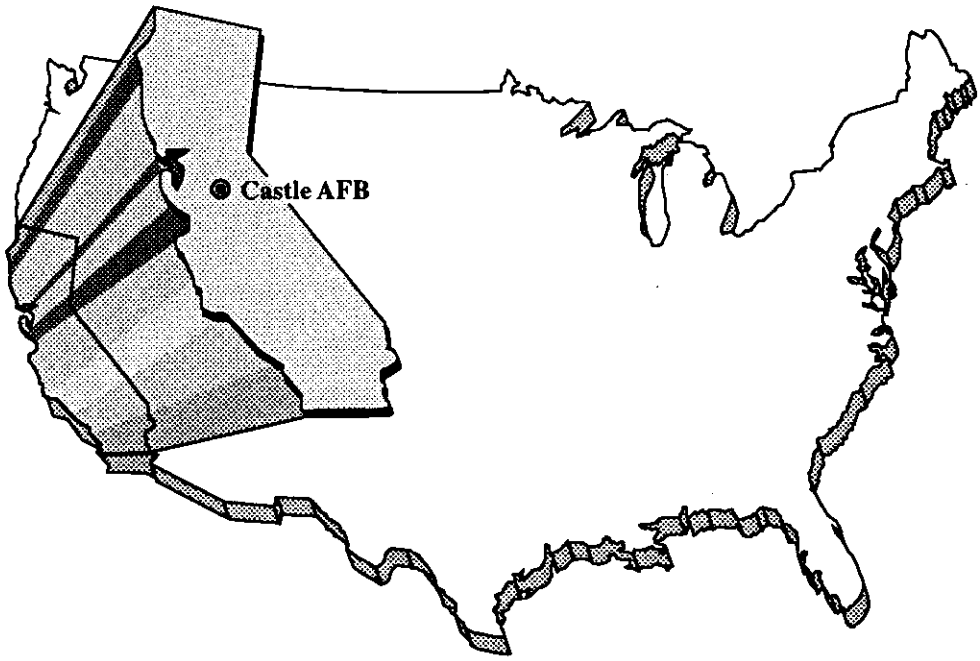
FINAL
ENVIRONMENTAL IMPACT STATEMENT
November 1994



DISPOSAL AND REUSE OF
CASTLE AIR FORCE BASE, CALIFORNIA

FINAL

ENVIRONMENTAL IMPACT STATEMENT

DISPOSAL AND REUSE OF CASTLE AIR FORCE BASE, CALIFORNIA

NOVEMBER 1994

COVER SHEET

FINAL ENVIRONMENTAL IMPACT STATEMENT
DISPOSAL AND REUSE OF CASTLE AIR FORCE BASE, CALIFORNIA

a. Lead Agency: U.S. Air Force

b. Cooperating Agencies: Federal Aviation Administration
Federal Bureau of Prisons

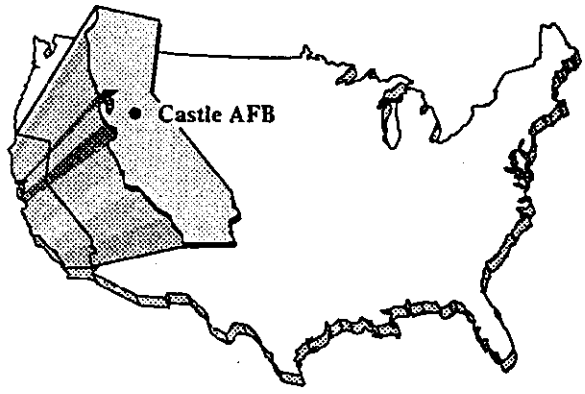
c. Proposed Action: Disposal and Reuse of Castle Air Force Base (AFB), Merced County, California

d. Inquiries on this document may be directed to: Lt. Col. Terry Armstrong, Director Environmental Conservation and Planning, Headquarters AFCEE/EC, 8106 Chennault Road, Brooks AFB, Texas 78235-5318, (210) 536-3907.

e. Designation: Final Environmental Impact Statement (EIS).

f. Abstract: On April 12, 1991, the Secretary of Defense announced the closure of Castle AFB, California, pursuant to the Base Closure and Realignment Act. The base is scheduled for closure in September 1995. This EIS 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 the base. The document includes analyses of community setting, land use and aesthetics, transportation, utilities, hazardous materials/wastes, soils and geology, water resources, air quality, noise, biological resources, and cultural resources.

Potential environmental impacts are increased noise levels, traffic, and emissions of air pollutants over closure baseline conditions and impacts to biological resources. Noise mitigations could include measures identified by Federal Aviation Regulation Part 150 studies. Roadway improvements may be needed to prevent unacceptable traffic congestion. For all alternatives except the Castle Aviation Center Alternative, air emissions would not interfere with achievement of attainment goals through the application of emission reduction measures identified in the State Implementation Plan without the consideration of conformity offset allocations. Insufficient conformity offsets exist to simultaneously accommodate reuse and the Naval Air Station Lemoore realignment cumulative action. Impacts to biological resources could require consultation under Section 7 of the Endangered Species Act. Redevelopment activities could alter drainage patterns and increase erosion which could be mitigated through proper engineering designs. Cultural resources could be impacted by conveyance of the property to a non-federal entity. Preservation covenants within disposal documents could eliminate or reduce these effects to a non-adverse level. Because the Air Force is disposing of the property, some of the mitigation measures are beyond the control of the Air Force. Remediation of hazardous waste sites under the Installation Restoration Program is and will continue to be the responsibility of the Air Force.



SUMMARY

SUMMARY

PURPOSE OF AND NEED FOR ACTION

Castle Air Force Base (AFB), California, was one of the bases recommended by the 1991 Defense Base Closure and Realignment Commission for closure. The Commission's recommendations were accepted by the President and submitted to Congress on July 12, 1991. 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. Castle AFB is scheduled to be closed on September 30, 1995.

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

After completion and consideration of this EIS, the Air Force will prepare decision documents stating what property is excess and surplus, and 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 property.

ALTERNATIVES INCLUDING THE PROPOSED ACTION

Castle AFB comprises 2,777 acres, including two housing areas separated from the main base. The main base contains the airfield and aviation support, industrial, medical, educational, commercial, residential, and public facilities/recreation land uses, as well as vacant land. All of this acreage will be available for disposal for civilian reuse, and is evaluated in this EIS.

A Proposed Action and four alternatives are assessed in this EIS for the purposes of evaluating potential environmental impacts resulting from the subsequent use of this land. The Air Force has adopted as the Proposed Action the Preliminary Reuse Plan of the Castle Joint Powers Authority (CJPA). The CJPA was formed by Merced County and the cities of Atwater and Merced as a multi-jurisdictional authority responsible for planning the

civilian reuse and development of Castle AFB and for managing closure and post-closure activities. To encompass the range of possible reuses, the Air Force developed three other alternatives for analysis. The No-Action Alternative is also addressed.

Proposed Action. The Proposed Action developed by the CJPA features reuse of the airfield and aviation support areas for major aircraft maintenance, maintenance training, pilot and crew proficiency training, and general aviation. Non-aviation areas in the cantonment include industrial, institutional (medical and educational), commercial, residential, and public facilities/recreation.

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

- **The Castle Aviation Center Alternative** proposes an integrated general aviation support center, which would provide general aircraft maintenance and repair, classic aircraft restoration, aircraft storage, sales, testing, and support for air shows. Non-aviation land uses include industrial, institutional (medical and educational), commercial, residential, public facilities/recreation, and agricultural.

- **The Commercial Aviation Alternative** proposes a general aviation airport with commercial passenger service, airline pilot proficiency training, and air cargo operations. This alternative would have the largest number of flight operations of any of the aviation-related reuse scenarios. Non-aviation land uses include industrial, institutional (medical), commercial, residential, public facilities/recreation, and agricultural.

- **The Aviation with Mixed Use Alternative** proposes airfield/aviation support land use similar to the Proposed Action, although the number of aircraft operations is substantially lower under this alternative. Non-aviation land uses include industrial, institutional (medical and educational), commercial, residential, public facilities/recreation, and agricultural.

- **The Non-Aviation Alternative** proposes an extensive industrial research and development area on the existing airfield and aviation support acreage. Other land use includes a major educational campus, as well as commercial, residential, public facilities/recreation, and agricultural.

- **The No-Action Alternative** would result in the base being placed in caretaker status. No further activity would take place. The U.S. government would not be required to retain ownership of the base under this alternative.

Other Land Use Concepts. Two other land uses have been identified as possible components of any of the alternatives. They are the establishment of a Federal Bureau of Prisons correctional complex and a recreational trapshooting range in the land east of the runway.

Other Future Actions in the Region. One reasonably foreseeable project was identified that could potentially contribute to cumulative impacts. The realignment of activities to Naval Air Station (NAS) Lemoore fall within the Region of Influence (ROI) for air quality.

SCOPE OF STUDY

The Notice of Intent (NOI) to prepare an EIS for the disposal and reuse of Castle AFB was published in the Federal Register on October 9, 1991. Issues related to the disposal and reuse of Castle AFB were identified during a subsequent scoping period. A public scoping meeting was held on November 6, 1991, in Merced, California. The comments and concerns expressed at that 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 reasonable alternatives, as well as interim activities (e.g., interim outleases) that may be allowed by the Air Force before final disposition of the base. 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 community and public 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 physical and natural environment are evaluated for soils and geology, water resources, air quality, noise, biological resources, and cultural resources. 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 closure in 1995. Although the baseline assumes a closed base, a reference to preclosure conditions is provided in several sections (e.g., air quality and noise) to allow a comparative analysis over time. This will assist the Air Force decision maker and other agencies that may be making decisions relating to reuse of Castle AFB in understanding potential long-term trends in comparison to historic conditions when the installation was active.

The Air Force is also preparing a separate Socioeconomic Impact Analysis Study (SIAS) on the economic impacts expected in the region as a result of

the closure, disposal, and reuse of Castle AFB. That document, although not required by NEPA, will assist the local community in planning for the transition of the base from military to civilian use. The EIS uses population and employment projections from the SIAS to support the analysis of potential environmental impacts to biophysical resources.

SUMMARY OF ENVIRONMENTAL IMPACTS

This EIS considers environmental impacts of the Air Force's disposal of the installation and portrays a variety of potential land uses to cover reasonable future uses of the property and facilities by others. Several alternative scenarios, including the community's proposed plan, were used to group reasonable land uses and to examine the environmental effects of likely reuse of Castle AFB.

Environmental impacts of the Proposed Action and reasonable alternatives are briefly described below. Influencing 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. Impacts of the Proposed Action and alternatives over the 20-year study period are summarized in Table S-2. Impacts for air quality, including cumulative impacts, are summarized over a 10-year period due to the speculative nature of projecting pollutant concentrations far in the future.

Mitigations and Pollution Prevention. Options for 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. Full responsibility for these suggested mitigations, therefore, would be borne primarily by future property recipients or local governmental agencies. Mitigation suggestions, where appropriate, are listed in terms of their potential effectiveness if implemented for affected resource areas and are summarized along with the environmental impacts of the Proposed Action and alternatives in Table S-2. Mitigation measures include pollution prevention measures where appropriate, such as suggestions to implement waste minimization, recycling, and transportation management measures to reduce motor vehicle pollution.

