DRAFT

ENVIRONMENTAL ASSESSMENT

For

Naval Industrial Reserve Ordnance Plant

Land Exchange

At

Sunnyvale, California

September 2020

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Abstract

Designation:	Environmental Assessment
Title of Proposed Action:	Naval Industrial Reserve Ordnance Plant Land Exchange
Project Location:	Sunnyvale, California
Lead Agency for the EA:	Department of the Navy
Cooperating Agency:	N/A
Affected Region:	Santa Clara County, CA
Action Proponent:	Strategic Systems Programs
Point of Contact:	Rebecca Loomis NAVFAC Southwest 937 N. Harbor Drive Environmental Department San Diego, California 92132 Email address: rebecca.l.loomis@navy.mil
Date:	September 2020

Strategic Systems Programs, a Command of the United States (U.S.) Navy (hereinafter, jointly referred to as the Navy) has prepared this Environmental Assessment in accordance with the National Environmental Policy Act, as implemented by the Council on Environmental Quality Regulations and Navy regulations for implementing National Environmental Policy Act. The Proposed Action is to carry out a land exchange between the Navy and an Exchange Partner, as authorized by Section 2841 of Public Law No. 115-91. Through the exchange, the Navy would convey the Naval Industrial Reserve Ordnance Plant (NIROP) Sunnyvale for replacement real property and facilities that meet the Navy's readiness requirements. Section 2841 of Public Law No. 115-91 authorizes, but does not require, the Navy to execute the land exchange. Section 2841 of Public Law No. 115-91 also does not specify the location of the real property and improvements to be exchanged. However, it is anticipated that Lockheed Martin-owned property and privately developed facilities in Titusville, FL, would be provided as the exchange property. Once the property is exchanged and the facilities are certified for use, the facilities would operate as a government-owned, contractor-operated Fleet Ballistic Missile design and production facility. This Environmental Assessment evaluates the potential environmental impacts associated with the Proposed Action and the No Action Alternative to the following resource areas: Land Use, Hazardous Materials and Waste, Cultural Resources, Socioeconomics, Environmental Justice, Air Quality, Noise, Transportation, and Infrastructure.

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EXECUTIVE SUMMARY

ES.1 Proposed Action

The Proposed Action is to carry out a land exchange between the Navy and an Exchange Partner, as authorized by Section 2841 of Public Law No. 115-91. Through the exchange, the Navy, serving as the lead agency, would convey the Naval Industrial Reserve Ordnance Plant (NIROP) in Sunnyvale, California (herein referred to as the Sunnyvale site) for replacement real property and facilities that meet the Navy's readiness requirements. Section 2841 of Public Law No. 115-91 authorizes, but does not require, the Navy to execute the land exchange. Section 2841 of Public Law No. 115-91 also does not specify the location of the real property and improvements to be exchanged. However, it is anticipated that Lockheed Martin-owned property and privately developed facilities located on such property in Titusville, FL, would be provided as the exchange property. Once the property is exchanged and the facilities are certified for use, the facilities would operate as a government-owned, contractor-operated (GOCO) Fleet Ballistic Missile (FBM) design and production facility.

ES.2 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to ensure that the Navy continues to own the means of production needed to ensure the continued and future success of the FBM program. The land exchange is the Navy's response to Lockheed Martin Space's (LMS) independent business decision to relocate FBM design and production support from Sunnyvale, CA, to Lockheed Martin property in Titusville, FL. The Proposed Action also supports the disposal of the Sunnyvale site, which will no longer be required by the Strategic Systems Programs (SSP) upon completion of the FBM program's transition.

The Proposed Action is needed because the NIROP facility at Sunnyvale will close and the SSP Program Management Office (PMO) must be co-located with LMS in Navy-owned FBM production facilities to meet SSP's technical oversight mission requirements. The Navy must maintain ownership of FBM production facilities critical to national security to avoid potential future mission risk and maximize operational flexibility.

ES.3 Alternatives Considered

The Navy is considering one action alternative that meets the purpose of and need for the Proposed Action and a No Action Alternative. Alternative 1 (Preferred Alternative) would involve the exchange of real property and facilities at the Sunnyvale site for replacement real property and facilities located at an alternate site selected by Lockheed Martin. Because the SSP PMO must be co-located onsite with LMS operations, the Navy expects to exchange the Sunnyvale site for replacement real property and facilities on or near property currently owned by Lockheed Martin in Titusville, FL. The No Action Alternative would result in the Navy retaining the approximately 50-acre Sunnyvale site. The SSP PMO and LMS would still relocate to Titusville, FL, to support the FBM program, but there would be no transfer of property or facilities in Titusville to the Navy in exchange for the Sunnyvale site.

ES.4 Summary of Environmental Resources Evaluated in the EA

The Council on Environmental Quality regulations, National Environmental Policy Act, and Navy instructions for implementing the National Environmental Policy Act, specify that an Environmental

Assessment (EA) should address those resource areas potentially subject to impacts. In addition, the level of analysis should be commensurate with the anticipated level of environmental impact.

Under the Proposed Action, the Navy's action is the administrative exchange of the Sunnyvale site to a third-party for replacement real property and facilities in Titusville, FL. Direct effects from the land exchange of note are primarily limited to cultural resources. The exchange of land use could result in permanent adverse effects to the NIROP Sunnyvale Historic District. As part of the land exchange, the Navy is entering into a Memorandum of Agreement (MOA) with the California State Historic Preservation Officer and the Advisory Council on Historic Preservation. As part of the MOA, the Navy would agree to specific stipulations to mitigate adverse effects. Indirect effects would occur from potential future development of the Sunnyvale site; however, the Navy would not be involved in such development or have any decision-making authority in the future use of the site.

Future development of the Titusville property is not considered in this analysis as the Navy's role in Titusville would be limited to assuming ownership of the property and facilities after it is developed by LMS or the Exchange Entity. The Navy does not have any decision-making authority for the location of the Titusville property and subsequent private development which would occur with or without the Proposed Action. Site selection and development is the sole responsibility of LMS or the Exchange Entity, and construction related impacts at the property will occur regardless of the Proposed Action. Any development would be conducted in accordance with all applicable local, state, and federal laws in the State of Florida. Under the Proposed Action, the Navy would assume ownership of the developed Titusville property and facilities which would not change long-term baseline operations and associated environmental conditions. The transfer of the property from private ownership to the Navy would result in a negligible (0.02 percent) decrease in overall property tax revenue collected by Brevard County.

The following resource areas have been addressed in this EA: Land Use, Hazardous Materials and Waste, Cultural Resources, Socioeconomics, Environmental Justice, Air Quality, Noise, Transportation, and Infrastructure. Because potential impacts were considered to be negligible or nonexistent, the following resources were not evaluated in detail in this EA: Water Quality, Biological Resources, Geologic Resources, Public Health & Safety, Airspace, and Visual Resources.

ES.5 Summary of Potential Environmental Consequences of the Action Alternatives and Major Mitigating Actions

Table ES-1 provides a tabular summary of the potential impacts to the resources associated with each of the alternative actions analyzed.

ES.6 Public Involvement

The Navy circulated the Draft EA for public review from September 4, 2020 to October 4, 2020. Refer to Appendix B for a copy of the newspaper notice that announced the availability of the Draft EA.

Table ES-1 Summary of Potential Impacts to Resource Areas[1]

Resource Area	*No Action Alternative*	*Proposed Action*
Land Use	No impacts to land use because there would be no change to land use at the Sunnyvale site. Land Use Controls would remain for the Sunnyvale site that limit onsite ground disturbance and groundwater usage.	**NIROP Land Exchange** No impacts to land use because there would be no change to land use at the Sunnyvale site. **Future Development** *Construction* Short-term, indirect minor impacts on surrounding land uses from demolition and construction activities from dust, noise, and traffic. The proposed design would result in a change from the current industrial land use to general office use but would maintain compatibility with the existing site classification of the site. Site design would be conducted in accordance the City of Sunnyvale General Plan and Moffett Park Specific Plan, and would be approved by the City of Sunnyvale. *Operations* No significant impacts due to the potential increase in the number of employees onsite and resulting potential increase in demand on public and private recreational facilities in the immediate vicinity. Any increased demand for recreational opportunities from future development would not likely degrade any existing or new recreational facilities.
Hazardous Materials and Waste	Negligible beneficial impacts due to decreased hazardous materials usage and wastes generation because FBM production at the Sunnyvale site would cease.	**NIROP Land Exchange** Negligible beneficial impacts due to decreased hazardous materials usage and wastes generation because FBM production at the Sunnyvale site would cease. **Future Development** *Construction* Future development of the site would generate additional hazardous and special wastes during remediation, demolition, and construction activities including excavation of contaminated soil during remediation, hazardous wastes generated from demolition (ACM, LBP, etc.), and standard hazardous materials used in the construction process. Hazardous materials and waste would be

Table ES-1 Summary of Potential Impacts to Resource Areas[1]

Resource Area	*No Action Alternative*	*Proposed Action*
		utilized and disposed of in accordance with applicable regulations and no significant impacts would occur. *Operations* No significant impacts from operations of any new future development due to hazardous material use and hazardous waste generation. Hazardous materials and waste would be utilized and disposed of in accordance with applicable regulations. Removal of contaminated soil would result in a long-term, minor beneficial impact.
Cultural Resources	NIROP Sunnyvale Historic District would not be demolished, and no significant impacts (NEPA) and no effect (NHPA) would occur.	**NIROP Land Exchange** No significant impacts (NEPA) and no adverse effect (NHPA) from the land exchange. Execution of the finalized MOA and associated mitigation and stipulations would reduce potential permanent adverse impacts to the NIROP Sunnyvale Historic District as a result of the transfer of the Sunnyvale site out of Navy ownership. **Future Development** *Construction* No significant impacts (NEPA) and no adverse effect (NHPA) are anticipated during construction. Demolition of the existing facilities comprising the NIROP Sunnyvale Historic District would be mitigated through adherence to the MOA. Inadvertent discovery of archaeological materials or human remains during construction activities is highly unlikely but if encountered CEQA provisions would be followed by the Exchange Entity. *Operations* No significant impacts (NEPA) and no adverse effect (NHPA)from operation of future development.
Socioeconomics	Overall minor adverse impacts from a decrease in employees due to relocation of SSP PMO and LMS personnel. Negligible beneficial impacts from jobs associated with ongoing remediation at the site.	**NIROP Land Exchange** Minor adverse impacts from a decrease in employees due to relocation of SSP PMO and LMS personnel. Minor beneficial impacts from an increase in taxable land and resulting increased property tax revenues.

Table ES-1 Summary of Potential Impacts to Resource Areas[1]

Resource Area	*No Action Alternative*	*Proposed Action*
		Future Development *Construction* Short-term, minor and beneficial impacts during construction from temporary increases in employment and spending in the local economy. *Operations* Long-term beneficial impacts to the local and regional economy would occur from increased employment and spending in the area. Future development would be consistent with local growth plans and related expectations for increases in housing demands over time. Additionally, depending on the change in assessed value of the site, there could be an increase in surrounding property tax revenues.
Environmental Justice	No disproportionately high or adverse impact to minority or low-income populations.	**NIROP Land Exchange** No disproportionately high or adverse impact to minority or low-income populations. **Future Development** *Construction* Construction air emissions, noise, and traffic would not result in disproportionately high or adverse human health or environmental effects on minority or low-income populations. *Operations* No disproportionately high or adverse impact to minority or low-income populations.

Table ES-1 Summary of Potential Impacts to Resource Areas[1]

Resource Area	*No Action Alternative*	*Proposed Action*
Air Quality	Minor beneficial impacts due to a decrease in air emissions from closure of operations of the Sunnyvale site and associated traffic	**NIROP Land Exchange** Minor beneficial impacts due to a decrease in air emissions from closure of operations of the Sunnyvale site and associated traffic. **Future Development** *Construction* Short-term, minor adverse impacts to air quality and GHGs from construction of future development. Air quality and GHG emissions could result from a variety of construction activities, including demolition, excavation, grading, vehicle travel on paved and unpaved surfaces, as well as vehicle and equipment exhaust. Any future construction would be subject to applicable state and local requirements. *Operations* Long-term, minor adverse impacts from operation of future development. Sources of air emissions could include employee vehicles and delivery trucks, fuel combustion for building heating, emergency generators, and grid-supplied electricity. Operational emissions from any future development could be partially or fully offset by removal of the prior air emissions sources from the current operations of the Sunnyvale site.
Noise	Overall negligible beneficial impacts. Noise from operations of the Sunnyvale site and from associated traffic to the site would cease and would represent a negligible beneficial impact to the noise environment.	**NIROP Land Exchange** Overall negligible beneficial impacts. Noise from operations of the Sunnyvale site and from associated traffic to the site would cease and would represent a negligible beneficial impact to the noise environment. **Future Development** *Construction* Short-term, minor adverse impacts during construction. Sound generated during demolition and construction at the Sunnyvale site would temporarily affect adjacent receptors (e.g., office buildings); however, noise is not anticipated to be audible to the closest residences (2,875 feet south).

Table ES-1 Summary of Potential Impacts to Resource Areas[1]

Resource Area	*No Action Alternative*	*Proposed Action*
		Operations Long-term negligible adverse noise impacts during operations due to worker traffic, mechanical equipment (e.g., HVAC systems), maintenance activities, and general use of the new office buildings.
Transportation	Overall negligible beneficial impacts on transportation due to a decrease in traffic commuting to the site due to relocation of SSP PMO and LMS personnel.	**NIROP Land Exchange** Overall negligible beneficial impacts on transportation due to a decrease in traffic commuting to the site due to relocation of SSP PMO and LMS personnel. **Future Development** *Construction* Short-term minor adverse impacts from construction of future development. There would be short-term increases in construction vehicles accessing the site. However, compared to the decrease in current commuter traffic due to relocation of SSP PMO and LMS personnel, there would not be a noticeable adverse effect on traffic. Temporary traffic obstructions or road closures in the immediate vicinity of the site may be required during construction but would be short-term and minor. *Operations* No significant impacts during operations from increased commuters to the Sunnyvale site. Future development would be consistent with local growth plans and related expectations for increases in traffic over time, and thus is not expected to result in significant impacts when compared to projected baseline conditions.
Infrastructure	Overall negligible beneficial impacts on infrastructure due to a decrease in utility demands at the site because FBM production would cease.	**NIROP Land Exchange** Overall negligible beneficial impacts on infrastructure due to a decrease in utility demands at the site because FBM production would cease.

Table ES-1 Summary of Potential Impacts to Resource Areas[1]

Resource Area	*No Action Alternative*	*Proposed Action*
		Future Development *Construction* No impacts due to appropriate coordination with utility providers to avoid impacts. *Operations* No significant adverse impacts from operation of future development. Future development would be consistent with local growth plans and related expectations for increases in utility demands over time, and thus is not expected to result in significant impacts when compared to projected baseline conditions.

ACM = asbestos-containing materials; CEQA = California Environmental Quality Act; FBM = fleet ballistic missile; GHG = greenhouse gas; LBP = lead-based paint; LMS = Lockheed Martin Space; MOA = memorandum of agreement; NIROP = Naval Industrial Reserve Ordnance Plant; PCB = polychlorinated biphenyl; PMO = Program Management Office; SSP = Strategic Systems Programs

1. Discussion of "future development" in this table is related to future development of the Sunnyvale site only and the potential indirect effects from development by the Exchange Entity for each resource area at that site. This does not include consideration of future development of the Titusville property as the Navy's role in Titusville would be limited to assuming ownership of the property and facilities after it is developed by LMS or the Exchange Entity, as described in Section ES.4.

Environmental Assessment

Naval Industrial Reserve Ordnance Plant Land Exchange

Sunnyvale, California

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Appendices

Abbreviations and Acronyms

Acronym	Definition
ACM	asbestos-containing material
APE	area of potential effect
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
bgs	below ground surface
BMP	best management practice
CA	California
CAA	Clean Air Act
CAP	Clean Air Plan
CCAFS	Cape Canaveral Air Force Station
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
COC	contaminants of concern
dB	decibel
dBA	A-weighted sound level
DERP	Defense Environmental Restoration Program
DNL	day-night average sound level
DoD	United States Department of Defense
EA	Environmental Assessment
EIR	Environmental Impact Report
EO	Executive Order
ESA	Endangered Species Act
FBM	Fleet Ballistic Missile
FL	Florida
GHG	greenhouse gas
GOGO	government-owned, contractor-operated
LBP	lead-based paint
LMS	Lockheed Martin Space
LOS	level of service
LUCs	Land Use Controls
MGD	million gallons per day
MOA	Memorandum of Agreement
MP-TOD	Moffett Park – Transit Oriented Development
MP-I	Moffett Park – General Industrial
MP-C	Moffett Park – Commercial
MPSP	Moffett Park Specific Plan
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NIROP	Naval Industrial Reserve Ordnance Plant
NO_2	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	ozone
Pb	lead
PCB	polychlorinated biphenyl
PG&E	Pacific Gas & Electric
P.L.	Public Law
PM_{10}	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
PMO	Program Management Office
R&D	Research and Development
SHPO	State Historic Preservation

Acronym	Definition
	Office
SIP	State Implementation Plan
SO_2	sulfur dioxide
SR	State Route
SSP	Strategic Systems Programs
TDM	Transportation Demand Management
tpy	Tons per year
TZ	transmissive zone
U.S.	United States
US 101	U.S. Route 101
U.S.C.	United States Code
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound
VTA	Valley Transportation Authority

1 Purpose of and Need for the Proposed Action

1.1 Introduction

The United States (U.S.) Department of the Navy (Navy), in support of the Navy Strategic Systems Programs (SSP), proposes to exchange the Naval Industrial Reserve Ordnance Plant (NIROP) in Sunnyvale, California (CA) (herein referred to as the Sunnyvale site) for replacement real property and facilities thereon that meet the Navy's mission readiness requirements. The Sunnyvale site currently consists of real property and government-owned, contractor-operated (GOCO) facilities that support the Navy's Fleet Ballistic Missile (FBM) program. The Sunnyvale site is operated by the FBM program's prime contractor, Lockheed Martin Space (LMS).

In 2017, LMS publicly announced that it would transition FBM program support from the Sunnyvale site over the next eight years. The SSP Program Management Office (PMO), which is currently co-located with LMS on the Sunnyvale site, must be co-located with LMS on-site to meet SSP's technical oversight mission requirements. Therefore, SSP determined that it must move in the same timeframe as LMS to maintain continuity for current and future deployed weapon systems. The proposed land exchange would ensure the successful transition of the FBM program from Sunnyvale.

The Navy prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] sections 4321–4370h), as implemented by the Council on Environmental Quality Regulations (CEQ) (40 Code of Federal Regulations [CFR] part 1500-1508), and Navy regulations and policy for implementing NEPA (32 CFR part 775 and Office of the Chief of Naval Operations Manual 5090.1).

1.2 Background

Since its formation in 1955, SSP has been responsible for ensuring the operability of a sea-based deterrent missile system for the United States. In general terms, the Navy's TRIDENT II FBM is a submarine-launched ballistic missile. Since 1956, LMS has supported design and production for the FBM program, to include on-going TRIDENT II support. When LMS informed the Navy that it would transition FBM program design and production support to its property in Titusville, Florida (FL), the Navy determined that it must move its PMO in the same timeframe to ensure mission support continuity.

LMS' decision to transition from Sunnyvale was an independent strategic business decision, which the Navy does not control because LMS' contract with SSP does not specify the location of performance. LMS began to relocate its resources and operations shortly after its public announcement, and has advised that it will continue to transition out of Sunnyvale, regardless of whether the Proposed Action, a land exchange, is executed. Although LMS has relocated resources to both Titusville, FL, and Denver, Colorado, Lockheed Martin has indicated that real property and facilities in Denver, which will be used for activities other than FBM production, will not be available for exchange.

To support the FBM program's transition, Congress enacted Section 2841 of the 2018 National Defense Authorization Act (Public Law (P.L.) 115-91) (Appendix A), which authorizes, but does not require the Secretary of the Navy to execute a real property exchange of the NIROP property in Sunnyvale, CA (Sunnyvale site) for "(1) real property, including improvements thereon, that will replace the NIROP and meet the readiness requirements of the Department of the Navy, as determined by the Secretary; and (2) relocation of contractor and Government personnel and equipment from the NIROP to the replacement facilities." The special legislation will expire on October 1, 2023.

The Navy would continue to oversee physical implementation of soil gas and groundwater contamination remedies by its contractor, LMS, at the Sunnyvale site regardless of alternative selected. Groundwater remediation would be conducted in accordance with directives from the San Francisco Bay Regional Water Quality Control Board until groundwater has been remediated to meet applicable regulatory requirements. Regarding soil contamination, the Navy would continue to oversee the soil remediation process by LMS under the No Action Alternative; the Exchange Entity would physically implement the soil remediation process under the Proposed Action. Contamination is present on the site due to the historical use as a missile component production site.

1.3 Location

The Sunnyvale site is located in the Special Area designated as the Naval Program Office Strategic Systems Command Mountain View, which is associated with Naval Support Activity Monterey. The Sunnyvale site is located in the City of Sunnyvale, Santa Clara County, at the southeast end of the San Francisco Bay metropolitan area. The property is situated 2.5 miles south of the Alviso and Coyote slough at the confluence of Coyote Creek and San Francisco Bay (see Figure 1-1). The approximately 50-acre site is comprised of GOCO facilities and is located adjacent to the approximately 1-square-mile Lockheed Martin Plant One Complex, within an industrial landscape characterized by large-scale buildings and paved surfaces (see Figure 1-2).

LMS is relocating portions of the FBM program to existing Lockheed Martin property in Titusville, Brevard County, FL. The FBM program facilities will be relocated to an approximately 23.5-acre parcel located approximately one mile west of the Indian River and Kennedy Space Center, south-southwest of the Canaveral National Seashore, and northwest of Space Coast Regional Airport (see Figures 1-3 and 1-4).

1.4 Purpose of and Need for the Proposed Action

The Navy proposes to exchange the Sunnyvale site for replacement real property and facilities thereon, as authorized by Section 2841 of P.L. 115-91. Because the PMO must be co-located with LMS FBM design and production activities, SSP anticipates conducting a land exchange for replacement real properties and facilities on or near Lockheed Martin property in Titusville, Brevard County, FL.

The purpose of the Proposed Action is to ensure that the Navy continues to own the means of production needed to ensure the continued and future success of the FBM program. The land exchange is the Navy's response to LMS's independent business decision to relocate FBM design and production support from Sunnyvale, CA, to Lockheed Martin property in Titusville, FL. The Proposed Action also supports the disposal of the Sunnyvale site, which will no longer be required by SSP upon completion of the FBM program's transition.

The Proposed Action is needed because the NIROP facility at Sunnyvale will close and the SSP PMO must be co-located with LMS in Navy owned FBM production facilities to meet SSP's technical oversight mission requirements. The Navy must maintain ownership of FBM production facilities critical to national security to avoid potential future mission risk and maximize operational flexibility. Furthermore, the Navy must own the facility because it must retain the means of production to ensure the national security mission can be met and adapted to emerging requirements.

Figure 1-1. Regional Location Map of Sunnyvale, CA

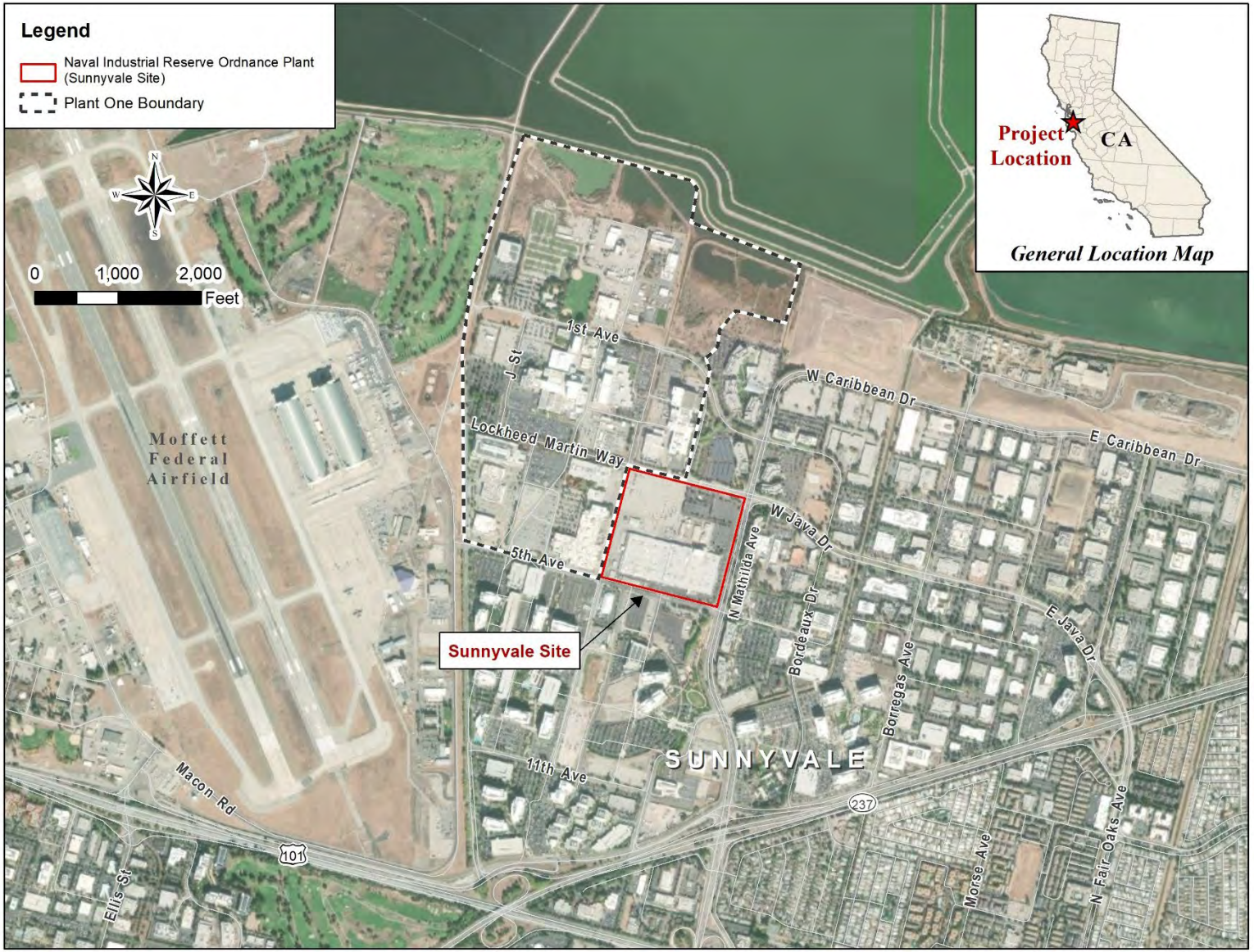


Figure 1-2. Location Map of Sunnyvale, CA

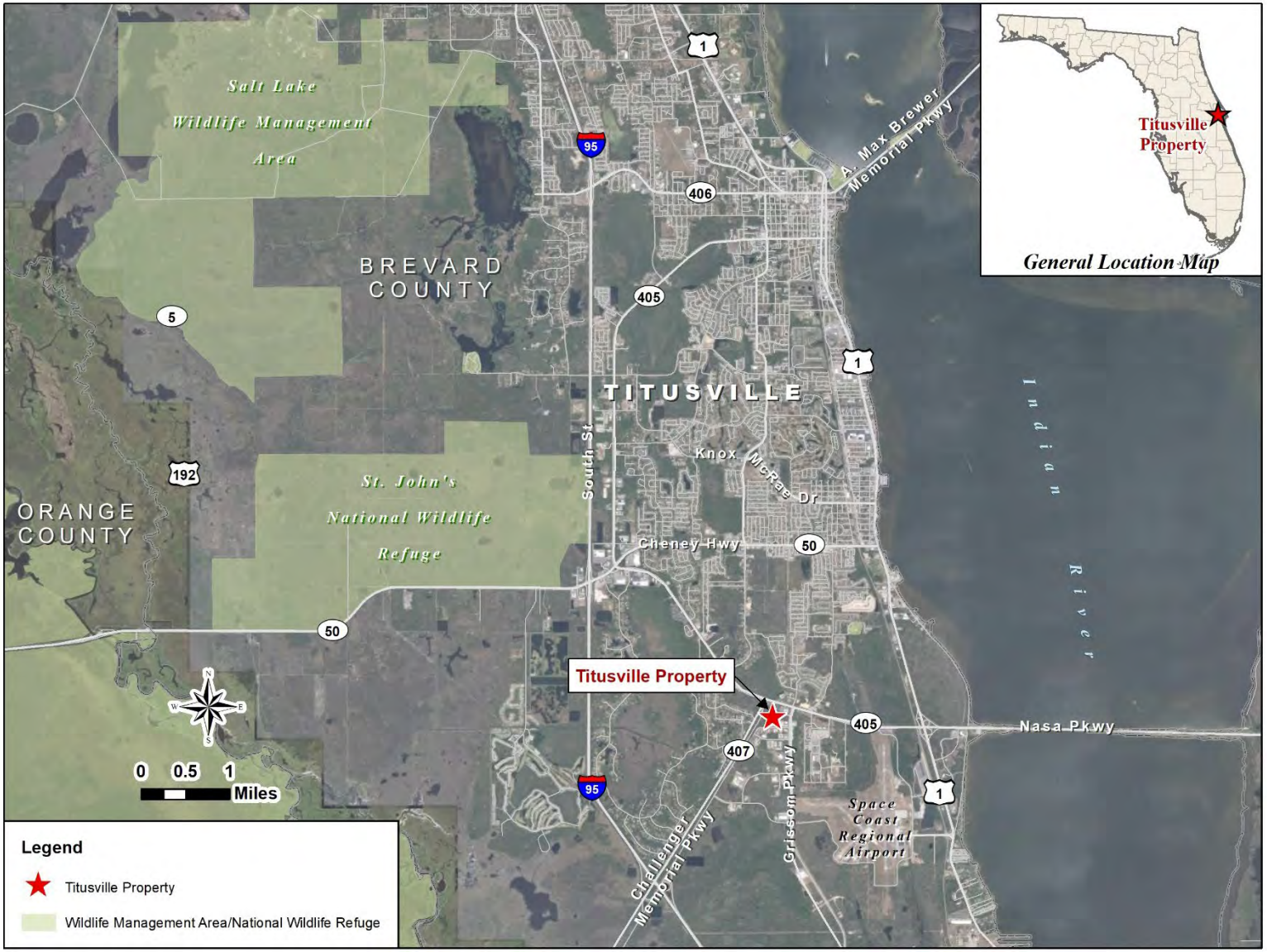


Figure 1-3. Regional Location Map of Lockheed Martin Property in Titusville, FL

Figure 1-4. Location Map of Lockheed Martin Property in Titusville, FL

1.5 Scope of Environmental Analysis

This EA includes an analysis of potential environmental impacts associated with the Proposed Action and the No Action Alternative. The environmental resource areas analyzed in this EA include Land Use, Hazardous Materials and Waste, Cultural Resources, Socioeconomics, Environmental Justice, Air Quality, Noise, Transportation, and Infrastructure.

1.6 Key Documents

Key documents are sources of information incorporated into this EA. Documents are considered to be key because of similar actions, analyses, or impacts that may apply to this Proposed Action. CEQ guidance encourages incorporating documents by reference. Documents incorporated by reference in part or in whole include:

- Sec. 2841. Land Exchange, NIROP, Sunnyvale, CA. P.L. 115-91, which authorizes, but does not require, the Navy to exchange the Sunnyvale site.
- Special Areas Historic Survey and Evaluation Naval Support Activity Monterey, June 2013. This document contains information relative to the historic buildings at the Sunnyvale site.
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Administrative Record for the Sunnyvale site.
- Categorical Exclusion for the relocation of SSP PMO personnel, May 24, 2018.

1.7 Relevant Laws and Regulations

The Navy has prepared this EA based upon federal and state laws, statutes, regulations, and policies pertinent to the implementation of the Proposed Action, which may include but not be limited to, the following:

- NEPA (42 U.S.C. sections 4321–4370h), which requires an environmental analysis for major federal actions that have the potential to significantly impact the quality of the human environment
- CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 CFR parts 1500–1508)
- Policies and Responsibilities for Implementation of NEPA Within the Department of the Navy (32 CFR part 775), which provides Navy policy for implementing CEQ regulations and NEPA
- National Historic Preservation Act (NHPA) (54 U.S.C. section 306108 et seq)
- CERCLA (42 U.S.C. § 9601 et seq)
- EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations
- EO 13045, Protection of Children from Environmental Health Risks and Safety Risks
- EO 13175, Consultation and Coordination with Indian Tribal Governments
- Department of Defense (DoD) Instruction 4165.71, Real Property Acquisition

1.8 Public and Agency Participation and Intergovernmental Coordination

Regulations from the CEQ direct agencies to involve the public in preparing and implementing their NEPA procedures.

The Navy has prepared this Draft EA to inform the public of the Proposed Action and to allow the opportunity for public review and comment. The Draft EA review period begins with a public notice published in the *Mercury News* indicating the availability of the Draft EA for review (see Appendix B). The Draft EA will be made available on the following websites:

- https://www.cnic.navy.mil/navysouthwestprojects
- https://www.navfac.navy.mil/navfac_worldwide/atlantic/fecs/southeast/about_us/environmental_planning.html

2 Proposed Action and Alternatives

2.1 Proposed Action

The Proposed Action is to carry out a land exchange between the Navy and an Exchange Partner, as authorized by Section 2841 of P.L. No. 115-91. Through the exchange, the Navy would convey the Sunnyvale site for replacement real property and facilities that meet the Navy's readiness requirements. Section 2841 of P.L. No. 115-91 authorizes, but does not require, the Navy to execute the land exchange. Section 2841 of P.L. No. 115-91 also does not specify the location of the real property and improvements to be exchanged. However, it is anticipated that Lockheed Martin-owned property and privately developed facilities in Titusville, Florida, would be provided as the exchange property. Once the property is exchanged and the facilities are certified for use, the facilities would operate as a GOCO FBM missile design and missile component production facility.

2.2 Alternatives Carried Forward for Analysis

NEPA's implementing regulations provide guidance on the consideration of alternatives to a federal Proposed Action and require exploration and objective evaluation of reasonable alternatives. Only those alternatives determined to be reasonable and meeting the purpose and need are required to be carried forward for detailed analysis and consideration.

Based on the above, this EA evaluates potential environmental consequences associated with two alternatives: 1) the Proposed Action (NIROP Sunnyvale land exchange), and 2) the No Action Alternative.

2.2.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the Navy would not exchange the Sunnyvale site to an exchange entity. The Navy would continue to oversee physical implementation of on-going soil and groundwater remediation onsite by LMS, including soil gas mitigation, if required. The SSP PMO and LMS would still relocate to Titusville, FL, to support the FBM program based on LMS' independent strategic business decision, but there would be no transfer of property or facilities in Titusville to the Navy in exchange for the Sunnyvale site. The Navy would continue to maintain buildings at the Sunnyvale site as needed.

The No Action Alternative is used to analyze the consequences of not undertaking the Proposed Action and provides a benchmark enabling decision-makers to compare the magnitude of environmental effects of the Proposed Action and other alternatives. CEQ and Navy NEPA regulations require that the No Action Alternative be carried forward for analysis.

The No Action Alternative would not meet the Navy's need to maintain ownership of the means of production of FBM production facilities, which is required to ensure the continued and future success of the FBM program.

2.2.2 NIROP Land Exchange (Preferred Alternative)

The Proposed Action involves the replacement of real property and facilities at the Sunnyvale site for replacement real property and facilities located at an alternate site selected by Lockheed Martin. Because the SSP PMO must be co-located onsite with LMS operations, the Navy expects to exchange the Sunnyvale site for replacement real property and facilities on or near property currently owned by Lockheed Martin in Titusville, FL.

Currently, the NIROP facility sits on an approximately 50-acre site in the Silicon Valley, which would be conveyed for land, facilities, and other compensation of equal value. The replacement FBM production facility is expected to accommodate up to 252,000 square feet of administrative, lab, and missile component production space. The Lockheed Martin property, if provided, would comprise approximately 23.5 acres of real property and facilities.

Congress enacted special legislation in December 2017, granting the Navy authority to exchange the Sunnyvale site. The special legislation stipulates that a Land Exchange Agreement must identify the property to be exchanged, the time period in which the exchange will occur, and the roles and responsibilities of the Secretary of the Navy and the Exchange Entity.

DoD policy requires approval from the Under Secretary of Defense for Acquisition, Technology, and Logistics ("the Under Secretary") for land acquisitions exceeding 1,000 acres or with an estimated purchase price of more than $1 Million outside the Washington, D.C. area. Consistent with this policy, the Under Secretary provided DoD authorization for the exchange on May 16, 2017.

Future Development – Sunnyvale, CA

Following exchange out of federal ownership, the Navy anticipates that the potential third-party Exchange Entity would develop the Sunnyvale site (see Figure 1-2) for some future use. Under this scenario, the City of Sunnyvale would require the new owner to complete the necessary level of documentation under the California Environmental Quality Act (CEQA), and all necessary land use approvals would be issued for any proposed development. Development of the Sunnyvale, CA, property and compliance with all federal, state, and local laws and regulations would be the responsibility of the Exchange Entity, not the Federal Government. A potential third-party Exchange Entity has developed conceptual plans for development of the Sunnyvale, CA, property that include demolition of the existing NIROP facilities, construction of approximately six office buildings ranging from 2- to 11-stories, surface parking, two multilevel parking structures, and open space.

The City of Sunnyvale initiated the process to update the Moffett Park Specific Plan (MPSP) in November 2019. The MPSP update will include changes to the land use and transportation plan for Moffett Park, in addition to considering sustainability, urban ecology, climate change, and future sea level adaptation. The Exchange Entity would be responsible for ensuring that any future development of the Sunnyvale site conforms with the City of Sunnyvale's updated MPSP.

With respect to on-going site cleanup activities, the third-party Exchange Entity would assume responsibility for any required soil remediation, removal, or disposal as needed resulting from future development activities following land exchange. The Exchange Entity would also be responsible for evaluating the potential of vapor intrusion into any new buildings constructed onsite and installing vapor intrusion mitigation systems, if necessary. While still being evaluated, the Navy's post transfer would involve continuing oversight of implementation of both soil gas mitigation (if required) and groundwater remediation by LMS. These stipulations would be outlined in the deed transfer for the site.

Future Development – Titusville, FL

Development of the Titusville, FL, property, or any other property selected by the Exchange Entity, and compliance with all relevant federal, state and local laws and regulations would be the responsibility of the Exchange Entity, not the Federal Government. Lockheed Martin has developed conceptual plans for private development of the Titusville, FL property that includes construction of an additional building, roadways and parking, greenspace areas, fence line, and a new water retention area within an

approximately 23.5-acre site boundary shown in Figure 1-4. If completed, these improvements could be offered as part of the exchange.

2.3 Alternatives Considered but not Carried Forward for Detailed Analysis

The following alternatives were considered, but not carried forward for detailed analysis in this EA, because they do not meet the purpose and need for the Proposed Action.

2.3.1 Transition FBM Support Activities to Non-Federal Facilities

Under this alternative, LMS would transition its design and production activities from government-owned property in Sunnyvale to facilities located on land that it owns. The facilities would consist of a combination of a facility that Lockheed Martin owns (including the Titusville, FL property) and newly constructed facilities. It is unknown whether the Navy would declare the Sunnyvale site excess. This alternative is not being carried forward because the Navy needs to maintain ownership and control over FBM production facilities critical to national security. Although LMS already relocated resources and on-going operations to Lockheed Martin-owned property and facilities in Titusville, FL, the Navy has determined that this arrangement does not support future mission requirements and is not a viable long-term solution.

2.3.2 Transition to New or Existing Facilities on Cape Canaveral Air Force Station

Under this alternative, the Navy would transition PMO resources and operations to new or existing Government-owned real property and facilities on Cape Canaveral Air Force Station (CCAFS). The Navy considered seeking space to conduct PMO oversight activities on CCAFS. However, this alternative is not being carried forward for further analysis because the Navy needs to maintain on-site oversight of LMS production activities, and LMS has determined that it will not transition FBM design and production activities to CCAFS. Furthermore, the Air Force would have to agree to permanently allow the Navy to occupy space on CCAFS, and useable space on CCAFS has been severely limited due to expanded mission requirements of SSP's Naval Ordnance Test Unit, the National Aeronautics and Space Administration, the Space Force, and from increasing demands of the commercial space industry.

