# **Building 26 Reuse Guidelines**

NASA Ames Research Center, California



prepared for: NASA/Ames Research Center

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### Introduction

NASA Ames Research Center and Architectural Resources Group, Architects, Planners & Conservators, Inc. (ARG) have developed Reuse Guidelines for the Entry Gate House, Building 26, at NASA Ames Research Center, California. The Reuse Guidelines have been designed to assist NASA Ames professional staff, tenants, and their consultants in rehabilitating structures on the historic Navy base by identifying character-defining features, outlining the opportunities for reuse and evaluating code deficiencies.

### I. Executive Summary

Constructed in 1933 as a part of NASA's construction campaign, Building 26 is a one-story, concrete building finished in colored stucco and has a clay tile hipped roof. The building is characterized by its L-shaped plan and arcade running along the west elevation, and has an adjoining two-story bay at its southeast corner. Historically known as the Gate House, with a waiting room, restrooms, and office space, the building has undergone modifications to the west elevation and the southeast wing of the exterior in the 1950s-1960s. Interior alterations in 1969 allowed for the creation of more office space. Since 1933, the building has continued its general use as a Gate House and currently serves as the Visitor Registration and Pass Office.

The United States Naval Air Station Sunnyvale, California (the historic name of the base) was listed on the National Register of Historic Places (NRHP) as a historic district in 1994 for its important role in the development of U.S. Naval aviation prior to World War II and as a collection of buildings reflective of early twentieth-century military planning, engineering, and construction. (See Appendix 7 for the NRHP Moffett Field District Nomination.) Constructed in 1933, Building 26 is a contributor to the district and retains a fair degree of integrity. The majority of the building's character-defining features are intact on the exterior. However character-defining features on the interior have been significantly altered and are no longer extant. The central space, which once served as the main office for the Gate House, has been maintained as an open volume. Primary alterations to the buildings exterior include: enclosure of the arcade; replacement of some of the original windows, and removal of portions of the original gate. Alterations and additions to the interior include: construction of partition walls; remodel of bathrooms; and replacement of original materials.

The building's continued use as a Gate House is appropriate. Reuse of the building should comply with *The Secretary of the Interior's Standards for Rehabilitation (The Standards). The Standards* can be accessed on the National Park Service website (www.nps.gov) and are presently located at the following URL: http://www.nps.gov/history/hps/tps/tax/rhb. Plans for the reuse of Building 26 should take into consideration the preservation of the building's character-defining and contributing features, including, but not limited to, the overall form of the building, fenestration pattern, and materials. Changes to non-character-defining features may be undertaken, but the impact to the character-defining and contributing features should be carefully evaluated. (Character-defining features, including significance and condition ratings are listed in section VII and Appendix 1.)



Future renovations will require Fire/Life Safety and Disabled Accessibility upgrades to comply with current codes. These include, but are not limited to, the addition of fire sprinklers, exit path of travel and exit door upgrades, and disabled access improvements to door and door hardware, restrooms, and offices. The impact of these upgrades to the character-defining and contributing features should be carefully considered before changes are made.

Further analysis is required for the management of hazardous materials and upgrades to the mechanical, electrical and structural systems. Existing mechanical flues, ducts and conduits protruding from windows and exposed on the exterior should be removed. The impact of these upgrades to the character-defining and contributing features should also be carefully evaluated.

### II. Project Team

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### III. Methodology

ARG staff conducted site reviews of Building 26 in January and October 2006. During the site visits, notes were taken on the character-defining features of the building and photographic documentation was completed on the exterior as well as major interior spaces. Documents were provided by NASA Ames Research Center and were used as a general reference in the production of this report. The verification of the accuracy of the documents was not included in the scope of work.

Site reviews were conducted with the understanding that the current use of the building would be continued. The site reviews were limited to a general observation of the buildings and building components and detailed survey of all interior spaces was not included in the scope of work. Furthermore, limited access to some areas of the building were required due to issues of security, privacy, safety, or other limitations.

ARG staff reviewed both primary and secondary research materials at the following institutions:

- 1950 Navy Docks & Yards Micro Film;
- Engineering Documentation Center (located in Building N-213); and
- Ames Imaging Library (located Building in building N-241).

The following documents were utilized as the main sources of information:

- The 1994 National Register of Historic Places Nomination Form for the US Naval Air Station Moffett Field Central Historic District;
- Aerial photographs dating from 1931 through 1944; and
- Architectural Drawings including;
  - o Navy Department, Bureau of Yards & Docks. "U. S. Naval Air Station, Sunnyvale, California, Entrance Gates and Gate House Plans." Drawings dated 24 May 1932;
  - Navy Department, Bureau of Yards & Docks. "U. S. Naval Air Station, Sunnyvale, California, Entrance Gates and Gate House Gate Post and Fence Details." Drawings dated 24 May 1932;
  - o Navy Department, Bureau of Yards & Docks. "U. S. Naval Air Station, Sunnyvale, California, Main Gate House Floor Plan." Drawings dated 5 December 1956;
  - o Navy Department, Bureau of Yards & Docks. "U. S. Naval Air Station, Sunnyvale, California, Main Gate House Floor Plan, revised" Drawings dated 23 June 1969; and
  - o CAD Floor Plans to the Existing Conditions dated December 2001.





West Elevation of Building 26.

# V. Building 26 Summary

Location:	Building 26. Moffitt Field Main Gate, Clark Road
Area:	NASA Ames Research Center Main Gate
Date of Construction:	1933
Historic Structure:	Yes
Historic Use:	U.S. Naval Air Station Sunnyvale, CA, Gate House
Current Use:	Visitor Registration & Pass Office
Hazard Level:	Ordinary, building does not have a fire suppression system
Number of Floors:	One
Total Area:	1,965 gross ft <sup>2</sup>
Exterior Materials:	Concrete with integral colored stucco, clay tile and built-up roof, wrought iron
	grills, scored concrete floors, steel sash windows
Construction Frame:	Concrete walls and ceiling, wood-framed roof



### V. Historical Background and Site Context

The United States Naval Air Station Sunnyvale, California was commissioned on April 12, 1932. The station was one of two bases constructed to port the Navy's two large airships (dirigibles)—the U.S.S. Macon and the other dirigible, the U.S.S. Akron, which was stationed in Lakehurst, New Jersey. The dirigibles were part of a domestic security program designed by Admiral William A. Moffett. The dirigibles were capable of staying airborne for much longer periods of time than airplanes and were considered ideal for conducting reconnaissance of the nation's coastlines.

The 1933 station was defined by perimeter roads: Wescot Road to the north and west, Bushnell Road to the south and west, and Sayre Avenue to the east. The base was arranged in a formal and hierarchical arrangement typical of American military base design. McCord Avenue, which runs north/south, divided the base into halves; the administration functions were located to the west and the industrial functions, including the massive dirigible hangar, were positioned to the east. The western section, including the Administration Building (Building 17), Dispensary (Building 23), Bachelor Officer's Quarters (Building 20), Recreation Building (Building 25), and office building (Building 19) were arranged around a central axis, Shenandoah Plaza. All of the buildings within the original base, with the exception of Hangar I, were constructed in the Spanish Colonial Revival Style.

Building 26 was constructed during the 1931-1933 building campaign. Plans for the Entry Gate House, Building 26, were approved on May 24, 1932. The Gate House faces west, onto a surface parking lot. The building is a small reinforced-concrete structure. Like other buildings constructed as part of the 1933 construction campaign, Building 26 is typical of the Spanish Colonial Revival Style including clay tile



roof and ornamental wrought iron grille work.

The Gate House has a modified "L" shape footprint. The main office space of the building runs northsouth. The southeastern portion of the building historically served as a partially open shelter. This wing has since been infilled and now houses offices. The building has maintained its original use.

The United States Naval Air Station Sunnyvale, California was listed as a historic district in the National Register of Historic Places (NRHP) in 1994. The Period of Significance for these structures is 1930–1935 and 1942–1946, which corresponds to the period of Navy occupation. Building 26 is a contributor to the district.

## VI. Building Description

### Historic Appearance of the Gate House Building

The Gate House was originally designed to reflect the Spanish Colonial Revival Style of architecture. Completed in 1933, the building had a modified "L" shaped footprint, with reinforced concrete walls sheathed in stucco, a clay tile hipped roof, and an arcade extending the length of the west elevation. Historically, the core of the building was the north-south axis covered with the hipped, clay tile roof. The interior space of this core consisted of waiting room, women's restroom, and Guard's room. The southeast wing was constructed as a partial outdoor shelter with a flat roof. A cast stone bench ran along the interior wall. Square piers with modified volutes divided this wing into three bays.

A large wrought iron entry gate extended from the north elevation of the Gate House. Ornamental wrought iron grilles were located on the window openings of the arcade and primary south elevation. *Modifications to the Moffett Field Gate House* 

The Gate House has undergone several phases of exterior and interior alterations as a result of the need for more office space.

### Exterior Building Modifications

A drawing from 1957, later revised in 1969, illustrates modifications made to the west elevation and southeast wing of the Gate House exterior. The drawing indicates that a covering (roll-up door) was placed over the three arched arcade openings. In addition, the three open bays of the partial outdoor shelter were infilled and replaced with two windows and a door. At a later date the arcade on the west elevation was infilled to accommodate new office space. Infill of the arcade altered one of the building's primary character-defining features and diminished the Spanish Colonial Revival Style of the building.

### Exterior Landscape/Setting Modifications

The building was originally constructed as the point of entry to Moffett Field Naval Base on axis with Shenandoah Plaza. The location of the Gate House remains unchanged from initial construction. However, the setting has been altered over time. The entrance gate extended from the southwest corner of the Gate House. Two large wrought iron gates were located at the point of entrance and exit for the base. Today, only a portion of the original wrought iron fence and gate remain. In addition, minor landscaping changes have occurred through these alterations including the addition and removal of various trees and hedges as part of regular landscape maintenance and to accommodate the expansion of surrounding



surface parking. Manicured hedges and a simple grass lawn border the buildings north elevation. Surface parking lots are located on the east and south sides of the building. The main road onto the base runs along the west elevation.

### Interior Building Modifications

In addition to exterior modifications, the interior has undergone an extensive series of alterations resulting in the elimination of many character-defining features. In 1969, the interior of the Gate House was upgraded. At this time, alterations were made to the restrooms and offices. At a later time, further alterations were made to the interior materials and fixtures with the replacement of floor, ceiling, light fixtures, and the addition of a partition wall. These alterations were made as upgrades, but have resulted in the elimination of interior character-defining features.

## Current Appearance of the Moffett Field Gate House

Overall, in form, materials and details, the exterior portion of the Moffett Field Gate House retains a fair amount of its historic appearance. Except for the changes to the arcade, south-east wing and windows, the Gate House remains relatively unchanged from its original exterior design and appearance.

The asymmetrically composed building features a number of the original character-defining features including: sections of the wrought iron gate and grilles; clay tile hipped roof, and extant features of the original arcade and south-east wings.

The primary (south) elevation is divided into two bays. The north bay is part of the original enclosed core with clay tile hipped roof. A large arch located on the north end provides access to the south end of the arcade, which is still open and the point of entry to the building's main doorway. Two, four-over-four, double-hung, metal sash windows are located adjacent to this arch, and covered with ornamental grilles. Adjoining the north bay is the simplified south-west wing, with a flat roof. The series of concrete piers with modified volutes can still be seen along the infilled wall, dividing the elevation into three bays. A single metal door occupies the central bay. The flanking bays are punctuated with a single, square, metal-frame window.

The arcade, located along the west (side) elevation was originally comprised of a series of three arches flanked by two square openings covered with decorative wrought iron grilles. The arch located on the south end remains open and provides access to the main doorway. The two adjacent arched openings have been infilled. Double-hung, one-over-one, metal frame, sash windows were placed within the infilled arches some time after 1969. The square opening with decorative grille work on the south end remains open; however, the opening on the far north end has been infilled.