PROPOSED ACTION

Local Community. Redevelopment of Castle AFB under the Proposed Action would lead to an increase in employment and population in Merced County. The Proposed Action would generate 3,824 direct and 2,427 secondary jobs

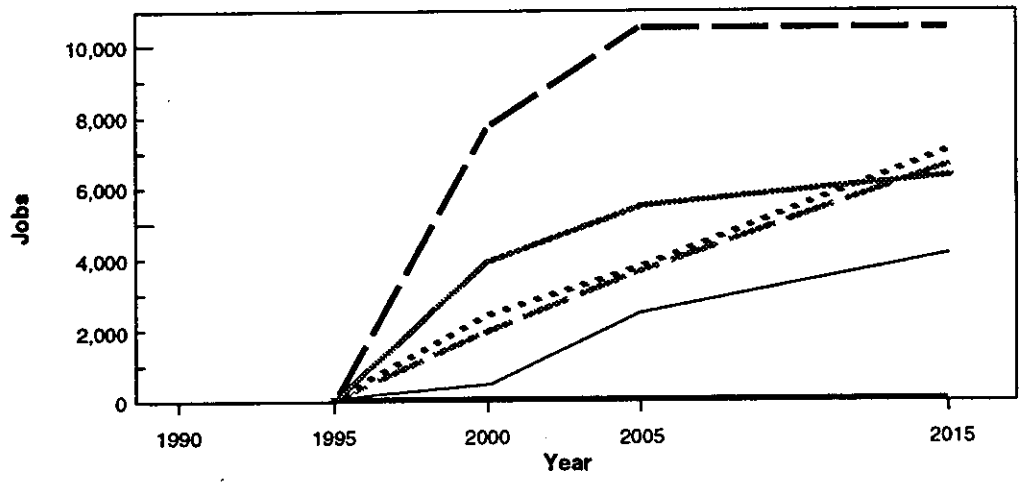
Table S-1. Summary of Reuse-Related Influencing Factors

Factor	Proposed Action			Castle Aviation Center Alternative			Commercial Aviation Alternative			Aviation with Mixed Use Alternative			Non-Aviation Alternative			No-Action Alternative[a]
	2000	2005	2015	2000	2005	2015	2000	2005	2015	2000	2005	2015	2000	2005	2015	
Ground Disturbance (acres, by phase)	215	148	87	119	27	0	160	111	198	203	66	91	210	207	227	No change
Aircraft Operations (annual)	102,384	106,530	115,319	7,348	8,894	11,110	176,926	192,890	234,437	33,650	36,650	40,800	0	0	0	No change
Direct Employment	2,447	3,322	3,824	4,560	6,150	6,150	1,232	2,350	4,001	1,516	2,356	4,175	241	1,689	2,650	50
Secondary Employment	1,414	2,011	2,427	3,210	4,404	4,404	765	1,444	2,697	895	1,480	2,880	199	839	1,451	12
Population Increase	3,335	4,842	6,114	6,445	9,142	9,979	1,666	3,379	6,373	2,078	3,430	6,708	282	2,366	4,105	No change
Traffic (average daily vehicular traffic)	28,700	38,250	39,800	42,900	47,700	47,700	24,400	44,300	54,200	21,950	30,450	36,050	11,700	24,650	34,750	500
Increase in Water Consumption (MGD)	0.79	1.16	1.41	1.48	2.16	2.34	0.37	0.74	1.38	0.46	0.75	1.41	0.25	0.72	1.18	No change
Increase in Wastewater Treatment (MGD)	0.33	0.49	0.59	0.63	0.95	1.02	0.13	0.28	0.55	0.18	0.30	0.58	0.08	0.29	0.50	No change
Increase in Solid Waste Disposal (tons/day)	11.8	15.1	17.9	18.3	27.4	28.6	4.5	9.0	16.4	6.8	9.3	17.3	4.9	10.4	17.1	No change
Increase in Electricity Consumption (MWH/day)	38.9	73.5	94.7	79.2	126.0	135.6	12.8	46.2	110.7	16.1	44.2	112.7	1.9	45.2	97.3	No change
Increase in Natural Gas Consumption (therms/day)	2,200	3,600	4,600	4,300	6,500	7,100	900	2,500	5,300	1,100	2,300	5,200	200	2,100	4,100	No change

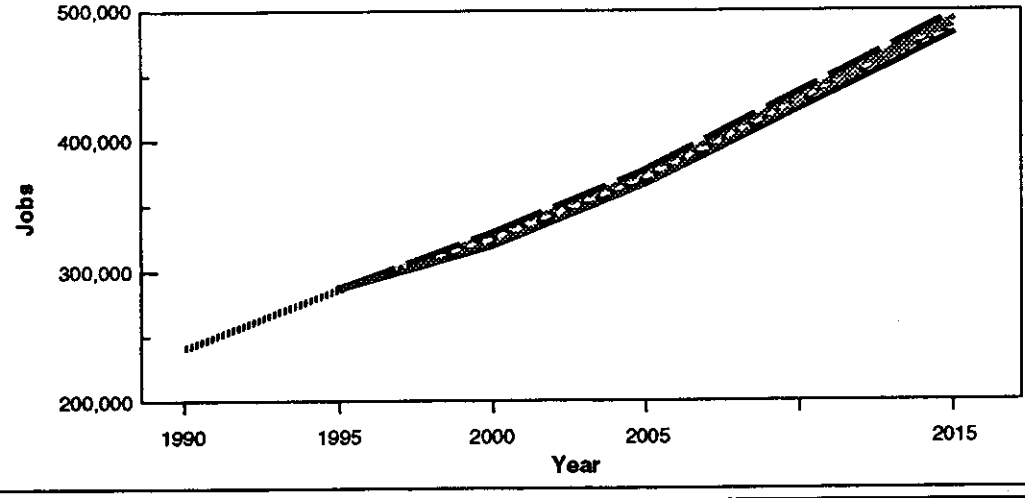
Note: (a) The No-Action Alternative summarizes influencing factors relative to the closure baseline conditions.
MGD = Million gallons per day.
MWH = Megawatt-hours.

ALTERNATIVE	1995[a]	2000	2005	2015
Proposed Action	62	3,861	5,333	6,251
Castle Aviation Center	62	7,770	10,554	10,554
Commercial Aviation	62	1,997	3,794	6,698
Aviation with Mixed Use	62	2,411	3,836	7,055
Non-Aviation	62	440	2,528	4,101

Reuse-Related Employment Effects[b]



Reuse-Related Employment Effects[b]



Total ROI Employment Including Reuse-Related Effects

EXPLANATION

- Preclosure
- Proposed Action
- Castle Aviation Center
- Commercial Aviation
- Aviation with Mixed Use
- Non-Aviation
- No-Action/Post-Closure

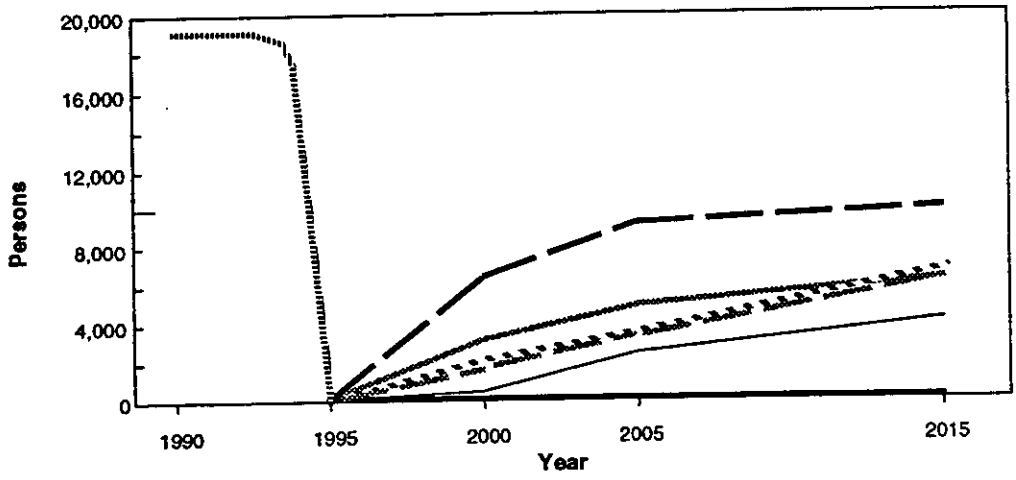
Reuse-Related Employment Effects

(a) The 1995 values represent total base-related employment under the closure baseline.
(b) Employment effects represent the change in employment relative to the No-Action Alternative.

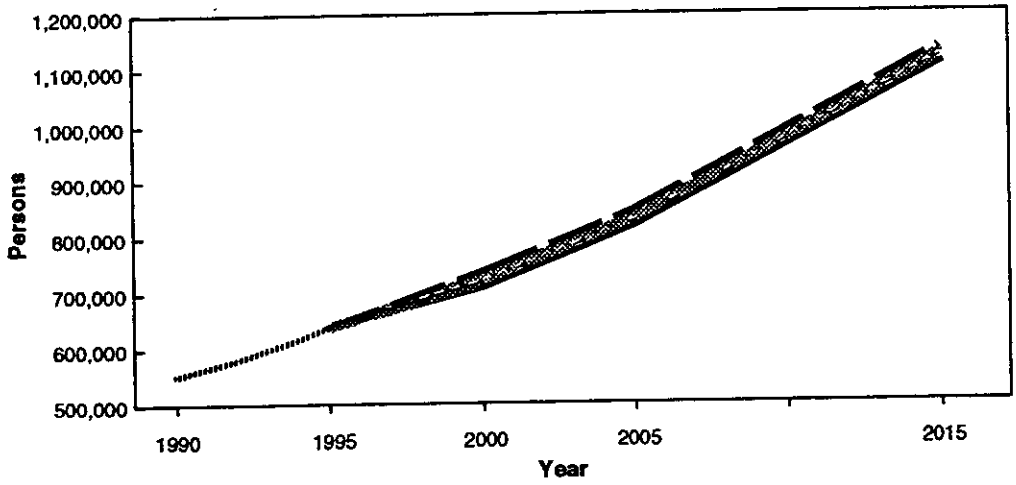
Figure S-1

ALTERNATIVE	1995[a]	2000	2005	2015
Proposed Action	0	3,338	4,841	6,114
Castle Aviation Center	0	6,445	9,142	9,979
Commercial Aviation	0	1,666	3,379	6,373
Aviation with Mixed Use	0	2,078	3,430	6,708
Non-Aviation	0	282	2,366	4,105

Reuse-Related Population Effects[b]



Reuse-Related Population Effects[b]



Total ROI Population Including Reuse-Related Effects

EXPLANATION

- Preclosure
- Proposed Action
- Castle Aviation Center
- Commercial Aviation
- Aviation with Mixed Use
- Non-Aviation
- No-Action/Post-Closure

(a) 1995 represents closure conditions

(b) Reuse-related population effects are the persons that move into the ROI solely as a result of reuse.

Reuse-Related Population Effects

Figure S-2

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

Resource Category	Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative	No-Action Alternative
Local Community						
• Land Use and Aesthetics	• Impacts: Local general plans would require updating. Planned reuses conflict with local zoning ordinances • Mitigation: Local jurisdictions would revise general plans and zoning ordinances to reflect reuse	• Impacts: Local general plans would require updating. Planned reuses conflict with local zoning ordinances • Mitigation: Local jurisdictions would revise general plans and zoning ordinances to reflect reuse	• Impacts: Local general plans would require updating. Planned reuses conflict with local zoning ordinances • Mitigation: Local jurisdictions would revise general plans and zoning ordinances to reflect reuse	• Impacts: Local general plans would require updating. Planned reuses conflict with local zoning ordinances • Mitigation: Local jurisdictions would revise general plans and zoning ordinances to reflect reuse	• Impacts: Local general plans would require updating. Planned reuses conflict with local zoning ordinances • Mitigation: Local jurisdictions would revise general plans and zoning ordinances to reflect reuse	• Impacts Local general plans would require updating. No change from closure
• Transportation	• Impacts: Increase of 39,800 daily trips from closure. Six new base-access points provided. Reuse-generated traffic would deteriorate SH 99 to an unacceptable LOS by 2008, Santa Fe Drive by 2001, and Bellevue Road by 2011	• Impacts: Increase of 47,700 daily trips from closure. Six new base-access points provided. Reuse-generated traffic would deteriorate SH 99 to an unacceptable LOS by 2007, Santa Fe Drive by 2000, and Bellevue Road by 2004	• Impacts: Increase of 54,200 daily trips from closure. Six new base-access points provided. Reuse-generated traffic would deteriorate SH 99 to an unacceptable LOS by 2008, Santa Fe Drive by 2002, and Bellevue Road by 2008	• Impacts: Increase of 36,050 daily trips from closure. Six new base-access points provided. Reuse-generated traffic would deteriorate SH 99 to an unacceptable LOS by 2008, Santa Fe Drive by 2003, and Bellevue Road by 2010	• Impacts: Increase of 34,750 daily trips from closure. Six new base-access points provided. Reuse-generated traffic would deteriorate SH 99 to an unacceptable LOS by 2009, Santa Fe Drive by 2008, and Bellevue Road by 2012	• Impacts: No changes in base-related traffic. SH 99 and Santa Fe Road would deteriorate to an unacceptable LOS by 2010

Note: Impacts are based on the changes from closure baseline that are projected to occur as a result of implementing each alternative.
LOS = Level of Service.
SH = State Highway.

