Chapter 1. Introduction

1.1 Overview

This chapter discusses the use of Environmental Resource Documents (ERDs) by the National Aeronautics and Space Administration (NASA), and NASA Ames Research Center (ARC) specifically, to address environmental effects associated with current facility operations. It also provides a geographic and historical overview of ARC and the surrounding region. The information presented in this chapter was drawn from the November 2009 NASA ARC ERD (NASA 2009) and the NASA Ames Development Plan (NADP) Final Programmatic Environmental Impact Statement (EIS) (Design, Community & Environment 2002).

1.2 Regulatory Background

ERDs are specific to NASA and are not required by the National Environmental Policy Act (NEPA) or by Council on Environmental Quality (CEQ) regulations. NASA regulations (Title 14 of the Code of Federal Regulations [CFR], Section 1216.319, and NASA Procedural Requirements [NPR] 8580.1A) require each NASA Center or Component Facility to prepare an ERD to serve as a succinct baseline description of all environmental aspects of the operations of that facility at the time of the ERD's preparation. In essence, an ERD forms a baseline environment description against which the effects of subsequent proposed actions may be judged to determine significance. Each installation's ERD is to be updated every five years and as Center conditions change, in accordance with the procedures outlined in NPR 8580.1A.

The purposes of this ERD are to:

- Describe the existing environmental setting at ARC
- Document the effects of the facility and its current operation on the physical, biological, and social environment
- Document a baseline of conditions against which new and proposed actions can be compared and assessed as part of the decision-making process
- Facilitate the preparation of future EISs and environmental assessments (EAs) that are required by NEPA for proposed major federal actions

This ERD is a revision of the 2009 ERD, which expanded upon the preceding 2003 document and also incorporated information from the 2002 NADP EIS. The EIS is discussed in more detail in Chapter 4, "Land Use."

1.3 Regional Setting

ARC is located in northern Santa Clara County, at the south end of San Francisco Bay (Figure 1-1). The City of San Francisco is 65 kilometers (40 miles) to the northwest, and the City of San Jose is 16 kilometers (10 miles) to the southeast (Figure 1-2). The Cities of Mountain View and Sunnyvale are adjacent to the ARC site, Mountain View to the west and Sunnyvale to the east. The U.S. Fish and Wildlife Service (USFWS) administers salt ponds

and marshes located to the north as part of the Don Edwards San Francisco Bay National Wildlife Refuge; the ponds were previously owned by Cargill Salt Company and used for salt production. These ponds and marshes border San Francisco Bay.