3 Affected Environment and Environmental Consequences

This chapter presents a description of the environmental resources and baseline conditions that could be affected from implementing any of the alternatives and an analysis of the potential direct and indirect effects of each alternative.

All potentially relevant environmental resource areas were initially considered for analysis in this EA. In compliance with the NEPA, the CEQ, and Department of Navy guidelines, the discussion of the affected environment (i.e., existing conditions) focuses only on those resource areas potentially subject to impacts. Additionally, the level of detail used in describing a resource is commensurate with the anticipated level of potential environmental impact.

"Significance," as used in NEPA, requires considerations of both context and intensity. Context means that the significance of an action must be analyzed in several contexts such as society as a whole (e.g., human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of a proposed action. For instance, in the case of a site-specific action, significance would usually depend on the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant. Intensity refers to the severity or extent of the potential environmental impact, which can be thought of in terms of the potential amount of the likely change. In general, the more sensitive the context, the less intense a potential impact needs to be in order to be considered significant. Likewise, the less sensitive the context, the more intense a potential impact would be expected to be significant.

The environmental consequences analyses within this chapter also contains a discussion of "future development" of the Sunnyvale site and the potential indirect effects from development by the Exchange Entity for each resource area. Under the Proposed Action, the Navy's action is the administrative exchange of the Sunnyvale site to a third-party. As the Navy would not be involved or have any decision-making authority in the future use of the Sunnyvale site, related environmental effects of the exchange would primarily be indirect effects associated with future development and use.

The future development discussion of the Sunnyvale site for each resource (where applicable) considers long term planning efforts by the City, as known to the Navy at the time this EA is being written, when evaluating the potential for and intensity of indirect effects on the resource. The City analyzed a 2035 buildout scenario in the City of Sunnyvale's 2016 Land Use and Transportation Element Environmental Impact Report (EIR), which encompasses the Sunnyvale site (City of Sunnyvale, 2016). As stated in Section 2.2.2, the City of Sunnyvale is also updating the MPSP which provides guidelines for development and future growth in Moffett Park, which includes the Sunnyvale site.

Indirect effects related to potential development of the Sunnyvale site would be dependent upon a number of factors including development density, nature and volume of generated traffic, and roadway and signalization improvements. Although many of these factors are currently unknown and are not within the control of the Navy, it is expected that, as development plans continue to be finalized in coordination with the City of Sunnyvale in the event of a land exchange, proposed development would be evaluated to determine whether it falls within the scope of long term planning efforts already undertaken by the City. Similarly, any final development plans would incorporate all applicable performance standards and mitigation measures identified therein. As discussed further within each resource area (where applicable), the Exchange Entity would be responsible for ensuring that any future development of the Sunnyvale site conforms with the City of Sunnyvale's updated MPSP.

Under these conditions, it is assumed any impacts from future development would be mitigated by the Exchange Entity to less than significant levels. Development of the site outside of those conditions considered in the 2035 buildout scenario could result in additional adverse impacts. However, as discussed in Chapter 2, it is expected that such development would be subject to local land use approvals and additional environmental review under CEQA to identify and mitigate impacts. As part of the CEQA process, the City will identify the environmentally superior alternative, and the developer must to adhere to measures to mitigate adverse impacts. Potential future development requirements are discussed in this chapter for each resource, as applicable, for informational purposes; however, the Navy is not subject to these requirements nor are these requirements commitments of the Federal Government.

As discussed in Chapter 2, under the NIROP Land Exchange (Preferred Alternative) the Navy's role in Titusville would be limited to assuming ownership of the Titusville property and facilities after it is developed by LMS or the Exchange Entity. The Navy does not have any decision-making authority for the location of the Titusville property and subsequent private development of the property which would occur with or without the Proposed Action. Site selection and development is the sole responsibility of LMS or the Exchange Entity, and construction related impacts at the property will occur regardless of the Proposed Action. Any development would be conducted in accordance with all applicable local, state, and federal laws in the State of Florida. Under the Proposed Action, the Navy would assume ownership of the developed Titusville property and facilities which would not change long term baseline operations and associated environmental conditions. The transfer of the property from private ownership to the Navy would result in Brevard County losing the revenue collected through property taxes on the two parcels comprising the site. In FY2019, the total property taxes collected for these two parcels totaled approximately $48,000. This value represents approximately 0.02 percent of the $232.6 million in total property taxes collected by Brevard County in FY2019 (Brevard County 2020). As such, the county's tax revenue lost from the transfer of ownership of this property to the Navy would be negligible, and there is no further consideration of the Titusville property in this EA.

This chapter includes analysis of land use, hazardous waste and materials, cultural resources, socioeconomics, environmental justice, air quality, noise, transportation, and infrastructure at the Sunnyvale site. The potential impacts to the following resource areas are considered to be negligible or non-existent so they were not analyzed in detail in this EA:

Water Quality. There are no water resources located within or directly adjacent to the Sunnyvale site, and no direct impacts to water resources would occur from the land exchange or any proposed future development. Future development would be subject to the terms of National Pollutant Discharge Elimination System (NPDES) permitting to manage stormwater runoff to protect local waterways during construction and after construction, which would limit indirect impacts to water resources from stormwater runoff. Adherence to current stormwater requirements may result in a long-term decrease in runoff from the site. An 0.17-acre portion of the site on the northeast corner of the Sunnyvale site is located within the 100-year floodplain (Zone AE); however, future development is not anticipated in that portion of the site, and impacts to floodplains would be avoided. No groundwater would be utilized at the site. Potential impacts related to existing groundwater contamination are discussed in Section 3.2, Hazardous Materials and Waste.

Biological Resources. There are no sensitive biological resources located within the Sunnyvale site, and no direct impacts to biological resources would occur from the land exchange or any proposed future

development. The site is located in a developed, commercial and industrial area, and no indirect impacts to offsite biological resources are expected.

Geologic Resources. No impacts to soil structure or changes to topography would occur from the land exchange or are anticipated from future development. The Sunnyvale site is located on an existing, developed site where soils have been previously disturbed. Future development would be subject to the terms of NPDES permitting, which would limit indirect impacts from erosion as a result of stormwater runoff. Future development would be constructed to current seismic standards, which would result in beneficial impacts.

Public Health & Safety. There would be no impacts to public health & safety from the land exchange. Any construction associated with future development of the site would be subject to all local, state, and federal safety regulations which would minimize impacts from construction. Adherence to these regulations would prevent any disproportionate environmental health or safety risks to children populations, which would already be low considering the Sunnyvale site is located approximately 0.4 miles from residential areas, across State Route (SR) 237. Future development would be required to meet all City and state requirements regarding fire protection measures and public safety, including fire access. Future development may have the potential to increase demand for police and fire services within the service area, but it is assumed the development would meet all requirements related to fire safety and would pay all applicable development fees for police and fire protection to enable continuation of service. Site remediation activities would continue, and any future development would ensure that cleanup levels and safeguards are appropriate and consistent with all applicable federal and state standards for proposed future land uses.

Airspace. No changes to airspace would occur from the land exchange or are anticipated from future development. Impacts to the Moffett Federal Airfield “Airport Influence Area” are discussed in Section 3.1, Land Use.

Visual Resources. There would be no changes to the visual landscape from the land exchange. It is assumed future development would be designed consistent with existing development in Moffett Park and would be typical of office space development. Any future development would be subject to city approvals to ensure consistency with design guidelines specified in the MPSP.

3.1 Land Use

This discussion of land use includes current and planned uses of the Sunnyvale site and the regulations, policies, or zoning that may control the proposed land use. The term land use refers to real property classifications, often codified in local zoning laws, that indicate either natural conditions or the types of human activity occurring on a parcel. Two main objectives of land use planning are to ensure orderly growth and compatible uses among adjacent property parcels or areas. However, there is no nationally recognized convention or uniform terminology for describing land use categories. As a result, the meanings of various land use descriptions, labels, and definitions vary among jurisdictions. Natural conditions of property can be described or categorized as unimproved, undeveloped, conservation or preservation area, and natural or scenic area. There is a wide variety of land use categories resulting from human activity. Descriptive terms often used include residential, commercial, industrial, agricultural, institutional, and recreational.

3.1.1 Regulatory Setting

California law requires that each city and county adopt a comprehensive long-term general plan for its physical development. Cities and counties may in turn develop community plans or specific plans that provide a finer level of detail for a given location than a general plan. Specific plans "describe allowable land uses, identify open space, and detail the availability of facilities and financing for a portion of the community" (Governor's Office of Planning and Research, 2001). The Sunnyvale site is located within the Moffett Park area in the City of Sunnyvale, Santa Clara County. The Sunnyvale site therefore falls under the purview of the MPSP (tiered from the City of Sunnyvale General Plan), which outlines the primary land use types that exist or are encouraged for the area. As stated in Section 2.2.2, the City of Sunnyvale is currently updating the MPSP.

The existing MPSP identifies three land use subdistricts (i.e., Moffett Park – Transit Oriented Development [MP-TOD], Moffett Park – General Industrial [MP-I], and Moffett Park – Commercial [MP-C]) and summarizes types of land use and applicable development standards. Allowable land uses within each land use subdistrict vary but generally include (City of Sunnyvale, 2013):

- **Office**
    - **Class A Office** – This is typically high-end, contemporary office space with a minimum total area of 100,000 square feet. Class A office space can be defined generally as being built after 1985, providing at least two stories, with steel frame or other higher-end construction. It is the goal of the City of Sunnyvale to encourage this type of development to diversify and generate economic activity.
    - **Class B Office** – This is typically office space that has not been custom designed for the current tenant. It often exists in office buildings that are being reused, in buildings that were not originally intended for office use (such as converted warehouses), or in buildings that were designed for another primary use, such as retail, with office as a secondary use.
- **Research and Development (R&D)** – This is primarily an office-type use with limited processing of materials or assembly of products. R&D facilities provide a mix of business options and support the Class A office facilities for developing technologies.

- **Light Manufacturing and Warehousing** – This includes limited processing, compounding, assembly, packaging, and repairing of materials and products similar to office space; as well as inside storage and distribution of products and materials for commercial and industrial purposes.
- **Retail and Service Commercial** – This includes neighborhood retail and services (i.e., tenant spaces less than 10,000 square feet) and destination retail and services (i.e., tenant spaces greater than 10,000 square feet), including "big box" and warehouse-type retail, such as electronics, furniture, and appliances.
- **Lodging and Eating Establishments** – This includes hotels, conference centers, restaurants, and other food services.

MP-TOD subdistricts are located within 0.25 mile of a light rail station and allow the highest density of development (e.g., Class A Office, R&D, corporate headquarters); MP-I subdistricts are located more than 0.25 mile from a light rail station and generally allow Class B office space and light manufacturing and warehousing; and MP-C subdistricts generally allow retail and service commercial and lodging and eating establishments (City of Sunnyvale, 2013). The Sunnyvale site is located within the MP-TOD subdistrict.

The Sunnyvale site is also located within the Airport Influence Area for Moffett Federal Airfield and is therefore subject to the Moffett Field Comprehensive Land Use Plan. The Comprehensive Land Use Plan includes land use restrictions for properties located within the Airport Influence Area, including a maximum structure height of 182 feet above mean sea level (Santa Clara County, 2016). In addition, the County Airport Land Use Commission may review any proposed land use action "involving a question of compatibility with the Airport's activities" (Santa Clara County, 2016).

As the Sunnyvale site consists of urban built-up land, the requirements of the Farmland Protection Policy Act do not apply. Similarly, as the Sunnyvale site is located outside of the California Coastal Zone, and there is no indication that the project will cause reasonably foreseeable direct or indirect effects on any coastal use or resource, the Coastal Zone Management Act of 1972 does not apply.

3.1.2 Affected Environment

The approximately 50-acre Sunnyvale site is a developed, square-shaped parcel located in the City of Sunnyvale, CA. The site is located within the MP-TOD land use subdistrict[1] (see Figure 3.1-1) on a designated military parcel. Existing onsite buildings include GOCO facilities, operated by LMS, that support the Navy's FBM program. These industrial activities take place in existing structures, generally one to two stories tall, located across the southern half of the site. Paved surface parking dominates the northern half of the site.

Adjacent properties directly bordering the site are also fully developed and support industrial or transit-oriented development and are classified within the MP-I or MP-TOD land use subdistricts (City of Sunnyvale, 2013). Specifically, adjacent sites include the following (see Figure 3.1-1):

- A light rail line (i.e., Orange Line of the Valley Transit Authority) extends along the eastern boundary of the Sunnyvale site.

[1] The Sunnyvale site is not subject to zoning regulations while under federal ownership.

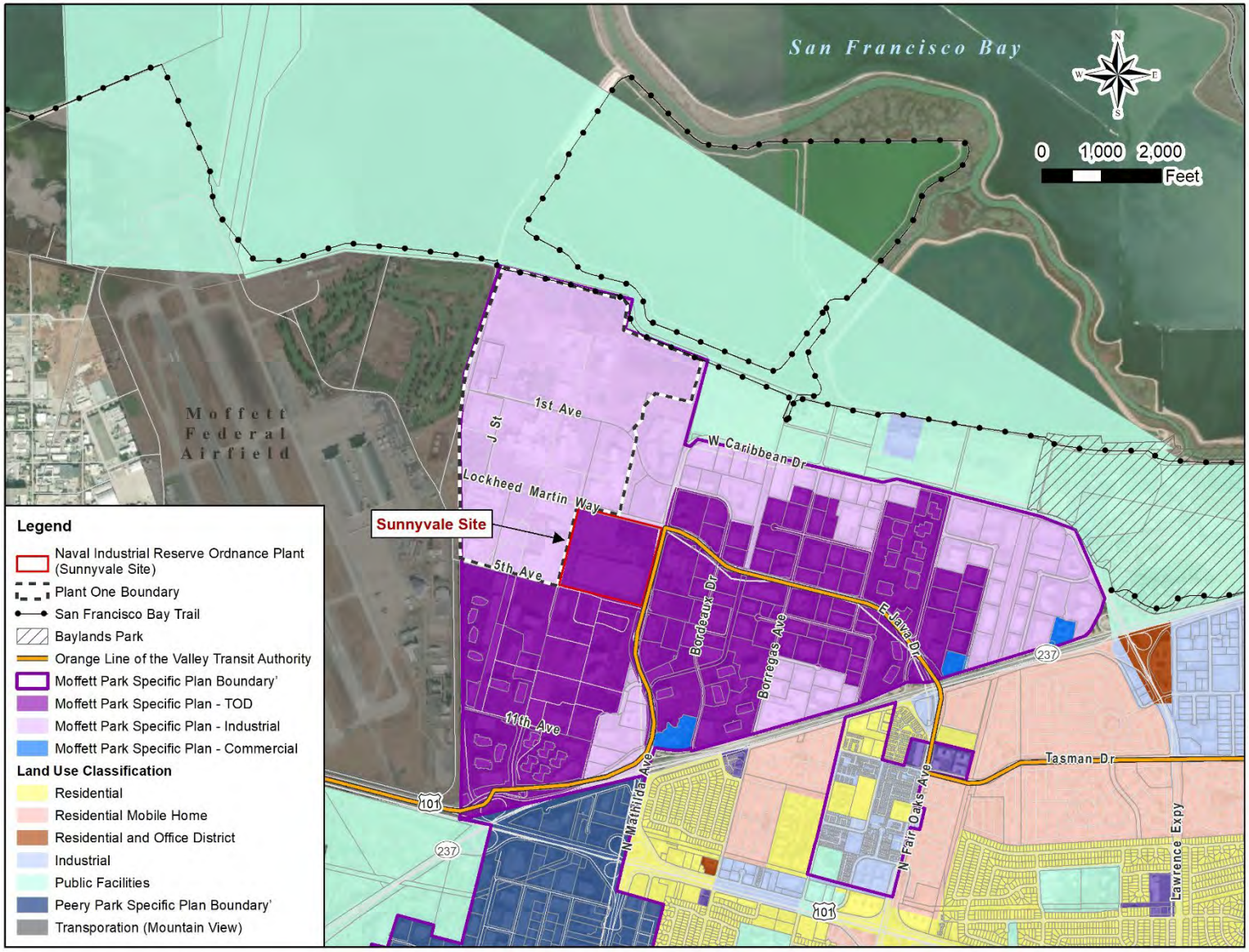


Figure 3.1-1. Land Use in the Vicinity of the Sunnyvale Site

- Lockheed-owned properties are located directly north and west of the Sunnyvale site and consist of the Plant One Complex, which is a larger industrial complex with defense production operations similar to those occurring at the Sunnyvale site. These properties are designated as MP-I.
- Private office space is located directly to the south and east of the Sunnyvale site. Lockheed previously owned these properties as part of the larger Plant One facility but disposed of these holdings over the last 20 years. These properties are classified as part of the MP-TOD land use subdistrict.

Other land uses in the area beyond immediately adjacent parcels include Moffett Federal Airfield (approximately 2,000 feet to the west of the site), San Francisco Bay (approximately 3,000 feet to the north of the site), and residential (approximately 2,500 feet to the south/southeast of the site directly south of SR 237).

The San Francisco Bay Trail is a notable recreational feature that extends along the southern edge of San Francisco Bay. This trail currently measures 350 miles long but will measure 500 miles when complete, connecting all nine counties of the Bay Area (San Francisco Bay Trail, 2020). The trail serves bicyclists and pedestrians, and a paved section exists approximately 2,500 feet to the north of the Sunnyvale site. This portion extends east and west across the northern border of the City of Sunnyvale. Sunnyvale Baylands Park is located along the San Francisco Bay Trail approximately 1,475 feet north/northeast of the Sunnyvale Site, and offers biking, hiking, and nature trails. Throughout the County, Santa Clara County Parks manages "28 parks comprising over 50,000 acres of park lands, which includes 10 lakes, 5 major interpretive facilities, 5 campgrounds, and over 350 miles of trails" (Santa Clara County Parks, 2017). However, none of these recreational features are located on or adjacent to the Sunnyvale site.

3.1.3 Environmental Consequences

The location and extent of a proposed action needs to be evaluated for its potential effects on a project site and adjacent land uses. Factors affecting a proposed action in terms of land use include its compatibility with on-site and adjacent land uses and zoning, restrictions on public access to land, or change in an existing land use that is valued by the community. Other considerations are given to proximity to a proposed action, the duration of a proposed activity, and its permanence.

Land Use Potential Impacts:

- **No Action -** No impacts.
- **Proposed Action** -

  Land Exchange: No impacts.

  Future Development: Short-term minor adverse impacts. No long-term significant adverse impacts.

The study area for the land use analysis includes the Sunnyvale site and adjacent lands.

3.1.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the Navy would not exchange the Sunnyvale site to an exchange entity. The SSP PMO and LMS would still relocate to Titusville, FL, to support the FBM program, but there would be no exchange of property or facilities in Sunnyvale or Titusville, and there would be no change to land use at the Sunnyvale site. Navy operations at the Sunnyvale site would cease, and the property would be vacated. Land Use Controls (LUCs) would remain for the Sunnyvale site as described in Section 3.2, Hazardous Materials and Waste. There would be no impacts to land use with implementation of the No Action Alternative; therefore, no significant impacts would occur.

3.1.3.2 NIROP Land Exchange (Preferred Alternative) Potential Impacts

The exchange of the Sunnyvale site would have no direct impacts on land use. Upon completion of the land exchange, the Exchange Entity would assume ownership of the Sunnyvale site and the land would become private land rather than public. Navy operations at the Sunnyvale site would cease, and the property would be vacated. The Exchange Entity would assume responsibility for any changes in land use at the Sunnyvale site and would coordinate with the City of Sunnyvale and other governmental agencies to determine the scope of any potential land use changes and conformance with zoning regulations. There would be no impacts to land use with implementation of the land exchange; therefore, no significant impacts would occur.

Future Development

Following land exchange, plans would likely be initiated by the Exchange Entity to redevelop the Sunnyvale site. Future development of the Sunnyvale site would be subject to the City of Sunnyvale zoning regulations, including applicable zoning ordinances and the MPSP (currently being updated by the City of Sunnyvale). The City of Sunnyvale would review future development plans for consistency with the General Plan and MPSP, and the Exchange Entity would be responsible for ensuring that future development complies with all applicable federal, state, and local laws, regulations, and guidelines. This would include completion of the necessary level of CEQA documentation to consider further effects on land use from future development.

A conceptual development plan for the Sunnyvale site includes demolition of the existing facilities, construction of approximately six office buildings (ranging from 2 to 11 stories tall), surface parking, two multi-level parking structures, and open space. While the proposed general office use of the Sunnyvale site would represent a change from the current industrial land use, both land uses are compatible with the existing site classification of MP-TOD, as defined in the MPSP, and with adjacent land uses. Furthermore, the City of Sunnyvale encourages the redevelopment of sites to high-intensity R&D and office land uses within the MPSP. Adherence to measures within the MPSP, including to those related to site planning, architecture, landscaping and amenities, sustainable design, and green building technologies would ensure land use and visual compatibility with the surrounding area, and therefore reduce potential adverse impacts arising from future development.

Since the Sunnyvale site is located in the Airport Influence Area of Moffett Federal Airfield, future development would also be subject to restrictions specified within the plan related to building height, lighting, glare, or creation of other potential air hazards. The County Airport Land Use Commission would review and make findings of consistency with the Comprehensive Land Use Plan, and final review and approval of the proposed future development would be conducted by Santa Clara County. Such approvals would ensure there would be compatibility between future development and flight activity at Moffett Federal Airfield.

Demolition and construction activities associated with future development at the Sunnyvale site could have short-term, indirect minor impacts on surrounding land uses from fugitive dust, noise, and traffic (refer to Sections 3.6, Air Quality; Section 3.7, Noise; and Section 3.8, Transportation, respectively, for details regarding these resources). It is assumed the Exchange Entity would conduct appropriate coordination with local utilities with service lines in the area to ensure development does not result in any incompatible development in the area with existing utilities (see Section 3.9, Infrastructure).

Once operational, there could be an increase in the number of employees working on the redeveloped site compared to existing conditions, which could incrementally increase demand on public and private

recreational facilities in the immediate vicinity (e.g., the San Francisco Bay Trail and Sunnyvale Baylands Park). Future development may include office space and other onsite recreational amenities, which may off-set some of the potential increased demand for recreational areas. Considering potential onsite recreational use and availability of public and private recreational facilities near the Sunnyvale site, any increased demand for recreational opportunities from future development would not likely degrade any existing or new recreational facilities.

Given these considerations, no significant impacts to land use are anticipated as a result of the future development. Follow-on CEQA analyses would be required for any proposed redevelopment plans presented by the Exchange Entity and would further address impacts related to land use once final development plans are completed.

3.2 Hazardous Materials and Wastes

This section discusses hazardous materials, hazardous waste, toxic substances, and contaminated sites.

3.2.1 Regulatory Setting

3.2.1.1 Hazardous Materials Regulations

Hazardous materials are defined by 49 CFR section 171.8 as "hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table, and materials that meet the defining criteria for hazard classes and divisions in 49 CFR part 173." Transportation of hazardous materials is regulated by the U.S. Department of Transportation regulations.

3.2.1.2 Resource Conservation and Recovery Act

Hazardous wastes are defined by the Resource Conservation and Recovery Act, as amended by the Hazardous and Solid Waste Amendments, as: "a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed." Certain types of hazardous wastes are subject to special management provisions intended to ease the management burden and facilitate the recycling of such materials. These are called universal wastes and their associated regulatory requirements are specified in 40 CFR part 273. Five types of waste are currently covered under the federal universal waste regulations: hazardous waste batteries, hazardous waste pesticides that are either recalled or collected in waste pesticide collection programs, hazardous waste thermostats, hazardous waste lamps, such as fluorescent light bulbs, and aerosol cans. Under California Department of Toxic Substances Control regulations, additional universal wastes include hazardous waste electronic devices (including televisions, computer monitors, cell phones, etc.), mercury-containing equipment (e.g., mercury switches, mercury thermometers, pressure or vacuum gauges, dilators and weighted tubing, mercury rubber flooring, mercury gas flow regulators, and dental amalgams), and cathode-ray tubes and cathode-ray tube glass removed from older televisions and computer monitors.

3.2.1.3 Toxic Substances Control Act

The U.S. Environmental Protection Agency (USEPA) is given authority to regulate special hazard substances by the Toxic Substances Control Act. Certain toxic (special) hazards are those substances that might pose a risk to human health and are addressed separately from other hazardous substances. Special hazards include asbestos-containing material (ACM), polychlorinated biphenyls (PCBs), and lead-based paint (LBP). Asbestos is also regulated by USEPA under the CAA and CERCLA.

3.2.1.4 Comprehensive Environmental Response, Compensation, and Liability Act

The Federal Government is provided broad authority under CERCLA to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Specifically, the law:

- Establishes prohibitions and requirements concerning closed and abandoned hazardous waste sites;

- Provides for liability of persons responsible for releases of hazardous waste at these sites; and
- Establishes a trust fund to provide for cleanup when no responsible party can be identified.

The law authorizes two kinds of response actions:

- Short-term removals, where actions may be taken to address releases or threatened releases requiring prompt response.
- Long-term remedial response actions, that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life threatening. These actions can be conducted only at sites listed on USEPA's National Priorities List (also known as "Superfund" sites).

With respect to property disposal, CERCLA 120(h) requires the Federal Government to:

- Give notice to the grantee of type and quantity of any hazardous substance known to have been stored or released, and notice of the time at which such storage, release, or disposal took place;
- Include a covenant in the deed that "all remedial action necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of such transfer";
- Include a deed covenant that the United States will return and perform any additional response action that may be required in the future; and
- Retain a perpetual right of access necessary to do such additional response actions.

3.2.2 Affected Environment

The Sunnyvale site is currently home to the SSP PMO, which provides the technical oversight and fleet support for the nation's sea-based strategic deterrent. The largest volumes of hazardous materials currently stored onsite includes approximately 400 gallons of oil and 350 gallons of diesel fuel. Other hazardous materials currently used and stored onsite include relatively small amounts of a wide range of chemicals, such as paints, solvents, greases, cleaners, and similar materials. Hazardous wastes generated onsite on a routine basis include various types of used/waste oil; oil- and solvent-contaminated rags, wipes, and other debris; spent photo developer; and spent cleaning fluids.

Historically, activities at the site included the manufacturing, assembly and testing of ballistic missile components. Manufacturing activities began in the late 1950s but have decreased significantly over time. However, the historical presence and use of hazardous materials, and generation, storage, and occasional spillage of hazardous waste has contributed to site-wide soil and groundwater contamination (see Section 3.2.2.4). Therefore, the remainder of this section discusses historical hazardous materials usage, hazardous waste generated, special hazards from past activities, and a summary of investigations to date from historical contamination.

3.2.2.1 Hazardous Materials

Chemicals and hazardous materials (e.g., paint, solvents) historically brought on to the Sunnyvale site from off-site sources were delivered either to the loading dock at Building 182 or directly to individual storage areas at Buildings 187 or 188. Materials delivered to the loading dock typically were distributed to individual shops or facilities for storage in small lockers, cabinets, or other restricted storage areas. Bulk chemicals such as solvents were stored in 55-gallon drums in Building 188. Chemicals from bulk

storage containers were dispensed into smaller (5-gallon-capacity or less) containers and delivered to individual shops as necessary. As much as 1,000 gallons of paint and paint solvents could have been stored at the Building 182 loading dock at any given time. An estimated average of approximately 100 gallons of paint and solvents were typically stored in the paint shop in Building 182. Transport of chemicals and hazardous materials around the Sunnyvale facility was conducted by bicycle, forklift, small vehicle, or carried by hand.

A several-thousand-gallon aboveground freon storage tank was historically present on the northern side of Building 182. The freon tank most likely was installed onsite in the early 1960s, as large amounts of freon was used during that time period. Freon was delivered by tank truck to this tank for distribution to Building 183 by underground piping. Use of freon was discontinued in 1981 and the tank is no longer onsite.

Fuel and other petroleum products have also been stored historically at the site. A 750-gallon leaded gasoline underground storage tank (UST) and a 500-gallon double-walled diesel fuel UST formerly were present near the southeastern corner of Building 186. The UST contents were used to fuel emergency fire pumps. Fuels for both tanks were delivered to the site by tanker trucks. The gasoline UST was removed in 1983 and replaced with the diesel fuel UST, which was removed in 1993.

Coolant (cutting oil) for machining operations and oil products were periodically delivered in drums or smaller containers from off-site sources. These fluids were stored in individual shops and used as needed. Three aboveground propane tanks were present in the northeastern corner of the site from 1959 to 1985. These tanks reportedly were used as emergency backup supply for electrical generation.

3.2.2.2 Hazardous Waste

Based on its operations and activities, the Sunnyvale site has historically been a routine generator of hazardous waste. The Sunnyvale site is classified by USEPA and California's Department of Toxic Substances Control as large quantity generator of hazardous waste, with a Facility Identification Number of CAD009125535. Large quantity generators are defined as facilities that generator more than 1,000 kilograms (2,200 pounds) of hazardous waste per month. Hazardous wastes generated at individual shops and facilities typically were stored in containers prior to removal from the site to the LMS holding facility for disposal. Between the early 1960s and 1984, some of the liquid waste generated in the shops was temporarily stored in a drum-holding area (paved with asphalt and concrete) located north-adjacent to Building 187. An average of approximately 20 drums were stored at this location at any one time. Drums stored at this location periodically were removed to the LMS hazardous waste storage area, located on the Plant One facility adjacent to the Sunnyvale site. Hazardous wastes typically were transported by forklift or small vehicle. Use of this hazardous waste storage area was reportedly terminated in the mid- to late 1980s.

Waste coolant (cutting oils) and other waste oils typically were removed to the waste coolant tank located adjacent to Building 187. Wastes in the tank were pumped out and removed from the Sunnyvale site by tank truck an average of four times per year. The waste coolant tank was removed in 1987.

Plating shop and beryllium shop wastes historically were stored in three concrete sumps, also referred to as tanks, along the southern exterior of Building 182. The tanks were oriented in an east-west direction and are referred to as the East Tank, Middle Tank, and West Tank. Wastes generated in the beryllium shop were directed into the East Tank, where they were stored prior to off-site removal by tank truck for disposal. The Middle Tank was used primarily for storage of wastes generated in the

plating shop, which were thought to contain high concentrations of metals, or were highly acidic or caustic. The West Tank was used for storage of plating shop waste of low concentration or only slightly acidic or caustic. The West and Middle Tanks are reported to have experienced periodic overflow. It is estimated that about one overflow event per year occurred due to excessive input of liquid waste into the tanks. In 1986, instrumentation preventing accidental overflow of the tanks was installed.

3.2.2.3 Special Hazards (Asbestos Containing Materials, Lead-Based Paint, Polychlorinated Biphenyls)

Based on the results of prior surveys and sampling, known ACM is currently located in Buildings 181, 182, 183, 186, and 188 in a variety of material types. Likewise, Buildings 182 and 186 contain surfaces coated with LBP (LMS, 2020). PCBs were historically used at the Sunnyvale site, contained largely in electrical transformers, capacitors, and other electrical equipment. A PCB-containing capacitor mounted on a Pacific Gas and Electric (PG&E) utility pole west of Building 182 exploded circa 1980 and likely resulted in a release to soil and/or groundwater (Dames and Moore 1988a, 1988b).

3.2.2.4 Defense Environmental Restoration Program

The DoD established the Defense Environmental Restoration Program (DERP) to facilitate thorough investigation and cleanup of contaminated sites on military installations (active installations, installations subject to Base Realignment and Closure, and formerly used defense sites). The Installation Restoration Program is a component of the DERP. The Installation Restoration Program requires each DoD installation to identify, investigate, and clean up hazardous waste disposal or release sites.

The Navy's initiative to address the DERP is called the Environmental Restoration Program. Historically, the Environmental Restoration Program at the Sunnyvale site has been managed as part of LMS's Plant One facility, under the address 1111 Lockheed Martin Way. Environmental investigations and remediation for Site 9 (see Groundwater section below) have historically proceeded under San Francisco Bay Regional Water Quality Control Board orders for the Plant One facility, and the Sunnyvale site has been extensively investigated, monitored, and remediated over many years in accordance with those orders. The Navy is currently overseeing management of the environmental cleanup program by LMS under CERCLA.

As part of on-going clean-up efforts at the Sunnyvale site, the Navy, in coordination with LMS, has developed a Community Relations Plan, which presents the site background, a description of the surrounding community, a summary of community issues and concerns, and a description of specific public participation activities that will be conducted during the site cleanup process (NAVFAC, 2019a).

Soils

Environmental investigations at the Sunnyvale site have been conducted since the early 1980s. Soil sampling was initially conducted in 1985 associated with underground storage tanks in response to the City of Sunnyvale's Hazardous Materials Storage Ordinance. Since that time, soil sampling has expanded as new areas of concern were identified (NAVFAC, 2019b).

In 2018, LMS commissioned a Phase II Environmental Site Assessment (2018 Phase II ESA) of the Sunnyvale site (NAVFAC, 2019c). The objective of the 2018 Phase II ESA was to increase knowledge regarding the absence or presence of soil contamination and, where applicable, to enhance the understanding of current conditions and the extent of contamination in shallow soil at the Sunnyvale site. The results of the 2018 Phase II ESA and prior studies identified 22 areas of concern in soil across

the Sunnyvale site. Sites 4, 5, 6, 7, 8, 12, 13, 14, 15, 16,17, 18, 20, and 22 were closed out with No Further Action with San Francisco Bay Regional Water Quality Control Board concurrence. Remedial alternatives for Sites 1, 2, 3, 9, 10, 11, 19, and 21 for soil contamination and vapor intrusion are currently being evaluated in a CERCLA Feasibility Study.

To satisfy requirements of CERCLA, the Navy's current plan to address soil remediation at the Sunnyvale site is the implementation of LUCs[2], which will limit or restrict disturbance of subsurface soil and groundwater usage, requires existing asphalt and buildings to remain in place as a "cap" on existing soil (to prevent contact), and prescribes required precautions to be followed when or if soils need to be disturbed. LUCs are cost-effective and can be implemented in a swift, efficient manner. The LUCs would remain until and unless additional remedial actions are implemented. Implementation of LUCs by the Navy is pending completion of the CERCLA process and is anticipated in 2021. Note, the Navy's current plan for soil remediation is separate from and outside the scope of this Proposed Action.

Groundwater

Groundwater contamination has been identified and investigated at the Sunnyvale site and adjacent Plant One facility since the 1980s and is undergoing remediation by LMS under the oversight of the San Francisco Bay Regional Water Quality Control Board (State Water Resources Control Board, 2020). Groundwater contamination generally originates on the Sunnyvale site adjacent to Building 182 and flows northward, offsite onto other portions of the Plant One facility. In general, the primary groundwater contamination plume exists within two shallow transmissive zones (TZs) in the subsurface. The first TZ generally extends from 5 feet below ground surface (bgs) to a depth of 25 feet bgs; the second TZ extends from 25 feet bgs to 55 feet bgs. Smaller areas of contamination are also present at lower depths (i.e., 41 feet to 68 feet bgs, known as the 2B Transmissive Zone; and 66 feet to 120 feet bgs, known as the Intermediate Zone).

The groundwater contaminants of concern (COCs) consist of the following identified volatile organic compounds (VOCs): 1,1,2-trichloro-1,2,2-trifluoroethane (Freon-113), 1,1-dichloroethene , cis-1,2-dichloroethene, tetrachloroethene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride. In addition, 1,4-dioxane is identified as a COC. Potential sources of these contaminants include a range of industrial solvents, waste solvents, degreasers, oil, and wastewater that have been released to the environment from spills and leaks from tanks over the course of the site's history.

Figure 3.2-1 depicts the approximate boundaries of the groundwater plumes at the Sunnyvale site. Trichloroethene is the primary COC in the groundwater contaminant plumes, the extent of which generally encompasses the other COCs with concentrations that exceed a maximum contaminant level and/or environmental screening level. Therefore, trichloroethene is the only COC depicted with isoconcentration contours on the figure.

[2] LUCs are legally enforceable restrictions on a property that consist of a combination of institutional/administrative controls and engineering controls.

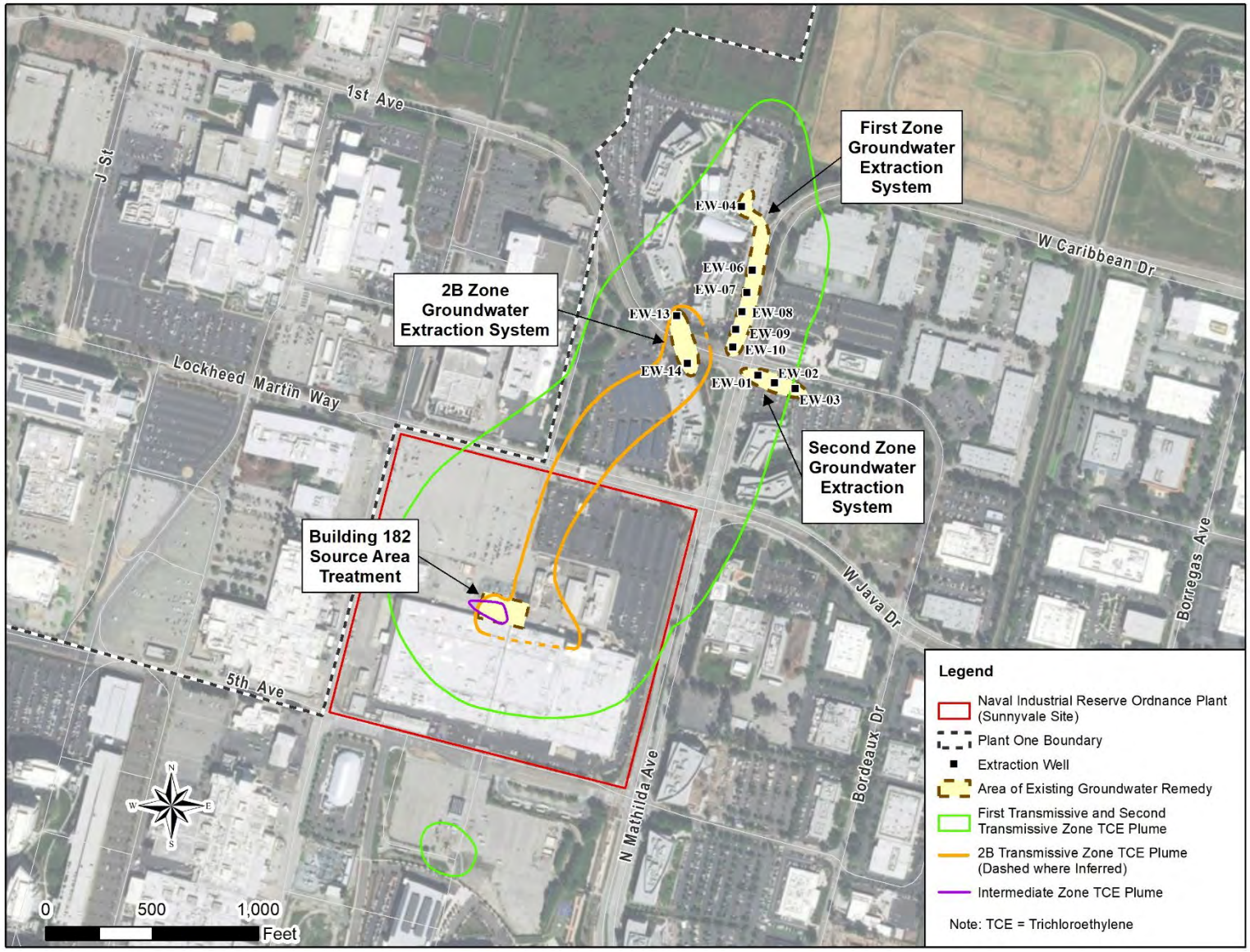


Figure 3.2-1. Groundwater Plume at the Sunnyvale Site

A Groundwater Feasibility Study, Human Health Risk Assessment, and Ecological Risk Assessment have all been completed (NAVFAC, 2019d) to support the development of the preferred alternative for groundwater remediation at the site. The preferred alternative for groundwater remediation involves multiple methods, including:

- **In Situ Bioremediation and Chemical Reaction.** Direct injection of emulsified zero valent iron and emulsified vegetable oil into the subsurface would be used to promote biological and non-biological degradation of VOCs.
- **Monitored Natural Attenuation.** Used to passively treat the portion of the groundwater plume not subject to active source area treatment. Relies on natural processes to reduce the contaminant concentrations in groundwater. Periodic monitoring would be performed to monitor for changes in COC concentrations over time and to verify the contaminant plume is either stable (not expanding) or decreasing in size.
- **Hydraulic Control by Groundwater Extraction and Discharge to Sanitary Sewer.** Hydraulic control would be used to prevent further downgradient movement of the groundwater plumes onsite. The existing network of groundwater extraction wells at the leading edge of the plume would be used to capture and remove groundwater containing dissolved VOCs that would otherwise continue flowing toward San Francisco Bay. The extracted groundwater would be discharged to the sanitary sewer where it would be transported to the Sunnyvale Water Pollution Control Plant.
- **Groundwater Monitoring.** New and existing groundwater monitoring wells would be used during and after active treatment of the source area, during monitored natural attenuation, and during hydraulic control to assess changes in contaminant concentrations, location of contaminants, and groundwater physical/chemical characteristics.
- **Land Use Controls.** LUCs would be used to protect human health and maintain access to and prevent disturbance of treatment system infrastructure.

