

**NAVAL AIR STATION ALAMEDA
NORTH HOUSING DISPOSAL AND REUSE
DRAFT ENVIRONMENTAL ASSESSMENT
ALAMEDA, CALIFORNIA**



Prepared for:
**Base Realignment and Closure
Program Management Office West
San Diego, California**

JULY 2009

**PRELIMINARY DRAFT
NAVAL AIR STATION ALAMEDA
NORTH HOUSING DISPOSAL AND REUSE
DRAFT ENVIRONMENTAL ASSESSMENT
ALAMEDA, CALIFORNIA**

NAVFAC SW
Base Realignment and Closure
Program Management Office West
San Diego, California

July 2009

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3 **DRAFT**
4 **ENVIRONMENTAL ASSESSMENT**
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8 **Lead Agency for the EA:** Department of the Navy; U.S. Marine Corps
9
10 **Title of Proposed Action:** Navy Base Realignment and Closure Program Management
11 Office West
12
13 **Affected Region:** City of Alameda, California
14
15 **Designation:** Environmental Assessment
16
17

18
19 **Abstract**
20

21 This Environmental Assessment (EA) evaluates the potential environmental impacts associated with the
22 disposal and reuse of approximately 42 acres (15 hectares) of surplus property within the North Housing
23 Parcel at Naval Air Station Alameda, in the City of Alameda, California. Under the proposed action, the
24 North Housing Parcel would be transferred from the Navy to entities that have applications that are approved
25 by the Alameda Reuse and Redevelopment Authority. This transfer would convey the property to be
26 redeveloped consistent with the amended Community Reuse Plan: Main Street Neighborhoods Update
27 adopted by the ARRA Board on March 4, 2009, and would, in part, meet future low- and moderate-
28 income housing needs as part of any future residential development consistent with the current
29 Neighborhood Residential District (R-4) zoning designation.
30

31 This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) 42 U.S.C.
32 § 4321-4370d [1994], as implemented by Council on Environmental Quality (CEQ) regulations 40 C.F.R.
33 § 1500-1508 [1997], the Department of the Navy Base Realignment and Closure (BRAC) Implementation
34 Guidance dated March 23, 2007, and Defense Base Closure and Realignment Act (DBCRA) of 1990,
35 Public Law (P.L.) 101-510 Title XXIX.
36

37 Potential impacts have been analyzed for land use, visual resources, socioeconomics, public services,
38 utilities, cultural resources, biological resources, geology and soils, water resources, traffic and
39 circulation, air quality, noise, and hazardous materials and waste.
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43 **Point of Contact: Mr. Patrick McCay**
44 Naval BRAC PMO West
45 1455 Frazee Road, Suite 900
46 San Diego, California 92108-4310
47 Phone: (619) 532-0906
48 E-mail: Patrick.mccay@navy.mil
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LIST OF ACRONYMS AND ABBREVIATIONS

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3		
4	ABAG	Association of Bay Area Governments
5	ACM	Asbestos Containing Material
6	ADT	Average Daily Trips
7	AMSL	above mean sea level
8	AQI	air quality index
9	ARPA	Archaeological Resource Protection Act
10	ARPD	Alameda Recreation and Park Department
11	ARRA	Alameda Reuse and Redevelopment Authority
12	AST	above ground storage tank
13	AUSD	Alameda Unified School District
14		
15	BAAQMD	Bay Area Air Quality Management District
16	BART	Bay Area Rapid Transit
17	Bay Area	San Francisco Bay Area
18	BCP	BRAC Cleanup Plan
19	bgs	below ground surface
20	BMP	best management practice
21	BRAC	Base Realignment and Closure
22		
23	CAA	Clean Air Act
24	CAAQS	California Ambient Air Quality Standards
25	Cal/EPA	California Environmental Protection Agency
26	Caltrans	California Department of Transportation
27	CARB	California Air Resources Board
28	CBC	California Building Code
29	C.C.R.	California Code of Regulations
30	CDFG	California Department of Fish and Game
31	CESA	California Endangered Species Act
32	CEQ	Council on Environmental Quality
33	CEQA	California Environmental Quality Act
34	CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
35		
36	CERFA	Community Environmental Response Facilitation Act
37	C.F.R.	Code of Federal Regulations

List of Acronyms and Abbreviations

1	CGS	California Geological Survey
2	CNDDDB	California Natural Diversity Data Base
3	CNEL	Community Noise Equivalent Level
4	CNPS	California Native Plant Society
5	CO	carbon dioxide
6	COE	U.S. Army Corps of Engineers
7	COPC	contaminants of potential concern
8	CWA	Clean Water Act
9		
10	dB	decibel
11	dBA	A-weighted decibel
12	DBCRA	Defense Base Closure and Realignment Act
13	DDT	dichlorodiphenyltrichloroethane
14	DHS	Department of Health Services
15	DoD	Department of Defense
16	DTSC	Department of Toxic Substances Control
17	DU/AC	dwelling units per acre
18		
19	EA	Environmental Assessment
20	EBMUD	East Bay Municipal Utility District
21	EBS	Environmental Baseline Survey
22	EIS	Environmental Impact Statement
23	EO	Executive Order
24	ERA	Ecological Risk Assessment
25		
26	FEIS	Final Environmental Impact Report
27	FEMA	Federal Emergency Management Agency
28	FFSRA	Federal Facility Site Remediation Agreement
29	Fire Department	Alameda Fire Department
30	FIRM	Flood Insurance Rate Map
31	FIS	Flood Insurance Studies
32	FISC	Fleet Industrial Supply Center
33	FISCA	Fleet Industrial Supply Center Annex
34	FONSI	Finding of No Significant Impact
35	FOSL	Finding of Suitability to Lease
36	FOST	Finding of Suitability to Transfer
37	FWBZ	First Water-bearing Zone

