

Environmental Assessment for Transfer of NASA Crows Landing Flight Facility



**NASA Ames Research Center
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Environmental Assessment for Transfer of NASA Crows Landing Flight Facility

Lead Agency: National Aeronautics and Space Administration (NASA) Ames
Research Center

Cooperating Agency: General Services Administration

Proposed Action: Transfer of NASA Crows Landing Flight Facility to Stanislaus
County

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Abstract: NASA proposes to transfer ownership of Crows Landing Flight Facility to Stanislaus County pursuant to Public Law 106-82. NASA would relinquish legislative jurisdiction to the state of California but would retain the right to use the airfield for aviation activities in the future. Other alternatives examined were (1) transfer to the General Services Administration, and (2) no action. PL 106-82 directs NASA to transfer CLFF to Stanislaus County. NASA has no current operations at CLFF but is incurring costs associated with ownership.

The property transfer would occur in at least two phases. Phase I, to occur as soon as practicable, would include the uncontaminated parcel of land at the facility, Parcel A. The remaining parcels would be released once NASA, the Navy, the California Department of Toxic Substances Control, and the Central Valley Regional Water Quality Control Board determine that remedial actions for contaminated sites within these parcels are complete or have been demonstrated to be operating successfully.

Executive Summary

The National Aeronautics and Space Administration (NASA), Ames Research Center proposes to transfer NASA Crows Landing Flight Facility (CLFF) to Stanislaus County (the County) pursuant to Public Law 106-82 (Appendix A). Under the terms of Public Law 106-82 NASA would relinquish legislative jurisdiction to the state of California but would retain the right to use the airfield for aviation activities in the future. Currently, there are no NASA operations being conducted at the facility.

The property transfer would occur in at least two phases. Phase I, to occur as soon as practicable, would include the uncontaminated parcel of land at the facility, Parcel A. The remaining parcels would be released once NASA, the Navy, the California Department of Toxic Substances Control (DTSC), and the Central Valley Regional Water Quality Control Board (CVRWQCB) determine that remedial actions for contaminated sites within these parcels are complete or have been demonstrated to be operating successfully.

This Environmental Assessment (EA) documents the environmental consequences of the proposed action and the following alternatives: (1) transfer of the property directly to the General Services Administration (GSA); and (2) "No Action". The No Action alternative involves continuing NASA ownership of Crows Landing Flight Facility.

This EA addresses the impacts associated with the transfer of property to Stanislaus County including the impacts of ceding legislative jurisdiction to the state of California and the impacts of any future aviation activities by NASA. This EA does not address impacts of other future or speculative land uses by Stanislaus County. The County will address these impacts in subsequent review under the California Environmental Quality Act (CEQA).

Table of Contents

Executive Summary	ii
Table of Contents	iii
List of Acronyms	v
List of Abbreviations	v
List of Tables	vi
List of Figures	vi
List of Appendices	vi
1.0 Purpose and Need	1
2.0 Description of Proposed Action and Alternatives	2
2.1. Proposed Action: Transfer NASA Crows Landing to Stanislaus County	2
2.2. Alternative 1: Transfer NASA Crows Landing to the Government Services Administration as Excess Property	2
2.3. Alternative 2: No Action	2
3.0 Affected Environment	2
3.1. Geology & Hydrogeology	2
3.1.1. Regional Geology & Hydrogeology	2
3.1.2. Local Geology & Hydrogeology	3
3.2. Land Use	4
3.2.1. Airfield Operations	4
3.2.2. Support Facilities	4
3.2.3. Agriculture	5
3.2.4. Wetlands	5
3.3. Infrastructure	5
3.3.1. Utilities	5
3.3.2. Transportation	6
3.4. Social Environment	6
3.4.1. Community Demographics	6
3.4.2. Housing	6
3.4.3. Recreation	6
3.4.4. Schools	6
3.4.5. Medical Services	7
3.4.6. Police and Fire Services	7
3.4.7. Labor Force and Income	7
3.5. Noise	7
3.6. Air Quality	7
3.6.1. Air Quality Standards	7
3.6.2. Emission Sources	8
3.7. Floodplains	8
3.8. Water Quality	8
3.8.1. Surface Water	8

3.8.2.	Groundwater	9
3.9.	Biological Resources	9
3.9.1.	Wetlands	9
3.9.2.	Vegetation	9
3.9.3.	Wildlife	10
3.10.	Cultural Resources	10
3.10.1.	Archaeological Resources	10
3.10.2.	Historic Buildings and Structures	11
3.11.	Solid Waste	11
3.12.	Toxic Substances	11
3.12.1.	Asbestos	11
3.12.2.	Lead Paint	11
3.12.3.	Polychlorinated Biphenyls (PCBs)	12
3.12.4.	Pesticides	12
3.13.	Health and Safety	13
3.13.1.	Airfields	13
3.13.2.	Contaminated Sites	13
4.0	<i>Environmental Consequences</i>	15
4.1.	Proposed Action	15
4.1.1.	Geology & Hydrogeology	15
4.1.2.	Land Use	15
4.1.3.	Infrastructure	15
4.1.4.	Social Environment	15
4.1.5.	Noise	15
4.1.6.	Air Quality	16
4.1.7.	Floodplains	16
4.1.8.	Water Quality	16
4.1.9.	Biological Resources	16
4.1.10.	Cultural Resources	16
4.1.11.	Solid Waste	17
4.1.12.	Toxic Substances	17
4.1.13.	Health and Safety	17
4.1.14.	Cumulative Impacts	
4.2.	Alternative 1	17
4.3.	Alternative 2	17
5.0	<i>Mitigation and Monitoring</i>	18
6.0	<i>List of Agencies and Individuals Contacted</i>	19
7.0	<i>List of Preparers</i>	19
8.0	<i>Comments and Responses</i>	20
8.1.	Oral Comments and Responses	20
8.1.1.	Comment	20
8.1.2.	Response	20
8.2.	Written Comments and Responses	20
8.2.1.	Comment	20
8.2.2.	Response	20
9.0	<i>References</i>	21

List of Acronyms

ACM	Asbestos Containing Material
AICUZ	Air Installation Compatible Use Zone
AST	Aboveground Storage Tank
BGS	Below Ground Surface
BRAC	Defense Base Realignment and Closure Commission
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CNEL	Community Noise Equivalent Level
CVRWQCB	Central Valley Regional Water Quality Control Board
dB	Decibel
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethene
DDT	Dichlorodiphenyltrichloroethane
DTSC	Department of Toxic Substances Control
EA	Environmental Assessment
EBS	Environmental Baseline Survey
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GSA	General Services Administration
IRP	Installation Restoration Program
MCL	Maximum Contaminant Level
NALF	Naval Auxiliary Landing Field
NAS	Naval Air Station
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NPS	Non-point source
NRCS	Natural Resources Conservation Service
PCBs	Polychlorinated Biphenyls
PG&E	Pacific Gas and Electric Company
RCD	West Stanislaus Resource Conservation District
STOL	Short take-off and Landing
SVE	Soil vapor extraction
USDA	U.S. Department of Agriculture
UST	Underground Storage Tank

List Of Abbreviations

ha	hectare = 10,000 square meters = 2.471 acres
km	kilometer = 1,000 meters = 0.6214 mile
m	meter = 3.2808 feet

List of Tables

Table 1-1	Parcel Delineations	3
Table 3-1	Lead Paint Survey Results	12
Table 3-2	IRP Sites	13

List of Figures

Figure 1-1	NASA Crows Landing Location Map	23
Figure 1-2	Parcel locations and approximate areas NASA Crows Landing	24
Figure 3-1	NASA Crows Landing, Regional Hydrogeologic Cross Section	25
Figure 3-2	Land Use at NASA Crows Landing	26
Figure 3-3	Air Installation Compatible Use Zones	27

List of Appendices

Appendix A	Public Law 106-82	28
Appendix B	Scientific and Common Names of Plants and Wildlife	29
Appendix C	Responses to Comments on the Draft Environmental Assessment	32

1.0 Purpose and Need

Based on a recommendation of the 1991 Defense Base Realignment and Closure Commission (BRAC), Congress decided that Naval Air Station (NAS), Moffett Field would no longer be operated by the active duty Navy. Therefore, custodial responsibility for Moffett NAS was transferred to NASA Ames Research Center in July 1994. At the same time, NASA assumed custody of the Crows Landing Naval Auxiliary Landing Field (NALF, Figure 1-1). This transfer included all land, buildings, facilities, and infrastructure. Subsequently, Moffett NAS and NALF Crows Landing were renamed Moffett Federal Airfield and NASA Crows Landing Flight Facility (herein referred to as "Crows Landing").

Since accepting this property, NASA research operations at Crows Landing have been terminated. Because the agency continues to incur maintenance costs for the facility with no benefit, NASA proposed in June 1999 to divest itself of Crows Landing. On October 27, 1999 Congress passed Public Law 106-82, directing NASA to convey to Stanislaus County all right, title, and interest of the United States in and to Crows Landing.

To facilitate this conveyance, NASA completed an Environmental Baseline Survey (EBS). Based on the EBS, the property transfer is proposed to occur in at least two phases. Phase I, to occur as soon as practicable, would include the transfer of Parcel A (Figure 1-2, Table 1-1). Phase II would include the transfer of Parcels B, C, D, E, F, G, and H, which have been deemed inappropriate for transfer at this time due to known or potential contamination. These parcels would be released once NASA, the Navy, DTSC, and the CVRWQCB determine that remedial actions for contaminated sites within these parcels are complete or have been demonstrated to be operating successfully.

Table 1-1: Parcel Delineations

Parcel	Description (from Table 6-1 in NASA 2003a)
A	Agricultural lease and portions of the runways and IRP sites
--	10, 13, and 14
B	IRP Site 11 (Disposal pits area north of runway intersection)
C	Administration area (IRP Sites 12 & 17, UST Sites 1-6, 40,
--	101, 109&117, 138, 138a, 147)
D	Sanitary sewer system (former and present), IRP Site 11A
E	UST Cluster 2, UST's 7, 8, 9
F	IRP Site 18N (Firing range)
G	IRP Site 18S (Live ammunition area)

2.0 Description of Proposed Action and Alternatives

2.1. Proposed Action: Transfer NASA Crows Landing to Stanislaus County

Pursuant to Public Law 106-82, NASA proposes transferring Crows Landing directly to Stanislaus County. The property transfer would occur in at least two phases. Phase I, to occur as soon as practicable, would include the uncontaminated parcel of land at the facility, Parcel A. The remaining parcels would be released once NASA, the Navy, the California Department of Toxic Substances Control (DTSC), and the Central Valley Regional Water Quality Control Board (CVRWQCB) determine that remedial actions for contaminated sites within these parcels are complete or have been demonstrated to be operating successfully.