Based on the information currently available, the preferred alternative for groundwater remediation meets relevant the CERCLA threshold criteria for remedy selection (i.e., protective of human health and the environment because contaminated groundwater would be treated) and provides the best balance among other considered alternatives with respect to short- and long-term effectiveness, implementability, and cost, in accordance with CERCLA regulations. The Navy expects the preferred approach will satisfy regulatory requirements in order to adequately:

- Protect human health and the environment;
- Comply with remedial action objectives;
- Be cost effective;
- Use permanent solutions and alternative treatment technologies to the maximum extent practicable; and
- Satisfy the preference for treatment as a principal element.

The San Francisco Bay Regional Water Quality Control Board concurred with this preferred alternative for groundwater remediation on January 13, 2020. Note, this preferred alternative is separate from and will be implemented regardless of the outcome of this Proposed Action.

3.2.3 Environmental Consequences

The hazardous materials and wastes analysis contained in the below sections address issues related to the use and management of hazardous materials and wastes as well as the presence and management of specific cleanup sites at the Sunnyvale site.

The study area for the hazardous materials and wastes analysis includes the Sunnyvale site and areas underlying the groundwater plume at the site.

Hazardous Materials and Wastes Potential Impacts:

- **No Action -** Negligible, beneficial impacts.
- **Proposed Action -**

  Land Exchange: Negligible, beneficial impacts.

  Future Development: No significant short- or long- term adverse impacts.

3.2.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the Navy would not exchange the Sunnyvale site to an exchange entity. The SSP PMO and LMS would still relocate to Titusville, FL, to support the FBM program, but there would be no exchange of property or facilities in Sunnyvale or Titusville. Production at the Sunnyvale site would cease, and there would be a reduction of hazardous material usage and hazardous waste generation at the site, which would result in negligible, beneficial impacts. With respect to the on-going site cleanup activities, the Navy would continue to oversee physical implementation of soil and groundwater remediation by LMS, including soil gas mitigation, if required. Groundwater remediation would continue to be managed per regulatory agreements with the Regional Water Quality Control Board through a combination of on-going in-situ treatment, long-term monitoring, and LUCs as described in Section 3.2.2.4. Groundwater remediation would also include hydraulic controls (i.e., groundwater extraction and discharge to city sewer) to prevent offsite migration. The Navy would continue to manage existing soil contamination pending completion of the CERCLA process, and would likely implement LUCs to prohibit future disturbance. Overall impacts from implementation of the No Action Alternative would be negligible and beneficial; therefore, no significant impacts would occur.

3.2.3.2 NIROP Land Exchange (Preferred Alternative) Potential Impacts

The exchange of the Sunnyvale site would have negligible beneficial direct impacts on hazardous materials usage and wastes generation. Upon completion of the land exchange, the Exchange Entity would assume ownership of the Sunnyvale site and the land would become private land rather than public. Navy operations at the Sunnyvale site would cease, and as a result existing hazardous material usage and waste generation would no longer occur at the Sunnyvale site, resulting in negligible beneficial impacts. The Exchange Entity would assume responsibility for any required soil remediation, removal, or disposal as needed resulting from potential future development activities. The Exchange Entity would also be responsible for evaluating the potential of vapor intrusion into any new buildings constructed onsite and installing vapor intrusion mitigation systems, if necessary. While still being evaluated, the Navy's post transfer would involve continuing oversight of implementation of both soil gas mitigation (if required) and groundwater remediation by LMS. These stipulations would be outlined in the deed transfer for the site. Overall impacts from the land exchange would be negligible and beneficial; therefore, no significant impacts would occur.

Future Development

Following land exchange, plans would likely be initiated by the Exchange Entity to redevelop the site. Future development of the site would generate additional hazardous and special wastes during remediation, demolition, and construction activities. During remediation, hazardous wastes would be generated in the form of excavated contaminated soil. During demolition, hazardous wastes could be generated in the form of ACM, LBP, and other regulated wastes (e.g., fluorescent light bulbs) present within existing buildings onsite. Minor amounts of hazardous waste could also be generated during construction activities through standard hazardous materials used in the construction process.

While outside of the Navy's control, it is assumed any hazardous waste or materials associated with any potential future construction would be disposed of or used in accordance with federal, state and local regulations. The increased amounts of hazardous materials such as diesel fuel, gasoline, paint, adhesives, and solvents used onsite during construction could increase the potential for spills. Similarly, while outside of the Navy's control, it is assumed any spills would be cleaned up in accordance with applicable regulations.

It is assumed any hazardous materials or wastes used or generated during operations would be managed in accordance with applicable regulations. The removal of contaminated soil during future development would constitute a minor, long-term beneficial impact.

Given these considerations, no significant impacts to hazardous materials and waste are anticipated as a result of the future development. Follow-on CEQA analyses would be required for any proposed redevelopment plans presented by the Exchange Entity and would further address impacts related to hazardous materials and waste once final development plans are completed.

3.3 Cultural Resources

This section describes the cultural resources associated with the Sunnyvale site and potential effects on cultural resources from each of the alternatives. The discussion describes the regulatory framework, along with existing cultural resources throughout the site and possible environmental impacts that may occur as the Proposed Action is implemented.

This discussion of cultural resources includes prehistoric and historic archaeological sites; historic buildings, structures, and districts; and physical entities and human-made or natural features important to a culture, a subculture, or a community for traditional, religious, or other reasons. Cultural resources can be divided into three major categories:

- Archaeological resources (prehistoric and historic) are locations where human activity measurably altered the earth or left deposits of physical remains.
- Architectural resources include standing buildings, structures, landscapes, and other built-environment resources of historic or aesthetic significance.
- Traditional cultural properties may include archaeological resources, structures, neighborhoods, prominent topographic features, habitat, plants, animals, and minerals that Native Americans or other groups consider essential for the preservation of traditional culture.

3.3.1 Regulatory Setting

Cultural resources are governed by various federal laws and regulations, including the NHPA, Archeological and Historic Preservation Act, American Indian Religious Freedom Act, Archaeological Resources Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1990. Federal agencies' responsibility for protecting historic properties is defined primarily by Sections 106 and 110 of the NHPA. Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties. An undertaking means a project, activity, or program funded in whole, or in part, under the direct or indirect jurisdiction of a federal agency, including, among other things, processes requiring a federal permit, license, or approval. In this case, the undertaking is federal (Navy) exchange of real property and facilities at the Sunnyvale site for replacement real property and facilities located at an alternate site selected by Lockheed Martin.

Section 110 of the NHPA requires federal agencies to establish—in conjunction with the Secretary of the Interior—historic preservation programs for the identification, evaluation, and protection of historic properties. Cultural resources also may be covered by state, local, and territorial laws.

Section 106 also requires that the Navy seek concurrence with the State Historic Preservation Office (SHPO) on any finding involving effects or no effects on historic properties and allows the Advisory Council on Historic Preservation an opportunity to comment on any finding of effects on historic properties. If Native American properties have been identified, Section 106 also requires that the Navy consult with interested Native American tribes who might attach religious or cultural significance to such properties.

The Section 106 regulations state that the transfer or sale of a historic property out of federal ownership or control constitutes an adverse effect when undertaken without adequate and legally enforceable restrictions or conditions to ensure the long-term preservation of the property's historic significance (36 CFR 800.5(a)(2)(vii)).

3.3.2 Affected Environment

Cultural resources listed in the National Register of Historic Places (NRHP) or eligible for listing in the NRHP are "historic properties" as defined by the NHPA. The list was established under the NHPA and is administered by the National Park Service on behalf of the Secretary of the Interior. The NRHP includes properties on public and private land. Properties can be determined eligible for listing in the NRHP by the Secretary of the Interior or by a federal agency official with concurrence from the applicable SHPO. A NRHP-eligible property has the same protections as a property listed in the NRHP. Historic properties include archaeological and architectural resources.

The area of potential effect (APE) for cultural resources is the geographic area or areas within which an undertaking (project, activity, program or practice) may cause changes in the character or use of any historic properties present. The APE is influenced by the scale and nature of the undertaking and may be different for various kinds of effects caused by the undertaking.

This section discusses previous cultural resource studies, evaluations and SHPO correspondence related to the Proposed Action. For this Proposed Action, the Navy determined that the APE includes the approximately 50-acre Sunnyvale site and associated buildings and infrastructure. As the entire APE has been previously disturbed and developed, the potential for archaeological resources and traditional cultural properties is unlikely, and therefore, this section focuses on architectural resources.

3.3.2.1 Architectural Resources

Historic Context

The Sunnyvale site is primarily associated with the historic theme of Cold War Weapons R&D, falling under the property type "Military Bases for Oversight of Weapons R&D by Private Contractors." The Sunnyvale site and facilities are associated with all six generations of the Navy's FBM program—from Polaris to Trident. Buildings and structures constructed between 1958 and 1961 are associated with the development, manufacture, and testing of the Polaris missile program and later with the Poseidon (starting in 1965) and Trident (starting in 1974) missile programs. Additional buildings constructed between 1967 and 1970 were designed for the Poseidon and Trident missile programs. Beginning with Poseidon, research, development, and testing were moved to other military installations, including Naval Air Weapons Station China Lake and Vandenberg Air Force Base, although overall program management remained at the Sunnyvale site (HDR Environmental, 2013).

There are two periods of significance at the Sunnyvale site (HDR Environmental 2013):

- The period from 1958 to 1962 begins with initial construction of the GOCO facility to develop the Polaris FBM and continues until the first successful launch of Polaris from a submarine. The Polaris period is marked by the Sunnyvale site being the center of the FBM program and intimately involved in every aspect of research, development, testing, and evaluation.
- The period from 1965 to 1989 begins with the development of the Poseidon program and ends at the acknowledged terminal date of the Cold War. Despite the continued use today of the Sunnyvale site, the end of the Cold War was used as the terminal date for the second period because the Navy's FBM program was conceived and implemented as a Cold War nuclear deterrent. During this period the Sunnyvale site remained associated with the management of the Navy's FBM program, but many aspects of development, testing, and evaluation were moved to other Lockheed facilities, other GOCO facilities, or other military installations.

Past Architectural Resource Inventory

All buildings and structures at the Sunnyvale site (19 in total) were inventoried and evaluated in 2013 as part of a Special Areas Historic Resources Survey and Evaluation (HDR Environmental, 2013). Lockheed Martin purchased the Sunnyvale site in 1958 and constructed structures and facilities that year. Between 1961 and 1970, ancillary buildings and structures were added as technologies changed. These buildings are listed in Table 3.3-1.

Table 3.3-1. Facilities Constructed at Sunnyvale Site

Building Name	*Building Number*	*Year Constructed*
Gate House	7	1958
Phase II Cooling Tower	13	1958
Construction Field Office	180	1958
Engineering Design Lab	181	1958
Flagpole	181A	1958
Guard House	181B	1958
Water Cooling Tower	181D	1958
Manufacturing Building	182	1958
Fire Protection System[a]	183A	1958
Compressor Building[b]	186	1958
Flammable Storage	188	1958
Maintenance Storage Building	187A	1958
Warehouse	184	1961
Warehouse	185	1961
Warehouse	189	1961
Thrust Vector and Control Test Building	183	1967
Nitrogen Distribution System	183A	1967
Helium Storage and Distribution System	185A	1969
Argon Bulk Storage and Distribution System	240007	1970

Source: HDR Environmental, 2013

a. Extant, previously located in Building 186.

b. Extant; replaced with a modern system in the same building.

3.3.2.2 Eligibility Determinations and SHPO Consultation

The 2013 evaluation identified two buildings that were eligible for listing on the NRHP. Buildings 181 and 182 were determined eligible under Criterion A under the Cold War Weapons Research, Development, Testing & Evaluation theme for their significant role in, and contributions to, the Navy's FBM program between 1955 and 1975. The survey and evaluation did not identify any architectural significance to any of the buildings at the Sunnyvale site and did not identify any historic districts (HDR Environmental, 2013).

Table 3.3-2 outlines the Navy's consultation history with the SHPO regarding transfer of the Sunnyvale site out of federal ownership and NRHP eligibility determinations and concurrence. As shown in the table, the SHPO concurred with the Navy's eligibility determination on October 2, 2018, however, they also stated the 19 buildings on the Sunnyvale site contribute to a single historic district. The Navy concurred with SHPO's recommendation on January 27, 2020, recognizing the NIROP Sunnyvale Historic District.

Table 3.3-2. Section 106 Consultation History for the Sunnyvale Site

Date	*Action*
August 2, 2018	Navy initiates consultation with the SHPO regarding the proposed undertaking to transfer (exchange) the Sunnyvale site out of federal ownership.
October 2, 2018	SHPO responds[a] to the August 2, 2018 letter stating the APE (Sunnyvale site) is adequate to account for direct and indirect effects to historic properties and provided concurrence regarding the eligibility of Buildings 181 and 182 for listing on the NRHP under Criterion A under the theme of Cold War Weapons Research, Development, Testing, and Evaluation for their significant role in, and contributions to, the Navy's Fleet Ballistic Missile program between 1955 and 1975. SHPO also stated the seventeen additional buildings, structures, and objects in the APE, along with Buildings 181 and 182, are contributing resources to an NRHP-eligible historic district; they appear to date from the same period of significance, and supported the Navy's mission. Therefore, the boundaries of the NIROP Sunnyvale Historic District include the entire Sunnyvale site as shown in Figure 1-2.
April 18, 2019	Navy provides SHPO with a Draft MOA for NRHP-eligible Buildings 181 and 182 to resolve adverse effects under the NHPA associated with the transfer of the buildings out of federal ownership.
January 27, 2020	Navy continues consultation, concurring with the SHPO's recommendation to include all 19 buildings and structures on the Sunnyvale site as a historic district. This included a submission of a revised Draft MOA to SHPO to address the NRHP-eligible NIROP Sunnyvale Historic District.
Present	Revised Draft MOA is under review by SHPO.

a. SHPO letter reference #USN_2018_0806_001 (see Appendix C)

APE = area of potential effect; MOA = Memorandum of Agreement; NHPA = National Historic Preservation Act; NIROP = Naval Industrial Reserve Ordnance Plant; NRHP = National Register of Historic Places; SHPO = State Historic Preservation Office

3.3.3 Environmental Consequences

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts may be the result of physically altering, damaging, or destroying all or part of a resource, altering characteristics of the surrounding environment that contribute to the importance of the resource, introducing visual, atmospheric, or audible elements that are out of character for the period the resource represents (thereby altering the setting), or neglecting the resource to the extent that it deteriorates or is destroyed.

Cultural Resources Potential Impacts:

- **No Action -** no significant impacts (NEPA) and no effect (NHPA).
- **Proposed Action -**

  Land Exchange: No significant impacts (NEPA) and no adverse effect (NHPA).

  Future Development: No significant impacts (NEPA) and no adverse effect (NHPA).

The APE for cultural resources analyses includes the approximately 50-acre Sunnyvale site and associated buildings and infrastructure.

3.3.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the Navy would not exchange the Sunnyvale site to an exchange entity. The SSP PMO and LMS would still relocate to Titusville, FL, to support the FBM program, but there would be no transfer out of federal ownership of

the NRHP-eligible buildings (Buildings 181 and 182) or the buildings and structures associated with the NRHP-eligible NIROP Sunnyvale Historic District. The Navy would continue to maintain buildings at the Sunnyvale site as needed. Therefore, no significant impacts (NEPA) and no effect (NHPA) to historic properties would occur with implementation of the No Action Alternative.

3.3.3.2 NIROP Land Exchange (Preferred Alternative) Potential Impacts

Per the NHPA and 36 CFR Part 800, its implementing regulations, adverse effects to historic properties occur when an undertaking involves the transfer or sale of a historic property out of federal ownership or control. As such, the transfer of the Sunnyvale site out of Navy ownership could result in permanent adverse effects to the NIROP Sunnyvale Historic District and to the NRHP-eligible buildings (Buildings 181 and 182).

As part of the land exchange, the Navy would enter into a Memorandum of Agreement (MOA) with the California SHPO and the Advisory Council on Historic Preservation. As part of the MOA, the Navy would agree to the following stipulations to resolve adverse effects from the removal of historic properties from federal ownership and the subsequent protections associated with the NHPA:

- Prior to transfer out of federal ownership, the Navy would ensure that the proposed NIROP Sunnyvale Historic District is documented in a form consistent with the site's eligibility under Criterion A for its association with all six generations of the Navy's FBM Program to preserve information on the historical significance of the facility for scholars and interested members of the public. This would include development of a documentary video based on drawings, site and historical photographs, and oral interviews conveying and interpreting the site's historic significance.
- During development of the documentary video, the Navy would seek input from interested and consulting parties for the purposes of research and documentation. This includes solicitation of historic documents, photos, and oral interviews from parties relevant to the story of the Sunnyvale site and the evolution of the FBM Program.
- Copies of the video would be provided to SHPO to demonstrate completion of the requirements for mitigation and to appropriate local archives and libraries for public access.
- The Navy would identify and preserve historical materials for archival storage at the Naval Air Weapons Station China Lake Curation Facility and/or the Naval History and Heritage Command.

Execution of the finalized MOA and stipulations would result in no significant impacts (NEPA) and no adverse effect (NHPA) to historic properties from the land exchange.

Future Development

Following the land exchange, plans would likely be initiated by the Exchange Entity to redevelop the Sunnyvale site. Any future development of the Sunnyvale site would likely involve demolition of existing facilities to accommodate future development. This would result in the demolition of all 19 structures currently comprising the NIROP Sunnyvale Historic District. Adverse effects to architectural resources, however, would be previously mitigated through adherence to the MOA prior to property transfer out of federal ownership. As the site has been previously disturbed, inadvertent discovery of archaeological materials or human remains during construction activities during future development activities is highly unlikely. There are provisions within CEQA, however, that apply to inadvertent discovery of historical or unique archaeological resources during construction, which could include the presence of an

archaeological monitor and implementation of avoidance measures or appropriate mitigation if unusual amounts of shell or bone, isolated artifacts, or other similar features are discovered (CEQA Guidelines 15064.5 e and f). If archaeological resources were to be encountered during construction, work would be temporarily halted in the vicinity of the discovered materials and workers would be prohibited from altering the materials and their context until a qualified professional archaeologist has evaluated the situation and provided appropriate recommendations. Tribes would also be notified if Native American resources, to include chert or obsidian flakes, projectile points, mortars, and pestles; or dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials were encountered. Any identified cultural resources would be recorded on Department of Parks and Recreation 523 historic resource recordation forms. Given these considerations, no significant impacts (NEPA) and no adverse effect (NHPA) are anticipated to cultural resources as a result of the future development. Follow-on CEQA analyses would be required for any proposed redevelopment plans presented by the Exchange Entity and would further address impacts related to cultural resources once final development plans are completed.

3.4 Socioeconomics

This section discusses population demographics, employment characteristics, schools, housing occupancy status, economic activity, tax revenue and related data providing key insights into the socioeconomic conditions that might be affected by a proposed action.

3.4.1 Regulatory Setting

Socioeconomic data shown in this section are presented at the city, county, and state levels, where applicable, to characterize baseline socioeconomic conditions in the context of local and regional trends. Data has been collected from previously published documents issued by federal, state, and local agencies and from state and national databases (e.g., U.S. Census Bureau).

3.4.2 Affected Environment

3.4.2.1 Population

Population characteristics for the city, county, and state are presented for 2018 from the U.S. Census Bureau American Community Survey. Table 3.4-1 also presents population estimates for the county and state as of the 2000 and 2010 decennial census.

Table 3.4-1. Population Trends

Geographic Location	*Population*		
	2000	*2010*	*2018*
Sunnyvale, CA	131,760	140,549	153,175
Santa Clara County, CA	1,682,585	1,781,642	1,937,570
California	33,871,648	37,349,363	39,557,045

Source: U.S. Census Bureau, 2000; 2010; 2014 – 2018a

The population of Sunnyvale has increased at a rate of approximately 14 percent between 2000 and 2018. The population of Santa Clara County has increased at a rate of approximately 15 percent between 2000 and 2018. Population in Santa Clara County is projected to grow by approximately 8 percent by 2030, based on current population projections (California Department of Finance, 2019).

3.4.2.2 Employment Characteristics

Employment in Santa Clara County and the City of Sunnyvale is almost exclusively non-agricultural. Table 3.4-2 shows employment by sector. Professional and business services; manufacturing; and educational and health services generated the majority of jobs in the study area. There are approximately 190 LMS personnel and 10 Navy personnel currently working at the Sunnyvale site.

The unemployment rate in the San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area was 10.8 percent in June 2020, down from a revised 11.3 percent in May 2020. This compares with an unadjusted unemployment rate of 10.7 percent for Santa Clara County, 15.1 percent for the state, and 11.2 percent for the nation during the same period. The increase in unemployment is a result of the economic downturn associated with the COVID-19 pandemic. Prior to the economic downturn, the unemployment rate in the San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area was 3.4 percent in March 2020, compared to 3.3 percent for Santa Clara County, 5.6 percent for the state, and 4.5 percent for the nation during the same period (California Employment Development Department, 2020).

Table 3.4-2. Employment Characteristics by Sector

Sector	*Sunnyvale, CA*		*Santa Clara County, CA*	
	Total Employment	*Percentage*	*Total Employment*	*Percentage*
Professional, Scientific, Management, Administrative & Waste Management Services	24,040	29.1	203,242	20.6
Manufacturing	15,650	19.0	165,363	16.8
Educational & Health Services	11,820	14.3	177,200	15.5
Information	7,369	8.9	50,948	5.2
Arts, Entertainment, Recreation, Accommodation, and Food Services	5,027	6.1	80, 611	8.2
Finance and Insurance	3,298	4.0	46,925	5.2
Trade, Transportation, Utilities	3,222	3.9	133,261	13.6
Construction	2,375	2.9	50,085	5.1
Other Services, Except Public Administration	2,283	2.8	40,075	4.1
Public Administration	1,546	1.9	24,094	2.4
Agriculture, Forestry, Fishing, Hunting, Mining	0	0.0	5,281	0.5

Source: U.S. Census Bureau 2014-2018b

3.4.2.3 Schools

The U.S. Department of Education provides federal impact aid to school districts that have federal lands within their jurisdiction. This federal impact aid is authorized under P.L. 103-382. It functions as payment in lieu of taxes that would have been paid if the land were not held by the Federal Government.

School districts receive federal funding for each student whose parent(s) live or work on federal property. The amount of federal school aid a school district receives depends on the number of federal students the district supports in relation to the total district student population. Total funding varies year by year according to congressional appropriations for the program (U.S. Department of Education, 2017).

The Sunnyvale School District has a total of 10 public schools and provides K-8 education for 6,664 elementary and middle school students as of October 2019 (Ed Data, 2020a). The Fremont Union High School District has a total of 5 high schools and provides secondary education for students in grades 9 through 12. Enrollment as of the 2019-2020 school year was approximately 11,022 students (Ed Data, 2020b). Schools of the Fremont Union High School District are operating at or near capacity (Fremont Union High School District, 2020).

3.4.2.4 Housing

Table 3.4-3 shows housing statistics within the City of Sunnyvale and Santa Clara County according to the estimates reported by the U.S. Census. According to the City of Sunnyvale, an increase of 13,185 housing units is projected by 2035 (City of Sunnyvale, 2016).

Table 3.4-3. Housing Stock Statistics

Housing Characteristic	*Sunnyvale, CA*	*Santa Clara County, CA*
Total Housing Units	58,915	665,365
Occupied Housing Units	55,938	635,525
Owner-Occupied Units	25,936	360,658
Renter-Occupied Units	30,002	274,867
Vacant Housing Units	2,997	29,840
Homeowner Vacancy Rate (percent)	0.5	0.4
Rental Vacancy Rate (percent)	3.6	3.5
Average Household Size (renter occupied)	2.6	2.9

Source: U.S. Census Bureau, 2014 – 2018c.

3.4.2.5 Economic Activity

Table 3.4-4 presents the economic income statistics for the City of Sunnyvale, Santa Clara County, and the State of California. According to the estimates reported by the U.S. Census, per capita personal income and median household income in Sunnyvale was higher than both the State of California and Santa Clara County (U.S. Census Bureau, 2014 – 2018d).

Table 3.4-4. Economic Statistics

Housing Characteristic	*Sunnyvale, CA*	*Santa Clara County, CA*	*California*
Per Capita Personal Income	$62,891	$52,451	$35,021
Median Household Income	$131,791	$116,178	$71,228

Source: U.S. Census Bureau, 2014 – 2018d.

3.4.2.6 Tax Revenue

The City of Sunnyvale collects revenue from property taxes, sales tax, utility users, capital assets, and interest, among other revenue sources. In fiscal year 2019, total revenue was approximately $526.1 million. Property taxes comprised approximately one-third of government revenues at $85.1 million (City of Sunnyvale, 2019a). Annual property tax revenues are a function of property value assessed by local government units and effective property tax rate and are subject to fluctuations.

3.4.3 Environmental Consequences

Analysis of impacts to socioeconomics focuses on the effects of the alternatives on population, employment, schools, housing, economic activity, and tax revenue.

The study area for socioeconomic analyses is defined as the City of Sunnyvale.

Socioeconomic Potential Impacts:

- **No Action -** Negligible beneficial, to minor adverse impacts.
- **Proposed Action -**

  Land Exchange: Minor beneficial and adverse impacts.

  Future Development: Short-term and long-term beneficial impacts.

3.4.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the Navy would not exchange the Sunnyvale site to an exchange entity. The SSP PMO and LMS would still relocate to Titusville, FL, to support the FBM program, but there would be no exchange of property or facilities in Sunnyvale or Titusville. This would result in minor adverse impacts due to decreases in employment of approximately 190 LMS personnel and 10 Navy personnel and associated spending in the area. Impacts to population or housing would likely be negligible, considering the area is

highly developed and populated. There may also be a negligible decrease in federal impact aid due to the relocation of Navy employees from the site. With respect to the on-going site cleanup activities, the Navy would continue to oversee physical implementation of both soil and groundwater remediation (including soil gas mitigation, if required) by LMS, which could result in a negligible economic benefit from any jobs associated with such remediation. Overall impacts from implementation of the No Action Alternative would be negligible, beneficial to minor, adverse; therefore, no significant impacts would occur.

3.4.3.2 NIROP Land Exchange (Preferred Alternative) Potential Impacts

The exchange of the Sunnyvale site would have negligible beneficial impacts on socioeconomics. Navy operations at the site would cease, and the Sunnyvale site would be transferred to an Exchange Entity. Similar to the No Action Alternative, this would result in minor adverse impacts due to decreases in employment of approximately 190 LMS personnel and 10 Navy personnel and associated spending in the area. Impacts to population or housing would likely be negligible, considering the area is highly developed and populated.

Conveyance to the Exchange Entity would have minor net socioeconomic benefits as the Sunnyvale site would become taxable land following the exchange if the site is annexed by the City of Sunnyvale. This would represent a slight increase in overall tax revenue collected by the City. School districts, however, may experience a slight decrease in federal impact aid since the site would no longer be government owned. This would partially offset the beneficial impact from increased property taxes; however, the increase in property taxes would likely outweigh the reduction in federal impact aid funding, and overall impacts would be minor and beneficial.

Overall impacts from implementation of the land exchange would be minor, beneficial to minor, adverse; therefore, no significant impacts to socioeconomics would occur.

Future Development

Following land exchange, plans would likely be initiated by the Exchange Entity to redevelop the Sunnyvale site. Construction associated with any future development could result in temporary increases in employment and sales volume in the City of Sunnyvale from construction workers and spending in the local economy. This could represent short-term, minor and beneficial impacts to the City of Sunnyvale. Construction could also result in a temporary increase in workers in the area; however, it is assumed that labor would be utilized from the local community, and workers would commute to the site and not temporarily relocate. Overall impacts during any construction of future development would likely be minor.

During operations, an increase of permanent workforce could be expected. This increase is anticipated to be greater than current employment levels at the Sunnyvale site, which would offset any negative impacts from the site closure and result in long term, beneficial impacts to the local and regional economy from increased employment and spending in the area. Depending on the type of work conducted at the redeveloped site, workers may relocate to the area or workers could be employed from the local community.

The size and extent of development is currently unknown given that plans for future development have not been finalized, but it is assumed that such development would be consistent with long term planning efforts undertaken by the City that account for future growth as discussed at the beginning of Chapter 3, including consideration of housing needs. Therefore, future development would be

consistent with local growth plans and related expectations for increases in housing demands over time, and thus is expected to result in no significant impact when compared to projected baseline conditions. The Exchange Entity would also be subject to payment of the housing impact fee as required per City of Sunnyvale Municipal Code Section 19.75, and would compensate the City for a fair share contribution to provide future housing within the scope of existing planning. Planned residential growth within the City as well as other nearby areas could accommodate some of the increased employees. With respect to schools, the Exchange Entity would be subject to payment of school facility fees to offset any costs for additional facility needs that may occur as a result of any population growth from the future development. Future development of the site could potentially increase surrounding property tax revenues collected by the local government depending on the change in assessed value of the Sunnyvale site, which would result in long term beneficial impacts to the City of Sunnyvale.

Given these considerations, no significant impacts to socioeconomics are anticipated as a result of the future development. Follow-on CEQA analyses would be required for any proposed redevelopment plans presented by the Exchange Entity and would further address impacts related to socioeconomics once final development plans are completed.

3.5 Environmental Justice

USEPA defines Environmental Justice as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (USEPA, 2018).

3.5.1 Regulatory Setting

Consistent with EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), the Navy's policy is to identify and address any disproportionately high and adverse human health or environmental effects of its actions on minority and low-income populations.

3.5.2 Affected Environment

The analysis of minority and low-income populations focuses on U.S. Census Bureau data for geographic units (i.e., block groups) that represent, as closely as possible, the potentially affected area. Census data for minority and low-income populations are available at the block group level.

Based on CEQ guidance (CEQ, 1997), an environmental justice population is present when:

- the minority or low-income population in the affected area exceeds 50 percent, or
- the minority or low-income population of the affected area is "meaningfully greater" than the minority or low-income composition of the general area.

A meaningfully greater minority or low-income population within a geographic unit affected by a federal action is determined by comparing the minority or low-income composition of the geographic unit to the minority or low-income composition of the general population. The selection of the appropriate geographic unit for analysis of the general population should not artificially dilute or inflate the affected minority or low-income population (CEQ, 1997). Given the limited geographic area to be affected, the geographic unit of analysis for the general area is Santa Clara County, CA. A block group is considered to have a meaningfully greater population if its minority or low-income population exceeds 120 percent of the comparable county population.

The Sunnyvale site is located within Census Tract 5046.02, Block 1. Poverty statistics for this and other block groups within 1-mile of the site are presented in Table 3.5-1. Census Tract 5047, Block Group 1 and Census Tract 5048.05, Block Group 1 meet the meaningfully greater criterion for low income populations, as shown in Figure 3.5-1.

Table 3.5-1. Poverty Statistics within 1 mile of the Sunnyvale Site

Geographic Unit	*Population below Poverty Level (%)*
Census Tract 5046.02, Block Group 1	4.2
Census Tract 5047, Block Group 1	14.3
Census Tract 5048.03, Block Group 1	3.6
Census Tract 5048.03, Block Group 2	6.3
Census Tract 5048.05, Block Group 1	24.2
Census Tract 5090, Block Group 1	8.7
Census Tract 5090, Block Group 2	2.3
Census Tract 5091.02, Block Group 1	7.5
Santa Clara County, CA	8.1

Source: U.S. Census Bureau 2014-2018e

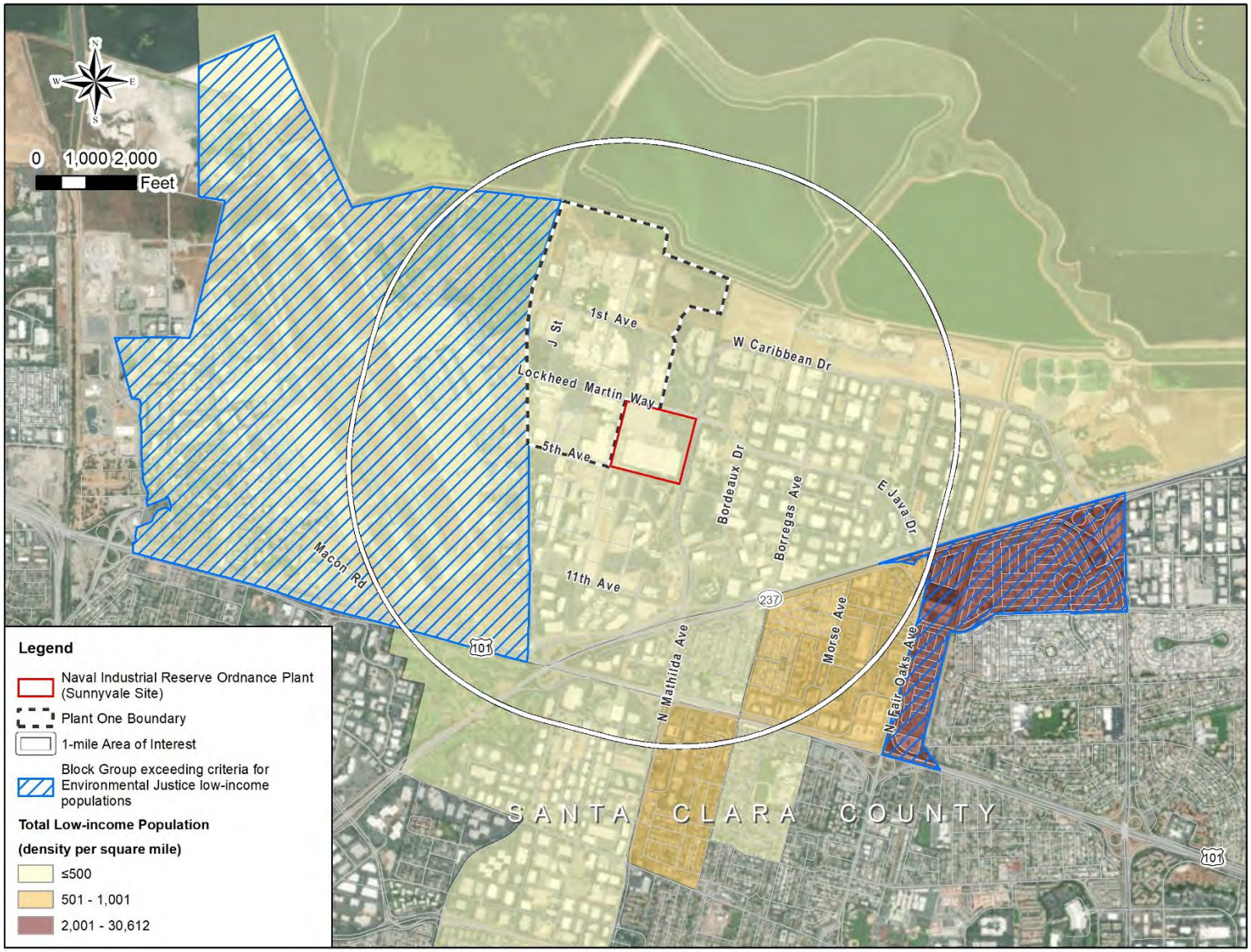


Figure 3.5-1. Low-Income Populations within 1 mile of the Sunnyvale Site

Minority population percentages of each block group within 1-mile of the Sunnyvale site are shown in Table 3.5-2. Total minority populations exceed the 50 percent criterion for environmental justice populations for all block groups within the study area except Census Tract 5047, Block Group 1. Census Tract 5048.03, Block Group 1 and Census Tract 5090, Block Group 2 also meet the meaningfully greater criterion when compared to the minority population of Santa Clara County. Figure 3.5-2 highlights the block group populations which meet the environmental justice population criteria.

Table 3.5-2. Minority Statistics within 1 mile of the Sunnyvale Site

Geographic Unit	*Minority Population (%)*
Census Tract 5046.02, Block Group 1	80.7
Census Tract 5047, Block Group 1	35.9
Census Tract 5048.03, Block Group 1	87.4
Census Tract 5048.03, Block Group 2	78.8
Census Tract 5048.05, Block Group 1	57.2
Census Tract 5090, Block Group 1	69.0
Census Tract 5090, Block Group 2	83.4
Census Tract 5091.02, Block Group 1	68.5
Santa Clara County, CA	68.0

Source: U.S. Census Bureau 2014-2018f

3.5.3 Environmental Consequences

This analysis focuses on the potential for a disproportionate and adverse exposure of specific off-site population groups to the projected adverse consequences discussed in the other resource sections of this chapter.

The study area for environmental justice analysis is defined as the 1-mile radius from the Sunnyvale site.

Environmental Justice Potential Impacts:

- **No Action -** No disproportionately high or adverse impacts.
- **Proposed Action -**

  Land Exchange: No disproportionately high or adverse impacts.

  Future Development: No disproportionately high or adverse impacts.

3.5.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the Navy would not exchange the Sunnyvale site to an exchange entity. The SSP PMO and LMS would still relocate to Titusville, FL, to support the FBM program, but there would be no exchange of property or facilities in Sunnyvale or Titusville. This would result in minor adverse socioeconomic impacts based on decreased employment and spending in the area; however, this would not represent a disproportionately high or adverse impact to minority or low-income populations. Therefore, no significant impacts to environmental justice populations would occur with the implementation of the No Action Alternative.