1		
2	HCM	Highway Capacity Manual
3	HHRA	Human Health Risk Assessment
4	HUD	Housing and Urban Development
5		
6	IC	Institutional Controls
7	IR	Installation Restoration
8	ITE	Institute of Transportation Engineers
9		
10	kgs/day	kilograms per day
11		
12	LBP	lead based paint
13	lbs/day	pounds per day
14	L _{dn}	day/night average sound level
15	L _{eq}	equivalent noise level
16	LIFO	Lease in Furtherance of Conveyance
17	LOS	Level of Service
18	LRA	Local Redevelopment Authority
19		
20	mg/kg	milligrams per kilogram
21	MTC	Metropolitan Transportation Commission
22		
23	NAAQS	National Ambient Air Quality Standards
24	NACIP	Navy Assessment and Control of Installation Pollutants
25	NAHC	Native American Heritage Commission
26	NAS	Naval Air Station
27	NAVFAC SW	Naval Facilities Engineering Command Southwest
28	Navy	Department of the Navy
29	NCP	National Oil and Hazardous Substances Pollution Contingency
30		Plan
31	NEPA	National Environmental Policy Act
32	NFIP	National Flood Insurance Program
33	NHPA	National Historic Preservation Act
34	NOA	Notice of Availability
35	NO ₂	nitrogen dioxide
36	NO _x	oxides of nitrogen
37	NPDES	National Pollutant Discharge Elimination System

List of Acronyms and Abbreviations

1	NPL	National Priority List
2	NRHP	National Register of Historic Places
3		
4	O ₃	ozone
5	OPC	Outpatient Clinic
6	OSHA	Occupational Safety and Health Administration
7	OUs	Operable units
8		
9	PAHs	polycyclic aromatic hydrocarbons
10	Pb	lead
11	PBC	Public Benefits Conveyance
12	PCB	polychlorinated biphenyl
13	pCi/L	picocuries per liter
14	P.L.	Public Law
15	PM	Particulate Matter
16	PM ₁₀	inhalable particulates equal to or smaller than 10 microns
17	PM _{2.5}	fine particulates equal to or smaller than 2.5 microns
18	PMSA	Primary Metropolitan Statistical Area
19	Police Department	Alameda Police Department
20	ppm	parts per million
21	PRGs	Preliminary Remediation Goals
22	PSI	Pollutant Standard Index
23		
24	RASO	Radiological Affairs Support Office
25	RCRA	Resource Conservation Recovery Act
26	ROD	Record of Decision
27	ROG	reactive organic gas
28	ROI	Region of Influence
29	RONA	Record of Non-Applicability
30	RWQCB	Regional Water Quality Control Board
31		
32	SARA	Superfund Amendments and Reauthorization Act
33	SEIR	Supplemental Environmental Impact Report
34	SHMA	Seismic Hazard Mapping Act
35	SHPO	State Historic Preservation Office
36	SIP	State Implementation Plan
37	SO ₂	sulfur dioxide

1	SO _x	oxides of sulfur
2	SWPPP	Storm Water Pollution Prevention Plan
3		
4	TCP	Traffic Control Plan
5	TCRAs	time-critical removal actions
6	tons/year	tons per year
7		
8	UBC	Uniform Building Code
9	U.S.C.	United States Code
10	USCG	U.S. Coast Guard
11	USEPA	U.S. Environmental Protection Agency
12	USFWS	U.S. Fish and Wildlife Service
13	USGS	U.S. Geological Survey
14	UST	underground storage tank
15		
16	VA	Veterans Administration
17	VOC	volatile organic compound
18		
19	WRCC	Western Regional Climate Center
20		
21	°F	degrees Fahrenheit
22	µg/m ³	micrograms per cubic meter
23		

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EXECUTIVE SUMMARY

INTRODUCTION

This Environmental Assessment (EA) evaluates the potential environmental impacts associated with the disposal and reuse of approximately 42 acres (15 hectares) of surplus property within the North Housing Parcel at Naval Air Station (NAS) Alameda, in the City of Alameda, California. Under the proposed action, the North Housing Parcel would be transferred from the Navy to entities that have applications that are approved by the Alameda Reuse and Redevelopment Authority (ARRA). This transfer would convey the property to be redeveloped consistent with the amended Community Reuse Plan, which was adopted by ARRA Board on March 4, 2009, and would, in part, meet future low- and moderate-income housing needs as part of any future residential development consistent with the current Neighborhood Residential District (R-4) zoning designation.

PURPOSE AND NEED

The purpose of the proposed action is the disposal and reuse of the 42-acre (15-hectare) North Housing Parcel within the City of Alameda to entities who have applications that are approved by the ARRA Board for the most economically beneficial reuse and development.

ALTERNATIVES FOR THE PROPOSED ACTION

Alternative A: Reuse Plan Amendment (Preferred Alternative)

The proposed action includes the reuse of the North Housing Parcel (approximately 42 acres [15 hectares]) at NAS Alameda. The proposed reuse of the site will adhere to the amended Community Reuse Plan, adopted by ARRA Board on March 4, 2009 as identified in Section 1.1.

Currently, the North Housing Parcel consists of approximately 282 three- and four-bedroom military family housing units, a park, and roads and infrastructure that supported the housing units. In the amended Community Reuse Plan, the North Housing Parcel is identified as residential reuse for up to 437 housing units. While

1 implementation of the reuse plan would result in an increase of 155 housing units on the
2 North Housing Parcel, the overall increase in the number of housing units would remain
3 consistent with the total number of units identified for development of the Main Street
4 Neighborhoods in the amended Community Reuse Plan. It is anticipated that reuse and
5 development would, in part, meet future low- and moderate-income housing needs as
6 part of any market-rate residential development consistent with the current R-4 zoning
7 designation.

8
9 The proposed reuse of the site would include homeless accommodation consisting of
10 approximately 90 units of permanent, service-enriched affordable rental housing. The
11 units would be developed and operated by the Housing Authority of the City of
12 Alameda, the Alameda Point Collaborative, and Building Futures with Women and
13 Children. The permanent supportive housing units would serve individuals and families
14 in Alameda who are homeless. The development would include a community center and
15 property management offices.

16
17 Additionally, Habitat for Humanity East Bay has submitted a Public Benefit Conveyance
18 (PBC) proposal to renovate 32 of the existing housing units by using its self-help, or
19 sweat-equity, model for providing affordable ownership housing. Habitat for Humanity
20 intends to sell the homes to households with incomes at 80 percent or less of average
21 median income. The ARRA Board approved the PBC application as part of its review
22 and action on Notices of Interest (NOI) received as part of the screening process. Under
23 federal statute Habitat for Humanity will work directly with HUD and final action on its
24 PBC.