2.2. Alternative 1: Transfer NASA Crows Landing to the Government Services Administration as Excess Property

If Stanislaus County did not want the title to Crows Landing, then NASA would propose to transfer Crows Landing to GSA through the standard Federal government excess process. NASA would initiate this process by declaring the property as excess. Subsequently, GSA would facilitate transfer of the property to another entity.

2.3. Alternative 2: No Action

Under the no action alternative, NASA would continue to incur the costs associated with maintaining Crows Landing. However, without a research mission at the site, this alternative is not in the best interest of NASA. This also contravenes Public Law 106-82.

3.0 Affected Environment

The following information on the Existing Environment was primarily obtained from Tetra Tech (1998) and from NASA (2003a). Additional sources are cited with the individual sections.

3.1. Geology & Hydrogeology

3.1.1. Regional Geology & Hydrogeology

NASA Crows Landing is located in the San Joaquin Valley, which is a topographic and structural basin bounded to the east by the Sierra Nevada Mountains and to the west by the Coast Range. The valley is filled with a thick sequence of marine and continental sedimentary rocks overlying a basement complex of Sierra Nevada granite rocks on the east and metamorphosed sediments and igneous rocks of the Franciscan Formation on the west. The thickness of sediments is thought to exceed 12,000 feet [3858 meters (m)] in the western part of the valley, including the area beneath Crows Landing.

Geologic units comprising the groundwater reservoir in the Crows Landing area include surficial deposits of the Pleistocene and Holocene age and the underlying Tulare Formation of Pliocene and Pleistocene age. The alluvial deposits are primarily overlapping alluvial fans composed of interbedded clay, silt, sand, and gravel, derived from the Coast Ranges to the west. The alluvial deposits are thought to be a maximum of 100 feet (30.5 m) thick.

The Tulare Formation is composed of beds and lenses of clay, sand and gravel derived from the Coast Ranges to the west and the Sierra Nevada to the east. The Corcoran Clay is a lacustrine deposit (lake bed sediments) that underlies much of the San Joaquin Valley. The unit is also referred to as the E-clay in some areas or the "blue clay" in many local well drilling reports. The Corcoran Clay acts as a confining bed separating a primarily unconfined aquifer above from a confined aquifer below.

The Tulare Formation is thought to be about 500 to 600 feet (152.4 to 182.9 m) thick near Crows Landing. The base of the formation cannot easily be distinguished from underlying units, but is generally considered to coincide with the base of the fresh groundwater reservoir. The top of the Corcoran Clay is about 230 to 270 feet (70.1 to 82.3 m) below ground surface (bgs) and averages about 65 feet (19.8 m) thick.

Groundwater reservoirs include a lower, confined water-bearing zone in the Tulare Formation below the Corcoran Clay, and an upper, primarily unconfined water-bearing zone contained in the Tulare Formation and alluvial deposits above the Corcoran Clay (Figure 3-1). In the northwestern part of San Joaquin Valley, the regional trend of horizontal groundwater movement in both the upper and lower water-bearing zones is east to northeast, from the Coast Ranges to the San Joaquin River.

There has been no recent seismic activity near the facility. Furthermore, there are no known major active faults within the Central Valley. However, California is located in one of the most seismically active regions in the United States. The Hayward and Calaveras faults are located approximately thirty miles to the west. Additionally, minor faults known as the Ortigalita, Greenville, and Vernalis are located approximately 20 miles [32.2 kilometers (km)] to the west. Although these faults have not been active recently, they have a potential to cause a moderate earthquake that could be felt at Crows Landing.

Ground shaking caused by an earthquake occurring at a significant distance has the potential to induce structural damage at the site. In particular, older masonry buildings without reinforcement are at the greatest risk. However, the majority of buildings are metal frame or poured concrete, making significant earthquake damage unlikely. Moreover, liquefaction of the soil is improbable because of its high clay content.

3.1.2. Local Geology & Hydrogeology

According to a 1996 National Cooperative Soil Survey conducted by the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Crows Landing consists primarily of very deep, well-drained medium to fine textured alluvial soils. Soil Series include Capay, Vernalis, Stomar, and Zacharias and are classified by the NRCS as Land Capability Class I and II (Prime Farmland). These soils have few limitations for most crops grown in the area.

Logs for soil borings completed at the site indicate that three principal lithologies dominate in the subsurface beneath the base. These principal lithologies include sandy silt with clay, silty fine-grained sand, and medium-grained sand. Coarse-grained sand and pebble-sized gravel occur less frequently. Individual lithologic units are not continuous across sites and generally cannot be traced even between closely spaced borings.

Approximately 290 groundwater-monitoring wells and the base water supply well are used to monitor groundwater quality, flow characteristics, and soil contamination at the facility. Currently, depth to groundwater ranges from approximately 35 feet to 58 feet (10.7 to 17.7 m) bgs. Water levels beneath the base vary seasonally by several feet in response to precipitation and

irrigation well pumping. Overall, however, groundwater levels have decreased approximately 22 feet (6.1 m) since 1988.

Due to pumping of irrigation wells, groundwater flow patterns in the upper water-bearing zone near the southern and western sides of the site are usually reversed relative to the northeasterly regional pattern across the main part of the base. In the summer, the water table depression caused by these wells enlarges. In addition, groundwater mounding may occur as a result of irrigation water percolating to the upper water-bearing zone. Groundwater near the northeastern corner of the base usually flows to the east or northeast throughout the year, coinciding with the expected regional flow pattern.

3.2. Land Use

The following information was primarily obtained from Tetra Tech (1998), NASA (1993), and NASA (2003a).

NASA Crows Landing is located in Stanislaus County, CA, approximately 80 miles southeast of San Francisco (Figure 1-1). The facility encompasses 618.4 hectares (ha), 1,528 acres, on the west side of the San Joaquin River Valley and is located between Highway 33 and Interstate 5, two miles north of the town of Crows Landing and four miles south of Patterson. Access to the station is provided by Bell Road, located south of Marshall Road. Primary land use at the site is related to airfield operations, support facilities, and agriculture (Figure 3-2).

Surrounding areas are predominately agricultural with scattered small urban and farm-oriented centers. Because a large portion of the facility is actively farmed, land use at Crows Landing is compatible with the General Agricultural status designated by Stanislaus County's General Plan.

3.2.1. Airfield Operations

The Crows Landing airfield consists of two concrete runways in an "X" configuration. Runway 17/35 and Runway 12/30 are 8,000 feet (2438 m) and 7,000 feet (2134 m) long, respectively. Both runways accommodate single-tire aircraft with wheel loading up to 59,000 pounds (26,762 m).

To reduce aircraft hazards north and south of Runway 17/35, easements equaling approximately 85 ha (210 acres) are located at both ends of Runway 12/30. These easements prohibit construction of buildings or structures and restrict the use of land to agriculture (excluding orchards). Furthermore, the government maintained the right to remove trees and structures that may inhibit safe takeoffs and landings.

NASA ceased airfield operations at the facility in Fall 1997. Previous activities included advanced flight technology research and development, in addition to data collection for experimental aircraft. Test facilities included short take-off and landing areas (STOL), acoustic analysis arrays, and high precision laser, radar and video tracking systems.

3.2.2. Support Facilities

A control tower, administrative offices, maintenance areas, and fire/rescue facilities are located east of the runways. The north end of the facility included a NASA satellite flight research site and test area comprised of temporary and mobile buildings. Hangar space, aircraft maintenance, and overnight lodging are not available on-site.

3.2.3. Agriculture

Approximately 445.2 ha (1,100 acres) of the remaining land at Crows Landing is leased to a private tenant for agriculture. As a condition of the lease, the tenant provides maintenance at the site including fence repair, weed and pest control, irrigation management, and debris removal.

3.2.4. Wetlands

See section 3.9.1 for a description of the Wetlands at Crows Landing.

3.3. **Infrastructure**

The following information was primarily obtained from Tetra Tech (1998), NASA (1993), and NASA (2003a).

3.3.1. Utilities

Electricity is delivered to the site by Pacific Gas and Electric (PG&E) via a 12 kilovolt aboveground main service feeder running parallel to Ike Crow Road. An emergency generator on the first floor of Building 101, the Control Tower, which supplied power during emergencies was removed in 1998. PG&E also supplies natural gas to the site, while SBC (formerly Pacific Bell) provides telephone service.

Due to high levels of nitrates, the base water supply does not meet applicable drinking water standards. Consequently, bottled water is furnished for drinking. The water supply is used only for activities that do not involve ingestion or skin contact, including fire suppression, irrigation, and sewer flow. Besides groundwater, the Delta-Mendota Canal, the California Aqueduct, and the San Joaquin River provide water for irrigation.

The sanitary sewer collection and disposal system at Crows Landing is composed of a concrete trunk line parallel to Bell Road and a lateral line running westward to Building 40. The sanitary sewer system runs northward to an inoperable processing tank (Imhoff tank) and three unlined settling ponds at the northern end of the installation. Observations during environmental field activities revealed that the sewer pipelines contained little or no water, indicating that current volumes are insufficient to reach the Imhoff tank.

Stormwater runoff flows through a series of ditches and pipes along the runways into Little Salado Creek. This creek, which leads to a siltation pond at the northern end of the base, is also used to collect irrigation tailwater from the surrounding farms. Water in the siltation pond is reused to irrigate fields at the northern end of the base or discharged through a culvert under Highway 33, into a storm drain along Marshall Road, and finally into the San Joaquin River.

A total of 17 underground storage tanks (USTs) and seven aboveground storage tanks (ASTs) were used at various times by NASA and the Navy at Crows Landing. All of these tanks have been removed. The only two remaining tanks are two ASTs of unknown capacity that are owned by the farmer leasing the agricultural parcel (Parcel A). These tanks are used to store fuel for irrigation pumps.