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

Resource Category	Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative	No-Action Alternative
Local Community (Continued)						
• Transportation (Continued)	Increase of 115,319 annual aircraft operations. No airspace conflicts or air transportation impacts	Increase of 11,110 annual aircraft operations. No airspace conflicts or air transportation impacts	Increase of 234,437 annual aircraft operations. No airspace conflicts or air transportation impacts	Increase of 40,800 annual aircraft operations. No airspace conflicts or air transportation impacts	No aircraft operations	No aircraft operations
	• Mitigation: Develop road improvements and traffic management programs	• Mitigation: Develop road improvements and traffic management programs	• Mitigation: Develop road improvements and traffic management programs	• Mitigation: Develop road improvements and traffic management programs	• Mitigation: Develop road improvements and traffic management programs	• Mitigation: Develop program for improvements to SH 99
• Utilities Use	• Impacts: Up to 4 percent increase in ROI utility use. Current systems, with planned improvements, would be able to accommodate increased demands. Interconnection required to provide service to on-base users. Pretreatment of industrial wastewater may be required	• Impacts: Up to 7 percent increase in ROI utility use. Current systems, with planned improvements, would be able to accommodate increased demands. Interconnection required to provide service to on-base users. Pretreatment of industrial wastewater may be required	• Impacts: Up to 4 percent increase in ROI utility use. Current systems, with planned improvements, would be able to accommodate increased demands. Interconnection required to provide service to on-base users. Pretreatment of industrial wastewater may be required	• Impacts: Up to 5 percent increase in ROI utility use. Current systems, with planned improvements, would be able to accommodate increased demands. Interconnection required to provide service to on-base users. Pretreatment of industrial wastewater may be required	• Impacts: Up to 4 percent increase in ROI utility use. Current systems, with planned improvements, would be able to accommodate increased demands. Interconnection required to provide service to on-base users. Pretreatment of industrial wastewater may be required	• Impacts: No changes in base-related utility use

Note: Impacts are based on the changes from closure baseline that are projected to occur as a result of implementing each alternative.
ROI = Region of Influence.
SH = State Highway.

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

Resource Category	Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management						
• Hazardous Materials Management	• Impacts: Similar types and an increase in quantities of materials used. Compliance with applicable regulations would preclude unacceptable impacts • Mitigation: Establish cooperative planning body	• Impacts: Similar types and an increase in quantities of materials used. Compliance with applicable regulations would preclude unacceptable impacts • Mitigation: Establish cooperative planning body	• Impacts: Similar types and an increase in quantities of materials used. Compliance with applicable regulations would preclude unacceptable impacts • Mitigation: Establish cooperative planning body	• Impacts: Similar types and quantities of materials used. Compliance with applicable regulations would preclude unacceptable impacts • Mitigation: Establish cooperative planning body	• Impacts: Similar types and quantities of materials used. Compliance with applicable regulations would preclude unacceptable impacts • Mitigation: Establish cooperative planning body	• Impacts: No change in types and quantities used
• Hazardous Waste Management	• Impacts: Increase in quantities of wastes generated. Compliance with applicable regulations would preclude unacceptable impacts	• Impacts: Increase in quantities of wastes generated. Compliance with applicable regulations would preclude unacceptable impacts	• Impacts: Increase in quantities of wastes generated. Compliance with applicable regulations would preclude unacceptable impacts	• Impacts: Increase in quantities of wastes generated. Compliance with applicable regulations would preclude unacceptable impacts	• Impacts: Increase in quantities of wastes generated. Compliance with applicable regulations would preclude unacceptable impacts	• Impacts: No change in quantities generated

Note: Impacts are based on the changes from closure baseline that are projected to occur as a result of implementing each alternative.

Table S-2. Summary of Environmental Impacts and Suggested Mitigations from the Proposed Action and Reasonable Reuse Alternatives
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Resource Category	Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)						
	• Mitigation: Collection of hazardous household products; educational programs on recycling, waste minimization, waste disposal	• Mitigation: Collection of hazardous household products; educational programs on recycling, waste minimization, waste disposal	• Mitigation: Collection of hazardous household products; educational programs on recycling, waste minimization, waste disposal	• Mitigation: Collection of hazardous household products; educational programs on recycling, waste minimization, waste disposal	• Mitigation: Collection of hazardous household products; educational programs on recycling, waste minimization, waste disposal	
• Installation Restoration Program	• Impacts: Possible redevelopment delays and land use restrictions due to remediation	• Impacts: Possible redevelopment delays and land use restrictions due to remediation	• Impacts: Possible redevelopment delays and land use restrictions due to remediation	• Impacts: Possible redevelopment delays and land use restrictions due to remediation	• Impacts: Possible redevelopment delays and land use restrictions due to remediation	• Impacts: IRP remediation activities continued as needed
	• Mitigation: Coordination between OL and planning agencies to address potential problems. Close out IRP sites. Reuse sites as open space	• Mitigation: Coordination between OL and planning agencies to address potential problems. Close out IRP sites. Reuse sites as open space	• Mitigation: Coordination between OL and planning agencies to address potential problems. Close out IRP sites. Reuse sites as open space	• Mitigation: Coordination between OL and planning agencies to address potential problems. Close out IRP sites. Reuse sites as open space	• Mitigation: Coordination between OL and planning agencies to address potential problems. Close out IRP sites. Reuse sites as open space	

Note: Impacts are based on the changes from closure baseline that are projected to occur as a result of implementing each alternative.
IRP = Installation Restoration Program.
OL = Operating Location.

Table S-2. Summary of Environmental Impacts and Suggested Mitigations from the Proposed Action and Reasonable Reuse Alternatives
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Resource Category	Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)						
• Storage Tanks	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	Storage tanks required by new owner/operator would be subject to all regulations to avoid unacceptable impacts	Storage tanks required by new owner/operator would be subject to all regulations to avoid unacceptable impacts	Storage tanks required by new owner/operator would be subject to all regulations to avoid unacceptable impacts	Storage tanks required by new owner/operator would be subject to all regulations to avoid unacceptable impacts	Storage tanks required by new owner/operator would be subject to all regulations to avoid unacceptable impacts	Storage tanks would be removed or maintained in place according to required standards
	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:
	Coordinate use of tanks with planning agencies to ensure tank and piping integrity is maintained	Coordinate use of tanks with planning agencies to ensure tank and piping integrity is maintained	Coordinate use of tanks with planning agencies to ensure tank and piping integrity is maintained	Coordinate use of tanks with planning agencies to ensure tank and piping integrity is maintained	Coordinate use of tanks with planning agencies to ensure tank and piping integrity is maintained	None required
• Asbestos	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	Pending survey results	Pending survey results	Pending survey results	Pending survey results	Pending survey results	Continued management of asbestos in accordance with Air Force policy
	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:
	Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos would be managed in place	Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos would be managed in place	Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos would be managed in place	Removal and disposal of asbestos in facilities to be renovated. Remaining asbestos would be managed in place	Removal and disposal of asbestos in facilities to be renovated. Remaining asbestos would be managed in place	None required

Note: Impacts are based on the changes from closure baseline that are projected to occur as a result of implementing each alternative.

Table S-2. Summary of Environmental Impacts and Suggested Mitigations from the Proposed Action and Reasonable Reuse Alternatives
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Resource Category	Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)						
• Pesticide Usage	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	Increased use associated with civilian development. Management in accordance with FIFRA and state guidelines would preclude unacceptable impacts	Increased use associated with civilian development. Management in accordance with FIFRA and state guidelines would preclude unacceptable impacts	Increased use associated with civilian development. Management in accordance with FIFRA and state guidelines would preclude unacceptable impacts	Increased use associated with civilian development. Management in accordance with FIFRA and state guidelines would preclude unacceptable impacts	Increased use associated with civilian development. Management in accordance with FIFRA and state guidelines would preclude unacceptable impacts	No change in usage or management practices
	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:
	None required	None required	None required	None required	None required	None required
• Polychlorinated Biphenyls	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	No Air Force owned PCB or PCB-contaminated equipment exists on base	No Air Force owned PCB or PCB-contaminated equipment exists on base	No Air Force owned PCB or PCB-contaminated equipment exists on base	No Air Force owned PCB or PCB-contaminated equipment exists on base	No Air Force owned PCB or PCB-contaminated equipment exists on base	No Air Force owned PCB or PCB-contaminated equipment exists on base
	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:
	None required	None required	None required	None required	None required	None required

Note: Impacts are based on the changes from closure baseline that are projected to occur as a result of implementing each alternative.
FIFRA = Federal Insecticide, Fungicide, and Rodenticide Act.
PCB = Polychlorinated biphenyl.

Table S-2. Summary of Environmental Impacts and Suggested Mitigations from the Proposed Action and Reasonable Reuse Alternatives
Page 7 of 14

Resource Category	Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)						
• Radon	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	No impact. Current radon levels below 4 pCi/l	No impact. Current radon levels below 4 pCi/l	No impact. Current radon levels below 4 pCi/l	No impact. Current radon levels below 4 pCi/l	No impact. Current radon levels below 4 pCi/l	No impact. Current radon levels below 4 pCi/l
	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:
	None required	None required	None required	None required	None required	None required
• Medical/Biohazardous Waste	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	Amounts generated by civilian medical facility would be similar to preclosure levels. Proper management under applicable regulations would avoid unacceptable impacts	Amounts generated by civilian medical facility would be similar to preclosure levels. Proper management under applicable regulations would avoid unacceptable impacts	Amounts generated by civilian medical facility would be similar to preclosure levels. Proper management under applicable regulations would avoid unacceptable impacts	Amounts generated by civilian medical facility would be similar to preclosure levels. Proper management under applicable regulations would avoid unacceptable impacts	Amounts generated by civilian medical facility would be similar to preclosure levels. Proper management under applicable regulations would avoid unacceptable impacts	Wastes would not be generated
	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:
	None required	None required	None required	None required	None required	None required
• Ordnance	• No impact	• No impact	• No impact	• No impact	• No impact	• No impact
	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:
	None required	None required	None required	None required	None required	None required

Note: Impacts are based on the changes from closure baseline that are projected to occur as a result of implementing each alternative.
pCi/l = Picocuries per liter.