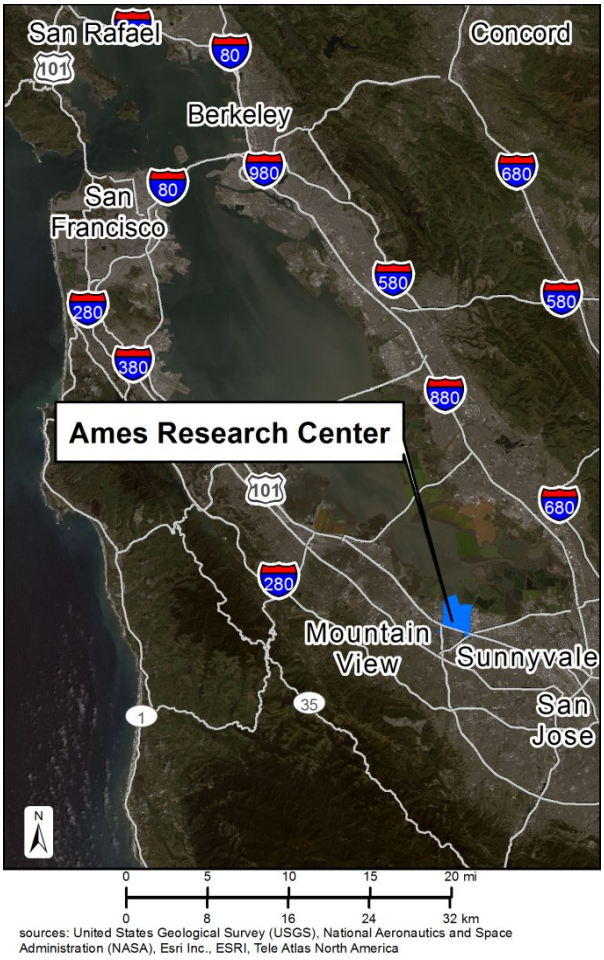

Figure 1-1. Regional Context Map

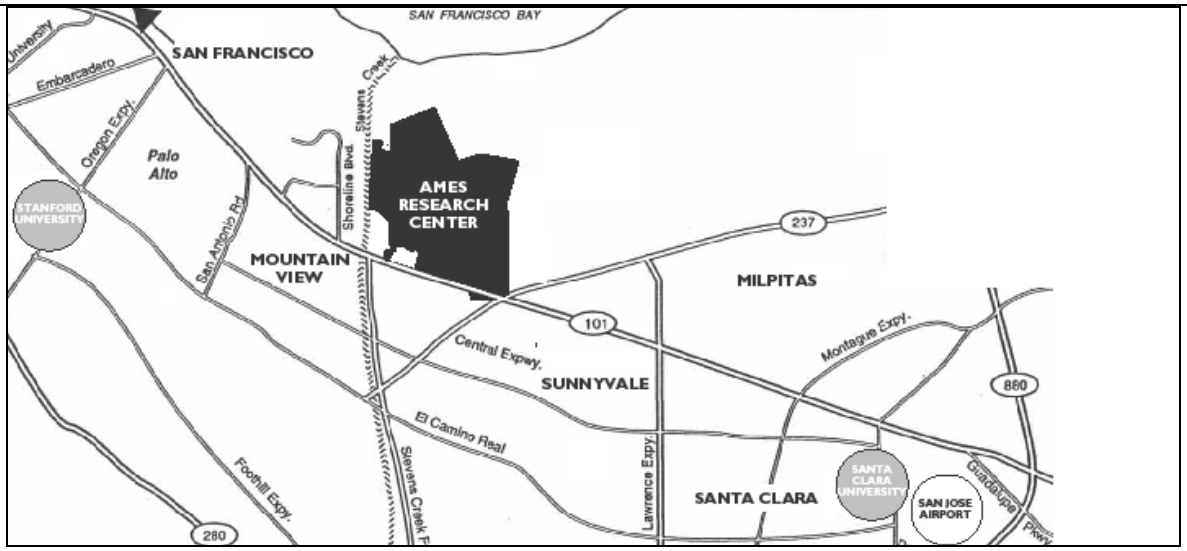

Figure 1-2. Local Context Map

(Source: NASA 2009)

The Bay Area region has one of the most highly educated populations in the country, featuring such institutions as Stanford University, the University of California at Berkeley, University of San Francisco, San Francisco State University, Santa Clara University, San Jose State University, and numerous other colleges, universities, and training institutions.

ARC is in the portion of the San Francisco Bay Area known as Silicon Valley because of its long history as a center of high-technology research, development, and manufacturing. Silicon Valley comprises the roughly triangular area that extends from Mountain View, south to San Jose, and east to Milpitas and southern Fremont. Largely agricultural in the years prior to World War II, this area emerged as a world leader in high technology in the years after the war, experiencing rapid urbanization, and economic growth as a result. Following the recent economic downturn that began in 2008, the area is now recovering. Despite a shift toward global distribution of high-technology manufacturing, Silicon Valley is expected to remain an important center of technology research and production in the foreseeable future, with computing, consumer electronics applications, defense electronics and avionics, nanotechnology, and biotechnology representing key profit sectors.

1.4 History of NASA Ames Research Center

1.4.1 NASA Ames Research Center

Congress initially established the ARC on August 9, 1939, as the Ames Aeronautical Laboratory, an element of the National Advisory Committee for Aeronautics (NACA). The Ames Aeronautical Laboratory's initial purpose was to conduct research and develop technology for use by military aircraft manufacturers. Upon the creation of NASA in 1958, NACA and all its laboratories were merged into this new agency. The Ames Aeronautical Laboratory was renamed Ames Research Center and was designated as a NASA field center.

ARC's extensive experience in fluid mechanics and aerodynamics became an integral part in supporting NASA's missions (see Chapter 2, *Existing Facilities, Operations, and Their Impacts*, for information about ARC's missions). Today ARC continues in this role, and its responsibilities have expanded into the fields of aeronautics, reentry physics, space science, space research, technology development, astrobiology, life sciences, human factors (as applied to both aeronautical and space issues), earth sciences, and information systems (computer technology). Many current programs at ARC are directed toward research and development (R&D) of nanomaterials, biotechnology, and information technology in support of NASA's exploration mission. This research also benefits society by addressing problems ranging from human disease and environmental pollution to agricultural pests and global climate change.