3.3.2. Transportation

Running along the eastern side of the facility from Fink Road, past the former main gate near Ike Crow Road, and to the northern gate at Highway 33, Bell Road provides primary access to the site (Figure 1-1). The area is also accessible from Davis Road to the west via a service road to Buildings 102 and 43. Regional access to Crows Landing is provided by Interstate 5, which runs north and south along the base of the Diablo Mountains, approximately three miles west of the airfield. Local access is provided by Highway 33 east of the base.

Two transcontinental railroads, Burlington Northern Santa Fe (formerly Santa Fe) and Union Pacific (formerly Southern Pacific), serve Stanislaus County. The county airport is located approximately 25 miles (40.2 km) northeast of the site, providing daily flights to San Francisco, San Jose, and Los Angeles. Modesto airport also provides private air services, air taxi, charter, and air cargo services. Furthermore, the Stanislaus County Transit system offers bus service to the area.

3.4. **Social Environment**

The following information was primarily obtained from SCEDC (1991) and City of Modesto, California.

3.4.1. Community Demographics

The most populous cities within 10 miles of Crows Landing are Patterson and Newman, with 2000 populations of 10,950 and 6,375 respectively. The ethnic background is approximately 69% Caucasian and 31% Hispanic residents. Stanislaus County's 2000 population exceeded 441,000 with approximately 188,000 residents in the City of Modesto. The projected county population in 2005 is 523,600.

3.4.2. Housing

Western Stanislaus County offers a variety of housing for sale and rent at well below the costs of more urban regions of California. This includes every type and style of housing from rural ranchettes to small starter homes and garden apartments. The median home price in Modesto was approximately \$172,000 in 2002.

3.4.3. Recreation

No recreational facilities are currently operating at the facility. However, several are nearby. These include two municipal parks in the City of Patterson, various facilities operated by the Patterson School District, the Frank Raines Regional Park, and a municipal swimming pool in the City of Newman.

3.4.4. Schools

The Patterson School District, which includes NASA Crows Landing, has seven facilities including one high school, one junior high, and five elementary schools. These facilities serve approximately 3,500 students. Approximately 64% of students are Hispanic, with the majority of the balance being Caucasian. A small number of Asian American and African American students also attend these schools.

California State University, Stanislaus, is located within Turlock, approximately 20 miles (32.2 km) east of the site. Modesto Junior College is also located within commuting distance.

3.4.5. Medical Services

Medical services are available at Del Puerto Hospital in Patterson. Major injuries are usually transferred for long-term care to one of two major medical facilities in Modesto. Additional facilities are available in Newman and Turlock.

3.4.6. Police and Fire Services

Local police provide onsite security services through an inter-agency agreement between NASA and the City of Patterson. Fire protection at the site is maintained through mutual aid agreements with the cities and towns of Patterson, Newman, Westley, and Gustine.

3.4.7. Labor Force and Income

The economy in the vicinity of Crows Landing is based primarily on agriculture, food processing, manufacturing, retail trade, and service industries. According to the Stanislaus County Economic Development Corporation, agriculture employed 15,900 people and generated 1.2 billion dollars of gross revenue in the County in 2000. The largest single employer that year was Stanislaus County government, with approximately 4,000 employees. With a significant portion of the local labor force involved in agriculture, the County experiences major seasonal employment fluctuations. Unemployment rates, such as February 2002's 12.3%, are approximately twice the state average.

With no current operations, the facility's direct contribution to the local economy is negligible. However, the agricultural lessee generates on order of \$500,000 per year at the site (*U.S. Navy, April 1998*).

3.5. Noise

The following information was primarily obtained from NASA (1993) and NASA (2003a).

Until recently, aircraft were the primary sources of noise at the facility. Noise contours using the Air Installation Compatible Use Zone (AICUZ) program were last updated in 1986 based on 30,000 flight operations per year (Figure 3-3). Runway 17/35, the primary runway, had a maximum Community Noise Equivalent Level (CNEL) of 75 dB. Since the standard residential noise threshold level with reference to speech, sleep, and community reaction is CNEL 65 dB, the area within the 65 to 75 CNEL contour was considered to have significant noise levels. However, due to the elimination of aircraft operations, there are currently no significant sources of noise at the facility.

3.6. Air Quality

The following information was primarily obtained from Tetra Tech (1998).

3.6.1. Air Quality Standards

Both the Federal Government and the State of California have established ambient air quality standards. Under both standards, Crows Landing is located in an attainment area for all pollutants

except ozone and particulate matter. The area is designated as a severe and serious non-attainment area respectively for these pollutants.

3.6.2. Emission Sources

Until recently, two small stationary sources of air pollution, an unleaded gasoline storage tank and an emergency generator, existed at the site. With the removal of these sources and termination of aircraft operations, emissions from the facility are negligible. NASA does not have any air permits or operations at Crows Landing. The Navy has obtained air permits as part of their soil vapor extraction (SVE) testing.

3.7. **Floodplains**

The following information was primarily obtained from NASA (1993) and FEMA (1989).

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, most of the facility is located in Flood Zone C, an area with minimal potential for flooding. On the western side of the facility, a small area adjacent to Little Salado Creek is designated as Flood Zone A. This zone refers to areas that are expected to experience flooding during a 100-year storm. The remainder of the creek channel and the majority of the airfield are located in Flood Zone B, an area expected to experience flooding from a 500-year storm or flooding with average depths less than one foot from a 100-year storm.

A constructed sediment basin for irrigation tailwater runoff is located on the northeastern corner of the property. Effluent from this pond and runoff from the adjacent areas eventually discharge into the Marshall Road Basin. Since this basin was not designed as a flood control structure, close coordination with Caltrans and Stanislaus County Public Works Department is needed to manage flooding at the intersection of Highway 33 and Marshall Road during heavy rainstorms.

3.8. **Water Quality**

The following information was primarily obtained from Tetra Tech (1998), NRCS (1996), West Stanislaus RCD (1995), NASA (1993), and U.S. Navy (1978).

3.8.1. Surface Water

Crows Landing is located approximately three miles northwest of Orestimba Creek, which drains the eastern Diablo Range. This creek eventually flows into the San Joaquin River, located approximately four miles east of the property. The Delta Mendota Canal, running through the site south of Runway 17/35, provides irrigation water to the region. The California Aqueduct, the primary canal of the California Central Valley Project, runs in a southerly direction approximately one mile west of the site along the eastern edge of the Diablo Range near Interstate 5. Little Salado Creek drains part of the Diablo Range to the west of Crows Landing and eventually flows onto the site adjacent to the Delta Mendota Canal.

Surface drainage from the property flows in a northeasterly direction. Runoff and irrigation tailwater is channeled in surface ditches, pipes, and culverts to a sediment collection basin on the northeastern corner of the property prior to its discharge into the Marshall Road Basin and subsequently the San Joaquin River.

Because 100 miles (160.9 km) of the San Joaquin River were identified as an impaired water body in the 1990 California Water Resources Control Board Water Quality Assessment, several studies were conducted to identify primary pollutant sources. These studies pinpointed the West Stanislaus area as the highest contributor of sediment borne contaminants affecting this river. Consequently, the NRCS has expressed concerns regarding irrigation-induced soil erosion resulting from agriculture at Crows Landing.

To address this issue, the Resource Conservation District (RCD) in cooperation with the NRCS established a "Demonstration Farm" at the site to evaluate use of soil amendments, conditioners, and Best Management Practices to improve soil quality and reduce non-point source (NPS) pollution. Results of this study were published in a Clean Water Act Section 319h document: "Crows Landing 319 Demonstration Project: Evaluation of Best Management Practices in Controlling the Off-Site Movement of Pesticides and Sediment, June 1995." Efforts to control NPS pollution from Crows Landing continue.

3.8.2. Groundwater

Due to extensive agricultural land use, nitrate levels in groundwater exceed Federal and State Maximum Contaminant Levels (MCLs). Furthermore, in localized areas, groundwater at the site is contaminated with petroleum compounds and industrial solvents. Characterization of contamination at these parcels varies, ranging from the initial stages to almost complete. Additional characterization and other actions needed to obtain regulatory closure with the DTSC and the CVRWQCB are underway (See Sections 3.1 and 3.13.2).

3.9. **Biological Resources**

The following information was largely obtained from Tetra Tech (1998), NASA (1993, 2002), SFSU (1993, 1992), and WESTDIV (1987).

3.9.1. Wetlands

There are 14.0 ha (34.5 acres) of wetlands at Crows Landing. This includes 0.9 ha (2.2 acres) of sewer ponds on the northeastern portion of the property, a 2.8 ha (6.8 acres) siltation pond, 7.5 ha (18.5 acres) encompassing the Delta Mendota Canal, 2.02 ha (5 acres) in the Little Salado Creek area, and a 0.8 ha (2 acres) wildlife area created by the Boy Scouts, the Navy, the RCD, and the NRCS. No formal delineation to determine areas under the jurisdiction of the Corps of Engineers has been completed on the site and it is unknown to what extent any of the wetland, channel, or creek areas identified here meet the criteria for jurisdictional wetlands.

3.9.2. Vegetation

The predominant type of vegetation at the site is agriculturally related, with the balance consisting primarily of maintained grassland. None of the original perennial grassland habitat remains. Irrigated crops grown on site include sugar beets, peas, beans, tomatoes, spinach, grains, and melons. Vegetation in the wildlife area includes saltbush, vetch, quail bush, willow, curly dock, cattail, blackberry, bull sedge, Johnson grass, ripgut brome, and California oatgrass.

Grass species in landscaped areas include perennial ryegrass, alta fescue, Kentucky bluegrass, and Bermuda grass. Shrub species include star acacia, Sydney golden wattle, juniper, privet, laurel, purple leaf plum, rose, firethorn, and waxleaf ligustrum. Groundcover includes needle point ivy,

English ivy, South African daisy, and shore juniper, while evergreen elm, acacia, ash, buckeye, deodar cedar, mulberry, olive, photinia, pine, poplar, black walnut, sycamore, and willow are the predominate trees on the property.