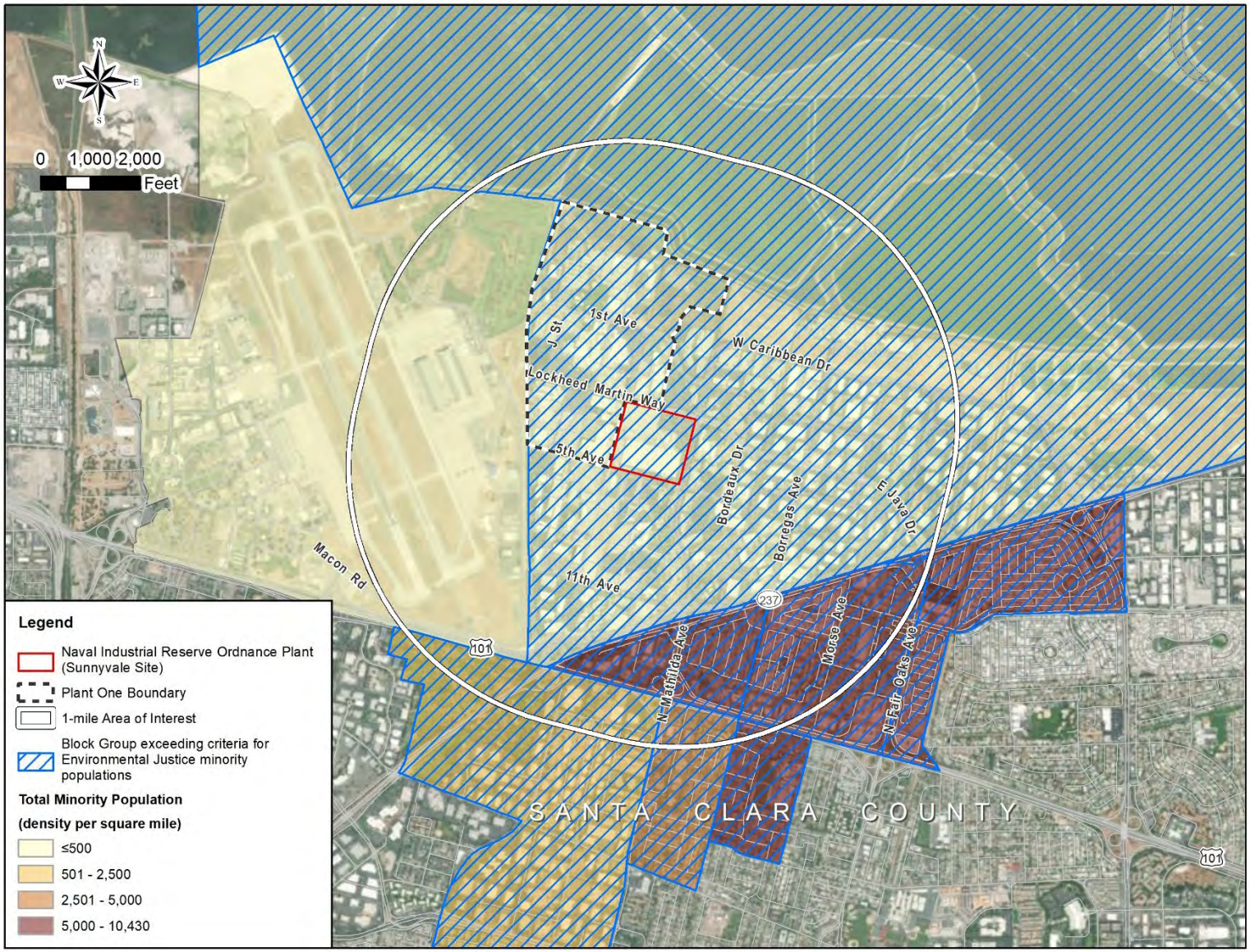


Figure 3.5-2. Minority Populations within 1 mile of the Sunnyvale Site

3.5.3.2 NIROP Land Exchange (Preferred Alternative) Potential Impacts

Although the Sunnyvale site is located near minority and low-income populations, the exchange of the site would have no direct impacts on environmental justice populations. Under the Proposed Action, Navy operations at the site would cease, which would result in minor adverse socioeconomic impacts based on decreased employment and spending in the area; however, this would not represent a disproportionately high or adverse impact to minority or low-income populations. Therefore, no significant impacts to environmental justice populations would occur as a result of the land exchange.

Future Development

Following the land exchange, plans would likely be initiated by the Exchange Entity to redevelop the Sunnyvale site. During construction of any future development, there could be adverse impacts from air emissions, noise, and traffic as described in Sections 3.6, Air Quality; Section 3.7, Noise, and Section 3.8, Transportation, respectively. Impacts would be dependent on the size and scope of new development to occur on the Sunnyvale site but are not anticipated to be significant. Follow-on CEQA analyses would further characterize these impacts, and development would comply with all applicable federal, state, and local regulations, as well as measures to mitigate adverse impacts that are identified during the CEQA process. These impacts are not anticipated to result in disproportionately high or adverse human health or environmental effects on any minority or low-income populations compared to other populations in the study area. Given these considerations, no significant impacts to environmental justice populations are anticipated as a result of the future development. Follow-on CEQA analyses would be required for any proposed redevelopment plans presented by the Exchange Entity and would further address impacts related to environmental justice populations once final development plans are completed.

3.6 Air Quality

This discussion of air quality includes criteria pollutants, standards, sources, permitting, and greenhouse gases (GHGs). Air quality in a given location is defined by the concentration of various pollutants in the atmosphere. A region's air quality is influenced by many factors, including the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions.

Most air pollutants originate from human-made sources, including mobile sources (e.g., cars, trucks, buses) and stationary sources (e.g., factories, refineries, power plants), as well as indoor sources (e.g., some building materials and cleaning solvents). Air pollutants are also released from natural sources such as volcanic eruptions and forest fires.

3.6.1 Regulatory Setting

3.6.1.1 Criteria Pollutants and National Ambient Air Quality Standards

The principal pollutants defining air quality, called "criteria pollutants," include carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), suspended particulate matter less than or equal to 10 microns in diameter (PM_{10}), fine particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$), and lead (Pb). CO, SO_2, Pb, and some particulates are emitted directly into the atmosphere from emissions sources. Ozone, NO_2, and some particulates are formed through atmospheric chemical reactions that are influenced by weather, ultraviolet light, and other atmospheric processes.

Under the CAA, the USEPA has established National Ambient Air Quality Standards (NAAQS) (40 CFR part 50) for these pollutants. NAAQS are classified as primary or secondary. Primary standards protect against adverse health effects; secondary standards protect against welfare effects, such as damage to farm crops and vegetation and damage to buildings. Some pollutants have long-term and short-term standards. Short-term standards are designed to protect against acute, or short-term, health effects, while long-term standards were established to protect against chronic health effects.

Areas that are and have historically been in compliance with the NAAQS are designated as attainment areas. Areas that violate a federal air quality standard are designated as nonattainment areas. Areas that have transitioned from nonattainment to attainment are designated as maintenance areas and are required to adhere to maintenance plans to ensure continued attainment. Each state has the authority to adopt standards stricter than those established under the federal program; California has adopted stricter standards for certain criteria pollutants. Santa Clara County is in nonattainment for O_3 (8-hour), O_3 (1-hour), PM_{10}, and $PM_{2.5}$ (BAAQMD, 2017; USEPA, 2020). In addition, Santa Clara County was previously in non-attainment for CO and is currently designated as a "maintenance" area for this pollutant.

The CAA requires states to develop a general plan to attain and maintain the NAAQS in all areas of the country and a specific plan to attain the standards for each area designated nonattainment for a NAAQS. These plans, known as State Implementation Plans (SIPs), are developed by state and local air quality management agencies and submitted to USEPA for approval. The California SIP applies to industrial sources, commercial facilities, and residential development activities. Regulation occurs primarily through a process of reviewing engineering documents and other technical information, applying emission standards and regulations in the issuance of permits, performing field inspections, and assisting industries in determining their compliance status.

The Bay Area Air Quality Management District (BAAQMD) seeks to attain and maintain air quality conditions in the San Francisco Bay Area Air Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. The clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources.

On April 19, 2017, the BAAQMD adopted an updated Clean Air Plan (2017 CAP). Like the 2010 CAP that preceded it, the 2017 CAP provides a regional strategy to protect public health, protect the climate, and reduce emissions to achieve air quality standards. The 2017 CAP updates the 2010 CAP pursuant to air quality planning requirements defined in the California Health and Safety Code. To fulfill state O_3 planning requirements, the 2017 CAP provides a control strategy to reduce O_3, particulate matter, air toxics, and GHGs in a single, integrated plan. In addition, the 2017 CAP builds on existing efforts to reduce emissions of fine particulate matter and toxic air contaminants.

The BAAQMD published the 2017 CEQA Guidelines which outline procedures for evaluating potential air quality impacts consistent with CEQA requirements (CEQA, 2017). The Guidelines include air quality and GHG emissions threshold for significance for construction and operation of projects. The thresholds for air quality include average daily emissions and maximum annual emissions for NOx, PM_{10}, $PM_{2.5}$, CO, and reactive organic gas.

3.6.1.2 General Conformity

The USEPA General Conformity Rule applies to federal actions occurring in nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. Per 40 CFR 93.153(c)(2)(xiv)), transfers of ownership, interests, and titles in land, facilities, and real and personal properties, regardless of the form or method of the transfer are not subject to the General Conformity Rule. Therefore, the General Conformity Rule does not apply to the Proposed Action.

3.6.1.3 Permitting

The California Air Resources Control Board has the authority to issue permits for the construction and operation of new or modified stationary source air emissions in California. California Air Resources Control Board air permits are required for any facility that will emit or currently emits regulated pollutants; these facilities must comply with the following regulations of the CAA including New Source Review, Prevention of Significant Deterioration, Title V Operating Permit, National Emission Standards for Hazardous Air Pollutants, and New Source Performance Standards. There are also specific California state regulations that apply to construction activities, which are outlined in California Code of Regulations Title 17, Chapter 1. The BAAQMD issues a variety of permits and approval documents including an Authority to Construct, Permit to Operate, Major Facility Review (Title V) Permits, and equipment registration.

3.6.1.4 Greenhouse Gases

Greenhouse gases (GHGs) are gas emissions that trap heat in the atmosphere. These emissions occur from natural processes and human activities. Scientific evidence indicates a trend of increasing global temperature over the past century due to an increase in GHG emissions from human activities. The climate change associated with this global warming is predicted to produce negative economic and social consequences across the globe.

In 2019 the CEQ published draft guidance for considering GHG emissions in NEPA analyses (CEQ, 2019). The draft guidance, if finalized, would replace the existing 2016 guidance. The 2019 draft guidance recommends agencies attempt to quantify a proposed action's projected direct and reasonably foreseeable indirect GHG emissions when: (1) the amount of those emissions is substantial enough to warrant quantification, and (2) it is practicable to quantify the emissions using available data and GHG quantification tools. Where GHG inventory information is available, an agency may reference local, regional, national, or sector-wide emission estimates to provide context for the relative magnitude of a proposed action's GHG emission.

USEPA issued the Final *Mandatory Reporting of Greenhouse Gases Rule* on September 22, 2009. GHGs covered under the Final *Mandatory Reporting of Greenhouse Gases Rule* are carbon dioxide (CO_2), methane, nitrogen oxide (NO_x), hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and other fluorinated gases including nitrogen trifluoride and hydrofluorinated ethers. Each GHG is assigned a global warming potential. The global warming potential is the ability of a gas or aerosol to trap heat in the atmosphere. The global warming potential rating system is standardized to CO_2, which has a value of one. The equivalent CO_2 rate is calculated by multiplying the emissions of each GHG by its global warming potential and adding the results together to produce a single, combined emissions rate representing all GHGs. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of mobile sources and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions as CO_2e are required to submit annual reports to USEPA.

In an effort to reduce energy consumption, reduce GHGs, reduce dependence on petroleum, and increase the use of renewable energy resources, the Navy has implemented a number of renewable energy projects. Examples of Navy-wide GHG reduction projects include energy efficient construction, thermal and photovoltaic solar systems, geothermal power plants, and the generation of electricity with wind energy. The Navy continues to promote and install new renewable energy projects.

3.6.2 Affected Environment

The most recent emissions inventory for the BAAQMD is shown in Table 3.6-1. VOC and NO_x emissions are used to represent O_3 generation because they are precursors of O_3.

Table 3.6-1. Bay Area Air Quality Management District Air Emissions Inventory (2011)

Location	*NO_x (tpy)*	*VOC (tpy)*	*CO (tpy)*	*SO_2 (tpy)*	*PM_{10} (tpy)*	*$PM_{2.5}$ (tpy)*
Alameda County	75	55	271	2	19	9
Contra Costa County	54	50	220	14	20	11
Marin County	10	13	59	0	5	2
Napa County	9	10	54	0	6	2
San Francisco County	35	25	110	0	6	3
San Mateo County	31	28	141	1	9	3
Santa Clara County	66	61	313	3	22	9
Solano County	19	14	60	1	8	3
Sonoma County	16	19	99	0	10	4
Bay Area Air Basin Total	316	273	1,327	21	105	45

Note: Individual numbers may not sum to totals due to rounding.
Source: BAAQMD, 2014.
CO = carbon monoxide; NO_x = nitrogen oxides; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; SO_2 = sulfur dioxide; tpy = tons per year; VOC = volatile organic compound

The Sunnyvale site is located in a densely populated and developed area with office buildings within 200 feet of the site. Nearby sensitive receptors include tennis and basketball courts 630 feet to the south/southwest, Cogswell Polytechnical College approximately 1,400 feet to the southeast, and Sunnyvale Baylands Park approximately 1,475 feet north/northeast. The closest residential housing is approximately 2,875 feet to the south and beyond SR 237.

A variety of equipment is operated at the Sunnyvale site that require air permits including boilers, emergency generators, paint spray booths, silicone curing oven, sealant application, paint touch up, and general coating. In addition, on-going site cleanup activities generate air emissions from equipment associated with cleanup and monitoring activities.

3.6.3 Environmental Consequences

Effects on air quality are based on estimated direct and indirect emissions associated with the action alternatives. Estimated emissions from a proposed federal action are typically compared with the relevant national and state standards to assess the potential for increases in pollutant concentrations.

The study area for the air quality analysis is the air basin in which the land exchange would take place; the San Francisco Bay Area Air Basin, which is within the jurisdiction of the BAAQMD.

Air Quality Potential Impacts:

- **No Action -** Minor beneficial impacts.
- **Proposed Action -**

  Land Exchange: Minor beneficial impacts.

  Future Development: Short-term and long-term minor adverse impacts.

3.6.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the Navy would not exchange the Sunnyvale site to an exchange entity. The SSP PMO and LMS would still relocate to Titusville, FL, to support the FBM program, but there would be no exchange of property or facilities in Sunnyvale or Titusville. Emissions from current operations of the Sunnyvale site and from associated traffic to the site would cease and would represent a minor beneficial impact to air emissions. With respect to the on-going site cleanup activities, the Navy would continue to oversee physical implementation of both soil and groundwater remediation (including soil gas mitigation, if required) by LMS. Site cleanup activities could result in on-going air emissions due to operation of vehicles and/or equipment, but impacts would be negligible and likely offset by the decrease in air emissions associated with the relocation of SSP PMO and LMS personnel. Overall impacts from implementation of the No Action Alternative would be minor and beneficial; therefore, no significant impacts would occur.

3.6.3.2 NIROP Land Exchange (Preferred Alternative) Potential Impacts

The exchange of the Sunnyvale site would have negligible direct impacts on air quality. Upon completion of the land exchange, the Exchange Entity would assume ownership of the Sunnyvale site and the land would become private land rather than public. Emissions from current operations of the Sunnyvale site and from associated traffic to the site would cease and would represent a minor beneficial impact to air emissions. While still being evaluated, the Navy's post transfer would involve continuing oversight of implementation of both soil gas mitigation (if required) and groundwater remediation by LMS. These stipulations would be outlined in the deed transfer for the site. This could result in on-going air emissions due to operation of vehicles and/or equipment, but overall impacts would be negligible, and would likely be offset by the decrease in air emissions associated with the relocation of SSP PMO and

LMS personnel. Overall impacts from implementation of the land exchange would be minor and beneficial; therefore, no significant impacts would occur.

Future Development

Following the land exchange, plans would likely be initiated by the Exchange Entity to redevelop the Sunnyvale site. Air emissions could result from a variety of construction activities, including demolition, excavation, grading, vehicle travel on paved and unpaved surfaces, as well as vehicle and equipment exhaust. Construction equipment directly emits CO, NO_2, SO_2, VOCs, and particulate matter; and earth-moving construction activities (e.g., excavation, grading) can result in dust and particulates. Particulate emissions can lead to adverse health effects and nuisance concerns, such as reduced visibility. Short-term GHG emissions would primarily result from the use of fuel in construction equipment, worker vehicles, and delivery and waste trucks. As discussed in Section 3.6.2, the Sunnyvale site has a variety of buildings and infrastructure nearby (office buildings, Moffett Federal Airfield) and the closest residential housing area is approximately 2,875 feet to the south beyond SR 237. Given the proximity to the highway and distance from the Sunnyvale site, the highway would be the dominant source of air emissions at the housing community.

Prior to construction, the developer would obtain an Authority to Construct from the BAAQMD to ensure compliance with all applicable regulations, permitting requirements, and air quality standards which would include provisions to protect air quality (e.g., wetting of surfaces to reduce offsite particulate matter and dust, covering trucks with tarps, properly maintaining equipment, restricting vehicle idling). In addition, the developer would need to obtain a demolition permit from the City of Sunnyvale. Removal and demolition of the existing buildings and infrastructure could involve hazardous materials such as ACM. Under Regulation 11-2, the BAAQMD requires notification of removal or demolition of materials that may contain asbestos. Any future construction would be subject to state and local requirements, and would be addressed in follow-on CEQA analysis by the City of Sunnyvale during the site plan approval process. The 2017 BAAQMD CEQA Guidelines (CEQA, 2017) recommend additional construction mitigation measures when construction emissions exceedances are estimated above thresholds, which would also be considered in follow on CEQA analysis for any future development. Therefore, overall impacts on air quality and GHGs from construction of any future development would likely be short term and minor.

Minor long-term adverse impacts to air quality would be expected from operation of future development at the site. Traffic associated with new uses of the site would result in emissions of VOCs, NOx, CO, and PM_{10}; however, emissions are not anticipated to exceed regulatory thresholds. It is possible that many new workers would be relocating from other locations in the region and shifting their commuting patterns, which may result in an increase or decrease in vehicle miles traveled and in turn associated increases or decreases in emissions. Increases in traffic would also result in minor increases in GHG emissions. Onsite sources of air emissions would likely include fuel combustion for building heating. Depending on final design, there could be an increase in heating and electrical requirements, but the new buildings would likely involve design features to create energy efficiencies and reduce potential impacts. Other onsite sources of air emissions include emergency generators. Depending on the final design, standby diesel generators could be used to provide backup power to elevators, lighting, emergency/fire suppression system, and other critical building features. Emergency generators are required to undergo periodic testing to verify their fitness for operations in the event of an actual emergency, which results in small amounts of air emissions. Emergency generators and associated emissions would be managed under BAAQMD requirements for internal combustion engines.

Operations associated with any new future development would also require grid-supplied electricity, which is generated offsite, and, depending on the energy source, may result in air pollutant emissions. Since the new buildings and infrastructure would likely be more energy efficient, offsite air pollutant emissions are likely to negligible. Operational emissions from any future development could be partially or fully offset by removal of the prior air emissions sources from the current operations of the Sunnyvale site, depending on the size and scope of the future development.

Given these considerations, no significant impacts to air quality are anticipated as a result of the future development. Follow-on CEQA analyses would be required for any proposed redevelopment plans presented by the Exchange Entity and would further address impacts related to air quality once final development plans are completed.

3.7 Noise

This discussion of noise includes the types or sources of noise and the associated sensitive receptors in the human environment. Noise in relation to biological resources and wildlife species is not analyzed because the site is fully developed and there are no sensitive biological resources on or near the Sunnyvale site.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air or water, and are sensed by the human ear. Sound is all around us. The perception and evaluation of sound involves three basic physical characteristics:

- Intensity – the acoustic energy, which is expressed in terms of sound pressure, in decibels (dB)
- Frequency – the number of cycles per second the air vibrates, in Hertz
    - Duration – the length of time the sound can be detected

Noise is defined as unwanted or annoying sound that interferes with or disrupts normal human activities. Although continuous and extended exposure to high noise levels (e.g., through occupational exposure) can cause hearing loss, the principal human response to noise is annoyance. The response of different individuals to similar noise events is diverse and is influenced by the type of noise, perceived importance of the noise, its appropriateness in the setting, time of day, type of activity during which the noise occurs, and sensitivity of the individual.

3.7.1 Basics of Sound and A-Weighted Sound Level

The loudest sounds that can be detected comfortably by the human ear have intensities that are a trillion times higher than those of sounds that can barely be detected. This vast range means that using a linear scale to represent sound intensity is not feasible. The dB is a logarithmic unit used to represent the intensity of a sound, also referred to as the sound level. All sounds have a spectral content, which means their magnitude or level changes with frequency, where frequency is measured in cycles per second or Hertz. To mimic the human ear's non-linear sensitivity and perception of different frequencies of sound, the spectral content is weighted. For example, environmental noise measurements are usually on an "A-weighted" scale or A-weighted decibels (dBA) that filters out very low and very high frequencies in order to replicate human sensitivity. It is common to add the "A" to the measurement unit in order to identify that the measurement has been made with this filtering process (dBA). In this document, the dB unit refers to A-weighted sound levels. Table 3.7-1 provides a comparison of how the human ear perceives changes in loudness on the logarithmic scale.

Table 3.7-1. Subjective Responses to Changes in A-Weighted Decibels

Change	*Change in Perceived Loudness*
3 dB	Barely perceptible
5 dB	Quite noticeable
10 dB	Dramatic – twice or half as loud
20 dB	Striking – fourfold change

Figure 3.7-1 (Cowan, 1994) provides a chart of A-weighted sound levels from typical noise sources. Some noise sources (e.g., air conditioner, vacuum cleaner) are continuous sounds that maintain a constant sound level for some period of time. Other sources (e.g., automobile, heavy truck) are the maximum sound produced during an event like a vehicle pass-by. Other sounds (e.g., urban daytime, urban

nighttime) are averages taken over extended periods of time. A variety of noise metrics have been developed to describe noise over different time periods, as discussed below.

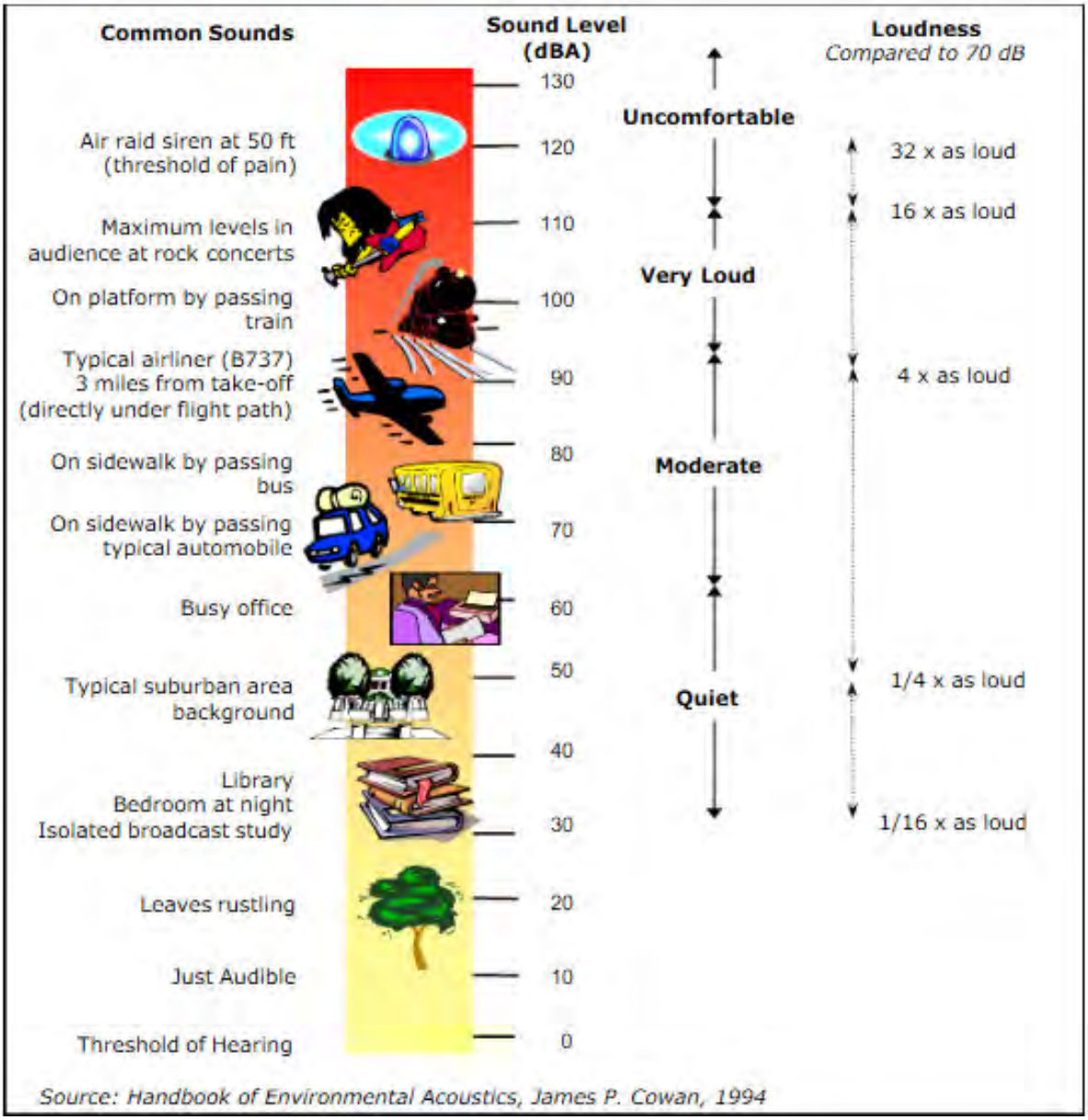


Figure 3.7-1. A-Weighted Sound Levels from Typical Sources

3.7.2 Noise Metrics

A metric is a system for measuring or quantifying a particular characteristic of a subject. Because noise is a complex physical phenomenon, different noise metrics help to quantify the noise environment. The noise metrics used in this EA are described in summary format below.

3.7.2.1 Day-Night Average Sound Level

The Day-Night Average Sound Level (DNL) metric is the energy-averaged sound level measured over a 24-hour period, with a 10-dB penalty assigned to noise events occurring between 10 PM and 7 AM

(acoustic night). DNL values are average quantities, mathematically representing the continuous sound level that would be present if all of the variations in sound level that occur over a 24-hour period were averaged to have the same total sound energy. The DNL metric quantifies the total sound energy received and is therefore a cumulative measure, but it does not provide specific information on the number of noise events or the individual sound levels that occur during the 24-hour day. DNL is the standard noise metric used by the U.S. Department of Housing and Urban Development, Federal Aviation Administration, USEPA, and DoD. Studies of community annoyance in response to numerous types of environmental noise show that DNL correlates well with impact assessments, and there is a consistent relationship between DNL and the level of annoyance. Most people are exposed to sound levels of 50 to 55 DNL or higher on a daily basis. Research has indicated that about 87 percent of the population is not highly annoyed by outdoor sound levels below 65 dB DNL (Federal Interagency Committee on Urban Noise, 1980).

3.7.3 Noise Effects

An extensive amount of research has been conducted regarding noise effects including annoyance, speech interference, sleep disturbance, noise-induced hearing impairment, nonauditory health effects, performance effects, noise effects on children, effects on domestic animals and wildlife, property values, structures, terrain, and archaeological sites. Relevant effects to the Proposed Action are summarized below.

3.7.3.1 Annoyance

As previously noted, the primary effect of noise on exposed communities is long-term annoyance, defined by USEPA as any negative subjective reaction on the part of an individual or group. The scientific community has adopted the use of long-term annoyance as a primary indicator of community response and there is a consistent relationship between DNL and the level of community annoyance (Federal Interagency Committee on Noise, 1992).

3.7.3.2 Potential Hearing Loss

People living in high noise environments for an extended period of time (e.g., 40 years) can be at risk for hearing loss called Noise Induced Permanent Threshold Shift. The Noise Induced Permanent Threshold Shift defines a permanent change in hearing level, or threshold, caused by exposure to noise (United States Environmental Protection Agency, 1982).

DoD policy directive requires that hearing loss risk be estimated for at-risk populations, defined as the population exposed to DNL greater than or equal to 80 dB (Department of Defense, 2009).

3.7.3.3 Workplace Noise

In 1972, the National Institute for Occupational Safety and Health published a criteria document with a recommended exposure limit of 85 dBA as an 8-hour time-weighted average. This exposure limit was reevaluated in 1998 when National Institute for Occupational Safety and Health made recommendations that went beyond conserving hearing by focusing on the prevention of occupational hearing loss. Following the reevaluation using a new risk assessment technique, National Institute for Occupational Safety and Health published another criteria document in 1998, which reaffirmed the 85 dB recommended exposure limit (National Institute for Occupational Health and Safety, 1998).

3.7.4 Regulatory Setting

Under the Noise Control Act of 1972, the Occupational Safety and Health Administration established workplace standards for noise. The minimum requirement states that constant noise exposure must not exceed 90 dBA over an 8-hour period. The highest allowable sound level to which workers can be constantly exposed is 115 dBA and exposure to this level must not exceed 15 minutes within an 8-hour period. The standards limit instantaneous exposure, such as impact noise, to 140 dBA. If noise levels exceed these standards, employers are required to provide hearing protection equipment that will reduce sound levels to acceptable limits.

The City of Sunnyvale regulates noise levels through the City of Sunnyvale Municipal Code. Section 19.42.030 defines noise limits of 75 dBA during daytime and 50 dBA during nighttime at any point on the property line of the premises upon which the noise or sound is generated or produced. To protect residentially zoned property from excessive noise, the noise shall not exceed 60 dBA during daytime and 50 dBA during nighttime on adjacent residentially zoned property (City of Sunnyvale, 2020a). Section 16.08.030 stipulates limits on hours of construction (City of Sunnyvale, 2019b).

3.7.5 Affected Environment

Many components may generate noise and warrant analysis as contributors to the total noise impact. Operation of the existing Sunnyvale site generates industrial noise associated with the administrative, lab, and production facilities along with existing vehicle use from workers and trucks (e.g., delivery and waste). In addition, on-going site cleanup activities generate intermittent noise emissions from required cleanup and monitoring activities.

The dominant external noise source at the Sunnyvale site is due to aircraft noise from the Moffett Federal Airfield to the west. The Sunnyvale site is affected by other noise characterized by the surrounding land use, including noise associated with daily activities from general business activities, manufacturing, and roadway traffic. Major vehicular noise sources come from Enterprise Way, North Mathilda Avenue, Southbay Freeway (SR 237), and Bayshore Freeway (U.S. Route 101 [US 101]).

The Federal Government supports conditions free from noise that threaten human health and welfare and the environment. Response to noise varies, depending on the type and characteristics of the noise, distance between the noise source and whoever hears it (the receptor), receptor sensitivity, and time of day. A noise sensitive receptor is defined as a land use where people involved in indoor or outdoor activities may be subject to stress or considerable interference from noise. Such locations or facilities often include residential dwellings, hospitals, nursing homes, educational facilities, and libraries. Sensitive receptors may also include noise-sensitive cultural practices, some domestic animals, or certain wildlife species. The nearest sensitive receptors are office buildings, which are located approximately 200 feet east/southeast from the Sunnyvale site. Other sensitive receptors include tennis and basketball courts 630 feet to the south/southwest, Cogswell Polytechnical College approximately 1,400 feet to the southeast, and Sunnyvale Baylands Park approximately 1,475 feet north/northeast. The closest residential housing is approximately 2,875 feet to the south, but located beyond SR 237 which would be the dominate noise source at the housing community.

3.7.6 Environmental Consequences

Analysis of potential noise impacts includes estimating potential noise levels from a proposed action and determining potential effects to sensitive receptor sites.

The study area for the noise analysis includes the Sunnyvale site and areas within a 0.5-mile radius.

3.7.6.1 No Action Alternative

Noise Potential Impacts:

- **No Action -** Negligible beneficial impacts.
- **Proposed Action -**

  Land Exchange: Negligible beneficial impacts.

  Future Development: Short-term minor and long-term negligible adverse impacts.

Under the No Action Alternative, the Proposed Action would not occur, and the Navy would not exchange the Sunnyvale site to an exchange entity. The SSP PMO and LMS would still relocate to Titusville, FL, to support the FBM program, but there would be no exchange of property or facilities in Sunnyvale or Titusville. Noise from current operations and traffic at the site would cease, representing a negligible benefit on the noise environment. With respect to the on-going site cleanup activities, the Navy would continue to oversee physical implementation of both soil and groundwater remediation (including soil gas mitigation, if required) by LMS. Site cleanup activities could result in noise emissions due to operation of equipment; however, impacts would be negligible and likely offset by the decrease in noise associated with the relocation of SSP PMO and LMS personnel. Overall impacts from implementation of the No Action Alternative would be negligible and beneficial; therefore, no significant impacts would occur.

3.7.6.2 NIROP Land Exchange (Preferred Alternative) Potential Impacts

The exchange of the Sunnyvale site would have negligible impacts on the noise environment. Upon completion of the land exchange, the Exchange Entity would assume ownership of the Sunnyvale site and the land would become private land rather than public. Noise from current operations and traffic at the site would cease, representing a negligible benefit to the noise environment. While still being evaluated, the Navy's post transfer would involve continuing oversight of implementation of both soil gas mitigation (if required) and groundwater remediation by LMS. These stipulations would be outlined in the deed transfer for the site. This could result in some level of noise due to operation of equipment, but overall impacts would be negligible and likely offset by the decrease in noise associated with the relocation of SSP PMO and LMS personnel. Overall impacts from implementation of the land exchange would be negligible and beneficial; therefore, no significant impacts would occur.

Future Development

Following the land exchange, plans would likely be initiated by the Exchange Entity to redevelop the Sunnyvale site. Future demolition and construction at the Sunnyvale site could create short-term minor impacts. Although the type and quantity of construction vehicles and equipment have not been identified, typical construction equipment generally ranges from 76 dBA to 101 dBA when measured at a distance of 50 feet (USDOT, 2018). While sound from construction vehicles and equipment working at the Sunnyvale site would likely be heard at adjacent office buildings and the nearby basketball courts, it is not anticipated to be audible at the closest residences (2,875 feet south) because noise decreases over a distance. A generally accepted rule is that noise from a point source (e.g., construction equipment) generally decreases 6 dBA per doubling of distance. In addition, construction would be temporary and would be required to occur during daytime hours in accordance with City of Sunnyvale Municipal Code Section 16.08.030. This would ensure that increases to the ambient noise environment only occurs during specific times of day (e.g., 7 AM to 6 PM Monday through Friday and on Saturday from 8 AM to 5 PM). Standard construction best management practices (BMPs) could be implemented

to reduce noise levels further, including project scheduling, use of noise barriers, and use of noise controls on equipment (e.g., mufflers).

Once operational, mechanical equipment (e.g., HVAC systems), maintenance activities, and general use of the new office buildings could result in long-term negligible noise impacts. According to the City of Sunnyvale Municipal Code Section 19.42.030, operational noise shall not exceed 75 dBA at any point on the property line of the premises upon which the noise is generated, 50 dBA during nighttime, or 60 dBA during daytime hours at any point on adjacent residentially-zoned property. Additionally, future development could result in additional traffic on roadways and parking lots due to operational workers, thereby increasing vehicular noise in the vicinity of Sunnyvale site. However, traffic noise would be spread out over a larger area and would not likely result in noticeable increases in noise. Furthermore, the development intensity and associated traffic increases would be consistent with long term planning efforts already undertaken by the City in the General Plan and MPSP that account for future growth, including traffic (see Section 3.8, Transportation). During project design, planners would consider potential noise impacts and guidelines including the City of Sunnyvale's General Plan Noise Element, which stipulates compatible noise levels for various land uses (e.g., 70 dBA DNL is considered normally acceptable for some commercial land uses).

Given these considerations, no significant impacts to noise are anticipated as a result of the future development. Follow-on CEQA analyses would be required for any proposed redevelopment plans presented by the Exchange Entity and would further address impacts related to noise once final development plans are completed.

3.8 Transportation

A discussion of transportation can include all of the air, land, and sea routes with the means of moving passengers and goods. A transportation system can consist of any or all of the following: roadways, bus routes, railways, subways, bikeways, trails, waterways, airports, and taxis, and can be looked at on a local or regional scale. For this analysis, the primary focus of the transportation analysis is on road traffic and public transit, since these are the primary modes of transport that would potentially be affected.

3.8.1 Regulatory Setting

Several local, state, and regional agencies have authority over transportation resources in the vicinity of the Sunnyvale site. The City of Sunnyvale has jurisdiction over all City streets and City-operated traffic signals. The California Department of Transportation (Caltrans) has jurisdiction over state facilities, including US 101, Interstate-280, SR 82 (El Camino Real), SR 85, and SR 237. Caltrans also has jurisdiction over on- and off-ramp intersections with local streets. Transit agencies operating within the City limits include Santa Clara Valley Transportation Authority (VTA) and Caltrain. VTA manages transit facilities located within Moffett Park.

The City of Sunnyvale General Plan, Land Use and Transportation Element (City of Sunnyvale, 2017) includes goals, policies, and strategic actions that are relevant to transportation and circulation in the City of Sunnyvale, including the following:

- **Policy LT-3.5:** Follow CEQA requirements, Congestion Management Program requirements, and additional City requirements when analyzing the transportation impacts of proposed projects and assessing the need for offsetting transportation system improvements or limiting transportation demand.
- **Policy LT-3.8:** Prioritize safe accommodation for all transportation users over non-transport uses.
- **Policy LT-3.11:** As they become available, use multimodal measures of effectiveness to assess the transportation system in order to minimize the adverse effect of congestion.
- **Policy LT-3.14:** Require roadway and signal improvements for development projects to improve multimodal transportation system efficiency.
    - **Policy LT-3.27:** Require appropriate roadway design practice for private development consistent with City standards and the intended use of the roadway.

Transportation Demand Management (TDM) is typically set as a condition of approval on development projects in Sunnyvale. TDM is a requirement for all development located in Moffett Park. TDM may also be used to achieve certain voluntary incentives under the City's Green Building program. The City focuses the objectives and monitoring of TDM programs on the reduction of peak-hour trips. This is to minimize congestion during the peak commute periods and to allow more flexibility in the types of TDM techniques that can be employed. For private developments, project sponsors can play an effective role in supporting the City's initiatives through the deployment of TDM programs (City of Sunnyvale, 2019c).

Transportation impact fees are charged to new development to fund major transportation projects, including bicycle and pedestrian improvements necessary to support land use plans. The City's Transportation impact fees program varies by area of the City (north of SR 237 and south of SR 237). The fees are charged to net new development (i.e., increased commercial square footage and new residential units).

The Sunnyvale Bicycle Plan (2006) encourages the use of bicycles for transportation and recreation to minimize air pollution and reduce energy consumption and traffic (City of Sunnyvale, 2006). Objectives of the plan include enhancing Sunnyvale's livability by supporting bicycling, ensure safe travel, and supporting cycling as a travel mode on an equal basis with motorized options. The plan notes the City's intent to enable the overall usability and connectivity of bike paths within Moffett Park, and promote connections to off-site areas that make the use of bicycles more feasible for commuter needs. The City is currently developing an updated Active Transportation Plan to address bicycling, walking, and safety issues.

As part of the City of Sunnyvale's permitting and approval process, any future development at the Sunnyvale site would need to comply with requirements set forth in the Municipal Code and planning documents. The City of Sunnyvale Municipal Code Chapter 10.60 sets forth the City's TDM program. Section 19.46.100 includes minimum and maximum requirements for off-street parking spaces. Section 19.46.150 establishes minimum requirements for bicycle parking (number and type of spaces).

3.8.2 Affected Environment

3.8.2.1 Roadways

The Sunnyvale site is located at the intersection of North Mathilda Drive and Lockheed Martin Way in the City of Sunnyvale, Santa Clara County, CA, at the southeast end of the San Francisco Bay metropolitan area and just east of the Moffett Federal Airfield. Roadways in the vicinity of the site are typical of a commercial/light industrial area and include arterials and collector roads. North Mathilda Drive borders the site to the east and is a six-lane divided arterial with sidewalks and protected left turn lanes. Lockheed Martin Way borders the facility to the north and is a four-lane divided arterial with sidewalks and protected left turn lanes. East of North Mathilda Drive, Lockheed Martin Way is known as West Java Drive. Avenue E borders the site to the west; the portion of Avenue E north of 5th Avenue is a limited-access road that lies within the boundaries of the Sunnyvale site. The primary vehicle access to the facility is from Lockheed Martin Way, with secondary access off 5th Avenue to the south.

The Sunnyvale site is located approximately 0.5 miles north of SR 237/Southbay Freeway, a four-lane limited access freeway connecting Mountain View to the west with Alviso to the east. SR 237 is the primary east-west freeway in the region and the closest freeway to the site. The site is located approximately 0.8 miles north of US 101, a 10-lane limited access freeway that connects Mountain View (to the west) and Palo Alto (to the north west) with San Jose (to the southeast). SR 85, a six-lane limited access freeway, is located approximately 2.5 miles to the west and is the closest north-south freeway.