25
26 The remaining 315 units proposed would be two-unit medium density residential
27 housing units at 15 dwelling units per acre (DU/AC), together with inclusionary housing.
28 The Alameda Recreation and Park Department (ARPD) also has submitted a PBC
29 proposal to utilize approximately 8 acres (3 hectares) of existing open space at the
30 North Housing Parcel as a public park that would provide the opportunity for a variety of
31 youth sports activities, including a possible agreement with the Miracle League for the
32 renovation of the existing baseball field. Any future new development on the site would
33 adhere to amended Community Reuse Plan as mentioned in Section 1.0.

34

Alternative B: No Action

Under the No Action Alternative, the Navy would retain ownership of the property available for conveyance at NAS Alameda. The property would be held in an inactive or caretaker status. On-site activities would be limited to security, maintenance, cleanup, and other actions associated with caretaker status. Site environmental cleanup would continue until completed. For comparative purposes throughout this document, it is assumed that a caretaker and maintenance staff of approximately two persons would be required. Under the No Action Alternative, existing interim leases would be allowed to expire and no new leases or subleases would be executed.

SUMMARY OF IMPACTS

This EA describes and evaluates the potential effects of the disposal and reuse of the North housing Parcel at NAS Alameda and the No Action Alternative. A full range of environmental issues was evaluated. The results of this evaluation are summarized below in Table ES-1.

**Table ES-1
Summary of Environmental Impacts**

Resource Area	Alternative A	Alternative B
Land Use	Impact: No significant impact. Mitigation: None proposed.	Impact: Potentially significant impact since this alternative would not be consistent with the applicable land use plans and policies for the North Housing Parcel. Mitigation: None proposed.
Visual Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: Potentially significant impact due to the continued caretaker status. The existing structures would become dilapidated and a visual blight to the surrounding areas. Mitigation: None proposed.
Socioeconomics	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.

Resource Area	Alternative A	Alternative B
Public Services	Impact: No significant impact. Mitigation: None proposed.	Impact: Potentially significant impact due to the anticipated increase in police, fire, and emergency services due to incidents such as break-ins, theft, fire, etc. Mitigation: None proposed.
Utilities	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Cultural Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Biological Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Geology and Soils	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Water Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Traffic and Circulation	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Air Quality	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Noise	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Hazardous Materials and Waste	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.

1

1 located to the west of the North Housing Parcel. SunCal is working with the City and the
2 Navy to finalize the terms of the property transfer and define plans for a new community
3 at Alameda Point. The project plans and timing for the Alameda Point project are
4 independent of the North Housing Disposal and Reuse project.

5
6 The scope of the action to be analyzed in the EA is the additional disposal and reuse of
7 the approximately 42 acres (15 hectares) within the North Housing Area at NAS
8 Alameda. The reuse of the 42 acres (15 hectares) will follow the amended Community
9 Reuse Plan, which was adopted by Alameda Reuse and Redevelopment Authority
10 (ARRA) board on March 4, 2009. The planning guidelines are based on the planning
11 and design principles for the Main Street Neighborhoods (City of Alameda 2008)
12 subarea and are as follows:

- 13
14 1. Create a system of streets that reflects the Alameda grid and connects to both
15 existing and planned streets.
- 16 2. Focus higher density development along a transit corridor.
- 17 3. Share uses between parks and schools, provide joint use recreation facilities to
18 maximize usage, and reduce parking requirements.
- 19 4. Create a central neighborhood park that is fronted by residential uses.
- 20 5. Connect the North Housing Parcel to the waterfront with green streets and
21 open space corridors.
- 22 6. Connect residential uses to open space, parks, and trails.

23
24 Used in concert with other policies and principles, the above guidelines provide
25 guidance on the physical layout of the reuse of the North Housing Parcel. These
26 guidelines do not include site-specific development requirements or standards. Instead,
27 they illustrate general design strategies that allow for broad interpretation and flexibility.
28 Additionally these guidelines follow the allowable density of Measure A. Measure A was
29 approved by the voters in 1973, and amended the City's Charter by adding article XXVI.
30 Measure A stated that "There shall be no multiple dwelling units built in the City of
31 Alameda." In 1991, there was an amendment to Measure A stating "The maximum
32 density for any residential development within the City of Alameda shall be one housing
33 unit per 2,000 square feet of land." People commonly use the term "Measure A" to refer
34 to the City charter amendment.

1.1 PURPOSE AND NEED

As discussed in the FEIS (Navy 1999), the purpose of and need for the proposed federal action is to dispose of surplus federal property at NAS Alameda to allow for the efficient transition from military use to civilian use.

DBCRA 1990 and subsequent Defense Authorization Acts established a process to close and realign military bases. As part of this process, the BRAC Commission recommended that the Secretary of Defense “close Naval Air Station (NAS) Alameda, California.” The BRAC Commission recommendation was approved by President Clinton and accepted by the 103rd Congress in October 1993. NAS Alameda closed on April 30, 1997, and the property is in caretaker status.

The decision to close NAS Alameda was exempted by Congress from NEPA documentation requirements under DBCRA 1990, §2906. Analysis of the environmental effects of Navy disposal of the property and potential reuse are not exempted from analysis under NEPA. Requirements under DBCRA 1990 and its amendments relevant to the disposal of NAS Alameda include the following:

- Compliance with NEPA and related laws;
- Environmental restoration of the property, as soon as possible, with funds made available for such restoration;
- Consideration of the local community's reuse plan prior to disposal of the property; and
- Compliance with specific Federal property disposal laws and regulations.

The purpose of the local project analyzed in this EA is disposal and reuse of the 42-acre (15-hectare) North Housing Parcel within the City of Alameda for the most economically beneficial reuse and development. The proposed action is needed to convey 42 acres (15 hectares) of the North Housing Parcel from the Navy to the entities who have applications that are approved by the Alameda Reuse and Redevelopment Authority (ARRA). This transfer would allow the property to be redeveloped consistent with the amended Community Reuse Plan identified above and would, in part, meet future low- and moderate-income housing needs as part of any future residential development consistent with the current Neighborhood Residential District (R-4) zoning designation.

1 **1.2 LOCATION**

2

3 NAS Alameda is located in Alameda County on the San Francisco Bay between the
4 cities of San Francisco and Oakland (Figure 1-1). The proposed action area is the
5 42-acre (15-hectare) North Housing Parcel located in the northwestern portion of NAS
6 Alameda (Figure 1-2).