Palmate-bracted bird's beak, soft birds beak, bearded allover, delta coyote thistle, spiny-petaled coyote thistle, and diamond-petaled California poppy are the sensitive plant species that have a potential to occur at the site. None of these plant species have been observed on the site. No other known populations of state or federally listed plant species are known from the site.

3.9.3. Wildlife

Mammals commonly found at Crows Landing include desert cottontail, California ground squirrel, wood rat, muskrat, black rat, Norway rat, house mouse, red fox, opossum, California vole, deer mouse, black-tailed jackrabbit, striped skunk, coyote, raccoon, feral dog, and feral cat. Because no native grassland remains, suitable habitat for the San Joaquin kit fox is not present at the facility, nor has any evidence of the animal been identified.

Birds at Crows Landing include red-tailed hawk, rough-legged hawk, American kestrel, American crow, common Raven, lesser goldfinch, yellow-billed magpie, western meadowlark, California quail, mourning dove, egrets, American robin, scrub jay, northern mockingbird, sparrow, long-billed curlew, red-winged blackbird, brewers black bird, turkey vulture, mallard, and a small number of migratory birds. California species of special concern on the property include the western burrowing owl, California horned lark, white-tailed kite, northern harrier, and loggerhead shrike.

Known amphibians at the site include the Pacific tree frog, the bullfrog, and the western toad. Reptiles include the king snake and gopher snake.

In February and October of 1993, San Francisco State University and the Navy conducted an endangered species survey. The study focused on the tri-colored blackbird, the blister beetle, and the giant garter snake. In addition, NASA conducted a survey of Burrowing Owls at Crows Landing in March, 2002. Although evidence of burrows was found, Owls were not sighted, and no federally listed or candidate threatened or endangered species are known to inhabit the facility.

3.10. **Cultural Resources**

The following information was largely obtained from SAIC (1998), Basin Research Associates, Inc. (1991), and NASA (2003a).

3.10.1. Archaeological Resources

It was rumored that a pioneer cemetery once existed at Crows Landing, near the former air-traffic control tower. However, two Government Land Office Maps dated 1854 and 1856 do not indicate a cemetery in this area. In 1991, Basin Research Associates, Inc. conducted an archaeological survey of Salado Creek. The site was not systematically surveyed because the majority of the facility had been paved or subjected to ground-disturbing activities. Since no remains of ethnographic or contemporary Native American resources were observed, buried archaeological deposits are not expected to be present.

3.10.2. Historic Buildings and Structures

All buildings and structures at Crows Landing have been evaluated for listing on the National Register of Historic Places (U.S. Navy, 1994). The Navy determined that the World War II buildings and structures do not qualify for listing on the National Register because of their altered appearance and setting.

Moreover, NASA determined that no buildings, structures, or objects at the facility have historical significance from a Cold War perspective (Cole 1998).

3.11. **Solid Waste**

The following information was largely obtained from Tetra Tech (1998).

Crows Landing has no active landfills. Since NASA has vacated the site, no solid waste is generated by NASA at Crows Landing. The Navy handles any solid waste generated by them during remedial investigations. Hazardous wastes are no longer generated at the facility.

3.12. **Toxic Substances**

The following information was largely obtained from Tetra Tech (1998,1994).

3.12.1. Asbestos

An asbestos survey was conducted at Crows Landing from June through August 1993. Asbestos is categorized in one of two ways, friable or non-friable material. Friable ACM can be pulverized by hand. Non-friable ACM must undergo destructive forces before fiber release can occur. Friable ACM was confirmed in the sprayed-on fire proofing in Buildings 137, 138, and 144. Non-friable ACM was confirmed in the white sink undercoating in Buildings 101 and 109. All friable ACM was encapsulated. Building 151 was not surveyed. Destructive sampling was not conducted during this survey. Therefore, by law, certain materials must be assumed to contain asbestos. Currently, it is unconfirmed whether the following materials in buildings in Parcel A contain asbestos and therefore must be assumed to contain asbestos:

- Building 102 – fire doors, roofing, transite paneling, floor tiles, baseboards, and associated mastic
- Building 143 – fire doors and roofing
- Building 150 – roofing

NASA conducted a visual asbestos survey in February 2002. No new friable asbestos was noted.

3.12.2. Lead Paint

A survey was conducted for lead paint at the facility in February 2002 (Table 3-1).

Table 3-1: Crows Landing Lead Paint Survey Results, February 2002

Building Number	Description	Lead Concentration (ppm)	Paint Condition
151	Exterior, Water Tower	3,102	Intact
150	Exterior Siding	22	Intact
143	Interior Wall	211	Poor/Flaking
143	Exterior Wall	4	Poor/Flaking
102	Exterior Wall	4	Poor/Flaking
40	Exterior Wall	10,342	Intact
136	Interior Bath Ceiling	143	Poor/Flaking
136	Exterior Siding	51	Poor/Flaking
138	Exterior Siding	21	Poor/Flaking
137	Exterior Siding	72	Fair/Minimal Flaking
144	Exterior Siding	31	Intact/Minimal Flaking
168	Exterior Siding Block Wall	56	Intact
168	Exterior Curbing	21	Intact
103	Exterior Wall	67	Fair/Moderate Flaking
101	Exterior Wall	70	Poor/Flaking
101	Interior Concrete Wall	562	Intact
109	Exterior Concrete Pad	6,754	Intact/Minimal Flaking
109	Exterior Wall	109	Intact/Minimal Flaking
104	Exterior Met Brace	22,455	Poor/Flaking
104	Exterior Storm Drain Cover	10,907	Poor/Flaking
105	Exterior Trailer	255	Poor/Flaking

3.12.3. Polychlorinated Biphenyls (PCBs)

In 1998, NASA conducted a comprehensive PCB survey of electrical equipment at Crows Landing. No equipment had PCB concentrations greater than 500 parts per million (ppm). Four transformers were identified as "PCB containing" (greater than 50 ppm, but less 500 ppm). No leaks associated with these transformers were discovered during a January 25, 2002 inspection. These four transformers were removed and properly disposed of February 28, 2002.

Fifteen transformers and switches have PCB concentrations greater than 5 ppm, but less than 50 ppm. This equipment is identified as "non-PCB", but will be regulated as hazardous waste when they are ready for disposal. All other oil containing equipment contained levels less than 4.5 ppm.

A survey was conducted of 14 buildings at Crows Landing for PCBs in paint in February, 2002. PCBs were detected in the paint of Building 150 (Water Tower, Exterior, 15,189 ppb) and Building 136 (Interior, Bathroom Ceiling, 5,115 ppb) were detected.

3.12.4. Pesticides

Pesticides have historically been used at Crows Landing and on the adjacent lands for agricultural purposes. Pesticides detected in the San Joaquin River in excess of EPA standards include chlordane, endosulfan, and toxaphene. Organochlorine pesticide residue from dieldrin, DDT, DDE, and DDD, has also been discovered from past use.

3.13. Health and Safety

The following information was largely obtained from Tetra Tech (1998) and NASA (1993).

3.13.1. Airfields

Clear zones and accident potential zones associated with the airfield flight path were included in the AICUZ studies. The clear zone is an area directly beyond the edge of the runway that has the greatest potential risk of an accident occurring. Beyond this zone is the accident potential zone, which has a smaller accident risk. Uses within this area are restricted to passive use. No objects or structures are allowed within these areas that may interfere with landings or takeoffs.

3.13.2. Contaminated Sites

3.13.2.1. Hazardous Waste Sites

Under the Navy's Installation Restoration Program (IRP), eight sites were identified in 1984 as potential hazardous waste, disposal, or spill locations (Table 3-2 and Figure 1-2). IRP Site 11A was added in the year 2000 based on the Navy's site investigation results.

Table 3-2: IRP Sites (Environmental Condition from Table 6-1 in NASA 2003a)

IRP Site	Parcel	Description	Environmental Condition
10	A	Agricultural lease and runways	Remedial action completed
11	B	Disposal Pits Area	Response actions underway
11A	D	Sanitary Sewer System	Removal or remedial actions underway
12	C	Administration Area	Removal or remedial actions underway
13	A	Agricultural lease and runways	Remedial action completed
14	A	Agricultural lease and runways	Remedial action completed
16	C	Agricultural lease and runways	Removal or remedial actions underway
17	C	Administration Area	Removal or remedial actions underway
18N	F	Firing Range Area	Unevaluated or further evaluation needed
18S	G	Live Ammunition Area	Unevaluated or further evaluation needed

Note: IRP Sites 1-9 are located at Moffett Federal Airfield. IRP Site 15 and part of IRP Site 16 were incorporated into IRP Site 12.

Crows Landing is not a Superfund cleanup site under the CERCLA. However, the Navy is responsible for the contamination and will continue remediation activities under State cleanup programs (Navy - NASA Memorandum of Understanding 1992).

Cleanup options for contaminated sites are currently being evaluated. Remedial actions are expected to be in place by 2005.

3.13.2.2. Petroleum Sites

The Navy's IRP program does not include sites that are contaminated exclusively with petroleum and petroleum related constituents because they are specifically excluded from CERCLA. Consequently, these sites are being addressed by the Navy under the Resource Conservation and Recovery Act and State UST programs.

All 17 USTs that were present at the site have been removed. However, contamination from fuel spills and leaks that could not be completely removed when the tanks were excavated remains at four UST sites. These include UST 109, UST 117, and UST Clusters 1 and 2 (Figure 1-2). The nature and extent of contamination has been documented for these areas and a corrective action plan is under regulatory review. Remedial actions are expected to be in place by the year 2005.

4.0 Environmental Consequences

4.1. Proposed Action

4.1.1. Geology & Hydrogeology

NASA leases part of Crows Landing for agricultural uses and the lease is expected to continue until the property is transferred to Stanislaus County. Currently, Stanislaus County plans to continue the lease year by year after the property transfer. Additionally, the county will influence future cooperative arrangements related to abatement of soil erosion and non-point source pollution. General guidance for reducing impacts of sediment and pesticide runoff from farms are contained in plans developed for the Central Valley Regional Water Quality Control Board and the West Stanislaus Resource Conservation District, e.g., USDA (1992). Impacts associated with future uses of the facility are beyond the scope of this EA and will be addressed by Stanislaus County in subsequent CEQA documentation.