3.8.2.2 Traffic

Traffic is commonly measured through average daily traffic and design capacity. These two measures are used to assign a roadway with a corresponding level of service (LOS). The LOS designation is a professional industry standard used to describe the operating conditions of a roadway segment or intersection. The LOS is defined on a scale of A to F that describes the range of operating conditions on a particular type of roadway facility. It is a qualitative assessment of motorists' and passengers' perceptions of traffic conditions. The LOS is generally described in terms of travel time and speed, freedom to maneuver, traffic interruptions, comfort, and convenience. The LOS applies quantifiable traffic measures, such as average speed, intersection delays, and volume-to-capacity ratios to approximate driver satisfaction. These measures differ by roadway type because the users' perceptions and expectations vary by roadway type.

Individual LOSs are designated by letters "A" for most favorable to "F" for least favorable, with each representing a range of conditions. LOS A through LOS B indicates free flow travel. LOS C indicates stable traffic flow. LOS D indicates the beginning of traffic congestion. LOS E indicates the nearing of traffic breakdown conditions. LOS F indicates stop-and-go traffic conditions and represents unacceptable congestion and delay.

The Sunnyvale site is located in Santa Clara County, where the Santa Clara VTA is the congestion management agency responsible for implementing the congestion management program. This program monitors operations on all freeways, selected expressways, and regional arterials. It also determines the need for deficiency plans to reduce overall congestion. Congestion management program facilities in the area include US 101 and SR 85. The Santa Clara VTA and the City of Sunnyvale consider LOS E as the minimum acceptable LOS for congestion management program facilities. In general, the City of Sunnyvale considers LOS D to be the minimum acceptable level of peak hour operation for local streets (Santa Clara VTA, 2019a; City of Sunnyvale, 2019c).

North Mathilda Drive and West Java Drive/Lockheed Martin Way are the primary roadways used to access the Sunnyvale site, on the north side of SR 237 and US 101 (also refer to Figure 3.8-1). Traffic data for areas near the Sunnyvale site were analyzed as part of the Google Caribbean Campus Project Draft EIR (City of Sunnyvale, 2019c), the Mathilda Avenue Improvements at US 101 and SR 237 Project Draft EIR (Caltrans and Santa Clara VTA, 2017), and the City of Sunnyvale Land Use and Traffic Element Draft EIR (City of Sunnyvale, 2016). The study area for all three projects encompasses portions of Mathilda Avenue near the Sunnyvale site, and other nearby roads and intersections.

Table 3.8-1 shows the LOS at selected intersections near the Sunnyvale site; Figure 3.8-1 shows the locations of these intersections relative to the Sunnyvale site. Traffic congestion is a concern near the Sunnyvale site, particularly along the section of Mathilda Avenue between SR 237 and 5th Avenue. Intersections along this section (North Mathilda Avenue/5th Avenue and North Mathilda Avenue/Innovation Way) already operate at LOS F during the PM peak period. LOS for the morning commute at both of these intersections is projected to degrade by the year 2040, to LOS C at the intersection of Mathilda Avenue and 5th Avenue, and LOS F at the intersection of Mathilda Avenue and Innovation Way (Caltrans and Santa Clara VTA, 2017). Note that a VTA project is currently underway along North Mathilda Avenue that includes improvements to the SR 237 and US 101 interchanges, intersection improvements, and improvement and expansion of bicycling and pedestrian facilities in the area (Santa Clara VTA, 2020a).

Traffic congestion near the Sunnyvale site is also present on area freeways, including SR 237 and US 101. Interchanges on both of these freeways in the vicinity of the site (at North Mathilda Avenue and West Java Avenue) operate at LOS F during peak traffic hours (Caltrans and Santa Clara VTA, 2017). Further, northbound lanes on US 101 operate at LOS F during AM peak hours, while southbound lanes operate LOS E or better. During PM peak traffic, the overall flow of traffic is reversed, with southbound lanes operating at LOS F and northbound lanes operating at LOS E or better. Additionally, segments of SR 237 in the vicinity of the Sunnyvale site operate at LOS F during both AM and PM peak traffic hours. Table 3.8-2 lists existing peak hour traffic conditions and volumes on selected freeway segments in the vicinity of the Sunnyvale site. Figure 3.8-2 and Figure 3.8-3 illustrate typical congestion during AM and PM peak traffic hours, respectively. Green indicates LOS E or better, while red indicates LOS F.

Table 3.8-1. Current Level of Service for Intersections near the Sunnyvale Site

#	Intersection	Current Level of Service	
		Morning	Evening
1	North Mathilda Ave and 1st Ave	C-	D
2	Bordeaux Dr and W. Java Dr	C	C
3	North Mathilda Ave and Lockheed Martin Way/W. Java Dr	Acceptable	Acceptable
4	North Mathilda Ave and 5th Ave	B	F
5	North Mathilda Ave and Innovation Way	C	F
6	Borregas Avenue / Caribbean Drive	C-	C
7	Geneva Drive / Java Drive	C	C
8	Java Drive-Fair Oaks Avenue / Fair Oaks Way-Kensington Pl	D+	C
9	Geneva Drive/Caribbean Drive	A	B
10	Caribbean Drive / Twin Creeks	B-	B
11	Caribbean Drive / Moffett Park Drive – Baylands Drive	C	C
12	Lawrence Expressway/Persian Drive-Elko Drive	C	D
13	Mathilda Avenue / Moffett Park Drive/ SR 237 WB	F	F
14	Mathilda Avenue / SR 237 EB	C	B
15	Mathilda Avenue / Ross Drive	F	D
16	Mathilda Ave/Almanor Ave/Ahwanee Ave	D	D

Source: City of Sunnyvale, 2016; City of Sunnyvale, 2019c; Caltrans and Santa Clara VTA, 2017.
EB = eastbound; SR = State Route; WB = westbound

Table 3.8-2. Current Freeway Level of Service and Traffic Volumes near the Sunnyvale Site

Free-way	Freeway Segment	Direction	Peak LOS				Peak Hour Traffic	Peak Month Average Daily Traffic
			AM		PM			
			Mixed	HOV	Mixed	HOV		
SR 237	1. Maude Ave - US 101	EB	D	-	F	-	7,800	102,000
		WB	D	-	F	-	5,700	74,000
	2. US 101 - Mathilda Ave	EB	E	-	F	-	8,500	109,000
		WB	F	-	F	-	7,800	102,000
	3. Mathilda Ave - Fair Oaks Ave	EB	D	D	F	F	8,000	104,000
		WB	F	F	F	-	8,500	109,000
	4. Fair Oaks Ave - Lawrence Expressway	EB	D	C	F	F	12,100	135,000
		WB	F	F	F	F	8,000	104,000
	5. Lawrence Expressway - Great America Parkway	EB	D	C	F	F	12,300	145,000
		WB	F	E	D	B	12,100	135,000
US 101	6. Moffett Blvd - SR 237	SB	E	D	F	F	11,600	168,000
		NB	F	F	E	D	13,600	197,000
	7. SR 237 - Mathilda Ave	SB	D	B	F	F	12,700	183,000
		NB	F	F	D	C	11,600	168,000
	8. Mathilda Ave - Fair Oaks Ave	SB	D	A	F	E	13,100	189,000
		NB	F	F	D	A	12,700	183,000
	9. Fair Oaks Ave - Lawrence Expressway	SB	C	A	F	F	13,500	196,000
		NB	F	F	C	A	13,100	189,000
	10. Lawrence Expressway - Great America Parkway	SB	C	A	F	F	14,200	206,000
		NB	F	F	D	A	13,500	196,000

Source: Santa Clara VTA, 2017; Caltrans, 2020.
EB = eastbound; HOV = high-occupancy vehicle; NB = northbound; SB = southbound; SR = State Route; WB = westbound

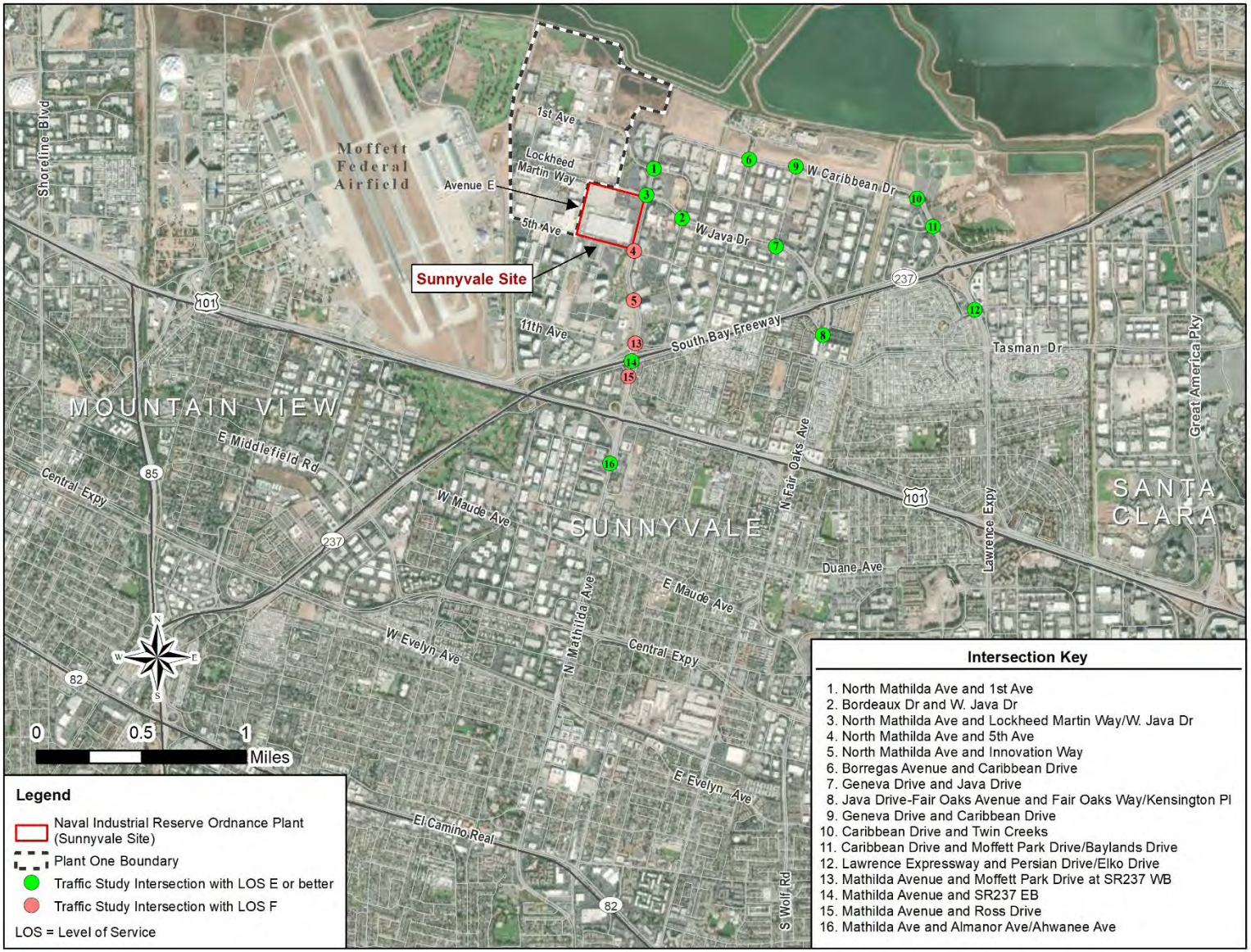


Figure 3.8-1. Location of Traffic Study Intersections

Figure 3.8-2. Freeway Segment Level of Service During AM Peak Hours

Figure 3.8-3. Freeway Segment Level of Service During PM Peak Hours

3.8.2.3 Public Transit

The Caltrain station closest to the Sunnyvale site is the Sunnyvale station, located on West Evelyn Avenue approximately 2.5 miles to the south. VTA bus route 523 connects the Sunnyvale station to the Sunnyvale site. Caltrain provides service between San Francisco and San Jose/Gilroy. There are 40 northbound and 40 southbound trains each weekday. The first northbound train is at 4:43 AM and the last one is at 10:45 pm; the first southbound train is at 6:10 AM and the last one is at 1:25 AM. "Baby bullet" trains are 47 minutes to San Francisco, and limited stop trains are 59 minutes or more, while local trains are 80 minutes to San Francisco (Caltrain, 2019). Caltrain ridership has been increasing dramatically in the last seven years. Between 2010 and 2019, average daily weekday ridership increased by 86 percent, from 34,120 to 63,597 riders; however, average weekday ridership in 2019 declined by approximately 1.2 percent compared to 2018. Sunnyvale was the seventh busiest Caltrain station in 2019, with an average mid-weekday ridership of 3,208 (Caltrain, 2020).

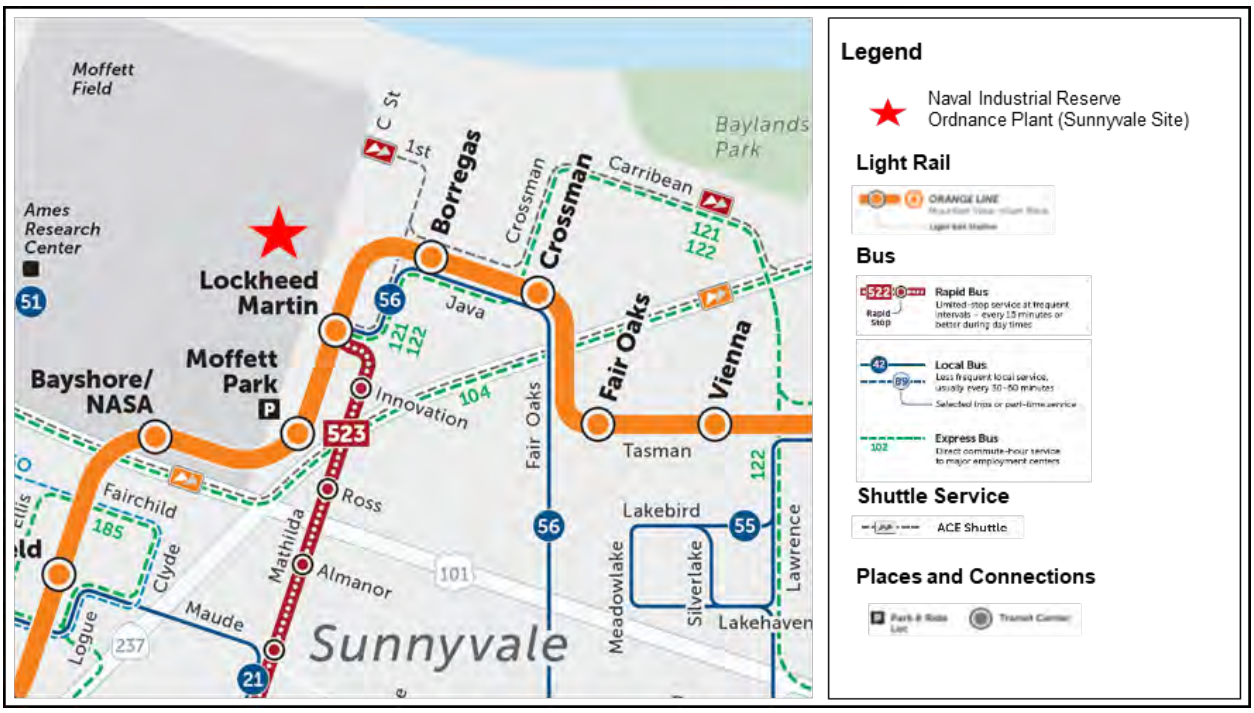
The Santa Clara County VTA light rail transit station closest to the Sunnyvale site is the Lockheed Martin Transit Center, which is located directly adjacent to the site at the intersection of North Mathilda Avenue and 5th Avenue, as shown in Figure 3.8-4. This station is located on the Mountain View – Alum (Orange) line, which serves 26 other stations. An additional 33 light rail stations are accessible with a single transfer. There are northbound southbound trains every 15 minutes each weekday, operating from approximately 5:00 AM to 1:00 AM (Santa Clara VTA, 2020b). The Orange Line includes a stop at Milpitas, where a Bay Area Rapid Transit (BART) station is under construction to provide additional access to downtown San Francisco and locations in the East Bay area. BART service at Milpitas is planned to begin in 2020 (Santa Clara VTA, 2020c). The Milpitas VTA/BART station is approximately 10 miles from the Sunnyvale site. Average systemwide weekday ridership on VTA (including light rail and bus) was approximately 114,600 in 2019, which was approximately 2.4 percent lower than 2018. Light rail ridership was approximately 2.5 percent lower in 2019, as compared to 2018 (Santa Clara VTA, 2020d).

The Santa Clara VTA also provides various local and express bus routes. These routes serve the surrounding cities of Mountain View, Los Altos, Sunnyvale, and Santa Clara. The nearby bus routes are summarized in Table 3.8-3 and shown in Figure 3.8-4. All of the bus routes listed in Table 3.8-3 service the Lockheed Martine Transit Center, located adjacent to the Sunnyvale site. Average weekday ridership on VTA bus routes declined by approximately 1.8 percent in 2019, as compared to 2018 (Santa Clara VTA, 2020d).

Table 3.8-3. Bus Routes Serving the Sunnyvale Site

Route #	*Type of Bus*	*Key Destinations*	*Frequency*	*Hours of Operation*
56	Local	Hamilton and Tamien Transit Centers	30-60 min	7 AM to 10 PM
122	Express	San Jose, Santa Teresa Transit Center	5 round trips per day	Rush hour only
523	Rapid	Sunnyvale Caltrain Station/Transit Center, Berryessa BART Station/ Transit Center	15 min	6 AM to 10 PM
ACE Red	Shuttle	Great America AMTRAK Station	60 min; 4 shuttles in the AM and 4 in the PM	Rush hour only

Source: Santa Clara VTA, 2019b



Source: Santa Clara VTA, 2019b

Figure 3.8-4. Transit Routes Near the Sunnyvale Site

Additional private shuttles are provided by employers in the region, and numerous private operators provide shuttle service to area airports including San Francisco, Oakland, and San Jose, as well as other destinations.

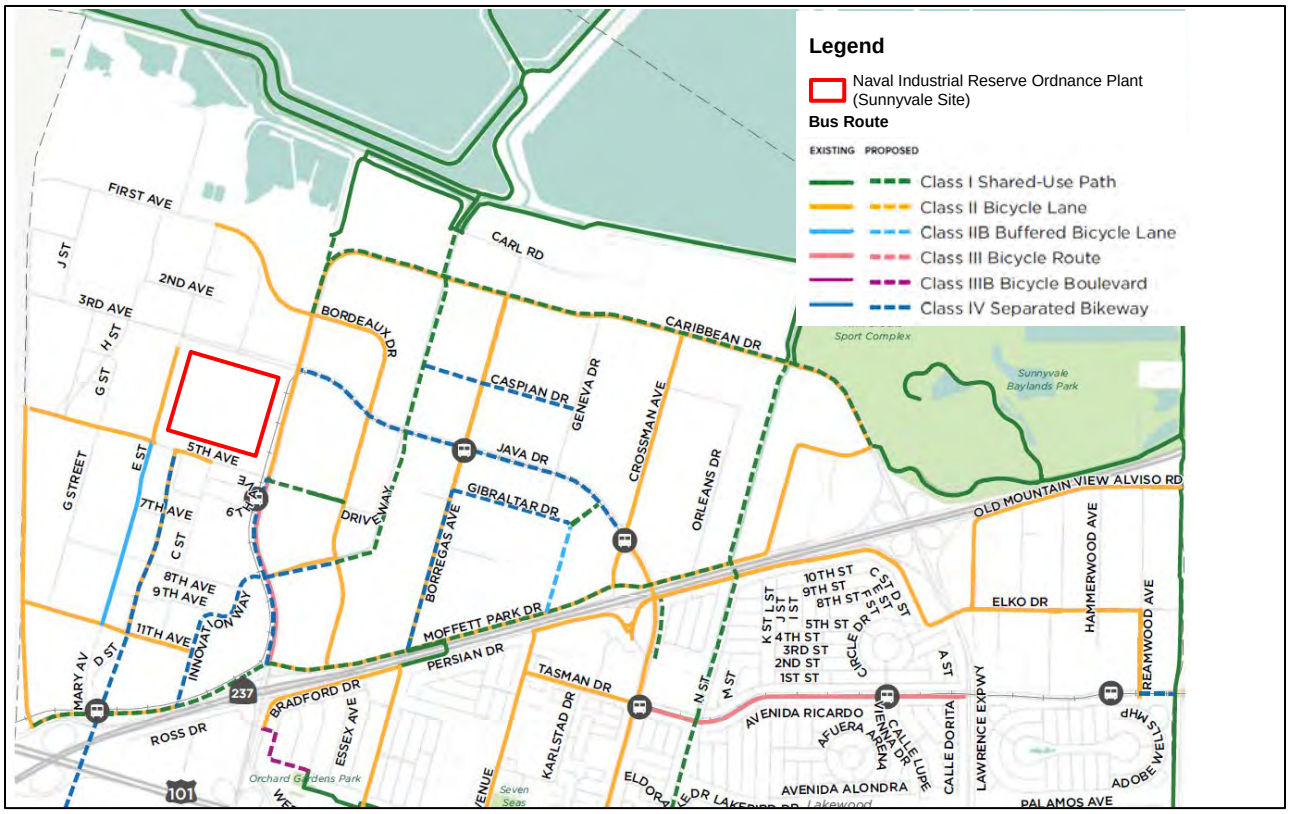
3.8.2.4 Bicycling

Sunnyvale's existing bike network is made up of shared use paths, separated bikeways, buffered bike lanes, bike lanes, and bike routes (City of Sunnyvale, 2020b). Sunnyvale's current bicycle network has approximately 88 miles of designated lanes, routes, and paths. Bike lanes are the most common facility type, followed by shared-use paths, on-street bike routes, and buffered bike lanes. Near the Sunnyvale site, North Mathilda Avenue south of 5th Avenue is designated as a Class III bicycle route (i.e., a signed route shared with vehicle traffic), while North Mathilda Avenue north of 5th Avenue, 1st Avenue, Bordeaux Drive, and West Caribbean Drive are Class II bicycle lanes (i.e., separate bike lanes adjacent to traffic) (see Figure 3.8-5). Approximately 1.5 percent of residents in the City of Sunnyvale reported that they use bicycling as a primary means of commuting to work.

The City of Sunnyvale is currently in the process of preparing an Active Transportation Plan to identify and prioritize improvements in walking and cycling infrastructure (City of Sunnyvale, 2020b). The current Bicycle Plan was prepared in 2006. The draft Active Transportation Plan includes several proposed projects to improve bikeways in the vicinity of the Sunnyvale site, including:

- Several high and medium priority spot improvement projects to improve crossings and traffic control along Mathilda Avenue.
    - High and medium priority projects to improve bikeways along several roads in the study area, including Caribbean Drive, Moffett Park Drive, and Borregas Avenue.

The Santa Clara Valley Transit Authority also recently prepared an update to the Santa Clara Countywide Bicycle Plan (Santa Clara VTA, 2018). Bicycle parking facilities and lockers are provided at most Caltrain and VTA light rail transit centers. Bicycles are permitted aboard trains and buses in accordance with guidance provided by VTA and other service operators. A survey of bicycle use found that in 2016, between 10 and 40 bicycles passed through the intersection of North Mathilda Avenue and West Java Drive/Lockheed Martin Way during evening commute hours. The County has identified the San Francisco Bay Trail, which passes approximately 1 mile to the north of the facility, and Borregas Avenue, approximately 0.75 miles to the east, as priority cross-county bicycle corridors. These are envisioned as part of a future network of on- and off-street bike paths that will provide high-quality cross-jurisdictional routes.



Source: City of Sunnyvale, 2020b

Figure 3.8-5. Existing and Proposed Bicycling Routes near the Sunnyvale Site

3.8.2.5 Walking

The City of Sunnyvale conducted a Pedestrian Safety Opportunities Study in 2006 (City of Sunnyvale, 2006). The draft Active Transportation Plan currently under development addresses improvements to pedestrian infrastructure (City of Sunnyvale, 2020b). The majority of Sunnyvale's street network is equipped with complete sidewalks. In addition, there are 18 miles of shared pedestrian and bicyclist paths. Sidewalk widths tend to widen along higher-speed roadways and throughout the downtown area, creating a more comfortable environment for pedestrians. The streets surrounding the Sunnyvale Caltrain Station also generally have good sidewalk coverage.

The Moffett Park area, where the Sunnyvale site is located, has been identified as an area with gaps in the sidewalk network, such as stretches that do not have sidewalks on both sides of the street (City of

Sunnyvale, 2020b). A review of aerial imagery revealed that the sidewalk network is generally adequate on the streets surrounding the Sunnyvale site. The Lockheed Martin Transit Center, which provides access to light rail and bus service, is located immediately south of the Sunnyvale site at the intersection of North Mathilda Avenue and 5th Avenue and is easily accessible by walking. The draft Active Transportation Plan identifies several proposed improvements to pedestrian infrastructure; however, none of the currently identified projects are located in Moffett Park.

3.8.3 Environmental Consequences

Impacts to ground traffic and transportation are analyzed by considering the possible changes to existing traffic conditions and the capacity of area roadways from potential increases in traffic.

The study area for the transportation analysis includes the area shown in Figure 3.8-1, which includes the area of Moffett Park between Moffett Federal Airfield to the west and Lawrence Expressway to the east, and generally north of SR 237 and US 101.

Transportation Potential Impacts:

- **No Action -** Negligible beneficial impacts.
- **Proposed Action -**

  Land Exchange: Negligible beneficial impacts.

  Future Development: Short-term minor adverse impacts, and no significant long-term adverse impacts.

3.8.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the Navy would not exchange the Sunnyvale site to an exchange entity. The SSP PMO and LMS would still relocate to Titusville, FL, to support the FBM program, but there would be no exchange of property or facilities in Sunnyvale or Titusville. Traffic from Navy operations at the site would cease, representing a negligible benefit on transportation. With respect to the ongoing site cleanup activities, the Navy would continue to oversee physical implementation of both soil and groundwater remediation (including soil gas mitigation, if required) by LMS. Site cleanup activities could result in negligible amounts of construction vehicle traffic; however, any increases would likely be less than the decrease in traffic associated with the relocation of SSP PMO and LMS personnel. Overall impacts from implementation of the No Action Alternative would be negligible and beneficial; therefore, no significant impacts would occur.

3.8.3.2 NIROP Land Exchange (Preferred Alternative) Potential Impacts

The exchange of the Sunnyvale site would have negligible direct impacts on transportation. Upon completion of the land exchange, the Exchange Entity would assume ownership of the Sunnyvale site and the land would become private land rather than public. Traffic from Navy operations at the site would cease, representing a negligible benefit on transportation. While still being evaluated, the Navy's post transfer would involve continuing oversight of implementation of both soil gas mitigation (if required) and groundwater remediation by LMS. These stipulations would be outlined in the deed transfer for the site. This could result in negligible amounts of construction vehicle traffic; however, any increases would likely be less than the decrease associated with the relocation of SSP PMO and LMS personnel. Overall impacts from implementation of the land exchange would be negligible and beneficial; therefore, no significant impacts would occur.

Future Development

Following land exchange, plans would likely be initiated by the Exchange Entity to redevelop the Sunnyvale site. Short term traffic impacts could occur from future demolition of existing structures and construction of new facilities on the Sunnyvale site. As discussed in Chapter 2, future construction on the site could include office buildings, surface parking, and multilevel parking structures. Demolition and construction activities at the Sunnyvale site could result in short-term increases in construction vehicles accessing the site. These increases would be partially offset by the corresponding decrease in traffic to the site that would occur as a result of SSP PMO and LMS relocating operations. Therefore, there would likely be minimal adverse effects on LOS or other measures of traffic in the area. There may be temporary traffic obstructions or road closures in the immediate vicinity of the site while construction is underway, for example, during utility work or temporary staging of construction vehicles and equipment. However, any such impacts would likely be short-term and minor. Construction workers would be expected to use company or personal vehicles to access the site, so there would be little to no impact on public transportation during construction.

Types of impact reduction measures that could be employed during construction, if necessary, include:

- Limiting the hours, or days of construction to avoid overlap with peak traffic periods;
- Specifying where and when construction workers can park their vehicles; and
    - Identifying truck routes to be used, if necessary, to minimize disruptions to traffic.

Following construction, an increase of permanent workforce from baseline levels at the Sunnyvale site could be expected, and there could be long-term changes in traffic based on the size of development. At this time the extent of development is unknown given that plans for future development have not been finalized, but it is assumed that such development would be consistent with long term planning efforts undertaken by the City as discussed at the beginning of Chapter 3. Therefore, future development would be consistent with local growth plans and related expectations for increases in traffic over time, and thus is expected to result in no significant impact when compared to projected baseline conditions. Future development would be subject to further environmental review once development plans are finalized by the City of Sunnyvale under CEQA. As part of the CEQA process, it is anticipated that specific traffic related issues and potential impacts would be identified by the City of Sunnyvale and mitigated through the application of TDM strategies as part of the approval process. Implementation of TDM strategies are a condition of approval during the planning process for developments in Moffett Park. Examples include promoting the use of alternatives to single-occupancy vehicle use, such as bicycling, carpooling, and public transit, as well as providing options for telecommuting if applicable. Transit access to this site could be enhanced by the Exchange Entity, depending upon the number of employees that would eventually work at the developed site. Examples of potential strategies that could be implemented as part of future development of the site to encourage increased transit use, as well as other modes of commuting, include:

- Provision of a shuttle service for employees to nearby Caltrain stations, as well as other VTA Transit Centers;
- Limiting parking on-site, perhaps through a parking permit program, to encourage transit use;
- Development of a ride sharing program; and
    - Promoting bicycle use by providing onsite bike parking and shower and locker facilities.

Potential impacts to traffic and transportation could also be mitigated through frontage and intersection improvement projects in accordance with the City of Sunnyvale General Plan's land use and transportation goals, and cycling and pedestrian network improvements based on the draft Active Transportation Plan currently under development. For example, Caltrans and the City of Sunnyvale are currently implementing improvements along North Mathilda Avenue, including interchange improvements at SR 237 and US 101, the installation of new bicycling and pedestrian facilities, and improvements to existing bicycle and pedestrian infrastructure. Other potential improvements to bicycling infrastructure could include a Class IV bike lane along portions of North Mathilda Avenue and Innovation Way, a share-used bike path along portions of West Caribbean Avenue, Moffett Park Drive, and Moffett Boulevard, and potential bike path improvements on other area roads (City of Sunnyvale 2020). In addition, bicycle crossing spot improvements could be implemented at the intersections of North Mathilda Avenue and Moffett Park Drive and North Mathilda Avenue and Innovation Way, and missing sidewalks could be installed as part of future developments.

Future impacts on traffic would also be dependent on future development, and the evolving nature of transit, bicycle, and pedestrian infrastructure in the area. Transit opportunities are highly accessible near the site, including VTA light rail and four VTA bus lines that service the Lockheed Martin Transit Center immediately adjacent to the site. Bicycling and walking facilities and routes are also present nearby, and the weather and flat topography are generally favorable for walking and cycling. In addition, Santa Clara County and the City of Sunnyvale are planning improvements to transit and bicycling infrastructure as described in Section 3.8.2.

Given these considerations, no significant impacts to transportation are anticipated as a result of the future development. Follow-on CEQA analyses would be required for any proposed redevelopment plans presented by the Exchange Entity and would further address impacts related to transportation once final development plans are completed.

3.9 Infrastructure

This section discusses infrastructure such as utilities, including drinking water production, storage, and distribution; wastewater collection treatment and disposal; storm water management, solid waste management, energy production, transmission, and distribution; and communications. Transportation systems and traffic are addressed separately in Section 3.8, Transportation.

3.9.1 Regulatory Setting

California Water Code section 10910 requires that a "Senate Bill (SB) 610 Water Supply Assessment" be prepared for certain new projects to identify compliance with statewide water use reduction measures. A Water Supply Assessment is required for certain residential developments, large scale businesses, as well as commercial office buildings that exceeds 250,000 square feet of floor space and employ more than 1,000 people.

The California Integrated Waste Management Act (Assembly Bill 939) of 1989 updated a number of state-level requirements related to solid waste management. It requires counties and cities to develop Source Reduction and Recycling Elements to minimize solid and household hazardous waste. It also requires counties to develop Integrated Solid Waste Management Plans that incorporated Source Reduction and Recycling Elements and other related information within their jurisdiction. Finally, it requires cities and counties to establish solid waste diversion goals.

The Santa Clara County Integrated Solid Waste Management Plans and the City of Sunnyvale General Plan (Solid Waste Sub-Element) describe the County and the City's solid waste diversion goals and their solid waste management program, including source reduction and recycling.

The City of Sunnyvale Municipal Code, Section 12.60 establishes requirements for stormwater management and the development of Stormwater Management Plans for certain new and redevelopment projects that result in an increase in impervious surface area or that disturb greater than 50 percent of existing impervious surface. Projects may be required to implement stormwater BMPs to minimize offsite runoff as part of their Stormwater Management Plan.

3.9.2 Affected Environment

The following discussions provide a description of the existing conditions for each of the categories under infrastructure at the Sunnyvale site.

3.9.2.1 Utilities

Potable Water. Potable water is supplied to the Sunnyvale site by the City of Sunnyvale via its drinking water utility system. The City of Sunnyvale has three different sources of drinking water supply: treated surface water from the San Francisco Public Utilities Commission, treated surface water from the Santa Clara Valley Water District (Valley Water), and local groundwater (City of Sunnyvale, 2020c). The northern portion of the City, including the Sunnyvale site, receives treated water from the San Francisco Public Utilities Commission. The city also provides, upon request and at a reduced rate, recycled water for approved non-potable uses including irrigation, landscaping, and toilet flushing.

Wastewater. Wastewater from the Sunnyvale site enters directly into the City of Sunnyvale's sewer collection system. Wastewater collected through the City of Sunnyvale sewer system is treated at the City's Water Pollution Control Plant, which has a capacity of approximately 29.5 million gallons per day (MGD) dry weather flow, with higher wet weather capacity. The Water Pollution Control Plant treated

average flows (dry weather) of 11.9 MGD in 2016. The Water Pollution Control Plant produced approximately 1.3 MGD of recycled water for reuse in 2015; the City plans to increase this to 3.5 MGD by 2035 (City of Sunnyvale, 2020d). Currently, recycled wastewater is distributed through a separate underground piping system to provide irrigation for industrial parks, the Sunnyvale Municipal Golf Course, Baylands Park, and sports complexes (City of Sunnyvale 2020e).

Groundwater. Groundwater is not utilized at the Sunnyvale site, and it is not expected that groundwater would be utilized at the site after any future development is complete. Refer to Section 3.2, Hazardous Materials and Waste, for discussion of groundwater contamination at the site.

Stormwater. Surface drainage from the Sunnyvale site is collected by a storm sewer system that discharges to the City of Sunnyvale storm sewer system. Stormwater runoff collected by the City's storm system is discharged via an outfall located adjacent to the Water Pollution Control Plant, that drains into Moffett Channel and ultimately into San Francisco Bay (City of Sunnyvale 2020f).

Solid Waste Management. The City of Sunnyvale, through its contractor, Specialty Solid Waste and Recycling, provides garbage collection and recycling services to residences and businesses in the City at least once per week. The City operates a recycling center at the Sunnyvale Materials Recovery and Transfer Station (City of Sunnyvale, 2020g). The Sunnyvale Materials Recovery and Transfer Station separates recyclable materials from non-recyclables. Non-recyclable materials are sent to the Kirby Canyon Landfill, located in San Jose, which has a remaining capacity of 16,191,600 cubic yards and is expected to reach capacity in 2059 (CalRecycle 2017).

Energy. PG&E supplies natural gas and electricity to residences and businesses in the City of Sunnyvale.

3.9.3 Environmental Consequences

This section analyzes the magnitude of anticipated increases or decreases in public works infrastructure demands considering historic levels, existing management practices, and storage capacity, and evaluates potential impacts to public works infrastructure associated with implementation of the Proposed Action. Impacts are evaluated by whether they would result in the use of a substantial proportion of the remaining system capacity, reach or exceed the current capacity of the system, or require development of facilities and sources beyond those existing or currently planned.

Infrastructure Potential Impacts:

- **No Action -** Negligible beneficial impacts.
- **Proposed Action -**

  Land Exchange: Negligible beneficial impacts.

  Future Development: No significant impacts.

The study area for the infrastructure analysis is defined as the Sunnyvale site and the City of Sunnyvale.

3.9.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the Navy would not exchange the Sunnyvale site to an exchange entity. The SSP PMO and LMS would still relocate to Titusville, FL, to support the FBM program, but there would be no exchange of property or facilities in Sunnyvale or Titusville. Navy operations at the Sunnyvale site would cease, which would lead to a decrease in demand for utilities and result in beneficial impacts on utility providers in the area. With respect to the ongoing site cleanup activities, the Navy would continue to oversee physical

implementation of both soil and groundwater remediation (including soil gas mitigation, if required) by LMS. This could result in the use of negligible amounts of electricity to power equipment; however, any increases would likely be less than the decrease associated with the relocation of SSP PMO and LMS personnel. Overall impacts from implementation of the No Action Alternative would be negligible and beneficial; therefore, no significant impacts would occur.

3.9.3.2 NIROP Land Exchange (Preferred Alternative) Potential Impacts

The exchange of the Sunnyvale site would have negligible direct impacts on infrastructure. Upon completion of the land exchange, the Exchange Entity would assume ownership of the Sunnyvale site and the land would become private land rather than public. Navy operations at the Sunnyvale site would cease, which would lead to a decrease in demand for utilities and result in beneficial impacts on utility providers in the area. With respect to the ongoing site cleanup activities, the Navy would continue to oversee physical implementation of soil gas mitigation (if required) and groundwater remediation by LMS. This could result in the use of negligible amounts of electricity to power equipment; however, any increases would likely be less than the decrease associated with the relocation of SSP PMO and LMS personnel. Overall impacts from implementation of the land exchange would be negligible and beneficial; therefore, no significant impacts would occur.

Future Development

Following the land exchange, plans would likely be initiated by the Exchange Entity to redevelop the Sunnyvale site. Future development could require demolition and hauling of construction debris to local landfills. Future development could also include modification or replacement of utility infrastructure as needed to provide adequate service to the site. Appropriate coordination would be conducted with local utilities with service lines near the Sunnyvale site (e.g., PG&E) to ensure development does not impact existing utility lines in the area.

The size and extent of development is currently unknown given that plans for future development have not been finalized, but it is assumed that such development would be consistent with long term planning efforts undertaken by the City that account for future growth as discussed at the beginning of Chapter 3, including consideration of infrastructure requirements. Therefore, future development would be consistent with local growth plans and related expectations for increases in utility demand over time, and thus is not expected to result in significant impacts when compared to projected baseline conditions. Utility considerations as related to future development include the following:

- **Potable Water:** There is adequate water supply available to meet build out of the City in year 2035 under normal, single dry and multiple-dry years (City of Sunnyvale 2016), including future development. Pending final design, development may be required to comply with California Water Code section 10910 to prepare an “SB 610 Water Supply Assessment” to further identify compliance with statewide water use reduction measures.
- **Wastewater:** The Water Pollution Control Plant has adequate design flow capacity to account for planned future growth in the area, including future development.
- **Stormwater:** Long-term impacts to stormwater utilities would be dependent on final design, but may be beneficial due to reductions in impervious surface from current conditions, as well as updated site design to address more stringent regulatory programs including the City of Sunnyvale Municipal Code Chapter 12.60 and the Santa Clara Valley Urban Runoff Pollution Prevention Program.

- **Solid Waste Management:** Future development would be evaluated for compliance with local and state solid waste regulations (i.e., City of Sunnyvale Municipal Code, Assembly Bill 939 California Integrated Waste Management Act, and the Santa Clara County Integrated Waste Management Plan). Participation in a commercial recycling program would be required under the Council-adopted Zero Waste Strategic Plan and would satisfy the requirements to divert recycled materials from the landfill. Based on current assessments, local landfills have sufficient capacity for increased demand.
- **Energy:** Future development would not be expected to affect PG&E's ability to deliver energy to its customers, as any potential increase in demand would be negligible when considering PG&E's overall demand and service area. Any increase would be consistent with regional forecasts of future demand (PG&E 2015).