7

8 **1.3 DISPOSAL OF NAS ALAMEDA – NORTH HOUSING AREA**

9

10 In 1993, Congress made the decision to close NAS Alameda. NAS Alameda was
11 decommissioned in 1997. The BRAC legislation provided the requirements for
12 compliance with NEPA stating, in part, that the provisions of NEPA shall apply during
13 the process of property disposal. In accordance with BRAC legislation and NEPA, an
14 Environmental Impact Statement (EIS) was prepared addressing the probable impacts
15 of the reuse of NAS Alameda lands and facilities. A ROD was signed on February 9,
16 2000. NAS Alameda's North Housing Area was originally planned to be conveyed to the
17 United States Coast Guard (USCG). Subsequently, the USCG withdrew its request.
18 Since the parcel was originally intended to be conveyed to a federal entity, the property
19 was not included in the larger NAS Alameda surplus determination and thus was not
20 analyzed in the FEIS as an alternative use. Continued use of the parcel by the USCG
21 was analyzed in the cumulative section of the FEIS.

22

23 A year prior to NAS Alameda's closure, in January of 1996, the City of Alameda
24 adopted the NAS Alameda Community Reuse Plan, a "roadmap" for the conversion of
25 the former Naval Air Station to civilian use. The Reuse Plan was prepared for the
26 ARRA; an agency created and governed by the City Council, with extensive citizen input
27 solicited by the Base Reuse and Advisory Group, later known as the Alameda Point
28 Advisory Committee. The Reuse Plan established the following vision for the reuse:

29

- 30 • "Between now and the year 2020, the City of Alameda will integrate the Naval Air
31 Station property with the City and will realize a substantial part of the Base's
32 potential. Revenues will have increased and a healthy local economy will have
33 resulted from the implementation of a coordinated, environmentally sound plan of
34 conversion and mixed-use development. While building upon the qualities, which
35 make Alameda a desirable place to live, efforts for improving recreational,
36 cultural, educational, housing, and employment opportunities for the entire region
37 will have been successful."

38



Source: ESRI 2008



Figure 1-1
Project Vicinity

- 1 • “To facilitate implementation of the Reuse Plan, in 2002, the City of Alameda
2 adopted a comprehensive set of General Plan policies to guide redevelopment of
3 the former Naval Air Station consistent with the vision articulated by the Reuse
4 Plan.”
5

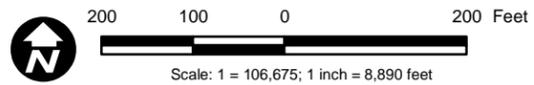
6 The ARRA completed an initial homeless and public benefit screening process for NAS
7 Alameda in 1996 and then implemented an accommodation for the homeless that
8 consists of 200 housing units (known as the Alameda Point Collaborative and Dignity
9 Commons), and related economic development and community development initiatives.
10

11 In November 2007, the Navy notified the ARRA that it was going to declare an
12 additional 42 acres (15 hectares) of NAS Alameda as surplus property. These 42
13 additional acres (15 hectares) are commonly referred to as the North Housing Parcel. A
14 formal surplus declaration for the North Housing Parcel was published in November
15 2007 and triggered the ARRA’s obligation, as the Local Redevelopment Authority
16 (LRA), to again manage a legislatively prescribed screening process. The screening
17 process identified possible accommodations to meet the community’s unmet homeless
18 needs while balancing those needs with other community and economic development
19 needs. On November 16, 2007, the ARRA published the Notice of Availability for
20 homeless providers, state and local governmental agencies, and eligible nonprofit
21 Public Benefits Conveyance (PBC) transferees. The ARRA received five Notices of
22 Interest from groups interested in providing self-help housing, building permanent
23 supportive housing for homeless people, relocating a homeless shelter, and developing
24 a public park. ARRA’s *Amendment to the NAS Alameda Community Reuse Plan*, dated
25 March 2009, recommends that proposals from Habitat for Humanity East Bay, the City
26 of Alameda Recreation and Park Department (ARPD), and the Alameda Housing
27 Authority/Alameda Point Collaborative/Building Futures with Women and Children be
28 accepted.
29

30 Properties may be conveyed prior to completion of environmental remediation if the
31 U.S. Environmental Protection Agency (USEPA) and the state agree that the property is
32 suitable for the intended use and that the intended use will protect human health and
33 the environment. Although not proposed at this time, to facilitate the eventual
34 conveyance of title, the Navy may enter into a Lease in Furtherance of Conveyance
35 (LIFOC). A LIFOC is a lease entered into after the Navy has prepared a Finding of
36 Suitability to Lease (FOSL), complied with NEPA, and issued a final disposal decision
37 for the property. A LIFOC provides immediate possession of the property to the entity



Source: Tetra Tech 2009, ESRI 2009



LEGEND

- Project Boundary
- Alameda NAS

**Figure 1-2
Proposed Action**

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1 identified in the disposal decision as the recipient of the property. Such a lease may be
2 long term and may be for all or for a part of the property identified for conveyance to the
3 lessee in the disposal decision. Use of a LIFO C would enable the acquiring entity to
4 conduct reuse activities on the lease area while the Navy continues with necessary
5 remedial activity. As parcels are remediated, they could be conveyed to the acquiring
6 entity and could be developed for new uses consistent with the Reuse Plan. As such,
7 under the LIFO C, reuse, remediation, and comprehensive development could occur
8 simultaneously at the North Housing Parcel.