1.4.2 Naval Air Station Moffett Field

In 1930, in one of the first cooperative regional economic development campaigns, Santa Clara, San Mateo, San Francisco, and Alameda Counties set up a joint program to find a site for a new Navy base, purchase it, and donate it to the Navy. The counties eventually purchased approximately 400 hectares (1,000 acres) at a cost of almost $500,000 and offered it to the Navy for $1. The counties' goal was to establish a west coast Naval Air Station (NAS). On December 12, 1930, this goal was realized when President Herbert Hoover signed the bill allowing the Navy to accept the site and appropriating $5 million for construction. The base officially opened in 1933. On April 12, 1933, the base was commissioned as NAS Sunnyvale. In 1942, the station was named "Moffett Field" in honor of Rear Admiral William A. Moffett.

During its history, the station has served as a home base for dirigibles, the west coast headquarters for coastal patrol blimps, the west coast's largest Naval air transport base, the home base for the Navy's Pacific fighter planes, and the Pacific headquarters for all P-3 anti-submarine efforts, including training, administration, and operations.

1.4.3 Moffett Federal Airfield

In October 1991, Congress and President Bush accepted the recommendations of the Base Closure and Realignment Commission (BRAC) to disestablish NAS Moffett Field. Because the availability of the airfield has become essential to ARC's mission, the BRAC recommended that the site remain a federal property and that the Department of Defense (DOD) negotiate a transfer of responsibility for the airfield to NASA. This suggestion was well received by the neighboring communities.

Moffett Field was closed as a military base on July 1, 1994, and the property was transferred to ARC. It included 578 hectares (1427 acres) of land, three aircraft hangars, and over 325,150 square meters (3.5 million square feet) of buildings and other facilities. It did not include the family housing areas and several related facilities located near Onizuka Air Station, which were retained by the DOD for administration.

The area formerly known as NAS Moffett Field was known for a time as Moffett Federal Airfield (MFA). The former NAS Moffett Field now includes the two planning areas known as the NASA Research Park (NRP) and the Eastside/Airfield as well as the current and

former military housing areas at Wescoat Village, Orion Park, and Shenandoah Park that transferred directly to the Air Force and then to the Army. NAS Moffett Field also included Crows Landing, an auxiliary landing strip in Stanislaus County, that Congress has directed NASA to transfer to the County once Navy cleanup is completed. Further, NAS Moffett Field also included several holes in the City of Sunnyvale Golf Course, located to the south across U.S. Highway 101. This land provides a clear zone for the airfield. The term "Moffett Field" continues to apply to the postal zone encompassed by the zip code 94035.

1.5 **Existing Conditions**

Consistent with the planning concepts presented in the NADP (discussed in Chapter 4, *Land Use*), ARC is divided herein into four major planning areas: the 86-hectare (213-acre) NRP, the 95-hectare (234-acre) ARC campus, the 385-hectare (952-acre) Eastside/Airfield, and the 38-hectare (95-acre) Bay View area. The remaining 144 hectares (357 acres) of NASA-administered land consists of wetland areas along the northern boundary of ARC. Figure 1-3 shows the location of these planning areas within ARC.

