%	28.7%	17.1%	18.8%
State ($>60 \mu\text{g}/\text{m}^3$, AGM)	120.0%	100.7%	79.2%	60.8%	46.3%	48.5%
<u>Lead</u>						
Maximum Concentration ($\mu\text{g}/\text{m}^3$, 24-hours)	0.58	0.34	0.73	0.51	0.30	0.16
Number of Occasions Standard Exceeded						
Federal ($>1.5 \mu\text{g}/\text{m}^3$, Qtrly Avg.)	0	0	0	0	0	0
State ($\geq 1.5 \mu\text{g}/\text{m}^3$, Mo. Avg.)	0	0	0	0	0	0
<u>Sulfate</u>						
Maximum Concentration ($\mu\text{g}/\text{m}^3$, 24-hours)	21.0	18.4	21.1	18.5	14.1	14.0
Number of Samples Standard Exceeded						
State ($\geq 25 \mu\text{g}/\text{m}^3$, 24-hours)	0	0	0	0	0	0
<u>Suspended Particulates PM₁₀⁵</u>						
Maximum Concentration ($\mu\text{g}/\text{m}^3$, 24-hours)	208	294	NM	NM	NM	NM
Number of Samples Standard Exceeded						
State ($\geq 50 \mu\text{g}/\text{m}^3$, 24-hours)	47	48	NM	NM	NM	NM
Percent AGM Standard Exceeded						
State ($>30 \mu\text{g}/\text{m}^3$, AGM)	169	147	NM	NM	NM	NM

1 ppm - parts per million

2 AAM - annual arithmetic mean

3 $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter of air

4 AGM - annual geometric mean

5 PM₁₀ - fine particulates with an aerodynamic diameter of 10 micrometers or less

6 NM - not monitored

Source: South Coast Air Quality Management District, 1987.

Table 6.2-1
Estimated Emissions from Heavy Construction Equipment
During Site Preparation (on-site emissions)

Heavy Equipment Use in Site Preparation

	Days of Equipment Operation [1]	Daily Hours of Equipment Operation	Total Hours of Equipment Operation
Phase 1	90 - 120	40	3,600 - 4,800
Phase 2	90 - 120	40	3,600 - 4,800
Total	180 - 240	40	7,200 - 9,600

	Emission Factor [2] (gm/hour)	Estimated Emissions (lbs/weekday)
Carbon Monoxide	318.33	28
Nitrogen Oxides	882.59	78
Sulfur Oxides	124.50	11
Particulates	105.85	9
Hydrocarbons	73.11	6

[1]-Assumes an average of five heavy equipment vehicles, mainly scrapers and graders, would operate daily at the site (Diversified Turnkey Construction, personal communication, 1987).

[2]-Assumes average of emission factors for scrapers and graders shown in Appendix K of the Air Quality Handbook for Preparing Environmental Impact Reports (South Coast Air Quality Management District, 1987a).

Source: Estimates by Niehaus & Associates Inc., October, 1987.

Table 6.2-4
Estimated Emission from Use of Motor Vehicles (mobile-source emissions)

Phase One

	<u>Number of Units or Beds</u>	<u>Trip Factor [1] (trips/day/unit-bed)</u>	<u>Mileage Factor [2] (miles/trip)</u>	<u>Total Miles per Day</u>
Retirement Homes (units)	196	7.8	4.776	7,302
Apartments (units)	204	6.1	4.776	5,943
Personal Care (beds)	20	2.6	8.800	458
Skilled Nursing (beds)	59	11.4	8.800	5,919
Total				19,621

	<u>Emission Factor (grams/mile)</u>	<u>Estimated Emissions (lbs/day)</u>
Carbon Monoxide	4.02	174
Nitrogen Oxides	1.06	46
Sulfur Oxides	N/A	N/A
Particulates	.269	12
Total Organic Gases	.37	16
Reactive Organic Gases	.33	14

Phase Two

	<u>Number of Units or Beds</u>	<u>Trip Factor [1] (trips/day/unit-bed)</u>	<u>Mileage Factor [2] (miles/trip)</u>	<u>Total Miles per Day</u>
Retirement Homes (units)	237	7.8	4.776	8,829
Apartments (units)	305	6.1	4.776	8,886
Personal Care (beds)	20	2.6	8.800	458
Skilled Nursing (beds)	59	11.4	8.800	5,919
Total				24,091

	<u>Emission Factor (grams/mile)</u>	<u>Estimated Emissions (lbs/day)</u>
Carbon Monoxide	4.02	214
Nitrogen Oxides	1.06	56
Sulfur Oxides	N/A	N/A
Particulates	.269	14
Total Organic Gases	.37	20
Reactive Organic Gases	.33	18

[1]-Trip factors are assumptions from the traffic report for Air Force Village West (J.F. Davidson Associates, 1987b).

[2]-Mileage factors for residential units are calculated based on an average trip of 3.2 miles between home and shopping for 21.2 percent of all trips, and an average trip of 5.2 miles between home and other destinations for 78.8 percent of all trips; mileage factors for the health care facility are calculated based on an average trip of 8.8 miles between home and work (for workers in the facility); these averages are based on information from the computer model, "Urbemis #2" (California Air Resources Board, 1987).

Source: Estimates by Niehaus & Associates Inc., October, 1987.

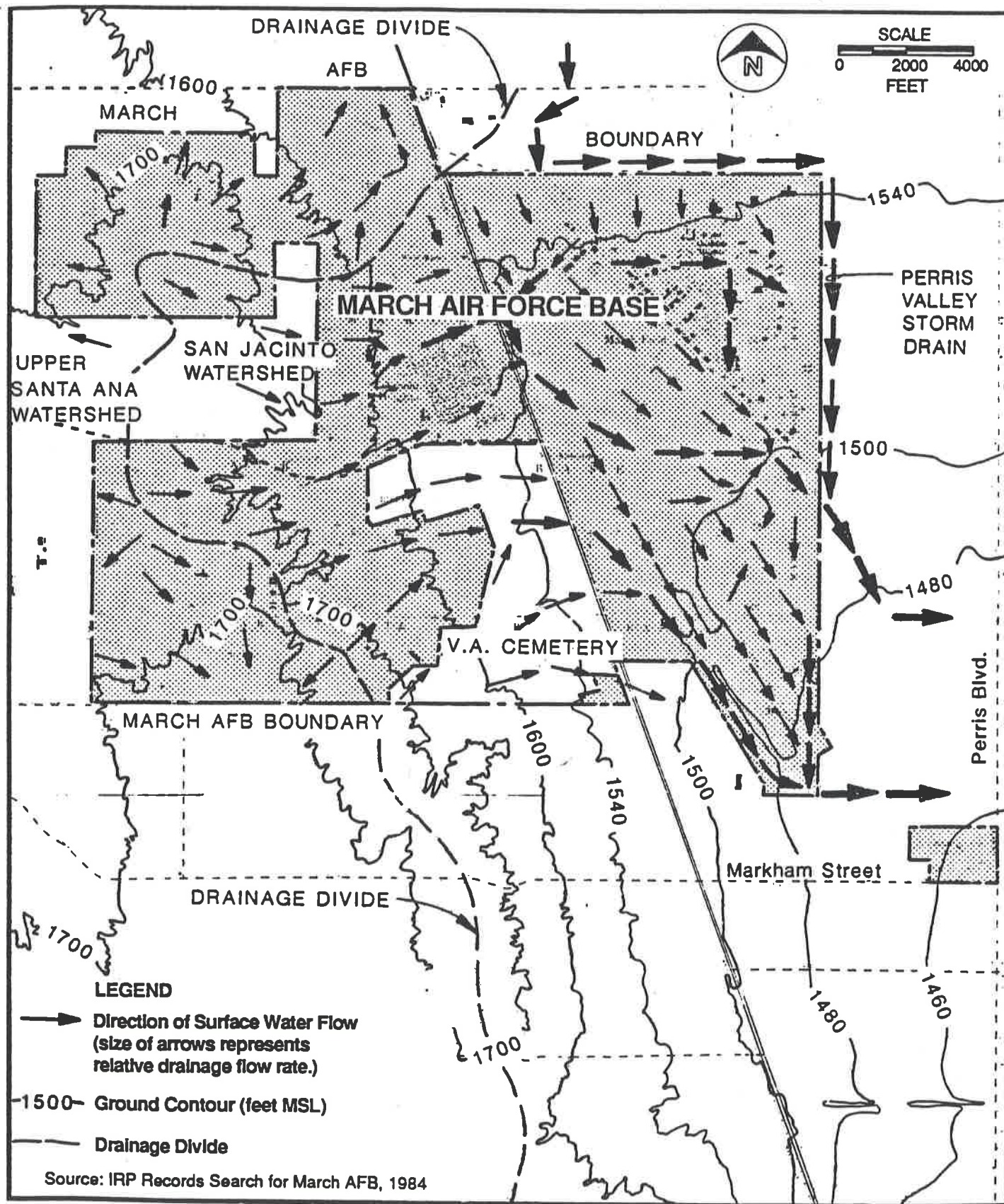


Figure 8.1-2
SURFACE DRAINAGE AND TOPOGRAPHY

14.3 **Comment:** The document notes that additional people will be exposed to noise levels of 60 CNEL or greater due to traffic on major roadways. Revise the text to identify affected locations and any required mitigation. (9-77)

Response: Numbers of residents along each road segment that may be affected by increased surface traffic noise are identified in Tables 4.4-18 through 4.4-22. The road segments in question are depicted on Figure 3.2-10. Appropriate mitigations for surface traffic noise effects are suggested in Section 4.4.4.1, at the paragraph heading Mitigation Measures.

14.4 **Comment:** The document notes incompatible land uses in all alternatives, with recognition that future development would be the subject of noise studies and identification of appropriate mitigation. Expand the discussion to identify alternate land uses that would be compatible. (9-78)

Response: The EIS addresses the JPA's preferred land use plan as well as several reasonable alternatives, and identifies potential environmental impacts and suggested mitigation measures, as required under the National Environmental Policy Act. Table 3.4-12 indicates which land uses would be compatible with the projected noise levels in accordance with guidelines established by the California Office of Planning and Research.

14.5 **Comment:** Revise table (4.4-16) as necessary to reflect corrections resulting from correction to land use graphics. (9-79)

Response: Table 4.4-16 identifies the acreage and number of residents, based on review of January 1994 aerial photographs, under the modeled CNEL 60 dB and greater noise contours for each reuse alternative. These numbers are not dependent upon land uses.

14.6 **Comment:** The conclusions here are not consistent with the statement that some uses from other alternatives would be squeezed onto remaining reuse lands if the SKR lands are not released (pages 4-15, 16, and 17). Clarify and make necessary corrections. (9-80)

Response: This statement is based on the projected reduction in the number of vehicle trips that would be associated with this land use concept in conjunction with all reuse alternatives except the SKR/Cargo Alternative (refer to

Table 4.2-1), under which there would be no change. See response to Comment 3.5 for additional clarification.

- 14.7 Comment:** Explain the rationale for assuming no civilian aircraft runup operations in the noise analysis (Appendix G). Revise the text to address any related effect on validity of impact analysis for future uses. (9-86)

Response: Aircraft runups are associated with aircraft maintenance activities. Because no maintenance activities are proposed for the civilian airport use, no civilian runups were modeled. The text has been revised to clarify this assumption.

- 14.8 Comment:** Noise standards of the State of California and County of Riverside are referenced (Appendix G), but not those of local cities within impact areas. Revise the text to address noise standards for the cities of Riverside, Perris, and Moreno Valley. (9-87)

Response: The local jurisdictions were contacted regarding noise ordinances. The local ordinances address nuisance noise rather than aircraft noise, and are not relevant to this discussion. The EIS text has been revised.

- 14.9 Comment:** It is not clear that noise impact analysis (Section 4.4.4) considered planned land uses within the entire ROI in projecting potential incompatibilities. Clarify approach and address potential incompatibilities with planned land uses for lands within the boundary defined by the projected 60 CNEL contour. (9-111)

Response: Local jurisdictions consider noise from March AFB operations in their planning. In addition, the Comprehensive Land Use Plan prepared for the County of Riverside Airport Land Use Commission addresses issues of noise compatibility in the areas surrounding March AFB. Realignment and civilian reuse aircraft operations will not create additional noise, but will result in an overall reduction in noise contours.

- 14.10 Comment:** The reader cannot conclude the reasonableness or validity of impacts due to the lack of base information (Section 4.4.4). Revise the document to add (1) graphics depicting existing and planned land use within the project noise contours resulting from aircraft operations and (2) graphics overlaying the projected

noise contours over land use plans for the Proposed Action and alternatives. (9-112)

Response: Figure 3.2-7 shows existing land use in the vicinity and Figures 2.2-1, 2.3-1, 2.3-3, and 2.3-5 show proposed land uses on disposal property. Text in Section 4.4.4 addresses potential noise impacts of the Proposed Action and alternatives, including land use compatibility with projected noise levels.

14.11 Comment: Retrofit of existing residential units is recognized as a potential mitigation measure for the SKR/Cargo Alternative, which includes retention of some of the existing residential units within Arnold Heights. Similar discussion is omitted from the analysis of the SKR/Aviation alternative, which also considers retention of Green Acres housing for residential use. Explain the divergence in analysis and make any necessary corrections. (9-113)

Response: The text in Section 4.4.2 has been revised to address noise impacts to the Green Acres housing area.

15.0 BIOLOGICAL RESOURCES

15.1 Comment: A 1,000-acre portion of the MAFB preserve is a SKR Study Area established under Riverside County's 10(a) permit and short-term SKR Habitat Conservation Plan (HCP). The adjacent Sycamore Canyon Wilderness Park (SCWP), just north of MAFB, and the MAFB preserve are jointly considered to be a SKR Core Reserve under the proposed Long-term SKR HCP.

Two additional land acquisitions contribute, or are proposed to contribute, to the Core Reserve system at MAFB and SCWP. The Veterans Cemetery adjacent to MAFB has an SKR set aside that totals 83.5 acres plus two "habitat corridors."

The California Department of Transportation (CalTrans) is preparing to acquire 20 acres of private lands just south of Alessandro Boulevard as a wildlife corridor pursuant to section 7 consultations.

This Core Reserve contains approximately 2,500 acres of open space with 1,400 acres of SKR-occupied habitat. The Core Reserve plus the 1,200 acre SKR

open space within MAFB total approximately 3,700 acres of open space.

Loss of the MAFB portion of the Core Reserve will isolate the SCWP portion and reduce the area of the preserve to 1,400 acres with only 600 acres of occupied habitat. Although the "corridor" between MAFB and SCWP is tenuous, SKR probably disperse between the SCWP portion and the MAFB portion and likely maintain genetic diversity between the two pieces.

Therefore, the SCWP would not be considered a viable Core Reserve with loss of the MAFB portion. If the 2,200 acres within the Long-term HCP Core Reserve system are disposed of without commensurate mitigation, survival and recovery of the species in the SKR HCP plan area may be at risk.

Discussions with the Department have identified options that would compensate for loss of the MAFB/SCWP Core Reserve.

These options include: (1) connecting isolated parcels currently comprising the proposed Steele Peak Core Reserve and adding occupied SKR habitat to the other Core Reserves, or (2) creation of one or more alternative Core Reserves outside current SKR HCP planning area boundary.

Any decision on the disposition of MAFB must be viewed in the context of how it might impact the conservation of the SKR throughout its range. While economic development of the MAFB parcels may be locally desirable, replacement of the SKR habitat is going to be difficult because of fragmented landownership and lack of suitable habitat in the marketplace. (6-2)

Response: At FEIS publication, discussions are continuing among the Air Force, USFWS, JPA, BLM, and RCHCA regarding the possible exchange of SKR habitat on March AFB for suitable SKR habitat elsewhere. Consultation requirements under Section 7 of the Endangered Species Act will be completed prior to disposal of this property. All mitigations adopted by the Air Force to avoid impacts to endangered species will be identified as part of the Section 7 consultation process.

15.2 **Comment:** "The Base has an active management plan for burrowing owl." According to information available to the Service, 20 artificial burrows were installed in 1992 as mitigation for construction projects. However, many of these are currently in disrepair and are not monitored for use. The FEIS (Section 3.4.5) should reflect current practices. (6-3)

Response: The EIS text has been revised to reflect existing conditions.

15.3 **Comment:** The arroyo southwestern toad was listed as a Federal endangered species on January 17, 1995. The EIS should be updated to reflect the new status (Section 3.4.5). (6-4)

Response: The EIS has been updated.

15.4 **Comment:** The southwestern willow flycatcher was listed as a Federal endangered species on March 29, 1995. The EIS should be updated to reflect the new status (Section 3.4.5). (6-5)

Response: The EIS has been updated.

15.5 **Comment:** Grasslands and wetlands would be lost (Section 4.4.5). The EIS should address the loss of both grasslands and wetlands under each of the alternatives, including the proposed project alternative. (6-6)

Response: The EIS states that specific site plans have not yet been developed for the alternatives, and there is sufficient nonwetland acreage within each parcel to accommodate the amount of proposed development without direct disturbance (i.e., loss) of wetlands. The EIS also states that proposed development could result in loss of grasslands, but adds that the grassland present primarily comprises non-native species, there are no sensitive plant species present, and the remnant coastal sage scrub community is of low floristic and wildlife habitat value. The conclusion drawn is that these impacts would not be adverse.

15.6 **Comment:** The MAFB DEIS has not fully evaluated the potential impacts associated with the proposed exchange of the SKR open space property and, therefore, appropriate direct, indirect and cumulative analyses have not been completed in the document. (6-7)

Response: At the time of publication of the DEIS, SKR land exchange discussions had not reached a point of agreement on criteria for suitable exchange habitat, nor a specific parcel of property that would be acceptable for the exchange. The EIS clearly states that the U.S. Fish and Wildlife Service will be one of the parties to any agreement, and that the exchange will be conducted in accordance with the terms of the 1993 Biological Opinion and Section 7 of the Endangered Species Act. The property in question cannot be disposed until Section 7 consultation requirements have been completed. The conclusion is therefore made that impacts will be avoided or mitigated to a nonadverse level as required. Additional analysis of impacts cannot be made until criteria have been established and an exchange parcel(s) identified.

15.7 Comment: Prior to completion of necessary exchanges, details should be disclosed, and adequate analyses conducted to evaluate impacts of the exchange to the endangered SKR. If any of the alternatives are chosen, excluding the No-Action Alternative, appropriate compensatory mitigation will be required as identified in this memorandum.

Based on any of these alternatives, section 7 consultation under the Endangered Species Act will be necessary to ensure that any project-related loss of SKR habitat on MAFB and the SCWP is adequately mitigated to provide for long-term conservation of the SKR. (6-8)

Response: The EIS outlines the procedures required under Section 7 of the Endangered Species Act should property containing federally listed species be transferred to another federal agency or disposed to a non-federal entity. These procedures include consultation with the U.S. Fish and Wildlife Service to ensure that adequate mitigation measures are implemented to avoid impacts to species protected under the Act.

15.8 Comment: The discussion of sensitive habitats (Section 4.4.5) uses the term wetlands in a context different from that in the corresponding regulations. Revise the text to correctly differentiate between "wetlands, jurisdictional waters and associated riparian zones" as defined in the federal Clean Water Act and "stream" as defined in the California Code of Regulations. (9-24)

Response: The Heacock Drainage Channel on the Main Base is the only area on March AFB that has been formally delineated and classified as jurisdictional wetlands in accordance with U.S. Army Corps of Engineers guidelines. Other wetland areas on base have been identified as potential jurisdictional wetlands until such delineation is accomplished, or as willow riparian habitat where appropriate. If subject properties are conveyed to a non-federal entity, additional investigations by the new owner may be necessary to classify these areas according to the California Code of Regulations.

15.9 Comment: Expand the discussion of the SKR preserve to characterize the extent and quality of existing habitat. Revise the text to explain the effect of existing habitat quantity and quality on identification of trade lands required to remove the restrictions and allow reuse. (9-44, 13-4)

Response: The habitat quality of the SKR preserve areas on West March has not been formally characterized. See also response to Comment 15.5.

15.10 Comment: The discussion of assumed proportions of development sites that would be subject to disturbance is not clear. Clarify meaning in the context of typical development methods that would require full disturbance of development sites in the construction stage and in the context of the build-out scenario. Make necessary revisions to the EIS text. (9-81)

Response: The assumed proportions of disturbance mentioned in Section 4.4.5 refer to the acres of disturbance in each land use category as presented in Chapter 2 for each reuse alternative. A reference to the tables in Chapter 2 has been added to the text in Section 4.4.5.

15.11 Comment: The text states (Section 4.4.5) that no direct impacts to jurisdictional wetlands along Heacock Street and Cactus Avenue are expected. This statement is impractical in light of improvements to Heacock Street and the Heacock/Cactus intersection assumed in the traffic analysis. It is also reasonable to expect that additional disturbance to these drainages will be required to extend streets into the reuse area. Revise the text to recognize these likely impacts and associated permitting and mitigation requirements. Address potential requirement

for mitigation of loss of wetlands at replacement ratios in excess of 1:1. (9-82)

Response: The improvements to Heacock Street and the Heacock/Cactus intersection mentioned in the transportation analysis are suggested mitigations based on identified impacts. The responsibility for specific design of such transportation improvements rests with the local jurisdictions and the redevelopment project proponents. The reuse alternatives analyzed in this EIS do not include specific plans for on-site circulation patterns, and do not propose a new access point across the Heacock drainage channel. Therefore, it was concluded that there would be no direct impacts to this wetland as a result of the Proposed Action and alternatives presented herein.

15.12 **Comment:** Section 4.4.5.1 contains conflicting statements regarding the potential for avoidance of impacts to "wetlands". Clarify the latitude provided by document assurances in terms of impacts to "wetlands" by future development. (9-83)

Response: The EIS text indicates that the types of activities associated with proposed development have the potential to cause direct impacts to wetlands. However, it continues by pointing out that there is sufficient nonwetland acreage available in each land use category to allow the proposed development without disturbing wetlands, through the use of appropriate site-specific design.

15.13 **Comment:** The document suggests retention of buffers between "wetlands" and future development (Section 4.4.5). Clarify restrictions in this regard that may be placed on property conveyances. (9-84)

Response: The property conveyance documents would specify the types of activities that would be prohibited or restricted in the areas around the wetlands, based on the specific parcel size, location, and use.

15.14 **Comment:** The document briefly recognizes approvals that will be required to remove restrictions from the SKR management and open space areas. Revise the text to clearly note that responsibility for such a trade rests with federal agencies and is beyond the control of local agencies. Expand the discussion to recognize specific

conditions and criteria for exchange of these areas. Suggested conditions and criteria include location of trade lands within a future reserve as opposed to buffer lands, and continued management of exchange lands at March AFB until reuse occurs. Provide all correspondence with the U.S. Fish and Wildlife Service as an appendix to the final EIS. (9-114)

Response: Please refer to the response to Comment 15.5. The U.S. Air Force will continue to manage the SKR habitat areas in accordance with the terms of the 1993 Biological Opinion until Section 7 consultation requirements have been completed. Correspondence with the U.S. Fish and Wildlife Service is provided in Chapter 9 and Appendix J of this EIS.

15.15 Comment: The document makes only brief reference to the California Endangered Species Act (Section 4.4.5). Expand the document to characterize potential impacts and address permitting and mitigation requirements for specific listed species and species of special concern, particularly in light of the existing 2081 agreement governing portions of the site under the Stephens' kangaroo rat habitat conservation plan and the existing management plan and cooperative agreement protecting burrowing owls on base property. (9-115)

Response: Should March AFB property be disposed to a nonfederal entity, the new owner(s) would be responsible for meeting requirements for identification and, if necessary, mitigation, of impacts under the California Endangered Species Act. The disposal EIS for March AFB was prepared in accordance with the federal requirements of NEPA.

15.16 Comment: The discussion of existing conditions in Chapter 3 identifies areas of known "wetlands;" however, the text avoids any substantial characterization of these areas or prioritization of areas in terms of protective efforts. Expand the impact analysis in Chapter 4 to address the comparative quantity and quality of each identified "wetland" patch and priorities for preservation and/or re-establishment. (9-116, 13-5)

Response: Please refer to response to Comment 15.8.