The north (rear) elevation is divided into a series of three, stepped bays. An arched opening located on the far west end has been infilled. Adjacent to this arch are two, six-over-six, metal-frame, double-hung, sash windows. A single window located on the center bay has been infilled. It appears that an arch, located on the east bay, has also been infilled.

The east (side) elevation is comprised of a series of three, stepped bays similar to the north elevation. The north bay is punctuated by a single, six-over-six, double-hung, metal-frame, sash window on the north end followed by a paired, six-over-six, double-hung, metal-frame, sash window. The central bay has a



single, double-hung, plastic-frame window with an air-conditioning unit attached to the exterior of the lower sash. The south bay is obscured from view.

Overall, in form, materials, and detail, the exterior portion of the Moffett Field Gate House retains a fair amount of its historic appearance. The east (side) elevation is comprised of a series of three, stepped bays similar to the north elevation. The north bay is punctuated by a single, six-over-six, double-hung, metalframe, sash window on the north end followed by a paired, six-over-six, double-hung, metal-frame, sash window. The central bay has a single, double-hung, plastic-frame window with an air-conditioning unit attached to the exterior of the lower sash. The south bay is obscured from view.

Overall, in form, materials, and detail, the exterior portion of the Moffett Field Gate House retains a fair amount of its historic appearance.



# NASA AMES RESEARCH CENTER Building 26 reuse guidelines



Refer to Appendix 1. for a matrix of character defining features, including specific location of building components. For illustrated plans and elevations, see Appendix 3: Significance Diagrams.

Alteration of significant and contributing building components shall be in keeping with original design, configuration and material. For more information, see *The Secretary of the Interior's Standards for the Treatment of Historic Properties. The Standards* can be accessed on the National Park Service website (www.nps.gov) and are presently located at the following URL: http://www.nps.gov/history/ hps/tps/tax/rhb.

See *Appendix 5. Current Conditions Photographs* for photos showing the character-defining building components listed below. For building floor plans, see *Appendix 2, Existing Floor Plans and Rehabilitation*.

1. Significant Character-Defining Features: these are the features that convey the building's historic character and significance. Alteration or removal of these features could result in a loss of integrity and should be avoided.

The following are significant features:

- Water table base course;
- Cement plaster wall surface;
- Hipped red clay tile roof;
- Two wall openings with wrought iron grilles at north elevation (infill at one opening is non-contributing);
- Pilasters with scroll capitals at flat roof block and interior;
- Double hung metal sash windows with and without ornamental wrought iron grilles;
- Ornamental wrought iron gates at arched openings;
- Arched opening at hipped roof block at west elevation;
- Arched niche on first level (south elevation) and third level (east elevation);
- Collection boxes;
- Roof vents w/ ornamental copper grilles;
- Arched openings on first level—originally an arcade (some



Illustration 1: Red clay-tile roof and roof ventilators with copper grilles are significant features. (Source: ARG, October 2006)



Illustration 2: Pilasters with scroll capitals at flat roof block and interior are significant features. (Source: ARG, October 2006)



Illustration 3: Collection boxes are significant features. (Source: ARG, October 2006)







Illustration 4: Wrought iron grills are significant features. (Source: ARG, October 2006)



Illustration 5: Arched openings are a significant feature. (Source: ARG, October 2006)



Illustration 6: Windows and frames throughout building except windows at infill arches are a significant feature. (Source: ARG, October 2006)

currently infilled);

- Wrought iron grilles in front of infilled arches at north elevation;
- Impost molding at arcade at north elevation;
- Impost molding at building interior; and
- Windows and frames throughout building (except windows at infilled arches).

2. *Contributing Features*: these features are important elements that contribute to the understanding of the original design. Alteration or removal of these features may be necessary for programmatic or building system requirements. However, removal should be minimized and where necessary mitigated.

The following are contributing features:

• Wood double doors beyond arched opening at north elevation.

*3. Tertiary Features:* these features are original elements of the building that are of a lower importance relative to the understanding of the original design. Alteration or removal of these features, if necessary, would have a limited affect on the integrity of the building.

The following are tertiary features:

- Window on the right niche of accessible door at west elevation; and
- Window inside arched niche on first level at south elevation.

4. *Non-Contributing Features:* these features are elements he building that have been remodeled or areas where additional alteration would not affect the original integrity of the building. In some cases, removal of the non-contributing features may be beneficial to the historic integrity of the building.

The following are non-contributing features:

- Utility boxes, big storage box and conduits mounted on or in front of façade at south elevation;
- Mechanical units on first level at east elevation;
- Two double hung metal windows at infilled arches



at north elevation;

- Light fixture beyond arched opening at north elevation;
- Wall mounted public phone beyond arched opening at north elevation;
- Wall framing and finish at infilled arches;
- Interior finishes, fixtures and furnishings in lobby, waiting area, "Break Room", offies and corridor including:
  - o Flooring/tile, carpet;
  - o Walls/plaster;
  - o Doors and frames;
  - o Ceiling/acoustical suspended ceiling and plaster; and
  - o Lighting fixtures/ceiling and wall mounted;
- Fixed furniture Interior finishes, fixtures and furnishings
  - in kitchen including:
  - o Flooring/VCT;
  - o Walls/plaster;
  - o Door and frame;
  - o Window and frame;
  - o Ceiling/acoustical suspended ceiling and plaster;
  - o Lighting fixtures; and
  - o Fixed furniture/plumbing fixtures;
- Fixed furniture Interior finishes, fixtures and furnishings in restrooms including:
  - o Flooring/tile;
  - o Walls/tile and plaster;
  - o Doors and frames;
  - o Ceiling/acoustical suspended ceiling and plaster;
  - o Lighting fixtures; and
  - o Fixed furniture/plumbing fixtures.

# 5. Conservation of Intact Historic Fabric

The following materials require special care and treatment in their maintenance and rehabilitation:



- Exterior cement plaster;
- Wrought iron window grates and gates;
- Clay tile roofing; and
- Copper half-round gutters, downspouts, and ornamental collection boxes.

## VIII. Opportunities for Reuse

Building 26 is located at the entrance to Moffett Field and offers a number of opportunities for adaptive reuse. It's central location suggests a more public use, such as a Visitor's/Information Center for NASA Ames Research Center. An alternate use is for a café/f.ood service in some or all of the building, with opportunities for exterior seating in the protected rear/north-east of the building. Improving the interior visibility and restoration of the original architecture would benefit a successful change in use.

There are several architectural modifications to Building 26 that could be reversed or changed to restore the integrity of the building. The original arcade at the north elevation and the original shelter at the southwest could be returned to the original open configuration. The shelter at the southwest has an intact colonnade with wall infill. The infill walls could be removed and made open, or could have an appropriate glazing system added within the arches to retain the arched forms while allowing for a thermally controlled space. The gate house added to the center of the roadway, to the north-west of Building 26, supplements Building 26. A new gate house could be remodeled to be more in keeping with the architectural appearance of Building 26. A gatepost at the centerline of the roadway that has been removed could be restored to the original condition, and the original wrought iron gates reinstalled in the original location.

# IX. Code Evaluations and Recommendations

# A. Fire/Life Safety

# Description

Building 26 is a single-story building constructed in 1933 as a gate house for Moffett Field. The building is directly adjacent the main entrance road to the north of the building. The building originally was comprised of an open arcade at the north, with an exterior shelter and interior waiting room and restrooms. Modifications in 1969 included enclosing the open shelter at the west elevation. A recent building upgrade included the partial enclosure of the open shelter, disabled accessible improvements to restrooms and drinking fountain, life safety improvements, and the replacement of building finishes, lighting and mechanical systems. Building 26 has a gross floor area of 1,965 ft<sup>2</sup>. Building construction is a concrete slab on grade, concrete walls and ceiling, and wood framed roof with clay tile roofing. The building was reviewed for general code compliance with the provisions of the 2001 California Building Code (CBC).



The building is classified as B occupancy, and is used for offices, a waiting area, and support spaces. The primary function of the building is for security staff and public security clearances. The construction type is Type III-N. The following review is based on the occupancies remaining the same. If a change in occupancy is proposed, further detailed code analysis will be required.

Section IX B. includes a glossary of building construction types and occupancy types that exist within the scope of this report.

California's State Historical Building Code (SHBC), located in chapter 34 of CBC, shall be used in conjunction with the California Building Code as stated in section 8-102.1: "These regulations are applicable for all issues regarding building code compliance for qualified historical buildings or properties. These regulations are to be used in conjunction with the regular code to provide alternatives to the regular code to facilitate the preservation of qualified historical buildings or properties. These regulations shall be used whenever compliance with the regular code is required for qualified historical buildings or properties."

## Analysis

*1. Occupancy and Construction type:* Building 26 is currently classified as B occupancy, and Type III-N construction. Table 5A of the CBC allows Occupancy B to be construction type III-N. There is a fire alarm and perimeter door security system in place, and no fire suppression system.

Recommendation: The current occupancy is permitted for the building construction type.

2. Location on Property: CBC Table 5-A limits the exterior bearing walls to be minimum Two-hour Noncombustible for B Occupancy. Building 26 exterior walls are 8 in. thick concrete walls and they meet the requirement. Exterior openings for B Occupancy are required to be protected less than 20 ft. from property lines. Building 26 is separated more than 20 ft. in width on four sides and does not need exterior opening protection.

*Recommendation:* Modifications to the building based on its location on the property are not required.

*3. Allowable Area:* According to CBC Table 5-B the allowable area for B Occupancy/ Type III-N is 12,000 ft<sup>2</sup>. Building 26 does not exceed the allowable area. The building is separated on four sides by public ways or yards not less than 60 ft. in width.

*Recommendation:* The building is within the allowable area.

*4. Allowable Height:* Table 5-B of the CBC limits the number of stories of the building to 2 stories and an overall height of 65 ft. for Construction Type III-N.



Recommendation: The building is within the allowable height.

5. *Means of Egress Identification:* Section 1003.2.8.2 requires the path of travel to and within exits to be identified with code compliant exit signs. Illuminated exit signs with a battery back-up power source have recently been installed. CBC 1003.2.9 requires the means of egress serving the occupied portion to be illuminated at an intensity of not less than 1 footcandle at the floor level. The emergency lighting in building 26 appears to comply with this requirement.

Recommendation: The means of egress identification systems appear to conform to code.

6. Doors: CBC Section 1003.3.1.3 requires a clear opening of 32 in. All doors in the building have been recently installed, and are a compliant width. CBC section 1003.3.1.5 requires the door to swing in the direction of egress. Section 1003.3.1.6.2 requires a level landing on each side of all doors that are part of the means of egress system. This section also requires the landing to be 44 in. in length when the door swings away and 60 in. in the direction of the door swing. Currently, all of the exits and doors meet these requirements.

Recommendation: Doors appear to comply with code.

7. Stairs and Guardrails: There are no stairs or guardrails at Building 26.

8. Ramps: There are no ramps at Building 26.

*9. Exiting:* CBC Section 1004.3.4.2 requires corridors to be a minimum width of 44 in., or if serving an occupant load of less that 50, shall be a minimum width of 36 in. The existing 39-1/2 in. wide corridor is compliant.

*Recommendation:* The exit system appears to be code compliant. Summary of Recommendations

1. Construction type: The current occupancy is permitted for the building construction type.

2. Location on Property: Modifications to the building based on the location on the property are not required.

3. Allowable Area: The building is within the allowable area.

4. Allowable Height: The building is within the allowable height.

5. *Means of Egress Identification:* The means of egress identification systems appear to conform to code.

6. Doors: Doors appear to comply with code.



- 7. Stairs and Guardrail: There are no stairs or guardrails in Building 26.
- 8. Ramps: There are no ramps at Building 26.
- 9. Exiting: The exit system appears to be code compliant.

### B. Glossary of Terms: Construction and Occupancy Types The following is a summary description of the Construction and Occupancy Types for Building 26.

Glossary of Construction Types, referenced from the 2001 California Building Code:

Type III-N	Structural elements in Type II buildings may be of any
	materials permitted by this code. Exterior walls shall be
	constructed of noncombustible materials and shall comply
	with the fire-resistive requirements set forth in CBC
	Section 503 and Tables 5-A and 6-A. Bearing partitions,
	when constructed of wood, shall comply with CBC
	Section 2308.