Table S-2. Summary of Environmental Impacts and Suggested Mitigations from the Proposed Action and Reasonable Reuse Alternatives
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Resource Category	Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative	No-Action Alternative
Natural Environment						
• Soils and Geology	• Impacts: Minor erosion effects from 450 acres of ground disturbance • Mitigation: Use techniques such as protective cover and diversion dikes to minimize erosion during and after construction	• Impacts: Minor erosion effects from 146 acres of ground disturbance • Mitigation: Use techniques such as protective cover and diversion dikes to minimize erosion during and after construction	• Impacts: Minor erosion effects from 469 acres of ground disturbance • Mitigation: Use techniques such as protective cover and diversion dikes to minimize erosion during and after construction	• Impacts: Minor erosion effects from 360 acres of ground disturbance • Mitigation: Use techniques such as protective cover and diversion dikes to minimize erosion during and after construction	• Impacts: Minor erosion effects from 644 acres of ground disturbance • Mitigation: Use techniques such as protective cover and diversion dikes to minimize erosion during and after construction	• Impacts: No ground disturbance • Mitigation: None required
• Water Resources	• Impacts: Disturbance and development of 450 acres could affect surface water flow and water quality 2.7 percent increase in ROI water demand would not affect water supply but could contribute to an incremental increase in aquifer depletion	• Impacts: Disturbance and development of 146 acres could affect surface water flow and water quality 4.5 percent increase in ROI water demand would not affect water supply but could contribute to an incremental increase in aquifer depletion	• Impacts: Disturbance and development of 469 acres could affect surface water flow and water quality 2.6 percent increase in ROI water demand would not affect water supply but could contribute to an incremental increase in aquifer depletion	• Impacts: Disturbance and development of 360 acres could affect surface water flow and water quality 2.7 percent increase in ROI water demand would not affect water supply but could contribute to an incremental increase in aquifer depletion	• Impacts: Disturbance and development of 644 acres could affect surface water flow and water quality 2.2 percent increase in ROI water demand would not affect water supply but could contribute to an incremental increase in aquifer depletion	• Impacts: No ground disturbance. No change in water demand

Note: Impacts are based on the changes from closure baseline that are projected to occur as a result of implementing each alternative.
ROI = Region of Influence.

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

Resource Category	Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative	No-Action Alternative
Natural Environment (Continued)						
• Water Resources (Continued)	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:
	Use of proper construction techniques, control of site runoff, minimizing surface disturbance and length of exposure time. Compliance with NPDES and local permit requirements for storm water runoff	Use of proper construction techniques, control of site runoff, minimizing surface disturbance and length of exposure time. Compliance with NPDES and local permit requirements for storm water runoff	Use of proper construction techniques, control of site runoff, minimizing surface disturbance and length of exposure time. Compliance with NPDES and local permit requirements for storm water runoff	Use of proper construction techniques, control of site runoff, minimizing surface disturbance and length of exposure time. Compliance with NPDES and local permit requirements for storm water runoff	Use of proper construction techniques, control of site runoff, minimizing surface disturbance and length of exposure time. Compliance with NPDES and local permit requirements for storm water runoff	None required
• Air Quality	• **Reuse-Related Impacts:**	• **Reuse-Related Impacts:**	• **Reuse-Related Impacts:**	• **Reuse-Related Impacts:**	• **Reuse-Related Impacts:**	• Impacts:
	(Without consideration of conformity offset allocations to other actions in the region [cumulative impacts])	(Without consideration of conformity offset allocations to other actions in the region [cumulative impacts])	(Without consideration of conformity offset allocations to other actions in the region [cumulative impacts])	(Without consideration of conformity offset allocations to other actions in the region [cumulative impacts])	(Without consideration of conformity offset allocations to other actions in the region [cumulative impacts])	No change
	Increase in reuse-related emissions in 2005: ROG: 1.52 tons/day NO_x: 4.41 tons/day PM_{10}: 3.86 tons/day SO_2: 0.52 ton/day CO: 16.38 tons/day	Increase in reuse-related emissions in 2005: ROG: 2.91 tons/day NO_x: 3.27 tons/day PM_{10}: 7.58 tons/day SO_2: 0.86 ton/day CO: 30.94 tons/day	Increase in reuse-related emissions in 2005: ROG: 1.12 tons/day NO_x: 4.08 tons/day PM_{10}: 2.75 tons/day SO_2: 0.39 ton/day CO: 13.97 tons/day	Increase in reuse-related emissions in 2005: ROG: 1.06 tons/day NO_x: 1.32 tons/day PM_{10}: 2.73 tons/day SO_2: 0.31 ton/day CO: 11.61 tons/day	Increase in reuse-related emissions in 2005: ROG: 0.71 ton/day NO_x: 0.84 ton/day PM_{10}: 1.84 tons/day SO_2: 0.21 ton/day CO: 7.59 tons/day	

Note: Impacts are based on the changes from closure baseline that are projected to occur as a result of implementing each alternative.
- CO = Carbon monoxide.
- NO_x = Nitrogen oxides.
- NPDES = National Pollutant Discharge Elimination System.
- PM_{10} = Particulate matter equal to or less than 10 microns in diameter.
- ROG = Reactive organic gases.
- SO_2 = Sulfur dioxide.

Table S-2. Summary of Environmental Impacts and Suggested Mitigations from the Proposed Action and Reasonable Reuse Alternatives
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Resource Category	Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative	No-Action Alternative
Natural Environment (Continued)						
• Air Quality (Continued)	Increased air pollutant emissions during construction and operations would not exceed preclosure conditions and, therefore, are not expected to affect the region's progress toward attainment of the ozone or PM_{10} standard. Concentrations would not increase the frequency or severity of violations of the ozone or PM_{10} standard	Increased air pollutant emissions of ROG and NO_x would not exceed preclosure conditions; emissions of PM_{10}, SO_2, and CO would likely exceed preclosure conditions. Reuse activities may require mitigation or offsets of PM_{10} emissions to avoid delays in attainment milestones. Air emission concentrations would not cause increased or new violations of NAAQS	Increased air pollutant emissions during construction and operations would not exceed preclosure conditions and, therefore, are not expected to affect the region's progress toward attainment of the ozone or PM_{10} standard. Concentrations would not increase the frequency or severity of violations of the ozone or PM_{10} standard. Insufficient conformity offsets exist to accommodate all reuse-related aircraft emissions for NO_x	Increased air pollutant emissions during construction and operations would not exceed preclosure conditions and, therefore, are not expected to affect the region's progress toward attainment of the ozone or PM_{10} standard. Concentrations would not increase the frequency or severity of violations of the ozone or PM_{10} standard	Increased air pollutant emissions during construction and operations would not exceed preclosure conditions and, therefore, are not expected to affect the region's progress toward attainment of the ozone or PM_{10} standard. Concentrations would not increase the frequency or severity of violations of the ozone or PM_{10} standard	
	• **Cumulative Impacts** Insufficient conformity offsets exist to simultaneously accommodate reuse and Navy-related requirements for NO_x and PM_{10}, which could cause cumulative adverse air quality impacts unless mitigated	• **Cumulative Impacts** Insufficient conformity offsets exist to simultaneously accommodate reuse and Navy-related requirements for PM_{10}, which could cause cumulative adverse air quality impacts unless mitigated	• **Cumulative Impacts** Insufficient conformity offsets exist to simultaneously accommodate reuse and Navy-related requirements for NO_x and PM_{10}, which could cause cumulative adverse air quality impacts unless mitigated	• **Cumulative Impacts** Insufficient conformity offsets exist to simultaneously accommodate reuse and Navy-related requirements for PM_{10}, which could cause cumulative adverse air quality impacts unless mitigated	• **Cumulative Impacts** Insufficient conformity offsets exist to simultaneously accommodate reuse and Navy-related requirements for PM_{10}, which could cause cumulative adverse air quality impacts unless mitigated	

Note: Impacts are based on the changes from closure baseline that are projected to occur as a result of implementing each alternative.
CO = Carbon monoxide.
NAAQS = National Ambient Air Quality Standards.
NO_x = Nitrogen oxides.
PM_{10} = Particulate matter equal to or less than 10 microns in diameter.
ROG = Reactive organic gases.
SO_2 = Sulfur dioxide.

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

Resource Category	Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative	No-Action Alternative
Natural Environment (Continued)						
• Air Quality (Continued)	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:
	Control of fugitive dust and combustion emissions from construction activities. Application of control measures such as land use or transportation planning and management measures to reduce motor vehicle pollution	Control of fugitive dust and combustion emissions from construction activities. Application of control measures such as land use or transportation planning and management measures to reduce motor vehicle pollution	Control of fugitive dust and combustion emissions from construction activities. Application of control measures such as land use or transportation planning and management measures to reduce motor vehicle pollution	Control of fugitive dust and combustion emissions from construction activities. Application of control measures such as land use or transportation planning and management measures to reduce motor vehicle pollution	Control of fugitive dust and combustion emissions from construction activities. Application of control measures such as land use or transportation planning and management measures to reduce motor vehicle pollution	None required
• Noise	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	2,851 acres and 263 residents exposed to CNEL 60 dB or greater due to civilian aircraft operations in 2015. 358 additional residents exposed to CNEL 60 dB or greater due to increased surface traffic in 2015	1,373 acres and 5 residents exposed to CNEL 60 dB or greater due to civilian aircraft operations in 2015. 692 additional residents exposed to CNEL 60 dB or greater due to increased surface traffic in 2015	5,291 acres and 290 residents exposed to CNEL 60 dB or greater due to civilian aircraft operations in 2015. 383 additional residents exposed to CNEL 60 dB or greater due to increased surface traffic in 2015	1,149 acres and no residents exposed to CNEL 60 dB or greater due to civilian aircraft operations in 2015. 365 additional residents exposed to CNEL 60 dB or greater due to increased surface traffic in 2015	No aircraft noise. 296 additional residents exposed to CNEL 60 dB or greater due to increased surface traffic in 2015	No change in base-related noise levels. 2,843 residents exposed to CNEL 60 dB or greater due to surface traffic in 2015

Note: Impacts are based on the changes from closure baseline that are projected to occur as a result of implementing each alternative.
CNEL = Community Noise Equivalent Level.
dB = Decibel.

Table S-2. Summary of Environmental Impacts and Suggested Mitigations from the Proposed Action and Reasonable Reuse Alternatives
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Resource Category	Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative	No-Action Alternative
Natural Environment (Continued)						
• Noise (Continued)	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:
	Change takeoff climbout or landing procedures to minimize aircraft noise. Conduct FAR 150 to identify potential mitigation. Barrier walls to mitigate surface traffic noise. Use of sound insulation, barriers, and buffer zones	Change takeoff climbout or landing procedures to minimize aircraft noise. Conduct FAR 150 to identify potential mitigation. Barrier walls to mitigate surface traffic noise. Use of sound insulation, barriers, and buffer zones	Change takeoff climbout or landing procedures to minimize aircraft noise. Conduct FAR 150 to identify potential mitigation. Barrier walls to mitigate surface traffic noise. Use of sound insulation, barriers, and buffer zones	Change takeoff climbout or landing procedures to minimize aircraft noise. Conduct FAR 150 to identify potential mitigation. Barrier walls to mitigate surface traffic noise. Use of sound insulation, barriers, and buffer zones	Barrier walls to mitigate surface traffic noise. Use of sound insulation, barriers, and buffer zones	None required
• Biological Resources	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	Potential direct and indirect impacts on wetlands and fairy shrimp habitat from industrial development	Potential indirect impacts to wetlands and fairy shrimp habitat	Potential direct and indirect impacts to wetlands and fairy shrimp habitat	Potential indirect impacts to wetlands and fairy shrimp habitat	Potential indirect impacts to wetlands and fairy shrimp habitat	No change in base-related activities. Potential increase in habitat value due to long-term decrease in human activity. No impact on wetlands or fairy shrimp habitat
	No likely direct loss of wetlands or fairy shrimp habitat	No likely direct loss of wetlands or fairy shrimp habitat	No likely direct loss of wetlands or fairy shrimp habitat	No likely direct loss of wetlands or fairy shrimp habitat	No likely direct loss of wetlands or fairy shrimp habitat	No loss of wetlands or fairy shrimp habitat

Note: Impacts are based on the changes from closure baseline that are projected to occur as a result of implementing each alternative.
FAR = Federal Aviation Regulation.