15.17 Comment: Mitigation measures (Section 4.4.5) for impacts to threatened and endangered species and wetlands habitat

should be amended in the Final EIS to read: "Potential direct and indirect impacts to threatened and endangered species would have to be mitigated in consultation with the USFWS or CDFG, in accordance with the federal Endangered Species Act and the California Endangered Species Act, as described under Threatened and Endangered Species and in accordance with EO 11990." (10-5)

Response: The EIS text has been revised.

15.18 Comment: Mitigation language (Section 4.4.5) to protect wetlands should be amended to read that impacts "should" rather than "could" be minimized through such measures as construction of berms and silt curtains. (10-6)

Response: Mitigation of impacts to wetlands from potential reuse activities by third parties is a decision that will be documented in the ROD. Therefore, the descriptions of these mitigations in the analysis should state "could" rather than "should."

15.19 Comment: Wetlands, including vernal pools, are a scarce and valuable resource in California. As approximately 90 percent of such habitat has been lost in the state, every effort should be taken to ensure that remaining resources are retained. In keeping with the national goal of "no net loss" of wetlands, we support the use of conveyance restrictions or encumbrances under Executive Order 11990 as identified to protect and preserve wetland resources.

Executive Order 11990 directs the Air Force to "avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands . . . in carrying out (each agency's) responsibilities for . . . disposing of Federal lands and facilities . . . When Federally-owned wetlands or portions of wetlands are proposed for lease, easement, right-of-way or disposal to non-Federal public or private parties, the federal agency shall (a) reference in the conveyance those uses that are restricted under identified Federal, State or local wetlands regulations; and (b) attach other appropriate restrictions to the uses of properties by the grantee or purchaser and any successor, except where prohibited by law; or (c) withhold such property from disposal." In accordance

with the Air Force's obligations under E.O. 11990, we recommend that the Final EIS contain firm language (building on what is identified on Draft EIS page 4-156) regarding conveyance restrictions for wetland areas as mitigation that would be carried forth to the Record of Decision (ROD). (10-7)

Response: The EIS text has been revised.

- 15.20 **Comment:** More specifics are needed concerning Endangered Species mitigation (Section 4.4.5). Spell out the conditions and criteria for land to be traded. The conditions and criteria should enhance the existing SKR habitat conservation plan (HCP). These conditions and criteria should be established in this document. Prospective trade lands should be occupied SKR habitat located within identified "core" HCP reserves and not primarily buffers. After such a trade the SKR lands should be managed as they were before the trade until ground breaking for planned activities. This has the benefit of keeping the area from becoming a new dump or an illegal offroad race course. In the future it may turn out that SKR can survive in small pockets and/or the preserved open space has other benefits.

It should be pointed out that these land trades could be difficult since owners of occupied SKR lands are likely to be interested in residential development not "business park" as described in the Preferred Alternative. There is currently a glut of unused business park and industrial sites in western Riverside County. The March JPA is now talking about selling land below market value (Riverside Press Enterprise 7 Dec 95) via a redevelopment agency. (13-1)

Response: See response to Comment 15.6.

- 15.21 **Comment:** Relocation of SKR as mitigation in the preferred alternative (Chapter 2) after a land trade is dubious except for the possibility of infusing other occupied habitat with genetic diversity. Such an activity should only be considered as part of a long term HCP and if deemed feasible and necessary. (13-3)

Response: The EIS does not discuss relocation of SKR after a land trade as a possible mitigation. All terms of such a land exchange must be agreed to by the USFWS, Air Force,

and JPA and must be in accordance with all applicable regulations for the protection of endangered wildlife.

16.0 CULTURAL RESOURCES

- 16.1 Comment:** Include as appendices to the Final EIS all previous cultural resources surveys. (8-3)

Response: The text of all previous cultural resources surveys is too voluminous to include. The results of all surveys conducted to date are summarized in Section 3.4.6 of the EIS, concurrence by the California State Historic Preservation Office is noted. References to all surveys are cited in the text and presented in Chapter 7.

- 16.2 Comment:** The City Council further went on record offering the City's services as needed in its capacity as a Certified Local Government to assist in developing and implementing appropriate mitigation alternatives per Section 106 of the National Historic Preservation Act and its implementing regulations. (8-4)

Response: Text in the EIS (Section 3.4.6) has been amended to identify Certified Local Governments as among those interested parties who may be included in the coordination of an agreement document for cultural resources.

- 16.3 Comment:** The last sentence (Section 3.4.6.1) is unintelligible due to an apparent editing error. Correct the text to clarify and make any resultant changes in the impact conclusions presented in Chapter 4. (9-46)

Response: The EIS text has been revised.

- 16.4 Comment:** Update the status of SHPO testing authorization for sites West-25 and West-52 and any resultant restrictions on future reuse (Section 3.4.6). Provide all correspondence with SHPO as appendix material in the final EIS. (9-47)

Response: All information regarding cultural resources investigations that have occurred since publication of the DEIS has been updated in the FEIS. Correspondence with the SHPO is provided in Appendix J.

- 16.5 Comment:** Reference is made to the Historic Preservation Plan (Section 3.4.6). Update the EIS in the applicable text locations relative to status of the plan and explain any

resultant effect upon the land use alternatives or disposal actions. (9-48)

Response: Please refer to the response to Comment 16.4.

16.6 Comment: The Final EIS should include mitigation measures to be enacted should subsurface cultural or archaeological resources be inadvertently discovered during project excavation, construction or demolition activities (Section 4.4.6). Such measures should include provisions to immediately stop excavation or construction work in the vicinity of the find until a certified archaeologist is consulted. (10-8)

Response: The Air Force is committed to fulfilling its responsibilities under Section 106 of the NHPA regarding the identification, evaluation, and mitigation of adverse effects to cultural resources that are present on the property, prior to disposal. Once the SHPO has concurred on a finding of no adverse effect and cleared the project, responsibility for any cultural resources that may be inadvertently discovered will fall to the new property owner(s). If the new owners are nonfederal entities, they may be subject to state or local regulations regarding protection of cultural resources. In addition, disposal of the property containing cultural resources will not have an adverse effect on the property if protective covenants, agreed to by the Advisory Council on Historic Preservation, are included in the conveyance document, in accordance with Air Force guidance (AFI 32-7065 Section 2.6.1). If March AFB property is transferred to another federal agency, the new owner will be subject to NHPA requirements, which include the responsibility to halt project activities if an inadvertent discovery is made, until further evaluation can be completed.

17.0 ENVIRONMENTAL JUSTICE

17.1 Comment: Nearby residential areas should be demographically documented and described in the Final EIS. The analysis (Section 4.5) should determine the potential magnitude of reuse-related effects on such areas (e.g., air quality, human health and safety, traffic and circulation, public services, noise, visual quality, etc.).

In keeping with the Executive Order 12898, Federal Actions to Address Environmental Justice on Minority Populations and Low-Income Populations (E.O. 12898),

the Final EIS should describe the measures taken by the Air Force to: 1) fully analyze the environmental effects of the proposed Federal action on minority communities and low-income populations, and 2) present opportunities for affected communities to provide input into the NEPA process. The intent and requirements of E.O. 12898 are clearly illustrated in the President's February 11, 1994 Memorandum for the Heads of all departments and agencies. (10-3)

Response: Executive Order (E.O.) 12898 tasks Executive agencies to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of programs, policies, and activities on minority populations and low-income populations. The Air Force has prepared an Environmental Justice analysis for the disposal and reuse of portions of March AFB, in accordance with E.O. 12898. This analysis has been circulated to all recipients of the DEIS, as well as to local social service and community agencies identified in a public outreach effort, for review for 30 days prior to incorporation into the Final EIS. A Notice of Availability for the analysis was published in the Federal Register and local newspapers. As explained in this EIS in Section 4.5, under our environmental analysis the only resource area that had a potential disproportionately high and adverse impact on minority or low-income populations resulting from the proposed reuse actions was noise. Any comments received on this analysis have been incorporated into the analysis in this Final EIS or into this Comment/Response section, as appropriate.

17.2 **Comment:** Demographic Analysis: Census Tract information was utilized in the Environmental Justice analysis (Section 3.5). It is noted that this same data source could be used to address comments in our previous letters of 11/1/95 and 12/8/95 related to the refinement of the Region of Influence. (14-1)

Response: 1990 census data provided recent historic information regarding the distribution of minority and low-income populations within Riverside County for the environmental justice analysis. The EIS analysis of employment and population factors requires projections of growth over the 20-year analysis period, requiring use of other data.

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COPY

UNITED STATES AIR FORCE)
 PUBLIC HEARING ON THE DRAFT)
 ENVIRONMENTAL IMPACT)
 STATEMENT FOR DISPOSAL OF)
 PORTIONS OF MARCH AIR FORCE)
 BASE)

REPORTER'S TRANSCRIPT OF PROCEEDINGS

LOCATION: MORENO VALLEY SENIOR CENTER
 25075 Fire Avenue
 Moreno Valley, CA

DATE AND TIME: Thursday, September 14, 1995
 7:06 p.m. to 8:26 p.m.

REPORTED BY: DIANE L. MARTIN, CSR, RMR
 CSR No. 8268

JOB NO.: 50064DLM



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PRESENT

COLONEL JAMES HEUPEL, HEARING OFFICER
 LYNE HUNTER
 DALE CLARK

PUBLIC SPEAKERS:

JIM TOMLIN
 ANDRA HIGGS
 TINA CAROLINE
 LARRY WATSON
 RANDALL YANKEE

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Moreno Valley, CA Thursday, September 14, 1995
 PROCEEDINGS
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COL. HEUPEL: Good evening, ladies and gentlemen. I am going to go ahead and get started. I think all the vehicles that were coming into the parking lot, people have gotten in here, so I'd like to get started.

I want to welcome you to this public hearing on the draft environmental impact statement for the disposal of portions of March Air Force Base, California. I am Colonel Jim Heupel, and I will be the hearing officer for tonight's hearing.

Before we get into the hearing, let me explain my role in this process. I am a military judge. I normally serve as a trial judge for military criminal trials. So this is a different duty, much nicer duty from my perspective, to be at a public hearing and presiding over a public hearing. My function here tonight is to ensure that all have a fair opportunity to speak and to present any concerns that you may have concerning the draft environmental impact statement that we

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are going to be talking about tonight. I want to make sure that everybody has that opportunity to be heard.

Now, I am not here as a legal expert on this EIS. Obviously, as a trial judge, I don't get into environmental law matters, and I am not going to be here serving as a legal advisor to the Air Force representatives who will be making presentations to you tonight.

This hearing is being held in accordance with the provisions of the National Environmental Policy Act and implementing regulations. Now, that act requires that federal agencies analyze the potential environmental impacts of their proposed actions and consider the results in their decision making.

As part of the requirement to reduce spending, the Department of Defense is identifying military installations for closure or realignment. In 1991, as you know, March Air Force Base was recommended for realignment, and it will be realigned to an air reserve base on March 31st of next year. The Air Force has begun the appropriate studies required in order to dispose of property at March Air Force Base, and

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1 part of this process includes the draft
2 environmental impact statement, or you will hear
3 us referring to it tonight as the EIS. And that's
4 what we're here to discuss tonight.

5 Joining me this evening are two Air Force
6 representatives who will be discussing the
7 processes required for the disposal of property.
8 On my immediate left is Ms. Lyne Hunter of the Air
9 Force Base Conversion Agency, and she will explain
10 the process used by the government in disposing of
11 federal property. To her left is Mr. Dale Clark
12 of the Air Force Center for Environmental
13 Excellence, Brooks Air Force Base, Texas.
14 Mr. Clark will be explaining the environmental
15 impact analysis process that is required before
16 property can be disposed of.

17 Now, following the presentations -- and
18 the reason that we have the presentations is
19 because a lot of people have not had an
20 opportunity to read the draft environmental impact
21 statement. It's a rather lengthy document. It is
22 in some of the local libraries. But we go through
23 this to synopsise the major portions of the draft
24 environmental impact statement so that you have a
25 better opportunity, if you have not read it, to

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1 provide some input into the hearing tonight or, if
2 you have some areas of concerns, to let you think
3 about it, go down to the library, read through the
4 copy, and then send in your concerns. The
5 pamphlet that you were handed at the door also has
6 a very brief synopsis of what will be presented
7 here tonight.

8 We do solicit your participation in the
9 hearing this evening. We are interested in
10 getting your comments regarding this environmental
11 impact statement to try to make the best decisions
12 possible that can be made. And being from this
13 area, you are far more aware of the environmental
14 consequences of this area and problems that might
15 exist that the Air Force might have missed or may
16 not be properly presented in the document. And if
17 there are any areas that need further explanation
18 or need correction, we certainly want to know
19 about it. And that's the reason for the hearing.

20 At this point, let me turn the meeting
21 over to Ms. Hunter to discuss the process.

22 MS. HUNTER: Thank you, Colonel
23 Keupel. I am delighted to be here. My name is
24 Lyne Hunter, and I am a realty specialist with the
25 Air Force Base Conversion Agency.

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1 Now, Colonel Keupel has told you that we
2 use "EIS" for the environmental impact statement.
3 The Air Force likes to use a lot of acronyms, and
4 I will talk about us, my agency, BCA, Base
5 Conversion Agency, and about the Community Reuse
6 Authority, the March Joint Powers Authority, the
7 JPA.

8 And I want to tell you that we are
9 talking about disposal here for the Air Force's
10 standpoint, but, in point of fact, the Air Force
11 Base Conversion Agency used to be called the Air
12 Force Base Disposal Agency. And now it is the
13 Conversion Agency because we not only are
14 empowered to dispose of property, but we want to
15 do so in a way to promote the community's reuse of
16 it and, thus, conversion. So when you hear me say
17 "disposal," you can read into that "conversion"
18 as well.

19 So we handle, at BCA, those actions
20 needed to take care of the property that is no
21 longer needed by the military and put it into the
22 hands of local reuse authorities as well as other
23 federal and local governments.

24 And my presentation this evening is going
25 to focus on four general topics: Disposal

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1 planning; the objectives used by the Air Force to
2 guide that planning; the considerations we use in
3 making our decisions on disposal of property; and,
4 finally, the decision itself.

5 I will tell you what the actions are that
6 the Air Force can take based on the findings of
7 this EIS and the other considerations.

8 The Secretary of the Air Force has been
9 delegated the authority to dispose of property
10 that has been declared excess and surplus under
11 one of the Defense Base Closure and Realignment
12 Acts. And the defense base -- the BRAC, I will
13 put -- I will give you another one. BRAC, Base
14 Realignment and Closure.

15 The BRAC law that governs the disposal --
16 or the realignment of March Air Force Base is the
17 BRAC Law of 1990, and the Air Force has to follow
18 that law, Air Force regulations, and other laws
19 that relate to the disposal of property.

20 And in that, we have to cooperate with
21 the governor of the state of California and with
22 other state and local governments. And that's why
23 the March Direct Powers Authority was put
24 together, and that's why we work with the JPA in
25 the conversion of March Air Force Base, because

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1 that is the entity that we recognize as having the
2 power and the authority to take the property.

3 It's the Air Force's goal to complete
4 this base closure and realignment as quickly and
5 efficiently as possible. We recognize that
6 there's been a significant economic impact to the
7 local communities, and we are committed to helping
8 the local communities in their efforts to replace
9 those activities with reasonable and effective
10 public and private activities.

11 We are developing a comprehensive
12 disposal plan that attempts to balance the needs
13 of the community, the environmental consequences
14 of the disposal action, and the needs of the Air
15 Force and other federal agencies. The Air Force
16 supports interim use of these facilities and early
17 transfer of property as appropriate to develop new
18 jobs and to get reuse here as quickly as
19 possible.

20 And most of you may be aware that the
21 administration, President Clinton, has voiced a
22 five-part plan which is to help bring reuse and
23 job-centered revitalization to closure bases and
24 realignment bases, and that initiative has now
25 been made a part of the federal regulation quite
9

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1 recently, and we have to follow that law as well.

2 So in planning our property disposal, we
3 give consideration to three documents: The first
4 one is the EIS, which analyzes the various
5 reasonable disposal and reuse alternatives for the
6 property; the community's plan for future uses for
7 the property; and the Air Force's disposal plan.

8 And we have, then, analyzed our options
9 for the property and our analysis of the base in
10 the region, the results from the EIS, the interest
11 shown by other federal agencies, and the input we
12 have received from the March JPA.

13 Generally, the methods of disposal that
14 we can use for conversion of this property from
15 military to civilian reuse are transfer to another
16 federal agency, a public benefit conveyance, a
17 negotiated sale, or a public sale.

18 And many of you have heard us speak of an
19 economic development conveyance, which is a
20 slightly new way of disposing a property, but it
21 is a negotiated sale, and it is something that was
22 developed as a part of President Clinton's
23 five-part plan.

24 Now, as most of you know, much of the
25 property at March Air Force Base is in the cleanup
10

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1 process. And while that is ongoing, we will
2 probably -- where most of the property then is to
3 be disposed of -- do so initially with a lease in
4 furtherance of conveyance, which will be in place
5 until a deed can be conveyed, when the property is
6 cleaned up to -- when the cleanup process is
7 enough engaged that we can provide a deed for it.

8 The laws that we go with, that we have to
9 fall under, don't have a rigid priority for which
10 one of -- which ones of these disposal processes
11 we use. And, therefore, we will put together in a
12 final decision for the Secretary of the Air Force
13 the disposal plan, and it will not be accomplished
14 until the Secretary of the Air Force has decided
15 what that is.

16 In addition, we will give consideration
17 to homeless assistance providers, which we will do
18 under the Community Redevelopment and Homeless
19 Assistance Act of 1994. And the March Joint
20 Powers Authority is working with homeless
21 providers and HUD to put that together and get
22 that in place, and that will be a part of the
23 record of decision.

24 Finally, we would like to tell you
25 something about the Air Force's commitment to
11

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1 cleaning up the property. And the Air Force is
2 committed to cleaning up all areas contaminated by
3 past Air Force activity and to protecting the
4 health and safety of the public.

5 The environment in -- any future owners
6 of the base property need to know that it will be
7 cleaned to the satisfaction of the regulators and
8 to the extent necessary for transfer of deed
9 before the Air Force leaves town.

10 There is an Air Force-wide program called
11 the Installation Restoration Program, or IRP, and
12 it was specifically established and funded to
13 identify and remediate all contamination left by
14 the Air Force and caused by past activities.

15 So we have been working closely with our
16 regulators, closely with the public. You may know
17 that there is a restoration advisory board -- to
18 which you are all invited to come and to
19 participate -- and with the JPA, to ensure that
20 all sites are cleaned up in accordance with those
21 regulations.

22 And although we are making every effort
23 to identify and clean up all contaminated sites at
24 March, all IRP activities won't be completed by
25 the time this realignment takes place, and we will
12

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1 implement as rapid an economic recovery as
2 possible, clean up the IRP, implement interim and
3 long-term leases, and work to promote and protect
4 human health and the environment.

5 And with all of this, we hope to do that
6 smoothly. We appreciate your input into those
7 activities, and we hope to do it without impinging
8 one of those activities on the other. We know
9 that we have a complex task ahead of us, and we
10 are all working together to revitalize March Air
11 Force Base.

12 I would like to turn the microphone back
13 to Colonel Heupel.

14 COL. NEUPEL: Thank you, Ms. Hunter.
15 Now, Dale Clark will describe the environmental
16 impact analysis process and the draft
17 environmental impact statement itself.

18 Mr. Clark?

19 MR. CLARK: Thank you, Colonel
20 Heupel.

21 As the colonel mentioned, my name is Dale
22 Clark, and I am from the Air Force Center for
23 Environmental Excellence. Our organization is the
24 one that provides the environmental impact
25 analysis for bases selected for closure or

13

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1 realignment.

2 As he also mentioned, what I want to do
3 tonight is give you some background on the
4 environmental impact analysis process, and on the
5 results of that process which are contained in our
6 draft environmental impact statement.

7 The National Environmental Policy Act, or
8 NEPA, requires that federal agencies consider the
9 environmental consequences of their proposed
10 actions in their decision-making process. NEPA
11 also requires that the public be included in this
12 decision-making process. We held a scoping
13 meeting here in April of 1994 to explain the EIS
14 process and our proposed activities and to request
15 public input on the issues to be addressed.

16 That input helped guide preparation of
17 the draft EIS. The draft was made available for
18 public review and comment in August of 1995.

19 UNIDENTIFIED SPEAKER: Sir, would you
20 speak into the mike, please?

21 MR. CLARK: I am sorry, ma'am. I
22 will --

23 UNIDENTIFIED SPEAKER: Thank you.

24 MR. CLARK: Tonight's hearing -- is
25 that better?

14

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1 Tonight's hearing is a formal meeting at
2 which we review the results presented in the draft
3 EIS and receive public comments on the document.

4 Any comments made on the draft EIS this
5 evening, whether verbal or written, will be part
6 of the public record and will be considered as we
7 prepare the final EIS. Written comments will be
8 accepted through the end of the public comment
9 period, which runs through November 2nd of this
10 year. Written comments submitted after tonight's
11 meeting should be directed to the address shown on
12 this slide.

13 After the end of the public comment
14 period, all comments will be reviewed. Responses
15 will be prepared, and the EIS may be revised, if
16 necessary. All comments received will be printed
17 in the final EIS, which is scheduled for
18 publication in February of 1996. Following
19 release of the final EIS and a required 30-day
20 waiting period, the Air Force can publish its
21 record of decision, indicating how it will dispose
22 of the March Air Force Base property.

23 The three major portions of an EIS are
24 the description of alternatives, including the
25 proposed action, which are presented in Chapter 2;

15

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1 the description of the affected environment, which
2 is presented in Chapter 3; and the environmental
3 consequences or impacts of implementing the
4 alternatives, which are presented in Chapter 4.

5 Chapter 2, the description of
6 alternatives and proposed action is the heart of
7 the EIS. It explains the activities that are
8 being proposed for analysis. As the proposed
9 action in the draft EIS, the Air Force adopted the
10 preferred alternative presented in the JPA's
11 September 1994 draft reuse plan. The Air Force
12 also developed three other alternatives, again
13 using input from the JPA's draft reuse plan, as
14 well as other information, to cover the range of
15 reasonable alternatives as required under NEPA.
16 In addition, a no-action alternative, which would
17 entail no civilian reuse of base property, was
18 analyzed. All alternatives include retention of
19 the military cantonment area to support continuing
20 Air Force Reserve and tenant operations and
21 missions.

22 The proposed action would include joint
23 military and civilian use of the runway, which
24 would be owned, operated, and maintained by the
25 Air Force Reserve. Civilian aircraft operations

16

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1 would include commercial passenger and cargo
2 activities. The JPA is working with the Air Force
3 and the U.S. Fish & Wildlife Service to coordinate
4 exchange of designated habitat for the Stephens
5 kangaroo rat, or SKR, an endangered species. The
6 habitat on March Air Force Base, which is
7 currently protected, would be exchanged for
8 suitable habitat elsewhere in the county. If this
9 exchange happens, development would then -- could
10 then be allowed within the protected habitat areas
11 on March Air Force Base. The JPA has proposed
12 development of a combination of commercial,
13 business park, industrial, mixed use, medical,
14 residential, and recreational land uses on the
15 disposal property. In addition, they have
16 approved a request by the Department of Veterans
17 Affairs for property to allow future expansion of
18 the Riverside National Cemetery, which is adjacent
19 to the base.

20 The SKR/aviation alternative developed by
21 the Air Force also features joint military and
22 civilian use of the runway. This alternative
23 would have more civilian aircraft operations than
24 the proposed action and both commercial passenger
25 and cargo operations. Under this alternative, it
17

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1 has been assumed that portions of the SKR habitat
2 on March Air Force Base would be exchanged for
3 other habitat but other portions would continue to
4 be protected from development. Civilian
5 development of disposal property would include
6 commercial, mixed use, residential, industrial,
7 medical, and recreational uses.

8 The SKR/cargo alternative, also developed
9 by the Air Force, also includes joint military and
10 civilian use of the runway. However, unlike the
11 previous two alternatives, civilian airport
12 activities would, in this alternative, include
13 only air cargo operations. All SKR habitat areas
14 would continue to be protected, and would not be
15 available for development. Disposal property
16 outside the SKR areas would be developed for
17 commercial, business park, residential,
18 educational, and recreational land uses.