Glossary of Occupancy Types: Referenced from the 2001 California Building Code

Group B	A building or structure, or a portion thereof, for office,
	professional or service-type transaction, including
	storage of records and accounts; eating and drinking
	establishments with an occupant load of less than 50.

# C. Disabled Accessibility

### Requirements

*1. Accessible Parking:* CBC section 1129B.1 requires that where parking is provided for the public as clients, guests, or employees, accessible parking will also be provided. Section 1129B.4 requires one van accessible space for every eight accessible spaces, with a minimum of one van space. Total number of parking spaces for Building 26 is approximately10. CBC Table 11B-6 requires a minimum of 1 accessible parking space for this lot capacity. Currently one accessible parking space is provided at the west elevation. The existing loading area should be verified to be a minimum of 96 in. wide, and to have compliant signage.

Recommendation: The existing loading area should be verified to be a minimum of 96 in.



2. Accessible Route: CBC section 1114B.1.2 requires an accessible route of travel to all portions of the building that are required to be accessible. The SHBC Section 8-604 allows for equivalent facilitation to be provided in lieu of a path of travel to all areas of the building where providing access "would threaten or destroy the historical significance or character-defining features of the building or site or cause unreasonable hardship." There is currently an accessible entrance at the west elevation, with compliant disabled accessible signage at the door. This provides accessibility to all areas of the building interior. The main entrance has a 5 in. high landing at the pair of entrance doors, and is not disabled accessible.

*Recommendation:* Consideration should be given to utilizing the alternate entrance as a disabled accessible entrance.

*3. Doors:* Section 1133B.2.4 of the CBC requires a level landing on each side of a door. Section 1133B.2.4.2 requires maneuvering clearance to be 60 in. on the swing side of interior doors and 48 in. on the non-swing side of the door with a closer (44 in. without closer). The clearance on the swing side shall extend 18 in. beyond the strike side of the door for interior doors and 24 in. on exterior doors. The clearance for the non-swing side shall extend 12 in. when the door has a closer. Section 1133B.2.5.2 requires hardware that is hand operable with a single effort without requiring the ability to grasp. All doors have lever-handled hardware and meet the required clear floor area.

Recommendation: Door accessibility appears to be code compliant.

*4. Restrooms:* CBC section 1115B.1 requires buildings that are required to be accessible to have accessible restrooms. The restrooms have been upgraded, and fixtures and required clear areas are disabled accessible. The toilet paper dispensers are located above the grab bars, and are required to be centered at 19 in. above the floor and 12 in. from the centerline of the toilet tissue dispenser to the front lip of the toilet.

Recommendation: Modify toilet paper dispensers to compliant height.

5. *Drinking Fountain:* Section 1117B.111 of the CBC requires where water fountains are provided, they shall comply with the requirements of this section. Section 1117B.1.2 of the CBC requires water fountains to be located in an alcove not less than 32 in. wide and 18 in. in depth. The drinking fountain complies with the accessibility requirements of the code.

Recommendation: The drinking fountain appears to be compliant.

*6. Signage:* Sections 1103.2.4, 1127B.3, 1129B.5, and 1115B.5 of the CBC require code-compliant signage identifying accessible entrances, parking, areas of refuge, passenger loading zone, toilet and bathing facilities, and exit signage at the exit stairs. In addition to the international symbol of accessibility, each unisex toilet or bathing room shall be identified by a tactile sign including raised letters and Braille. There is compliant disabled accessible signage at the building entrance and restrooms.

Recommendation: Disabled signage appears to be code compliant.

# NASA AMES RESEARCH CENTER Building 26 reuse guidelines



### **Summary of Recommendations**

1. Accessible Parking: The existing loading area should be verified to be a minimum of 96 in.

2. *Accessible Route:* Consideration should be given to utilizing the alternate entrance as a disabled accessible entrance.

- 3. Doors: Door accessibility appears to be code compliant.
- 4. Restrooms: Modify toilet paper dispensers to compliant height.
- 5. Drinking Fountain: The drinking fountain appears to be compliant.
- 6. Signage: Disabled signage appears to be code compliant.

### D. Energy Conservation

### Description

The historic structure was designed with some energy-conserving features; monolithic concrete floors throughout the building and thick concrete walls contribute to passive climate control for the building. Insulation in the exterior walls could not be confirmed without destructive testing; interior partitions may have received an insulation upgrade, as the building has been updated over the years. Window sashes are single glazed. The building has a forced-air mechanical system, but the type of system and its efficiency could not be confirmed. There are packaged air conditioning units in several of the windows. Consideration should be given to replace the individual units with an energy efficient single-source system. Energy efficient fluorescent lighting is the primary lighting source.

### Analysis

As a contributing building in the Historic District, Building 26 is exempt from energy code requirements. However, measures to reduce energy consumption and provide for user comfort are recommended.

*Recommendation:* Recommended actions for increasing energy-efficiency and improving occupant comfort may include insulating the ceiling and exterior walls during future construction work. The existing steel sash windows are historic features and should be repaired and weather-stripped, rather than replaced. High efficiency mechanical systems should be used to replace mechanical systems that have reached the end of their useful life.



# X. Future Studies Needed

### A. Hazardous Materials

Although a hazardous materials report has not yet been completed, there are several types of historical materials and finishes that are known to contain asbestos and other hazardous materials in the building construction. The wrought iron finish and most painted surfaces in the building likely have some lead-based paint residues, and should be tested.

It is recommended that a complete hazardous materials report be completed on the building.

## B. Mechanical and Electrical Systems

The mechanical and electrical systems were not inspected as part of this report. It is assumed that should the rehabilitation and reuse of Building 26 be undertaken, it will entail the installation of an upgrade to mechanical and electrical systems, and potentially the plumbing drainage/waste system. All new mechanical and electrical systems should be designed to preserve the character of the significant materials and spaces identified in this report.

## C. Structural Systems

The exterior walls of Building 26 are reinforced concrete with a stucco finish coat. The roof structure is comprised of wood framing and wood decking constructed over a reinforced concrete ceiling. The floor construction is a concrete slab on grade.

The building appears to be in excellent condition. In the course of rehabilitating the building, the structural system should be analyzed for seismic and gravity load deficiencies and reinforced as necessary. Strengthening provisions should be designed to preserve significant materials and spaces.



Appendix 1. Character-Defining Features

0			
Elements	Significance	Condition	Comments
Exterior			
West Elevation			
Water table base course	S	G	
Cement plaster surface	S	F	
Hipped red clay tile roof	S	G	north block only
Pilasters with scroll capitals-at flat roof block	S	G	originally they were piers and three equal openings; they have been infilled
Windows:			
2- 4/4 double hung metal sash windows with ornamental wrought iron grilles	S	G	
Window on the right niche of accessible door	Т	F	
Window on the left niche of accessible door	N	Р	broken sill and non- matching pieces
Doors:			
Accessible HM door with glazing	N	G	
Ornamental wrought iron gates at arched opening	S	G	
Arched opening	S	G	at hipped roof block
Collection box	S	F	
Lighting Fixture	N	G	beyond arched opening
Signage	Ν	G	
South Elevation			
Water table base course	S	G	
Cement paster surface	S	F	
Hipped red clay tile roof	S	G	
Windows:			
2-6/6 double-hung metal sash windows-third block from west	S	F	window mounted air conditioner in one of them

# Character-Defining Features

Significance Rating S=Significant C=Contributing T=Tertiary N=Non-contributing

Condition Rating

G=Good F=Fair P=Poor

6/6 double hung metal sash	S	F	window mounted air
window-second block from west			conditioner
Window	Т	F	inside arched niche, first block from west
Arched niche	S	F	first block from west
Utility boxes, big storage box, and conduits	N	Р	mounted on or in front of the facade, first block from west
Collection box	S	Р	second block from west
Roof vent w/ ornamental copper grille	S	G	
East Elevation			
Water table base course	S	G	
Cement plaster surface	S	G	
Hipped red clay tile roof	S	G	
Windows			
Window	S	Р	second block from north, infilled
2- 6/6 double hung metal sash window	S	G	first block from north (hipped roof block)
Infilled arched opening	S	F	first block (hipped roof block), originally an arcade
Arch infill wall framing and finish	N	F	
Mechanical units	N	G	first block
Arched niche	S	G	third block from north
Collection box	S	F	first block
Light fixture	Ν	F	second block
North Elevation			
Water table base course	S	G	
Cement plaster surface	S	G	
Windows			
2 double hung metal windows	Ν	G	at infilled arches
Doors			

Significance Rating S=Significant C=Contributing T=Tertiary N=Non-contributing

Condition Rating

G=Good F=Fair P=Poor

Wood double doors	С	G	beyond arched opening
Ornamental wrought iron grilles	S	G	in front of the infilled arches
Arcade with impost molding	S	F	two of them infilled
Collection box	S	F	
Hipped red clay tile roof	S	G	
Wall openings with wrought iron grilles	S	G	the one on the east side is closed (infill is non-contributing)
Light fixtures	Ν	G	beyond arched opening
Wall-mounted public phone	N	G	beyond arched opening
Roof vent w/ ornamental copper grille	S	G	
Interior			
Lobby, waiting area, offices, corridor			
Flooring/ tile & carpet	Ν	G	
Walls/ plaster	Ν	G	
Doors & frames	Ν	G	
Windows & frames	S/N	G	see exterior windows description
Ceiling/ acoustical suspended ceiling & plaster	N	G	
Lighting fixtures/ ceiling & wall mounted	N	G	
Fixed furniture	N	G	
Drinking fountain	С	F	
Water table base course	S	G	
Impost molding	S	G	
Pilasters with scroll capitals	S	F	
Kitchen			
Flooring/ VCT	Ν	G	
Walls/ plaster	Ν	G	
Door & frame	Ν	G	

Significance Rating S=Significant C=Contributing T=Tertiary N=Non-contributing

Condition Rating

G=Good F=Fair P=Poor

Flooring/ tile	N	G	
Walls/ tile & plaster	N	G	
Doors & frames	N	G	
Windows & frames	S	G	
Ceiling	N	G	
Lighting fixtures	N	G	
Fixed furniture/ plumbing fixtures	N	G	

Character Defining Features Matrix

ignificance Rating S=Significant C=Contributing T=Tertiary N=Non-contributing Condition Rating

G=Good F=Fair P=Poor



Appendix 2. Existing Floor Plans & Rehabilitation





Architectural Resources Group

Architects, Planners & Conservators, Inc.

**EXISTING PLANS & REHABILITATION** 



# REHABILITATION LEGEND & NOTES

- (1) EXISTING ACCESSIBLE ENTRY
- (2) CLOSED PORTION OF ORIGINAL ARCADE
- (3) CLOSED WINDOW.
- (4) UTILITY BOXES ATTACHED TO THE FACADE OF THE BUILDING. REMOVAL IS RECOMMENDED.
- (5) DROPPED CEILING ABOVE

GENERAL NOTE

REFER TO SECTION IX, "CODE EVALUATIONS AND RECOMMENDATIONS" FOR DETAILED DESCRIPTION.

BUILDING 26 NASA Ames Research Center Sunnyvale, CA





> <u>Appendix 3. Historic Character-Defining</u> <u>Significance Diagrams</u>



<u>B-26 FLOOR PLAN</u>



Architectural Resources Group HISTORIC CHARACTER-DEFINING SIGNIFICANCE DIAGRAMS - PLANS



 $\label{eq:architects} Architects, Planners \And Conservators, Inc.$ 

# <u>GENERAL NOTES</u>

- I. THESE DIAGRAMS ARE INTENDED TO SHOW THE PRINCIPAL CHARACTER-DEFINING FEATURES, NOT SPECIFIC COMPONENTS.
- 2. FOR A MATRIX OF SIGNIFICANCE RATINGS FOR INDIVIDUAL BUILDING COMPONENTS, REFER TO APPENDIX I. "HISTORIC CHARACTER-DEFINING FEATURES".