Table S-2. Summary of Environmental Impacts and Suggested Mitigations from the Proposed Action and Reasonable Reuse Alternatives
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Resource Category	Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative	No-Action Alternative
Natural Environment (Continued)						
• Biological Resources (Continued)	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:	• Mitigation:
	Selective siting of improvements and restriction of operations to non-sensitive sites will avoid direct impacts to wetlands and fairy shrimp habitat. Controlling runoff through design and engineering practices will minimize indirect impacts to wetlands and fairy shrimp habitat. Compliance with Sections 7, 8, and 9 of the Endangered Species Act will minimize impacts to sensitive species. Compliance with Section 404 of the Clean Water Act will minimize impacts to wetlands	Selective siting of improvements and restriction of operations to non-sensitive sites will avoid indirect impacts to wetlands and fairy shrimp habitat. Controlling runoff through design and engineering practices will minimize indirect impacts to wetlands and fairy shrimp habitat. Compliance with Sections 7, 8, and 9 of the Endangered Species Act will minimize impacts to sensitive species	Selective siting of improvements and restriction of operations to non-sensitive sites will avoid direct impacts to wetlands and fairy shrimp habitat. Controlling runoff through design and engineering practices will minimize indirect impacts to wetlands and fairy shrimp habitat. Compliance with Sections 7, 8, and 9 of the Endangered Species Act will minimize impacts to sensitive species. Compliance with Section 404 of the Clean Water Act will minimize impacts to wetlands	Selective siting of improvements and restriction of operations to non-sensitive sites will avoid indirect impacts to wetlands and fairy shrimp habitat. Controlling runoff through design and engineering practices will minimize indirect impacts to wetlands and fairy shrimp habitat. Compliance with Sections 7, 8, and 9 of the Endangered Species Act will minimize impacts to sensitive species	Selective siting of improvements and restriction of operations to non-sensitive sites will avoid indirect impacts to wetlands and fairy shrimp habitat. Controlling runoff through design and engineering practices will minimize indirect impacts to wetlands and fairy shrimp habitat. Compliance with Section 404 of the Clean Water Act will minimize impacts to wetlands	None required
• Cultural Resources	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	No effect on prehistoric, Native American, or paleontological resources	No effect on prehistoric, Native American, or paleontological resources	No effect on prehistoric, Native American, or paleontological resources	No effect on prehistoric, Native American, or paleontological resources	No effect on prehistoric, Native American, or paleontological resources	No impact
	Possible adverse effects to historic structures potentially eligible for listing on the NRHP	Possible adverse effects to historic structures potentially eligible for listing on the NRHP	Possible adverse effects to historic structures potentially eligible for listing on the NRHP	Possible adverse effects to historic structures potentially eligible for listing on the NRHP	Possible adverse effects to historic structures potentially eligible for listing on the NRHP	

Note: Impacts are based on the changes from closure baseline that are projected to occur as a result of implementing each alternative.
NRHP = National Register of Historic Places.

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

Resource Category	Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative	No-Action Alternative
Natural Environment (Continued)	• Mitigation: Properties may be conveyed to non-federal owners with preservation covenants. Consult with SHPO and Advisory Council on Historic Preservation in development and implementation of mitigation strategies	• Mitigation: Properties may be conveyed to non-federal owners with preservation covenants. Consult with SHPO and Advisory Council on Historic Preservation in development and implementation of mitigation strategies	• Mitigation: Properties may be conveyed to non-federal owners with preservation covenants. Consult with SHPO and Advisory Council on Historic Preservation in development and implementation of mitigation strategies	• Mitigation: Properties may be conveyed to non-federal owners with preservation covenants. Consult with SHPO and Advisory Council on Historic Preservation in development and implementation of mitigation strategies	• Mitigation: Properties may be conveyed to non-federal owners with preservation covenants. Consult with SHPO and Advisory Council on Historic Preservation in development and implementation of mitigation strategies	• Mitigation: None required

Note: Impacts are based on the changes from closure baseline that are projected to occur as a result of implementing each alternative.
SHPO = State Historic Preservation Officer.

by 2015, resulting in a 2.7 percent annual increase in regional employment between closure and 2015, the same annual regional growth rate as the No-Action Alternative. This increase in jobs is small compared to total employment in the ROI (almost 500,000 in 2015), but represents a sizeable increase over the 50 direct and 12 secondary jobs projected under the No-Action Alternative. Population in the ROI would increase by 6,114 by 2015, compared to a projected total of 1,112,133 in 2015 under the No-Action Alternative. This estimate represents a 2.9-percent annual increase in population between closure and 2015.

Land uses on base would remain similar to existing uses, but increased acreages would be devoted to aviation support, industrial, commercial development, institutional (education), and public facilities/recreation use areas. These increases would occur primarily as a result of conversion of existing vacant land. Merced County and the city of Atwater would have to revise their general plans and zoning ordinances to reflect the redevelopment of the base and to minimize conflicts between incompatible land uses.

Traffic on and near the base would increase over No-Action Alternative projections. Segments of State Highway (SH) 99 and Santa Fe Drive would drop to an unacceptable level of service (demand exceeding capacity) by 2008 and 2001, respectively, compared to the projected date of 2010 under the No-Action Alternative. Segments of Bellevue Road would drop to an unacceptable level of service by 2011, whereas those segments would operate at an acceptable level of service under the No-Action Alternative through 2015. Road improvement and transportation planning measures would have to be implemented to prevent deterioration to an unacceptable level of service. No airspace or air transportation impacts are anticipated as a result of the Proposed Action.

Utility consumption in the area would increase by up to 4 percent over No-Action Alternative projections under the Proposed Action. With or without the Proposed Action, improvements to local water, wastewater, and electricity systems would be required before 2015.

Hazardous Materials and Hazardous Waste Management. The types of hazardous materials used and hazardous wastes generated under the Proposed Action would be similar to preclosure. The quantities would be greater than under the No-Action Alternative. The responsibility for managing hazardous materials and wastes would shift from a single user to multiple, independent users.

Reuse activities are not expected to affect the remediation of Installation Restoration Program (IRP) sites, which is proceeding according to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Federal Facility Agreement (FFA) among the Air Force, U.S. Environmental Protection Agency (EPA), and California EPA.

Remediation of the Air Force's IRP sites is, and will continue to be, the responsibility of the Air Force. Disposal and reuse of some Castle AFB properties may be delayed or limited by the extent and type of contamination at IRP sites and by current or future IRP remediation activities.

Existing and new underground storage tanks (USTs), the underground fuel hydrant system, and aboveground storage tanks required by the new users would be subject to all applicable federal, state, and local regulations. USTs that would not support reuse activities would be closed in conformance with the appropriate federal, state, and local regulations. All oil/water separators will be pumped and cleaned prior to disposal. Aboveground storage tanks that would not be reused would be purged of fumes to preclude fire hazards.

A comprehensive survey to identify asbestos-containing material (ACM) at facilities on Castle AFB will be conducted prior to disposal. ACM will be managed in accordance with all applicable regulations, thus, ensuring the protection of human health and the environment. A full disclosure of the asbestos survey results will be provided to new recipients prior to lease, sale, conveyance, or transfer of the property. Demolition or renovation of structures with ACM would be the responsibility of the new owners and would be conducted in compliance with applicable Occupational Safety and Health Administration (OSHA) regulations and National Emissions Standards for Hazardous Air Pollutants (NESHAP).

Pesticide usage would increase from baseline conditions as a result of reuse. Management practices would be subject to applicable federal and state regulations. All Air Force-owned and federally regulated polychlorinated biphenyl (PCB) equipment and PCB-contaminated equipment and state-regulated PCB items have been removed from Castle AFB. A survey conducted on base revealed radon levels below the U.S. EPA-recommended threshold for mitigation. Amounts of biohazardous wastes generated under the Proposed Action would be similar to preclosure levels, and would be subject to the state Medical Waste Management Act. The Explosive Ordnance Disposal (EOD) Range will be cleared of unexploded ordnance and the small arms range will be cleared of spent bullets prior to base disposal. If the small arms range is reused, proper maintenance procedures would have to be followed to reduce the potential for lead contamination in the soils. Base reuse activities that involve the demolition or renovation of structures containing lead-based paints would be subject to applicable federal, state, and local regulations to minimize potential risks to human health and the environment.

Natural Environment. The Proposed Action could result in minor impacts to soils, geology, and water resources as a result of runoff from ground disturbance associated with demolition, renovation, and construction activities. Use of standard mitigation measures during ground-disturbing

activities would minimize these impacts. New owners/users may be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for storm water runoff during construction activities. Reuse would result in a 2.7-percent increase in water demand over closure baseline; this increase would result in negligible effects to local water supplies.

Castle AFB is in an area designated by the U.S. EPA as being in nonattainment of the National Ambient Air Quality Standards (NAAQS) for ozone and particulate matter less than 10 microns in diameter (PM_{10}), and unclassified for sulfur dioxide (SO_2). The area is designated by the California Air Resources Board (ARB) as being in nonattainment of the California Ambient Air Quality Standards (CAAQS) for ozone and PM_{10} and unclassified for carbon monoxide (CO). Construction activities under the Proposed Action could result in temporary, localized emissions of PM_{10}. Emissions of criteria pollutants, including ozone precursors, associated with reuse activities would remain below preclosure levels throughout the 10-year analysis period. Further, the San Joaquin Valley Unified Air Pollution Control District (UAPCD) is committed to implementing controls on emission of ozone precursors as identified in the 1991 Air Quality Attainment Plan (AQAP). Therefore, no significant impacts to air quality are expected, nor would reuse activities contribute to a delay in attainment of the ozone or PM_{10} standards. Without consideration of conformity offset allocations to other actions in the region (cumulative impacts), ozone precursor emissions of ROG and NO_x would be less than preclosure conditions and, therefore, would not interfere with the attainment of the ozone standard. For primary pollutants, impacts would not affect maintenance of the current attainment status of the standards for NO_2, SO_2, or CO, or progress toward attainment of the standard for PM_{10}.

However, the Navy has expressed interest in obtaining available conformity offsets for ROG, NO_x, and PM_{10} from the closure of Castle AFB in order to demonstrate no net emission increases from their BRAC-directed NAS Lemoore realignment action. Insufficient conformity offsets exist to simultaneously accommodate reuse and Navy-related requirements for NO_x and PM_{10}, which could cause cumulative adverse air quality impacts unless mitigated.

Aircraft noise from Proposed Action aviation activities would result in increased noise levels compared to closure conditions. However, by 2015 there would be 134,764 fewer acres exposed to a Community Noise Equivalent Level (CNEL) of 60 decibels (dB) or greater than under preclosure conditions. The number of people living in areas exposed to CNEL 60 dB or more from surface traffic noise would increase by 358 from No-Action Alternative projections. Use of noise barriers and proper land use planning could reduce the effects of surface traffic noise.

The Proposed Action could affect biological resources primarily through a loss of vegetation and wildlife habitat. Urban development could increase runoff of storm water and pollutants from developed areas into nondeveloped areas. A potential loss of habitat for the threatened fairy shrimp, as well as other federally and state-protected species may occur if grasslands, wetlands, and other sensitive habitats on the base are developed. Direct losses to some species may occur from operation of construction and other equipment and vehicles in newly developed areas. Wetlands occurring on Castle AFB would be impacted directly under this alternative, and wetlands may be impacted indirectly by adjacent activities. Standard construction mitigation measures to control runoff would minimize effects on aquatic species. Facilities and other improvements in industrial and recreational areas should be sited to minimize impacts to grasslands, fairy shrimp habitat, and wetlands. Fences could be constructed around fairy shrimp habitat and wetlands to avoid direct impacts.