19 The Air Force developed the military
20 aviation alternative, assuming that no joint
21 civilian aviation use would occur and only
22 military aircraft operations would use the
23 runway. All SKR habitat in this alternative is
24 assumed to be exchanged to allow development of
25 that property. The military cantonment would be
18

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1 larger than in other alternatives, because it
2 includes area designated in the other plans for
3 civilian aviation activities, but which would no
4 longer occur. Disposal property would support
5 development of industrial, business park,
6 commercial, residential, education, and
7 recreational uses.

8 Under the no-action alternative, the last
9 of the alternatives, the Air Force would not
10 dispose of property and no civilian redevelopment
11 would occur. The military cantonment would be
12 fenced for security to support continuing Air
13 Force Reserve activities. The remainder of the
14 base would be placed in caretaker status and put
15 to no further use. The no-action alternative is
16 used here to provide a reference for comparison of
17 effects of the various other alternatives.

18 In addition to the five reuse
19 alternatives that I already described, Chapter 2
20 of the EIS also identified a number of individual
21 reuse concepts that involve areas smaller than the
22 entire available disposal property. Each of these
23 individual uses could be implemented with any one
24 of the reuse alternatives, and more than one
25 individual use could be implemented. These other
19

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1 land use concepts include requests for surplus
2 property from Department of Defense and other
3 federal agencies. If approved, these properties
4 could be transferred directly from the Air Force
5 to the requesting federal agency, and might not be
6 included in the property disposed to the JPA for
7 civilian redevelopment.

8 Seven other land use concepts have been
9 analyzed in the draft EIS. Briefly, the first of
10 these, the SKR habitat concept, considers the
11 possibility that an exchange for other suitable
12 habitat cannot be negotiated, and all SKR that be
13 at that time on March Air Force Base property
14 would be unavailable for redevelopment. The
15 concept for the U.S. Forest Service Operations
16 Coordination Center would support emergency
17 operations by the Forest Service and other federal
18 and state agencies. The request for property to
19 support expansion of the Riverside National
20 Cemetery could be implemented with reuse
21 alternatives other than the proposed action, and
22 so is included as another land use concept here as
23 well. The Navy/Marine Corps Reserve Center would
24 provide administrative and training facilities in
25 the northeast corner of the base property. The
20

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1 Army and Air Force Exchange Service has requested
2 facilities on the disposal property to allow them
3 to continue to provide goods and services to
4 eligible military personnel and their dependents.
5 The Army Reserve and the California Army National
6 Guard have requested administrative and training
7 facilities to support relocation of some of their
8 operations also.

9 That completes the summary or -- this
10 completes the summary of both the other land use
11 concepts and the proposed action and alternatives
12 in Chapter 2.

13 The affected environment section in
14 Chapter -- is in Chapter 3 in the EIS. It
15 provides a description of the existing conditions
16 in the project area prior to implementing any of
17 the alternatives, and serves as a baseline for
18 assessing environmental impacts. The March draft
19 EIS includes a prerealignment reference, which
20 describes conditions in 1993/'94, when the active
21 duty wing was present in full operation at the
22 base. In addition, Chapter 3 describes the
23 realignment baseline, which projects conditions
24 into 1996 when the base is realigned to an air
25 reserve base. The realignment baseline conditions
21

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1 are assumed to remain constant over the 20 years
2 following realignment, and this becomes the basis
3 for the no-action alternative against which
4 effects of the reuse alternatives are considered.

5 Chapter 4 of the EIS describes the
6 potential environmental impacts that may occur as
7 a result of implementing the proposed action or
8 alternatives. The effects of each alternative are
9 compared to the projected baseline conditions over
10 the next 20 years, as defined for the no-action.
11 Chapter 4 includes suggested mitigations where
12 potential impacts have been identified.

13 The resources analyzed in Chapter 3 and 4
14 are grouped into three broad categories. The
15 first group, local community, includes population
16 and employment, land use, transportation, and
17 utilities. Changes in these factors may influence
18 environmental resources.

19 The hazardous materials and hazardous
20 waste management section addresses hazardous
21 materials, hazardous wastes, IRP sites, storage
22 tanks, asbestos, pesticide usage, polychlorinated
23 biphenyls, or PCBs, radon, medical and
24 biohazardous wastes, ordinance, and lead-based
25 paint. Use and management of these materials may
22

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1 also cause effects to the natural environment.

2 Finally, the natural environment section
3 includes those resources traditionally considered
4 as part of environmental studies. These are soils
5 and geology, water resources, air quality, noise,
6 biological resources, and cultural resources.

7 The remainder of this presentation will
8 consist of a summary of the analysis results for
9 each of these resources.

10 Population and employment increases are
11 expected under the reuse alternatives as workers
12 and their families move into the region to fill
13 some of the jobs created by reuse. Depending on
14 the alternative selected, the population increase
15 could range from over 5,000 to more than 14,000
16 people by the year 2016. This represents an
17 average increase in the region's projected
18 population growth of .1 to .3 percent over
19 no-action alternative projections. Reuse
20 activities could result in an additional 24,000 to
21 over 61,000 direct and secondary jobs in the
22 region by 2016, depending on the reuse alternative
23 selected. This increase translates to an
24 increased growth in the local job market of 1.1 to
25 2.7 percent over no-action alternative projections
23

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1 for that year.

2 Proposed land uses under all the reuse
3 alternatives would generally be compatible with
4 existing land uses in the surrounding areas and
5 with regional plans and the Western Riverside
6 County Subregional Plan. Local communities would
7 have to make some revisions to their comprehensive
8 plans and zoning ordinances. Appropriate civilian
9 redevelopment planning would visually integrate
10 the disposal property into the surrounding area.

11 Regional growth, even without reuse of
12 disposal property, would lead to a decrease in
13 level of service on several local road segments
14 and Interstate 215 by the year 2016.
15 Reuse-related activities would add from 76,000 to
16 184,000 average daily trips by 2016, depending on
17 the reuse alternative selected. Implementation of
18 roadway improvements could improve the level of
19 service to meet transportation planning
20 standards. The Western Riverside Council of
21 Governments is currently studying regional
22 transportation management to improve existing and
23 projected unacceptable levels of service.

24 Prior to realignment, approximately
25 104,000 aircraft operations were conducted
24

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1 annually at March Air Force Base. After
2 realignment, we expect that about 40,950 annual
3 aircraft operations would be associated with
4 continuing military activities. Commercial
5 passenger and/or cargo activities could add from
6 14,000 to over 84,000 operations annually by 2016,
7 once again depending on the alternative selected.
8 The proposed action, the SKR/aviation alternative,
9 and the SKR/cargo alternative would include both
10 military and civilian flight operations; the
11 military aviation alternative would include
12 military operations only.

13 A joint use feasibility study is being
14 prepared by the Southern California Association of
15 Governments for the Federal Aviation
16 Administration or FAA. Our draft EIS incorporates
17 aircraft operation projections from that
18 feasibility study. The Southern California
19 Association of Governments and the FAA have
20 indicated that no airspace conflicts or air
21 transportation impacts are anticipated from this
22 reuse.

23 Several local utility systems would
24 require modifications or upgrades by 2016 due to
25 regional growth, even without reuse of disposal 25

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1 property. Implementation of the reuse
2 alternatives could increase some utility
3 consumption by 2 to 3 percent by 2016. However,
4 reuse-related effects on utility systems would be
5 negligible compared to the effects of regional
6 growth.

7 Activities associated with the military
8 cantonment would continue to require use of
9 similar types and quantities of hazardous
10 materials as under realignment conditions. The
11 quantities of hazardous materials used under the
12 reuse alternatives would be greater than under
13 realignment conditions. The reusers of March Air
14 Force Base property would be required to comply
15 with applicable federal, state, and local
16 regulations, and no impacts from the use of these
17 materials are expected. IRP remediation
18 activities, as Lyne has said, would continue
19 regardless of realignment and reuse. These
20 activities are and will be coordinated through
21 BCA's operating location here at March Air Force
22 Base.

23 Ground disturbance associated with
24 facility construction, renovations, demolition,
25 and infrastructure improvements would occur under 26

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1 all reuse alternatives. Construction-related
2 disturbance of five acres or more would be subject
3 to national pollutant discharge elimination system
4 permit requirements to reduce runoff to waters of
5 the United States. Implementation of standard
6 construction practices for highly erodible soils
7 would also help to minimize erosion effects for
8 all redevelopment activities.

9 A 100-year floodplain has been mapped
10 along the north and east sides of March Air Force
11 Base property. With careful planning, development
12 of these areas could reduce or avoid potential
13 floodplain encroachment that would increase the
14 flooding potential for this area. As required by
15 Executive Order 11988, the Air Force would
16 implement appropriate procedures to minimize
17 impacts, including identifying federal, state, and
18 local restrictions on development of floodplains
19 on any applicable land transfer deeds.

20 March Air Force Base is in the South
21 Coast Air Basin. Air quality in the South Coast
22 has been designated by the U.S. EPA and the
23 California Air Resources Board as being in
24 attainment of the National and California Ambient
25 Air Quality Standards for sulfur dioxide, but 27

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1 nonattainment for ozone, carbon monoxide, nitrogen
2 dioxide, and particulate matter equal to or less
3 than 10 microns in diameter, also referred to as
4 PM-10. Implementation of the reuse alternatives
5 would increase air emissions over realignment
6 conditions; however, the reuse -- the increased
7 emissions would not delay regional progress toward
8 attainment of air quality standards.

9 Localized carbon monoxide impacts would
10 occur at several intersections due to increased
11 traffic associated with regional growth and
12 implementation of reuse alternatives.
13 Implementation of traffic demand management
14 programs and standard construction practices by
15 recipients of base property, in consultation with
16 the local regulatory agencies, would reduce air
17 emissions.

18 A commonly accepted measure of noise is
19 DNL, the day-night average sound level. DNL is
20 expressed in decibels, or DB, with a penalty added
21 for increased annoyance from noise during the
22 night. In California, a similar descriptor, CNEL,
23 which stands for Community Noise Equivalent Level,
24 is used to evaluate impacts due to noise. CNEL is
25 identical to DNL, with the exception that a 5-DB 28

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adjustment is added to those noises occurring during evening hours.

The majority of aircraft-related noise would be associated with the continuing military use of March Air Force Base. However, up to 1,357 additional residents and 720 acres would be exposed to -- could be exposed to aircraft noise levels of CNEL 60 DB or greater as a result of civilian aircraft operations.

As a result of reuse-generated traffic, up to 810 additional residents would be exposed to surface traffic noise levels of CNEL 60 DB or greater.

Reuse-related activities could directly or indirectly impact wetlands along west March, where 79 acres of wetlands have been identified. However, ample nonwetland acreage is available to accommodate proposed property development. In addition, selective siting of improvements and restriction of operations by developers will avoid direct impacts to wetlands.

Exchange of SKR -- Stephens' kangaroo rat -- habitat under the proposed action, SKR/aviation alternative, and military aviation alternative for suitable habitat elsewhere in

29

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Riverside County would be coordinated with the U.S. Fish & Wildlife Service, and this would eliminate the need for additional mitigation.

Consultation with the State Historic Preservation Officer has been initiated for construction of the Air Force Reserve perimeter security fence through the historic district. Consultation with the State Historic Preservation Officer would also be required regarding appropriate mitigation for conveyance of any historic properties from federal to nonfederal entities. Mitigations would need to be coordinated among the State Historic Preservation Officer, or SHPO, the Advisory Council on Historic Preservation, and the Air Force in accordance with Section 106 of the National Historic Preservation Act. Potential mitigations include data recovery and documentation or the placing of preservation covenants in the conveyance documents.

That concludes the presentation of the draft EIS results. In closing, I'd like to remind you that we are here this evening to request your input to the EIS process, and specifically to hear your comments on the EIS. We will be accepting written comments on the document through

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November 2nd at the address shown on this slide. All comments received will be considered in the preparation of the final EIS for disposal of portions of March Air Force Base.

Thank you very much.

COL. NEUPEL: Thank you, Mr. Clark.

In just a moment, we are going to take a short break. After that break, we will come back into the public comment portion of the hearing.

If you would like to make a statement for the record, or if you have comments or if you have a question regarding what you have heard tonight that you would like to try to have clarification, we would take those statements, comments or questions.

We would -- if you have not already filled out a card such as the one I am holding up indicating that you'd like to make a statement, during the break, if you'd either fill out a new card or just get the card you filled out and check the block, I will be using these cards to call people up to make their comments or ask any questions they may have.

Now, in the public comment period, if we have any elected public officials who wish to

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speak, I will call on them first. And then I will call upon the public at large in random fashion.

If you -- as said, if you don't want to stand up here tonight, certainly you can turn in written comments tonight or you can send them in later on, but we do encourage your participation.

We will take somewhere between about a five- and a ten-minute recess at most, and we will start back up. Thank you.

(Brief recess was taken.)

COL. NEUPEL: Ladies and gentlemen, we are going to go ahead and start this portion of the meeting. If you choose to speak this evening, I am going to ask that you come up to the podium and speak into the microphone and ask that -- you are going to have to get pretty close to the microphone so that it picks you up -- ask that you start off stating your name and what city you are from, ask that you direct your comments to me, as the hearing officer. And if you are representing a group, if you would go ahead and indicate that also.

Now, as you have already seen, we do have a reporter here tonight, who is recording word for word everything that's said throughout the

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1 hearing, both the first portion of the hearing as
2 well as this public comment portion. And this
3 will become a part of the final record. This is
4 done to ensure that the preparers will be able to
5 identify significant issues from oral
6 presentations you may make so that these can be
7 properly addressed in the environmental impact
8 statement.

9 As we have spoken of earlier, written
10 comments also turned in tonight or sent in to the
11 Air Force Center for Environmental Excellence by
12 the 2nd of November will become part of the record
13 and will be given equal consideration to any oral
14 comments that are made here tonight.

15 Now, at this time, I have one speaker.
16 So I am going to ask that speaker to come down --
17 that's Mr. Jim Tomlin -- and ask that he make his
18 comments at this time, or questions. Is
19 Mr. Tomlin here?

20 Good evening, sir.

21 MR. TOMLIN: Thank you. Jim Tomlin,
22 Moreno Valley.

23 I was all prepared to really try to
24 apologize for the lack of numbers of people
25 showing up here. I am accustomed to a full hall
33

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1 for a pretty important item. But I retired 29
2 years ago, so perhaps it doesn't work like that
3 anymore.

4 But the point is I am embarrassed for the
5 representation here tonight. But after talking
6 with Colonel Clark, I find that your book has been
7 sent to a large number of people in the area and
8 their groups, and I know a lot of the people that
9 are involved in those things, so that I feel like
10 we are being well represented. Not here tonight,
11 but overall.

12 Thank you very much for coming.

13 COL. NEUPEL: Thank you, sir.

14 And I -- we have an individual that has a
15 question.

16 Andra Higgs? If you would come down,
17 sir.

18 MR. HIGGS: Yes, sir.

19 Sir, my name is Andra Higgs, and I am
20 with the 452nd Public Affairs Offices, the Air
21 Force Reserve.

22 And my question was, As a cost-cutting
23 measure, I was wondering -- to either the lady or
24 the gentlemen -- to what extent would researchers
25 or technologies from Brooks Air Force Base be
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1 involved in the cleanup effort at March as we come
2 into the transfer process?

3 COL. NEUPEL: Mr. Clark, is that
4 something that you could answer?

5 MR. CLARK: Well, I will attempt.

6 Actually, there -- another part of our
7 organization at Brooks -- another part of the Air
8 Force Center for Environmental Excellence does do
9 cleanup and remediation at bases all over the
10 country.

11 I am personally not involved with that
12 effort for March, but I do believe that they are
13 doing a portion of the work here, along with some
14 other service centers that are working here.

15 MS. HUNTER: The other thing I think
16 we want to say is that the Center for
17 Environmental Excellence -- we call them AFCEE --
18 tries to find all of the new technologies that are
19 available and reasonable for cleanup and to use
20 whichever will do the best, most economical, most
21 effective job for the Air Force, test them out;
22 and those that work are applied in other bases.

23 We are really trying to spend the
24 taxpayers' money as wisely as possible as we try
25 and clean up the contamination as quickly as
35

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1 possible. And the people that are involved in
2 this cleanup speak with each other, get the
3 results of the various different kinds of cleanup
4 technology, and then apply the best ones.

5 So I really believe that we are getting
6 the biggest bang for the buck, doing the best job
7 that we can, and will apply for the cleanup for
8 March all of the best that we've learned with the
9 cleanup that we've done at the other Air Force
10 bases.

11 Does that answer your question?

12 MR. HIGGS: Yes, ma'am.

13 MS. HUNTER: Okay.

14 COL. NEUPEL: Now, that's all the
15 cards I've got. But even though you may not have
16 checked the block, let me give an opportunity,
17 because, as I say, the whole reason for us coming
18 out here, as much as anything, is to get your
19 comment.

20 And certainly, as Mr. Tomlin indicated,
21 there are a lot of the draft impact statements
22 that have been sent out to people in the area, and
23 I would hope that people will be sending in
24 comments, but if any of you have any other
25 comments or statements or any questions, again,
36

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1 about the processes that you've heard tonight that
2 the panel members can try to answer, we will do
3 that at this time.

4 Is there anybody else that has any
5 comment or statement or question for us tonight?

6 It appears not. Well, we appreciate your
7 coming out and being part of the process.

8 For Mr. Tomlin, let me indicate that the
9 attendance here tonight is a little bit larger
10 than some of the similar types of hearings that
11 I've done in other places. And from my
12 experience, I think normally people do send in
13 statements and prepared remarks to the center on
14 the draft environmental impact statement.

15 But I would encourage you, if you are
16 interested, to check the library -- do you happen
17 to know which library may have a copy of the draft
18 EIS?

19 MR. CLARK: Well, I don't have a list
20 with me, but I believe that the public libraries
21 in Perris, Moreno Valley, Riverside. Also, the
22 UCR library, and the base library here at March
23 Air Force Base all have copies available.

24 COL. HEUPEL: They may have to hunt
25 for them, but those libraries should have them. 37

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1 I encourage you, if you are interested,
2 take a look at those. They can be a formidable
3 document, but it is part of the process, and if
4 you see something that concerns you, if you are
5 aware of some environmental issues as a result of
6 something that you see there or you otherwise know
7 about, please let us know so that we can make this
8 statement the best possible document and so that
9 the decision makers can have the benefit of your
10 knowledge in this area.

11 If you would go ahead and state your name
12 and where you are from, ma'am.

13 MS. CAROLINE: My name is Tina
14 Caroline, and I am from Moreno Valley.

15 COL. HEUPEL: And how do you spell
16 Caroline?

17 MS. CAROLINE: C-a-r-o-l-i-n-e.

18 COL. HEUPEL: Thank you.

19 MS. CAROLINE: Just -- I had a chance
20 to review the draft EIS just -- on the surface --
21 not in detail -- but I did notice your projections
22 for personal -- for population growth, and I was
23 just curious as to how those figures were arrived
24 at.

25 COL. HEUPEL: Mr. Clark, is that 38

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1 something you can address?

2 MR. CLARK: I can -- well, it could be
3 kind of a very long and detailed answer, but what
4 I will try to do is give the brief version.

5 MS. CAROLINE: Yes. Just brief
6 summary version.

7 MR. CLARK: The whole document, as we
8 discussed, is based on the alternatives. And
9 within that, there are land uses designated. And
10 for all of those land uses, we estimate -- we have
11 factors for determining how many people would --
12 how many employees would be attached to each of
13 those land uses.

14 So we come up with figures for what the
15 total employment is going to be at the base. And
16 then at the same time, we are looking at where we
17 would expect those people to come from.

18 And since, in the case of this area,
19 there is a large pool of folks who commute every
20 day pretty long distances to work, we expected
21 that in the case of this area, a lot of the folks
22 who would take those jobs are people who already
23 live within the area.

24 So while the employment growth is
25 relatively large, the population growth is 39

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1 relatively small, because our understanding, based
2 on looking at all the aspects of that, is that
3 there would not be a large amount of population
4 in-migration.

5 MS. CAROLINE: And so these are -- you
6 are basically saying these are established factors
7 that you have?

8 MR. CLARK: The factors for the
9 employment on the base, we use standard planning
10 factors for determining the -- the employment
11 generated by those land uses. Yes.

12 MS. CAROLINE: Okay. And are there
13 other bases that there's been a history or that
14 have shown that projections for those other bases'
15 realignments or closures, that they pretty much
16 worked out to be close estimates or -- I am trying
17 to understand. You haven't had any kind of
18 history --

19 MR. CLARK: We may be getting a little
20 bit out of what I can easily answer tonight. And
21 if we can, maybe we can address that in the final
22 EIS. But with the recent base closure process
23 started in late eighties/early nineties -- and the
24 planning period that we look at is generally a
25 20-year period. 40

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So it's kind of -- it varies from base to base in terms of what we have seen so far in terms of how successful they are or not in terms of bringing people in.

MS. CAROLINE: Were you --

MR. CLARK: It's based on a lot of factors.

MS. CAROLINE: And was Norton Air Force Base part of -- would that have been --

MR. CLARK: Norton Air Force Base was one of the bases that was picked for closure in the first round of this BRAC process, yes.

MS. CAROLINE: All right. Thank you.

COL. NEUPEL: I believe there was a gentleman over here first. If you would come down here to the microphone, please.

MR. WATSON: Sir, I just have a point of --

COL. NEUPEL: But I --

MR. WATSON: Sure.

COL. NEUPEL: -- need to have you go ahead and do it at the microphone.

MR. WATSON: My name is Larry Watson. I am the environmental chief here at March. I just had a point of information, since cleanup was

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the question that several people asked about.

Our office, the Environmental Management Office, at 655-4858, does maintain a complete set of all the documents that were produced for our cleanup. At any point in time, Mr. Ron Heber, our cleanup chief, is available or some of his staff if you have a question. If you'd like to come in, if there's anything that you see going on that you'd like to have some information about, that is a vehicle for -- we have had citizens in quite often to sit down with us and just understand what's going on a little bit.

Also, I'd like to invite folks if they are not aware of our remedial -- we have about a quarterly, sometimes monthly -- depending on what's going on -- remedial advisory board that does meet, and there are announcements in the paper. If you are interested in getting more involved with the cleanup and understanding it better, that's really a good forum to do that.

That's just a point of information rather than as a comment or question. Thank you, sir.

COL. NEUPEL: Thank you. Gentleman in the back?

MR. YANKEE: If I may -- and I

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actually do have a card. My name is Randall Yankee. I am a resident of Riverside and appointee from the city of Riverside Subcommittees for JPA.

I happened to chair the land use and development committee for the JPA. I have a couple of specific questions out of the EIR as may relate to the land use and development plans submitted by the JPA.

Specifically reference page 1.4 or 1-4, which reads, in part, "Until property can be disposed of by deed, the Air Force may execute interim or long-term leases to allow reuse to begin as quickly as possible.

"The Air Force would structure the leases to provide the lessees with maximum control over the property consistent with the terms of the final disposal.

"Restrictions on reuse or access may be necessary to ensure protection of human health and environment and to allow implementation of required remedial actions. Environmental analysis in the EIS encompasses these possible and long-term leasing decisions."

I compliment you on the scope of this

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report. However, as the report addresses this particular issue, there's a wonderful long-term fence-dancing with no coming down on -- strongly on one side or the other.

Unfortunately, EIR reports or EIS reports, as you happen to refer to them here, sometimes have long-term spin-off ramifications. From the land use and development committee, I'd like to see you come down in favor of those long-term leases a little more strongly.

So that would be point number one.

Point number two relates to page 2-7, which is, "Disposition of the Proposed" -- or "Description of the Proposed Action."

What this essentially says -- in its opening paragraph, citing 2905(b)(2)(a) of the DBCRA requires the Air Force, as part of the disposal process, to "consult with the applicable state governor and heads of local governments or equivalent political organizations for the purposes of considering any plan for the use of such property by the concerned local community.

"Air Force and DOD policy is to encourage timely community reuse planning by offering the use of community's plan for reuse or

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development of land and facilities as a proposed action in the EIS."