9
10 The Navy may convey all or some of the parcels in an unremediated condition if the
11 property is otherwise determined to be suitable for disposal, and the statutory conditions
12 for deferral of the Comprehensive Environmental Response, Compensation, and
13 Liability Act (CERCLA) deed covenant requirements have been satisfied pursuant to 42
14 U.S.C. § 9620(h)(3) (U.S. Navy 1999), as amended by the National Defense
15 Authorization Act for Fiscal Year 1997, P.L. No. 104-201, § 334, 110 Stat. 2422, 2486-
16 88 (1996). Any such conveyance must satisfy the USEPA Administrator and the
17 Governor of California. This type of early conveyance would allow the acquiring entity to
18 undertake remediation action or to convey all or some of the unremediated parcels to a
19 private developer who could undertake the remediation in lieu of the Navy and in
20 accordance with federal and state requirements. Early conveyance might enable reuse
21 activities to begin sooner than would occur if title were not conveyed until remediation is
22 complete. To ensure that those reuse activities are undertaken safely, CERCLA Section
23 120(h)(3)(C)(ii), 42 U.S.C. § 9620(h)(3)(C)(ii) (U.S. Navy 1999), requires response
24 action assurances, including necessary use restrictions that will ensure public health
25 and the environment are protected after an early transfer but before the final remedy is
26 implemented. As under a LIFO C, reuse, remediation, and comprehensive development
27 could occur at the same time. No disposal can occur until the NEPA process is
28 complete.

29 30 **1.3.1 Ongoing North Housing Parcel Environmental Remediation**

31
32 Prior to the conveyance of any portion of the North Housing Parcel, the Navy will
33 complete its environmental cleanup obligations in compliance with CERCLA. However
34 the Navy may choose to convey all or some of the parcels in an unremediated condition
35 if the property is otherwise determined to be suitable for disposal, and the statutory
36 conditions for deferral of the CERCLA deed covenant requirements have been satisfied
37 pursuant to 42 U.S.C. § 9620(h)(3) (U.S. Navy 1999), as amended by the National

1 Defense Authorization Act for Fiscal Year 1997, P.L. No. 104-201, § 334, 110 Stat.
2 2422, 2486-88 (1996). Any such conveyance must satisfy the USEPA Administrator and
3 the Governor of California. The following is a summary of the proposed cleanup efforts.

4 5 **Groundwater**

6
7 A benzene and naphthalene groundwater contamination plume is present beneath a
8 portion of the property (Figure 3.13-1). To address the contamination associated with
9 the plume, the Navy completed a work plan in September 2008 and a groundwater
10 remediation system was constructed in the Kollmann Circle area. The above ground
11 groundwater treatment system within the North Housing Parcel is 3.9 acres (1.6
12 hectares), and requires fencing and security. This area will have land use restrictions
13 prohibiting use of this area and interference with cleanup operations until remediation is
14 complete. The remediation for lower-level contamination in the rest of the plume is
15 monitored natural attenuation. Vapor intrusion into indoor air has been shown not to be
16 a problem at the North Housing Parcel. The Navy's groundwater cleanup efforts are
17 compatible with residential use of the property outside Kollmann Circle and should be
18 minimally disruptive.

19 20 **1.4 DOCUMENT ORGANIZATION**

21
22 This EA was prepared using a systematic, interdisciplinary assessment process,
23 designed to provide decision makers with an organized analysis of the environmental
24 consequences of implementing the proposed action. The project purpose and need for
25 the action are described in this chapter (Chapter 1.0). The public involvement process
26 and scope of analysis in this EA are discussed in Section 1.5 and Section 1.6,
27 respectively. Subsequent sections of this document describe the alternative actions
28 considered (Chapter 2.0), a characterization of the affected environment (Chapter 3.0),
29 and an assessment of the environmental consequences of the alternatives (Chapter
30 4.0). Cumulative impacts are addressed in Chapter 5.0. A list of individuals and
31 agencies consulted is provided in Chapter 6.0. A list of individuals participating in the
32 preparation of this EA is provided in Chapter 7.0. Chapter 8.0 contains the document
33 references and Chapter 9.0 lists the acronyms and abbreviations used. The distribution
34 list is in Chapter 10.0 and the responses to comments are in Chapter 11.0.

1 **1.5 PUBLIC INVOLVEMENT PROCESS**

2
3 **1.5.1 Navy**

4
5 Opportunities to participate in the NEPA process will be offered to the public as
6 described below:

- 7
8
 - Public comment period on the Draft EA

 - Coordination and consultation with government agencies to ensure that all
9 applicable laws, rules, regulations, and policies have been identified and that the
10 proposed action has been duly evaluated in light of these considerations.

 - Final EA available to the public

 - Publication of the Finding of No Significant Impact (FONSI)

11
12
13
14
15 **1.5.2 ARRA**

16
17 To provide community outreach and opportunities for participation in the amendment
18 process, the ARRA Board held a public workshop in December 2007. The workshop
19 provided an opportunity for the community to understand any recommended
20 accommodation for homeless providers, as well as the public benefit conveyances.
21 Also, to consider and prioritize other reuse opportunities for the land given various
22 constraints such as the Navy's environmental clean-up schedule, access, and adjacent
23 land uses. A public hearing was held on March 4, 2009, to approve the amended
24 Community Reuse Plan.

25
26 Additionally, the City of Alameda has a web site devoted to the reuse and
27 redevelopment of NAS Alameda. The web site provides historical data as well up to
28 date project progress and identifies future events or milestones. Comments from
29 agencies and the public have been solicited to help identify the potential community and
30 environmental issues that may be associated with the disposal and reuse of the North
31 Housing Parcel.

1.5.3 Public Review

Public notices were mailed to those on the mailing list and a Notice of Availability (NOA) for the Draft EA was published in both the Oakland Tribune and Alameda Journal from 10 July 2009 to 12 July 2009 and is available for review on the BRAC website. The public comment period will end 14 August 2009.

1.6 SCOPE OF ANALYSIS

The primary issues of concern are the potential impacts the proposed action could have on environmental resources. The applicable laws and regulations identified in Table 1-1 will be considered during the scope of this analysis and the issues addressed.