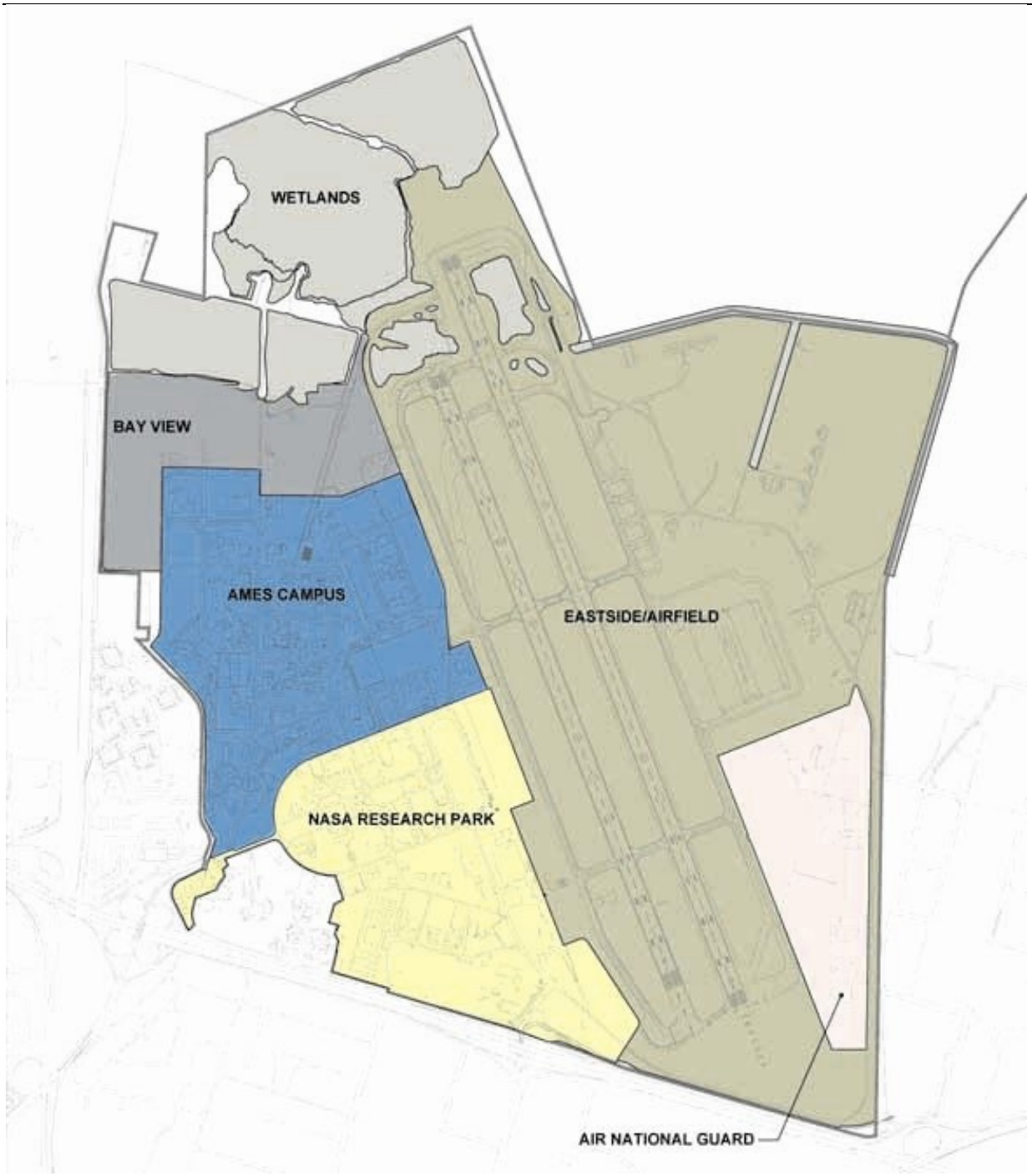

Figure 1-3. Planning Areas

(Source: NASA 2009)

1.5.1 NASA Research Park

The NRP is an 86-hectare (213-acre) roughly triangular site located between the airfield, Highway 101, and the original ARC campus (Figure 1-3). This area includes most of the Shenandoah Plaza National Historic District, except for the Wescoat Village military

housing area and Hangars 2 and 3. Current uses in the NRP area include office space, educational facilities, retail and business services, airfield operations, vehicle maintenance, research facilities, and storage. Some of these facilities are used by the Army Reserve, DOD Commissary and Exchange, Air Force, and California Air National Guard (CANG), as well as numerous Space Act Partners engaged in R&D-related activities. The 140 existing buildings within the NRP area contain approximately 150,000 square meters (1.6 million square feet of space).

1.5.2 **Eastside-Airfield**

The airfield and the lands to the east of it occupy 385 hectares (952 acres). Current uses of this area include the airfield operations, fueling, and munitions storage facilities of the CANG; a golf course; and Hangars 2 and 3.

1.5.3 **Bay View**

The Bay View area is a 38-hectare (95-acre) site immediately north of the original ARC campus. Most of the land in the eastern portion of the planning area is comprised of undeveloped upland grassland supporting a few research facilities such as the Outdoor Aerodynamic Research Facility (OARF). On the western side of the planning area, approximately 42 acres of leased property in Bay View Parcels 1, 2, and 4 is currently under development for Google's Bay View campus. The property is under lease to Planetary Ventures, LLC (PV), a wholly-owned subsidiary of Google, pursuant to a 2008 Enhanced Use Lease between PV and NASA. Development of the Bay View area was evaluated in the NADP EIS, for which a Record of Decision (ROD) was signed in November 2002.

1.5.4 **Ames Research Center Campus**

The Ames campus is the developed portion of the original 94-hectare (234-acre) ARC site. Current uses in the Ames campus area include offices, R&D, and storage. The existing buildings in the ARC campus area contain approximately 268,000 square meters (2.89 million square feet) of space.