And that is followed by a rather lengthy description of the JPA process and those kind of things. However, there's no clear statement in here that any priority will be given to the plan as developed through local wisdoms.

It's not that I distrust the federal government. It's just that I have more faith in local wisdom. And I would sincerely like to see some indication that a priority would be assigned or at least allocated to the JPA if the property is conveyed so that they may have some exposure.

MS. HUNTER: I am going to try and address both questions, although I want to start with your second one first and go back to your first one.

MR. YANKEE: Sure.

MS. HUNTER: The EIS probably is not the place to identify how the Secretary of the Air Force is going to make the decision. I think that the -- that we have to balance, as I said before, the other needs, the needs of the Air Force and federal, the consequences of the activities, and the JPA's reuse plan.

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Now, when it comes to priorities and when it comes to the kinds of disposal that we are going to do, I can tell you that we are going to work hand in glove with the JPA, but we are also going to make sure that our other responsibilities are taken care of as well. And we are going to try and walk that fine line of not making anybody too unhappy.

MR. YANKEE: A difficult line indeed.

MS. HUNTER: It's a very fine line.

And particularly when we have as many people involved as we have here at March. We've got so many complex matters.

I'd like to tell you that we are going to do everything that the JPA would like us to do. I don't know that that's true. We are going to do the very best job that we can communicating with everybody.

And we place a very high priority on what the JPA wants, because not only do we think that it does represent local wisdom, but it also represents local commitment to put their money and their energy and their sweat into bringing in the jobs and making things happen. And I happen to believe that without that, not much of anything

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happens.

So it's a fine line. We are committed in a number of documents. There's more than just the EIS that states that with all of the planning for the realignment and closure the local reuse facility plays a very large part. And BCA and the March JPA are getting along well, we are communicating very well, we see eye to eye on many of the issues, and we are going to continue to communicate and try and resolve all of the issues we can.

But in terms of promising to have the Air Force do exactly what the JPA wants, we've still got that balance to do.

MR. YANKEE: And I don't want to be misunderstood. The request was not that the final decisions all be exactly reflective of what the JPA wanted. The request was once you have done the federal dispositions, once you have fixed the cantonment laws, once you have done those things, and there is property that is to be released to the local governing authority, then it is time to support those decisions to let that land use plan go.

And what I'm saying is I don't really

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expect to see that in this document -- pardon me -- I don't really expect to see that in this document, but you have done a wonderful descriptor here and elsewhere of the process and the labor that's gone into it with no particular acknowledgment following in any document, that I am aware of, that says that we will arrive at a point where that will occur.

And the only thing that I am doing is reading that into the record as a local concern.

MS. HUNTER: Okay.

COL. HEUPEL: And I appreciate that.

MS. HUNTER: Let's talk about the long-term leases.

MR. YANKEE: Sure.

MS. HUNTER: An interim lease is just a way to get some use of a building before a final disposition is made. We are going to try and use interim leases as -- for as brief a period and as few as possible -- I will tell you that the work that goes into an interim lease is exactly the same amount of work that goes into a lease in furtherance of conveyance -- that we will use those leases in furtherance of conveyance insofar as is possible, because that's where you can get

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1 the financing to go ahead and alter buildings or
2 do construction.

3 And, again, we are working as far as our
4 regulations allow us to and our time and manpower
5 allows us to to bring reuse as quickly as possible
6 and to provide our resource where it can make the
7 very best of what the JPA wants done.

8 MR. YANKEE: Thank you very much. And
9 that's really understood. And my concern was not
10 with the interim leasing, but the fact that the
11 statement says interim or long-term leasing. And
12 long-term leasing, by federal standards, makes
13 into a substantial number of years.

14 MS. HUNTER: It does.

15 MR. YANKEE: Well, it can be and does,
16 yes.

17 MS. HUNTER: But quite frankly, our
18 long-term leases are just ways to get the property
19 which is disposed of in other ways -- by public
20 benefit conveyance, by federal -- well, federal
21 transfer is really not a problem -- by negotiated
22 sale or public sale -- into the hands of those
23 people.

24 And what you really want to know is how
25 quickly are we going to do the public benefit

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1 conveyances, the negotiated sales and public sales
2 and PBCs, because as quickly as we do that, then
3 we can do the long-term leases to put those
4 activities into -- to final reuse. And we are
5 committed -- the Air Force and BCA is committed to
6 do what is necessary as quickly as possible.

7 Quite frankly, the Air Force wants to get
8 out of town. And we can't achieve -- at least the
9 active Air Force, excuse me -- we can't do our job
10 well unless we get the JPA into those buildings
11 and get them owning, either -- and certainly
12 through the public sales and negotiated sales and
13 the PBCs and then into the long-term leases --
14 owning this property as quickly as possible. And
15 that is certainly my goal.

16 MR. YANKEE: Excellent. And to
17 perhaps rephrase it -- try to clarify what the
18 focus was on, it was on the long-term leaseability,
19 it is on the term that, for all practical
20 purposes, as far as local government is concerned,
21 federal property does not exist, suddenly there --
22 a large amount of property that did not exist is
23 going to exist. You have four competing spheres
24 of influence. What I am really -- and when you
25 take it from that into infrastructure, you take it

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Document 1

1 into utilities, you take it into a variety of
2 other things, suddenly what we are getting into is
3 simple things like whose building code applies.

4 So my concern there is that, if at all
5 possible, if there's a long-term lease conveyance,
6 that should go to the JPA, and allow, then, the
7 local wisdom a sufficient amount of time to deal
8 with those issues.

9 MS. HUNTER: I think the JPA is doing
10 a marvelous job. I already know through the JPA
11 whose local building codes are going to apply, at
12 least for the interim. I don't know if that's
13 been settled for final.

14 And if we all work together, we can make
15 the March realignment probably the model for
16 anything else that comes along.

17 MR. YANKEE: Well, I think it's gone
18 marvelously, and I thank you for your work. This
19 is a substantial document.

20 The first gentleman that was up here was
21 saying he was concerned about the level of public
22 participation. The only thing I can say is that
23 from my committee and the committees that we have
24 inputted with, there are probably 4- or 500
25 citizens involved that -- at least, like, from my

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1 committee, there's about 75 or 80 -- and we are
2 responsible for coordinating with all the rest of
3 them.

4 So there's a substantial amount of -- I
5 see some people here in the audience who may not
6 say anything, but they are here in the same
7 fashion.

8 Thank you very much.

9 COL. HEUPEL: I appreciate your
10 comments, and they are a matter of public record,
11 and the concerns that you have expressed.

12 Now, is there anybody else that we
13 haven't called upon? Apparently not.

14 I do want to thank you again for coming
15 here tonight and participating in this public
16 hearing. We are adjourned.

17 (The proceedings were adjourned at 8:26 p.m.)

18 -ooo-

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Document 1

REPORTER'S CERTIFICATE

STATE OF CALIFORNIA)
) SS.
 COUNTY OF RIVERSIDE)

I, Diane L. Martin, a Certified Shorthand Reporter, do hereby certify that the foregoing 52 pages comprise a full, true, and correct transcription of the proceedings had and the testimony taken at the hearing in the hereinbefore-entitled matter.

Dated this 21st day of September, 1995, at Riverside, California.

Diane L. Martin
 Diane L. Martin, CSR, RMR
 CSR NO. 8268

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Document 2

Written Comment Sheet

Environmental Impact Statement Disposal of Portions of March AFB, California

Thank you for attending this public hearing. Our purpose for hosting this meeting is to give you an opportunity to comment on issues analyzed in the Draft Environmental Impact Statement, Disposal of Portions of March AFB, California. Please use this sheet to comment on any environmental issues that you feel should be clarified in the Final Environmental Impact Statement.

6.1 I DID NOT SEE THE MARCH FIELD MUSEUM LISTED SPECIALLY OTHER THAN IDENTIFIED AS IN FIGURE 3.2-6 AS "PUBLIC FACILITIES - RECREATION". I REALIZE THAT WOULD BE THE MUSEUM BUT IT ALSO HOUSES HISTORIC COLLECTIONS - SO TO BELIEVE IT DESERVES SPECIAL MENTION IN THE TEXT IF NOT ON THE MAPS. BY THE WAY, THE MUSEUM WAS RE-LOCATED ON THE NEW SITE ALONG THE EAST SIDE OF THE HIGHWAY IN 1992 - OPENED IN MAY 1993. WE CURRENTLY ARE ATTRACTING OVER 10 TO 12,000 PEOPLE PER MONTH. THIS IS NOT THE BEGINNING OF A FUTURE GREAT MUSEUM.

Name ROBERT E. HUMMEL MEMBER - BOARD OF MANAGERS
 MARCH FIELD MUSEUM FOUNDATION
 Address P.O. BOX 6554 MARCH AFB, CA 92518
 Street Address City / State / Zip Code

Please hand this form in or mail to:
 HQ AFCEE/CA
 Attn: Mr. Jonathan D. Farthing
 3207 North Road
 Brooks Air Force Base, TX 78235-5363

Document 3

Written Comment Sheet

Environmental Impact Statement Disposal of Portions of March AFB, California

Thank you for attending this public hearing. Our purpose for hosting this meeting is to give you an opportunity to comment on issues analyzed in the Draft Environmental Impact Statement, Disposal of Portions of March AFB, California. Please use this sheet to comment on any environmental issues that you feel should be clarified in the Final Environmental Impact Statement.

3.1 THE MORENO VALLEY UNIFIED SCHOOL DISTRICT OPERATES MANUEL HEIGHTS ELEMENTARY SCHOOL WHICH IS FIGURE 3.2-6 BUT OMITTED ON MAPS FIG. 3.2-7 4.3-1 4.3-2 4.3-4 2.3-5 2.3-1 & 2.3-1. DON'T KNOW HOW I'M DOING BUT THIS IS TO YOU BUT THE SCHOOL IS VERY IMPORTANT TO THE SCHOOL DISTRICT. THE DISTRICT HAS APPLIED FOR A PUBLIC REVENUE BONDS (ANNUAL BOND) TO ACQUIRE THE LEASED FROM ADD SITE. DISTRICT PAID TO CONSTRUCT BUILDINGS.

Name ROBERT E. HUMMEL FACILITY PLANNER
 MORENO VALLEY UNIFIED SCHOOL DISTRICT
 Address 12911 PARRIS BLVD, MORENO VALLEY, CA 92557
 Street Address City / State / Zip Code

Please hand this form in or mail to:
 HQ AFCEE/CA
 Attn: Mr. Jonathan D. Farthing
 3207 North Road
 Brooks Air Force Base, TX 78235-5363

Document 4

Written Comment Sheet

Environmental Impact Statement Disposal of Portions of March AFB, California

Thank you for attending this public hearing. Our purpose for hosting this meeting is to give you an opportunity to comment on issues analyzed in the Draft Environmental Impact Statement, Disposal of Portions of March AFB, California. Please use this sheet to comment on any environmental issues that you feel should be clarified in the Final Environmental Impact Statement.

1. Concept of siting the 3,000 sq ft Recreation in WSB, approved by proposed business plan is consistent with earlier Air Force Plan Concept of siting Recreation Park in West of existing WSB to March AFB. Alternative proposed siting provides community opportunity to consider siting a future stadium complex and act as an anchor for proposed business park.

2. Concept of building super-excellent proposal for the city of Moreno Valley while providing built-in planning flexibility.

3. Future site utilization secondary expansion concept entails use of active community use in the long term - while providing savings in land administration costs in the short term and long term. All the above provide excellent planning for siting key (over)

Name Gerald R. Rudley
 Address 24821 Melrose Dr Moreno Valley, CA 92557
 Street Address City / State / Zip Code

Please hand this form in or mail to:
 HQ AFCEE/CA
 Attn: Mr. Jonathan D. Farthing
 3207 North Road
 Brooks Air Force Base, TX 78235-5363

Document 4

of the human environment, while the mitigation measures for T&E species provide the opportunity to acquire key environmental habitat else where for the benefit of the environment.

① The proposed transit station is unfortunately sited within the APZ II of the main runway of March AFB, and on the border of the APZ I.

A proposed transit station which is sited in the community, would:

① Have the potential to attract concentrations of youth, senior citizens, and handicapped, who would need to help the case of an airplane crash.

② The proposed use would have the potential to exceed maximum recommended density of 50 persons per acre at one time of Appendix F, Vol. II of March AFB AICUZ Report.

As a result it is recommended the numbers be recalculated using the methodology of Appendix F. Better siting opportunities would appear further north outside the APZ II boundaries.

Document 5

KENNETH L. EDWARDS
Chief, Environmental Analysis Division

1990 MARKET STREET
RIVERSIDE, CA 92501
(909) 375-1200
(909) 388-8885 FAX

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

received
12/17/95

September 19, 1995

Mr. Jonathan D. Farthing
Chief, Environmental Analysis Division
HQ AFCEE/EGA
3207 North Road
Brooks Air Force Base, Texas 78235-5363

Dear Mr. Farthing:

Re: Disposal of Portions of
March Air Force Base,
Riverside County,
California, Draft EIR

Pursuant to the Base Closure and Realignment Act of 1990, March Air Force Base is scheduled for realignment to an Air Force Reserve Base in March 1996. The Draft EIR examines a proposed action, which is the preferred alternative of the Joint Powers Authority, as well as three other alternatives for civilian reuse of the base and a no-action alternative. The District has reviewed the document and has the following comments:

1. Disposed portions of the base would be within the limits of the Perris Valley Area Drainage Plan and the Lake Mathews Area Drainage Plan for which drainage fees have been adopted. These fees are imposed on new development within the watershed. Development within the Lake Mathews watershed is restricted until major elements of the drainage plan have been constructed. The document does not mention that any of the reuse area drains to Lake Mathews. This information should be included in the Water Resources section of Chapter 3.
2. The proposed land use densities of the four civilian reuse alternatives are less than what was assumed in the Perris Valley Area Drainage Plan, which is good, but there would still be impacts to downstream properties due to increased runoff. The document is incorrect to assert that "No mitigation would be necessary for surface water and runoff because any construction-related activities and completed operations would be controlled and monitored under the NPDES permit requirements and use of standard construction and maintenance practices" (Page 4-38). It is the District's position that until downstream drainage facilities of the Perris Valley Area Drainage Plan are constructed, development would adversely impact the downstream properties. The impacts would be most noticeable during the more frequent storm events.

Document 5

Mr. Jonathan D. Farthing
Re: Disposal of Portions of
March Air Force Base,
Riverside County,
California, Draft EIR

-2-

September 19, 1995

2. Therefore, properly maintained detention basins or other appropriate flood control facilities may be required to mitigate the impact of increased runoff. Furthermore, the NPDES requirements mentioned in the document only mitigate impacts to water quality and not to impacts from increased runoff. This issue should be addressed in the Water Resources section of Chapter 4.
3. The proposed land use densities of the four civilian reuse alternatives are much greater than what was assumed in the Lake Mathews Area Drainage Plan. This may adversely impact the design of downstream facilities proposed in the Area Drainage Plan. The comments made above about increased runoff apply to this watershed, too.
4. We would like to clarify a statement made in the first paragraph on Page 4-37 that development within the 100 year flood plain on east March would be subject to District review. This is true only if 1) the District moves to amend the County of Riverside's Flood Plain Management Ordinance No. 458 to include the preliminary flood plain delineation shown on Figure 3-4-3 of the document and 2) the area at time of transfer is within the unincorporated area of the County. If at the time of transfer the area is within an incorporated city, then that city is responsible for flood plain review.

Questions concerning this matter may be referred to Stuart McKibbin of this office at 909/275-1214.

Very truly yours,

Stephen E. Stump
STEPHEN E. STUMP
Federal Projects Coordinator
Senior Civil Engineer

SEM:mcv
rcfc\4884

Document 6



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
600 Harrison Street, Suite 815
San Francisco, California 94107-1976

December 15, 1995

ER 95/592

Mr. Jonathan D. Farthing, Chief
Environmental Analysis Division, HQ AFCEE/EGA
3207 North Road
Brooks Air Force Base, Texas 78235-5363

Dear Mr. Farthing:

On October 26, 1995, the Department of the Interior provided comments responding to the Draft Environmental Impact Statement (DEIS) for Disposal of Portions of March Air Force Base (MAFB), Riverside County, California.

The Department is rescinding the October 26 letter and requesting that the following version serve as our official comments for information and use when preparing the Final Environmental Impact Statement (FEIS).

Our primary concern is the potential loss of important habitat for the endangered Stephens' kangaroo rat (SKR) found on MAFB and the further impact this loss could have on the value of kangaroo rat habitat on nearby Sycamore Canyon Wilderness Park (SCWP), another key reserve area.

GENERAL COMMENTS

The MAFB encompasses more than 6,700 acres, including the airfield, aviation support, industrial, institutional (medical and educational), commercial, residential, and public facilities/recreation areas.

A cantonment area that includes the airfield will be retained by the Air Force Reserve. The rest of the surplus property will be available for disposal for civilian reuse. The Air Force has based the Proposed Action on the draft land use plan presented by the March Joint Powers Authority (JPA), the designated reuse authority.

The Proposed Action consists of joint military-civilian use of the airfield. Under the proposed action, over 97,000 aircraft operations are expected by the year 2016. Of these, approximately 43,000 would be military; the remainder would be commercial passenger and air cargo operations.

Document 6

The plan also incorporates aviation support, industrial, business park, institutional (medical), commercial, mixed use, residential, and public facilities/recreation land uses on portions of the base to be disposed.

The Department is primarily concerned with anticipated impacts to the permanent preserve system currently managed by the Air Force for the federally endangered Stephens' Kangaroo Rat (SKR) on MAFB. The future of the preserve and the listed species inhabiting it would be affected by implementation of the proposed action.

Consultation pursuant to section 7 of the Endangered Species Act of 1973, as amended, has not been initiated to date. We encourage you to contact the Fish and Wildlife Service (Service) to discuss consultation needs prior to initiating formal consultation. The results of the consultation should be included in the FEIS.

The preserve system was established to compensate for habitat losses addressed in section 7 consultations with the Federal Highway Administration and MAFB, (Fish and Wildlife Service File Nos. 1-6-90-F-29 and 1-6-91-F-33 and 33R, respectively).

The preserve contains 1,000 acres of grassland in which 'take' of individuals and loss of habitat are regulated. Additional 1,200 acres were set aside for SKR open space, where 'take' of individuals and habitat is less restricted.

According to the MAFB DEIS, the Proposed Action Alternative was prepared under the assumption that all SKR habitat areas on MAFB (a total of 2,200 acres) would be exchanged for other suitable habitat within Riverside County to allow the communities affected by the realignment to realize the full benefits of economic redevelopment of disposal property.

The SKR/Aviation Alternative would provide some SKR habitat protection (1,207 acres); the rest of the SKR habitat would be exchanged to allow civilian development. The SKR/Cargo Alternative would keep most of the existing SKR habitat protection in place (1,874 acres).

Under the Military Aviation Alternative all currently protected SKR habitat would be exchanged. The No Project Alternative would keep existing protected SKR habitat preserves in place.

A 1,000-acre portion of the above-mentioned MAFB preserve is a SKR Study Area established under Riverside County's 10(a) permit and short-term SKR Habitat Conservation Plan (HCP). The adjacent Sycamore Canyon Wilderness Park (SCWP), just north of MAFB, and

2

Document 6

the MAFB preserve are jointly considered to be a SKR Core Reserve under the proposed Long-term SKR HCP.

Two additional land acquisitions contribute, or are proposed to contribute, to the Core Reserve system at MAFB and SCWP. The Veterans Cemetery adjacent to MAFB has an SKR set aside that totals 83.5 acres plus two "habitat corridors."

The California Department of Transportation (CalTrans) is preparing to acquire 20 acres of private lands just south of Alessandro Boulevard as a wildlife corridor pursuant to the previously mentioned section 7 consultations.

This Core Reserve contains approximately 2,500 acres of open space with 1,400 acres of SKR-occupied habitat. The Core Reserve plus the 1,200 acre SKR open space within MAFB total approximately 3,700 acres of open space.

15.1

Loss of the MAFB portion of the Core Reserve will isolate the SCWP portion and reduce the area of the preserve to 1,400 acres with only 600 acres of occupied habitat. Although the 'corridor' between MAFB and SCWP is tenuous, SKR probably disperse between the SCWP portion and the MAFB portion and likely maintain genetic diversity between the two pieces.

Therefore, the SCWP would not be considered a viable Core Reserve with loss of the MAFB portion. If the 2,200 acres within the Long-term SKR HCP Core Reserve system are disposed of without commensurate mitigation, survival and recovery of the species in the SKR HCP plan area may be at risk.

Discussions within the Department have identified options that would compensate for loss of the MAFB/SCWP Core Reserve.

These options include: (1) connecting isolated parcels currently comprising the proposed Steele Peak Core Reserve and adding occupied SKR habitat to the other Core Reserves, or (2) creation of one or more alternative Core Reserves outside current SKR HCP planning area boundary.

Any decision on the disposition of MAFB must be viewed in the context of how it might impact the conservation of the SKR throughout its range. While economic development of the MAFB parcels may be locally desirable, replacement of the SKR habitat is going to be difficult because of fragmented landownership and lack of suitable habitat in the marketplace.

SPECIFIC COMMENTS

3

Page 3-130, last paragraph. "The Base has an active management plan for burrowing owl..." According to information available to

15.2

3

Document 6

the Service, 20 artificial burrows were installed in 1992 as mitigation for construction projects. However, many of these are currently in disrepair and are not monitored for use. The FEIS should reflect current practices.

Page 3-132. The arroyo southwestern toad was listed as a Federal endangered species on January 17, 1995. The FEIS should reflect the new status.

Page 3-135. The southwestern willow flycatcher was listed as a Federal endangered species on March 29, 1995. The FEIS should reflect the new status.

Page 3-140, Section 4.4.5.1, last sentence. Grasslands and wetlands should be lost. The FEIS should address the loss of both grasslands and wetlands under each of the alternatives, including the proposed project alternative.

SUMMARY

The MAFB DEIS has not fully evaluated the potential impacts associated with proposed exchange of the SKR open space property and, therefore, appropriate direct, indirect and cumulative analyses have not been completed in the document.

Prior to completion of necessary exchanges, details should be disclosed, and adequate analyses conducted to evaluate impacts of the exchange to the endangered SKR. If any of the alternatives are chosen, excluding the No Action Alternative, appropriate compensatory mitigation will be required as identified in this memorandum.

Based on any of these alternatives, section 7 consultation under the Endangered Species Act will be necessary to ensure that any project-related loss of SKR habitat on MAFB and the SCWP is adequately mitigated to provide for long-term conservation of the SKR.

We appreciate the opportunity to comment on the DEIS for the base realignment at MAFB. If you have any questions or comments please contact Gail Kobetsch of the Service's Carlsbad Field Office at (619) 431-9440.

Sincerely,

Patricia Sanderson Port
Regional Environmental Office

cc: Director, OEPC, w/original incoming
Regional Director, FWS, Portland
State Director, BLM, CA

4

Document 7



received
10/21/95

Wayne C. Renth
President

Wayne H. Holscomb
Vice President

Elizabeth L. Carlsbad
Secretary/Treasurer

Donald L. Schreiber
Director

Donald L. Schreiber
General Manager

Don O. Dunn
Director

October 26, 1995

Mr. Jonathan D. Farthing, Chief
Environmental Analysis Division
HQ AFCEE/CA
8106 Chennault Road
Brooks AFB, TX 78235-5318

REVISION TO OCTOBER 26, 1995 LETTER ATTACHMENT DRAFT
ENVIRONMENTAL STATEMENT - MARCH AIR FORCE BASE

The attachment to my letter of October 26, 1995, dealing with comments on the Environmental Impact Statement for Disposal of Portions of March Air Force Base, California was forwarded with a key footnote left off. Please replace the attachment to that letter with the corrected copy enclosed.

If you have any questions, please contact me at (909) 780-9764.