Given long term planning considerations and capacity of utility providers, it is assumed any increase in utility demands from future development could be accommodated or would be addressed by further coordination with utilities. Additionally, it is likely that once future development is completed, at least some portion of the employees on-site would be relocating from other sites within a given utility's service area. Depending on the utility, the service area could be the City of Sunnyvale, the Santa Clara Valley, or the greater San Francisco Bay Area and beyond. To the extent that employees would be moving within a utility service area, there would not be a net increase in demand for those utility services.

Given these considerations, no significant impacts to infrastructure are anticipated as a result of the future development. Follow-on CEQA analyses would be required for any proposed redevelopment plans presented by the Exchange Entity and would further address impacts related to infrastructure once final development plans are completed.

3.10 Summary of Potential Impacts to Resources

A summary of the potential impacts associated with the Proposed Action and the No Action Alternative is presented in Table 3.10-1.

Table 3.10-1. Summary of Potential Impacts to Resource Areas[1]

Resource Area	*No Action Alternative*	*Proposed Action*
Land Use	No impacts to land use because there would be no change to land use at the Sunnyvale site. Land Use Controls would remain for the Sunnyvale site that limit onsite ground disturbance and groundwater usage.	**NIROP Land Exchange** No impacts to land use because there would be no change to land use at the Sunnyvale site. **Future Development** *Construction* Short-term, indirect minor impacts on surrounding land uses from demolition and construction activities from dust, noise, and traffic. The proposed design would result in a change from the current industrial land use to general office use but would maintain compatibility with the existing site classification of the site. Site design would be conducted in accordance the City of Sunnyvale General Plan and Moffett Park Specific Plan, and would be approved by the City of Sunnyvale. *Operations* No significant impacts due to the potential increase in the number of employees onsite and resulting potential increase in demand on public and private recreational facilities in the immediate vicinity. Any increased demand for recreational opportunities from future development would not likely degrade any existing or new recreational facilities.
Hazardous Materials and Waste	Negligible beneficial impacts due to decreased hazardous materials usage and wastes generation because FBM production at the Sunnyvale site would cease.	**NIROP Land Exchange** Negligible beneficial impacts due to decreased hazardous materials usage and wastes generation because FBM production at the Sunnyvale site would cease. **Future Development** *Construction* Future development of the site would generate additional hazardous and special wastes during remediation, demolition, and construction activities including excavation of contaminated soil during remediation, hazardous wastes generated from demolition (ACM, LBP, etc.), and standard hazardous materials used in the construction process. Hazardous materials and waste would be

Table 3.10-1. Summary of Potential Impacts to Resource Areas[1]

Resource Area	*No Action Alternative*	*Proposed Action*
		utilized and disposed of in accordance with applicable regulations and no significant impacts would occur. *Operations* No significant impacts from operations of any new future development due to hazardous material use and hazardous waste generation. Hazardous materials and waste would be utilized and disposed of in accordance with applicable regulations. Removal of contaminated soil would result in a long-term, minor beneficial impact.
Cultural Resources	NIROP Sunnyvale Historic District would not be demolished, and no significant impacts (NEPA) and no effect (NHPA) would occur.	**NIROP Land Exchange** No significant impacts (NEPA) and no adverse effect (NHPA) from the land exchange. Execution of the finalized MOA and associated mitigation and stipulations would reduce potential permanent adverse impacts to the NIROP Sunnyvale Historic District as a result of the transfer of the Sunnyvale site out of Navy ownership. **Future Development** *Construction* No significant impacts (NEPA) and no adverse effect (NHPA) are anticipated during construction. Demolition of the existing facilities comprising the NIROP Sunnyvale Historic District would be mitigated through adherence to the MOA. Inadvertent discovery of archaeological materials or human remains during construction activities is highly unlikely but if encountered CEQA provisions would be followed by the Exchange Entity. *Operations* No significant impacts (NEPA) and no adverse effect (NHPA)from operation of future development.
Socioeconomics	Overall minor adverse impacts from a decrease in employees due to relocation of SSP PMO and LMS personnel. Negligible beneficial impacts from jobs associated with ongoing remediation at the site.	**NIROP Land Exchange** Minor adverse impacts from a decrease in employees due to relocation of SSP PMO and LMS personnel. Minor beneficial impacts from an increase in taxable land and resulting increased property tax revenues.

Table 3.10-1. Summary of Potential Impacts to Resource Areas[1]

Resource Area	*No Action Alternative*	*Proposed Action*
		Future Development *Construction* Short-term, minor and beneficial impacts during construction from temporary increases in employment and spending in the local economy. *Operations* Long-term beneficial impacts to the local and regional economy would occur from increased employment and spending in the area. Future development would be consistent with local growth plans and related expectations for increases in housing demands over time. Additionally, depending on the change in assessed value of the site, there could be an increase in surrounding property tax revenues.
Environmental Justice	No disproportionately high or adverse impact to minority or low-income populations.	**NIROP Land Exchange** No disproportionately high or adverse impact to minority or low-income populations. **Future Development** *Construction* Construction air emissions, noise, and traffic would not result in disproportionately high or adverse human health or environmental effects on minority or low-income populations. *Operations* No disproportionately high or adverse impact to minority or low-income populations.

Table 3.10-1. Summary of Potential Impacts to Resource Areas[1]

Resource Area	*No Action Alternative*	*Proposed Action*
Air Quality	Minor beneficial impacts due to a decrease in air emissions from closure of operations of the Sunnyvale site and associated traffic	**NIROP Land Exchange** Minor beneficial impacts due to a decrease in air emissions from closure of operations of the Sunnyvale site and associated traffic. **Future Development** *Construction* Short-term, minor adverse impacts to air quality and GHGs from construction of future development. Air quality and GHG emissions could result from a variety of construction activities, including demolition, excavation, grading, vehicle travel on paved and unpaved surfaces, as well as vehicle and equipment exhaust. Any future construction would be subject to applicable state and local requirements. *Operations* Long-term, minor adverse impacts from operation of future development. Sources of air emissions could include employee vehicles and delivery trucks, fuel combustion for building heating, emergency generators, and grid-supplied electricity. Operational emissions from any future development could be partially or fully offset by removal of the prior air emissions sources from the current operations of the Sunnyvale site.
Noise	Overall negligible beneficial impacts. Noise from operations of the Sunnyvale site and from associated traffic to the site would cease and would represent a negligible beneficial impact to the noise environment.	**NIROP Land Exchange** Overall negligible beneficial impacts. Noise from operations of the Sunnyvale site and from associated traffic to the site would cease and would represent a negligible beneficial impact to the noise environment. **Future Development** *Construction* Short-term, minor adverse impacts during construction. Sound generated during demolition and construction at the Sunnyvale site would temporarily affect adjacent receptors (e.g., office buildings); however, noise is not anticipated to be audible to the closest residences (2,875 feet south).

Table 3.10-1. Summary of Potential Impacts to Resource Areas[1]

Resource Area	*No Action Alternative*	*Proposed Action*
		Operations Long-term negligible adverse noise impacts during operations due to worker traffic, mechanical equipment (e.g., HVAC systems), maintenance activities, and general use of the new office buildings.
Transportation	Overall negligible beneficial impacts on transportation due to a decrease in traffic commuting to the site due to relocation of SSP PMO and LMS personnel.	**NIROP Land Exchange** Overall negligible beneficial impacts on transportation due to a decrease in traffic commuting to the site due to relocation of SSP PMO and LMS personnel. **Future Development** *Construction* Short-term minor adverse impacts from construction of future development. There would be short-term increases in construction vehicles accessing the site. However, compared to the decrease in current commuter traffic due to relocation of SSP PMO and LMS personnel, there would not be a noticeable adverse effect on traffic. Temporary traffic obstructions or road closures in the immediate vicinity of the site may be required during construction but would be short-term and minor. *Operations* No significant impacts during operations from increased commuters to the Sunnyvale site. Future development would be consistent with local growth plans and related expectations for increases in traffic over time, and thus is not expected to result in significant impacts when compared to projected baseline conditions.
Infrastructure	Overall negligible beneficial impacts on infrastructure due to a decrease in utility demands at the site because FBM production would cease.	**NIROP Land Exchange** Overall negligible beneficial impacts on infrastructure due to a decrease in utility demands at the site because FBM production would cease.

Table 3.10-1. Summary of Potential Impacts to Resource Areas[1]

Resource Area	*No Action Alternative*	*Proposed Action*
		Future Development *Construction* No impacts due to appropriate coordination with utility providers to avoid impacts. *Operations* No significant adverse impacts from operation of future development. Future development would be consistent with local growth plans and related expectations for increases in utility demands over time, and thus is not expected to result in significant impacts when compared to projected baseline conditions.

ACM = asbestos-containing materials; CEQA = California Environmental Quality Act; FBM = fleet ballistic missile; GHG = greenhouse gas; LBP = lead-based paint; LMS = Lockheed Martin Space; MOA = memorandum of agreement; NIROP = Naval Industrial Reserve Ordnance Plant; PCB = polychlorinated biphenyl; PMO = Program Management Office; SSP = Strategic Systems Programs

4 Cumulative Impacts

This section (1) defines cumulative impacts, (2) describes past, present, and reasonably foreseeable future actions relevant to cumulative impacts, (3) analyzes the incremental interaction the Proposed Action may have with other actions, and (4) evaluates cumulative impacts potentially resulting from these interactions.

4.1 Definition of Cumulative Impacts

The approach taken in the analysis of cumulative impacts follows the objectives of the NEPA, CEQ regulations, and CEQ guidance. Cumulative impacts are defined in 40 CFR section 1508.7 as "the impact on the environment that results from the incremental impact of the action when added to the other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

To determine the scope of environmental impact analyses, agencies shall consider cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact analysis document.

In addition, CEQ and USEPA have published guidance addressing implementation of cumulative impact analyses—Guidance on the Consideration of Past Actions in Cumulative Effects Analysis (CEQ, 2005) and Consideration of Cumulative Impacts in USEPA Review of NEPA Documents (USEPA, 1999). CEQ guidance entitled *Considering Cumulative Impacts Under NEPA* (1997) states that cumulative impact analyses should:

"…determine the magnitude and significance of the environmental consequences of the proposed action in the context of the cumulative impacts of other past, present, and future actions...identify significant cumulative impacts…[and]…focus on truly meaningful impacts."

Cumulative impacts are most likely to arise when a relationship or synergism exists between a proposed action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in proximity to the Proposed Action would be expected to have more potential for a relationship than those more geographically separated. Similarly, relatively concurrent actions would tend to offer a higher potential for cumulative impacts. To identify cumulative impacts, the analysis needs to address the following three fundamental questions.

- Does a relationship exist such that affected resource areas of the Proposed Action might interact with the affected resource areas of past, present, or reasonably foreseeable actions?
- If one or more of the affected resource areas of the Proposed Action and another action could be expected to interact, would the Proposed Action affect or be affected by impacts of the other action?
- If such a relationship exists, then does an assessment reveal any potentially significant impacts not identified when the Proposed Action is considered alone?

4.2 Scope of Cumulative Impacts Analysis

The scope of the cumulative impacts analysis involves both the geographic extent of the effects and the time frame in which the effects could be expected to occur. For this EA, the study area delimits the

geographic extent of the cumulative impacts analysis. In general, the study area will include those areas previously identified in Chapter 3 for the respective resource areas. The time frame for cumulative impacts centers on the timing of the Proposed Action.

Another factor influencing the scope of cumulative impacts analysis involves identifying other actions to consider. Beyond determining that the geographic scope and time frame for the actions interrelate to the Proposed Action, the analysis employs the measure of "reasonably foreseeable" to include or exclude other actions. For the purposes of this analysis, public documents prepared by federal, state, and local government agencies form the primary sources of information regarding reasonably foreseeable actions. Documents used to identify other actions include notices of intent for Environmental Impact Statements and EAs, management plans, land use plans, and other planning related studies.

4.3 Past, Present, and Reasonably Foreseeable Actions

This section will focus on past, present, and reasonably foreseeable future projects at and near the Proposed Action locale. In determining which projects to include in the cumulative impacts analysis, a preliminary determination was made regarding the past, present, or reasonably foreseeable action. Specifically, using the first fundamental question included in Section 4.1, it was determined if a relationship exists such that the affected resource areas of the Proposed Action (included in this EA) might interact with the affected resource area of a past, present, or reasonably foreseeable action. If no such potential relationship exists, the project was not carried forward into the cumulative impacts analysis. In accordance with CEQ guidance (CEQ 2005), these actions considered but excluded from further cumulative effects analysis are not catalogued here as the intent is to focus the analysis on the meaningful actions relevant to informed decision-making. Projects included in this cumulative impacts analysis are described in Section 4.3.1.

4.3.1 Cumulative Projects

Table 4-1 provides a brief description of the cumulative projects and Figure 4-1 presents the cumulative project locations.

Table 4-1. Cumulative Action Evaluation

Action (Project Type)	*Mile(s) from Sunnyvale Site*	*Status*	*Description*
City of Sunnyvale			
Moffett Place (Commercial)	0.4	Under Construction	Replacement of existing office space with six new eight-story office buildings, a two-story amenities building, parking, and landscaped recreational areas (City of Sunnyvale, 2020h).
Google Caribbean Campus (Commercial)	0.5	Planning	Demolition of 13 existing structures and associated infrastructure and redevelopment of the project site with 2, 5-story, mid-rise structures to house approximately 4,500 employees. Other project amenities including landscaped courtyards, walkways, and alternative transportation elements (CEQA, 2020a; City of Sunnyvale, 2020i).
Mathilda Avenue Improvements at US 101 and SR 237 (Infrastructure)	0.8	Under Construction	Roadway improvements to reduce congestion on Mathilda Avenue, improve mobility for all travel modes, and provide better access to local destinations throughout the City of Sunnyvale (CEQA, 2020b; Santa Clara VTA, 2020a).
Sunnyvale Water Pollution Control Plant (Infrastructure)	0.8	Planning	A series of capital improvement projects to be phased in over the next 20 or more years at and near the WPCP. Many of the existing buildings and processes at the plant site would be decommissioned and replaced with new buildings and processes (CEQA, 2020c).
1 AMD Place Redevelopment Project (Residential, infrastructure)	2.4	Under Construction	Demolition of existing office buildings and associated infrastructure and redevelopment of the site for 1,074 residential dwelling units (townhomes and apartments), a 6.5-acre public park, and associated roadway improvements (CEQA, 2020d; City of Sunnyvale, 2020j).
Downtown Specific Plan Amendments and Specific Development Projects (Residential, commercial, infrastructure)	2.5	Planning	Amendments to the Downtown Specific Plan would allow up to 843 residential units, commercial uses, and office use on 6 sites within the Downtown Specific Plan area. The development would also include transportation infrastructure, right-of-way, utility improvements, and amendments to City of Sunnyvale Municipal Code (CEQA, 2020e; City of Sunnyvale, 2020k).
CityLine Sunnyvale (Residential, commercial, infrastructure)	2.6	Under Construction	Construction of a 6-block, mixed-use development that includes retail, office, and restaurant uses; a movie theater; a hotel; 292 residential units; several parking garages; a central plaza; and street improvements (City of Sunnyvale, 2020l).
Civic Center Modernization Master Plan (Commercial)	2.9	Planning	A proposed master plan to modernize and expand the City Civic Center, in several phases and over several decades, including new buildings (City Hall, public safety, library) and underground parking garages (CEQA, 2020f; City of Sunnyvale, 2020m).
Corn Palace Residential Development Project (Residential)	3.9	Planning	Demolition of the onsite structures for development of a master-planned residential community of 58 single-family, 2-story residential homes, a public park, and public facilities and roadway areas (CEQA, 2020g; City of Sunnyvale, 2020n).

Table 4-1. Cumulative Action Evaluation

Action (Project Type)	*Mile(s) from Sunnyvale Site*	*Status*	*Description*
City of Mountain View			
East Whisman Precise Plan (Residential, commercial, infrastructure)	1.5	Planning	This Plan would include up to 2.3 million net square feet of new office uses, 100,000 net square feet of new retail uses, 200 hotel rooms, and 5,000 multi-family residential units. The Plan would also include new parks, new pedestrian/ bicycle paths, new public streets, and recreational facilities (CEQA, 2020h; City of Mountain View, 2020a).
LinkedIn Campus Redevelopment (Commercial)	1.7	Planning	Redevelopment of an area with 5 existing office buildings. The project would retain 3 existing office buildings and construct 3 new 6-story office buildings and two 6-level parking structures for LinkedIn. Also, the project includes a public-oriented, private open space area and a recreational area (City of Mountain, View 2020b; The Mercury News, 2018).
555 West Middlefield Road Residential Project (Residential)	2.6	Planning	Redevelopment and expansion of existing multi-family residential community to include two new buildings for multi-family residential units, three new parking garages, new common areas, and a new amenity building/leasing office (CEQA, 2020i; City of Mountain View, 2020c).
777 West Middlefield Road Project (Residential)	2.7	Planning	Demolition of existing multi-family residential community including 21 buildings, parking, and common areas to construct up to 716 new residential units (apartments) in 3 separate buildings, with a subterranean parking garage under 2 of the buildings (CEQA, 2020j).
North Bayshore Precise Plan (Residential, commercial, infrastructure)	2.7	Planning	This Plan amendments would allow an increase in residential uses, in addition to office and commercial uses including 9,850 new multi-family residential units, office and commercial development, new or enhanced parks and trails, new public streets, and other infrastructure projects (City of Mountain View, 2020d).
The Residences at Shoreline Gateway (Residential, commercial)	2.8	Planning	Construction of two new, 7-story residential structures with ground floor retail, and parking (CEQA, 2020k; City of Mountain View, 2020e).
Mountain View Transit Center Grade Separation and Access Project (Infrastructure)	3.0	Planning	The Project would consist of three main components including Castro Street Grade Separation, Caltrain Station Improvements, and Other Supportive Pedestrian and Bicycle Facilities improvements (CEQA, 2020l).
1720 Villa Street Residential Project (Residential)	3.5	Planning	Construction of 226-apartment units with a 2-level underground parking garage, dedication of a 0.4-acre public park, and a Heritage Tree Removal Permit to remove 26 Heritage trees (City of Mountain View, 2020f).

Table 4-1. Cumulative Action Evaluation

Action (Project Type)	*Mile(s) from Sunnyvale Site*	*Status*	*Description*
City of Santa Clara			
Related Santa Clara (*formerly CityPlace Santa Clara*) (Residential, commercial, infrastructure)	3.2	Planning	Construction of a new multi-phased, mixed-use development of office buildings, retail and entertainment facilities, residential units, hotel rooms, surface and structured parking facilities, new open space and roads, landscaping and tree replacement, and new/upgraded/expanded infrastructure and utilities (City of Santa Clara, 2020a; 2020b).
Lawrence Station Area Plan (Residential, commercial, infrastructure)	3.3	Under Construction	The plan includes several approved and proposed projects to take advantage of close proximity to major regional transit including approved projects for Corvin Affordable Housing, Kifer Road Development (office buildings, garages, multi-family dwelling units), and Corvin Drive development (residences); and the proposed Lawrence Expressway (Westlake Urban) project (four-story, multi-family development) (City of Santa Clara, 2020c).
3625 Peterson Way Office Project (Commercial)	3.6	Planning	Demolish the existing office building and parking lot, remove trees, and construct two office/research and design buildings (CEQA 2020m; City of Santa Clara, 2020d).
Santa Clara Square Development Project (Residential, commercial)	3.7	Under Construction	Construction of office, retail, mixed-use and residential space with office, retail, and up to 1,840 units of residential apartment units in 7 buildings (City of Santa Clara, 2020e).
Walsh Data Center (Commercial)	5.4	Planning	Demolition of the existing improvements on the site and construction of the Walsh Data Center building, the associated Walsh Backup Generating Facility generator equipment yard, and an electrical substation. The associated Walsh Backup Generating Facility would consist of 33 diesel-fired generators for backup power. The new 90 megavolt amps electrical substation would be a three-bay substation (three 30 megavolt amps 60 - 12 kilovolt step-down transformers) that would be capable of delivering electricity to the Walsh Data Center from Silicon Valley Power (CEQA, 2020n).

EIR = Environmental Impact Report; NOD = Notice of Determination; SR = State Route; WPCP = Water Pollution Control Plant

Figure 4-1. Cumulative Project Map

4.4 Cumulative Impact Analysis

Where feasible, the cumulative impacts were assessed using quantifiable data; however, for many of the resources included for analysis, quantifiable data is not available, and a qualitative analysis was undertaken. In addition, where an analysis of potential environmental effects for future actions has not been completed, assumptions were made regarding cumulative impacts related to this EA where possible. The analytical methodology presented in Chapter 3, which was used to determine potential impacts to the various resources analyzed in this document, was also used to determine cumulative impacts.

4.4.1 Land Use

4.4.1.1 Description of Geographic Study Area

The cumulative study area for land use includes the Sunnyvale site and adjacent properties. As discussed in Section 3.1, Land Use, the Sunnyvale site and surrounding areas are classified by land use broadly consisting of industrial and transit-oriented-development uses. Past, present, and future cumulative projects involving construction can cause both short-term and long-term impacts to the Sunnyvale site and adjacent land uses.

4.4.1.2 Relevant Past, Present, and Future Actions

Projects within Table 4-1 that are within a 0.5-mile radius from the Sunnyvale site were considered within this cumulative impact analysis. This includes two commercial developments within the City of Sunnyvale (i.e., Moffett Place and Google Caribbean Campus).

4.4.1.3 Cumulative Impact Analysis

Cumulative land use impacts from past, present, and future actions within the study area would be less than significant. The land exchange would not cause land use impacts; therefore, no cumulative impacts are anticipated from the land exchange when combined with impacts from other actions within the study area.

Negligible, beneficial cumulative impacts would occur from potential future development at the Sunnyvale site as it would represent an improved land use when combined with other redevelopment projects in the region. The two commercial developments are redevelopment initiatives on existing developed commercial sites, which would improve adjacent land uses by adding commercial use and amenities.

Temporary and minor adverse impacts could affect surrounding businesses and residential areas from fugitive dust, increased traffic volumes, or noise generated by construction activities. As these impacts would be temporary and timing of construction would likely vary between projects, it is unlikely that significant cumulative adverse impacts to land use would result from construction of the future development at the Sunnyvale site in combination with the two commercial developments within 0.5 miles of the site.

All new development projects within the study area would be subject to environmental and design review on a site-specific, project-by-project basis. City review of all projects is anticipated to ensure potential land use conflicts are limited to the extent feasible prior to approval and before and during any construction phases. All future construction activities would be required to be consistent with the City's

regulatory requirements and applicable conditions of approval to reduce potential cumulative effects of construction and operations to a less than significant level. Therefore, the Proposed Action would not result in significant cumulative land use impacts when considered with past, present, and reasonably foreseeable future actions

4.4.2 Hazardous Materials and Wastes

4.4.2.1 Description of Geographic Study Area

The cumulative study area for hazardous materials and wastes includes the Sunnyvale site and the greater study area shown in Figure 4-1. As discussed in Section 3.2, Hazardous Materials and Wastes, construction and operational stages of projects can result in increased hazardous materials use and hazardous waste generation. Past, present, and future cumulative projects involving construction can result in both short-term and long-term impacts to the regional use of hazardous materials and generation of hazardous wastes.

4.4.2.2 Relevant Past, Present, and Future Actions

All actions listed in Table 4-1 involve potential construction and could have cumulative impacts to hazardous materials and wastes on a regional basis in conjunction with the Proposed Action. Projects related to plan preparation could result in future construction projects and therefore, are considered in relation to impacts to hazardous materials and wastes.

4.4.2.3 Cumulative Impact Analysis

Cumulative impacts associated with hazardous materials and wastes from past, present, and future actions within the study area would be less than significant. The land exchange would cause negligible, beneficial, direct impacts to hazardous materials and wastes; therefore, negligible cumulative impacts are anticipated from the land exchange when combined with impacts from other actions within the study area.

Cumulative effects from future development and nearby projects would result in less than significant adverse impacts from the generation of hazardous and toxic substances resulting from demolition and construction. During demolition, cumulative effects would include increased disposal of hazardous waste from LBP- and ACM-contaminated demolition debris from future development of the Sunnyvale site and other cumulative projects requiring demolition of structures with LBP or other hazardous substances. Proper hazardous materials handling and waste disposal, worker safety precautions, and hazardous waste management practices would apply to all applicable cumulative project activities. Construction activities could also utilize petroleum, oils and lubricants, and generate oily and hazardous wastes, such as spent solvents, residual fuels, and used oils. Appropriate spill prevention, control, and countermeasures BMPs and adherence to applicable federal, state, and local regulations for hazardous waste and materials handling would limit the potential for release. Compliance with applicable laws and regulations would avoid the potential for local or regional cumulative effects related to the exposure to hazardous materials during construction or operation of future development and cumulative projects. Therefore, the Proposed Action would not result in significant cumulative impacts from hazardous materials use or waste generation when considered with past, present, and reasonably foreseeable future actions.

4.4.3 Cultural Resources

4.4.3.1 Description of Geographic Study Area

The cumulative analysis considers the APE, which is limited to the approximately 50-acre Sunnyvale site, along with the study area shown in Figure 4-1 and the respective cumulative projects listed in Table 4-1. Past, present, and future cumulative projects involving construction can cause both short-term and long-term impacts to cultural resources, if present.

4.4.3.2 Relevant Past, Present, and Future Actions

All actions listed in Table 4-1 involve potential construction and could have cumulative impacts to cultural resources on a regional basis in conjunction with the APE of the Proposed Action. Projects related to plan preparation could result in future construction projects and therefore are considered in relation to potential impacts to cultural resources.

4.4.3.3 Cumulative Impact Analysis

Cumulative impacts to cultural resources from past, present, and future actions within the larger regional study area would be less than significant. As described in Section 3.3.3.2, the land exchange would cause impacts to cultural resources within the APE of the Proposed Action including the permanent adverse effects to the NIROP Sunnyvale Historic District. However, as part of the land exchange, the Navy is entering into a MOA with the California SHPO and the Advisory Council on Historic Preservation, which includes stipulations to mitigate for adverse effects (see Section 3.3.3.2). These stipulations include mitigation of impacts from potential demolition of structures during future development activities. With execution of the finalized MOA, less than significant effects are anticipated. There is a potential for projects within the larger regional study area to individually and cumulatively cause an adverse effect to cultural resources and to encounter previously undiscovered cultural resources during construction. Future development of the Sunnyvale site, and other development projects in the study area would be subject to CEQA review, including required consultations with regulatory agencies and stakeholders, such as SHPO and tribal governments. It is assumed potentially significant impacts from other regional projects listed in Table 4-1 would be mitigated, through avoidance when possible. Any archaeological resources discovered as a result of construction activities would be treated in accordance with federal or state laws that would ensure any adverse effects would be mitigated to a less than significant level. Therefore, the Proposed Action would not result in significant cumulative impacts to cultural resources when considered with past, present, and reasonably foreseeable future actions.

4.4.4 Socioeconomics

4.4.4.1 Description of Geographic Study Area

The cumulative study area for socioeconomics includes the City of Sunnyvale. As discussed in Section 3.4.2.1, the population has increased by 16 percent in the City of Sunnyvale since 2000. Based on current population projections, the population in Santa Clara County is projected to grow by approximately 8 percent by 2030. Past, present, and future projects support this population growth and local economy.

4.4.4.2 Relevant Past, Present, and Future Actions

All actions listed in Table 4-1 within the City of Sunnyvale could have cumulative impacts to socioeconomics in conjunction with the Proposed Action.

4.4.4.3 Cumulative Impact Analysis

Cumulative socioeconomic impacts from past, present, and future actions within the study area would be less than significant. The land exchange would involve transferring land out of federal ownership, which would result in an increase in taxable land and tax revenue for local, state, and federal governments. Therefore, the land exchange would result in long-term beneficial cumulative impacts when combined with impacts from other actions within the study area.

New development projects described in Table 4-1, particularly those associated with long-term job creation (e.g., the CityLine Sunnyvale Project, Google Caribbean Campus, and the LinkedIn Campus Redevelopment), would result in both short-term and long-term beneficial cumulative impacts. Short-term beneficial impacts would result from increasing construction jobs, local spending in the community, and associated tax revenue. Future development of the Sunnyvale site and from other past, present, and future actions would cause a beneficial impact on the local labor force by creating more permanent employment opportunities and increased spending, resulting in long-term beneficial cumulative impacts.

Housing projects listed in Table 4-1 would increase housing availability in the region, which would offset impacts from any increased demand on housing as a result of future development at the Sunnyvale site. The resulting increase in housing options and overall housing inventory could have a downward effect on housing prices and rent charges. Housing prices and rents charged are a based on a variety of market and economic factors (e.g., housing inventory, job market conditions, interest rates), and it is difficult to predict the effect certain projects could have on home values. Some projects set aside a certain percentage of residential units for low-income households (e.g., 1 AMD Place Redevelopment Project), which would result in beneficial impacts to those economic groups.

Any induced population growth resulting from future development, as well as general anticipated population growth in the region could continue to increase stress on schools. Long-range planning efforts consider population growth and their impact on schools, such as through the City of Sunnyvale General Plan, and school facility fees are paid by developers to offset any costs for additional facility needs.

Together, potential future development associated with the Proposed Action and regional development projects described in Table 4-1 would increase property tax revenues, generate both short- and long-term economic benefits, and result in long-term beneficial effects on quality of life. Therefore, the Proposed Action would not result in significant cumulative impacts to socioeconomics when considered with past, present, and reasonably foreseeable future actions.

4.4.5 Environmental Justice

4.4.5.1 Description of Geographic Study Area

The cumulative study area for environmental justice extends 1 mile from the Sunnyvale site. As the population in the region has increased over the last 20 years, the frequency of construction projects has also increased. Past, present, and future cumulative projects involving construction can support this

population growth, the local economy, and result in both short-term and long-term impacts to environmental justice.

4.4.5.2 Relevant Past, Present, and Future Actions

All actions listed in Table 4-1 within 1 mile of the Sunnyvale site could have cumulative impacts to environmental justice on a regional basis in conjunction with the Proposed Action. This includes two commercial developments and two infrastructure improvements (Mathilda Avenue and Sunnyvale Water Pollution Control Plant).

4.4.5.3 Cumulative Impact Analysis

Cumulative impacts to environmental justice populations from past, present, and future actions within the study area would be less than significant. The land exchange would not cause direct impacts to environmental justice; therefore, no cumulative impacts are anticipated from the land exchange.

Construction activities associated with future development at the Sunnyvale site and cumulative projects listed in Section 4.4.5.2 would create both adverse and beneficial cumulative impacts to environmental justice populations near the Sunnyvale site. Cumulative, adverse impacts could occur from short-term increased air emissions (e.g., fugitive dust), noise emissions, and increased traffic from project construction that occurs at the same time. Beneficial impacts to environmental justice populations would occur due to the potential increase in construction jobs in the area and associated increase in economic activity. New commercial development projects described in Table 4-1 could result in long-term job creation and provide long-term beneficial impacts. These impacts are not anticipated to result in disproportionately high or adverse human health or environmental effects on any minority or low-income populations compared to other populations in the study area. Therefore, the Proposed Action would not result in significant cumulative impacts to environmental justice populations when considered with past, present, and reasonably foreseeable future actions.

4.4.6 Air Quality

4.4.6.1 Description of Geographic Study Area

The cumulative study area for air quality focuses on the study area shown in Figure 4-1. Past, present, and future cumulative projects involving construction and/or permanent sources of emissions can cause both short-term and long-term impacts to local air quality and air quality within the San Francisco Area Air Basin. Local, state, and federal regulations are enforced to reduce potential impacts.

4.4.6.2 Relevant Past, Present, and Future Actions

All actions listed in Table 4-1 involve potential construction and could have cumulative impacts to air quality in conjunction with the Proposed Action. Projects related to plan preparation could result in future construction projects and therefore are considered in relation to air quality impacts.

4.4.6.3 Cumulative Impact Analysis

Cumulative air quality impacts from past, present, and future actions within the study area would be less than significant. The land exchange would cause negligible impacts on air quality; therefore, negligible cumulative impacts are anticipated when combined with impacts from other actions within the study area.

Future construction projects in the City of Sunnyvale and the surrounding area would result in short-term increases in PM_{10} and other criteria pollutants from construction activities and increased traffic. Increased traffic as a result of new construction and growth in the area would result in long-term increases in reactive organic gas, NO_x, CO, and PM_{10}. Combined with other cumulative development projects, future demolition, construction, and operation of the future development could result in both short-term and long-term increases in air emissions. Future construction projects would be subject to review by the BAAQMD and would be required to implement applicable emissions controls and BMPs to ensure that air quality standards are not violated. The BAAQMD developed operational thresholds of significance based on the level above which a project's individual emissions would result in a cumulatively considerable contribution to the Basin's existing air quality conditions. It is assumed BAAQMD-recommended Basic Construction mitigation measures would be implemented for some or potentially all projects whether or not construction-related emissions exceed the thresholds of significance. Therefore, the Proposed Action would not result in significant cumulative impacts to air quality when considered with past, present, and reasonably foreseeable future actions.

4.4.7 Noise

4.4.7.1 Description of Geographic Study Area

The cumulative study area for noise includes the Sunnyvale site and areas within a 0.5-mile radius. As the region has become more populated and urbanized, the frequency of noise events and the general noise levels have increased in the area. Past, present, and future projects often involve noise generating activities such as construction, vehicles, equipment, and in some cases, permanent noise emissions such as new facilities, equipment, and vehicles.

4.4.7.2 Relevant Past, Present, and Future Actions

Projects within Table 4-1 that are within a 0.5-mile radius from the Sunnyvale site were considered within this cumulative impact analysis. This includes two commercial developments within the City of Sunnyvale (i.e., Moffett Place and Google Caribbean Campus).

4.4.7.3 Cumulative Impact Analysis

Cumulative noise impacts from past, present, and future actions within the study area would be less than significant. The land exchange would cause negligible impacts on the noise environment; therefore, negligible cumulative impacts are anticipated when combined with impacts from other actions within the study area.

Noise by definition is a localized phenomenon, and drastically reduces as distance from the source increases. Cumulative noise impacts involve development of the Proposed Action in combination with ambient growth and other related development projects. As noise levels decrease as distance from the source increases, only projects in the nearby area could combine with the Proposed Action to potentially result in cumulative noise impacts.

Construction activities associated with any future development at the Sunnyvale site would not result in a substantial increase in ambient noise levels because activities would conform with all required noise reduction requirements as needed. The City permits construction activities between the hours of 7:00 AM and 6:00 PM during the week, and between 8:00 AM and 5:00 PM on Saturdays. Construction is not allowed on Sundays or weekday holidays. There would be periodic, temporary, noise impacts that would cease upon completion of construction activities.

Cumulative construction noise impacts from the Proposed Action could occur if construction of other planned projects occurred in the same vicinity at the same time. Under this scenario, some adjacent receptors could be subject to additive noise from the multiple projects. The closest projects to the Proposed Action are the Moffett Place Project and Google Caribbean Campus project, located 0.4 mile and 0.5 mile from the Sunnyvale site, respectively. However, the Proposed Action's construction-related noise impacts would not be significant following compliance with local regulations.

Combined with other nearby development projects, demolition, construction, and operation of any future development at the Sunnyvale site could result in greater noise levels in the surrounding area. Specifically, cumulative noise increases would occur in the short term from construction activities and in the long term from increased vehicle traffic. Any such cumulative noise impacts would be managed through the planning process and land use compatibility guidelines in place, and would be enforced by the City. Each project would be required to comply with the applicable City of Sunnyvale Municipal Code limitations on allowable hours of construction. Therefore, the Proposed Action would not result in significant cumulative impacts to the noise environment when considered with past, present, and reasonably foreseeable future actions.

4.4.8 Transportation

4.4.8.1 Description of Geographic Study Area

The cumulative study area for transportation focuses on the study area shown in Figure 4-1. As the population in the region has increased over the last 20 years, the frequency of construction projects has increased along with increased traffic and transportation needs in the area. Past, present, and future cumulative projects involving construction can support this population growth and result in both short-term and long-term impacts to transportation infrastructure.

4.4.8.2 Relevant Past, Present, and Future Actions

All actions listed in Table 4-1 involve potential construction and could have indirect cumulative impacts to transportation on a regional basis in conjunction with the Proposed Action. Projects related to plan preparation could result in future construction projects and therefore are considered in relation to transportation impacts.

The following projects involve transportation improvements: The Google Caribbean Campus, Moffett Place, Sunnyvale Water Pollution Control Plant, Mathilda Avenue Improvements at SR 237 and US 101, Lawrence Station Area Plan, and Mountain View Transit Center Grade Separation and Access Project.

4.4.8.3 Cumulative Impact Analysis

Cumulative transportation impacts from past, present, and future actions within the study area would be less than significant. The land exchange would cause negligible impacts on transportation; therefore, negligible cumulative impacts are anticipated when combined with impacts from other actions within the study area.

A cumulative increase in short-term and long-term traffic congestion could occur from future development at the Sunnyvale site and the cumulative projects in the cities of Sunnyvale, Mountain View, and Santa Clara. Cumulative effects could occur from construction projects occurring near the Sunnyvale site, if these projects occurred concurrently with construction of the future development of the Sunnyvale site. The extent of this congestion would be spread across these areas. Specific projects

located near the site could result in more localized impacts due to increased traffic through local intersections, such as the proposed construction of the Google Caribbean Campus and Moffett Place, both of which are located within 0.5 miles of the Sunnyvale site. In addition, the Sunnyvale Water Pollution Control Plant and the Mathilda Avenue Improvements are within 0.8 mile of the Sunnyvale site. However, it is assumed these projects would employ similar construction traffic management measures as described in Section 3.8, Transportation, which would limit impacts. The remaining projects are greater than 1 mile from the Sunnyvale site. Therefore, the potential for cumulative impacts would be unlikely due to the distance of these projects to the Sunnyvale site.

Future development and other development projects that increase housing and jobs would result in additional vehicle trips and long term increases in local traffic levels. It is assumed that future development, as well other cumulative development projects, would be consistent with long term planning efforts undertaken by the City as discussed at the beginning of Chapter 3 and in Section 3.8, Transportation, and would be subject to further environmental review under CEQA and site approval, to include applicable TDM strategies. Therefore, future development would be consistent with local growth plans and related expectations for increases in traffic over time, and thus is expected to result in less than significant impacts when compared to projected baseline conditions.

The transportation projects listed in Section 4.4.8.2 would result in beneficial impacts to local transportation infrastructure. In addition, other cumulative projects listed in Table 4-1 involve roadway improvements and parking. For example, the 1 AMD Place Redevelopment Project, the CityLine Sunnyvale Project, and the Corn Palace Residential Development Project would involve roadway projects and the Civic Center Modernization Master Plan and Corn Palace Residential Development Project would involve new parking garages. The Lawrence Station Area Plan is a neighborhood transit-oriented development plan that would support both residential and transit uses to ultimately, enable residences to reduce reliance on automobiles. Long term traffic impacts would also be dependent on future development, and the evolving nature of transit, bicycle, and pedestrian infrastructure in the area. Therefore, the Proposed Action would not result in significant cumulative impacts to transportation when considered with past, present, and reasonably foreseeable future actions.

4.4.9 Infrastructure

4.4.9.1 Description of Geographic Study Area

The cumulative study area for infrastructure includes the Sunnyvale site and the City of Sunnyvale. As the population in the region has increased over the last 20 years, the frequency of construction projects and demands on the local infrastructure has also increased. Past, present, and future cumulative projects involving construction can support this population growth and result in both short-term and long-term impacts to infrastructure.

4.4.9.2 Relevant Past, Present, and Future Actions

All actions listed in Table 4-1 involve potential construction and could have cumulative impacts to infrastructure on a regional basis in conjunction with the Proposed Action. Projects related to plan preparation could result in future construction projects and therefore are considered in relation to potential impacts to infrastructure.