CHARACTER-DEFINING SIGNIFICANCE DIAGRAMS LEGEND

SIGNIFICANT FEATURE
CONTRIBUTING FEATURE
TERTIARY FEATURE
NON-CONTRIBUTING FEATURE

NEW CONSTRUCTION - PROPOSED

# BUILDING 26

NASA Ames Research Center Sunnyvale, CA

PROJECT NORTH





HISTORIC CHARACTER-DEFINING SIGNIFICANCE DIAGRAMS - ELEVATIONS

0 1/8" = 1'-Ø"

# GENERAL NOTES

- I. THESE DIAGRAMS ARE INTENDED TO SHOW THE PRINCIPAL CHARACTER-DEFINING FEATURES, NOT SPECIFIC COMPONENTS.
- 2. FOR A MATRIX OF SIGNIFICANCE RATINGS FOR INDIVIDUAL BUILDING COMPONENTS, REFER TO APPENDIX I. "HISTORIC CHARACTER-DEFINING FEATURES".

# CHARACTER-DEFINING SIGNIFICANCE DIAGRAMS LEGEND

SIGNIFICANT FEATURE
CONTRIBUTING FEATURE
TERTIARY FEATURE
NON-CONTRIBUTING FEATURE

NEW CONSTRUCTION - PROPOSED

**BUILDING 26** NASA Ames Research Center Sunnyvale, CA



ARE NON-CONTRIBUTING

B-26 WEST ELEVATION



Architectural HISTORIC CHARACTER-DEFINING SIGNIFICANCE DIAGRAMS - ELEVATIONS **Resources** Group

1/8" = 1'-Ø"

Architects, Planners & Conservators, Inc.

# GENERAL NOTES

- I. THESE DIAGRAMS ARE INTENDED TO SHOW THE PRINCIPAL CHARACTER-DEFINING FEATURES, NOT SPECIFIC COMPONENTS.
- 2. FOR A MATRIX OF SIGNIFICANCE RATINGS FOR INDIVIDUAL BUILDING COMPONENTS, REFER TO APPENDIX I. "HISTORIC CHARACTER-DEFINING FEATURES".

# CHARACTER-DEFINING SIGNIFICANCE DIAGRAMS LEGEND

SIGNIFICANT FEATURE
CONTRIBUTING FEATURE
TERTIARY FEATURE
NON-CONTRIBUTING FEATURE

NEW CONSTRUCTION - PROPOSED

**BUILDING 26** NASA Ames Research Center Sunnyvale, CA



Appendix 4. Historic Aerial Photographs



Figure 1: 1930 aerial of future Moffett Field site



Figure 2: 1931 aerial of Hangar 1 under construction and future Building 26 site



Figure 3: 1935 aerial of Moffett Field and Main Gate Building 26



Figure 4: 1936 aerial of the Moffett Field and Building 26


Figure 5: 1944 aerial of the Moffett Field

ARCHITECTURAL RESOURCES GROUP Architects, Planners & Conservators, Inc.



Figure 6: 1951 aerial photograph

<u>Architectural</u> <u>Resources</u> <u>Group</u> Architects, Planners & Conservators, Inc.



NASA Ames Research Center Building B-26 Reuse Guidelines

Appendix 5. Current Conditions Photographs (2006)



Figure 7. West façade-accessible entry of the building



Figure 8. Detail of wrought iron grills



Figure 9. West façade, detail of the pilasters and capitals



Figure 10. West façade corner at Entry Gate



Figure 11. Northwest corner of the building



Figure 12. North façade, original arcade with two arches closed



Figure 13. Detail of wrought iron grill



Figure 14. Detail of the north façade, wrought iron grill and collection box



Figure 15. Northeast corner



Figure 16. East façade, first block from north

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Figure 17. East façade, second block from north



Figure 18. South façade, first block from west



Figure 19. Interior lobby, entry doors



Figure 20. Lobby and counter



Figure 21. Lobby and waiting area



Figure 22. Restroom with original window



*Figure 23.* Office interior showing original arcade water table base course and arcade impost molding



Figure 24. Interior corridor of accessible entry, infill walls between original pilasters and capitals



NASA Ames Research Center Building B-26 Reuse Guidelines

Appendix 6. Construction Plans



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NASA Ames Research Center Building B-26 Reuse Guidelines

Appendix 7. Moffett Field District Nomination

UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

### NATIONAL REGISTER OF HISTORIC PLACES EVALUATION/RETURN SHEET

### REQUESTED ACTION: NOMINATION

PROPERTY US Naval Air Station Sunnyvale, California, Historic Distric NAME: t

MULTIPLE

NAME:

STATE & COUNTY: CALIFORNIA, Santa Clara

DATE	REC	CEIVED:	1/13/94	DATE	OF	PENDING LIST:	1/26/94
DATE	OF	16TH DAY:	2/11/94	DATE	OF	45TH DAY:	2/27/94
DATE	OF	WEEKLY LIST:					

REFERENCE NUMBER: 94000045

NOMINATOR: FEDERAL MAY

**REASONS FOR REVIEW:** 

APPEAL: N DATA PROBLEM: N LANDSCAPE: N LESS THAN 50 YEARS: N OTHER: Y PDIL: Ν PERIOD: Ν PROGRAM UNAPPROVED: Ν REQUEST: N Ν SAMPLE: SLR DRAFT: Y NATIONAL: Y

COMMENT WAIVER: N

ACCEPT RETURN

\_\_\_\_\_REJECT 2/24/94 date

ABSTRACT/SUMMARY COMMENTS:

The U.S. Naval Air Station Sunnyvale, California Historic District is eligible under NR criteria A and C in the areas of Military History, Architecture, and Engineering. The discontiguous district represents a rather unique and significant episode in the development of U.S. naval aviation prior to World War II. The Sunnyvale base was one of two Naval Air Stations built to port lighter-than-air dirigibles during the 1930s. Dirigible Hangar #1, the later blimp hangars #2 and #3, and their accompanying support buildings all represent excellent examples of early twentieth-century military planning, engineering, and construction.

The three enormous airship hangars represent significant engineering accomplishments and they are among a limited number of extant historic airship facilities in the United States. The core of the historic Naval Air Station--centered on a landscaped "common" and dominated by the looming airship hangars--remains largely intact and includes fine regional examples of Spanish Colonial Revival design.

RECOM. / CRITERIA A CCOP+ A+C
REVIEWER PAUL R. LUSIONAN
DISCIPLINE HISTORIAN
DATE 2/24/94

DOCUMENTATION see attached comments Y/N see attached SLR Y/N

# National Register of Historic Places Continuation Sheet

Section number \_\_\_\_\_ Page \_\_\_\_

NPS Form 10-900-a

(8-86)

### SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 94000045

Date Listed: 2/24/94

<u>US Naval Air Station Sunnyvale,</u> <u>California Historic District</u> Property Name

<u>Santa Clara</u> <u>CA</u> County State

<u>N/A</u> Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

Signature of the Keeper

 $\frac{2 \cdot 2 \cdot 4 \cdot 9 \cdot 4}{\text{Date of Acti$ 

Classification:

The number of previously listed resources is changed to zero (0); Hangar #1 was only determined eligible for listing.

#### Significance:

#### Area of Significance:

<u>Architecture</u> is added as an area of significance, defining the district as a good regional example of military design in the Spanish Colonial Revival style.

### Significant Person:

\* The name of Adm. William Adger Moffett is removed from the significant person blank since the district was not nominated under Criterion B.

<u>continued</u>

# National Register of Historic Places Continuation Sheet

Section number \_\_\_\_\_ Page \_\_\_\_

### SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 94000045

Date Listed: 2/24/94

<u>US Naval Air Station Sunnyvale,</u> <u>California Historic District</u> Property Name

Santa ClaraCACountyState

<u>N/A</u> Multiple

Multiple Name

Amended Items in Nomination:

<u>continued</u>

U.T.M.:

· .

The UTM coordinates are corrected to read:

Α	10	582960	4140460
В	10	583240	4140880
С	10	583800	4141120
D	10	583940	4140740
E	10	583140	4140330
ממ	10	584640	4141420
BB	10	584880	4141520
cc	10	584760	4141120
DD	10	584990	4141220

This information was confirmed with Navy FPO J. Bernard Murphy.

DISTRIBUTION:				· · · · · · · · · · · · · · · · · · ·
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Nominating	Authority	(without	nomination	attachment)

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United States Department of National Park Service	the Interior	JAN 1	3 1994	RECEI	
National Register of	f Historic I	Places	ISTER	JUL 13	<u>_C771</u>
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This form is for use in nominating or requesting for Completing National Register Forms (Nation the requested information. If an item does not ap and areas of significance, enter only the cate (Form 10-900a). Type all entries.	ng determinations of elig nal Register Bulletin 16). oply to the property being gories and subcategories	ibility for individual Complete each iten documented, enter " s listed in the instru-	properties or distri m by marking "x" N/A" for "not applic ctions. For additior	cts. See inst in the approp able." For fu nal space use	ructions in <i>Guidelines</i> riate box or by entering notions, styles, materials, continuation sheets
1. Name of Property	toc Naval Ain S	tation Sunny	ALE Califor	min- Hig	toric Dictrict
historic name United Std	1 Air Station	Moffett Field	d - Central	Historia	District
other namesiste number 0. 5. Hava	I All Station				
2. Location					
street & number Central Distri	ct	1.1		not for	publication
city, town Naval Air Stat	101 MOTTELT FIE	IO Santa Clara	code (A		zin code 94035
	county			1 000	21p code _ 04000
3. Classification					
Ownership of Property	Category of Property		Number of Res	ources with	iri Property
private	building(s)		Contributing	Noncon	tributing
public-local				54	_buildings
	site		<del>1</del>	<del>.</del>	_sites
<u>[X]</u> public-Federal					_structures
ł			-43	5/	_ ODJECIS
Name of related multiple property listing:			Number of con listed in the Na	tributing res	sources previously
4. State/Federal Agency Certificati	on				
As the designated authority under the I nomination request for determination request for determination request for determination and the property rest of the second state of the second	National Historic Pre nation of eligibility me nd meets the procedu does not meet the Faland P	servation Act of 1 ets the document iral and profession National Registe	966, as amender ation standards for hal requirements or criteria. Sec Sec Sec Sec Sec Sec Sec Sec	d, I hereby or registerin set forth in e continuatio Date e continuatio	certify that this g properties in the 36 CFR Part 60. m sheet. m 5 / 94.
Signature of commenting or other official				Date	
State or Federal agency and bureau					
5. National Park Service Certificati	ion		· · · · · · · · · · · · · · · · · · ·		
I, hereby, certify that this property is:	$\bigcirc$	4			
entered in the National Register.	$() \cap ($	1			
See continuation sheet.	5 af K	. purp		Å	.24.94
L determined eligible for the National	/	10			' /
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Handhai negistet.			· · · · · · · · · · · · · · · · · · ·		
removed from the National Register.					
other, (explain:)					
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		Signature of the			

ns

Historic Functions (enter categories from instructions)	Current Functions (enter categories from instructions
Dofonco Naval Facility	Defense Naval Facility
Air Facility	Air Facility
7. Description	
Architectural Classification (enter categories from instructions)	Materials (enter categories from instructions)
	foundation concrete
Late 19th and 20th Century Revivals	walls <u>stucco</u>
Othon: Divisible Hangan	roof clay tile

Describe present and historic physical appearance.

### SITE DEFINITION

The site consists of a large number of buildings that were constructed over an approximately 60 year time frame from the early 1930's until today. The buildings are clustered in a formal campus-like layout that is defined by a western-facing gated entrance and a very well tended land-scape which includes mature specimen trees, shrubs, and manicured lawns.

The site can be easily divided into its stylistic components that also define the different eras of construction over the base's lifetime.