Sincerely yours,

THOMAS H. SAFFORD, P.E.
Principal Engineer

Enc.

cc: Steven Albright, March Joint Powers Authority
Sam Gerston, A.A. Webb Associates

/rmb

W.O. 178

THESE TO LTR

Mailed by P.O. Box 5128, Riverside, California 92517-7288
450 Alessandro Boulevard, Riverside, California 92508 • (909) 780-4170 • FAX (909) 780-3837

17.3 **Comment:** Introductory text to Section 4.5: It is not clear why localized air quality impacts related to carbon monoxide and aircraft particulate emissions are not included in the Environmental Justice analysis. Expand the text to include consideration of these impacts or an explanation of why these impacts are not considered. (14-2)

Response: The carbon monoxide analysis protocol is based on selecting the six intersections with the worst traffic conditions, and, thus, does not constitute a representative sample of conditions for environmental analysis. The local scale analysis for air quality impacts indicates that aircraft-related emissions would not cause exceedances of standards for pollutants, and were not considered in the environmental justice analysis.

17.4 **Comment:** Section 4.5-1: In analyzing impacts related to aircraft noise, it is not clear why the "No-Action" alternative is used as the baseline, as opposed to existing conditions. The area and number of minority and low/moderate income residents exposed to noise levels in excess of 60 dB is clearly much greater under the pre-realignment conditions depicted in Figure 3.4-5 as opposed to the "No-Action" alternative. Revise the discussion to address this point. (14-3)

Response: The EIS analyzes the potential effects of the federal agency action, which is disposal of March AFB property. The No-Action Alternative, which entails no disposal of property, is the appropriate baseline against which to compare projected environmental impacts, including environmental justice impacts.

17.5 **Comment:** Mitigation Measures: The text references mitigation measures cited in the DEIS as also being applicable to the Environmental Justice impacts. The JPA's previous comment letter of 11/1/95 recommended reconsideration of certain DEIS mitigation measures relating to noise. Revise the text to address any effect the response to these previous comments may have upon the conclusion at page 4-175 (Section 4.5). (14-4)

Response: The mitigation measures suggested in Section 4.4.4 for potential reuse-related noise impacts are appropriate. See also responses to Comments 14.2, 14.3, and 14.4.

17.6 **Comment:** General Comment: The analysis focuses upon the potentially negative direct impacts to minority or

low/moderate income residents (Section 4.5). Does the Executive Order also require consideration of positive effects upon job-creating opportunities for such population groups? If so, revise the text to address this issue. (14-5)

Response: The text of EO 12898 specifically refers to "disproportionately high and adverse human health or environmental effects," as addressed in the environmental justice analysis for March AFB.

Document 7

WESTERN MUNICIPAL WATER DISTRICT COMMENTS DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR DISPOSAL OF PORTIONS OF MARCH AIR FORCE BASE CALIFORNIA

Page No.	Location/Issue	Comments
1 2-5	1st full paragraph	The text recognizes the potential for disposal of the existing sewage treatment plant to a "local utility purveyor". As designated wastewater service provider for the disposal lands and surrounding area generally west of MAFB, Western has previously discussed acquisition of this facility through acquisition of lease with the March Joint Powers Authority or directly with the Air Force with the U.S. Air Force (Air Force) representatives and reiterates the desire to operate this facility in the event it is identified for disposal.
9.1		
2 12-19	Section 3.2.12 Table 3.2-6 "Total On-Site Utility Usage - Proposed Action"	The factors utilized to derive projected utility usage with regard to water and wastewater are not presented. A similar observation is applicable to the other alternatives. Explanation and derivation of projected utility consumption must be provided to allow analysis of this data.
9.2		
3 3-46	Section 3.2.4 Utilities	The introductory text defines the Region of Influence (ROI) as all or portions of the provider service areas. This definition is too vague to allow Western to identify and verify the assumptions presented in the document which results in an inability to evaluate the accuracy of the impact assessment. Definition of the specific water and wastewater service providers and ROI boundaries for the various years analyzed is necessary.
9.3		
4 3-47	Sections 3.2.4.1 to Water Supply and 3.2.4.2 Wastewater	The discussion of the existing water supply regime and wastewater service responsibility omits or inaccurately characterizes Western's responsible authority. The attached "Western's Plan of Service to MAFB" outlines Western's Plan of Service. The text for the final EIS needs revision to reflect this information.
9.4		
5 3-48	Section 3.2.4.2 On-Base	The discussion of the existing MAFB sewage treatment plant fails to address the issue of seasonal storage of effluent when production exceeds irrigation needs. This is particularly relevant given the recent history of violation notices for discharges during wet weather conditions. Revise the text to recognize effluent storage requirements under both existing and future conditions.
9.5		
6		
9.6		
7		
9.7		

Suggested below is an amplified version on the paragraph titled "On-Base" to address the MAFB wastewater collection system. "On-Base. MAFB operates a 0.751-ha MGD sewage treatment plant (STP), which was constructed in 1941. The plant provides secondary treatment for wastewater from MAFB and AFVW using a trickling filter process. The average daily flow in 1994 was 0.7 MGD, including 0.06 MGD from AFVW. The wastewater is collected through gravity sewers and delivered to the STP. Treatment effluent from the plant is used for irrigation at the base golf course (approximately 0.40 MGD) and RNC (approximately 0.30 MGD)." MAFB sewer collection system contains approximately 36 miles of sewer pipelines, varying in size from 2" to 12" in diameter. In addition, MAFB also provides sewer service to RNC and to AFVW.

Document 7

7			Generally, effluent west of Interstate 215 flows by gravity to the wastewater treatment plant. Wastewater generated from the Weapons Storage Area, 15th Air Force Area, and AFVW is pumped to the gravity sewer system. All wastewater from east of Interstate 215 is pumped from a main sewer station to the wastewater treatment plant. In addition, there are 7 small lift stations that pump into the gravity system, which ultimately flows to the main lift station, which in turn pumps through a 10" diameter force main to the treatment plant.
9.7			
8 4-39	Section 4.2.4 Utilities		The text identifies splits for allocation of utility demand to the ROI. Revise the text to explain the derivation of assumed percentages and anticipated split to each servicing entity.
9.8			
9 4-39	Section 4.2.4 Utilities		The discussion of utilities in the context of the larger ROIs fails to address the important local issue of identification of the agencies that are responsible for supplying utility services to the proposed disposal lands, their indication of ability to serve, and identification of any major utility system improvements that may be necessary. Please note that the MAFB wastewater treatment plant capacity is 0.75 MGD (average daily wastewater flow). Revise the utility discussion to address these points.
9.9			
10 4-41	Last paragraph		The discussion of water consumption recognizes the potential need for supplemental irrigation water for the RNC and/or Golf Course in the No Action Alternative. This would also be true for early years of the other various alternatives until redevelopment occurs and increases the quantity of reclaimed water available for reclamation. As designated water purveyor for the Cantonment and reuse lands, Western is prepared to assist the Air Force and the Joint Powers Authority in providing supplemental water supply as needed.
9.10			
11 4-41	Wastewater		The analysis of utility impacts assumes that wastewater service for the Cantonment Area, AFVW and disposal lands is provided by the existing Sewage Treatment Plant (STP). The discussion omits any analysis of ability to accommodate the necessary expansion at the existing site. Revise the text to address site constraints and permitting issues surrounding expansion of the existing STP.
9.11			
12 4-41	Water Consumption and Wastewater		The discussion of impacts of increased demand for water and wastewater service for each alternative entirely omits recognition of increased demand upon Western. With the corrected supply regime provided in the comment related to pages 3-47 to 3-49 above, revise the discussion at these locations to address allocation of demand to Western.
9.12			
13 4-42	2nd full paragraph		Analysis of wastewater flows identifies a need for expansion of the existing sewage treatment plant by volumes varying up to approximately 0.4 MGD, based upon an existing plant capacity of 1.2 MGD. Clarify this assessment basis in light of the existing permitted capacity of 0.7 MGD. Revise the text accordingly.
9.13	4-46 2nd full paragraph 4-48 3rd full paragraph		

Refer to Page 1-4 of Department of the Air Force "Final Operations and Maintenance Manual Treatment Plant Environmental Study March Air Force Base, California. Contract Number F336158D-0001, Order 050". Prepared by Engineering Science, Inc., March 1999.

WQ/RS
T/MS/RS/MS/MS/RS

Document 7

Western Municipal Water District's Plan of Service to March Air Force Base

Water Facilities

Since Western Municipal Water District's (Western) boundaries have encompassed all of March Air Force Base (MAFB) except for an extension of the southeastern portion of the flight line for more than twenty-seven (27) years, Western has planned the integration of the MAFB water system with Western's existing and proposed water system improvements.

Western's 1900' Pressure Zone currently serves Air Force Village West (AFVW). Accordingly, all of MAFB property west of Riverside National Cemetery, the Golf Course, and the area south of Van Buren Boulevard will be served from Western's 1900' pressure zone. All remaining lands west of Interstate 215 between Alessandro Boulevard and Van Buren Boulevard and west of Plummer Road will be integrated with either Western's 1720' Pressure Zone, 1837' Pressure Zone or its 1900' Pressure Zone as required to avoid pumping. With regard to the balance of MAFB's system, Western plans to integrate MAFB's existing 1698.5' Pressure Zone with Western's existing 1720' Pressure Zone and proposed Cactus Reservoirs (15 million gallons, to be located on MAFB's property). Direct connection to Western's facilities will provide increased efficiency, greater emergency response capability and reduce or eliminate the need to pump water into the MAFB existing water system. Western also plans to accept the responsibility for any rights MAFB has in the existing water facilities.

A primary benefit of having Western supply water to MAFB is Western's unique ability to supply potable water from three distinct water sources. This redundant water supply capability provides a significant benefit to MAFB, especially during emergencies. Western has the ability to provide potable water to MAFB from Western's connection at Metropolitan's Mills Filtration Plant, from Western's Cajalco Water Treatment Plant at Lake Mathews, and through Western's pipeline connections with the City of Riverside. The connections with the City of Riverside provide Western with the capability of conveying safe drinking water from the vast, natural ground water supply in the Bunker Hill Basin. This basin has historically been the principal source of water supply for the City of Riverside, and water from this source has been delivered to Western for use within its jurisdiction.

By means of agreements with the U.S. Air Force (the Air Force) and the March Joint Powers Authority (JPA), Western plans to continue to provide water service to MAFB and to assume responsibility for operating and maintaining all MAFB's existing water facilities. With regard to water service to MAFB's proposed Cantonment Area, Western plans to specifically meter water to the Cantonment Areas utilizing master meters and/or specific facility meters to assure full accounting of the water delivered to the users within the Cantonment. Those areas that would be outside the Cantonment Area would be individually metered so that the Air Force pays only for water which it receives. Detailed planning of service to MAFB properties will be presented to accommodate the contractual obligations and agreements between the March JPA and the Air Force.

Wastewater Facilities

Western has evaluated the feasibility of assuming the responsibility for treatment of wastewater from MAFB, the Riverside National Cemetery, and AFVW, as well as adjoining areas, and to provide reclaimed water for the Golf Course and Riverside National Cemetery. With the realignment of MAFB, Western plans to assume responsibility for operating and maintaining the wastewater collection, treatment, and disposal systems. Integral to the wastewater system is the responsibility to continue providing reclaimed wastewater to the Golf Course and to Riverside National Cemetery (RNC).

Document 7

Non-Potable Water Facilities

The MAFB 20" diameter water transmission pipeline, which runs from Lake Mathews to MAFB's unused water treatment plant is used by the Air Force to convey non-potable Colorado River water to the Golf Course and the RNC. Western plans to integrate this pipeline into its existing non-potable improvement District U-2 System as well as into a current project which involves securing a non-potable water supply from the Riverside Ground Water Basin. Combining the MAFB non-potable facilities with Western's systems will logically integrate treated wastewater into a regional reclamation plan, and will provide a non-potable water supply for a large service area, resulting in a more cost effective plan of benefit to both MAFB and the public.

WQ/RS
T/MS/RS/MS/RS

Document 8



CITY OF RIVERSIDE

November 8, 1995

Jonathan D. Farthing
Environmental Analysis Division
HQ AFCSE/ECA
3207 North Road
Brooks AFB, Texas 78235-5363

Subject: Draft EIS- March Air Force Base Disposal

Dear Mr. Farthing:

On November 7, 1995, the Riverside City Council reviewed the above-referenced document and by unanimous vote recommended the following:

The EIS be revised to:

- 1 a. analyze a region of influence (ROI) for utilities that more accurately reflects the impacts of the project on a regional basis, as such directly affects the City of Riverside;
- 9.14 b. correct information pertaining to the City of Riverside zoning, existing land uses, and City limits, as shown in the attached Exhibits;
- 2 c. include as appendices to the Final EIS all previous cultural resources surveys; and
- 6.3
- 3
- 16.1
- 4 In addition, the City Council further went on record offering the City's services as needed in its capacity as a Certified Local Government to assist in developing and implementing appropriate mitigation alternatives per Section 106 of the National Historic Preservation Act and its implementing regulations.
- 16.2

Please note that this letter supersedes the letter dated October 30, 1995 transmitting the comments of the City of Riverside Environmental Protection Commission regarding this matter. Please disregard the previous comment letter.

OFFICE OF THE CITY MANAGER
3900 MAIN STREET • RIVERSIDE, CALIFORNIA 92522 • (909) 782-5553

received
11/15/95

Document 8

Jonathan D. Farthing

November 8, 1995

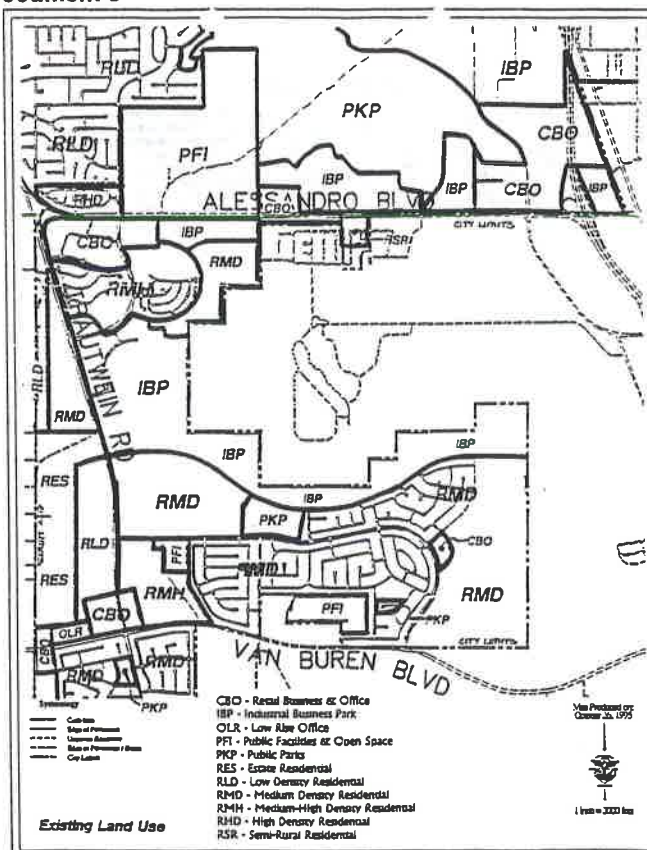
Thank you for the opportunity to review and comment on this document. Should you have any further questions regarding these comments, please contact Stephen J. Whyld, Planning Director, at (909) 782-5658.

Sincerely,

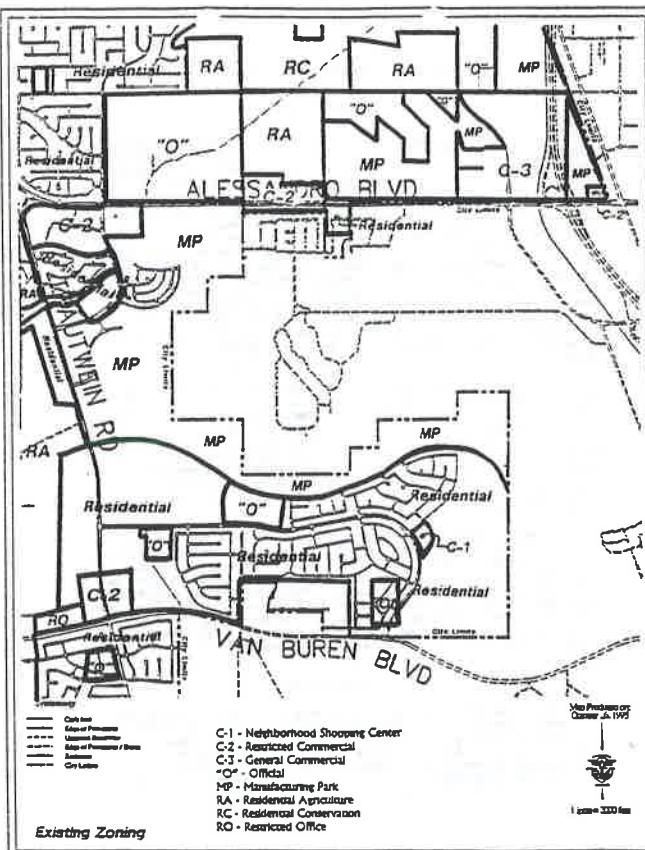
John E. Holmes
John E. Holmes
City Manager

c: Steve Albright, March JPA
Stephen Whyld, Planning Director
Marion Mitchell-Wilson, Historic Preservation Manager

Document 8



Document 8



Document 9

MARCH JOINT POWERS AUTHORITY

November 1, 1995

Mr. Jonathan D. Farthing, Chief
Environmental Analysis Division
HQ AFCEE/ECA
8106 Chennault Road
Brooks AFB TX 78255-5518

Subject: Draft Environmental Impact Statement for Disposal of Portions of March Air Force Base, California, from the March Joint Powers Authority (Authority)

Dear Mr. Farthing:

The March Joint Powers Commission, its Technical Advisory Committee (TAC), and its Environmental Issues Subcommittee have reviewed the referenced draft environmental impact statement (DEIS). As the designated reuse authority for disposal lands at this installation, the Authority has focused review of the document upon aspects that will affect timely and effective redevelopment of disposal lands. Review has resulted in a range of comments that have been organized on the enclosed pages into factual corrections, clarifications, omissions, and errors.

The substantial effort expended by the Air Force in preparation of this important document and the difficult task of evaluating a long-range, plan-level project are recognized. With resolution of the issues raised herein, it is the Authority's expectation that cooperative efforts between the Authority and the Air Force can achieve the community revitalization that is the focus of the disposal and reuse process.

In a separate correspondence, the Commission has requested an extension to the review period until December 8, 1995. This will enable public review of the Socioeconomic Impact Analysis Study, which was just released on October 24, 1995. The Authority reserves the right to forward additional comments after completing review of that new document.

We look forward to review of the final EIS. Please call me if you have any questions.

Sincerely,

Stephen Albright
Stephen Albright, Executive Director

Enclosures

94-132DraftComments
P.O. BOX 7480 • MORENO VALLEY, CALIFORNIA 92522 • (909) 680-7000 • FAX (909) 682-3254

Document 9

March Joint Powers Authority
Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Errors

Page No.	Location/Issue	Comment
1	5-4 Last paragraph	The conclusion that population and employment-related effects (traffic, noise, air and utilities) are small in the context of defined ROIs mischaracterizes impacts. While this may reflect the regional context, it ignores the lack of existing infrastructure and localized issues that are diluted when viewed in the context of the larger ROIs. Include more detailed discussion of any major infrastructure improvements required to support proposed land uses in the final EIS.
5.1		
2	2-15 Table 2.2-4	Identification of acres of disturbance for each of the build alternatives does not appear to be reasonably related to the total area devoted to each use.
2-26 Table 2.3-4		Disturbance area figures for aviation support uses for the Proposed Action and SKR/Aviation alternatives don't make sense - the areas of disturbance exceed that total area absorbed. Conversely, the SKR/Cargo alternative identifies a disturbance area that appears too small considering the total acres absorbed.
3.3	2-36 Table 2.3-10	Explain the derivation of these figures, their use in impact analysis, and any resultant changes to impact analysis due to corrections in response to this comment.
2-42 Table 2.3-16		
3	2-43 Military Aviation	The text describes educational uses being 50% complete by 2016; however only 31 acres of disturbance is cited. Explain this apparent discrepancy and any resultant corrections to impact analysis.
3.4		
4	2-19 Utility Usage	The factors utilized to derive projected utility usage are not evident. Utilizing standard factors (500 gallons per unit for single family residential, 3000 gallons per acre for commercial, 100 gallons per square foot for mixed use and 4,000 gallons per acre for parks) applied in water facility master planning, the projected use for the Proposed Action would be approximately 6.2 MGD. A similar observation is applicable to the remaining alternatives. Explain the derivation of projected utility consumption and any resultant change in impact analysis as a result of response to this comment.
5	3-3 1st full paragraph	The general characterization of drainage patterns on West March is inaccurate. Correct the text to reflect patterns indicated in Figure 3.4-3.
12.4		
6	3-9 Last paragraph	The Lake Mathews Community Plan is cited as establishing planned land uses for areas south and southwest of the base. The northeast extreme of the Lake Mathews Community Plan is in the vicinity of Cajalco and Wood Roads. The immediately adjoining County lands are in unimproved (i.e., no specific land use designation is mapped) portions of the Lake Mathews Community Land Use Planning Area which are subject to the land use determination system defined in the County's policy-based general plan. Correct the text accordingly.
6.4		

94-132DraftComments

Page 1

Document 9

March Joint Powers Authority
Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Errors (continued)

Page No.	Location/Issue	Comment
7	3-12 2nd full paragraph	Apparent editing errors in sentences 4, 5 and 6 make this paragraph unintelligible. Correct the text to establish intended meaning.
6.5		
8	3-12 Last paragraph	The meaning of "vacant land zoning" in the last line is not clear. Correct the text to establish intended meaning.
6.6		
9	3-13 Figure 3.2-3	The exhibit depicting existing zoning is inaccurate, particularly for areas along Alessandro Boulevard, west of Interstate 215. Correct this figure and address resultant correction to the impact analysis in Chapter 4.
6.7		
10	3-14 1st full paragraph	The discussion of City of Riverside zoning omits recognition of the open space zoning applied to Sycamore Canyon Wilderness Park lands. Correct the text and address resultant changes in discussion of impacts in Chapter 4.
6.8		
11	3-17 Adjacent Land Use	Characterization of the area north of the base omits recognition of recent commercial development generally extending from Old Interstate 215 to Sycamore Canyon Boulevard. This area is now developed with three gasoline service stations and two automobile service facilities. Correct the text and address resultant changes in discussion of impacts in Chapter 4.
6.9		
12	3-24 Figure 3.2-7	The Prereignment Off-Base Land Use graphic contains several inaccuracies. The Mills Filtration Plant northwest of Alessandro Boulevard and Barton Street is more appropriately represented as Public Facilities/Recreation; frontage along Alessandro Boulevard from Old Interstate 215 to just west of Sycamore Canyon Boulevard is commercial; frontage along Old Interstate 215 north of the Alessandro frontage is a mix of residential and commercial uses; Sycamore Canyon Wilderness Park lands north of Alessandro Boulevard should be recognized as Public Facilities/Recreation; frontage along the north side of Alessandro Boulevard from Frederick Street to Old Interstate 215 is primarily commercial; and the schools in the Orangecrest development in the vicinity of the area defined by Barton Street, Orange Terrace Parkway and Van Buren Boulevard are not identified. Correct the map as noted and address resultant changes to the impact analysis presented in Chapter 4.
6.10		
13	3-31 Alessandro Boulevard	The document erroneously identifies a six lane configuration for Alessandro Boulevard east of Elsworth Street. The existing improvements are actually four lanes from I-215 to Indian Avenue. Correct the assumed capacity presented in Table 3.2-3 and the impact analysis presented in Chapter 4.
7.1	3-36 Table 3.2-3	

94-132DraftComments

Page 2

Document 9

March Joint Powers Authority
Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Errors (continued)

Page No.	Location/Issue	Comment
14	3-31 Cactus Avenue	The description of Cactus Avenue does not recognize the current bottleneck at Hancock Street. Correct the assumed capacity presented in Table 3.2-3 and the impact analysis presented in Chapter 4.
7.2	3-36 Table 3.2-3	
15	3-35 4th full paragraph	Discussion of Cactus Avenue on West March does not accurately reflect the changes completed in conjunction with the Interstate 215 improvements. Correct the text to reflect existing conditions.
7.3		
16	3-35 Last paragraph	The discussion of LOS identifies an acceptable level as LOS E based upon the Riverside County Congestion Management Plan. This reference does not accurately identify County CMP policy, nor does it recognize standards contained in the individual general plans of the jurisdictions of the County of Riverside, City of Moreno Valley, City of Riverside and City of Perris. To correctly reflect local plans, the text should state that: 1) the CMP identifies LOS E as acceptable on arterials and LOS F as acceptable on freeways; 2) the City of Moreno Valley General Plan calls for LOS C as the standard for facility design; 3) the City of Perris General Plan calls for an LOS E or better as signalized intersections; 4) the City of Riverside General Plan identifies LOS D as acceptable; LOS E as a minimum acceptable standard for facility design, LOS F as continuing in some circumstances, and policy to minimize occurrence of streets operating at LOS F; and 5) the County of Riverside General Plan establishes LOS C as the target level, recognizing acceptability of LOS D at intersections of major routes, within one mile of freeways or at freeway ramp intersections. Explain the rationale for selection of LOS threshold for the impact analysis in Chapter 4. Expand the impact analysis in Chapter 4 to address relevant criteria for each jurisdiction's adopted criteria.
4-21 1st full paragraph		
7.4		
17	3-47 Last paragraph	The description of the Western Municipal Water District (WMWD) supply regime is inaccurate. Contact representatives of WMWD to obtain correct information. Also correct the text at this location to recognize that WMWD is the designated service provider for the base and disposal lands.
9.15		
18	3-48 Wastewater	Correct the text to recognize that the base and reuse lands are within the service area of Western Municipal Water District.
9.15		
19	3-48 On-Base	The discussion of the existing base sewage treatment plant fails to address the issue of seasonal storage of effluent when production exceeds irrigation needs. This is particularly relevant given the recent history of violation notices for discharges in wet weather conditions. Revise the text to recognize effluent storage requirements under both existing and future conditions.
9.5		

94-132DraftComments

Page 3

Document 9

March Joint Powers Authority Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Errors (continued)

Page No.	Location/Issue	Comment
20 12.5	3-91 3.4.2.1	The description of drainage areas fails to recognize two intermediate receiving waters in the upper Santa Ana River watershed that are of local importance. Revise the text and related figures to recognize portions of the base and disposal lands are within the Lake Mathews and Sycamore Canyon watersheds and address the associated special issues with these receiving waters.
21 9.16	Utilities and Services	The discussion of utilities and services in general mischaracterizes existing and future service responsibilities. Coordinate with applicable service providers and local municipalities to correct the affected environment and environmental consequences discussions. For example, the March Joint Powers Authority has recently been delegated land use authority for the reuse area. It is expected that other typical municipal services within the reuse area may also be subsumed by the JPA.
22 13.1	4-113 4.4.3.3	The first paragraph in this section is unintelligible due to editing error. Please correct.
23 13.2	4-116 Table 4.4-9	PM ₁₀ numbers for 2006 Reuse-Related emissions are in error. Evaluate and correct.
24 15.8	4-152 3rd full paragraph	The discussion of sensitive habitats uses the term wetlands in a context different from that in the corresponding regulations. Revise the text to correctly differentiate between "wetlands, jurisdictional waters and associated riparian zones" as defined in the federal Clean Water Act and "stream" as defined in the California Code of Regulations.