4.1.2. Land Use

No adverse impacts related to land use are expected to result from the proposed action. Land use may be affected by future landowners. Stanislaus County has prepared a reuse plan for CLFF (Stanislaus County 2001) in which it identifies general aviation as the future use. The county evaluated the impacts of this use and found them to be less than significant with mitigation. Impacts of other possible future or speculative uses for CLFF have not been evaluated. However, these impacts are beyond the scope of this EA and will be addressed by Stanislaus County in subsequent CEQA documentation.

4.1.3. Infrastructure

No adverse impacts related to infrastructure are expected to result from the proposed action: NASA's relinquishing of legislative jurisdiction over the property. Utilities and transportation services would be expected to continue subject to agreements between the providers and the future owners and tenants of the property. Security and fire protection would be expected to continue subject to agreements with the nearby cities and towns of Patterson, Newman, Westley, and Gustine. Infrastructure may be affected by future landowners. However, these impacts are beyond the scope of this EA and will be addressed by Stanislaus County in subsequent CEQA documentation.

4.1.4. Social Environment

No adverse impacts related to the social environment, including impacts to minority or low-income populations, are expected to result from the proposed action. Future uses of the facility may affect this aspect of the environment. However, these impacts are beyond the scope of this EA and will be addressed by Stanislaus County in subsequent CEQA documentation.

4.1.5. Noise

Noise levels at the facility will remain at their current low levels. If NASA makes use of the airfield in the future, associated noise would remain within with the noise levels shown in Figure 3-3. Consequently, no adverse impacts related to noise are expected to result from the proposed action. Future uses of the facility may affect these levels. However, these impacts are beyond the

scope of this EA and will be addressed by Stanislaus County in subsequent CEQA documentation once future land use at the site has been determined.

4.1.6. Air Quality

No adverse impacts related to air quality are expected to result from the proposed action. Furthermore, because the action will not result in an increase of air emissions over de minimus levels in this air basin [50 tons/year (50,800 kg/year) for ozone or 70 tons/year (71,000 kg/year) for particulates], no conformity determination under Section 176 (c) of the Clean Air Act is required. Future uses of the facility may affect air quality. However, these impacts are beyond the scope of this EA and will be addressed by Stanislaus County in subsequent CEQA documentation.

4.1.7. Floodplains

After transferring the property, NASA would no longer coordinate with the California Department of Transportation (Caltrans) and Stanislaus County Public Works Department to manage flooding at the intersection of Highway 33 and Marshall Road during heavy rainstorms. Consequently, cooperative arrangements with the future landowner may be required.

4.1.8. Water Quality

4.1.8.1. Surface Water

See impacts identified under Section 4.1.1: *Geology and Hydrogeology*.

4.1.8.2. Groundwater

Because the Navy has agreed to continue with groundwater cleanup efforts, no adverse impacts related to groundwater are expected to result from the proposed action. However, there is a current restriction on pumping of groundwater within 610 meters (2000 feet) of the edge of the contaminant plume in Parcel C so that the contaminant mass is not drawn outside the boundary of Parcel C. Future uses may affect the groundwater resource. However, impacts of future uses are beyond the scope of this EA and will be addressed by Stanislaus County in subsequent CEQA documentation.

4.1.9. Biological Resources

No adverse impacts related to biological resources are expected to result from the proposed action. Future uses of the facility may affect these resources. However, these impacts are beyond the scope of this EA and will be addressed by Stanislaus County in subsequent CEQA documentation. Subsequent CEQA documentation should address the protection of the Western burrowing owl population on-site.

4.1.10. Cultural Resources

No adverse impacts related to cultural resources are expected to result from the proposed action because there are no identified cultural resources. Future uses of the facility may identify such resources. However, these impacts are beyond the scope of this EA and will be addressed by Stanislaus County in subsequent CEQA documentation.

4.1.11. Solid Waste

No adverse impacts related to solid waste are expected to result from the proposed action. Future uses of the facility may affect solid waste. However, these impacts are beyond the scope of this EA and will be addressed by Stanislaus County in subsequent CEQA documentation.

4.1.12. Toxic Substances

Because the future inhabitants are subject to the same management requirements as NASA, no adverse impacts related to asbestos, lead paint, and PCBs are expected to result from the proposed action. For impacts associated with pesticides, see Section 4.1: *Geology and Hydrogeology*.

4.1.13. Health and Safety

4.1.13.1. Airfield

No health and safety impacts related to the airfield are expected to result from the proposed action. Future uses of the facility may affect airfield use. However, these impacts are beyond the scope of this EA and will be addressed by Stanislaus County in subsequent CEQA documentation.

4.1.13.2. Contaminated Sites

The Navy has committed to remediating the contaminated sites to levels acceptable to the DTSC and CVRWQCB. Additionally, no parcels of land will be transferred until NASA, the Navy, DTSC, and the CVRWQCB determine that remedial actions for contaminated sites within these parcels are complete or have been demonstrated to be operating successfully. Consequently, no health and safety impacts related to sites contaminated with hazardous substances and/or petroleum are expected to result from the proposed action.

4.1.14. Cumulative Impacts

No adverse cumulative impacts are expected to result from the transfer of Crows Landing to Stanislaus County.

4.2. Alternative 1 Transfer NASA Crows Landing to the General Services Administration

Because Public Law 106-82 requires NASA to transfer Crows Landing to Stanislaus County, this alternative is not practical.

4.3. Alternative 2 No Action

There are no impacts associated with the No Action alternative, other than those identified in Section 3.0: Existing Conditions. In addition, NASA would incur financial costs associated with maintaining and securing the facility and would contravene Public Law 106-82.

5.0 Mitigation and Monitoring

No mitigation or monitoring is proposed for the clean parcels. NASA will monitor the remedial action status of the contaminated sites to determine when transfer can occur.

6.0 List of Agencies and Individuals Contacted

General Services Administration

Tom Doszkocs
Jim Vereeke

Johnson Controls

Jill Moudy

NASA

David Fluck
Vivienne Gallo

PAI Corporation, Inc.

Chris Alderete
Kobin Lee
Kris McGlothlin
Shelly Navarro
Ramsey Razik
Linda Vrabel
Ray Walker
Dan Wunningham

Stanislaus County

Ron Cherrier, Public Works Department	George Stillman, Public Works Department
Richard Jantz, Economic Development	Terry Rein, County Attorney
Roger Towers, Planning Department	Keith Boggs, Economic Development Dept.
Ron Freitas, Planning Department	Kirk Ford, Planning Department
Debbie Whitmore, Planning Department	Mike Sonke, Environmental Resources Dept.

U.S. Navy

Mary Doyle, Western Division Naval Facilities Engineering Command
Richard Rugen, Naval Engineering Field Activity West

7.0 List of Preparers

Boeing Aerospace Operations (formerly)

Kathleen Kovar

NASA

Don Chuck
Trudy Kortess
Michael McGowan
Sandy Olliges
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Science Applications International Corporation

Garrett Michael Turner, P.E.

8.0 Comments and Responses

The following oral and written comments on an earlier draft of this document were received. Responses to written comments on the October 2003 Draft EA are included below as Appendix C of this document.

8.1. Oral Comments and Responses

8.1.1. Comment

In regard to your runoff...your disposal of any water on the Navy Base. I don't think we should be flooded out or get any more drain water. [You] can put that...in the Delta Mendota [Canal],...not use it on our property. We've put up with it for...long enough.

8.1.2. Response

The proposed action will not affect the facility's physical drainage system. Thus, it will not increase the frequency or intensity of flooding events. However, once NASA transfers the property, it will no longer coordinate with appropriate agencies in mitigating flooding in the area. This will be left to the discretion of the future landowner.

8.2. Written Comments and Responses

8.2.1. Comment

Based on the information provided, the [San Joaquin Valley Air Pollution] District agrees with NASA's finding of no significant impact (FONSI) with respect to the transfer of the NASA Crows Landing Flight Facility to the General Services Administration. However, if future development of the NASA Crows Landing Flight Facility were proposed, the District would appreciate notification of such a project as well as an opportunity to comment. - Tracy Roemer Bettencourt, Environmental Planner, San Joaquin Air Pollution Control District

8.2.2. Response

Comment noted. The County would be responsible for notifying the District of any plans the County has for future development of the property.

9.0 References

Basin Research Associates, December 1991. "Archeological Overview and Survey NAS Moffett Field and NALF Crows Landing."

City of Modesto, California. Internet Homepage, November 1998.

Cole, A. L. 1998. Inventory and evaluation of cold war era historic resources, Moffett Federal Airfield, Moffett Field, CA. NASA Crows Landing Federal Facility, Crows Landing, CA. August 1998.

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, Community Panel Number 060384 0715 C, September 29, 1989.

NASA Ames Research Center Facilities Planning Office, February 1993. "NALF Crows Landing Existing Conditions Report."

National Aeronautics and Space Administration (NASA), Ames Research Center, 2003a. Revised Environmental Baseline Survey. NASA Crows Landing Flight Facility Parcel A, Crows Landing, CA. September 8, 2003. Office of Environmental Services, Mail Stop 218-1, Moffett Field, CA 94035-1000.

Natural Resource Conservation Service (NRCS), U.S. Department Of Agriculture, Letter to NASA, August 21, 1996.

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San Francisco State University (SFSU), Department of Biology. November 23, 1992. "Ecology of Federal Candidate 2 Species at Naval Auxiliary Landing Field, Crows Landing."

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Stanislaus County. 2001. NASA Ames Research Center Crows Landing Flight Facility. Reuse Plan, Initial Study, Mitigated Negative Declaration, and Mitigation Monitoring Plan. Prepared by Stanislaus County Crows Landing Task Force. January 2001.

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Tetra Tech EM, Inc., September 1998. "Environmental Baseline Survey, NASA Crows Landing Flight Facility."

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U.S. Navy, November 1998, Lease for Agricultural Purposes.

U.S. Navy, April 21, 1998. Facsimile transmission with Richard Rugen.

U.S. Navy. 1994. Historic resources inventory. Naval Auxiliary Landing Field, Crows Landing.

U.S. Navy, June 1978. Soil and Water Conservation Plan For Agricultural Outlease at Naval Auxiliary Landing Field Crows Landing.”