Under the Proposed Action, the historic trash dump designated as CAFB-1H, the Riise-McVey site (CAFB-2H), and the Harris site (CAFB-3H) would be within the airport boundary on vacant land not proposed for development. Construction of an access point nearby could result in impacts to CAFB-1H and CAFB-2H. Certain historic structures could be considered eligible following the Cold War inventory and evaluation. Demolition, renovation, deterioration, or conveyance of these properties from federal control could be considered an adverse effect. Preservation covenants could be placed on the disposal document to reduce impacts associated with conveyance to a non-federal entity to a nonadverse level. Other mitigation measures could include avoidance, preservation in place, or data recovery in the form of documentation.

CASTLE AVIATION CENTER ALTERNATIVE

Local Community. Redevelopment of Castle AFB under the Castle Aviation Center Alternative would generate 6,150 direct and 4,404 secondary jobs by 2015, resulting in a 2.8-percent annual increase in regional employment between closure and 2015, in contrast to an annual regional employment increase of 2.7 under the No-Action Alternative. This increase in jobs is small compared to total employment in the ROI (almost 500,000 in 2015), but represents a sizeable increase over the 50 direct and 12 secondary jobs projected under the No-Action Alternative. Population in the ROI would increase by 9,979 by 2015, compared to a projected total of 1,112,133 in 2015 under the No-Action Alternative. This estimate represents a 2.9-percent annual increase in population between closure and 2015.

Land uses on base would remain similar to existing uses, but increased acreages would be devoted to industrial development and public facilities/ recreation use areas. These increases would occur primarily as a result of conversion of existing vacant land. Merced County and the city of Atwater

would have to revise their general plans and zoning ordinances to reflect the redevelopment of the base and to minimize conflicts between incompatible land uses.

Traffic on and near the base would increase over the No-Action Alternative and Proposed Action projections. Segments of SH 99 and Santa Fe Drive would drop to an unacceptable level of service by 2007 and 2000, respectively, compared to the projected date of 2010 when these segments would drop to an unacceptable level of service under the No-Action Alternative. Segments of Bellevue Road would drop to an unacceptable level of service by 2004, whereas those segments would operate at an acceptable level of service under the No-Action Alternative through 2015. Road improvement and transportation planning measures would have to be implemented to prevent deterioration to an unacceptable level of service. No airspace or air transportation impacts are anticipated as a result of the Castle Aviation Center Alternative.

Utility consumption in the area would increase by up to 7 percent over No-Action Alternative projections under the Castle Aviation Center Alternative. With or without this alternative, improvements to local water, wastewater, and electricity systems would be required before 2015.

Hazardous Materials and Hazardous Waste Management. The types of hazardous materials used and hazardous wastes generated under the Castle Aviation Center Alternative would be similar to those at preclosure and under the Proposed Action. The quantities would be greater than under the No-Action Alternative. The responsibility for managing hazardous materials and wastes would shift from a single user to multiple, independent users.

Reuse activities are not expected to affect the remediation of IRP sites, which is proceeding according to CERCLA and the FFA among the Air Force, U.S. EPA, and California EPA. Remediation of the Air Force's IRP sites is, and will continue to be, the responsibility of the Air Force. Disposal and reuse of some Castle AFB properties may be delayed or limited by the extent and type of contamination at IRP sites and by current or future IRP remediation activities.

Existing and new USTs and aboveground storage tanks required by the new users would be subject to all applicable federal, state, and local regulations. USTs that would not support reuse activities, and the underground fuel hydrant system would be closed in conformance with the appropriate federal, state, and local regulations. All oil/water separators will be pumped and cleaned prior to disposal. Aboveground storage tanks that would not be reused would be purged of fumes to preclude fire hazards.

A comprehensive asbestos survey of facilities on Castle AFB will be conducted prior to disposal. Demolition or renovation of structures with

ACM would be the responsibility of the new owners and would be conducted in compliance with applicable OSHA regulations and NESHAP.

Pesticide usage would increase from baseline conditions as a result of reuse. Management practices would be subject to applicable federal and state regulations. All Air Force owned federally regulated PCB equipment and PCB-contaminated equipment, and state-regulated PCB items have been removed from Castle AFB. A survey conducted on base revealed radon levels below the U.S. EPA-recommended threshold for mitigation. Amounts of biohazardous wastes generated under this alternative would be similar to preclosure levels, and would be subject to the state Medical Waste Management Act. The EOD Range will be cleared of unexploded ordnance and the small arms range will be cleared of spent bullets prior to base disposal. Base reuse activities that involve the demolition or renovation of structures containing lead-based paints would be subject to applicable federal, state, and local regulations to minimize potential risks to human health and the environment.

Natural Environment. The Castle Aviation Center Alternative could result in minor impacts to soils, geology, and water resources as a result of runoff from ground disturbance associated with renovation. Because no demolition or new facility construction is proposed, the effects of this alternative would be less than those for the Proposed Action. Use of standard mitigation measures during ground-disturbing activities would further reduce these impacts. New owners/users may be required to obtain an NPDES permit for storm water runoff during renovation activities. Reuse would result in a 4.5-percent increase in water demand over closure baseline; this increase would result in negligible effects to local water supplies.

Redevelopment activities under the Castle Aviation Center Alternative could result in temporary, localized emissions of PM_{10}. Increased air pollutant emissions of reactive organic gases (ROG) and nitrogen oxides (NO_x) during construction and operations would not exceed preclosure conditions. Emissions of PM_{10}, SO_2, and CO would exceed preclosure conditions. Project reuse proponents may be required to mitigate and/or offset PM_{10} emissions to meet the applicable State Implementation Plan (SIP) requirements and ensure no interference with attainment plans and schedules. Concentrations would not be sufficient to increase the frequency or severity of new violations of the NAAQS for other criteria pollutants. Further, the San Joaquin Valley UAPCD is committed to implementing controls on emission of ozone precursors as identified in the 1991 AQAP. With adequate mitigations and offsetting applied, no significant impacts to air quality are expected, nor would reuse activities contribute to a delay in attainment of the ozone or PM_{10} standards.

Without consideration of conformity offset allocations to other actions in the region (cumulative impacts), ozone precursor emissions of ROG and NO_x

would be less than preclosure conditions and, therefore, would not interfere with the attainment of the ozone standard. For primary pollutants, impacts would not affect maintenance of the current attainment status of the standards for NO_2, SO_2, or CO, but could interfere with progress toward attainment of the standard for PM_{10} unless mitigated.

However, the Navy has expressed interest in obtaining available conformity offsets for ROG, NO_x, and PM_{10} from the closure of Castle AFB in order to demonstrate no net emission increases from their BRAC-directed NAS Lemoore realignment action. Insufficient conformity offsets exist to simultaneously accommodate reuse and Navy-related requirements for PM_{10}, which could cause cumulative adverse air quality impacts unless mitigated.

Aircraft noise from Castle Aviation Center Alternative aviation activities would result in increased noise levels compared to closure conditions. However, by 2015 there would be 132,684 fewer acres exposed to CNEL 60 dB or greater than under preclosure conditions. The number of people living in areas exposed to CNEL 60 dB or more from surface traffic noise would increase by 692 from No-Action Alternative projections. Use of noise barriers and proper land use planning could reduce the effects of surface traffic noise.

Impacts to biological resources at Castle AFB could occur as a result of ground-disturbing activities associated with facility renovation. However, because much of the base area has been previously developed or disturbed, and because no demolition or new facility construction is proposed, impacts to biological resources would be minimal. Development activities in the industrial area northeast of the airfield should be planned to avoid the fairy shrimp habitat. The designation of most of the area northeast of the airfield for passive recreation and conservation uses would result in beneficial effects to the fairy shrimp habitat and associated species.

Under the Castle Aviation Center Alternative, the historic trash dump designated as CAFB-1H, the Riise-McVey site (CAFB-2H), and the Harris site (CAFB-3H) would be within the airport boundary on vacant land not proposed for development. Construction of an access point nearby could result in impacts to CAFB-1H and CAFB-2H. Certain historic structures could be considered eligible following the Cold War inventory and evaluation. Demolition, renovation, deterioration, or conveyance of these properties from federal control could be considered an adverse effect. Preservation covenants could be placed on the disposal document to reduce impacts associated with conveyance to a non-federal entity to a nonadverse level. Other mitigation measures could include avoidance, preservation in place, or data recovery in the form of documentation.

Local Community. Redevelopment of Castle AFB under the Commercial Aviation Alternative would generate 4,001 direct and 2,697 secondary jobs by 2015, resulting in a 2.7-percent annual increase in regional employment between closure and 2015, the same annual regional growth rate as under the No-Action Alternative. This increase in jobs is small compared to total employment in the ROI (almost 500,000 in 2015), but represents a sizeable increase over the 50 direct and 12 secondary jobs projected under the No-Action Alternative. Population in the county would increase by 6,373 by 2015, compared to a projected total of 1,112,133 in 2015 under the No-Action Alternative. This estimate represents a 2.9-percent annual increase in population between closure and 2015.

Land uses on base would remain similar to existing uses, but increased acreages would be devoted to industrial development, medical, and residential land use areas. These increases would occur primarily as a result of conversion of existing vacant land. Merced County and the city of Atwater would have to revise their general plans and zoning ordinances to reflect the redevelopment of the base and to minimize conflicts between incompatible land uses.

Traffic on and near the base would increase over the No-Action Alternative. Segments of SH 99 and Santa Fe Drive would drop to an unacceptable level of service by 2008 and 2002, respectively, compared to the projected date of 2010 when these segments would drop to an unacceptable level of service under the No-Action Alternative. Segments of Bellevue Road would drop to an unacceptable level of service by 2008, whereas those segments would operate at an acceptable level of service under the No-Action Alternative through 2015. Road improvement and transportation planning measures would have to be implemented to prevent deterioration to an unacceptable level of service. No airspace or air transportation impacts are anticipated as a result of the Commercial Aviation Alternative.

Utility consumption in the area would increase by up to 4 percent over No-Action Alternative projections under the Commercial Aviation Alternative. With or without this alternative, improvements to local water, wastewater, and electricity systems would be required before 2015.

Hazardous Materials and Hazardous Waste Management. The types of hazardous materials used and hazardous wastes generated under the Commercial Aviation Alternative would be similar to those at preclosure and under the Proposed Action. The quantities would be greater than under the No-Action Alternative. The responsibility for managing hazardous materials and wastes would shift from a single user to multiple, independent users.

Reuse activities are not expected to affect the remediation of IRP sites, which is proceeding according to CERCLA and the FFA among the Air Force, U.S. EPA and California EPA. Remediation of the Air Force's IRP sites is, and will continue to be, the responsibility of the Air Force. Disposal and reuse of some Castle AFB properties may be delayed or limited by the extent and type of contamination at IRP sites and by current or future IRP remediation activities.

Existing and new USTs and aboveground storage tanks required by the new users would be subject to all applicable federal, state, and local regulations. USTs that would not support reuse activities and the underground fuel hydrant system would be closed in conformance with the appropriate federal, state, and local regulations. All oil/water separators will be pumped and cleaned prior to disposal. Aboveground storage tanks that would not be reused would be purged of fumes to preclude fire hazards.

A comprehensive asbestos survey of facilities on Castle AFB will be conducted prior to disposal. Demolition or renovation of structures with ACM would be the responsibility of the new owners and would be conducted in compliance with applicable OSHA regulations and NESHAP.