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March Joint Powers Authority Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Clarifications and Updates

Page No.	Location/Issue	Comment
25 4.1	3-1 3rd paragraph 1-2 Section 1.2	The document recognizes preparation of decision documents that will establish terms and conditions of property dispositions. Explain how the partial build-out assumptions which are the basis for impact analysis in the draft EIS will be considered in establishing terms and conditions of conveyance decisions. This question is posed in light of the recognition of potential need for separate environmental analyses to address actions not deemed covered by the EIS (page 2-52, Section 2-5).
26 4.2	3-2 1st paragraph 1-3 Section 1.2	Explain how the range of uses identified in the alternatives can be drawn from in the conveyance and reuse process. This comment is posed in the context of ability to proceed without subsequent environmental documentation.
27 3.6	3-32 2nd Paragraph	Discussion of the SKR Habitat land use concern concludes that the level of impact would be reduced. This is inconsistent with later statements (pages 4-15, 16, and 17) that suggest that development intensity for various alternatives could be accommodated on remaining lands if the SKR management and/or open space areas are retained as non-development areas. Explain this discrepancy and any resultant adjustments to the impact analysis in Chapter 4.
28 2.1	1-4.5	Discussion of FAA involvement and airport planning issues is unclear relative to the need for future documentation of civilian airport uses. Clarify the level of clearance provided by this EIS for conveyance of lands for airport use and Air Force/FAA position relative to need for any subsequent environmental compliance documentation.
29 3.7	3-2 Homeless Assistance	The text recognizes the preparation of a Homeless Assistance Plan. Update the final EIS to recognize completion of the plan and to assess compatibility with the alternatives addressed in the EIS.
30 3.8	2-16 2-27 Aviation Support	Descriptions of the Proposed Action and SKR/Aviation alternative state that designated lands will be 50% utilized by 2016. It is not clear how this is accounted for in assessing airfield use. Explain the meaning of 50% utilization in the context of assumptions regarding acreage absorbed, building square footage, employment generation, number of flights and number of passengers. Address any resultant changes to the impact analysis presented in Chapter 4.

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March Joint Powers Authority Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Clarifications and Updates (continued)

Page No.	Location/Issue	Comment
31 7.5	2-19 2.2.11 2-29 2.3.1.12 2-38 2.3.2.12 2-45 2.3.3.9	Average daily traffic figures are provided for each "build" alternative. These numbers represent a mid-range of the more detailed figures presented in Appendix I (Tables I-2 and I-13). Explain the rationale for the ADT projections presented in Chapter 2 and the resultant effect upon transportation, air quality and noise impact assessment presented in Chapter 4.
32 5.2	3-7 1st full paragraph	The ROI for employment and population impacts is described as all of Riverside and San Bernardino counties. Local experience indicates minimal connection between western and desert portions of these massive counties. An ROI defined by the greater Riverside/San Bernardino area would be more reflective of the potential impact to local communities. Revise the analysis accordingly.
33 6.11	3-15 Figure 3.2-6	The characterization of pre-realignment land uses does not accurately characterize use in terms of establishing a baseline for comparison against future uses in the various alternatives. For instance, the training area south of Cactus Avenue and west of Interstate 215 may serve an educational function for the Air Force, but is not comparable to the educational facility uses contemplated in the proposed action and alternatives. In addition, the areas identified for industrial uses are not comparable to private industrial activity that could be reasonably anticipated. Explain how the acreages assigned to various uses were accounted for in addressing incremental land use intensity increase for the various alternatives and any resultant effect upon impact analysis.
34 6.12	3-25 1st full paragraph	The discussion references pending preparation of a new AICUZ study to govern use of March AFB by Reserve units. Given the detail provided regarding anticipated aircraft operations and noise contours, identify reasonable assumptions about compatibility in the realignment condition based upon existing information and the results of the FAA-approved NOISEMAP version 6.4 modeling analysis.
35 7.6	3-36 Table 3.2-3	Explain the derivation of identified capacity values. It is not clear, for instance, why the segments of Alessandro Boulevard between I-215 and Elsworth and Elsworth and Graham are assigned different capacities when the number of lanes are comparable. Please correct and make necessary adjustments to the identified capacities and resultant changes to conclusions in the impact analysis in Chapter 4.

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March Joint Powers Authority Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Clarifications and Updates (continued)

Page No.	Location/Issue	Comment
36 8.1	3-44 3rd paragraph	The text at this location states that no appreciable change in either passenger or cargo demand is expected at area airports. This is in contrast to the approach represented in the discussion of air quality impacts on page 4-103, where projected air pollutant emissions are reduced by 25% on the basis of assumed transfer of activity from existing airports in the region. Explain the rationale behind this inconsistency, identify any necessary correction, and make resultant changes in the impact analysis.
37 9.3	3-46 Utilities	The introductory text defines the ROI as all or portions of the provider service areas. This definition is too vague to allow the reader to identify and verify the assumptions presented in the document. This then translates into inability to evaluate the accuracy of the impact assessment. Define the specific service providers and ROI boundaries for the various years analyzed.
38 10.1	3-51 Section 3.3 3-96 2nd paragraph	Several features extending beyond the base boundaries are identified in discussion of the ROI for hazardous materials, including groundwater plumes, two burial trenches and six IRP sites. It is not clear that these off-base features are addressed in the impact analysis in Chapter 4. Clarify this apparent inconsistency and make resultant changes to the impact assessment in Chapter 4.
39 10.2	3-55 Last paragraph	The text notes that DRMO at MCAS El Toro will coordinate hazardous material disposal. Clarify the accuracy and longevity of this arrangement given the impending closure of MCAS El Toro.
40 4.3	3-56 2nd paragraph	Considering the NPL status for March AFB, address the latest position on partial conveyances.
41 10.3	3-57 3rd paragraph	The document states that Caltrans is responsible for remediation of several sites within their easements associated with Interstate 215. Clarify the manner in which long-term assurances for these sites are provided by the CERCLA and FAA assurances stated as mitigating factors in Chapter 4.
42 10.4	3-70 1st paragraph	Several potential release locations are identified; it is not clear how these are addressed in the impact analysis in Chapter 4. Clarify and make any necessary revisions to Chapter 4.

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March Joint Powers Authority Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Clarifications and Updates (continued)

Page No.	Location/Issue	Comment
43 13.3	3-113 Localized Intersection Impacts	Explain the reason for selection of the indicated intersections for CO analysis. Based upon known conditions in the project area, there are many additional locations that would also warrant evaluation. The impact analysis presented in Chapter 4 on the basis of these six intersections is likely understated. Revise the text to extend the results of modeling at these intersections to other major intersections in the study area.
44 15.9	3-139 4th full paragraph 4-150 Last paragraph	Expand the discussion of the SKR preserve to characterize the extent and quality of existing habitat. Revise the text to explain the effect of existing habitat quantity and quality on identification of trade lands required to remove the restrictions and allow reuse.
45 13.4	3-115 1st paragraph	A statement is made that model output is considered to overstate impact. Revise the text to either support this assertion, eliminate the statement, or estimate the degree of overstatement. Please provide specific documentation.
46 16.3	3-142 1st paragraph	The last sentence is unintelligible due to an apparent editing error. Correct the text to clarify and make any resultant changes in the impact conclusions presented in Chapter 4.
47 16.4	3-142 3rd paragraph	Update the status of SHPO testing authorization for sites West-25 and West-52 and any resultant restrictions on future reuse. Provide all correspondence with SHPO as appendix material in the final EIS.
48 16.5	3-149 3rd paragraph	Reference is made to the Historic Preservation Plan. Update the EIS in the applicable text locations relative to status of the plan and explain any resultant effect upon the land use alternatives or disposal actions.
49 5.3	4-3 Section 4.2.1.1	The assumptions that 10 percent of direct jobs and one percent of indirect jobs will be filled by new residents significantly underestimate the level of immigration that could reasonably be expected by future reuse. In contrast, projections included in the Southern California Association of Governments regional plan show minimal change in the relationship between number of households and numbers of jobs through 2010. Expand the discussion to support the assumptions as identified by WRCOG and local jurisdictions for the western Riverside subregion.

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March Joint Powers Authority Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Clarifications and Updates (continued)

Page No.	Location/Issue	Comment
50 5.4	4-4 1st full paragraph	The text indicates that most non-migrating workers are expected to locate to new residences in Riverside County, primarily Moreno Valley. In contrast, many impact analyses are based upon allocation of impacts over wider ROIs defined as all of Riverside and San Bernardino counties. Clarify the approach taken with respect to each population-based impact analysis category and make necessary revisions to reflect a more localized distribution of population and employment-related impacts.
51 5.5	4-6 Figure 4.2-2	Explain the difference in population-related effects as report in Table 4.2-2 and Table K-3 and make resultant changes in the impact analysis.
52 6.13	4-19 Army and Air Force Exchange Service	It is stated that this land use concept will contribute to jobs/housing balance in the region. Explain the rationale for this conclusion considering that jobs are existing in the baseline condition and make resultant changes in the impact analysis.
53 7.7	4-21 2nd full paragraph	It is stated that the traffic modeling results are based upon completion of several planned improvements by 2010. Clarify the base assumptions for years 2001 and 2006. Modeling on the basis of the planned system assumes construction of major improvements that would not be tied directly to development of reuse lands, nor which are likely to be funded by local municipalities. Revise the impact analysis to also provide results of: (1) modeling based upon existing conditions and (2) modeling based upon a scenario where planned improvements are not completed.
54 7.5	4-23 Table 4.2-2	The ADT figures presented in this summary table represent only a portion of the total trips identified in the tables presented in Appendix I (Tables I-2 and I-13). Explain the derivation of numbers presented in Table 4.2-2 and resultant changes to the impact analysis to reflect the full impact of trip generation as presented in Appendix I.
55 8.1	4-26 Air Transportation 4-29	The discussion at this juncture cites proposed civilian aviation operations as satisfying unmet demand. Explain the contrast with treatment in the air quality analysis (page 4-103) where only 75% of air-related emissions are considered to result from new aircraft activity.

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March Joint Powers Authority Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Clarifications and Updates (continued)

Page No.	Location/Issue	Comment
56 7.8	4-26 Mitigation Measures	The document cites construction of new lanes as mitigation for impacts to area roadways. Quantify the number of additional lanes necessary to attain desired LOS for links identified as deficient (LOS F) or nearing capacity (LOS D and E) per the threshold criteria identified in the EIS and also to meet the respective LOS criteria of local municipalities (see Errors comment related to pages 3-35 and 4-2). Impacts should also be addressed for a condition in which planned improvements are not completed.
57 7.9	4-26 Last paragraph	It is noted that local authority measures to reduce ADTs were considered in the impact analysis. Identify assumptions and related influence on the projected number of trips.
58 9.17	Utilities	The discussion of utilities in the context of the larger ROIs fails to address the more important local issue of identification of the agencies that are responsible for supply to the disposal lands, their indication of ability to serve, and identification of any major system improvements that may be necessary. Revise the utility discussion to address these points.
59 9.8	4-59 Utilities	The text identifies splits for allocation of utility demand to the ROI. Revise the text to explain the derivation of assumed percentages and anticipated split to each servicing entity.
60 9.11	4-41 1st paragraph 4-42 Wastewater	The analysis of utility impacts assumes that wastewater service for the cantonment area, Air Force Village West and disposal lands is provided by the existing sewage treatment plant (STP). This assumption ignores the fact that Western Municipal Water District is the service provider for the disposal lands and also omits any analysis of ability to accommodate such an expansion at the existing site. Revise the text to recognize the designated service provider and to address site constraints and permitting issues surrounding expansion of the existing STP.
61 10.5	4-60 4.3.1.10	The mention of CANG mentions igloos requires clarification. Identify location, quantity and type of mentions, and compatibility with adjacent existing and planned uses.
62 10.6	4-56 Last paragraph 4-62 Last paragraph 4-67 Last paragraph 4-73 Second paragraph	The discussion recognizes that restrictions may be placed upon future reuse due to need for protection and monitoring of IRP sites. Tables 4.3-2, 4.3-4, 4.3-6, and 4.3-8 delineate the IRP sites located within each proposed land use. Expand the text to address potential conditions and obvious incompatibilities for IRP sites that have been evaluated to a sufficient degree to define constraints.

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March Joint Powers Authority Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Clarifications and Updates (continued)

Page No.	Location/Issue	Comment
63 11.1	4-82 1st full paragraph	Update the status of USDA consultation related to designated farmlands and characterize any necessary revisions to the impact assessment. Include all correspondence with USDA in the final EIS appendices.
64 12.2	4-86 Last paragraph	The document incorrectly concludes that NPDES permit requirements for stormwater discharges will address potential impacts related to surface water resources. The noted NPDES requirements only address potential pollutant discharges into surface waters and do not address the volume of flows. Revise the text to recognize incremental increase in runoff volumes from disposal site development, capacity of existing surface water courses, timing of master drainage improvement completion, and need for interim facilities (such as detention basins) until master planned facilities are completed.
65 12.6	4-38 3rd full paragraph	The document references ongoing groundwater studies evaluating the effects of well pumping upon contamination plumes. Update the status of these reports in the final EIS.
66 13.5	4-97 4-109 4-113 4-117	Construction-period emissions are presented in a manner that does not allow comparison to SCAQMD thresholds. Revise the text to split equipment and architectural coating emissions and address estimated emissions in the context of SCAQMD thresholds.
67 13.6	4-98 Regional Scale	Conclusions regarding adverse impacts and mitigation reductions are without quantitative basis. Revise the text to clearly substantiate the conclusion regarding significance of regional impacts.
68 13.7	4-98 Table 4-4-2 4-110 Table 4-4-5 4-114 Table 4-4-8 4-118 Table 4-4-11	Emissions presented in these tables are not compared to threshold criteria established by the SCAQMD. Revise the text to compare to adopted AQMD thresholds.
69 13.8	4-99 3rd full paragraph 4-103 2nd full paragraph	Statements minimizing reuse-related emissions based on the fact that emissions would just be transferred or would occur anyway are unsubstantiated or inconsistent with positions taken in other portions of the document. For instance, emissions related to aircraft emissions are minimized by stating that operations will be transferred from other airports or would occur anyway, whereas the document states at another location that civilian operations are necessary to meet unmet demand. Also, the contention that employee-related emissions will just be transferred assumes that would be no net increase in employment basin-wide as a result of reuse. Substantiate the basis for emission reduction assumptions or revise the text to address a more reasonable emission regime.

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March Joint Powers Authority Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Clarifications and Updates (continued)

Page No.	Location/Issue	Comment
70 13.9	4-106 Mitigation Measures	Clarify the conclusion regarding need for mitigation in light of the conclusion on page 4-104 that emissions are not expected to interfere with attainment.
71 13.10	4-106 Mitigation Measures	The text defers identification of necessary mitigation measures to the CEQA process in conjunction with future development. Clarify the means of addressing air quality issues in conveyance decisions.
72 13.11	4-107	The document recognizes an inventory of potential air quality mitigation measures that could be included in future development project approval. Clarify the need for mitigation in the context of (1) the conclusion regarding non-impedance of attainment on page 4-104, and (2) the ability to utilize other measures if mitigation is indeed necessary.
73 13.12	4-109 1st paragraph	The conclusion regarding localized project impacts is not clear given the project contribution to additional and more severe exceedances. Clarify and make necessary revisions to conclusions.
74 3.6	4-124 4th full paragraph	Conclusion of a reduction of surface traffic in the Stephens' Kangaroo Rat Habitat concept is not consistent with statements regarding "squeezing" land uses into remaining available area (pages 4-15, 16, and 17). Clarify and make necessary corrections.
75 14.1	4-126	The discussion of noise modeling notes that noise contours along surface corridors is based upon the transportation impact analysis in Section 3.2.3. Make necessary adjustments to tables defining noise contours based upon any changes in response to comments regarding transportation analysis.
76 14.2	4-128 2nd paragraph	The document notes that projected SEL values could affect the sleep of some residents. It appears that the 80 to 100 decibel values projected for certain portions of West March could also adversely affect suitability for office or commercial use. Clarify the conclusion here and note any measures that would be necessary to provide suitable interior noise levels.
77 14.3	4-128 4th paragraph 4-136 2nd full paragraph 4-140 2nd paragraph 4-143 2nd paragraph	The document notes that additional people will be exposed to noise levels of 60 CNEL or greater due to traffic on major roadways. Revise the text to identify affected locations and any required mitigation.
78 14.4	4-128 4th paragraph 4-136 1st full paragraph 4-140 1st paragraph 4-143 1st paragraph	The document notes incompatible land uses in all alternatives, with recognition that future development would be the subject of noise studies and identification of appropriate mitigation. Expand the discussion to identify alternate land uses that would be compatible.

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March Joint Powers Authority Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Clarifications and Updates (continued)

Page No.	Location/Issue	Comment
79 14.5	4-129 Table 4-4-16	Revise table as necessary to reflect corrections resulting from correction to land use graphics.
80 14.6	4-148 Stephens' Kangaroo Rat Habitat	The conclusions here are not consistent with the statement that some uses from other alternatives could be squeezed onto remaining reuse lands if the SKR lands are not released (pages 4-15, 16, and 17). Clarify and make necessary corrections.
81 15.10	4-149 1st paragraph	The discussion of assumed proportions of development sizes that would be subject to disturbance is not clear. Clarify meaning in the context of typical development methods that would require full disturbance of development sites in the construction stage and in the context of the build-out scenario. Make necessary revisions to the EIS text.
82 15.11	4-149 2nd full paragraph	The text states that no direct impacts to jurisdictional wetlands along Heacock Street and Cactus Avenue are expected. This statement is impractical in light of improvements to Heacock Street and the Heacock/Cactus intersection assumed in the traffic analysis. It is also reasonable to expect that additional disturbance to these drainages will be required to extend streets into the reuse area. Revise the text to recognize these likely impacts and associated permitting and mitigation requirements. Address potential requirement for mitigation of loss of wetlands at replacement ratios in excess of 1:1.
83 15.12	4-154 Top	The first and first full paragraphs on this page contain conflicting statements regarding the potential for avoidance of impacts to "wetlands". Clarify the language provided by document assurances in terms of impacts to "wetlands" by future development.
84 15.13	4-154 3rd full paragraph 4-156 2nd full paragraph	The document suggests retention of buffers between "wetlands" and future development. Clarify restrictions in this regard that may be placed on property conveyances.
85 7.10	E-5 2nd paragraph	Explain the rationale for definition of the ROI. Considering the wider ROI identified for population and employment analysis, it is reasonable to expect project-related traffic effects to extend beyond the network identified in EIS graphics, particularly with regard to Alessandro Boulevard through to Arlington/Central and Route 91, Van Buren Boulevard through to Route 91, north-south crossing roads in Moreno Valley that provide access to State Route 60, and Interstate 10, which would serve as the primary route for trips from areas in San Bernardino County. Explain the rationale for selection of segments included in the EIS analysis and identify impacts to the larger circulation system apparent in the model runs.

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March Joint Powers Authority Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Clarifications and Updates (continued)

Page No.	Location/Issue	Comment
86 14.7	G-2 Last paragraph	Explain the rationale for assuming no civilian aircraft runway operations in the noise analysis. Revise the text to address any related effect on validity of impact analysis for future reuse.
87 14.8	G-2 Last paragraph	Noise standards of the State of California and County of Riverside are referenced, but not those of local cities within impact areas. Revise the text to address noise standards for the cities of Riverside, Perris, and Moreno Valley.

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March Joint Powers Authority Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Omissions

Page No.	Location/Issue	Comment
88 1.1	S-4 2nd Full Paragraph	Although the socioeconomic impact analysis study is not required by NEPA, it is referenced as the source of many assumptions utilized in the document. As of October 10th, this document has not been made available to the public. Access to this document is essential to the ability of the public to generate relevant comments. The public review period for the draft EIS should be extended through December 4th based upon the anticipated October 20th public release of the socio-economic impact study.
89 2.2	1-7 Environmental Impact Analysis Process	Expand this section to explain how the EIS is used in the disposal process and to recognize the state and local reviews required after disposal and prior to development.
90 2.3	1-9 Section 1.7	Include state and local permits also.
91 3.9	1-3 1st Paragraph	Water System Annex No. 1 is mentioned in describing the affected environment, with no further mention. Explain the intent with regard to long-term operation of this facility and potential impacts.
92 6.8	3-11 4th paragraph	Discussion of City of Riverside planning guidance omits recognition of Sycamore Canyon Wilderness Park. Note this correction in the text and related figures (3.2-5 and 3.2-7).
93 6.14	3-9 Section 3.2.2.1	For purposes of summarizing local land use plans and providing an accurate basis for projection of land use impacts, include an exhibit depicting general plan land use designations within the same boundaries for which land use and zoning information is provided.
94 7.11	3-30 Regional	Discussion of the regional transportation network omits reference to State Route 91 and Interstate 10 as primary access routes to and from March AFB and the surrounding communities. Explain the rationale for this omission and the resultant effect upon impact analysis presented in Chapter 4.
95 7.12	3-33 Van Buren Boulevard	Local circulation patterns demonstrate use of Van Buren Boulevard as a through route to the City of Riverside and State Route 91; however, the EIS omits discussion of Van Buren west of Wood Street. Explain the rationale for this omission and resultant changes in impact analysis with inclusion of Van Buren west to SR 91.