West Stanislaus Resource Conservation District (RCD), June 30, 1995. “Crows Landing 319 Demonstration Project: Evaluation of Best Management Practices in Controlling the Off-Site Movement of Pesticides and Sediment.”

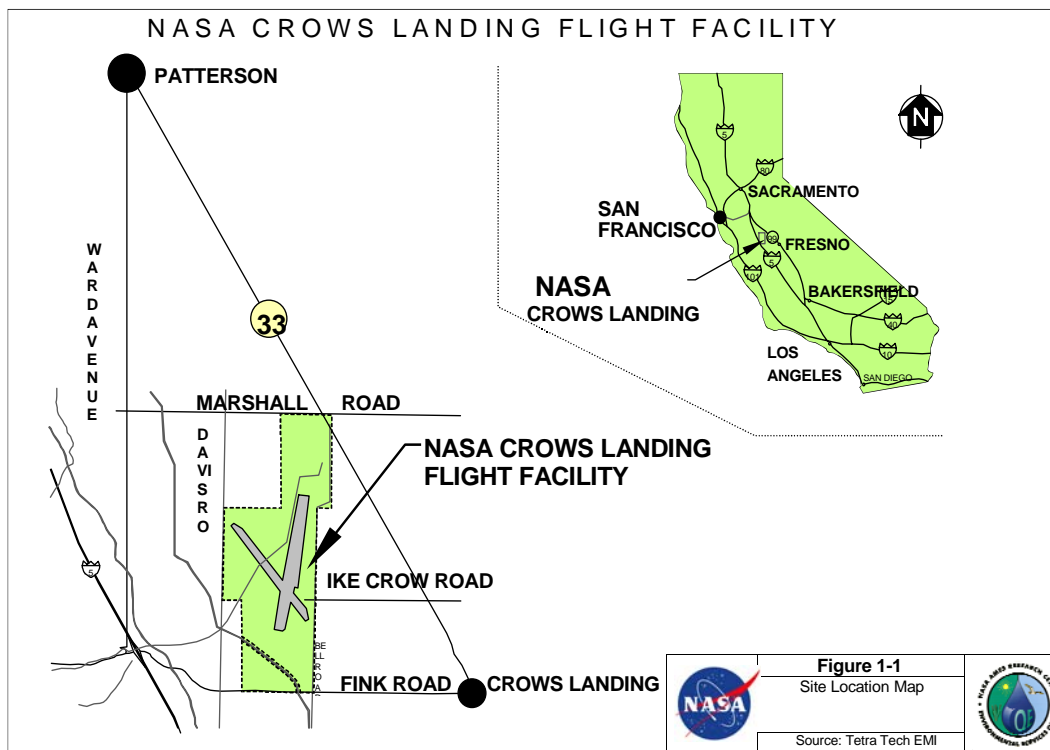


Figure 1-1. Location map, NASA Crows Landing.

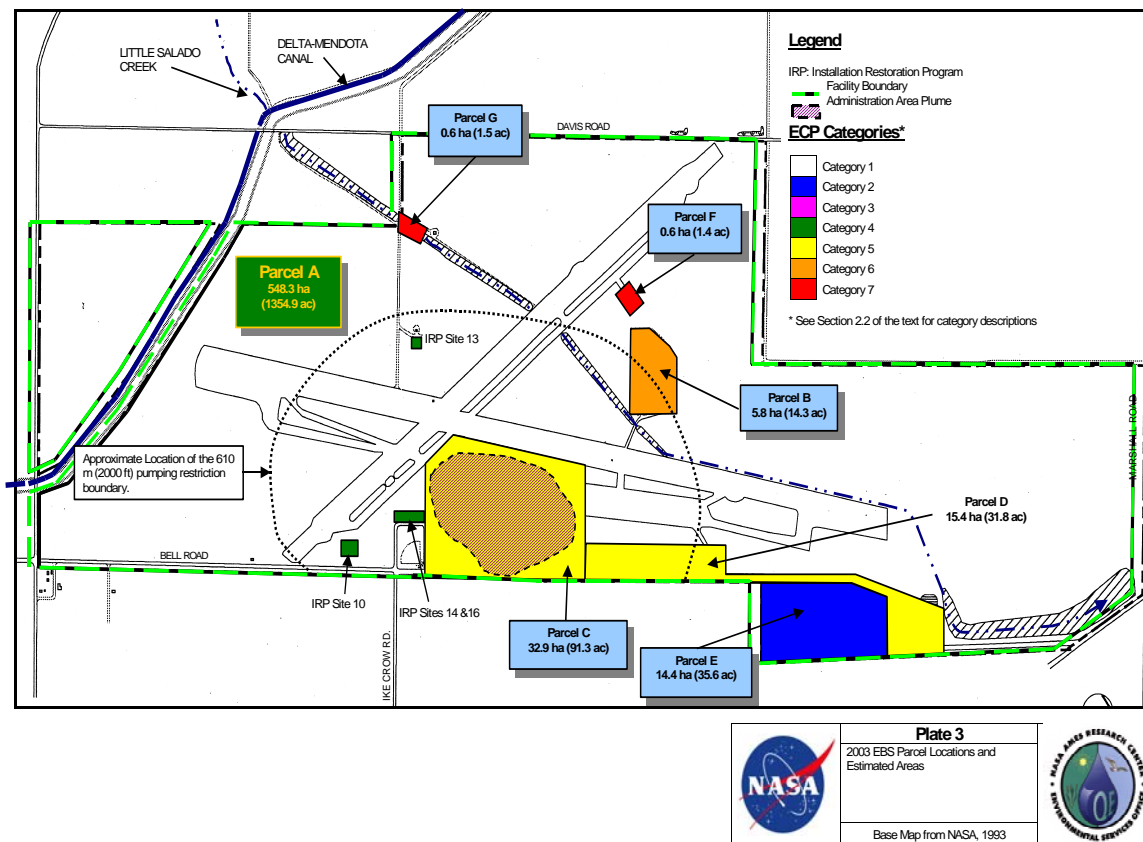


Figure 1-2. Parcel locations and estimated areas. From Revised Environmental Baseline Survey (NASA 2003a).

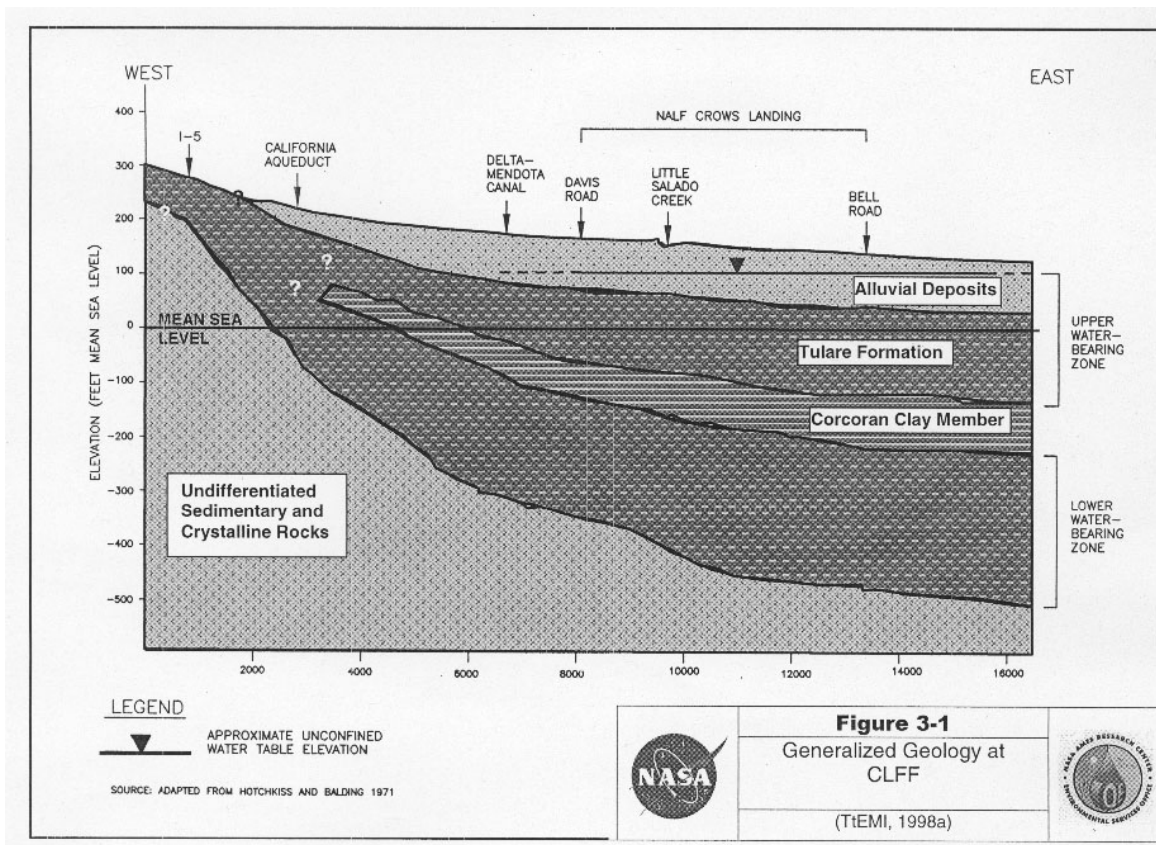


Figure 3-1. Regional hydrologic cross section, Crows Landing.