The oldest and most historically significant buildings, from an architectural and engineering standpoint that form a coherent core, include the formal cluster of buildings dating from 1933 that lead up to, and include, the imposing Hangar #1 (the original dirigible hangar) and WWII Blimp Hangars. This area of the base is bounded by Bushnell Road on the north, the automobile parking spaces behind Sayre Avenue on the east, Westcoat Road on the south; and the entry, Clark Road, on the west. The central area is laid out in an axial plan in a northeasterly direction with the original buildings symmetrically placed along a grand central greensward. In addition to this very defined central space where the earliest major base buildings are located, there is an equally significant adjunct of 9 officers' residences clustered around Berry Drive just to the south of the main gated entrance in another formally laid out plan with grass medians, a grass island at the end of the southern <u>cul-de-sac</u>, and a characteristically suburban curved residential street. In keeping with the symmetry that was so strong to the original plan, another unbuilt residential complex was originally planned for the northern side of the entrance drive.

These earliest buildings, which were designed by the Navy Department Bureau of Yards and Docks, exemplify California's most popular contemporary architectural style of the 1920's and early '30's. They are constructed in a late Spanish Colonial Revival architectural style (a style that was equally as popular in government construction in the eastern sections of the United States during the 1920's and into the early 1940's), as well as aspects that presage the modern designs of the Internationalist styles which would predominate in American architecture for the next thirty-five years (from approximately 1940 to 1975).

X See continuation sheet

8. Statement of Significance		
Certifying official has considered the significance of this p X nationally	roperty in relation to other properties:	
Applicable National Register Criteria X A B X	C D	
Criteria Considerations (Exceptions)	C D D E F G	
Areas of Significance (enter categories from instructions) <u>Military</u> Engineering	Period of Significance 1930-1935 1942-1946	Significant Dates
	Cultural Affiliation	
Significant Person Moffett, William Adger; Admiral	Architect/Builder U.S. Navy Bureau of Yar	ds and Docks

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

In the nation's quest to provide security for the lengthy expanse of it's coastlines the opportunity for air reconnaissance was realized by the futuristic Admiral William A. Moffett. Through his efforts, two Naval Air Stations were commissioned in the early 1930's to port the two U.S. Naval Airships (dirigibles) he believed capable of this challenge. The Naval Air Station Sunnyvale was the Pacific Coast location selected, designed and developed to port USS MACON (ZRS 5). The immense structure, Hangar #1, designed to house USS MACON, with its larger counterpart in Akron, Ohio, remain the two largest structures in the United States without internal support. At the onset of WWII, the base was expanded with Hangars #2 and #3 which were designed to accommodate the smaller blimps and balloons used for reconnaissance, until the range of heavier than air aircraft (airplanes) was sufficient to patrol the coast. The significance of the U.S. Naval Air Station Sunnyvale Historic District is attributed to the association with the expanding defense capabilities of the U.S. Navy, the engineering technology found in lighter than air ships, the design of the hangar and system for porting the dirigible and in the plan and architectural style of the station designed to support this defense technology. The significance of Hangar #1, was recognized when it was designated a Naval Historical Monument. It has been designated a Califronia Historic Civil Engineering Landmark, by the San Francisco section, American Society of Civil Engineers, and has been determined eligible for listing in the National Register of Historic Places by the U.S. Navy in consultation with the California State Historic Preservation Officer. The entire historic district is supported for listing in the National Register of Historic Places at the national level of significance under Criterion A for the association with coastal defense and naval technology that has made a significant contribution to the broad patterns of our history, and Criterion C reflecting the distinctive type, period, method of construction and high artistic values that are represented in the 1933 station plan and buildings. In 1942, the station was recommissioned, U. S. Naval Air Station, Moffett Field, in recognition of the significant contribution to naval history by Admiral Moffett, contributions that have gained him the unofficial title, "Father of Naval Aviation."

X See continuation sheet

9. Major Bibliographical References	
Gragg, Dan <u>The Guide to Military Installations</u> , Haris Payne, Stephen M., <u>Santa Clara County: Harvest of Cha</u>	burg, PA; Stackpole Books, 1983 nge, Santa Clara,CA;Windsor Publicatio 1987
Unpublished:	
Histoirc Civil Engineering Landmarks of San Francisco Annual Conference, American Society of Civil Engi Sponsor, 1977.	and Northern California, 125th neers, San Francisco Section,
Ifft, Jerry. The Era of Dirigibles at Moffett Field, King, Jr. Memorial Library, San Jose, CA	1987; California Room, Martin Luther
Interviews:	
Benjamin Mandweiler, NAS, Moffett Field, Public Works Lt. Col. Robert N. Maupin, USAF. Ret.	Department e continuation sheet
Previous documentation on file (NPS):         preliminary determination of individual listing (36 CFR 67)       Prima         has been requested       St         previously listed in the National Register       Ot         previously determined eligible by the National Register       X Fe         designated a National Historic Landmark       Lo         recorded by Historic American Buildings       Ur         Survey #       Ot         Record #	ry location of additional data: ate historic preservation office her State agency deral agency ical government hiversity her fy repository:
10. Geographical Data	
UTM References         A $\begin{bmatrix} 1 & 0 \\ 1 & 0 \end{bmatrix}$ $\begin{bmatrix} 3 & 7 & 7 & 0 & 3 & 6 \end{bmatrix}$ $\begin{bmatrix} 1 & 2 & 2 & 0 & 5 & 9 & 8 \end{bmatrix}$ B $\begin{bmatrix} 1 & 0 \\ 2 & 0 & 0 \end{bmatrix}$ Zone       Easting       Northing       Zone         C $\begin{bmatrix} 1 & 0 \end{bmatrix}$ $\begin{bmatrix} 3 & 7 & 6 & 9 & 9 & 9 \end{bmatrix}$ $\begin{bmatrix} 1 & 2 & 2 & 0 & 5 & 9 & 8 \end{bmatrix}$ D $\begin{bmatrix} 1 & 0 & 2 & 5 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 \end{bmatrix}$	3       7       6       9       7       5       1       2       2       0       6       0       4         Easting       Northing         3       7       7       0       6       3       1       2       2       0       5       3       0
LX Se	ee continuation sheet
Verbal Boundary Description The Naval Air Station Sunnyvale includes all of the 1933 original the 22.5 acre detached area containing hangars #2 and #3. The Main Gate, including the entrance gate and fence, proceeds alon where the boundary turns south to encircle the quarters A throug Westcoat Road, east to Sayre Ave., north to Bushnell Road and area is included in the historic district to incorporate hangars #2 land around the pair. Boundary Justification	Il base plan with the addition of e boundary line begins at the ng Clark Road to Berry Road gh H, north behind quarter F to west to Clark Road. A detached and #3 with a 25 foot band of
The boundary includes the limits of development in the 1933 base p Sunnyvale, as prepared by the Navy Department, Bureau of Yards a hangars #2 and #3 that are associated with lighter than air military a So	lan for the Naval Air Station nd Docks, and the area incorporating aircraft. ee continuation sheet
11. Form Prepared By	
name/title <u>Bonnie Bamburg</u>	date November 9. 1991
street & number <u>1174 Lincoln Avenue</u>	telephone <u>408-971-1421</u>
city or townSan_lose	stateCalifornia zip code95125

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## National Register of Historic Places Continuation Sheet

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This hybrid style forms a unifying element that not only holds the myriad of architectural uses together, but gives the entire complex a very satisfying central theme. The style is highly ornamented in the most significant buildings (such as the Administration and Bachelor Officers' Quarters) and stripped of ornament, but no less supportive of the whole in the smaller out buildings and garages. Interestingly, the building that is the <u>raison d'etre</u> of the entire Naval Air Station, Hangar #1, eschews any historicism in its design, but rather reflects the highest Streamline Moderne forms of modern technology at its finest.

Another slightly newer cluster of buildings is also defined by their distinctive architectural style which reflects the most popular designs of their time. These buildings are those structures which were built in the 1940's and early '50's and that are designed in a very plain International style of architecture defined by the simple stripped geometrical forms of the structures. These interesting examples are located at a few scattered sites within the original plat noted above (i.e. the Post Office, #67, for example), as well as being set in a long row along Dailey Road between the original campus plan and the Bayshore Freeway (#152). Other noteworthy buildings include the Control Tower (#158) at the far eastern edge of the site and the original Chapel Building (#86), which is a reinterpreted hybrid style that exhibits aspects of both a stripped Spanish Colonial Revival design and ornament hinting at more of a Mission Revival style. Additionally, two slightly smaller, but no less impressive hangars (Hangar #2 and #3), were constructed across the runways to the east of Hangar #1. These buildings were designed for the smaller blimps that replaced the huge rigid framed dirigibles of the 1930's for which Hangar #1 was designed. They also were designed in a much more prosaic and conventional architectural style than the metal sheathed futuristic Hangar #1.

A building that provides visual compatibility with the 1930's Spanish Colonial Revival buildings is the Chapel. This is due both to its physical location within the historic district, as well as to its architectural design, which is much more compatible with the older buildings on the base rather than the later International styled buildings. Early photos of the building illustrate a structure whose basic form of rather simply pitched cruciform plan appears to be very standard designed archetype military base chapel of the 1940's. But to this basic form, the designers add very site specific detailing which, though not technically a re-creation of the Spanish Colonial Revivals around it, very handsomely picks up hints of the building characteristics of the older structures. These details include, most importantly, the cupola which mimics the tower on the Administration Building, and the projecting curvilinear portico with its stone-like entry frame which takes directly from the Spanish Colonial Revival interpretations surrounding. The end result is an almost textbook example of a successfully designed new structure sensitive to an established architectural campus. Because the chapel was constructed well after the 1933 period it is not a contributing building to the historic district.

Because the International style buildings are less than 50 years old and are not individually exceptional, they will not qualify for listing in the National Register at this time and will not be discussed in any detail. This group consists of buildings 148-156, 158 and building 67.

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In addition to these two major stylistic groupings, there are a number of other buildings on the site that have been constructed over the past approximately 50 years that fill up the site, but do not represent very fine examples of architectural design. These buildings are characterized by their utilitarian function, such as the number of Quonset huts (#111, #118 and #119) found throughout the site, as well as the plethora of small wooden and stucco buildings with little discernible styling that comprise much of the barracks, enlisted housing, shopping and warehousing spaces (#E-52, #E-13, #E-29, #347, #223, #245, and #244).

Thus from a specific design standpoint, the site can be divided into the following five main components that comprise its strongest identifying features:

- A. Original Spanish Colonial Revival Design
- B. Significant Engineering Features (Hangars #1,#2,&#3)
- C. Miscellaneous Supportive Design Features
- D. Post 1935 buildings designed in the Spanish Colonial Revival Style
  - E. International Style Buildings from the 40's

Out of these five categories, the proposed historic district from the 1930's will include all those features identified with item "A, B & C" immediately above.

# A. ARCHITECTURAL DESCRIPTION OF THE SPANISH COLONIAL REVIVAL-DESIGNED ORIGINAL BASE BUILDINGS.

The original plan of Moffett Field was constructed in an architectural style that had as its antecedent the exuberant and capricious ornamentation applied by the 17th Century architect, Jose Churriguere, and eloquently revived by Bertram Goodhue in the design for the 1915 San Diego Panama Pacific Exposition. The Navy first attempted the style at Chollas Heights Radio Transmission Station in 1916 and followed with Goodhues' Marine Corps Recruit Depot, c. 1920, Naval Air Station North Island, c.1921, and his sketches for the Naval Training Center in San Diego, a year or so later. This form of Spanish Colonial Revival design reached its zenith at the end of the 1920's and was gradually losing favor to the modern designs of the mid-to-late 1930's. By the 1940's only some very late examples, usually transitional in styling that reflected the rise of both modern schools of architecture (Moderne and Deco styles, as well as the later International or Bauhaus-influenced styles) were being built.

The complex of original buildings that comprise the heart of the Naval Air Station Moffett Field are examples of late Spanish Colonial Revival design reflecting a much more severe example of this style with strong influences of the more modern style precepts, as well as hints of Eastern Colonial designs. The resulting hybrid significantly alters the original architecture of this style.