**Table 1-1
Applicable Laws and Regulations Considered**

Archaeological Resources Protection Act of 1979 (1994)	16 U.S.C. §§ 470aa-470mm
California Hazardous Waste Management	22 C.C.R. Div. 4.5
Clean Air Act (1994 and Amendments of 1990)	42 U.S.C. §§ 7401-7671q and Pub. L. No. 101-549, 104 Stat. 2399
Council on Environmental Quality Regulations	40 C.F.R. Parts 1500-1508
Clean Water Act (1972, as amended)	33 U.S.C. §§ 1251-1387
Coastal Zone Management Act	16 U.S.C. §§ 1451-1466
Comprehensive Environmental Resources, Compensation, and Liability Act (1980)	42 U.S.C. §§ 9601-9675
Defense Base Closure and Realignment Act (DBCRA) of 1990, Public Law.	P.L. No. 101-510 Title XXIX
Endangered Species Act (1973, as amended)	16 U.S.C. §§ 1531-1544
Executive Order (EO) 12372 (Intergovernmental Review of Federal Programs) (1977, 1983, and 1984)	47 Federal Register 30959
EO 12898 (Environmental Justice) (1994)	59 Federal Register 7629
EO 13045 (Environmental Justice for Children) (1997)	62 Federal Register 19885
EO 13123 (Greening the Government through Efficient Energy Management) (1999)	64 Federal Register 30851
EO 13148 (Greening the Government through Leadership on Environmental Management) (2000)	65 Federal Register 24595
EO 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) and Migratory Bird Treaty Act	66 Federal Register 3853 and 16 U.S.C. §§ 703-712
National Historic Preservation Act of 1966, as amended (1994)	16 U.S.C. §§ 470-470x-6
National Register of Historic Places (1977)	36 C.F.R. Part 60
Pollution Prevention Act of 1990	42 U.S.C. §§ 13101-13109
Resource Conservation and Recovery Act (1976)	42 U.S.C. §§ 6901-6992k

1 **1.6.1 Decisions to Be Made**

2
3 This EA will be forwarded through the Navy chain-of-command where it will be reviewed
4 and a decision will be made as to whether a Finding of No Significant Impact (FONSI) is
5 appropriate or preparation of an EIS is required. This decision is based on the facts and
6 data presented in the EA and will be used to determine whether all potential impacts
7 are either insignificant or can be reduced to insignificant levels through the
8 implementation of mitigation measures as described in this EA. If this is the case, then
9 the preparation and signing of a FONSI is appropriate. If this determination cannot be
10 made, then the Navy must prepare an EIS. These decisions will assist the Navy in
11 deciding whether to implement the proposed action.

12
13 The proposed action may also require the following decisions and approvals from
14 federal and state agencies.

15
16 **1.6.2 National Historic Preservation Act, Section 106**

17
18 The National Historic Preservation Act (NHPA) of 1966, as amended, requires federal
19 agencies to consider the preservation of historic and prehistoric resources. Section 106
20 of the NHPA mandates that all federal agencies take into account the effects of their
21 undertakings (actions) on historic/prehistoric resources and afford the Advisory Council
22 on Historic Preservation a reasonable opportunity to review and comment on the action
23 prior to project approval for any action that may affect properties listed, or eligible for
24 listing, in the National Register of Historic Places (NRHP). Under Section 106 of the
25 NHPA, a State Historic Preservation Officer (SHPO) was established in each state and
26 designated the responsibility of reviewing and commenting on any action affecting
27 properties listed, or eligible for listing, in the NRHP.

28
29 **1.6.3 Clean Air Act General Conformity Rule**

30
31 USEPA published “Determining Conformity of General Federal Actions to State or
32 Federal Implementation Plans; Final Rule,” in the 30 November 1993 Federal Register
33 (40 C.F.R. Parts 6, 51, and 93). The Marine Corps published “Environmental
34 Compliance and Protection Manual” in MCO P5090.2A (10 July 1998). Chapters 6 and
35 12 of MCO P5090.2A provide implementing guidance to document General Conformity
36 Determination requirements under Section 176(c) of the CAA. Federal regulations state
37 that no department, agency, or instrumentality of the federal government shall engage

1 in, support in any way or provide financial assistance for, license to permit, or approve
2 any activity that does not conform to an applicable implementation plan. It is the
3 responsibility of the federal agency to determine whether a federal action conforms to
4 the applicable implementation plan, before the action is taken (40 C.F.R. Part
5 51.850[a]). Federal actions may be exempt from conformity determinations if they do
6 not exceed designated *de minimis* levels for criteria pollutants (40 C.F.R. Part
7 51.853[b]).

8
9 A Record of Non-Applicability (RONA) has been prepared and is located in Appendix B.
10 The Marine Corps must determine if the General Conformity Rule applies to the
11 proposed action before the finalization of this EA, in accordance with requirements and
12 procedures described in the *Clean Air Act General Conformity Guidance* (U.S. Navy
13 2007).

14 15 **1.6.4 Endangered Species Act, Section 7 Consultation**

16
17 Consultation with the U.S. Fish and Wildlife Service (USFWS) is required under the
18 Federal Endangered Species Act if the proposed action may affect federally threatened
19 or endangered plant and animal species or designated critical habitat. No designated
20 critical habitat occurs within the project site.

21
22 The Navy has determined that redevelopment actions within the North Housing Parcel
23 would not affect federally listed species. In a letter dated June 8, 2009, the Navy
24 requested initiation of formal Section 7 consultation and submitted a programmatic
25 biological assessment (BA) pursuant to the Federal Endangered Species Act for the
26 proposed Department of Veterans Affairs (VA) project-specific action and the proposed
27 Navy programmatic action in order to facilitate the disposal and redevelopment of the
28 former NAS Alameda. The BA provided a description of the actions being taken and a
29 description of the specific areas that may be affected. Reuse within the programmatic
30 action area is described by the Alameda Point Specific Plan (March 2009). The BA
31 focuses on the California least tern, California brown pelican, and western snowy
32 plover. Land-based activities, such as housing development, would primarily have an
33 impact on the California least tern. The BA also addresses various marine and
34 anadromous species (salmonids and green sturgeon). The BA did not include the North
35 Housing Parcel because it is part of a reuse planning process that is separate from the
36 efforts conducted under the Alameda Point Specific Plan.

1 Previous consultations and current analysis indicate that the North Housing Parcel is
2 far-removed from the California least tern nesting colony at NAS Alameda. For example,
3 in the 1999 Biological Opinion (BO), predator management was the primary issue
4 addressed by the USFWS activities. In that BO, predator management is required in
5 areas west of Main Street. Proposed reuse activities east of Main Street would not have
6 an effect on the California least tern or other listed species.

7
8 The ongoing Section 7 consultations being conducted for reuse activities for the rest of
9 the surplus property provide a means for the conservation of listed species for reuse
10 activities related to land-based construction west of Main Street and in-water
11 construction/dredging.