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March Joint Powers Authority
Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Omissions (continued)

Page No.	Location/Issue	Comment
96 7.13		Discussion of the transportation system in Chapter 3 omits discussion of the planned circulation system. Given the statement that modeling is based upon the planned system, a description of the planned system is essential for the reader to review the results presented in Chapter 4. Amend the text to include identification of the planned widths for various segments assumed in transportation modeling.
97 6.15	4-8 Land Use Plans and Regulations	The discussion does not recognize existing local plans adopted by the City of Moreno Valley, City of Perris, and City of Riverside. Revise the text to include a summary of pertinent components of these local plans and make any resultant revisions to the impact analysis.
98 6.16	Land Use/AICUZ	Transportation system improvements include a commuter rail station in the vicinity of Interstate 215 and Alessandro Boulevard. Revise the text to address the suitability of this use, and any other uses within the designated clear zone and accident potential zones, in the context of AICUZ population density criteria.
99 6.17	4-10 Aesthetics	Discussion of aesthetic impacts omits recognition of means to integrate the surrounding area with private reuse lands, particularly with included "Island" components of the surrounding area, and related federal uses recognized as Other Land Use Concepts. Expand the text to discuss federal commitment to address community concerns in this regard - particularly community interface (i.e., relative to likely security measures) and compatibility with community design standards (i.e., architecture and landscaping).
100 6.18	4-10 Aesthetics	Discussion of Aesthetics avoids recognition of the visual relief provided by views onto existing open areas, particularly West March. Expand the text to include discussion of this issue.
101 6.19	4-13 Aesthetics	The analysis concludes that reduction of density in the existing Arnold Heights area through demolition of half of the units would "make these units more attractive and increase their aesthetic value". Provide substantiation for this conclusion.
102 6.20	Aesthetics	The discussion of aesthetics does not address recommended noise walls. Revise the text to recognize potential wall locations and heights, assess related impacts, and recommend appropriate mitigation measures.

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March Joint Powers Authority
Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Omissions (continued)

Page No.	Location/Issue	Comment
103 6.21	4-15 Stephens Kangaroo Rat Habitat	Discussion of the Proposed Action, SKR/Aviation and SKR/Cargo alternatives recognizes an assumption that most of the development replaced by the SKR habitat in this sub-alternative could be accommodated elsewhere within non-restricted areas. Considering the approximately 4,400 acres available for reuse and the approximately 2,200 acres within SKR management and open space areas, this would represent an approximate doubling of land use intensity on remaining lands. Explain how the concentration effect of this option is addressed with respect to land use compatibility, air quality, noise and transportation impacts.
104 7.5	4-20 Roadways	The document refers to use of standard trip generation factors; however, it is not clear to the reader what factors were utilized for various proposed uses. Provide a list of trip generation factors used to arrive at the estimated average daily trip figures presented in Table 4.2-2, Table I-2 and Table I-13.
105 7.14	4-23 Local	The discussion of local roadway impacts for the Proposed Action and the SKR/Aviation alternatives does not address roadways that would operate near capacity (i.e., LOS D or E), when compared to the No Action scenario. Revise the text to address this point.
106 7.15	Table 4.2-3 Table 4.2-4 Table 4.2-5 Table 4.2-6	Revise these tables to include comparison of LOS in the No Action alternative for each link.
107 7.16		The analysis of roadway impacts assesses only the partial utilization of reuse lands. Provide comparative analysis of the build-out condition.
108 13.13	4-95 1st paragraph	The discussion of Clean Air Act conformity recognizes the need to demonstrate conformity to the applicable SIP, in this case the South Coast Air Quality Management Plan. Although the air quality analysis recognizes utilization of the South Coast Air Quality Management District handbook for calculation of certain emissions inventories, the EIS does not include an analysis of consistency as described in Chapter 12 of the handbook. Revise the text to address consistency with regional plans pursuant to SCAQMD handbook Chapter 12.
109 13.14	4-96 2nd paragraph	The document concludes that insufficient information is available to conduct analysis of Clean Air Act conformity for proposed civilian aviation activity. This conclusion is not clear given the specific number of operations and aircraft inventories presented in the project description. Revise text to include a preliminary analysis based upon present assumptions.

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March Joint Powers Authority
Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Omissions (continued)

Page No.	Location/Issue	Comment
110 13.15	Air	The analysis does not address the relationship between emissions credits and feasibility of future development, particularly civilian aviation uses. Revise the text to address use of emissions credits to support civilian aviation operations.
111 14.9	4-126 Noise	It is not clear that noise impact analysis considered planned land uses within the entire ROI in projecting potential incompatibilities. Clarify approach and address potential incompatibilities with planned land uses for lands within the boundary defined by the projected 60 CNEL contour.
112 14.10	4-126 Noise	The reader cannot conclude the reasonableness or validity of impacts due to the lack of base information. Revise the document to add (1) graphics depicting existing and planned land use within the project noise contours resulting from aircraft operations and (2) graphics overlaying the projected aircraft noise contours over land use plans for the Proposed Action and alternatives.
113 14.11	4-140 Mitigation Measures	Retrofit of existing residential units is recognized as a potential mitigation measure for the SKR/Cargo alternative, which includes retention of some of the existing residential units within Arnold Heights. Similar discussion is omitted from the analysis of the SKR/Aviation alternative, which also considers retention of Green Acres housing for residential use. Explain the divergence in analysis and make any necessary corrections.
114 15.14	4-150 Last paragraph	The document briefly recognizes approvals that will be required to remove restrictions from the SKR management and open space areas. Revise the text to clearly note that responsibility for such a trade rests with federal agencies and is beyond the control of local agencies. Expand the discussion to recognize specific conditions and criteria for exchange of these areas. Suggested conditions and criteria include location of trade lands within a future reserve as opposed to buffer lands, and continued management of exchanged lands as March AFB until reuse occurs. Provide all correspondence with the U.S. Fish and Wildlife Service as an appendix to the final EIS.
115 15.15	4-152 2nd full paragraph	The document makes only brief reference to the California Endangered Species Act. Expand the document to characterize potential impacts and address permitting and mitigation requirements for specific listed species and species of special concern, particularly in light of the existing 2081 agreement governing portions of the site under the Stephens kangaroo rat habitat conservation plan and the existing management plan and cooperative agreement protecting burrowing owls on base property.

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March Joint Powers Authority
Comments Regarding Draft EIS for Disposal of Portions of March Air Force Base

Omissions (continued)

Page No.	Location/Issue	Comment
116 15.16	4-152 Sensitive Habitats	The discussion of existing conditions in Chapter 3 identifies areas of known "wetlands", however, the text avoids any substantial characterization of these areas or prioritization of areas in terms of preservation efforts. Expand the impact analysis in Chapter 4 to address the comparative quantity and quality of each identified "wetland" parcel and priorities for preservation and/or re-establishment.
117 1.2		Provide all correspondence with cooperating, responsible and trustee agencies as appendices to the final EIS.
118 1.3		Revise the text to address cumulative/growth inducing impacts with respect to extension of services and infrastructure to the reuse area.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III
75 Hawthorne Street
San Francisco, CA 94105-3901

NOV 02 1995

Mr. Jonathan O. Farthing, Chief
Environmental Analysis Division,
HQ AFCEE/ECA
3207 North Road
Brooks Air Force Base, Texas 78235-5363

Dear Mr. Farthing:

The Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (EIS) for the project entitled Disposal of Portions of March Air Force Base, Riverside County, California. Our review is provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) and Section 309 of the Clean Air Act.

March Air Force Base has been identified for realignment to an air reserve base pursuant to the Defense Base Closure and Realignment Act of 1990, as amended (P.L. 101-510, Title XXIX). In addition to realignment, the 722nd Air Wing would be deactivated and its KC-10s and T-38s transferred to Travis Air Force Base. March Air Force Base is scheduled to be realigned on March 31, 1996. After realignment, certain base parcels would be retained as a military cantonment, while the remainder of the base would be disposed to other federal agencies and to non-federal entities for civilian reuse.

March Air Force Base (AFB) comprises 6,705 acres in Riverside County, approximately 70 miles east of Los Angeles. It is bounded by the cities of Moreno Valley to the north and east, Riverside to the northwest, and Perris to the south. The Air Force Base is developed with approximately 2,000 acres of airfield and aviation support facilities, approximately 1,000 acres of industrial, institutional, commercial and residential uses, approximately 375 acres of public and recreational facilities, and approximately 2,800 acres of vacant lands. March AFB has operated since 1927 and has been used for flight training and tactical aircraft operations. The Base currently supports tactical and air refueling forces.

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The Base Closure Commission recommends that up to ten March Air Force Base parcels be retained from realignment and disposal as a "cantonment" area to support continuing Air Force and tenant activities. The proposed primary five-parcel cantonment area includes the airfield and some aviation support facilities, the American Forces Information Service, some administrative offices, and communications facilities. Five parcels that may be retained as "secondary" cantonment are currently used for a sewage treatment plant, an electrical substation, a small arms firing range, and a high-frequency antenna field.

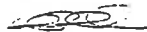
The Draft EIS develops and analyzes a proposed reuse action, three reuse alternatives, and a no-action alternative. The Proposed Action entails buildout of the March Joint Power Authority's (JPA) draft reuse plan. This alternative would feature joint military-civilian use of the airfield, while developing and maintaining such adjoining land uses as aviation support, industrial, business, institutional, commercial, residential, and recreation. All March Air Force Base Stephens' kangaroo rat habitat would be exchanged for other suitable habitat. The SKR (Stephens' Kangaroo rat)/Aviation Alternative would include joint military-civilian use of the airfield, with development of commercial, institutional, residential, recreational and aviation-related uses, and would retain all Stephens' kangaroo rat habitat for preservation. The Military Aviation Alternative would retain the airfield for military use only. Disposal property would be developed for industrial, institutional, commercial, residential and recreational uses. Under the No-Action Alternative, the airfield and military cantonment areas would continue to be used by the Air Force, while the remainder of the base would be placed in caretaker status. All Stephens' kangaroo rat management and open space areas would continue to be preserved and protected under this alternative. Seven additional land use concepts have been identified and analyzed as possible components of the proposed Action and alternatives. March Air Force Base reuse is analyzed at a general level of detail; the Air Force does not intend the document to assess site-specific development options.

Based upon our review, we have classified the Draft EIS as EC-2, Environmental Concerns - Insufficient Information (see attached Summary of the EPA Rating System). This rating reflects our conclusion that while the analysis does contain an informative discussion of the proposed action, several specific issues should be discussed in greater detail in the Final EIS. Furthermore, the Draft EIS lacks cumulative impacts and environmental justice analyses as required by NEPA. Our detailed comments are enclosed.

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We appreciate the opportunity to comment on the proposed project and request that two copies of the Final Environmental Impact Statement be sent to my attention (mail code 5-3) at the laterhead address at the same time it is filed with our Washington, D.C. office. If you have any questions or wish to discuss any aspect of our comments, please contact me at (415) 744-1584 or Jeff Philliber of my staff at (415) 744-1570.

Sincerely,


David J. Farrell, Chief
Office of Federal Activities

Enclosures: (2)
Attachment A: EPA Rating System (1 page)
Attachment B: EPA Draft EIS Comments (4 pages)

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Document 10

SUMMARY OF RATING DEFINITIONS AND FOLLOW-UP ACTION

Environmental Impact of the Action

1. Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

2. Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes in the project's structure or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to resolve these impacts.

3. Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantive changes to the project's structure or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to resolve these impacts.

4. Environmental Inadequacy

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unacceptable from the standpoint of environmental quality, public health or welfare. EPA wishes to work with the lead agency to resolve these impacts. If the potential unacceptable impacts are not corrected in the final EIS, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Comments Addressed

EPA believes the draft EIS adequately sets forth the environmental impacts of the proposed alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Comments - Substantive Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are outside the system of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussions should be included in the final EIS.

Comments - Mitigation

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside the system of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA reserves the right to request additional information, data, analyses, or discussions as to such a response that may be required to fully protect the environment. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA major Section 309 review, and thus should be formally revised and made available for public comment, as a supplemental or revised draft EIS. On the basis of the potential significant impacts uncovered, this proposal should be a candidate for referral to the CEQ.

"From EPA Manual 1640, 'Policy and Procedures for the Review of Federal Actions Impacting the Environment,'"

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EPA DRAFT EIS COMMENTS, MARCH AIR FORCE BASE DISPOSAL AND REUSE, RIVERSIDE COUNTY, CALIFORNIA, NOVEMBER 11, 1994

NEPA Issues

1. The Draft EIR/EIS does not include an analysis of potential cumulative effects in the March AFB's planning and land use "Region of Influence" (ROI), which comprises Riverside and San Bernardino counties. According to 40 CFR 1506.7, "(c)umulative impacts can result from individually minor but collectively significant actions taking place over a period of time." The Final EIS should provide a cumulative impacts analysis which includes "the incremental impact of the action when added to other past, present and reasonably foreseeable future actions." A description of all major planned, pending and approved projects in the ROI should be presented along with a map illustrating the locations of those projects in relation to March AFB. The incremental effects of the proposed disposal and reuse of March AFB property should then be added to the expected development effects in the region to determine the total cumulative impact of those projects.
2. The U.S. Air Force is required by 40 CFR 1502.14(e) and 1505.2(b) to identify a Preferred Alternative and an Environmentally Preferable Alternative (these may or may not be the same Alternative). EPA strongly encourages the Air Force to focus on developing an environmentally preferable alternative that best balances environmental quality with economic productivity. Such an alternative should protect site-specific natural resources, maintain regional environmental quality for such resources as air quality and water resources, and, if feasible, promote short- and long-term socioeconomic needs through employment and revenue generation. March AFB's endangered species habitat and wetlands should be given particular consideration during this process. The environmentally preferable alternative should be developed in cooperation with relevant state and federal agencies (e.g., U.S. Fish and Wildlife Service, etc.).
3. Nearby residential areas should be demographically documented and described in the Final EIS. The analysis should determine the potential magnitude of reuse-related effects on such areas (e.g. air quality, human health and safety, traffic and circulation, public services, noise, visual quality, etc.).
- In keeping with the Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (E.O. 12898), the Final EIS should describe the measures taken by the Air Force to: 1) fully

1

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EPA DRAFT EIS COMMENTS, MARCH AIR FORCE BASE DISPOSAL AND REUSE, RIVERSIDE COUNTY, CALIFORNIA, NOVEMBER 11, 1994

- 3 analyze the environmental effects of the proposed Federal action on minority communities and low-income populations, and 2) present opportunities for affected communities to provide input into the NEPA process. The intent and requirements of E.O. 12898 are clearly illustrated in the President's February 11, 1994 Memorandum for the Heads of all departments and agencies.
4. The Draft EIS does not consistently define significance criteria as they are applied to the impact analysis. Impacts should be clearly stated along with their level-of-significance. Mitigation measures should correspond to specific impacts and level-of-significance should be identified after mitigation. This information should be provided in the Final EIS.

Biological Resources and Wetlands

1. Page 2-47:
We understand that the Stephens' Kangaroo Rat (SKR) Habitat land use concept would preserve approximately 1,380 acres outside of the March AFB military cantonment area for continued use as SKR habitat. According to the Draft EIS, this concept would be enacted as a decision by the United States Fish and Wildlife Service (USFWS) should no agreement be reached for a suitable land exchange. We support this approach to ensuring that March AFB's SKR resources are protected, and encourage this type of cooperation between the Air Force and Federal resource agencies in protecting natural resources throughout the base disposal process.
2. Page 4-154:
Mitigation measures for impacts to threatened and endangered species and wetlands habitat should be amended in the Final EIS to read: "Potential ~~direct and indirect~~ impacts to threatened and endangered species would have to be mitigated in consultation with the USFWS or CDFG, in accordance with the federal Endangered Species Act and the California Endangered Species Act, as described under Threatened and Endangered Species ~~and the appropriate wetland consultation process.~~"
- 6 Mitigation language to protect wetlands should be amended to read that impacts "should" rather than "could" be minimized through such measures as construction of berms and silt curtains.

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EPA DRAFT EIS COMMENTS, MARCH AIR FORCE BASE DISPOSAL AND REUSE, RIVERSIDE COUNTY, CALIFORNIA, NOVEMBER 11, 1994

- 7 Wetlands, including vernal pools, are a scarce and valuable resource in California. As approximately 90 percent of such habitat has been lost in the state, every effort should be taken to ensure that remaining resources are retained. In keeping with the national goal of "no net loss" of wetlands, we support the use of conveyance restrictions or encumbrances under Executive Order 11990 as identified to protect and preserve wetland resources.
- 15.19 Executive Order 11990 directs the Air Force to "avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands . . . in carrying out (each agency's) responsibilities for . . . disposing of Federal lands and facilities . . . When federally-owned wetlands or portions of wetlands are proposed for lease, easement, right-of-way or disposal to non-Federal public or private parties, the Federal agency shall (a) reference in the conveyance those uses that are restricted under identified Federal, State or local wetlands regulations; and (b) attach other appropriate restrictions to the uses of properties by the grantees or purchaser and any successor, except where prohibited by law; or (c) withhold such property from disposal." In accordance with the Air Force's obligations under E.O. 11990, we recommend that the Final EIS contain firm language (building on what is identified on Draft EIS page 4-156) regarding conveyance restrictions for wetland areas as mitigation that would be carried forth to the Record of Decision (ROD).

Cultural Resources Issues

1. Page 4-167:
The Final EIS should include mitigation measures to be enacted should subsurface cultural or archaeological resources be inadvertently discovered during project excavation, construction or demolition activities. Such measures should include provisions to immediately stop excavation or construction work in the vicinity of the find until a certified archaeologist is consulted.

Miscellaneous Issues

1. Table S-2; Table 2.7-2:
The Draft EIS Summary of Environmental Impacts and Suggested Mitigations table provides cooperative information for traffic and circulation impacts under each of the proposed

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EPA DRAFT EIS COMMENTS, MARCH AIR FORCE BASE DISPOSAL AND REUSE, RIVERSIDE COUNTY, CALIFORNIA, NOVEMBER 11, 1994

- 9 reuse alternatives. Under the four action alternatives, impacts are described in terms of reuse-generated traffic alone. Under the No-Action alternative, however, impacts are described cumulatively in terms of reuse-generated and regional growth-related traffic. As a result, the No-Action alternative, which should contribute the least impact to traffic and circulation of the five alternatives, appears to cause the greatest impact.
- 7.19 2. Table S-2; Table 2.7-2:
As noted above for the analysis, the Final EIS Summary of Environmental Impacts and Suggested Mitigations table should identify the projected level of impact significance before and after mitigation would be applied.
- 10 1. Table S-2; Table 2.7-2:
We commend the Air Force for its provision of "realignment baseline" information in its Draft EIS Summary of Environmental Impacts and Suggested Mitigations table. Such information as baseline utilities usage, ambient air concentrations and individual hazardous materials conditions provide useful information to the public.

Document 11



received
11/15/95

County Administrative Office

Larry Parrish
Chief Administrative Officer

November 8, 1995

Mr. Jonathon D. Farthing
Chief, Environmental Analysis Division
HQ AFCEE/ECA
3207 North Road
Brooks AFB, TX 78235-5363

Dear Mr. Farthing:

Attached are comments from several County of Riverside departments (Planning Department, Health Services Agency) regarding the draft Environmental Impact Statement for the Disposal of Portions of March Air Force Base, California.

This information is submitted at this time, based on information from AFBCA that delayed release of the associated Socioeconomic Impact Analysis Study has led to extension of the public comment period through December 8. Any additional comments prepared by County Departments before that date will be forwarded under separate cover.

Thank you for considering these comments as part of Air Force's overall review process. Please call me at (909) 275-1111 if I can provide additional information or assistance.

Cordially,

Thomas M. DeSantis
THOMAS M. DeSANTIS
Deputy County Administrative Officer

Enclosures

cc: Steve Albright, March JPA

Robert T. Andersen Administrative Center
4080 Lemon Street • 12th Floor • Riverside, California 92501 • (909) 275-1100 • FAX (909) 275-1105

Document 11



COUNTY OF RIVERSIDE
TRANSPORTATION AND
LAND MANAGEMENT AGENCY



Planning Department

MEMORANDUM

October 12, 1995

TO: Tom DeSantis, Public Information Officer

FROM: *Alma J. Lawrence*
Alma J. Lawrence, A.L.C.P., Planning Director

RE: Environmental Impact Statement (EIS), Disposal and Reuse of Portions of March Air Force Base

Thank you for the opportunity to comment on the document referenced above. While we are pleased that both pre-realignment and post-realignment conditions were analyzed, the document includes statements relative to Riverside County zoning and development standards that require correction. Our Department's comments are as follows:

1. On page 3-12, and on Figure 3.2-5 on page 3-13, the Environmental Impact Statement (EIS) indicates that March Air Force Base is "not zoned". This is not a correct statement. It would be correct to state that "Federal government projects are not subject to the provisions of Riverside County Land Use (zoning) Ordinance No. 348, pursuant to Section 18.2.b.(1) of said ordinance." Upon disposal of March Air Force Base property, private landowners (federal, state, county, and city excluded) would be subject to the provisions of Ordinance No. 348, including the underlying zoning. Most portions of March Air Force Base are zoned R-R (Rural Residential); however, portions of West March located northerly of Cactus Avenue are zoned W-2 and C-P-S.
2. The discussion on page 3-12 of Riverside County zoning of the off-base land northerly of the weapons storage area is also inaccurate. The R-A zone does not provide for industrial park uses. The area westerly of Gem Lane (located approximately 1/4 mile westerly of Brown Street) is zoned R-A and R-A-1. The area easterly of Gem Lane and westerly of Brown Street is zoned I-P (Industrial Park). The mapping of this area on Figure 3.2-5 is correct.
3. Figure 3.2-5 on page 3-13 does not reflect the full extent of industrial zoning south of the Riverside National Cemetery. The M-M and I-P zoning extends farther westerly than depicted in the exhibit (although not as far west as Day Street). A copy of the portion of the Mead Valley Zoning District map adjacent to the southerly boundary of West March and the Cemetery is attached to this response for your convenience.