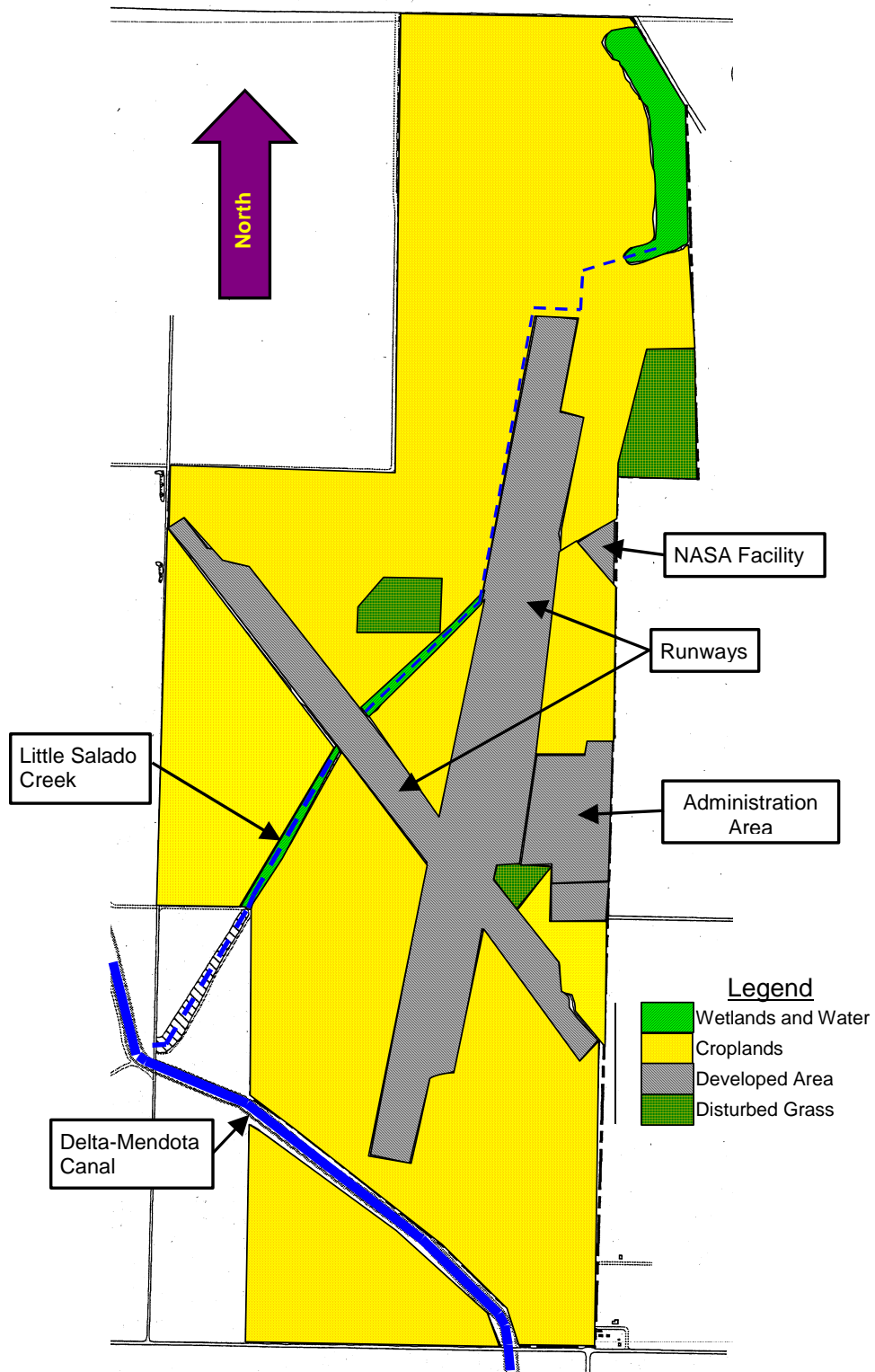


Figure 3-2. Land use at NASA Crows Landing.

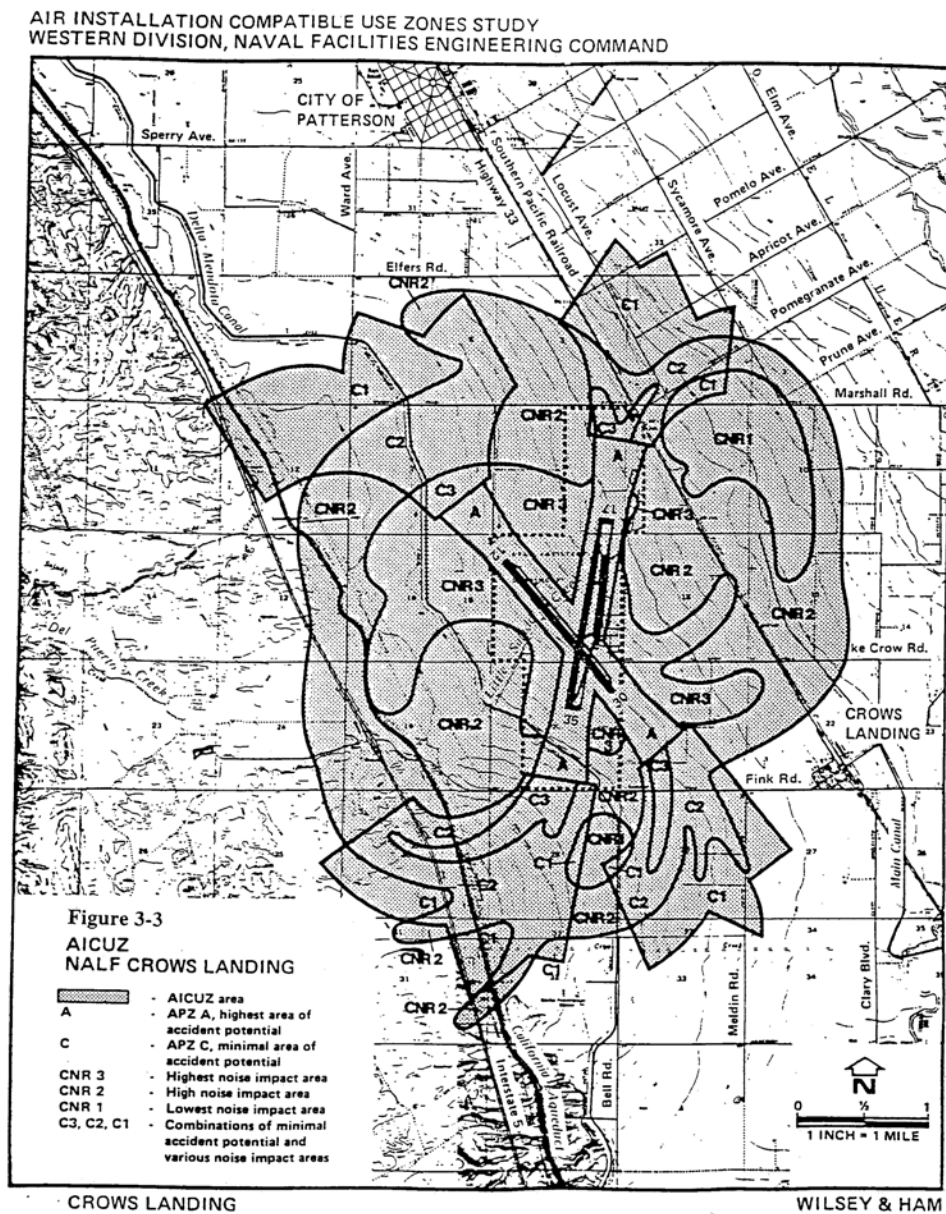


Figure 3-3. Air installation compatible use zones. Relative accident potential and noise impacts of airfield flight operations.

Appendix A. Public Law 106-82

113 STAT. 1291 PUBLIC LAW 106-82—OCT. 27, 1999

Public Law 106-82

106th Congress

An Act To provide for the conveyance of certain property from the United States to Stanislaus County, California.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. CONVEYANCE OF PROPERTY.

As soon as practicable after the date of the enactment of this Act, the Administrator of the National Aeronautics and Space Administration (in this Act referred to as “NASA”) shall convey to Stanislaus County, California, all right, title, and interest of the United States in and to the property described in section 2.

SEC. 2. PROPERTY DESCRIBED.

The property to be conveyed pursuant to section 1 is—

- (1) the approximately 618 ha (1528 acres) of land in Stanislaus County, California, known as the NASA Ames Research Center, Crows Landing Facility (formerly known as the Naval Auxiliary Landing Field, Crows Landing);
- (2) all improvements on the land described in paragraph (1); and
- (3) any other Federal property that is—
 - (A) under the jurisdiction of NASA;
 - (B) located on the land described in paragraph (1); and
 - (C) designated by NASA to be transferred to Stanislaus County, California.

SEC. 3. TERMS.

(a) **CONSIDERATION.**—The conveyance required by section 1 shall be without consideration other than that required by this section.

(b) **ENVIRONMENTAL REMEDIATION.**—

(1) The conveyance required by section 1 shall not relieve any Federal agency of any responsibility under law, policy, or Federal interagency agreement for any environmental remediation of soil, groundwater, or surface water.

(2) Any remediation of contamination, other than that described in paragraph (1), within or related to structures or fixtures on the property described in section 2 shall be subject to negotiation to the extent permitted by law.

(c) **RETAINED RIGHT OF USE.**—NASA shall retain the right to use for aviation activities, without consideration and on other terms and conditions mutually acceptable to NASA and Stanislaus County, California, the property described in section 2.

(d) **RELINQUISHMENT OF LEGISLATIVE JURISDICTION.**—NASA shall relinquish, to the State of California, legislative jurisdiction over the property conveyed pursuant to section 1—

- (1) by filing a notice of relinquishment with the Governor of California, which shall take effect upon acceptance thereof; or
- (2) in any other manner prescribed by the laws of California.

(e) **ADDITIONAL TERMS.**—The Administrator of NASA may negotiate additional terms to protect the interests of the United States.

Approved October 27, 1999.

LEGISLATIVE HISTORY—H.R. 356:
CONGRESSIONAL RECORD, Vol. 145 (1999):
Oct. 4, considered and passed House.
Oct. 13, considered and passed Senate.