Pesticide usage would increase from baseline conditions as a result of reuse. Management practices would be subject to applicable federal and state regulations. All Air Force owned federally regulated PCB equipment and PCB-contaminated equipment, and state-regulated PCB items have been removed from Castle AFB. A survey conducted on base revealed radon levels below the U.S. EPA-recommended threshold for mitigation. Amounts of biohazardous wastes generated under this alternative would be similar to preclosure levels, and would be subject to the state Medical Waste Management Act. The EOD and grenade ranges will be cleared of unexploded ordnance and the small arms range will be cleared of spent bullets prior to base disposal. Base reuse activities that involve the demolition or renovation of structures containing lead-based paints would be subject to applicable federal, state, and local regulations to minimize potential risks to human health and the environment.

Natural Resources. The Commercial Aviation Alternative could result in minor impacts to soils, geology, and water resources as a result of runoff from ground disturbance associated with renovation. Use of standard mitigation measures during ground-disturbing activities would reduce these impacts. New owners/users may be required to obtain an NPDES permit for storm water runoff during renovation activities. Reuse would result in a 2.6-percent increase in water demand over closure baseline, this increase would result in negligible effects to local water supplies.

Redevelopment activities under the Commercial Aviation Alternative could result in temporary, localized emissions of PM_{10}. Emissions of criteria

pollutants, including ozone precursors, associated with reuse activities would remain below preclosure levels throughout the 10-year analysis period. Further, the San Joaquin Valley UAPCD is committed to implementing controls on emissions of ozone precursors as identified in the 1991 AQAP. Therefore, no significant impacts to air quality are expected, nor would reuse activities contribute to a delay in attainment of the ozone and PM_{10} standards.

Without consideration of conformity offset allocations to other actions in the region (cumulative impacts), ozone precursor emissions of ROG and NO_x would be less than preclosure conditions and, therefore, would not interfere with the attainment of the ozone standard. For primary pollutants, impacts would not affect maintenance of the current attainment status of the standards for NO_2, SO_2, or CO, or progress toward attainment of the standard for PM_{10}.

However, the Navy has expressed interest in obtaining available conformity offsets for ROG, NO_x, and PM_{10} from the closure of Castle AFB in order to demonstrate no net emission increases from their BRAC-directed NAS Lemoore realignment action. Insufficient conformity offsets exist to simultaneously accommodate reuse and Navy-related requirements for NO_x and PM_{10}, which could cause cumulative adverse air quality impacts unless mitigated.

Aircraft noise from Commercial Aviation Alternative aviation activities would result in increased noise levels compared to closure conditions. However, by 2015 there would be 135,534 fewer acres exposed to CNEL 60 dB or greater than under preclosure conditions. The number of people living in areas exposed to CNEL 60 dB or more from surface traffic noise would increase by 383 from No-Action Alternative projections. Use of noise barriers and proper land use planning could reduce the effects of surface traffic noise.

Impacts to biological resources at Castle AFB could occur as a result of ground-disturbing activities associated with facility renovation. Development activities in the industrial area northeast of the airfield have the potential to directly impact wetlands and cause direct and indirect impacts to fairy shrimp habitat. Development in this area should be planned to avoid the wetlands and fairy shrimp habitat there. Agricultural development of the northwestern end of the base could impact wetlands located there.

Under the Commercial Aviation Alternative, CAFB-1H, part of CAFB-2H, and CAFB-3H would be within the airport boundary on vacant land not proposed for development. The remainder of CAFB-2H lies in the agricultural land use. Construction of an access point nearby could result in impacts to CAFB-1H and CAFB-2H. Certain historic structures could be considered eligible following the Cold War inventory and evaluation. Demolition, renovation,

deterioration, or conveyance of these properties from federal control could be considered an adverse effect. Preservation covenants could be placed on the disposal document to reduce impacts associated with conveyance to a non-federal entity to a nonadverse level. Other mitigation measures could include avoidance, preservation in place, or data recovery in the form of documentation.

AVIATION WITH MIXED USE ALTERNATIVE

Local Community. Redevelopment of Castle AFB under the Aviation with Mixed Use Alternative would generate 4,175 direct and 2,880 secondary jobs by 2015, resulting in a 2.7-percent annual increase in regional employment between closure and 2015, the same annual regional employment growth rate as the No-Action Alternative. This increase in jobs is small compared to total employment in the ROI (almost 500,000 in 2015), but represents a sizeable increase over the 50 direct and 12 secondary jobs projected under the No-Action Alternative. Population in the county would increase by 6,708 by 2015, compared to a projected total of 1,112,133 in 2015 under the No-Action Alternative. This estimate represents a 2.9-percent annual increase in population between closure and 2015.

Land uses on base would remain similar to existing uses, but increased acreages would be devoted to aviation support, industrial, institutional (educational), and commercial development and public facilities/recreation use areas. These increases would occur primarily as a result of conversion of existing vacant land and on-base residential areas. Merced County and the city of Atwater would have to revise their general plans and zoning ordinances to reflect the redevelopment of the base and to minimize conflicts between incompatible land uses.

Traffic on and near the base would increase over No-Action Alternative projections. Segments of SH 99 and Santa Fe Drive would drop to an unacceptable level of service by 2008 and 2003, respectively, compared to the projected date of 2010 when these segments would drop to an unacceptable level of service under the No-Action Alternative. Segments of Bellevue Road would drop to an unacceptable level of service by 2010, whereas those segments would operate at an acceptable level of service under the No-Action Alternative through 2015. Road improvement and transportation planning measures would have to be implemented to prevent deterioration to an unacceptable level of service. No airspace or air transportation impacts are anticipated as a result of the Aviation with Mixed Use Alternative.

Utility consumption in the area would increase by up to 5 percent over No-Action Alternative projections under the Aviation with Mixed Use Alternative. With or without this alternative, improvements to local water, wastewater, and electricity systems would be required before 2015.

Hazardous Materials and Hazardous Waste Management. The types of hazardous materials used and hazardous wastes generated under the Aviation with Mixed Use Alternative would be similar to those at preclosure and under the Proposed Action. The quantities would be greater than under the No-Action Alternative. The responsibility for managing hazardous materials and wastes would shift from a single user to multiple, independent users.

Reuse activities are not expected to affect the remediation of IRP sites, which is proceeding according to CERCLA and the FFA among the Air Force, U.S. EPA, and California EPA. Remediation of the Air Force's IRP sites is, and will continue to be, the responsibility of the Air Force. Disposal and reuse of some Castle AFB properties may be delayed or limited by the extent and type of contamination at IRP sites and by current or future IRP remediation activities.

Existing and new USTs and aboveground storage tanks required by the new users would be subject to all applicable federal, state, and local regulations. USTs that would not support reuse activities, and the underground fuel hydrant system would be closed in conformance with the appropriate federal, state, and local regulations. All oil/water separators will be pumped and cleaned prior to disposal. Aboveground storage tanks that would not be reused would be purged of fumes to preclude fire hazards.

A comprehensive asbestos survey of facilities on Castle AFB will be conducted prior to disposal. Demolition or renovation of structures with ACM would be the responsibility of the new owners and would be conducted in compliance with applicable OSHA regulations and NESHAP.

Pesticide usage would increase from baseline conditions as a result of reuse. Management practices would be subject to applicable federal and state regulations. All Air Force owned federally regulated PCB equipment and PCB-contaminated equipment, and state-regulated PCB items have been removed from Castle AFB. A survey conducted on base revealed radon levels below the U.S. EPA-recommended threshold for mitigation. Amounts of biohazardous wastes generated under this alternative would be similar to preclosure levels, and would be subject to the state Medical Waste Management Act. The EOD Range will be cleared of unexploded ordnance and the small arms range will be cleared of spent bullets prior to base disposal. Base reuse activities that involve the demolition or renovation of structures containing lead-based paints would be subject to applicable federal, state, and local regulations to minimize potential risks to human health and the environment.

Natural Environment. The Aviation with Mixed Use Alternative could result in minor impacts to soils, geology, and water resources as a result of runoff from ground disturbance associated with construction, renovation, and

demolition. Use of standard mitigation measures during ground-disturbing activities would reduce these impacts. New owners/users may be required to obtain an NPDES permit for storm water runoff during construction activities. Reuse would result in a 2.7-percent increase in water demand over closure baseline; this increase would result in negligible impacts to local water supplies.

Redevelopment activities under the Aviation with Mixed Use Alternative could result in temporary, localized emissions of PM_{10}. Emissions of criteria pollutants, including ozone precursors, associated with reuse activities would remain below preclosure levels throughout the 10-year analysis period. Further, the San Joaquin Valley UAPCD is committed to implementing controls on emission of ozone precursors as identified in the 1991 AQAP. Therefore, no significant impacts to air quality are expected, nor would reuse activities contribute to a delay in attainment of the ozone standard.

Without consideration of conformity offset allocations to other actions in the region (cumulative impacts), ozone precursor emissions of ROG and NO_x would be less than preclosure conditions and, therefore, would not interfere with the attainment of the ozone standard. For primary pollutants, impacts would not affect maintenance of the current attainment status of the standards for NO_2, SO_2, or CO, or progress toward attainment of the standard for PM_{10}.

However, the Navy has expressed interest in obtaining available conformity offsets for ROG, NO_x, and PM_{10} from the closure of Castle AFB in order to demonstrate no net emission increases from their BRAC-directed NAS Lemoore realignment action. Insufficient conformity offsets exist to simultaneously accommodate reuse and Navy-related requirements for PM_{10}, which could cause cumulative adverse air quality impacts unless mitigated.

Aircraft noise from Aviation with Mixed Use Alternative aviation activities would result in increased noise levels compared to closure conditions. However, by 2015 there would be 132,565 fewer acres exposed to CNEL 60 dB or greater than under preclosure conditions. The number of people living in areas exposed to CNEL 60 dB or more from surface traffic noise would increase by 365 from No-Action Alternative projections. Use of noise barriers and proper land use planning could reduce the effects of surface traffic noise.

Impacts to biological resources at Castle AFB could occur as a result of ground-disturbing activities associated with facility construction, renovation, and demolition. The designation of most of the area northeast of the airfield for passive recreation and conservation uses would result in beneficial effects to the fairy shrimp habitat and associated species. Facilities and other improvements in this area should be sited to minimize impacts to

grasslands, wetlands, and fairy shrimp habitat. Fences could be constructed around wetlands and fairy shrimp habitat to avoid direct impacts.

Under the Aviation with Mixed Use Alternative, CAFB-1H, CAFB-2H, and CAFB-3H would be within the airport boundary on vacant land not proposed for development. Construction of an access point nearby could result in impacts to CAFB-1H and CAFB-2H. Certain historic structures could be considered eligible following the Cold War inventory and evaluation. Demolition, renovation, deterioration, or conveyance of these properties from federal control could be considered an adverse effect. Preservation covenants could be placed on the disposal document to reduce impacts associated with conveyance to a non-federal entity to a nonadverse level. Other mitigation measures could include avoidance, preservation in place, or data recovery in the form of documentation.

NON-AVIATION ALTERNATIVE

Local Community. Redevelopment of Castle AFB under the Non-Aviation Alternative would generate 2,650 direct and 1,451 secondary jobs by 2015, resulting in a 2.7-percent annual increase in regional employment between closure and 2015, the same annual regional employment growth rate as the No-Action Alternative. This increase in jobs is small compared to total employment in the ROI (almost 500,000 in 2015), but represents a sizeable increase over the 50 direct and 12 secondary jobs projected under the No-Action Alternative. Population in the county would increase by 4,105 by 2015, compared to a projected total of 1,112,133 in 2015 under the No-Action Alternative. This estimate represents a 2.9-percent annual increase in population between closure and 2015.

Land uses on base would change from existing uses. There would be no airfield or aviation support uses, but the amount of industrial, institutional (educational), and residential development would increase, as would the acreage devoted to public facilities/recreation uses. An agricultural land use area would be created at the north end of the existing airfield. Merced County and the city of Atwater would have to revise their general plans and zoning ordinances to reflect the redevelopment of the base and to minimize conflicts between incompatible land uses.