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These buildings are characterized as essentially two-storied white or off-white stucco structures that are capped by very low-pitched Spanish tile roofs, which are punctuated by projecting chimneys, air ducts and, in the case of the true centerpiece building, the Administrative Building (#17), a richly ornamented, roof pavilion where corner columns support a decorated dome. The buildings are all rectangular in plan with either central projecting spaces or corner wings. Wall surfaces are very plain with the major break up of space occurring either in the location of rectangular-shaped windows, slightly projecting stringcourses between the floors, round arched entryways or arcaded ornamentation styled to look like granite around the major entry doors and surrounding significant window spaces.

It is the variation of the above major design elements that define the original base architecture. The two most handsome entrances are the round arched arcades that distinguish both the aforementioned Administration Building and the equally impressive Bachelor Officers' Quarters (#20). Repeated ornamentation include the flattened urn motif, various cartouches, and quarterfoil windows found along the exterior surfaces of all the major structures. The juxtaposition between the flat surfaces of the exteriors contrasting with the florid ornament around the major doors and windows provide the perfect tension that distinguishes the Spanish Colonial Revival style. A notable somewhat stripped example of this style is the impressive original Aircraft Tower (#18).

Some of the minor out-buildings, although stripped of much ornamentation, exhibit sensitive design features such as the low stepped parapets of buildings #22 and #2, the repeated multilight apertures of #10, and the simple, yet distinctive massing of the original portions of #6, which acts to reinforce the common design theme throughout the historic core. All of these original outbuildings significantly reinforce the common design theme of the historic campus.

The second cluster of original buildings, which forms an equally impressive uniform design statement, is found in the earliest residential units of the detached officers housing. In this extremely pleasant space, made so by its luxuriant landscaping and large unbroken lawns, a very simple house plan is repeated with only slight variations. The structures are designed in a very stripped and somewhat severe Spanish Colonial Revival style with two-storied, rectangular plan residences joined to a garage, either a one or two storied garage, by an arcade. The roof lines are low pitched gables that are sheathed in red Spanish tiles and punctuated by end fireplaces. Apertures are symmetrically placed on the structures with the dominant design characteristically reserved for the front entry. Windows are generally rectangular in shape, double hung and 3 over 2 in design. As with the major buildings on the working base section, here two stringcourses and various door surrounds provide the major contrast to the very simple stucco walls. Additionally, a similarly designed structure forms a prominent security building at the front gateway.

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# B. DESCRIPTION OF THE ORIGINAL ENGINEERING FEATURES (HANGARS #1, #2, AND #3)

Completely separate in design, but of such striking style and size as to warrant separate discussion are the three buildings that form the <u>raison d'etre</u> of the entire complex. The three hangars are of such proportions that for this reason alone they warrant the title "landmark". Aesthetically, the original hangar, which was constructed to hold USS MACON, a dirigible, is of such a unique design that it stands apart even from its later sister buildings. Hangar #1 is a metal sheathed behemoth whose rounded shape is both the epitome of the aerodynamically influenced Streamline Moderne style as well as a stylistic cousin to the huge airship that originally berthed inside the mammoth hangar.

Above all other buildings found on the Moffett Field site, Hangar #1 is without question the most significant building both architecturally and historically. It is one of the major buildings of Northern California, and has been recognized as an Engineering Landmark by the American Society of Civil Engineers.

Hangars #2 and #3 are significant more for their size than their unique styling or design. They represent more prosaic attempts at constructing very large military hangars. Similarly designed structures are found on Marine Corps Air Station, Tustin, California and at Coos Bay, Oregon. The more common design does not, however, detract from the sheer magnitude of the two huge buildings side by side. Along with Hangar #1, these two buildings help define the south San Francisco Bay Area from all distant directions.

### C. DESCRIPTION OF THE OTHER SUPPORTIVE DESIGN ELEMENTS (I.E. LANDSCAPING, GATEWAYS, ARTWORK AND ITEMS OF INTEREST IN THE LANDSCAPE, STREET LIGHTING, AND SIGNAGE)

The third and final group of elements add immeasurably to the quality of design cohesion that characterizes the Naval Air Station Moffett Field site. These elements support the physical layout of the site plan as well as the quality of the original historical architecture. They also help define the campus-like quality of the base as well as unify the disparate building styles and types.

Most prominent of these supportive elements is the landscaping. The ubiquitous mature trees, the huge green spaces, and the careful placement of plants and shrubs which add immeasurably to the <u>mise-en-scene</u>. The luxuriant and well tended landscape is the first feature which one experiences after passing through the entry gate. Early photos of the site show a very desolate natural landscape which was essentially bay lowlands. Blueprint plans from April 29, 1933 illustrate the importance that a unifying and coordinating landscape gate. There could be no doubt that the existing grounds could not have been produced without a well conceived original plan.

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Of almost equal importance in differentiating the site from its surroundings is the entry wall and gate itself (#36). Although very restrained in design, the gate forms a physical entrance into the unique area from the very bland surrounds. It should be noted that the wall, gateway, and gatehouse all derive from the original base architectural design plan.

Street furniture, interesting items on the landscape, and street lighting also add to the unique quality of the site. The furniture includes a detached community message board, a sundial and an historic anchor, both in front of building #25, as well as within the central greensward. The street lighting still retains its original bases, but the lamps themselves, from a later '50's design, are somewhat inconsistent with the Spanish Colonial Revival buildings of the historic core. Replacement with a more original form should be encouraged.

Signage too helps add to the unifying elements of the site. It is, most prominently in the historic core, understated in blue with gold lettering which is very supportive of original high design standards. Such attention to detail should also be encouraged to continue. For it is in the sum of all of these disparate features that the whole of a unique and memorable built environment results.

## **INDIVIDUAL SITE DESCRIPTIONS:**

The following descriptions define the special design characteristics that distinguish the architecturally significant buildings from the 1933 plan (with two notable exceptions being a description of the 1943 designed Hangars #2 and #3).

### HANGAR # 1: BUILDING #1

The site consists of a very large (1140'x308'x194') single-story, dirigible hangar that is constructed with three hinged steel truss arches and "X" cross bracing that is sheathed in large metal plates and set on a huge rectangular-oriented, elliptical shaped, floor plan and designed in a slightly flattened parabolic form. The structure further exhibits four rows of very large rectangularshaped and horizontally-oriented window bands along its two dominating eastern and western facing flanks. These apertures appear flush with the immense metallic skin of the building and greatly add to the very futuristic aerodynamic effect of the design.

Of particular engineering note are the hangar doors that run the full height of both the north and south-facing elevations. These doors are retractable and form a halfdome shape when closed.

The building exhibits a very clean, Streamline Moderne design which perfectly mimics the form of the airships themselves. Located perpendicular to the axis of the station plan this dominate structure provides the focus of the 1933 station plan.

The mammoth structure designed to hold fully inflated giant dirigible airships from the 1930's military fleet (such as USS MACON) was actually constructed in 1932 preceding the buildings of the surrounding base which date from 1933. The structure is important due to its unique use (dirigible hangar), beautifully executed Streamline Moderne architectural design, ingenious

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engineering construction; and for its very size that still dominates a greatly urbanized Santa Clara County in the 1990's. From all aspects of national landmark status criteria, this building qualifies on its own. When added within the context of the surrounding supporting campus plan, the entire ensemble forms a very unique sense of place within the built environment and continues to exhibit national prominence.

### HANGAR #2 AND #3: BUILDINGS #46 AND #47

The site consists of twin hangars that were designed for the, blimp fleet during WWII. They are of treated California redwood frame construction, configured on a rectangular plan in a more flattened parabolic form than Hangar #1; and characterized by their immense, moderately pitched porticoes at each of the north and south-facing hangar doors. These dominating entries are supported by very large concrete piers at each of the four corners. The twin buildings are set on a site plan that is directly oriented with the earlier Hangar #1, which is due west. The scale of the structure is exemplified by their dimensions, which at 1,075'x297'x171' (180,518 sq. ft.) make them slightly smaller than their predecessor, but still very impressive on the landscape. The use of wood construction instead of a steel truss system was in response to the war effort. Like most west coast military facilities constructed after 1941, metal was used very sparingly to conserve the resource for use in constructing ships and armament.

The design of these two buildings is in a much more conservative architectural style than the futuristic form of Hangar #1. These later hangars are almost domestic in their gabled porticoes. They definitely lack the daring and ingenuity of the other hangar's form and they are much less a unique design to the area. In fact, four other structures of like design were built on the west coast during World War II, to house the blimps used to patrol the Pacific coastal waters of the United States. Two in Coos Bay, Oregon which are no longer owned by the Federal Government and two on what is now Marine Corps Air Station, Tustin in Southern California. All four of these structures have been nominated to the National Register.

Although not of equal architectural or design merit as Hangar #1, these two like-structures are significant from both an historic perspective (as excellent extant examples of WWII blimp hangars) as well as an architectural/engineering perspective (they are after all buildings of incredible size and stature upon the landscape). The twin structures further add to the important design whole of the best of the original 1933 plan and the just slightly less impressive structures from the 1940's which help in-fill much of the site. They were completed in 1943. The combined visual power of Hangars #1, #2, and #3 form a physical presence upon the urbanscape which still dominates the low horizontal design of the Santa Clara Valley.

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### **ADMINISTRATION BUILDING: BUILDING #17**

The site consists of a two-story structure that is constructed on a shallow cruciform rectangular floor plan which is built of wood and sheathed in stucco with red Spanish tile roofing and terra cotta ornamentation, especially notable in the window and door surrounds. The building is the most prominently sited structure within the 1933 campus plan. It is set in the very heart of the open grassy median as a definite center point to the original plan. Its architectural design represents a late example of Spanish Colonial Revival style with some modifications that give it a kinship with Eastern military bases of the same vintage (that were designed in dry formal interpretations of Colonial Revival).

The building is 148'x41 'x37' and contains 18,954 sq. ft. The structure is characterized by the features which define all of the original buildings: the very low pitched, slightly hipped and tiled roofline. Exterior walls are flat and devoid of ornament, save a stringcourse running the entire perimeter of the building and separating the two stories. The eave line is very shallow. Windows are simple, rectangular in plan, vertical in orientation, multi-paned and double hung. Overscaled terra cotta ornamentation define the major front and back entrances, as well as the centered second story window. The main or west-facing entrance projects out from the main structure and exhibits a triple round-arched, recessed entrance.

Ornamental urns, pilasters and floral design (characteristic of Churrigueresque Spanish architecture of the 1 7th Century) add a much needed ornamental counterpoint to the very simple and severe basic design.

A further feature which distinguishes this structure among all of the others in the original campus plan is the small centered Bell Tower. This small belvedere is capped by a diminutive, red-colored dome and distinguished by very flat arches at each of its four faces. This architectural style is much more characteristic of the colonial designs of the Eastern United States and is a major factor in classifying the overall base design as a modified Spanish Colonial Revival style.

With the nearby Bachelor Officers Quarters and the Married Officers' Residencies, the Administration Building, (which is also historically referred to as the Admirals Quarters) is the most architecturally important building from the original 1933 construction (excluding Hangar #1). This building sets the design criteria that is followed throughout the original campus plan. It acts both as a handsome example of hybrid revivalist architecture which is prominently set at the most important axial juncture of the site and as one of the most lavishly ornamented of Moffett Field's original structures. As such, the Administration Building is a key to the historic fabric of the site.

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### **BACHELOR OFFICERS QUARTERS: BUILDING #20**

The site consists of a large, two-storied structure that was constructed on an irregular rectangular shaped site plan which is actually symmetrical in form. The building exhibits a more ornamented interpretation of a hybrid Spanish Colonial Revival architectural design. It is characterized by the same basic features that distinguish all of the original buildings. The roofline is lowpitched and sheathed in red Spanish tile, the eave is fairly shallow, wall surfaces are unadorned white stucco; and window shapes are paired rectangular forms which are double hung, 3 over 2 in form. Major entrances are distinguished by terra cotta facing that emulates granite. Three large round arches provide the building with a very elegant entryway. Flat unadorned pilasters separate these arches. They are further adorned with flat urn detailing. The characteristic stringcourse separates the two floors. A rear wing projects toward the south.