4.4.9.3 Cumulative Impact Analysis

Cumulative infrastructure impacts from past, present, and future actions within the study area would be less than significant. The land exchange would result in negligible impacts on infrastructure; therefore, negligible cumulative impacts are anticipated when combined with impacts from other actions within the study area.

Construction of future development at the Sunnyvale site as well as the various cumulative projects would increase waste generation and potential for construction site-related stormwater runoff, resulting in short-term impacts. There could be an increase in the amount of solid waste transported to local landfills as a result of the cumulative demolition and construction activities. Any disposal of solid wastes from construction or renovation activities would be coordinated with local landfill operators to ensure that maximum daily capacity is not exceeded when combined with the amount of waste transported to the landfills as a result of other regional projects. The potential for construction site-related stormwater runoff would be avoided or reduced by California stormwater permitting requirements that would limit runoff during construction.

In the long term, continued growth in the area has the potential to cause increased demand on water, wastewater, and electronical generation and transmission utilities. Planned regional projects would increase utility use, infrastructure needs, and waste generation. For example, the Walsh Data Center would require a new electrical substation to support the electrical supply demands of the facility and backup generators in the event of a power outage. Other projects could have beneficial impacts on infrastructure, such as the Sunnyvale Water Pollution Control Plant Master Plan. It is assumed that utility providers and project proponents are developing or would develop utility infrastructure and resources to address increased needs. Considering long term planning considerations and capacity of utility providers, it is assumed any increase in utility demands from future development and other cumulative projects would be accommodated or addressed by further coordination with utilities.

Growth in the area could also increase the amount of impervious surface if undeveloped or pervious land is converted to impervious surfaces such as buildings and parking lots. Long-term impacts to stormwater utilities would be subject to regulatory programs including the City of Sunnyvale Municipal Code Chapter 12.60 and the Santa Clara Valley Urban Runoff Pollution Prevention Program which serve to manage onsite stormwater and limit runoff.

Therefore, the Proposed Action would not result in significant cumulative impacts to infrastructure when considered with past, present, and reasonably foreseeable future actions.

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5 Other Considerations Required by NEPA

5.1 Consistency with Other Federal, State, and Local Laws, Plans, Policies, and Regulations

In accordance with 40 CFR section 1502.16(c), analysis of environmental consequences shall include discussion of possible conflicts between the Proposed Action and the objectives of federal, regional, state and local land use plans, policies, and controls. Table 5-1 identifies the principal federal and state laws and regulations that are applicable to the Proposed Action, and describes briefly how compliance with these laws and regulations would be accomplished.

5.2 Irreversible or Irretrievable Commitments of Resources

Resources that are irreversibly or irretrievably committed to a project are those that are used on a long-term or permanent basis. This includes the use of non-renewable resources such as metal and fuel, and natural or cultural resources. These resources are irretrievable in that they would be used for this project when they could have been used for other purposes. Human labor is also considered an irretrievable resource. Another impact that falls under this category is the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment.

Implementation of the land exchange under the Proposed Action would not constitute an irreversible or irretrievable commitment of resources by the Navy. Future development of the site would be the responsibility of the Exchange Entity. Such development would involve human labor; the consumption of fuel, oil, and lubricants for construction vehicles. Materials used to construct the future development including cement/concrete, soil cement, steel, iron and other metallic alloys, copper wiring, PVC pipe, plastic, etc.; and energy supplied by fossil fuels or other sources of electricity, used over the operational life of the future development. Future development of the Sunnyvale site by the Exchange Entity would be typical of other projects in the region and would not result in significant irreversible or irretrievable commitment of resources.

5.3 Relationship between Short-Term Use of the Environment and Long-Term Productivity

NEPA requires an analysis of the relationship between a project's short-term impacts on the environment and the effects that these impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. This refers to the possibility that choosing one development site reduces future flexibility in pursuing other options, or that using a parcel of land or other resources often eliminates the possibility of other uses at that site.

Implementation of the land exchange under the Proposed Action would not result in short-term impacts on the environment or maintenance and enhancement of the long-term productivity of the affected environment by the Navy. Future development of the site would be the responsibility of the Exchange Entity, which could generate the following short-term effects related to construction activities at the Sunnyvale site: hazardous waste generation and increase potential for spills, air emissions, noise, traffic, and potential for utility service interruptions. These effects would not significantly impact the long-term natural resource productivity of the area. The future development of the site by the Exchange Entity would not result in any impacts that would significantly reduce environmental productivity or permanently narrow the range of beneficial uses of the environment.

Table 5-1. Principal Federal and State Laws Applicable to the Proposed Action

Federal, State, Local, and Regional Land Use Plans, Policies, and Controls	*Status of Compliance*
NEPA; CEQ NEPA implementing regulations; Navy procedures for Implementing NEPA	The Navy has prepared this EA in accordance with NEPA, CEQ NEPA implementing regulations, and Navy procedures for implementing NEPA.
National Historic Preservation Act	Compliance with the National Historic Preservation Act is pending and will be completed prior to the completion of the NEPA process.
Comprehensive Environmental Response, Compensation, and Liability Act	The Proposed Action would be undertaken per the requirements of CERCLA and would include government access to the property in the event that any additional remedial or corrective action is found to be necessary after the date of transfer.
Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations	The Navy has determined that the Proposed Action would not cause disproportionately high and adverse health or environmental effects on any minority or low-income populations.
Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks	The Navy has determined that there are no environmental health and safety risks associated with the Proposed Action that would disproportionately affect children.
Executive Order 13175, Consultation and Coordination with Indian Tribal Governments	The Navy has determined that there are no Federally recognized Indian Tribes affiliated with the project area.

CEQ = Council on Environmental Quality; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; EA = Environmental Assessment; NEPA = National Environmental Policy Act

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Sunnyvale, CA 94086

County of Santa Clara

Supervisor Mike Wasserman
County of Santa Clara
70 West Hedding Street, 10th Floor
San Jose, CA 95110

Supervisor Cindy Chavez
County of Santa Clara
70 West Hedding Street, 10th Floor
San Jose, CA 95110

Supervisor Dave Cortese
County of Santa Clara
70 West Hedding Street, 10th Floor
San Jose, CA 95110

Councilman Gustav Larsson
City of Sunnyvale
456 West Olive Avenue
Sunnyvale, CA 94086

Councilwoman Nancy Smith
City of Sunnyvale
456 West Olive Avenue
Sunnyvale, CA 94086

Councilman Mason Fong
City of Sunnyvale
456 West Olive Avenue
Sunnyvale, CA 94086

Councilman Michael Goldman
City of Sunnyvale
456 West Olive Avenue
Sunnyvale, CA 94086

United States Congress

Congressman Ro Khanna,
Representative 17th Congressional District
3150 De La Cruz Blvd, Ste 240
Santa Clara, CA 95054

TRIBES

Amah Mutsun Tribal Band
Valentin Lopez, Chairperson
P.O. Box 5272
Galt, CA, 95632

Amah Mutsun Tribal Band of Mission San Juan Bautista
Irenne Zwierlein, Chairperson
789 Canada Road
Woodside, CA, 94062

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28
Hollister, CA, 95024

Muwekma Ohlone Indian Tribe of the SF Bay Area
Charlene Nijmeh, Chairperson
20885 Redwood Road, Suite 232
Castro Valley, CA, 94546

Supervisor Susan Ellenberg
County of Santa Clara
70 West Hedding Street, 10th Floor
San Jose, CA 95110

Supervisor Joe Simitian
County of Santa Clara
70 West Hedding Street, 10th Floor
San Jose, CA 95110

State

Governor Gavin Newsom
California Office of the Governor
State Capitol, Ste 1173
Sacramento, CA 95814

Senator Jerry Hill, Senate District 13
1528 South El Camino Real, Ste 303
Sacramento, CA 94402

Assemblyman Marc Berman, Assembly District 24
5050 El Camino Real, Ste 117
Los Altos, CA 94022

Muwekma Ohlone Indian Tribe of the SF Bay Area
Monica Arellano,
20885 Redwood Road, Suite 232
Castro Valley, CA, 94546

North Valley Yokuts Tribe
Katherine Perez, Chairperson
P.O. Box 717
Linden, CA, 95236

North Valley Yokuts Tribe
Timothy Perez, MLD Contact
P.O. Box 717
Linden, CA, 95236

The Ohlone Indian Tribe
Andrew Galvan
P.O. Box 3388
Fremont, CA, 94539

The Confederated Villages of Lisjan
Corrina Gould, Chairperson
10926 Edes Avenue
Oakland, CA, 94603

Appendix A

Section 2841 of Public Law (P.L.) 115-91

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Subtitle E—Land Conveyances

SEC. 2841. LAND EXCHANGE, NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT, SUNNYVALE, CALIFORNIA.

(a) LAND EXCHANGE AUTHORIZED.—The Secretary of the Navy may convey to an entity (in this section referred to as the "Exchange Entity") all right, title, and interest of the United States in and to the parcel of real property, including improvements thereon, comprising the Naval Industrial Reserve Ordnance Plant (NIROP) located in Sunnyvale, California in exchange for—

(1) real property, including improvements thereon, that will replace the NIROP and meet the readiness requirements of the Department of the Navy, as determined by the Secretary; and

(2) relocation of contractor and Government personnel and equipment from the NIROP to the replacement facilities.

(b) LAND EXCHANGE AGREEMENT.—

(1) IN GENERAL.—The exchange authorized under subsection (a) shall be governed by a land exchange agreement that identifies the property to be exchanged (including improvements thereon), the time period in which the exchange will occur, and the roles and responsibilities of the Secretary and the Exchange Entity in carrying out the exchange.

(2) COMPLIANCE WITH ENVIRONMENTAL LAWS.—Nothing in this section shall be construed to affect or limit the application of, or any obligation to comply with, any environmental law, including the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601).

(c) VALUATION; CASH EQUALIZATION PAYMENT IF NIROP VALUE EXCEEDS VALUE OF EXCHANGED PROPERTY.—

(1) VALUATION.—The values of the properties to be exchanged by the Secretary and the Exchange Entity under subsection (a) (including improvements thereon) shall be determined by an independent appraiser selected by the Secretary, and in accordance with the Uniform Appraisal Standards for Federal Land Acquisitions and the Uniform Standards of Professional Appraisal Practice.

(2) CASH EQUALIZATION PAYMENT.—If, as determined in accordance with paragraph (1), the value of the NIROP is greater than the combination of the value of the property to be conveyed by the Exchange Entity under subsection (a) and the relocation costs covered by the Exchange Entity under such subsection, the Exchange Entity shall make a cash equalization payment to the Secretary to equalize the values. Nothing in this paragraph may be construed to require the Secretary to make a cash equalization payment to the Exchange Entity if the value of the property to be conveyed by the Exchange Entity and the relocation costs covered by the Exchange Entity are greater than the value of the NIROP.

(d) PAYMENT OF COSTS OF CONVEYANCE.—The Secretary shall require the Exchange Entity to pay costs incurred by the Department of the Navy to carry out the exchange authorized under subsection (a), including costs incurred for land surveys, environmental documentation, the review of replacement facilities design, real estate due diligence (including appraisals), preparing and executing the agreement described in subsection (b), and any other

administrative costs related to the exchange. If amounts are collected from the Exchange Entity in advance of the Secretary incurring the actual costs and the amount collected exceeds the costs actually incurred by the Secretary to carry out the exchange under subsection (a), the Secretary shall refund the excess amount to the Exchange Entity.

(e) TREATMENT OF AMOUNTS RECEIVED.—Amounts received under subsections (a), (c)(2), and (d) shall be used in accordance with section 2695(c) of title 10, United States Code.

(f) DESCRIPTION OF PROPERTY.—The exact legal description of the property, including acreage, to be exchanged under subsection (a) shall be determined by surveys satisfactory to the Secretary.

(g) RELATION TO OTHER MILITARY CONSTRUCTION REQUIREMENTS.—

(1) EXCLUSION FROM TREATMENT AS MILITARY CONSTRUCTION PROJECT.—The acquisition or disposition of any property pursuant to the exchange authorized under subsection (a) shall not be treated as a military construction project for which an authorization is required by section 2802 of title 10, United States Code, or for which reporting is required by section 2662 of such title.

(2) EXCLUSION OF REQUIREMENT FOR PRIOR SCREENING BY GENERAL SERVICES ADMINISTRATION FOR ADDITIONAL FEDERAL USE.—Section 2696(b) of title 10, United States Code, does not apply to the conveyance of any real property pursuant to the exchange authorized under subsection (a).

(h) ADDITIONAL TERMS AND CONDITIONS.—The Secretary may require such additional terms and conditions in connection with the exchange authorized under subsection (a) as the Secretary considers appropriate to protect the interests of the United States.

(i) SUNSET.—The authority provided to the Secretary to carry out the exchange under subsection (a) shall expire on October 1, 2023.

SEC. 2842. LAND CONVEYANCE, MOUNTAIN HOME AIR FORCE BASE, IDAHO.

(a) CONVEYANCE AUTHORIZED.—The Secretary of the Air Force may convey to the City of Mountain Home, Idaho (in this section referred to as the "City"), all right, title, and interest of the United States in and to a parcel of real property, including improvements thereon, consisting of approximately 4.25 miles of railroad spur located near Mountain Home Air Force Base, Idaho, as further described in subsection (c), for the purpose of economic development.

(b) CONSIDERATION.—

(1) CONSIDERATION REQUIRED.—As consideration for the land conveyed under subsection (a), the City shall pay to the Secretary an amount equal to the fair market value of the land, as determined by an appraisal approved by the Secretary. The City shall provide an amount that is acceptable to the Secretary, whether by cash payment, in-kind consideration as described under paragraph (2), or a combination thereof.

(2) IN-KIND CONSIDERATION.—In-kind consideration provided by the City under paragraph (1) may include the acquisition, construction, provision, improvement, maintenance, repair, or restoration (including environmental restoration), or combination thereof, of any facility or infrastructure under the jurisdiction of the Secretary.

Appendix B

Public Involvement

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DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY MONTEREY
271 STONE ROAD
MONTEREY CA 93943-5189

IN REPLY REFER TO:
5726
Ser N45/186
September 4, 2020

Dear Sir or Madam:

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT LAND EXCHANGE, SUNNYVALE, CA

The United States Navy is proposing to convey the Naval Industrial Reserve Ordnance Plant (NIROP) Sunnyvale for replacement real property and facilities that meet the Navy's readiness requirements. It is anticipated that Lockheed Martin-owned property and privately developed facilities in Titusville, Florida, would be provided as the exchange property. Once the property is exchanged and the facilities are certified for use, the facilities would operate as a government-owned, contractor-operated Fleet Ballistic Missile (FBM) design and production facility. The Proposed Action is needed because the NIROP facility at Sunnyvale will close and the Strategic Systems Programs (SSP) Program Management Office must be co-located with Lockheed Martin Space (LMS) in Navy-owned FBM production facilities to meet SSP's technical oversight mission requirements. The Navy must maintain ownership of FBM production facilities critical to national security to avoid potential future mission risk and maximize operational flexibility.

In accordance with the National Environmental Policy Act of 1969 (NEPA), the Navy has prepared an Environmental Assessment (EA) to evaluate the potential environmental impacts of the Proposed Action and is encouraging public participation in the environmental review process. **A 30-day public comment period will be open from September 4 through October 4, 2020.**

The Sunnyvale site is located in the Special Area designated as the Naval Program Office Strategic Systems Command Mountain View, which is associated with Naval Support Activity Monterey, in the City of Sunnyvale, at the southeast end of the San Francisco Bay metropolitan area (see Enclosures 1 and 2). The site currently consists of real property and government-owned, contractor-operated (GOCO) facilities that support the Navy's FBM program. The Sunnyvale site is operated by the FBM program's prime contractor, LMS. LMS is relocating portions of the FBM program to existing Lockheed Martin property in Titusville, Florida.

The EA analyzes the potential environmental impacts of the Proposed Action, as required under NEPA. Environmental issues addressed in the EA include land use, hazardous materials and waste, cultural resources, socioeconomics, environmental justice, air quality, noise, transportation, and infrastructure.

The Navy requests and welcomes your comments. Written comments may be submitted by email to rebecca.l.loomis@navy.mil, or via postal mail to:

Naval Facilities Engineering Command Southwest
Attn: Code EV26.RL
937 N. Harbor Drive
Environmental Dept.
San Diego, CA 92132

Comments must be postmarked or received online by October 4, 2020 to ensure they become part of the official record. All timely comments will be addressed in the EA.

For more information, please visit https://www.cnic.navy.mil/navysouthwestprojects or submit an inquiry to rebecca.l.loomis@navy.mil.

Sincerely,

TABER.VICTORIA.LEE.1157815527
Digitally signed by TABER.VICTORIA.LEE.1157815527
Date: 2020.08.26 12:10:45 -07'00'

Victoria L Taber
By direction

Enclosure: 1. NIROP Sunnyvale Regional Map
Enclosure: 2. Sunnyvale Site Map

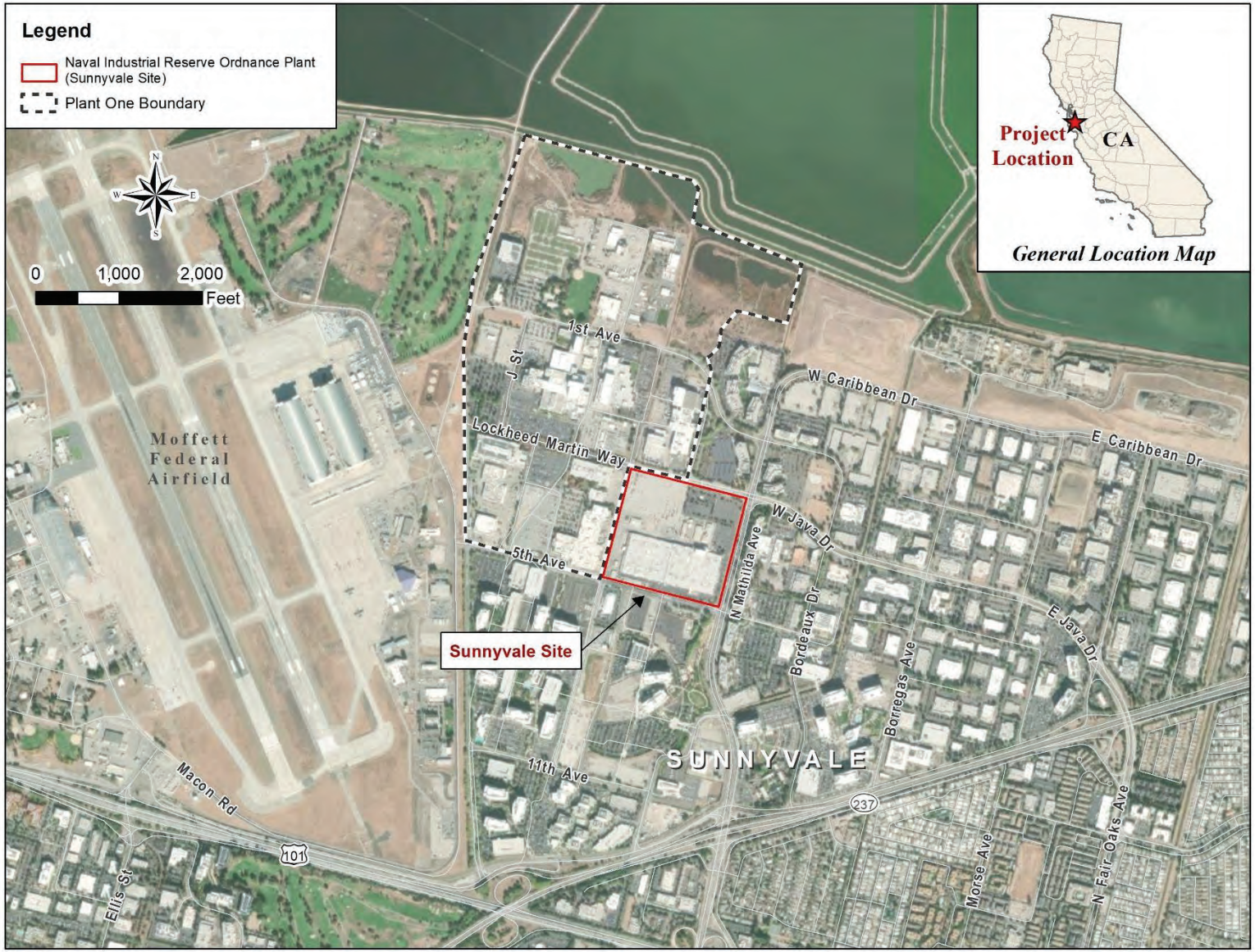
5726
Ser N45/186
September 4, 2020

NIROP Sunnyvale Regional Map

Enclosure 1

5726
Ser N45/186
September 4, 2020

Sunnyvale Site Map



Enclosure 2

NOTICE OF AVAILABILITY OF A DRAFT ENVIRONMENTAL ASSESSMENT FOR THE NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT LAND EXCHANGE, SUNNYVALE, CALIFORNIA

The Department of the Navy (Navy) announces the availability of, and invites public comments on, a Draft Environmental Assessment (EA) for the proposed land exchange of the Naval Industrial Reserve Ordnance Plant (NIROP) in Sunnyvale, California with an Exchange Partner for replacement real property and facilities that meet the Navy's readiness requirements. It is anticipated that Lockheed Martin-owned property and privately developed facilities in Titusville, Florida, would be provided as the exchange property. The public review period will be from September 4, 2020 – October 4, 2020.

The Navy will consider all comments submitted during the public comment period in the development of a Final EA. Comments on the Draft EA should be submitted to Ms. Rebecca Loomis, NAVFAC Southwest, Attn: Code EV26.RL, 937 N. Harbor Dr., Environmental Dept., San Diego, CA, 92132 on or before October 4, 2020. The Draft EA is available on-line at https://www.cnic.navy.mil/navysouthwestprojects.

Appendix C

Agency Coordination

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DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY MONTEREY
271 STONE ROAD
MONTEREY CA 93943-5189

11000
Ser N4/114
August 2, 2018

Ms. Julianne Polanco FAIA
State Historic Preservation Officer
California Department of Parks and Recreation
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Ms. Polanco:

SUBJECT: INITIATION OF CONSULTATION REGARDING TRANSFER OF NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT SUNNYVALE

This letter initiates consultation with your office regarding the Navy's proposed undertaking to transfer the Naval Industrial Reserve Ordnance Plant Sunnyvale (NIROP) out of Federal ownership. Pursuant to 36 CFR 800, regulations implementing Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended (16 USC 470s), the Navy is providing a description of the proposed undertaking, the proposed Area of Potential Effect, the identification of historic properties, and the Navy's finding that the subject undertaking will result in an adverse effect to the National Register of Historic Places (NRHP) eligible historic property.

Undertaking

The Navy proposes to transfer the 36-acre NIROP property in Sunnyvale, California, to a non-government third party. There will be no restrictions or conditions related to historic preservation associated with this transfer of property. Real property transfers are typically considered to be undertakings subject to the review process under Section 106 of the National Historic Preservation Act and its implementing regulations at 36 CFR 800.

Area of Potential Effect

Consistent with 36 CFR 800.16(d), the APE is broadly defined to consider the geographic area within which historic properties, if present, could be affected either directly or indirectly by the undertaking. For this undertaking, the APE includes entire 36 acres of the NIROP and associated buildings and infrastructure, as illustrated on the enclosed APE map. Because there are no ground disturbing activities associated with this undertaking, a vertical APE is not presented.

Identification of Historic Resources

Built Environment

All buildings and structures at the NIROP were inventoried and evaluated in 2013 as part of a Special Areas Historic Resources Survey and Evaluation (HDR Environmental). The 2013 evaluation identified two buildings that were eligible for listing on the National Register of Historic Places. Buildings 181 and 182 were determined eligible under Criterion A under the Cold War Weapons RDT&E

theme for their significant role in, and contributions to, the Navy's Fleet Ballistic Missile program between 1955 and 1975. The HDR survey and evaluation did not identify any architectural significance to any of the buildings at the NIROP and did not identify any historic districts.

Finding of Effect

Consistent with 36 CFR 800.5(a)(2)(vii), the transfer or sale of a historic property out of federal ownership or control constitutes an adverse effect when undertaken without adequate and legally enforceable restrictions or conditions to ensure the long-term preservation of the property's historic significance.

Consultation

The Navy's plan for consultation includes a separate notice to the Advisory Council on Historic Preservation. Additionally, the Navy is concurrently seeking input and comments from interested parties by copy of this letter. The Navy intends to hold public meetings beginning November 15, 2018.

The Navy respectfully requests your concurrence on the APE, the identification of historic properties, the finding of effect, and the plan to involve interested parties. Concurrent with your review, the Navy is developing a draft Memorandum of Agreement for resolution of the adverse effect to Buildings 181 and 182. The Navy will continue consultation at a later date to include a copy of the draft MOA for your review and comment.

As always, the Navy is pleased to provide any additional information upon request. Should you have any questions, please contact my Cultural Resource Manager Ms. Victoria Taber at (831) 656-7746 or victoria.l.taber@navy.mil.

Sincerely,

Victoria Taber
Installation Environmental Program Director
By direction of the
Commanding Officer

Enclosures: (1) DPR 523 Form for NIROP Sunnyvale
(2) Area of Potential Effects Map

Copy to: City of Sunnyvale
Office of the City Clerk
603 All America Way
Sunnyvale, CA 94086

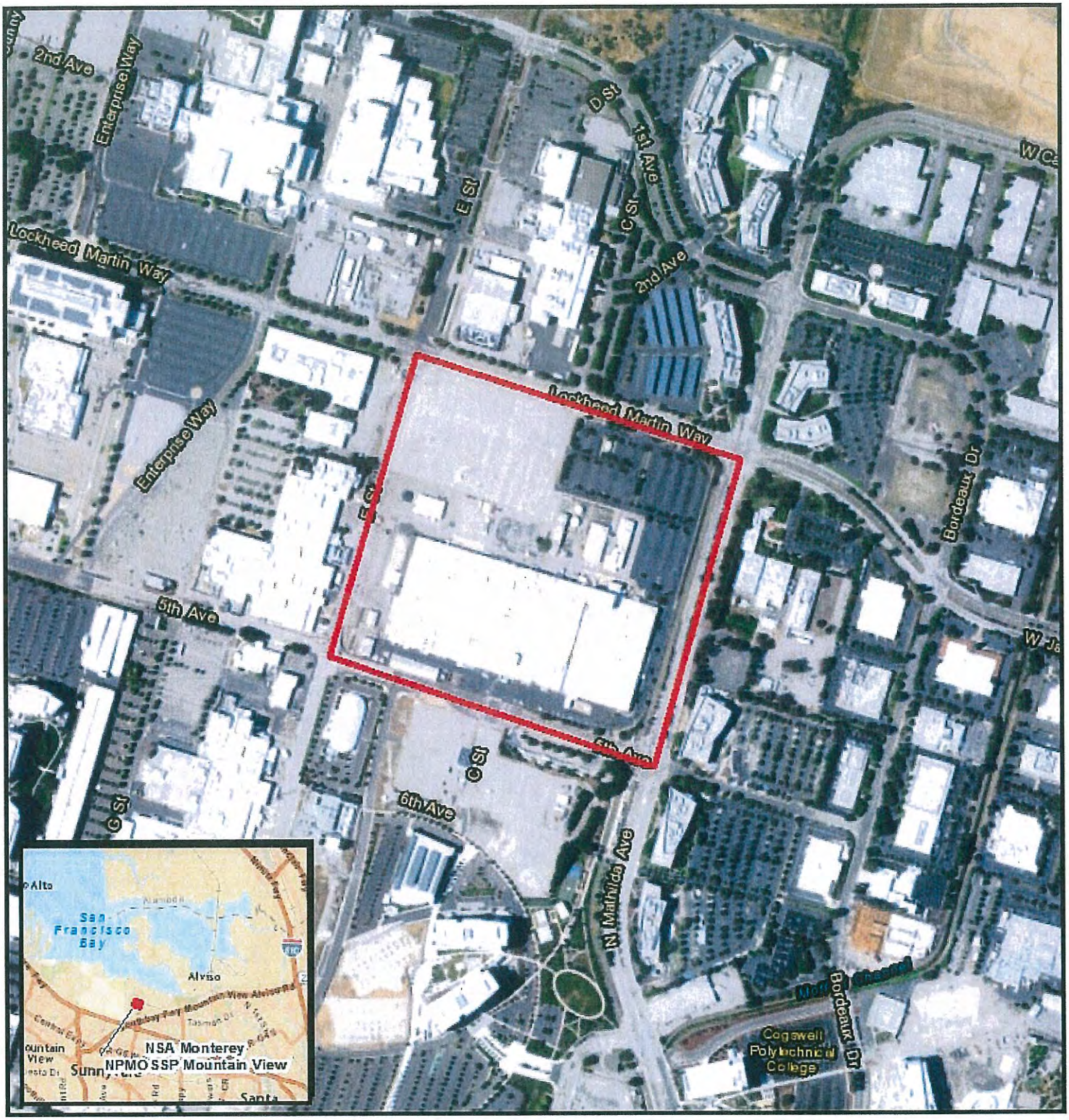
County of Santa Clara
Office of the Clerk, Board of Supervisors
70 West Hedding Street
10th Floor, East Wing
San Jose, CA 95110

Santa Clara County Historical and Genealogical Society
2635 Homestead Road
Santa Clara, CA 95051

Santa Clara County Historical Heritage Commission
70 W. Hedding Street, 10th Floor
San Jose, CA 95110

Santa Clara Historical Landmarks Commission
473 Fulton Court
Santa Clara, CA 95051

Sunnyvale Historical Society and Museum
P.O. Box 61301
Sunnyvale, CA 94086



Naval Industrial Reserve Ordnance Plant Sunnyvale

Naval Support Activity Monterey

Installation Boundary (APE)

Scale 1:7,200

N

0 300 600 Feet

0 100 200 Meters

Encl. (1)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3S (Building 181) 6Z (Buildings 181A and 181D)

Other Listings
Review Code | Reviewer | Date

*Resource Name or #: NAVPMOSSP Mountain View Engineering Design Lab Group

P1. Other Identifier: Building 181 Engineering Design Lab; Building 181A Flagpole; Building 181D Water Cooling Tower

***P2. Location:** ☒ **Not for Publication** ☐ **Unrestricted** ***a. County:** San Jose

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Mountain View **Date:** T ; R ; ¼ of ¼ of Sec ; M.D. **B.M.**

c. Address: Lockheed Martin Way and N Mathilda Ave City: Sunnyvale Zip: 94089

d. UTM: Zone: 10 ; 586085.551849 mE/ 4140999.70465 mN (G.P.S.)

e. Other Locational Data:

***P3a. Description:** Building 181 has a rectangular floor plan and is built with concrete walls on a concrete slab foundation. It has a a flat roof. The eastern end of the building is double height, while the western end, which abuts the eastern end of Building 182, is trible height.

Building 181's east, and primary, façade has a centrally-located formal entrance. A large, flat, metal awning covers an aluminum storefont system. The awning is supported on the north end with a flagstone wall projecting from the face of the building. South of the entrance, the building façade has a matching flagstone veneer. There are concrete stairs and a ramp with an integrated planter leading to the enty.The storefront has six bays, one of which contains a set of double doors.The other bays are large, single-light storefront windows. The metal flagpole designated as Building 181a is adjacent to the entrance. The rest of this façade is blank. The north and south facades feature a number of personnel and vehicular doors. All of these doors are metal and utilitarian; vehicular doors are roll-up. There is a loading dock on the south façade with an L-shaped metal covering. Metal, exterior stairs provide access to doorways in the upper portions of the building.

Building 181A is a flagpole at the main entrance on the east façade. Building 181D is the cooling tower for Building 181 and is located north of Building 181 and adjacent to Building 13, the Phase II cooling tower for Building 182.

(SEE CONTINUATION SHEET)

***P3b. Resource Attributes:** HP8 Industrial Building , HP34 Military

***P4. Resources Present:** ☒Building ☒Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5b. Description of Photo: Building 181 east, primary façade. September 18, 2012

***P6. Date Constructed/Age and Sources:** 1958 ☒Historic ☐Prehistoric ☐Both
Navy Records

***P7. Owner and Address:**
Commander Navy Installations Command
Naval Support Activity Monterey
271 Stone Road
Monterey, CA 93943

***P8. Recorded by:**
Kathryn Plimpton, HDR EOC
9563 South Kingston Ct, Suite 200
Englewood, CO 80112

***P9. Date Recorded:**
September 18, 2012

***P10. Survey Type:** Intensive

***P11. Report Citation** HDR, Inc. *Special Areas Historic Resources Survey and Evaluation, Naval Support Activity Monterey, California.* Prepared for Naval Facilities Engineering Command Southwest, 2013.

***Attachments:** ☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

*Required information

Encl. (2)

B1. Historic Name: Phase I, Engineering Design and Laboratory Building

B2. Common Name: Building 181, 181A, 181D

B3. Original Use: Engineering design facility

B4. Present Use: Same

***B5. Architectural Style:** Industrial

***B6. Construction History:** Buildings 181, 181A, 181D were constructed in 1958. Alterations to 181 include addition of a wheelchair ramp at the main entrance.

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**

***B8. Related Features:** .

B9a. Architect: unknown

b. Builder: J. H. Pomeroy and Company

***B10. Significance: Theme:** Military Weapons Research, Development, Testing **Area:** Sunnyvale
Period of Significance: Building 181 (1958) **Property Type:** Design Buildings **Applicable Criteria:** A

Buildings 181A, and 181D supported activites in Building 181 and neither have sufficient historical (Criterion A) or architectural (Criterion C) significance to qualify for National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR) eligibility either individually or as contributing elements to a historic district. Building 181 was purpose built for the Polaris Program but has significant and direct associations with all six generations of the Navy's FBM program, from initial construction in 1958 to the present day. The building also retains high levels of integrity in all aspects. Building 181 is eligible for listing in the National Register of Historic Places (NRHP) under Criterion A.

Historic Context

The development and use of nuclear weapons during World War II by the United States military was a decisive factor in the surrender of the Japanese. However, even before the end of the war, the United States was considering the future of nuclear arsenals in the predicted post-war, two-superpower, sociopolitical climate. The Army and Air Force began independently working on their own ballistic missile designs in the late 1940s, with the first successful intercontinental missile launch (the Atlas-D) in 1958. The Air Force had established the Strategic Air Command (SAC) in March 1946 which relied on long-range bombers to attack Soviet military targets and fighter interceptor squadrons under the Air Defense Command (ADC) to protect U.S. cities and DoD installations and became the early focus of a nuclear armament strategy.

(SEE CONTINUATION SHEET)

B11. Additional Resource Attributes:

***B12. References:**

(SEE CONTINUATION SHEET)

B13. Remarks:

***B14. Evaluator:** Kathryn Plimpton and Chad Blackwell

***Date of Evaluation:** October 24, 2012

(This space reserved for official comments.)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

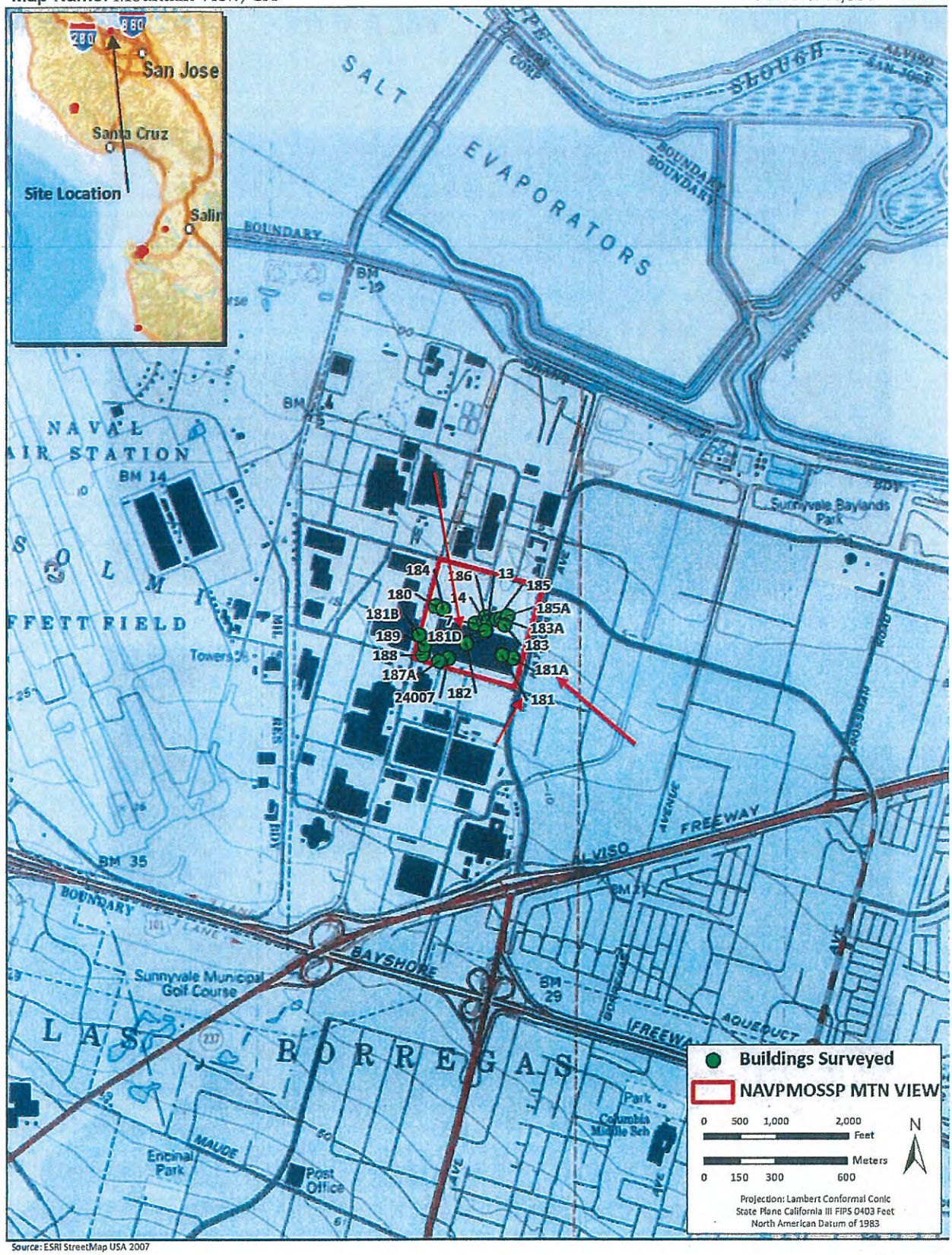
LOCATION MAP

Primary #
HRI#
Trinomial

*Resource Name or #: NAVPMOSSP Mtn. View Engineering Design Lab Group

*Map Name: Mountain View, CA

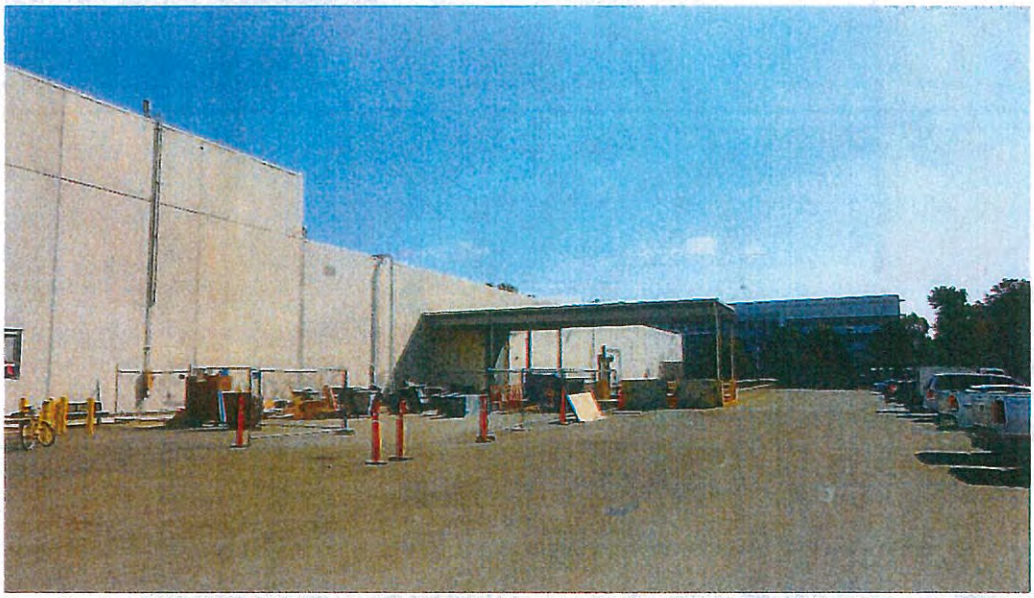
*Scale: 1:24,000 *Date of Map: 1997



Source: ESRI StreetMap USA 2007

*Required information

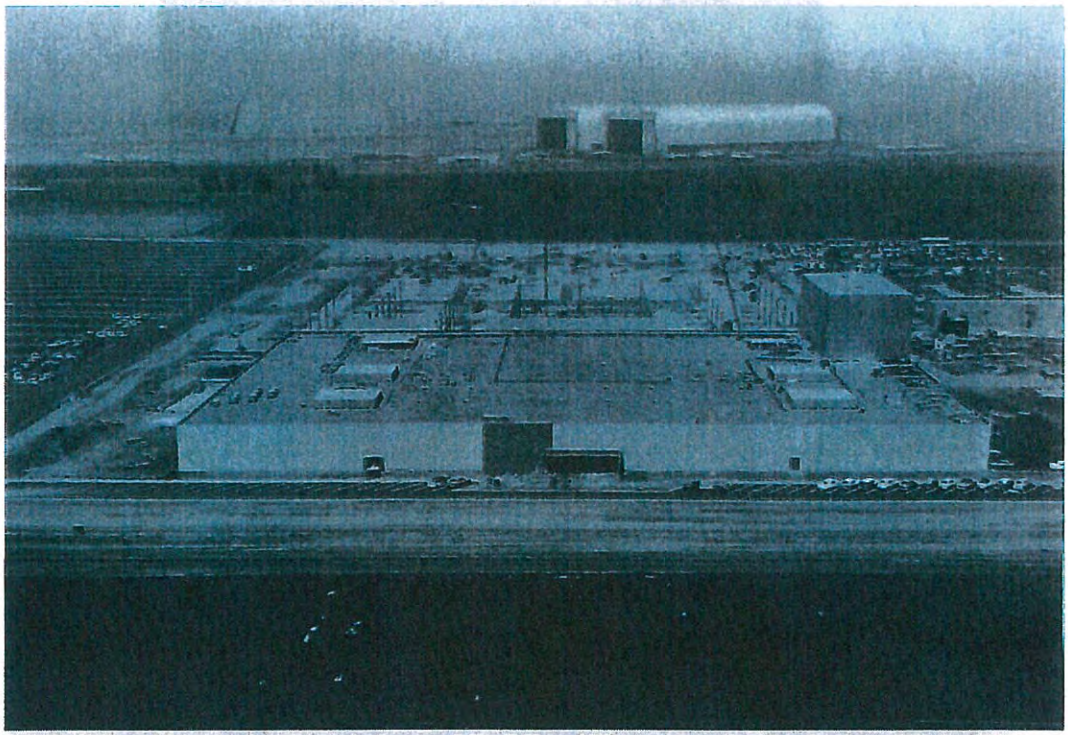
P3a. Description: (cont.)