Traffic on and near the base would increase over No-Action Alternative projections, but would be much less than under any of the aviation alternatives. Segments of SH 99 and Santa Fe Drive would drop to an unacceptable level of service by 2009 and 2006, respectively, compared to the projected date of 2010 when these segments would drop to unacceptable level of service under the No-Action Alternative. Segments of Bellevue Road would drop to an unacceptable level of service by 2012, whereas those segments would operate at an acceptable level of service under the No-Action Alternative through 2015. Road improvement and

transportation planning measures would have to be implemented to prevent deterioration to an unacceptable level of service. No airspace or air transportation impacts are anticipated as a result of the Non-Aviation Alternative.

Utility consumption in the area would increase by up to 4 percent over No-Action Alternative projections under the Non-Aviation Alternative. With or without this alternative, improvements to local water, wastewater, and electricity systems would be required before 2015.

Hazardous Materials and Hazardous Waste Management. The types of hazardous materials used and hazardous wastes generated under the Non-Aviation Alternative would be similar to those at preclosure and under the Proposed Action. However, no aviation-associated hazardous materials or wastes would be used or generated under this alternative. The quantities would be greater than under the No-Action Alternative. The responsibility for managing hazardous materials and wastes would shift from a single user to multiple, independent users.

Reuse activities are not expected to affect the remediation of IRP sites, which is proceeding according to CERCLA and the FFA among the Air Force, U.S. EPA, and California EPA. Remediation of the Air Force's IRP sites is, and will continue to be, the responsibility of the Air Force. Disposal and reuse of some Castle AFB properties may be delayed or limited by the extent and type of contamination at IRP sites and by current or future IRP remediation activities.

Existing and new USTs and aboveground storage tanks required by the new users would be subject to all applicable federal, state, and local regulations. USTs that would not support reuse activities, and the underground fuel hydrant system would be closed in conformance with the appropriate federal, state, and local regulations. All oil/water separators will be pumped and cleaned prior to disposal. Aboveground storage tanks that would not be reused would be purged of fumes to preclude fire hazards.

A comprehensive asbestos survey of facilities on Castle AFB will be conducted prior to disposal. Demolition or renovation of structures with ACM would be the responsibility of the new owners and would be conducted in compliance with applicable OSHA regulations and NESHAP.

Pesticide usage would increase from baseline conditions as a result of reuse. Management practices would be subject to applicable federal and state regulations. All Air Force owned federally regulated PCB equipment and PCB-contaminated equipment, and state-regulated PCB items have been removed from Castle AFB. A survey conducted on base revealed radon levels below the U.S. EPA-recommended threshold for mitigation. Amounts of biohazardous wastes generated under this alternative would be similar to

preclosure levels, and would be subject to the state Medical Waste Management Act. The EOD Range will be cleared of unexploded ordnance and the small arms range will be cleared of spent bullets prior to base disposal. Base reuse activities that involve the demolition or renovation of structures containing lead-based paints would be subject to applicable federal, state, and local regulations to minimize potential risks to human health and the environment.

Natural Environment. The Non-Aviation Alternative could result in minor impacts to soils, geology, and water resources as a result of runoff from ground disturbance associated with construction, renovation, and demolition. Use of standard mitigation measures during construction and agricultural activities would reduce these impacts. New owners/users may be required to obtain an NPDES permit for storm water runoff during construction activities. Reuse would result in a 2.2-percent increase in water demand over closure baseline; this increase would cause negligible effects to locate water supplies.

Redevelopment activities under the Non-Aviation Alternative could result in temporary, localized emissions of PM_{10}. Emissions of criteria pollutants, including ozone precursors, associated with reuse activities would remain below preclosure levels throughout the 10-year analysis period, and would be lower than emissions from the other alternatives because there would be no aircraft activity. Further, the San Joaquin Valley UAPCD is committed to implementing controls on emission of ozone precursors as identified in the 1991 AQAP. Therefore, no significant impacts to air quality are expected, nor would reuse activities contribute to a delay in attainment of the ozone or PM_{10} standards.

Without consideration of conformity offset allocations to other actions in the region (cumulative impacts), ozone precursor emissions of ROG and NO_x would be less than preclosure conditions and, therefore, would not interfere with the attainment of the ozone standard. For primary pollutants, impacts would not affect maintenance of the current attainment status of the standards for NO_2, SO_2, or CO, or progress toward attainment of the standard for PM_{10}.

However, the Navy has expressed interest in obtaining available conformity offsets for ROG, NO_x, and PM_{10} from the closure of Castle AFB in order to demonstrate no net emission increases from their BRAC-directed NAS Lemoore realignment action. Insufficient conformity offsets exist to simultaneously accommodate reuse and Navy-related requirements for PM_{10}, which could cause cumulative adverse air quality impacts unless mitigated.

There would be no aircraft noise from the Non-Aviation Alternative. The number of people living in areas exposed to CNEL 60 dB or more from surface traffic noise would increase by 296 from No-Action Alternative

projections. Use of noise barriers and proper land use planning could reduce the effects of surface traffic noise.

Impacts to biological resources at Castle AFB could occur as a result of ground-disturbing activities associated with facility construction, renovation, and demolition. The designation of most of the area northeast of the airfield for passive recreation and conservation uses would result in beneficial effects to the fairy shrimp habitat and associated species. Agricultural activities at the north end of the airfield present potential impacts to wetlands from disturbance and increased runoff. Standard construction mitigation measures to control runoff would minimize effects on aquatic species. Facilities and other improvements around sensitive habitats should be sited to minimize impacts. Fences could be constructed around fairy shrimp habitat and wetlands to avoid direct impacts.

Under the Non-Aviation Alternative, CAFB-1H and CAFB-2H are contained in agricultural, and CAFB-3H within industrial land use parcels. These sites could be impacted by disturbance associated with reuse activities such as agricultural practices, demolition of the runway pavement, or construction of access points and facilities. Certain historic structures could be considered eligible following the Cold War inventory and evaluation. Demolition, renovation, deterioration, or conveyance from federal control could be considered an adverse effect. Preservation covenants could be placed on the disposal document to reduce impacts associated with conveyance to a non-federal entity to a nonadverse level. Other mitigation measures could include avoidance, stabilization, preservation in place, or data recovery in the form of documentation.

NO-ACTION ALTERNATIVE

Local Community. The only Air Force activities associated with the No-Action Alternative would be caretaker maintenance of the base. This would generate approximately 50 direct and 12 secondary jobs. There would be no overall increase in employment or population. The presence of an essentially vacant and unused area in the middle of the community could hamper or delay redevelopment and revitalization of adjacent lands. No effects on utilities, or on road, air, or railroad transportation are expected.

Hazardous Materials and Hazardous Waste Management. Small quantities of various types of hazardous materials and pesticides would be used for this alternative. All materials and waste would be managed and controlled by the Air Force Base Conversion Agency Operating Location (OL) team in accordance with applicable regulations. Storage tanks would be removed or maintained in place according to required standards.

Natural Environment. This alternative would result in negligible impacts on air quality, the noise environment, and biological resources. The No-Action

Alternative would not impact geological resources, soils, water resources, or cultural resources relative to baseline conditions.

OTHER LAND USE CONCEPTS

Other land use concepts are analyzed in terms of their effects on employment, population, and the environment when combined with the Proposed Action and the other alternatives, including the No-Action Alternative. Impacts on the local community and the environment associated with the implementation of other land use concepts are summarized in Table S-3.

Federal Correctional Complex. The U.S. Department of Justice, Federal Bureau of Prisons, has requested approximately 660 acres northeast of the airfield for development of a minimum of two federal correctional complexes. Construction could occur in two phases. The first phase would be constructed in the 1995-2000 period, and would involve the northern 462 acres of the parcel. The second phase could occur concurrently or sometime thereafter and would involve the remaining 198 acres. For analysis purposes, it is assumed that the second phase would be completed in the 2005 to 2015 time period. Each of the approximately 388,000-square-foot facilities would house approximately 1,600 inmates. The facilities would be sited within a fenced compound with surrounding buffer zones. Employment is estimated at 450 full-time employees, and vehicular traffic at 1,200 daily trips by 2015.

The increased utility demand associated with this land use concept, in addition to the reuse- and non-reuse-related demand in the area, would be within the capacity of infrastructure systems, but modifications to distribution/collection systems would probably be required. Ground-disturbing activities associated with construction and grading for the facilities could increase the potential for erosion and runoff effects, but these would be small and could be minimized through use of standard construction mitigation measures. Ground-disturbing activities would also present a potential for impacts to the wetlands (specifically vernal pools) scattered throughout that area, which support the threatened fairy shrimp. Additionally, several state-listed and federal candidate plant species found in the vernal pools could also be affected. Careful planning and siting before development begins could minimize impacts to sensitive biological areas. Overall, if appropriate mitigations are employed, no substantial environmental impacts would be associated with implementation of this proposal in combination with any of the reuse alternatives.

Private Recreational Facility. The California Golden State Trapshooting Association has proposed development of an extensive trapshooting range and gun club on 335 acres east of the airfield. Proposed uses include private and public use of trapshooting facilities, other shooting events, a

Table S-3. Summary of Impacts from Other Land Use Concepts

Resource Category	Federal Correctional Complex	Private Recreational Facility
Local Community		
Land Use and Aesthetics	Under federal control. Potential visual impacts	Minimal use impacts
Transportation	1,200 daily trips. Potential net increase in traffic volumes would not affect level of service	460 daily trips. Potential net increase in traffic volumes would not affect level of service
Utilities	Potential net increases in utility use would require further evaluation as part of site development plans	Minimal utility use
Hazardous Materials and Hazardous Waste Management		
Hazardous Material Management	Management in compliance with applicable regulations	Small quantities used
Hazardous Waste Management	Management in compliance with applicable regulations	Small quantities generated
Installation Restoration Program	Potential delays in disposal and redevelopment	Potential delays in disposal and redevelopment
Storage Tanks	No impact	No impact
Asbestos	No impact	No impact
Pesticides Usage	Small quantities used	Small quantities used
Polychlorinated Biphenyls	No impact	No impact
Radon	No impact	No impact
Medical/Biohazardous Waste	Managed in accordance with applicable regulations	None generated
Ordnance	No impact	No impact
Natural Environment		
Soils and Geology	Up to 248 acres of ground disturbance	Up to 215 acres of ground disturbance
Water Resources	No adverse impact due to potential net increase in demand	No impact
Air Quality	No adverse impact due to potential net increase in emissions	No impact
Noise	No impact	No impact
Biological Resources	Potential direct and indirect impacts on fairy shrimp habitat and wetlands	Potential direct and indirect impacts on fairy shrimp habitat and wetlands
	No likely direct loss of fairy shrimp habitat or wetlands	No likely direct loss of fairy shrimp habitat or wetlands
Cultural Resources	No impact	No impact

Note: Impacts are presented as net effects to the Proposed Action and alternatives.

recreational vehicle park, and open space conservation. Many of the existing facilities would be reused. Little demolition and approximately 10,000 square feet of new construction are proposed. It is estimated that the facility would employ 5 full-time employees and generate 460 daily vehicular trips by 2015.

Although this proposal would entail increased human activity, there would be minimal increases in population and utility usage. Ground disturbance associated with facility development would total 135 acres. An additional 80 acres would be disturbed by operational activities. There would be increased noise levels associated with the shooting activities, but there are no nearby residential areas or other noise-sensitive land uses, so impacts would be minimal. Ground-disturbing and other human activities could present a potential for impacts to the wetlands (vernal pools) scattered through the area, which support the threatened fairy shrimp. However, careful planning and siting of facilities and use areas could minimize impacts to sensitive biological areas. With use of appropriate mitigation measures, implementation of this land use concept in combination with any of the reuse alternatives would result in moderate environmental impacts.