The structure is sited symmetrically across from the equally prominent, but slightly less architecturally impressive, Bachelor Enlisted Quarters (#19) which has been greatly enlarged with a rather bland International Style addition at both ends. The structure is further enhanced by a well conceived and equally well maintained landscape plan.

Along with the cluster of major buildings that are set along the formal axis of North and South Akron Roads, the BOQ helps define the high quality design character that distinguishes the historic core of Moffett Field. The structure is an extremely fine example of historicist architecture of the 1930's and remains a key element in the cohesion of the base's physical form.

### GYMNASIUM: BUILDING #2

The site consists of a very large, single-story, plaster-sheathed, steel framed building that is constructed on a slightly irregular rectangular floor plan with a flat roof that is distinguished by slightly projecting stepped parapets that hint at the utilitarian designs of the original campus plan of 1933. the roof is wood sheathing on steel beams. This structure exhibits a ubiquitous projecting stringcourse encircling the building, as well as the very plain beige plaster walls. The major design feature on this essentially utilitarian structure is in the window placement. Here, the structure is characterized by very tall, horizontally-banded, multi-paned apertures which act to break up the surface of the exterior walls either as centered indentations on large expansions of plaster or as repeated forms which act almost like columns along the major side elevations.

This structure avoids, as do all of the original functional outbuildings, the Spanish Colonial Revival design of the major living areas of the base. Interestingly, it provides a handsome architectural bridge between the very futuristic Streamline Moderne design of Hangar #1 and the more historicist styles of the original campus plan.

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The site is significant both historically and architecturally. It was originally constructed to be a balloon hangar which justifies its extremely large interior single story space (19,691 sq. ft., 130'x88'x63'). Additionally, the building sets the reserved design criteria for the outbuildings on the base which handsomely support their more ornamental Spanish Colonial Revival contemporaries. Features which characterize these original outbuildings include flat roofs, shallow parapets which are slightly stepped; and severely unadorned exterior walls. Windows are rectangular in form and provide the dominant design ornamentation.

Although these buildings do not provide the obvious ornamentation, stylistic historicism or landscaped surroundings of the more apparently significant original Spanish Colonial Revival structures, they exemplify an extremely sophisticated design criteria of their own which greatly adds to the overall cohesion of the existing campus. In their own right, the Gymnasium, along with similarly designed original 1933 outbuildings such as the Garage (buildings #21 and #22), are major factors from the original 1933 design which make NAS Moffett Field so architecturally distinguished.

### **BUILDING #23, INSTRUCTION BUILDING**

Fronting on Akron Road, the former dispensary is one of the buildings that defines the original architectural design and is symmetrically placed, opposite building #25, to balance the entrance to the base's formal plan. The two story, above grade, building is basically a "T" form executed with the typical elements of the Spanish Colonial Revival architecture, low pitched tile roof, stucco sheathing and terra-cotta ornamentation. The front facade has a central entrance recessed behind three arched openings that form an arcade. Terra-cotta surrounds decorate the three windows above the entry and the doors at the east and west ends. The building, originally the base dispensary, was enlarged by the U.S.Army's Air Corps in 1936, when extensions were added to the rear and the east end. The building is 105 feet by 96 feet and 10,995 square feet of floor space.

Of the original buildings, #23 and #25 are significant because of their representation of the Spanish Colonial Revival design and for their locations at the entrance of the working station. Opposite each other, across the central lawn mall, these buildings provide symmetry to the original plan.
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### **BUILDING #25 THEATER**

The theater, two stories over a basement, is a typical example of the significant supporting buildings that define the original architecture. The "T" form is executed with a low pitched tile roof, stucco sheathing and terra-cotta ornamentation. The typical protected entry is behind an arcade that, in this case, is projected forward. The fenestration, again typical of the dominant style, is symmetrical for all floors except those voids above the entrance. Here the pattern changes to a band of windows divided into three elements that balance the three arches of the arcade. The building is 150 feet by 110 feet in an irregular plan that accommodates 7,745 square feet of floor space.

### BUILDINGS #21, #22 AND #24 - GARAGES

This group of detached garages are supportive elements in the historic district. Each is one story and is constructed using typical materials and simple forms of the ancillary buildings. Buildings #21 and #22 retain the original use and design, including comer parapets. The buildings, located behind Building #20, are almost identical, 98 feet by 24 feet with garage door openings facing each other. Building #24, located behind Building #23, was the ambulance garage. It is smaller 45 feet by 30 feet. The large garage door openings have been infilled and the interior space modified for administrative offices.

The garages are significant supportive buildings that compliment the architecture of the larger buildings. Building #24 retains the original mass and form but, the alterations have changed its appearance as a garage.

#### **BUILDING #10 - HEAT PLANT**

One of the original buildings, the heat plant is a large industrial building of block massing in an irregular "T" form that is two stories in height. A single story element fits into the south west comer. Typical of power plant design, the dominate feature is the fenestration. This building has window banks that extend to the second story. A coursing separates the massing with smaller rectangular windows above the band. In keeping with the dominant architecture, this utilitarian building is decorated with a simple surrounds at the entrances. Flat arches top the tall window banks. The glazing is rectangular pane divided mullions. Most of the first floor windows have transoms that are operable. While the upper rows are all operable. A second coursing divides the lower portion of walls at about four feet, the basement line. Building #10, is sheathed in stucco with a flat roof. This building is a handsome version of a utilitarian industrial design.

The heat plant is one of the original buildings. It is significant as an example of the dominate architectural design stripped to the essence, entrance surrounds and arched windows, for industrial use.

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### STRUCTURE #5 - Water Tower:

Supported by a tall steel frame, the water tank is topped with a conical roof. The traditional red and white checkered paint defines this classic industrial design. One of the original structures, the water tower is a functional and visually distinctive feature.

### BUILDINGS A THROUGH I AND ANCILLARY GARAGES A-1 THROUGH I-1

REPRESENTATIVE SINGLE FAMILY RESIDENCES (COMMANDING, SENIOR AND JUNIOR MARRIED OFFICERS QUARTERS):

The original 1933 detached residential structures are all designed in a like architectural style of which any single building represents an archetype for the whole. The example used here is site #A1, which is referred to in the 1933 landscape plan as the "Commanding Officers' Quarters".

The site consists of a very simple, two-storied, rectangular-planned single family residence that is constructed of wood frame with a low gabled red Spanish tiled roof over a very plain stuccoed exterior (which is punctuated by a formal placement of both windows and doors). A simple chimney adorns the western facade. An attached single-storied, round-arched breezeway connects the residence with a large, two-storied, rectangular-planned garage set slightly behind the main structure.

Stylistically, the residence reflects all of the specific design criteria which unifies all of the original 1933 Spanish Colonial Revival architecture on the base. Windows are almost flush with the plain exterior walls. They are also essentially rectangular in shape, double hung, multi-paned and symmetrically placed along the facades. A colored, projecting stringcourse separates the two stories. The front entry is the most prominent exterior feature with a slightly recessed almost flat arched entry with projecting surrounds. An ornamental sidelight window is balanced by a large wrought iron projecting lamp on both sides of the main entrance.

Landscaping is characteristically both formal and very well maintained. The very large mature trees add immeasurably in setting apart the residential quarter as an oasis amid the functioning base. The open greenswards that distinguish the street directly tie in with the more formal axial plan of the rest of the base. The curved street pattern illustrates the influence of contemporary suburban design on such residential planning even on a military base.

The original 1933 detached residences form a key architectural component in the significant whole that distinguishes the site plan of the naval air station. Along with the verdant landscaping and extra wide spacing, this enclave of buildings helps define all that is special about the site from a design perspective.

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# CONTROL TOWER: (AEROLOGICAL BUILDING FLIGHT CONTROL TOWER) BUILDING #18

The site consists of a moderately-sized (3590 sq. ft.), two-storied building with a centered third story, hexagonal-shaped Control Tower. The structure is designed on a slightly varied rectangular floor plan with a very minimal attempt at exterior ornamentation. It is another of the utilitarian structures from the original plan that exhibits hints of the Spanish Colonial Revival design of the major buildings (in the centered round arch, the overscaled twin wrought iron Spanish styled lamps on both sides of the entry and the ubiquitous terra cotta surrounds ornamenting the front door). Otherwise, this structure is very simple in its design. Its walls are unadorned plaster. Windows are slightly recessed, rectangular in plan, multi-paned, double hung and symmetrically placed along the exterior facade.

The hexagonal tower is, along with the projecting metal tower above, the most distinguishing feature of the structure. It is characterized by its band of vertically oriented windows on each of the eight faces, as well as the iron railing which caps the flat-roofed tower from above.

The building's significance is due both to its history as the original Control Tower for the air station, as well as to its architectural design which once again exemplifies the sophisticated aspects of the original 1933 plan. The structure provides a transition between the more historically refined Spanish Colonial Revival architecture and the simple, yet equally impressive, more modern styles of the utilitarian outbuildings. It is the cohesion provided by the interaction between these two styles that provide the stylistic excellence of the historic core plan.

### TWIN SMALL TOWERS (FLOOR WATCHTOWERS): BUILDINGS #32 AND #33

These two twin sites (#32 and #33) consist of very small, two-storied towers that are distinguished by their very unusual design. They are towers that are distinguished by their very unusual design. They are very small structures (578 sq. ft., 14'x14'x25') that appear to be composed of a standard two-story rectangular tower with flat roof joined to a slightly smaller two-storied rounded tower with like flat roof that is capped with metal railing. The buildings are very simple in form. There are really no specific architectural embellishments. They exhibit all of the standard features of the utilitarian structures on the base without any ornament. Recessed, double-hung, multi-paned windows provide the major characteristic design feature which ties them into the surrounding historic core buildings. A prominent projecting stringcourse characteristically separates the two floors.

The significance of these two small utilitarian buildings is primarily in their unique function and form. They are very site specific and add a distinctive counterpoint to all of the rectangular shaped structures on the base. They are architectural curiosities that add immeasurably to the historic and architectural importance of the site.

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#### **INTERIOR SPACES:**

Naval Air Station Moffett Field has been in continuous use since it was constructed. During the years the interiors of the buildings were altered to accommodate changes in uses and space requirements. The alterations have redesigned the original interior space plans, removed the original surfaces and changed the spacial feeling of the interiors. Due to the alterations, the interiors do not retain architectural integrity or historic significance.

### NON-CONTRIBUTING BUILDINGS

Within the boundary of the historic district the number of non-contributing buildings exceeds the number of significant buildings and structures. This unusual ratio does not diminish the significance or integrity of the district. Most of the non-contributing buildings were constructed after the period of significance and are primarily small utilitarian constructions. The Chapel and heating plant, buildings 86 & 87 were constructed after the period of significance yet are designed in the idiom of the district. Thus, Naval Air Station Moffett Field, despite the imbalance in numbers of contributing and non-contributing buildings, maintains exceptional integrity of the 1933 station plan and architectural design.

The International style buildings were predominately constructed after 1944 and are not 50 years old. Therefore, they are not eligible for listing at this time. The Post Office, building #67, constructed in 1943, one of the finest examples of this style, is not significant as an individual building and should be included with the later International style buildings.