Appendix B. Scientific and Common Names of Plants and Wildlife

Category	Common Name	Scientific Name
Plants known to occur at Crows Landing Flight Facility	Saltbush	<i>Atriplex canescens</i>
	Vetch	<i>Vicia sp.</i>
	Quailbush	<i>Atriplex lentiformis</i>
	Willow	<i>Salix sp.</i>
	Curly dock	<i>Rumex crispus</i>
	Cattail	<i>Typha sp.</i>
	Blackberry	<i>Rubus sp.</i>
	Bull sedge	<i>Cyperaceae sp.</i>
	Johnsongrass	<i>Sorghum halepense</i>
	Ripgut brome	<i>Bromus diandrus</i>
	California oatgrass	<i>Danthonia californica</i>
	Perennial ryegrass	<i>Lolium perenne</i>
	Alta fescue	<i>Festuca sp.</i>
	Kentucky bluegrass	<i>Poa pratensis</i>
	Bermuda grass	<i>Cynolon dactylon</i>
	Star acacia	<i>Acacia verticillata</i>
	Sydney golden wattle	<i>Acacia longifolia</i>
	Juniper	<i>Juniper sp.</i>
	Privet	<i>Ligustrum sp.</i>
	Laurel	<i>Kalmia or Umbellularia</i>
	Purple leaf plum	<i>Prunus sp.</i>
	Rose	<i>Rosaceae</i>
	Firethorn	<i>Pyracantha angustifolia</i>
	Waxleaf ligustrum	<i>Ligustrum sp.</i>
	Needlepoint ivy	<i>Hedera sp.</i>
	English ivy	<i>Hedera helix</i>
	South African daisy	<i>Dimorphotheca sinuata</i>
	Shore juniper	<i>Juniper sp.</i>
	Elm	<i>Ulmus sp.</i>
	Acacia	<i>Acacia sp.</i>
	Ash	<i>Fraxinus sp.</i>
	Buckeye	<i>Aesculus californica</i>
	Deodar cedar	<i>Calocedrus decurrens</i>
	Mulberry	<i>Morus alba</i>
	Olive	<i>Olea sp.</i>
	Photinia	<i>Photinia sp.</i>
	Pine	<i>Pinus sp.</i>
	Poplar	<i>Populus sp.</i>
	Black walnut	<i>Juglans sp.</i>
	Sycamore	<i>Platanus racemosa</i>

Category	Common Name	Scientific Name
Sensitive plants with potential to occur at Crows Landing Flight Facility	Palmate-bracted bird's beak	<i>Cordylanthus palmatus</i>
	Soft bird's beak	<i>Cordylanthus mollis</i>
	Bearded allocarya	<i>Plagiobothrys hystriculus</i>
	Delta coyote thistle	<i>Cirsium sp.</i>
	Spiny-petaled coyote thistle	<i>Cirsium sp.</i>
Wildlife – mammals	Diamond-petaled California poppy	<i>Eschscholzia rhombipetala</i>
	Desert cottontail	<i>Sylvilagus audubonii</i>
	California ground squirrel	<i>Spermophilus beecheyi</i>
	Woodrat	<i>Neotoma sp.</i>
	Muskrat	<i>Ondatra zibethica</i>
	Black rat	<i>Rattus rattus</i>
	Norway rat	<i>Rattus norvegicus</i>
	House mouse	<i>Mus musculus</i>
	Red fox	<i>Vulpes vulpes</i>
	Opossum	<i>Didelphis virginiana</i>
	California vole	<i>Microtus californicus</i>
	Deer mouse	<i>Peromyscus maniculatus</i>
	Black-tailed jackrabbit	<i>Lepus californicus</i>
	Striped skunk	<i>Mephitis mephitis</i>
	Coyote	<i>Canis latrans</i>
	Raccoon	<i>Procyon lotor</i>
	Feral dog	<i>Canis familiaris</i>
	Feral cat	<i>Felis domesticus</i>
Wildlife – birds	Red-tailed hawk	<i>Buteo jamaicensis</i>
	Rough-legged hawk	<i>Buteo lagopus</i>
	American kestrel	<i>Falco sparverius</i>
	American crow	<i>Corvus brachyrhynchos</i>
	Common raven	<i>Corvus corax</i>
	Lesser goldfinch	<i>Carduelis psaltria</i>
	Yellow-billed magpie	<i>Pica nuttalli</i>
	Western meadowlark	<i>Sturnella neglecta</i>
	California quail	<i>Callipepla californica</i>
	Mourning dove	<i>Zenaida macroura</i>
	Egrets	<i>3 possible species</i>
	American robin	<i>Turdus migratorius</i>
	Scrub jay	<i>Aphelocoma coerulescens</i>
	Northern mockingbird	<i>Mimus polyglottos</i>
	Sparrow	<i>Several possible species</i>

Category	Common Name	Scientific Name
Wildlife – birds (continued)	Long-billed curlew	<i>Numenius americanus</i>
	Red-winged blackbird	<i>Agelaius phoeniceus</i>
	Brewer's blackbird	<i>Euphagus cyanocephalus</i>
	Turkey vulture	<i>Cathartes aura</i>
	Mallard	<i>Anas platyrhynchos</i>
	(species of special concern) Western burrowing owl	<i>Athene cunicularia</i>
	(species of special concern) California horned lark	<i>Eremophia alpestris</i>
	(species of special concern) White-tailed kite (now black-shouldered kite)	<i>Elanus caeruleus</i>
	(species of special concern) Northern harrier	<i>Circus cyaneus</i>
	(species of special concern) Loggerhead shrike	<i>Lanius ludovicianus</i>
Amphibians	Pacific tree frog	<i>Hyla regilla</i>
	Bullfrog	<i>Rana catesbeiana</i>
	Western toad	<i>Bufo boreas</i>
Reptiles	King snake	<i>Lampropeltis getulus</i>
	Gopher snake	<i>Pituophis melanoleucas</i>

Appendix C Responses to Comments on the October 2003 Draft Environmental Assessment

Please note that written comments and responses to them are presented on facing pages so the reader can refer to the comment while reading the response to it.

Comment 1 from The Gustine Historical Society is on the next page.



Gustine Museum

GUSTINE HISTORICAL SOCIETY

803 LAUREL AVENUE
GUSTINE, CALIFORNIA 95322
(209) 854-3120

November 11, 2003

1-1

Dear Mr. McGowan,

Please be aware as you transfer title of the Crows Landing Flight Facility to Stanislaus Co. that a pioneer cemetery is either on the grounds or just adjacent to the grounds. I perhaps just outside the old east gate.

The exact location is not known. It has either been paved over, built over or plowed over. Remains are there.

Sincerely,

Patricia S. Snoke,
Secretary

Response to Comment 1-1 from the Gustine Historical Society.

1-1 Comment noted. This letter states that a pioneer era cemetery is located either on the flight facility grounds or just adjacent. No impacts to this property will occur from this proposed action. Any impacts to this property from future proposed uses would need to be addressed by Stanislaus County in a subsequent CEQA document.



FYI

DEPARTMENT OF ENVIRONMENTAL RESOURCES

3800 Comucopia Way, Suite C, Modesto, CA 95358-9492
Phone: 209.525.6700 Fax: 209.525.6774



November 20, 2003

Mr. Don Chuck
Manager, Restoration and Subsurface Groups
NASA Ames Research Center
M/S 218-1
Building 218, Room 205
Moffett Field, CA 94035

RE: Review of the following documents regarding NASA Crows Landing Flight Facility
Crows Landing, Ca.

"REVISED DRAFT ENVIRONMENTAL BASELINE SURVEY" (EBS) 9/8/03
"REVISED DRAFT FINDING OF SUITABILITY FOR TRANSFER (FOST) 9/8/03
"REVISED DRAFT ENVIRONMENTAL ASSESSMENT FOR TRANSFER OF NASA
CROWS LANDING FLIGHT FACILITY" October 2003

Dear Mr. Chuck:

Thank you for the opportunity to comment. The above documents have been reviewed and
the following comments are provided, as requested.

General Comments

1. Thank you for incorporating the previous comments into the various documents.
2. Stanislaus County would like to reserve the right to comment on the comments received
on the Revised Draft EBS, FOST or EA documents from other interested parties.

Comments on the Draft Environmental Assessment (EA)

Pg	Sect	
2	2.2	Comment: For the record, Stanislaus County does want the Crows Landing Property and does not want it to be transferred to the GSA.
19	6.0	List of Agencies and Individuals Contacted Please add the following individuals to the List of Agencies and Individuals Contacted: George Stillman, Public Works Department Terry Rein, County Attorney Keith Boggs, Economic Development Department Ron Freitas, Planning Department Kirk Ford, Planning Department Debbie Whitmore, Planning Department Mike Sonke, Environmental Resources Department

2-1

2-2

Response to Comments 2-1 and 2-2 from Stanislaus County.

2-1 Comment noted. It is NASA's intent to transfer the property to Stanislaus County.

2-2 The individuals listed have been added to the List of Agencies and Individuals
Contacted.

DEPARTMENT OF TRANSPORTATION
DIVISION OF AERONAUTICS - M-S#40
1120 N STREET
P. O. BOX 942873
SACRAMENTO, CA 94273-0001
FAX (916) 6513-9531
TTY (916) 651-6827

PHONE (916) 654-4959

November 20, 2003

Mr. Michael McGowan
Environmental Services Center
NASA Ames Research Center, MS 218-1
Moffett Field, CA 94035-1000

Dear Mr. McGowan:

Re: NASA Ames Research Center Environmental Assessment- Transfer of NASA Crows Landing Flight Facility to Stanislaus County; SCH# 2003104003

The California Department of Transportation, Division of Aeronautics (Department), reviewed the above-referenced document with respect to airport related noise and safety impacts and regional aviation land use planning issues pursuant to the California Environmental Quality Act (CEQA). The following comments are offered for your consideration.

The proposal is for the transfer of National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility to Stanislaus County. We are aware of the proposed transfer and of plans by Stanislaus County to create a public use airport. Our Aviation Consultant for Merced County, Keith Turner, has been working with Stanislaus County in obtaining the required State Airport Permit. 3-1

These comments reflect the areas of concern to the Department's Division of Aeronautics with respect to airport-related noise and safety impacts and regional airport land use planning issues. We advise you to contact our district office concerning surface transportation issues.

Thank you for the opportunity to review and comment on this proposal. If you have any questions, please call me at (916) 654-5314.

Sincerely,

SANDY HESNARD
Aviation Environmental Planner

cc: State Clearinghouse, Stanislaus County ALUC, Stanislaus County
"Caltrans improves mobility across California"

Response to comment 3-1 from the California Department of Transportation , Division of Aeronautics.

3-1 Comment noted. Plans for the future use of the Crows Landing Flight Facility and any permits from the Department of Transportation, Division of Aeronautics, will be the responsibility of Stanislaus County.