12 13 **1.6.5 Migratory Bird Treaty Act**

14
15 The Migratory Bird Treaty Act (MBTA) of 1918 is the primary legislation in the United
16 States established to conserve migratory birds. It implements the United States'
17 commitment to four bilateral treaties, or conventions, for the protection of a shared
18 migratory bird resource. The MBTA prohibits the taking, killing, or possessing of
19 migratory birds unless permitted by regulation. The species of birds protected by the
20 MBTA appear in 50 C.F.R. Part 10.13. The National Defense Authorization Act and
21 associated exemptions to the MBTA do not apply to the North Housing disposal and
22 reuse project.

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1 **CHAPTER 2.0**
2 **ALTERNATIVES, INCLUDING THE PROPOSED ACTION**
3

4
5 **2.1 DEVELOPMENT OF ALTERNATIVES**
6

7 Soon after the closure of NAS Alameda was approved by President Clinton and
8 accepted by the 103rd Congress in October 1993, the ARRA was recognized by the
9 Department of Defense as the LRA for the purpose of implementing the DBCRA 1990,
10 as amended. In its LRA capacity, the ARRA conducted a comprehensive reuse planning
11 process. Suggestions and proposals for the future use of NAS Alameda/Fleet and
12 Industrial Supply Center (FISC) Alameda properties were directed to the ARRA for
13 consideration during the public reuse planning process. Alternatives for further
14 consideration were generated from this process. Additional reuse recommendations for
15 the NAS Alameda/FISC Alameda site were provided during the public scoping process.
16 These alternatives were identified in the 1999 disposal and reuse FEIS.

17
18 As stated in Section 1.3, when the 42 acres (15 hectares) of the North Housing Parcel
19 were formally declared surplus this triggered the ARRA's obligation, as the LRA, to
20 again manage a legislatively prescribed screening process. The screening process
21 identified possible accommodations to meet the community's unmet homeless needs
22 while balancing those needs with other community and economic development needs.
23

24 **2.1.1 Disposal Process**
25

26 The disposal action would convey title from the Navy to non-federal entities. Prior to
27 property conveyance or transfer, the Navy will remediate hazardous substances to
28 levels that protect human health and the environment for the permissible uses within the
29 parcel. However, the Navy may choose to convey all or some of the parcels in an
30 unremediated condition if the property is otherwise determined to be suitable for
31 disposal, and the statutory conditions for deferral of the CERCLA deed covenant
32 requirements have been satisfied pursuant to 42 U.S.C. § 9620(h)(3) (U.S. Navy 1999),
33 as amended by the National Defense Authorization Act for Fiscal Year 1997, P.L. No.
34 104-201, § 334, 110 Stat. 2422, 2486-88 (1996). Any such conveyance must satisfy the
35 USEPA Administrator and the Governor of California.
36

1 The conveyance of property under the disposal action may be encumbered by
2 covenants and land use restrictions based on the Navy's remediation of the property to
3 levels consistent with use under the amended Community Reuse Plan. Encumbrances
4 could include requirements for cleanup to levels that ensure that human health and the
5 environment are protected if the property is disposed for use that varies from that
6 proposed under the amended Community Reuse Plan.

8 **2.2 DESCRIPTION OF ALTERNATIVES**

10 **2.2.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)**

12 The proposed action includes the reuse of the North Housing Parcel (approximately 42
13 acres [15 hectares]) at NAS Alameda. The proposed reuse of the site will adhere to the
14 amended Community Reuse Plan, adopted by the City of Alameda March 2009 as
15 identified in Section 1.1.

17 Currently, the North Housing Parcel consists of approximately 282 three- and four-
18 bedroom military family housing units, a park, and roads and infrastructure that
19 supported the housing units. As identified in the amended Community Reuse Plan, the
20 North Housing Parcel is identified as residential reuse for up to 437 housing units, of
21 which 25 percent would be affordable. While implementation of the amended
22 Community Reuse Plan would result in an increase of 155 housing units on the North
23 Housing Parcel, the overall increase in the number of housing units would remain
24 consistent with the total number of units identified for development of the Main Street
25 Neighborhoods in the amended Community Reuse Plan. It is anticipated that reuse and
26 development would, in part, meet future low- and moderate-income housing needs as
27 part of any future residential development consistent with the current R-4 zoning
28 designation.

30 The proposed reuse of the site would include homeless accommodation consisting of
31 approximately 90 units of permanent, service-enriched affordable rental housing. The
32 units would be developed and operated by the Housing Authority of the City of
33 Alameda, the Alameda Point Collaborative, and Building Futures with Women and
34 Children. The permanent supportive housing units would serve individuals and families
35 in Alameda who are homeless. The development would include a community center and
36 property management offices.

1 Additionally, the Habitat for Humanity East Bay has submitted a PBC proposal to
2 renovate 32 of the existing housing units by using its self-help, or sweat-equity, model
3 for providing affordable ownership housing. Habitat for Humanity intends to sell the
4 homes to households with incomes at 80 percent or less of average median income. At
5 the ARRA's direction, Developmental Services Department staff is providing ongoing
6 support for a development proposal from Habitat for Humanity East Bay to renovate 20
7 to 32 townhomes or build 20 to 30 new duet-style homes, or some combination thereof,
8 using the self-help model.

9 The remaining 315 units proposed would be two-unit medium-density residential
10 housing units at 15 dwelling units per acre (DU/AC) with the likelihood of additional low-
11 income housing mixed in. ARPD also has submitted a PBC proposal to utilize
12 approximately 8 acres (3 hectares) of existing open space at the North Housing Parcel
13 as a public park that would provide the opportunity for a variety of youth sports
14 activities, including a possible agreement with the Miracle League for the renovation of
15 the existing baseball field. Any future new development on the site would adhere to the
16 amended Community Reuse Plan as mentioned in Section 1.0.

17

18 **2.2.2 Alternative B: No Action**

19

20 Under the No Action Alternative, the Navy would retain ownership of the property
21 available for conveyance at NAS Alameda. The property would be held in an inactive or
22 caretaker status. On-site activities would be limited to security, maintenance, cleanup,
23 and other actions associated with caretaker status. Site environmental cleanup would
24 continue until completed. For comparative purposes throughout this document, it is
25 assumed that a caretaker and maintenance staff of approximately two persons would be
26 required. Under the No Action Alternative, existing interim leases would be allowed to
27 expire and no new leases or subleases would be executed.