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### SIGNIFICANT AND CONTRIBUTING BUILDINGS

<u>BLDG. #</u>	CURRENT USE	ORIGINAL USE	
1 2 5 10	Hangar #1 Gymnasium Water Tank Heat Plant Building	Hangar #1 Balloon Hangar Water Tank Storehouse	
15 16 17 18 19 20 21 22 23 24 25 26 32 33 37 A, A1 B, B1 C, C1 D, D1 E, E1 F, F1 G, G1 H, H1	PW Shop PW Shop CPWP Administration NAV RES Administration BEQ BOQ BOQ Detached Garage BOQ Detached Garage Instruction Building Administrative Office Building Base Theater/Recreation Service/Thrift Shop Gate House/Iron Fence Storage Storage Scale House Officers Housing and Garages	Fire Station/Laundry/Garage Locomotive Crane Shed Administrative Building Aereological Center BEQ/Brig BOQ/Mess Hall & Galley BOQ Detached Garage BOQ Detached Garage Dispensary E Ambulance Garage Bowling Alley/Recreation Building Gate House/Iron Fence Tank House Water Tower Scale House Housing and Garages	
46 47 55	Hangar #2 Hangar #3 Heat Plant for Hangars #2 and 3	Hangar #2 Hangar #3 Heat Plant for Hangars #2 and #3	
SIGNIFICANT OBJECTS			

40	Flagstaff/Commons	Flagstaff and Commons
	Memorial Anchor	Anchor

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### NON-CONTRIBUTING BUILDINGS

- 1930-1933 Altered (loss of architectural integrity): Buildings # 3, #6, #12, #13, #14, #29, #31, #36, #501.
- 1940-1944 Altered (loss of architectural integrity): Buildings #240, #241, #242, #514, #515, #516, #517

Assembly Buildings: #45, #85, #115

Quonsets: #81, #117

Sheds: #34, #44, #83, #347

1940 - 1944 (outside period of Significance) Buildings: #67, #64, #86, #87,

All buildings and structures constructed after 1944, including: #76, #77, #123.

All ancillary buildings and structures, in proximity to Hangars #2 and #3, that are very small, altered or constructed after 1944; #79, #98, #186, #346, #350, #367, #368, #396, #440, #470, #472, #499, #539, #540.

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Several factors contributed to the commissioning of the U.S. Naval Air Station Sunnyvale on April 8, 1933. Of foremost importance was the vision for the future of aircraft and influence of Admiral William A. Moffett. Appointed by President Harding on July 25, 1924, to be the first as Chief of the Naval Bureau of Aeronautics, Admiral Moffett had already established himself the proponent for increased Naval aircraft as an integral component of the Navy's ability to control the seas off the coasts of the United States. In the 12 years that Admiral Moffett lead the bureau, the U.S. Navy was catapulted into the lasting interlocking strategy of Naval presence in the air as well as the sea. But he also spoke of the future in commercial aviation. In the 1920's, he appears fascinated with the lighter than air technology of the dirigibles. The success of the zeppelins in WWI contributed to the development of the larger dirigibles. This was however, marred by the disasters resulting from the flammability of the hydrogen used to fill the chambers. Each country involved in the hydrogen filled dirigibles experienced tragedy. A memorial plaque in Shenandoah Plaza at Moffett Field commemorates USS SHENANDOAH that was lost with a crew of 14 on September 3, 1925. The largest of the dirigibles, HINDENBERG, burst into flames over Lakehurst, New Jersey in 1937, culminating a series of tragic losses involving the dirigibles and hydrogen. Helium, produced only in Texas and Kansas, had been known to be a reasonable replacement for hydrogen, but was prevented from export by the 1925 Helium Export Act. Moffett began a lobbying campaign to have the U.S. Navy use helium filled dirigibles to patrol the coasts. In Moffett's plan, these giant rigid frame airships would provide the long range observation for the surface Navy below. He believed the dirigibles could be fashioned to carry small planes and might even be equipped with bombs. The idea was not far-fetched. The technology of the 1920's allowed dirigibles which could stay aloft for 14 days and fly 10,000 miles. The lobbying proved successful with the 1926 congressional authorization for two Naval dirigibles capable of carrying aircraft and a new aircraft base for the west coast. The dirigibles were to be built by the Goodyear-Zeppelin Corporation in Akron. Ohio. The first to be completed was based at Lakehurst, New Jersey. The selection of the site and construction of a base to service the second would be undertaken on the west coast.

The west coast site appeared to be slated for Camp Kerney near San Diego when the northern California politicians realized the opportunities to be created and forced the federal planners to accept applications from the entire west coast. Applications were received from 997 locations. San Francisco mayor, James Rolph, saw the benefit to the Bay Area even though his city did not have a site suitable for the base. The appeal was for 2,000 acres with unobstructed approaches, clean water, rail access and good flying weather was heard by Mrs. Laura Whipple, a recently established real estate broker from the East Bay. Familiar with the Sunnyvale area, she selected the Rancho Unigo, a former Indian Reservation, that seemed to meet all the criteria. Appointing herself "Chairman of the Landholders Commission", she obtained an option for 1,750 acres at the price of nearly \$500,000. She wired San Jose congressman, Joseph Free,that a perfect site for the dirigible base had been located and optioned. The proposal from San Diego offered free land; in order for the Sunnyvale site to be selected the same offer would have to be made. Under

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the leadership of presidents of the Chambers of Commerce from Mt. View and San Jose, a campaign to raise the funds and solidify the offer went forward. The newspapers, including the San Jose Mercury Herald, were enthusiastically in support of the proposal and offered publicity and public relations material to support the proposal. After three years of study and debate, it was time for a decision. On December 28, 1930, the vote registered by the House Naval Affairs Committee for H.R. 6810, introduced by Congressman Free, selected Sunnyvale by 18 to 1 and Camp Kerney as the auxiliary base. As a member of the West Coast Naval Airship Base Board, Moffett had favored Sunnyvale while the Secretary of the Navy, Charles F. Adams, preferred Camp Kerney.

Once selected, the issue remained to raise the money to purchase the land. Under the leadership of A. M. Mortensen, President of the San Jose Chamber of Commerce, the funds were raised and on August 2, 1931, the Chamber's check for \$476,165,90 completed the purchase of 1000 acres of the Rancho Unigo. Also on August 2, 1931, the land was transferred to the U.S. Navy for \$1.00. This completed a long and arduous partnership between the cities of the Bay Area to gain the prestige, jobs and economic interests that would follow the base.

The budget for constructing the base was \$5,000,000. The U.S. Navy of Yards and Docks would be responsible for the design and coordinate the construction. Lt. Commander Earl Marshall was given the responsibility. Ernest Wolf, an experienced engineer from the Goodrich Zeppelin Corporation, was to be the Associate Engineer. Hangar #1, as it would be called, was the most important building and received the first attention. The design had been refined in Akron by Dr. Hugo Ekener, to form a rounded building that followed the form of the dirigible. Enormous curved doors on each end would slide over the building, rolling on 40 wheels over standard gauge railroad track, and propelled by 150 hp electric motors, thus minimizing the turbulence and problems encountered with past designs. In fact, it was the window patterns that dictated the north-south orientation and siting of Hangar #1; the rest of the base followed. Of the \$2,250,000 budgeted for the hangar, \$1,116,044 was awarded to the Wallace Bridge and Structural Steel Company of Seattle to fabricate the steel for the structure and doors. Seims-Heimers, Inc. of San Francisco bid \$398,937 for the roofing, windows and siding on the airdock that would measure 1, 133 feet long, 308 feet wide and 198 feet high. The floor area is just over eight acres. A structural space frame, the design and construction of this hangar remain a feat unparalleled in the engineering of enclosed space.

Railroad tracks ran through the hangar, culminating at the mooring tower. The tower secured the dirigible to the ground by mooring lines. This tower has been removed. The other large structure that was necessary for the dirigible was the helium tank that was located in front of the hangar.

The plan for the base and the design of the buildings was also undertaken by the Naval Bureau of Yards and Docks.

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The style for the buildings, Spanish Colonial Revival, is reflective of the popularity of the revival movement and the desire of the local politicians to have the base designed in the "California Style" of white stucco walled buildings with red tile roofs. The plan and building design was very formal, an axial orientation with the bemouth hangar to the east and the base extending west. Following the Spanish influence, a large plaza is the central element with the most ornately decorated building, the Administration Building, at the head of the plaza behind the flag pole and in front of the hangar. On the south side of the plaza were located the dispensary and Bachelor Officers' Quarters. To the north were the recreation building and the barracks. To the southwest on the cul-de-sac were located the nine officers' houses and garages. Extending to the east, and south, behind this formal plaza arrangement were the utilitarian buildings, fire station, garage, laundry boiler plant, locomotive and crane shed, shops, helium storage and water tower. To the north were the commissary, store house, gas station, balloon shed and storage buildings. Directly behind the Administration Building was the cafe (later the Officers' Club), and of course, the Hangar. The base was designed in anticipation of the importance of the automobile. Broad roads, large parking areas and garages were incorporated in the plan.

Landscaping was carefully planned to mature in harmony with the buildings and circulation elements. The area considered the Naval Air Station Sunnyvale Historic District maintain the integrity of the original design and represent one of the finest formal plans for a government facility in California. It was a forward-thinking plan with expansion to occur outside the formal plaza, thus the quality of design has been maintained. The original base is a one-of-a-kind facility in the Santa Clara Valley with great importance in the architectural heritage, facility planning and economic growth of the region.

The primary significance of the historic district is the association with the "lighter than air" dirigible program. The dirigibles, to be the eyes in the sky for the Navy, were in operation for a relatively short time. USS MACON, one of the two dirigibles constructed for the Navy, was christened by Mrs. William Adger Moffett (wife of Admiral Moffett) on March 11, 1933. An article about the landing in Sunnyvale was reported in the October 15, 1933 edition of the San Francisco Chronicle that read, "30,000 Thrilled as the MACON Moors at Home Station." The sister dirigible, AKRON, had been lost on April 13, 1933, making the MACON the last dirigible. For 16 months, USS MACON was a common sight over the Santa Clara Valley as it performed in a number of military maneuvers with the Pacific Fleet. Admiral Moffett had been well aware that the slow moving dirigibles could be of great benefit when assigned as an observatory for the fleet, but were vulnerable if used in maneuvers with the fleet. Shortly after arriving at Sunnyvale. USS MACON was deployed on tactical maneuvers with the Pacific Fleet. Equipped with an internal hangar and steel frame hoist termed a "trapeze", USS MACON carried four small fighter planes. The Sparrowhawks (F9C) were bi-plane fighters developed specifically to be carried in the dirigible by Curtis. Each weighed only 2,500 pounds with a pilot. As an airborne carrier, the dirigible was a hulking target that "failed to demonstrate military usefulness," according to the Commander in Chief of the United States Fleet, Admiral David Sellers. While returning from maneuvers with the fleet on February 12, 1935, USS MACON experienced a structural failure and crashed into the Pacific. Of the 83 crew, only 2 were lost. It was the headline in the San Francisco Chronicle the next day that told the story, "Dirigible Doomed as Defense Factor, Officials Say." The era of dirigibles was over, the only remaining element of the Moffett five year plan was Hangar #1 and the base at Sunnyvale.

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During this period, the U.S. Army Air Corps operated a limited number of blimps in conjunction with observation exercises. In September, 1935, seven months after USS MACON went down, the Army assumed control of the base and Hangar #1. The facility was used by the Army for pursuit and observation activities until 1940 when it was converted to the West Coast Air Corps Training Facility. During this period, the dispensary was enlarged and barracks were added.

Shortly after the outbreak of WWII, the base was returned to the U.S. Navy. In April, 1942, the base was recommissioned Naval Air Station Moffett Field.

The return to Naval Command was to provide expanded facilities for small blimps and balloons used for coastal observation. Hangars #2 and #3 were constructed for blimps in 1942. They are included in the historic district because of the use as a lighter than air facility, and for their architectural/engineering importance.

One of the most recognizable landmarks in the San Francisco Bay Area, Hangar #1 and the original base are significant in the history of Naval Aviation, defense and in the development of the Santa Clara Valley. From the original base and because of the facility location and landing field, NASA Ames Research Center is located to the north adjacent to the original plaza boundary and at the north boundary of the historic district. It is far easier to measure the importance of the dirigible in Naval Aviation and defense history than it is to measure the enormous impact upon the growth of the defense and space industry in Northern California because of the original location of this base with the 1000+ acres.

The Naval Air Station Sunnyvale Historic District is recommended for listing in the National Register of Historic Places at the National Level of significance under Criteria A, as the only base designed specifically for the Navy to home port USS MACON, the only dirigible in the fleet, a significant contribution to the broad pattern of our history; and under Criteria C, a facility plan and architectural design that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

The landscape plan (Y&D drawing No. 115840) was approved on April 29, 1933. This plan shows the base in its entirety.

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