Building 181, South façade, view to Northeast, September 18, 2012

Building 181, North façade and High Bay, view to Southwest, September 18, 2012

Building 181 High Bay, view to East, September 18, 2012



Building 181 nearing completion and Building 182 construction beginning, 3 July 1958

Main Entrance to Building 181 and Flagpole (181A), 1959

Building 181D, Cooling Tower for Building 181, view to South, September 18, 2012

Building 181A- Flagpole
Building 181A is the flagpole located at the main entrance to Building 181 on its east façade. It is a nautical style flagstaff with a vertical pole and crossing yardarms.

Building 181D- Cooling Tower
Building 181D is the Water Cooling Tower for Building 181 and is adjacent to Building 13, the Phase II Cooling Tower for Building 182. It sits on a concrete pad and is rectangular in shape. The east and west walls of the structure have corrugated metal siding. The north and south walls have opened louvers that water flows down inside the structure to provide evaporative cooling.

B10. Significance cont.

Historic Context cont.

Immediately following World War II, the U.S. Navy did not initially perceive a substantial role for nuclear weapons in their arsenal. However, by the 1950s Navy leaders envisioned a three-pronged strategy for developing nuclear weapon delivery and in 1955 Secretary of the navy Charles S. Thomas asserted in his annual report that for the Navy "the greatest [offensive] emphasis has been placed on increasing atomic weapons delivery potential."[1] This three-pronged initiative consisted of aircraft launched from heavy attack carriers, cruise missiles launched from surface ships, and ballistic missiles launched from nuclear-powered submarines. With the development of working medium- and intermediate-range missiles in the early 1950s with greater range and increased payload capacity, it was only a matter of time until SAC's bombers would be obsolete. Both the United States and Soviet Union were intent on developing intercontinental missiles that allowed for first strike capability. With the first successful launch of the Polaris missile on 20 July 1960, the third prong of the Navy's nuclear delivery strategy immediately eclipsed the other two in importance.

In 1955, Navy Secretary Thomas established the Special Projects Office (SPO) to manage the Navy's portion of the joint Army-Navy development of the Jupiter missile program. The SPO was created as an independent entity from the Bureaus of Ordnance and Aeronautics specifically for the joint development program, but was intended to be a temporary addition to the Navy's acquisition structure.[2] Less than a year after its creation, the SPO mission changed dramatically when the Navy chose to develop a solid-fuel missile rather than the liquid-fuel version under development with the Jupiter program. The Navy's FBM program began in earnest with a suggestion by Dr. Edward Teller that recent advancements in reducing weight and increasing the yield of nuclear weapons would allow the Navy to develop an SBLM.[3] Based on Teller's predictions, the feasibility of solid-fuel missiles with suitable range and payload capacities revealed a new development path.[4] In December 1956 the SPO began the Polaris SLBM program. Initially the Polaris was conceived as a 30,000 pound missile that could deliver a suitable nuclear warhead with a 1200 mile range. The Army, Air Force, and Navy were all competing for DoD funding of separate ballistic missile programs and because of this, initial budgets were not robust. In May 1957 the Navy SPO created a Polaris Task Group which determined that with current funding the first Polaris A missile would be ready by January 1965.[5] The Polaris system relied on several advanced technologies—nuclear submarine propulsion, solid-fuel propellant meeting range and payload requirements, lighter and smaller nuclear warheads, a compact on-board inertial guidance system, and an inertial navigation system for the submarine. When making this declaration in 1957, only the nuclear submarine propulsion technology was a reality.[6]

The Soviet Union's launching of Sputnik on 4 October 1957 took the United States by surprise. Not only did the Soviet Union beat the United States to space, the DoD did not even have a missile capable of launching a satellite. To remedy this, the DoD began to fund all ballistic missile programs at high levels. The Navy SPO not only had to design and test a missile, but also to

[1] Elliot V. Converse, *Rearming for the Cold War 1945-1960,* (Washington D.C.: Historical Office, 2012).
[2] "Ibid."
[3] Graham Spinardi, *From Polaris to Trident: The Development of US Fleet Ballistic Missile Technology,* (New York: Cambridge University Press, 1994).
[4] Converse, *Rearming.*
[5] Spinardi, *From Polaris to Trident.*
[6] Converse, *Rearming.*

develop submarine launch capabilities and guidance systems. The Navy was determined to get the newly renamed Polaris A1 completed by November 1960.[7]

SPO's relationship with private-sector contractors had been established with the joint Army-Navy Jupiter program, where Chrysler served as the overall weapon systems manager and prime contractor. Lockheed Martin was selected as the prime contractor for the Polaris project, but SPO retained the overall weapon system manager role in-house.[8] Lockheed Martin Space Company was contracted to design, test, and manufacture all aspects of the Polaris missile, minus the guidance system developed by the Charles Stock Draper Lab. In addition to developmental testing at Lockheed Martin facilities, Naval Air Weapons Station (NAWS) China Lake became involved with the FBM program at this time. Facilities were constructed at San Clemente Island for "Operation Pop-Up," the development of Polaris' underwater launch capabilities. The construction of Skytop (Strategic Systems Propulsion Test Facilities) at China Lake in 1958 was intended as a test facility for the Polaris propulsion system.[9] Testing of the Polaris A1 missile began in September 1958 and the first launch from a submarine was conducted in July 1960. The Polaris A2, developed simultaneously with the A1, had a longer range, a warhead with a greater yield, and more stable electronics. The Polaris A2 was tested in November 1960, launched from a submarine in October 1961, and was operational on active submarines in June 1962. Later the same year the first Polaris A3 missiles were being tested. Throughout the 1960s, converted submarines were deployed with Polaris ballistic missiles.[10]

The next major shift in the FBM program came with the announcement of the Poseidon C-3 missile. On 18 January 1965, President Lyndon B. Johnson announced to Congress that his administration proposed development of a new FBM with increased accuracy and capacity requiring only minor retrofits to the current Poseidon class submarines.[11] The Poseidon had a range of 2,500 miles, was twice as accurate as the Polaris A3 and could be launched from a submerged FBM submarine.[12] The routine of multiple test firings through development began to be diminished with advances in computing allowing complex simulation and analysis and the expanded role of FBM testing at NAWS China Lake. The role of China Lake in Poseidon included collaboration with the Massachusetts Institute of Technology, a contractor to the Navy, on Poseidon's guidance system and on the testing and evaluation of Poseidon engines.[13] The new process of simulation and analysis allowed a significant savings in cost and time.[14] Live test firings of Poseidon test vehicles occurred at the Lockheed facility in Santa Cruz (at Test Stands 1 and 2) and at San Francisco Bay Naval Shipyard (Hunters Point Division) using the PEASHOOTER land-based launcher (December 1966) and the Skycatch special crane (April 1967). The first full-scale static firing of Poseidon was on 5 July 1967 at the Hercules, Inc. facility in Magna, Utah.[15] The first FBM submarine with Poseidon missiles was deployed in 1971. By the end of the decade the Trident-I C4 was phased into use.

The Trident-I (C4) technical program was approved in March 1974. Shortly after approval, research and development work on Trident motors was conducted at NAWS China Lake, as well as initial motor testing for Trident I and later Trident II.[16] Flight tests for Trident were conducted at Vandenberg Air Force Base (AFB) from June 1974 to January 1976, and at Cape Canaveral from January 1977 to January 1979.[17] The Trident allowed for an increase in range (4,000 miles) and a higher payload without increasing the physical dimensions of the missile. Trident also used both stellar and inertial guidance allowing for a more accurate missile.[18] The Trident II D5 is the current weapon used on Navy FBM submarines.

Research, development, and testing of Polaris FBMs were primarily conducted at three Lockheed Martin installations in California. Beginning with the development of Poseidon, much of the research, development, and testing was offloaded to other

[7] Spinardi, *From Polaris to Trident.*
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The NAVPMOSSP Mtn. View facility is associated with all six generations of the Navy's FBM program—from Polaris to Trident. Buildings and structures at NAVPMOSSP Mtn. View constructed between 1958 and 1961 are associated with the development, manufacture, and testing of the Polaris, Poseidon, and Trident missile programs. The Poseidon program began in 1965 and Trident in 1974. Buildings and structures at NAVPMOSSP Mtn. View constructed between 1967 and 1970 were used for Poseidon and Trident programs.

Evaluation

Although associated with the Poseidon and Trident programs, NAVPMOSSP Mtn. View was constructed for and is most directly associated with the Polaris program. Beginning with Poseidon, research, development, and testing were moved to other military installations, including NAWS China Lake and Vandenberg AFB, although overall program management remained at NAVPMOSSP Mtn. View.

Therefore, there are two periods of significance at NAVPMOSSP Mtn. View. The period from 1958 to 1962 begins with initial construction of the GOCO facility to develop the Polaris FBM and continues until the first successful launch of Polaris from a submarine. The Polaris period is marked by NAVPMOSSP Mtn. View being the center of the FBM program and intimately involved in every aspect of research, development, testing, and evaluation. Although not all aspects were performed at the NAVPMOSSP Mtn. View facility, the majority was, with the rest at the nearby Lockheed C-10 facility or Det. Santa Cruz.

The second period of significance is from 1965 to 1989, beginning with the development of the Poseidon program and ending at the acknowledged terminal date of the Cold War. Despite the continued used today of the NAVPMOSSP Mtn. View facility, the end of the Cold War was used as the terminal date for the second period because the Navy's FBM program was conceived and implemented as a Cold War nuclear deterrent. During this period NAVPMOSSP Mtn. View remained associated with the management of the Navy's FBM progam, but many aspects of development, testing, and evaluation were moved to other Lockheed facilities, other GOCOs, or other military installations.

Buildings 181 and 182, the Engineering Design Lab and Manufacturing Building, respectively, are the only two buildings and structures evaluated eligible for listing in the NRHP. Buildings 181 and 182 were constructed in the spring and summer of 1958

respectively. Together they cover 800,000 square feet and make up most of the NAVPMOSSP Mtn. View facility. The buildings are surrounded by a fence that requires special access passes. The buildings house office and administration, labs, test cells, manufacturing shops, and an 80-foot tall highbay that allows for upright static missile assembly and testing. Buildings 181 and 182 have significant and direct associations with all six generations of the Navy's FBM program, from initial construction in 1958 to the present day but were purpose built for the Polaris Program. Building 181, the Engineering Design Lab, is where development of the FBM program occurred, as well as housing the overall FBM program management. Building 182, the Manufacturing Building, housed fabrication shops, inspection shops, and testing laboratories. However, constructed as one building in two parts, the work conducted in each building was correlated to that occurring in the other. The original drawings for Buildings 181 and 182 list them as one building, the "Engineering Design and Laboratory Building," with two phases.

Building 181 is NRHP-eligible for associations with the Navy's FBM program, most notably with the Polaris program from 1958 to 1962. Building 181 retains high levels of integrity in all aspects. Most material changes over time occurred in the interior spaces, which were designed to be modular and changeable. Its integrity of location, design, materials, workmanship, feeling, and association all remain extremely high. The setting has changed dramatically from the initial period of construction in 1958. When Lockheed purchased the agricultural parcel, nearby Moffett Field/NAS Sunnyvale was the only other large developed parcel in the adjacent surroundings. The current setting is one of a highly-developed, technology business park containing the home offices of many of the country's largest technology companies. However, this altered setting is the result of a trend began by Lockheed Martin with construction of its Sunnyvale facility surrounding NAVPMOSSP Mtn. View in 1956. Thus, the changes in the setting occurred related to the use of the area for defense- and technology-related programs and construction, and are a natural evolution of the Lockheed facilities.

. The remaining buildings in the Engineering Design Laboratory Group were constructed during the Polaris period and supported activities or activities in Building 181. Neither have sufficient historical (Criterion A) or architectural (Criterion C) significance t qualify for NRHP eligibility either individually or as contributing elements to a historic district. Buildings 181A and 181D are n eligible for listing in the NRHP.

B12. References

Converse, Elliot V. *Rearming for the Cold War 1945-1960.* Washington D.C.: Historical Office, 2012

Spinardi, Graham. *From Polaris to Trident: The Development of US Fleet Ballistic Missile Technology.* New York: Cambridge University Press, 1994.

R. Christopher Goodwin and Associates, Inc. *Navy Cold War Guided Missile Context: Resources Associated with the Navy's Guided Missile Program, 1946–1989.* Prepared for Department of the Navy Atlantic Division, Naval Facilities Engineering Command, 1995.

Strategic Systems Project Office. *FBM Facts: Chronology-Polaris, Poseidon, Trident.* Washington DC: Navy Department, 1982.

Control Data Corporation. *Hybrid Computing at Lockheed: Application Report.* Prepared by Control Data Corporation, Minneapolis, n.d.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3S

Other Listings
Review Code | Reviewer | Date

*Resource Name or #: Building 182, Manufacturing Building

P1. Other Identifier: Manufacturing Building

*P2. Location: ☒ Not for Publication ☐ Unrestricted *a. County: San Jose

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: Mountain View Date: T ; R ; ¼ of ¼ of Sec ; M.D. B.M.

c. Address: Lockheed Martin Way and N Mathilda Ave City: Sunnyvale Zip: 94089

d. UTM: Zone: 10 ; 585933.568251 mE/ 4141045.63585 mN (G.P.S.)

e. Other Locational Data: Elevation:

*P3a. Description: Building 182 is a large industrial building constructed in 1958. It is a rectangular building constructed of concrete walls on a concrete slab foundation. It has a double heigh interior with a flat roof. Th east wall of Building 182 is the west wall of Building 181, the western end of which is slightly taller than Building 182. The building has a mix of personnel and vehicular doors on all facades, as well as exterior loading docks. All doors are metal, utilitarian doors; garage doors are roll-up doors. The west wall of Building 182 has a full width loading dock, which has been partially enclosed with a metal structure with metal paneling. There are open sections in the enclosure for truck access. There are a number of additions on the north and south facades, all of which are generally constructed of modular, metal building systems.
(see continuation sheet)

*P3b. Resource Attributes: HP8 Industrial Building , HP34 Military Building

*P4. Resources Present: ☒Building ☒Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5b. Description of Photo:
September 18, 2012 view to southwest of Building 181 north façade.

*P6. Date Constructed/Age and Sources: 1958 ☒Historic ☐Prehistoric ☐Both
Navy Records

*P7. Owner and Address:
Commander Navy Installations Command
Naval Support Activity Monterey
271 Stone Road
Monterey, CA 93943

*P8. Recorded by:
Kathryn Plimpton, HDR EOC
9563 South Kingston Court, Suite 200
Englewood, CO 80112

*P9. Date Recorded: September 18, 2012

*P10. Survey Type: Intensive

*P11. Report Citation: HDR, Inc. *Special Areas Historic Resources Survey and Evaluation, Naval Support Activity Monterey, California.* Prepared for Naval Facilities Engineering Command Southwest, 2013.

*Attachments: ☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code

*Resource Name or # Building 182, Manufacturing Buildi

B1. Historic Name: Phase II, Engineering Design and Laboratory Building

B2. Common Name: Manufacturing Building

B3. Original Use: Manufacturing facility B4. Present Use: Same

***B5. Architectural Style:** Utilitarian

***B6. Construction History:** Buildings 182 constructed in 1958, has been altered by the addition of loading dock enclosures and various modular, metal building additions.

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**

***B8. Related Features:** .

B9a. Architect: unknown b. Builder: unknown

***B10. Significance: Theme:** Military Weapons Research, Development, Testing **Area:** Sunnyvale
Period of Significance: 1958-1962 **Property Type:** Weapons Manufacturing **Applicable Criteria:** A

Building 182 was purpose built for the Polaris Program but has significant and direct associations with all six generations of the Navy's FBM program, from initial construction in 1958 to the present day. The building also retains high levels of integrity in all aspects. Building 182 is eligible for listing in the National Register of Historic Places (NRHP) under Criterion A.

Historic Context

The development and use of nuclear weapons during World War II by the United States military was a decisive factor in the surrender of the Japanese. However, even before the end of the war, the United States was considering the future of nuclear arsenals in the predicted post-war, two-superpower, sociopolitical climate. The Army and Air Force began independently working on their own ballistic missile designs in the late 1940s, with the first successful intercontinental missile launch (the Atlas-D) in 1958. The Air Force had established the Strategic Air Command (SAC) in March 1946 which relied on long-range bombers to attack Soviet military targets and fighter interceptor squadrons under the Air Defense Command (ADC) to protect U.S. cities and DoD installations and became the early focus of a nuclear armament strategy.

(SEE CONTINUATION SHEET)

B11. Additional Resource Attributes:

***B12. References:**

(SEE CONTINUATION SHEET)

B13. Remarks:

***B14. Evaluator:** Kathryn Plimpton and Chad Blackwell

***Date of Evaluation:** October 24, 2012

(This space reserved for official comments.)

*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

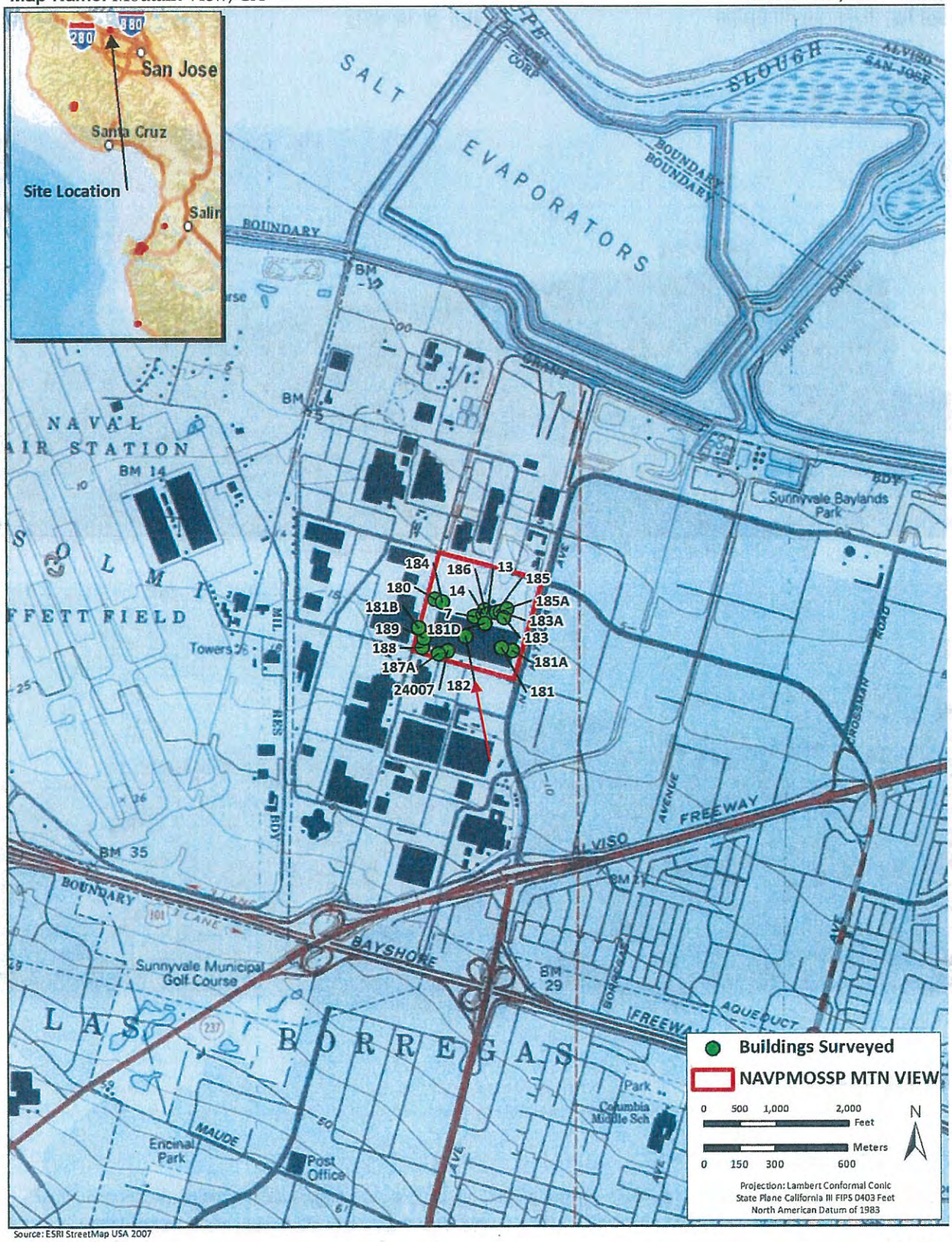
LOCATION MAP

Primary #
HRI#
Trinomial

*Resource Name or #: Building 182, Manufacturing Building

*Map Name: Moutain View, CA

*Scale: 1:24,000 *Date of Map: 1997

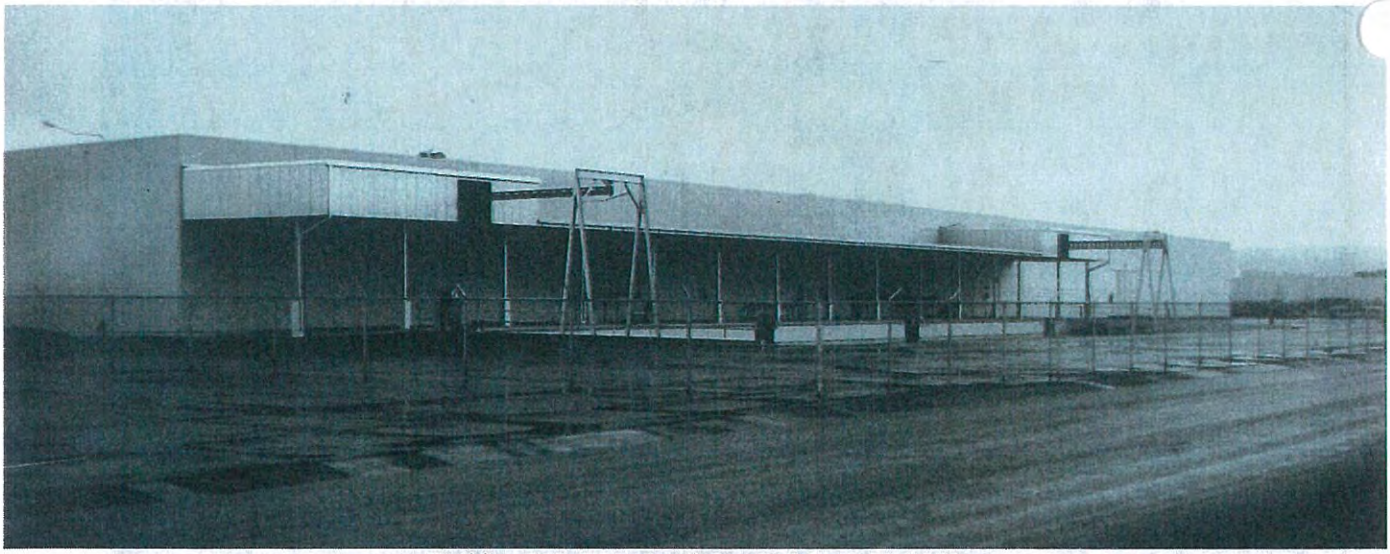


Source: ESRI StreetMap USA 2007

*Required information

P3a. Description: (cont.)

Building 182, West (rear) façade. September 18, 2012



Building 182, West (rear) façade, March 23, 1959

B10. Significance cont.

Historic Context cont.

Immediately following World War II, the U.S. Navy did not initially perceive a substantial role for nuclear weapons in their arsenal. However, by the 1950s Navy leaders envisioned a three-pronged strategy for developing nuclear weapon delivery and in 1955 Secretary of the navy Charles S. Thomas asserted in his annual report that for the Navy "the greatest [offensive] emphasis

has been placed on increasing atomic weapons delivery potential."[1] This three-pronged initiative consisted of aircraft launched from heavy attack carriers, cruise missiles launched from surface ships, and ballistic missiles launched from nuclear-powered submarines. With the development of working medium- and intermediate-range missiles in the early 1950s with greater range and increased payload capacity, it was only a matter of time until SAC's bombers would be obsolete. Both the United States and Soviet Union were intent on developing intercontinental missiles that allowed for first strike capability. With the first successful launch of the Polaris missile on 20 July 1960, the third prong of the Navy's nuclear delivery strategy immediately eclipsed the other two in importance.

In 1955, Navy Secretary Thomas established the Special Projects Office (SPO) to manage the Navy's portion of the joint Army-Navy development of the Jupiter missile program. The SPO was created as an independent entity from the Bureaus of Ordnance and Aeronautics specifically for the joint development program, but was intended to be a temporary addition to the Navy's acquisition structure.[2] Less than a year after its creation, the SPO mission changed dramatically when the Navy chose to develop a solid-fuel missile rather than the liquid-fuel version under development with the Jupiter program. The Navy's FBM program began in earnest with a suggestion by Dr. Edward Teller that recent advancements in reducing weight and increasing the yield of nuclear weapons would allow the Navy to develop an SBLM.[3] Based on Teller's predictions, the feasibility of solid-fuel missiles with suitable range and payload capacities revealed a new development path.[4] In December 1956 the SPO began the Polaris SLBM program. Initially the Polaris was conceived as a 30,000 pound missile that could deliver a suitable nuclear warhead with a 1200 mile range. The Army, Air Force, and Navy were all competing for DoD funding of separate ballistic missile programs and because of this, initial budgets were not robust. In May 1957 the Navy SPO created a Polaris Task Group which determined that with current funding the first Polaris A missile would be ready by January 1965.[5] The Polaris system relied on several advanced technologies—nuclear submarine propulsion, solid-fuel propellant meeting range and payload requirements, lighter and smaller nuclear warheads, a compact on-board inertial guidance system, and an inertial navigation system for the submarine. When making this declaration in 1957, only the nuclear submarine propulsion technology was a reality.[6]

The Soviet Union's launching of Sputnik on 4 October 1957 took the United States by surprise. Not only did the Soviet Union beat the United States to space, the DoD did not even have a missile capable of launching a satellite. To remedy this, the DoD began to fund all ballistic missile programs at high levels. The Navy SPO not only had to design and test a missile, but also to develop submarine launch capabilities and guidance systems. The Navy was determined to get the newly renamed Polaris A1 completed by November 1960.[7]

SPO's relationship with private-sector contractors had been established with the joint Army-Navy Jupiter program, where Chrysler served as the overall weapon systems manager and prime contractor. Lockheed Martin was selected as the prime contractor for the Polaris project, but SPO retained the overall weapon system manager role in-house.[8] Lockheed Martin Space Company was contracted to design, test, and manufacture all aspects of the Polaris missile, minus the guidance system developed by the Charles Stock Draper Lab. In addition to developmental testing at Lockheed Martin facilities, Naval Air Weapons Station (NAWS) China Lake became involved with the FBM program at this time. Facilities were constructed at San Clemente Island for "Operation Pop-Up," the development of Polaris' underwater launch capabilities. The construction of Skytop (Strategic Systems Propulsion Test Facilities) at China Lake in 1958 was intended as a test facility for the Polaris propulsion system.[9] Testing of the Polaris A1 missile began in September 1958 and the first launch from a submarine was conducted in July 1960. The Polaris A2, developed simultaneously with the A1, had a longer range, a warhead with a greater yield, and more stable electronics. The Polaris A2 was tested in November 1960, launched from a submarine in October 1961, and was operational on active submarines in June 1962.

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*Recorded by: Kathryn Plimpton *Date: 9/ 18/ 2012 ■ Continuation □ Update

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The second period of significance is from 1965 to 1989, beginning with the development of the Poseidon program and ending at the acknowledged terminal date of the Cold War. Despite the continued used today of the NAVPMOSSP Mtn. View facility, the end of the Cold War was used as the terminal date for the second period because the Navy's FBM program was conceived and implemented as a Cold War nuclear deterrent. During this period NAVPMOSSP Mtn. View remained associated with the management of the Navy's FBM progam, but many aspects of development, testing, and evaluation were moved to other Lockheed facilities, other GOCOs, or other military installations.

Buildings 181 and 182, the Engineering Design Lab and Manufacturing Building, respectively, are the only two buildings and structures at NAVPMOSSP Mtn. View evaluated eligible for listing in the NRHP. Buildings 181 and 182 were constructed in the spring and summer of 1958 respectively. Together they cover 800,000 square feet and make up most of the NAVPMOSSP Mtn. View facility. The buildings are surrounded by a fence that requires special access passes. The buildings house office and administration, labs, test cells, manufacturing shops, and an 80-foot tall highbay that allows for upright static missile assembly and testing. Buildings 181 and 182 have significant and direct associations with all six generations of the Navy's FBM program, from initial construction in 1958 to the present day but were purpose built for the Polaris Program. Building 181, the Engineering Design Lab, is where development of the FBM program occurred, as well as housing the overall FBM program management. Building 182, the Manufacturing Building, housed fabrication shops, inspection shops, and testing laboratories. However, constructed as one building in two parts, the work conducted in each building was correlated to that occurring in the other. The original drawings for Buildings 181 and 182 list them as one building, the "Engineering Design and Laboratory Building," with two phases.

Building 181 and 182 also retain high levels of integrity in all aspects. Most material changes over time occurred in the interior spaces, which were designed to be modular and changeable. Their integrity of location, design, materials, workmanship, feeling, and association all remain extremely high. Changes to the exterior are minor and include replacement of exterior stairways with new to meet code requirements and the enclosure of the original awning that covered the loading bays on the west, rear façade of Building 182. The setting has changed dramatically from the initial period of construction in 1958. When Lockheed purchased the agricultural parcel, nearby Moffett Field/NAS Sunnyvale was the only other large developed parcel in the adjacent surroundings. The current setting is one of a highly-developed, technology business park containing the home offices of many of the country's

largest technology companies. However, this altered setting is the result of a trend began by Lockheed Martin with construction of its Sunnyvale facility surrounding NAVPMOSSP Mtn. View in 1956. Thus, the changes in the setting occurred related to the use of the area for defense- and technology-related programs and construction, and are a natural evolution of the Lockheed facilities.

B12. References

Converse, Elliot V. *Rearming for the Cold War 1945-1960.* Washington D.C.: Historical Office, 2012

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Control Data Corporation. *Hybrid Computing at Lockheed: Application Report.* Prepared by Control Data Corporation, Minneapolis, n.d.

State of California • Natural Resources Agency Edmund G. Brown Jr., *Governor*

OFFICE OF HISTORIC PRESERVATION Julianne Polanco, *State Historic Preservation Officer*
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
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October 2, 2018 Reply In Reference to: USN_2018_0806_001

Victoria Taber
Installation Environmental Program Director
Naval Support Activity Monterey
271 Stone Road
Monterey, CA 93943-5189

RE: Transfer of Naval Industrial Reserve Ordinance Plant, Lockheed Martin Way and N. Mathilda Avenue, Sunnyvale, California

Dear Ms. Taber:

Naval Support Activity Monterey (Navy) is consulting with the California State Historic Preservation Officer (SHPO) in order to comply with Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. § 306108), as amended. The Navy is requesting SHPO comments on the undertaking's Area of Potential Effects (APE), concurrence with a determination of eligibility, and an adverse effect finding.

The Navy proposes to transfer the 36-acre Naval Industrial Reserve Ordinance Plant Sunnyvale (NIROP) property out of federal ownership.

The Navy defines the APE as entire 36 acres the NIROP and associated buildings and structures. Because there is no ground disturbance associated with this undertaking, the Navy has not considered a vertical aspect of the APE.

All buildings and structures at NIROP were inventoried and evaluated in 2013 as part of a Special Areas Historic Resources Survey and Evaluation (HDR Environmental). The evaluation identified two buildings, identified as Buildings 181 and 182, as eligible for listing on the National Register of Historic Places (NRHP). The buildings were determined eligible under Criterion A under the Cold War Weapons Research, Development, Testing, and Evaluation theme for their significant role in, and contributions to, the Navy's Fleet Ballistic Missile Program between 1955 and 1975. The survey and evaluation did not identify any of the buildings at NIROP as a being architecturally significant or constituting a historic district or district. The Navy supports the conclusions of the 2013 study.

The Navy's plan for consultation includes a separate notice to the Advisory Council on Historic Preservation. Additionally, the Navy is concurrently seeking input and

comments from interested parties. The Navy intends to hold a public meeting on November 15, 2018.

Having reviewed the Navy's submittal, SHPO offers the following comments:

1) The APE appears adequate to account for direct and indirect effects to historic properties;

2) SHPO concurs that Buildings 181 and 182 are eligible for listing on the National Register of Historic Places (NRHP) under Criterion A under the theme of Cold War Weapons Research, Development, Testing, and Evaluation for their significant role in, and contributions to, the Navy's Fleet Ballistic Missile program between 1955 and 1975. However, the 2013 study did not determine the seventeen additional buildings, structures, and objects in the APE as eligible for listing. As these elements appear to date from the same period of significance, and supported NIROP's mission, SHPO is of the opinion the resources, along with Buildings 181 and 182, should be considered eligible for listing on the NRHP as a single historic district under the same theme and criteria outlined in the 2013 evaluation;

3) SHPO concurs that transfer of NIROP out of federal ownership constitutes an adverse effect;

4) SHPO looks forward working with the Navy toward the resolution of adverse effects, as outlined at 36 CFR 800.6.

If the Navy has questions or comments, please contact the State Historian Tristan Tozer at (916) 445-7027 or via e-mail at Tristan.Tozer@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY MONTEREY
271 STONE ROAD
MONTEREY, CA 93943-5189

IN REPLY REFER TO:
11000
Ser N4/034
April 18, 2019

Ms. Julianne Polanco FAIA
State Historic Preservation Officer
California Department of Parks and Recreation
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Ms. Polanco:

SUBJECT: CONTINUATION OF CONSULTATION REGARDING TRANSFER OF NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT SUNNYVALE

This letter is a continuation of consultation regarding the subject undertaking (Ref USN_2018_0806_001). In compliance with 36 CFR 800.6(c), the Navy is providing your office a draft copy of the proposed Memorandum of Agreement (MOA) for resolving the adverse effect associated with transfer of the Naval Industrial Reserve Ordnance Plant (NIROP) Sunnyvale out of federal ownership.

Undertaking

The Navy proposes to transfer the 36-acre NIROP property in Sunnyvale, California, to a non-government third party. There will be no restrictions or conditions related to historic preservation associated with this transfer of property. Real property transfers are typically considered to be undertakings subject to the review process under Section 106 of the National Historic Preservation Act and its implementing regulations at 36 CFR 800.

Consultation

On August 2, 2018, the Navy initiated consultation with your office on a finding of adverse effect related to the proposed transfer of NIROP Sunnyvale. You concurred with the Navy's determination in a letter dated October 1, 2018.

Per 36 CFR 800.6(a)(1), on September 21, 2016, a letter was forwarded to the Advisory Council on Historic Properties (ACHP) summarizing the Navy's intent to transfer NIROP out of federal ownership.

Please find enclosed a draft MOA for your consideration. If your office determines this MOA to be sufficient for resolution of the adverse effect from subject undertaking, we will provide a final copy for signature. If you have comments or proposed revisions, or would like to meet with me or my staff to

discuss this undertaking, please contact my Cultural Resources Manager Ms. Victoria Taber at (831) 656-7746 or victoria.l.taber@navy.mil.

Sincerely,

Victoria Taber
Installation Environmental Program Director
By direction of the
Commanding Officer

Enclosure: Draft Memorandum of Agreement

DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY MONTEREY
271 STONE ROAD
MONTEREY CA 93943-5189

IN REPLY REFER TO:
11000
Ser N4/024
January 27, 2020

Ms. Julianne Polanco FAIA
State Historic Preservation Officer
California Department of Parks and Recreation
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Ms. Polanco:

SUBJECT: CONTINUATION OF CONSULTATION REGARDING TRANSFER OF NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT SUNNYVALE

This letter is a continuation of consultation regarding the subject undertaking (Ref USN_2018_0806_001). In compliance with 36 CFR 800.6(c), the Navy is revising its Identification of Historic Properties and submitting a revised draft of the proposed Memorandum of Agreement (MOA) for resolving the adverse effect associated with transfer of the Naval Industrial Reserve Ordnance Plant (NIROP) Sunnyvale out of federal ownership.

On August 2, 2018, the Navy initiated consultation with your office related to the proposed transfer of NIROP Sunnyvale. In a reply letter dated October 1, 2018, your office recommended that the Navy consider the entire NIROP Sunnyvale property, including all 19 buildings and structures, as a historic district. The Navy concurs with this recommendation and wishes to continue consultation with your office on the NIROP Sunnyvale Historic District.

Please find enclosed a draft MOA for your consideration. This MOA has been modified from the version sent to your office April 18, 2019, to reflect the Navy's determination that the NIROP Sunnyvale Historic District is eligible for listing in the National Registry of Historic Places (NRHP).

To discuss this undertaking, please contact my Cultural Resources Manager, Ms. Victoria Taber, at (831) 656-7746, or victoria.l.taber@navy.mil.

Sincerely,

Victoria Taber
Installation Environmental Program Director
By direction of the
Commanding Officer

Enclosure: Draft Memorandum of Agreement