4080 Lemon Street, 9th Floor • Riverside, California 92501 • (909) 275-7200
P. O. Box 1409 • Riverside, California 92502 • (909) 275-1157

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Mr. Tom DeSantis
October 12, 1995
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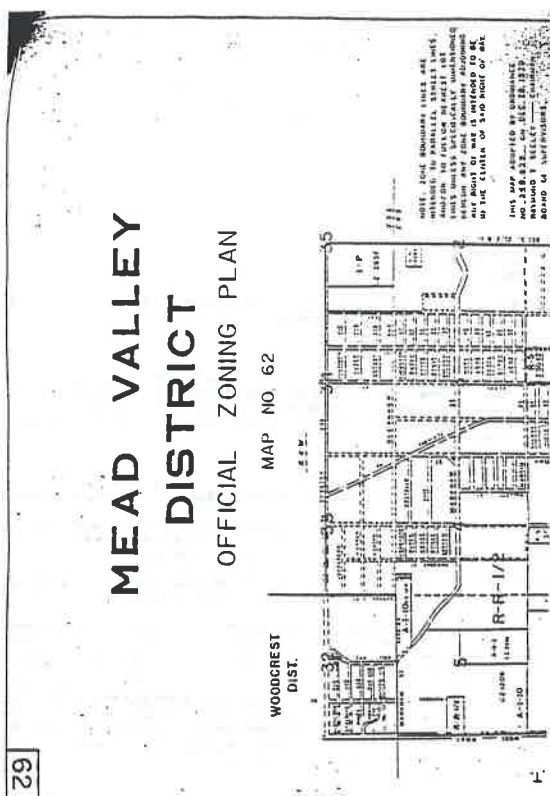
4. Riverside County's standard for an acceptable level of service on roads serving the area within its land use jurisdiction is Level of Service "C" (with Level of Service "D" allowed under specific circumstances), as specified in the Circulation section of the Public Facilities and Services Element of the Comprehensive General Plan, not Level of Service "E" (the minimum standard attributed to WRCOG's Congestion Management Program for Riverside County on page 4-21 of this EIS). Based on the County's General Plan, roadways operating at Level of Service "E" and most roadways operating at Level of Service "D" would be deemed unsatisfactory. Reduction of Level of Service below "C" would be considered a potentially significant impact requiring mitigation to Level of Service "C" or better, unless a lower Level of Service is accepted by the Board of Supervisors pursuant to General Plan provisions. The use of Level of Service "E" in the Congestion Management Program is based on statewide standards utilized to prioritize project funding, and such use should not be interpreted as constituting its establishment as a County standard for transportation planning purposes.
5. The EIS does not reference the Comprehensive Land Use Plan (CLUP) prepared for the County of Riverside Airport Land Use Commission by Ardes Consultants in March, 1994. More generally, the provisions of California Government Code regarding Airport Land Use Commissions are not addressed. Airport Land Use Commissions are required to "formulate a comprehensive land use plan for the area surrounding each public use airport" and "may also formulate a plan for the area surrounding any federal military airport" (page 1-2, Draft Report, March Air Force Base Comprehensive Land Use Plan, County of Riverside Airport Land Use Commission, prepared by Ardes Consultants, Ltd.).
6. Impacts of civilian passenger reuse of the primary March runway include the need to construct, and provide access to, a new passenger terminal to be constructed westerly of said runway. There are many buildings easterly of the runways which could be utilized for this purpose if the smaller runway were not juxtaposed between this already developed area and the primary runway. Is the continued use of the smaller runway the primary reason for siting the passenger terminal westerly of the primary runway? Would conversion of existing facilities on the Main Base to passenger terminal usage be more likely to increase the viability of planned commercial uses - especially services catering to airport users (such as automobile rental offices, hotels, and restaurants) in that area?
7. Riverside County is preparing a community plan designating appropriate future land usage in the Mead Valley area, which is located directly southerly of West March and the Riverside National Cemetery. (The Lake Mathews Community Plan, which is referenced in the EIS, applies to an area which, while located southwesterly of March AFB, is not contiguous to West March and does not include areas directly west and southwest of the Base.) Preliminary drafts of the map designating land use allocations

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Mr. Tom DeSantis
October 12, 1995
Page 3

7. for the Mead Valley community identify residential development at a density not exceeding one dwelling unit per acre as the most appropriate usage for properties along the southerly side of Nandina Avenue from Barton Street to a point approximately 1000 feet easterly of Day Street, and industrial development as the most appropriate usage for properties from that point easterly to I-215.
8. The impacts of disposal and reuse of portions of March Air Force Base on fire protection services, law enforcement services, schools, libraries, health services, parks and recreation, regional housing needs, and needs for additional flood control infrastructure were not addressed in this EIS. However, impacts on fire protection, law enforcement, schools (to a limited extent), and health services were addressed in the Socioeconomic Impact Analysis Study (SIAS). Inclusion of the SIAS as an Appendix to the EIS would facilitate review of the SIAS by (and availability to) local government agencies, service providers, and citizen groups. (If it is not possible to include the SIAS in the final EIS, we would recommend that the SIAS be incorporated by reference.) Section 4 of the SIAS should be amended to include an analysis of the impacts of the proposed action (reuse) on affected school districts. Additionally, either the EIS or SIAS should address impacts of reuse on demand for library services, parks and recreational services, requirements for flood control infrastructure, and housing needs.
9. It is our understanding that the Joint Powers Authority (JPA) is considering the concept of establishing a quasi-municipal entity to provide municipal services to the disposal property. Under such a scenario, the County of Riverside would not be the jurisdiction which would assume responsibility for provision of services to the disposal property (unless the new entity entered into contracts with the County for the provision of services). The description of the proposed action and alternatives in Chapter 2 should acknowledge this possibility, and the Local Community section in Chapter 4, which "discusses potential effects on local communities as a result of disposal and reuse of March AFB property", should evaluate the impact of transferring responsibility for provision of municipal services to such an entity on the level of services provided (relative to provision by existing entities which would otherwise assume jurisdiction, including the County of Riverside). Additionally, the SIAS, which focuses to a greater extent on impacts to local government, would require substantial revision if the provision of public services to the disposal property is assigned to a new entity.

cc: Richard Lashbrook
John Johnson



Kenneth B. Cohen
Director

Health Services Agency

October 10, 1995

TO: Tom DeSantis, County Administrative Office
FROM: Margaret Szarzanowski, Interim Administrative Director
RE: Draft EIS - Realignment of March Air Force Base - Comments

The Health Services Agency appreciates the opportunity to comment on the realignment of March Air Force Base. The realignment impacts many areas in Public and Environmental Health as well as Emergency Medical Services.

Health Services

Reference: Pages S-6, S-7, Summary Section *Employment and Population Reuse-Related Effects*- These charts depict estimated employment and population effects of the various proposals.

Comment: Reuse-related employment effects are estimated to range from 24,110 to 61,239 by year 2016. Reuse-related population effects are estimated to range from 5,721 to 14,535 by year 2016. The employment and population increase will vary depending on the proposal selected. We estimate fifty percent of the increased population will be new residents to the county. We further estimate that 1 out of 5 residents, or 6,124 (based on the highest estimate), may need Public Health services. This is a conservative estimate since more users of Public Health services could occur from the increase in employees in the commercial and industrial developments as well.

The projected population increase may result in a decrease in our abilities to allocate services to meet these demands, we anticipate these increases will impact health clinics located in Riverside, Hemet, Paris. We also expect increases in patient load at Riverside General Hospital, particularly in the emergency room. Current and future budget shortfalls may affect our ability to manage an increase in service levels.

Riverside County Health Services Agency
4065 County Circle Drive • Riverside, California 92503
(909) 358-5415 • FAX (909) 358-4529 • TDD (909) 358-5124

Comments on March Air Force Base Draft EIS
October 10, 1995
Page 2

Environmental Health Services

- 10.7 Reference: The summary on page S-25 states: "All federally and state regulated polychlorinated biphenyl (PCB) equipment, PCB-contaminated equipment, and PCB items were removed prior to realignment".
- Question: Did the Air Force conduct the study and abatement or a contractor? How many transformers are on base? Has every transformer been accounted for, screened and tested?
- 11.8 Reference: Page 3-53, Section 3.3.1 *Hazardous Materials Management, Realignment Baseline*- This section states that the Air Force will provide a business plan to the County of Riverside, Health Services Agency.
- Comment: The County of Riverside, Health Services Agency, Department of Environmental Health, Hazardous Materials Management Division has not received an updated business emergency plan from March AFB. Additionally, the Draft EIS should state that any private tenants qualifying as a hazardous material handler must submit a business emergency plan to the County of Riverside, Health Services Agency, Department of Environmental Health, Hazardous Materials Management Division.
- 12.9 Reference: Page 3-70, Section 3.3.3, *Installation Restoration Program Site*- This section states: "It is anticipated that future authorization acts will continue to fund environmental restoration activities at closing/realigning installations".
- Question: Has the Department of Defense established a contingency plan should congress restrict funding for IRP activities at March AFB?
- 13.10 Reference: Page 3-80, section 3.3.10, *Ordinance*- This section states that two munitions burial sites and IRP Sites 25a and 25b were tested for soluble lead (STLC).
- Question: Has the soil at site 25a and 25b been tested using the U.S. EPA test method of Toxic Characteristic Leaching Procedure (TCLP) for lead in addition to EPA test method 8240 for the suspected solvents?
- 14.11 Question: Has the Explosive Ordnance Disposal Facility (EOD), two munitions burial areas, the Weapons Storage Area (WSA) or Building 1315 ever been monitored for any radiological sources or biochemical contaminants? Was the soil analyzed for ordnance propellants such as pyrazine? or other hazardous components of projectile ordinances such as White Phosphorous? This should have been required by the FFA.

Riverside County Health Services Agency
4065 County Circle Drive • Riverside, California 92503
(909) 358-5415 • FAX (909) 358-4529 • TDD (909) 358-5124

Comments on March Air Force Base Draft EIS
October 10, 1995
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- 15.12 Reference: Page 3-72, section 3.3.4, *Storage Tanks*- This section states that there are 43 active and 7 inactive USTs at March AFB (Appendix H, Table H-2).
- Question: Where were this data obtained? Records at March AFB Environmental Management Flight and the County of Riverside Hazardous Materials Management Division indicate 29 active and 6 inactive USTs at March AFB.
- 16.13 Comment: There are no known USTs at Bldg., No. 414, 458, 1251, 2202, 2214, 2321, 5052, 10003-1&2 and 22022. Buildings numbered, #1203, #1244, #1246 and #2305 are oil/water separators. Table H-2, must be updated by the final draft.
- 17.14 Reference: Page 3-71, section 3.3.4, *Storage Tanks*- The last sentence in the first paragraph reads "...the Riverside County Health Services Agency, Department of Environmental Health."
- Comment: The last sentence in the paragraph should read County of Riverside, Health Services Agency, Department of Environmental Health, Hazardous Materials Management Division.
- Emergency Medical Services-**
- The Proposed Action and Reasonable Reuse Alternatives report that focused on the realignment of March Air Force Base facilities reveals some definite impacts upon the Riverside County EMS System and operations in that area.
- Reference: Page 2-18, Section 2.2.10 *Employment and Population*
- Comment: Under the Proposed Action plan, the residential population anticipated for this area will increase an insignificant amount. However, the increases in civilian activity in the area (commercial, recreation, etc) will increase the demand for Emergency Medical Services. The report estimates that by 2016 that there will be over 38,000 onsite jobs and 900 residents. This compares with the current population (military and civilian) of around 5,000.
- Reference: Page 2-19, Section 2.2.11 *Transportation*
- Comment: Traffic in the area will also increase. It was estimated that currently there are 10,000 daily trips into and out of the area. This number is anticipated to increase to 184,450 daily trips by the year 2016. The proposed action plan addressed this concern by adding nine additional access points for the area.
- 18.12 Comment: The proposed plan did not specifically mention what was to become of the onsite hospital. The closure of this facility will increase the load of patients for the surrounding hospitals. The closure

Riverside County Health Services Agency
4065 County Circle Drive • Riverside, California 92503
(909) 358-5415 • FAX (909) 358-4529 • TDD (909) 358-5124

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Comments on March Air Force Base Draft EIS
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- 18 of the Emergency Department has already increased the ambulance usage for the installation. This is
3.12 primarily due to the loss of the ambulance service that had been provided by the E.D. Even with the projected increases in occupancy and traffic, only one to two additional EMS calls will be generated per day from this area. This will have minimal impact on the EMS protection for this area.

Reference: Pages 2-11-12, Table 2.2-2, *Projected Flight Operations-Proposed Plan*

Comment: The major concern with the proposed plan is the projected increase in air traffic. With air traffic projected to increase 43% between 2001 and 2016, there will be increased demands on the EMS system. The increase may require that EMS participate in more disaster drills and crash responses each year.

Riverside County Health Services Agency
1063 County Circle Drive • Riverside, California 92503
(909) 358-5415 • FAX (909) 358-4529 • TDD (909) 358-5124

Document 12

STATE OF CALIFORNIA — ENVIRONMENTAL PROTECTION AGENCY

MIKE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Report #
243 West Broadway, Suite 422
LAKE SHASTA, CA 96002-4444



November 9, 1995

Mr. Jonathan D. Farthing, Chief
Environmental Analysis Division
HQ AFCEE/EC/A
3207 Norm Road
Brooks AFB, Texas 78235-5363

DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR DISPOSAL OF PORTIONS OF MARCH AIR FORCE BASE, CALIFORNIA

Dear Mr. Farthing:

Thank you for the opportunity to review the Draft Environmental Impact Statement (DEIS) for Disposal of Portions of March Air Force Base (AFB), dated August 1995. As the lead State regulatory agency for investigation and remediation of hazardous substances at March AFB, the California Department of Toxic Substances Control (DTSC) would like to provide the following comments:

I. SUMMARY

1. Table 5-2, Summary of Environmental Impacts and Suggested Mitigations, Page 5-13 to 5-15:

- | | | |
|-------|----|---|
| 1 | a. | According to the AFBCA, a full asbestos survey has not been completed, therefore, it may not be completely accurate to state that mitigation will not be required under the proposed action. Please revise this statement accordingly. |
| 10.15 | | |
| 2 | b. | The ordinance resource category should mention the abandoned skeet range located on the golf course property and state if any mitigation will be required. |
| 10.16 | | |
| 3 | c. | The conditions for polychlorinated biphenyls (PCBs) under the realignment baseline should be amended to state that "all federally and state regulated PCBs have either been removed and properly been disposed of or are below federal and state action levels." |
| 10.17 | | |
| 4 | d. | The hazardous materials and hazardous waste management resource category states that for the realignment baseline, lead-based paint may exist at all facilities constructed prior to 1978; however, the proposed action says that no mitigation is required. We recommend this section be revised to state mitigation may be required for the proposed action as some buildings were built prior to 1978. |
| 10.18 | | |



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- 5 2. Hazardous Materials and Hazardous Waste Management, Page 5-17, Third paragraph: All
10.19 oil/water separators that will not be reused should be closed in accordance with the State of California's Permit-By-Rule (PBR) regulations.

II. DESCRIPTION OF PROPOSED ACTIONS AND ALTERNATIVES

- | | | |
|-------|----|---|
| 6 | 1. | Section 3.2, Description of Proposed Action, Page 3-4: The proposed alternative assumes that the SKR management and open space areas would be eliminated provided that suitable habitat elsewhere can be identified. The final EIS should include the status of the SKR land swap and if this assumption is still valid. Also, the proposed alternative should state that this action would comply with the California Fish and Game regulations. |
| 3.13 | | |
| 7 | 2. | Figure 3.2-1, Page 3-9: This figure shows the land use under the proposed action. It should be noted that the Base Realignment and Closure (BRAC) Cleanup Team (BCT) may be proposing industrial cleanup levels for some IRP sites. The final EIS should ensure that the proposed action is consistent with cleanup levels and establishment of any institutional controls (i.e. deed restrictions). |
| 3.14 | | |
| 3. | | Sections 3.2.1 through 3.2.9, Pages 3-15 through 3-18: |
| 8 | a. | An analysis should be included to show that the proposed land uses (industrial, business park, commercial, residential, etc.) are compatible with IRP cleanup goals. |
| 3.14 | | |
| 9 | b. | The conditions for polychlorinated biphenyls (PCBs) under the realignment baseline should be amended to state that "all federally and state regulated PCBs have either been removed and properly been disposed of or are below federal and state action levels." |
| 10.17 | | |
| 10 | c. | The ordinance resource category should mention the abandoned skeet range located on the golf course property and state if any mitigation will be required. |
| 10.16 | | |
| 11 | d. | According to the AFBCA, a full asbestos survey has not been completed, therefore, it may not be completely accurate to say that no mitigation will be required under the proposed action. Please revise this section accordingly. |
| 10.15 | | |
| 12 | e. | The hazardous materials and hazardous waste management resource category states that for the realignment baseline lead-based paint may exist at all facilities constructed prior to 1978; however, the proposed action states that no mitigation is required. This section should be amended to state that mitigation may be required for the proposed action as some buildings were built prior to 1978. |
| 10.18 | | |

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- | | | |
|-------|-----|--|
| 13 | 4. | Section 3.2.9, Hazardous Waste Management, Page 3-18: This section should state that after realignment, all hazardous waste on disposal property will be collected and disposed of at a permitted hazardous waste treatment, storage and/or disposal facility. Also, all 90-day accumulation areas will be closed under the appropriate local regulatory agency. |
| 10.20 | | |
| 5. | | Section 3.2.3, Installation Restoration Program Sites, Page 3-14 through 3-17: |
| 14 | a. | This section should read, "The California Department of Health Services, Toxic Substances Control Program, is now the Department of Toxic Substances Control." |
| 10.21 | | |
| 15 | b. | Figure 3.2-2 should be amended to show the location of the sites being remediated under the MOA between the Air Force and Caltrans. |
| 10.22 | | |
| 16 | c. | The most current status of the OU RODs should be included in this section. |
| 10.23 | | |
| 17 | 6. | Table 3.2-7, March AFB Federal Facility Agreement Document Delivery Schedule: The table should be updated to reflect the document delivery most current status. The ROD dates for OU1, OU2 and OU3 are inaccurate. |
| 10.23 | | |
| 18 | 7. | Section 3.2.4, Storage Tanks, Page 3-17: Although the oil/water separators are not considered USTs, they are regulated under the State of California's PBR regulations. This section should state that all oil/water separators will be closed in accordance with PBR requirements. |
| 10.19 | | |
| 19 | 8. | Section 3.2.6, Pesticide Usage, Page 3-17: This section should reference the recent pesticide sampling event that took place at the golf course and its findings. |
| 10.24 | | |
| 20 | 9. | Section 3.2.7, Polychlorinated Biphenyls, Page 3-16: The realignment baseline section should be amended to state that "All federally or state regulated PCB equipment, equipment or items were removed and properly disposed in accordance with applicable laws and regulations or found to be below federal and state action levels." |
| 10.17 | | |
| 21 | 10. | Section 3.2.10, Ordinance, Page 3-22: This section should also include the abandoned skeet range located on golf course property and state if any remediation or investigation is necessary or planned. |
| 10.16 | | |
| III. | | ENVIRONMENTAL CONSEQUENCES |
| I. | | Section 4.3.1.3, Installation Restoration Program Sites: |
| 22 | a. | This section should include a tentative schedule for implementation of the proposed alternative (what land uses have the highest priority for the IPA) and see if it is compatible with the IRP schedule. |
| 10.25 | | |

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- 23 10.26 b. The DTSC strongly recommends that all redevelopment plans be coordinated between the OL JPA and the appropriate regulatory agencies. As the cleanup and remediation at March AFB clearly impacts any reuse of the property, all reuse proposals should be brought to the BCT's attention as soon as possible.

If you have any questions regarding these comments or any other matter, do not hesitate to contact me at (310) 590-4873. Please forward a copy of the Final EIS to our office. DTSC looks forward to working with you in our continued effort to achieve successful military conversion.

Sincerely,



Sharon C. Lemieux
Environmental Assessment and Reuse Specialist
Base Conversion and Closure
Office of Military Facilities

cc: Mr. Richard Russell
Remedial Project Manager
U.S. Environmental Protection Agency
Hazardous Waste Management Division, H-9-1
75 Hawthorne Street
San Francisco, California 94105

Mr. Emad Yemut, P.E.
Department of Toxic Substances Control
245 West Broadway, Suite 350
Long Beach, California 90802-4444

Mr. John Broderick
Regional Water Quality Control Board
Santa Ana Region
2010 Iowa Avenue, Suite 100
Riverside, California 92507

Mr. Ronald Heibert
Base Environmental Coordinator
722 CES/CEV
3990 Graeber Street
March AFB, California 92518-2349

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Mr. Robert M. Wallert, Lt Col, USAF
Department of the Air Force
HQ USAF/CEV
1260 Air Force Pentagon
Washington, DC 20330-1260

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Comments On Draft EIS "Disposal of Portions of March Air Force Base, California"

To: Mr. Jonathan D. Farthing
HQ AFCE/CEA, 3207 3207 North Road, Brooks Air Force Base, Texas 78235-5363

From: Pete R Clark for the Board of Directors (and a member), San Bernardino Valley Audubon Society, 2024 Orange Tree Lane, Redlands, Ca 92374

Determining Alternatives:

As a result of including more activities and land uses in the Preferred Alternative, this alternative appears to produce more jobs. Alternatives that include endangered Steven's Kangaroo Rat (SKR) conservation also include low job producing residential development. It has been made to appear that cargo and passenger aviation can't coexist without sacrificing SKR. The military alternative proposes residential uses for SKR lands despite toxic sites and noise constraints (see below) and the fact that the military has coexisted with SKR restrictions since 1988.

Endangered Species Mitigation:

- 15.20 1. More specifics are needed concerning Endangered Species mitigation. Spell out the conditions and criteria for land to be traded. The conditions and criteria should enhance the existing SKR habitat conservation plan (HCP). These conditions and criteria should be established in this document. Prospective trade lands should be occupied SKR habitat located within identified "core" HCP reserves and not primarily buffers. After such a trade the SKR lands should be managed as they were before the trade until ground breaking for planned activities. This has the benefit of keeping the area from becoming a new dump or an illegal offroad race course. In the future it may turn out that SKR can survive in small pockets and/or the preserved open space has other benefits.

It should be pointed out that these land trades could be difficult since owners of occupied SKR lands are likely to be interested in residential development not "business park" as described in the Preferred Alternative. There is currently a glut of unused business park and industrial sites in western Riverside County. The March JPA is now talking about selling land below market value (Riverside Press Enterprise 7 Dec 95) via a redevelopment agency.

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- 2 SKR lands on March AFB are not suitable for residential development since they are laced with toxic sites (including a munitions dump) and/or within high noise areas.

- 3 Relocation of SKR as mitigation in the preferred alternative after a land trade is dubious except for the possibility of infusing other occupied habitat with genetic diversity. Such an activity should only be considered as part of a long term HCP and if deemed feasible and necessary.

- 4 It is known that scientific studies on SKR populations and ecology are ongoing on the March SKR lands by the same company (Earth Tech) that prepared this DEIS. Why is there no mention of these studies or their purpose in the EIS?

Wetlands Mitigation:

- 5 Non-specific language protects Wetlands. The assertion that mitigation for impacts on wetlands will not be needed since there are so few they are avoidable is unwise. More data needs to be collected so that future planners can determine relative "Wetland" values. Some are undoubtedly more worthy of "avoidance".

Noise Mitigations Impact Aesthetics:

- 6 Noise Mitigations impact Viewsheds. Since aesthetics is an environmental value it should be pointed out that mitigating noise with sound walls produces its own environmental impact. Valley, mountain, and open space views will be impacted.

The Board of Directors of the San Bernardino Valley Audubon Society appreciates the opportunity to comment on this Draft Environmental Impact Statement.

Pete R Clark

Member Board of Directors SBVAS

MARCH JOINT POWERS AUTHORITY

received
11/18/96

January 10, 1996

Mr. Jonathan D. Farthing
Chief, Environmental Analysis Division
HQ AFCEE/ECA
3207 North Road
Brooks AFB, TX 78235-5363

Dear Mr. Farthing:

This letter is in response to the Environmental Justice Analysis for the realignment action at March AFB that was released on December 8, 1995. The March Joint Powers Commission (the governing body of the LRA) has reviewed the analysis and offers the following comments:

- 17.2 1 Page 3-148 Demographic Analysis. Census Tract information was utilized in the Environmental Justice analysis. It is noted that this same data source could be used to address comments in our previous letters of 11/1/95 and 12/8/95 related to refinement of the Region of Influence.
- 17.3 2 Page 4-169 Introductory Text to Section 4.5 It is not clear why localized air quality impacts related to carbon monoxide and aircraft particulate emissions are not included in the Environmental Justice analysis. Expand the text to include consideration of these impacts or an explanation as to why these impacts are not considered.
- 17.4 3 Page 4-169 Section 4.5-1 In analyzing impacts related to aircraft noise, it is not clear why the "No Action" alternative is used as the baseline, as opposed to existing conditions. The area and number of minority and low/moderate income residents exposed to noise levels in excess of 60 dB is clearly such greater under the pre-realignment condition depicted in Figure 3.4-5 (page 3-124) as opposed to the "No Action" alternative. Revise the discussion to address this point.
- 17.5 4 Page 4-175 Mitigation Measures. The text references mitigation measures cited in the DEIS as also being applicable to the Environmental Justice impacts. The JPA's previous comment letter of 11/1/95 recommended reconsideration of certain DEIS mitigation measures relating to noise. Revise the text to address any effect the response to these previous comments may have upon the conclusion at page 4-175.

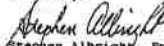
P O BOX 7490 W MORENO VALLEY, CALIFORNIA 92551 W (951) 866-7000 W FAX (951) 812-1234

Mr. Jonathan D. Farthing
Chief, Environmental Analysis Division
HQ AFCEE/ECA
January 10, 1996
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- 5 General Comment The analysis focuses upon the potentially negative direct impacts to minority or low/moderate income residents. Does the Executive Order also require consideration of positive effects upon job-creating opportunities for such population groups? If so, revise the text to address this issue.

We appreciate your acceptance of these comments and look forward to your response in the final Environmental Impact Statement.

Sincerely,



Stephen Albright, Executive Director

KD/SA/