28

29 **2.3 ALTERNATIVES ELIMINATED FROM DETAILED CONSIDERATION**

30

31 **2.3.1 U.S. Coast Guard (USCG)**

32

33 NAS Alameda's North Housing Parcel was originally planned to be conveyed to the
34 USCG via a federal-to-federal transfer. The USCG intended to use this property for
35 housing. Subsequently, the USCG withdrew its request and the 42 acres (15 hectares)

remains in Navy ownership. Because the USCG does not intend to utilize the property, this alternative is eliminated from detailed consideration.

2.3.2 Department of Veterans Affairs (VA)

The site was considered as a potential location for VA facilities to serve San Francisco Bay Area (Bay Area) veterans. Facilities proposed in the Alameda area include a columbaria cemetery, outpatient clinic (OPC), public/private venture community hospital and VA support/medical office buildings. It is the VA’s objective to quickly and effectively help veterans by placing all required VA facilities at one site (i.e., One VA). The “One VA” concept would require about 113 acres to meet all facility needs. The 42-acre (15-hectare) North Housing Area cannot accommodate the One VA concept.

At this time the VA is pursuing other property on NAS Alameda. A public meeting was held to inform the public of the proposed VA property transfer on 18 December 2008.

2.4 COMPARISON OF ALTERNATIVES

Table 2-1 includes a summary of impacts from Alternatives A and B.

**Table 2-1
Summary of Environmental Impacts**

Resource Area	Alternative A	Alternative B
Land Use	Impact: No significant impact. Mitigation: None proposed.	Impact: Potentially significant impact since this alternative would not be consistent with the applicable land use plans and policies for the North Housing Parcel. Mitigation: None proposed.
Visual Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: Potentially significant impact due to the continued caretaker status. The existing structures would become dilapidated and a visual blight to the surrounding areas. Mitigation: None proposed.
Socioeconomics	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.

Resource Area	Alternative A	Alternative B
Public Services	Impact: No significant impact. Mitigation: None proposed.	Impact: Potentially significant impact due to the anticipated increase in police, fire, and emergency services due to incidents such as break-ins, theft, fire, etc. Mitigation: None proposed.
Utilities	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Cultural Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Biological Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Geology and Soils	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Water Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Traffic and Circulation	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Air Quality	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Noise	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Hazardous Materials and Waste	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.

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CHAPTER 3.0 AFFECTED ENVIRONMENT

3.1 LAND USE

This section describes the land use patterns on and surrounding the 42 acre (15 hectares) North Housing Parcel surplus property on NAS Alameda proposed for disposal and reuse. Also described in this section are relevant land use plans and policies.

3.1.1 On-site Land Use

The North Housing Parcel is developed with former military housing units and the associated infrastructure for those structures. The existing housing units have been vacated and are not currently occupied by military or other civilian residents. Within the North Housing Parcel, there are 51 residential structures, which comprise a total of 282 units. Of the 282 residential units, there are 146 3-bedroom units and 136 4-bedroom units (City of Alameda 2006a).

Throughout the North Housing Parcel are paved roads and parking lots that serve the housing units. Other infrastructure necessary to support housing (sewer, water, telecommunications, etc.) are also located within the parcel. A sewer lift station is located in the northeast corner of the North Housing Parcel between Mosley Avenue and the basketball court. This sewer lift station is a critical component of the sewer system serving the North Housing Parcel and surrounding development.

Along the entire northern boundary of the North Housing Parcel is an undeveloped area that was previously used as a park. This open grassy park area is generally unimproved with remnants of a baseball diamond and boundary outlines for soccer fields remaining. The park area also includes an asphalt basketball court and paved parking lot. A paved walking trail is located around the perimeter of the park area.

3.1.2 Surrounding Land Use

To the north of the North Housing Parcel is the Port of Oakland with the Oakland Inner Harbor immediately north of the site. Port of Oakland harbor operations are described in detail in the FEIS.

1 To the east of the project site is developed land that was formerly part of FISC Alameda
2 Annex and Facility and includes multiple warehouse structures and an administrative-
3 type building, some of which are currently leased and occupied by local businesses.
4 This area is proposed for redevelopment as part of the Alameda Landing project.
5 Planned redevelopment would include a mix of residential, commercial, office, and
6 research and development (City of Alameda 2006b).

7
8 The College of Alameda and the Alameda Science Technology Institute campus and
9 facilities are located to the southeast of the project site. Immediately south of the site is
10 a currently USCG owned and occupied housing area known as Marina Village, which
11 was built in 1991. South of Marina Village is the recently constructed Bayport master
12 plan residential development, which includes a school and park facilities.

13
14 Located to the west of the North Housing Parcel is the USCG housing office and
15 parking lot. A personal goods storage facility is located to the west of the USCG office.
16 Farther west are industrial marine facilities associated with the harbor. To the west of
17 Main Street is the area known as Alameda Point, which is currently undergoing
18 redevelopment as directed by the ARRA and the City of Alameda amended Community
19 Reuse Plan. The redevelopment plan for Alameda Point includes a variety of residential
20 development, commercial and retail mixed uses, historic preservation areas, public
21 open space, and parks, including the Alameda Sports Complex (City of Alameda
22 2008b).

23 24 **3.1.3 Regulatory Considerations**

25
26 The regulatory agencies and their role in the project area are described in detail in the
27 FEIS, such as the City of Alameda General Plan and Zoning Ordinance, State Lands
28 Commission, and Association of Bay Area Governments. However, there have been
29 several important land use planning actions that have occurred since preparation of the
30 FEIS. These items are discussed below.

31
32 As outlined in the amended Community Reuse Plan, land use regulatory authority rests
33 with the City of Alameda and changes or amendments would be required to the City of
34 Alameda General Plan, Zoning Ordinance and other plans and regulations to enact the
35 plans and policies documented in the reuse plan (City of Alameda 1996). To facilitate
36 implementation of the 1996 Community Reuse Plan for NAS Alameda the City adopted
37 a comprehensive set of General Plan policies in 2002 to guide redevelopment in a

1 manner consistent with the Reuse Plan (City of Alameda 2008b). In 2003, the City
2 prepared a General Plan Amendment that rezoned much of the vicinity. In addition, in
3 2007, the City rezoned the park piece within the 42-acre (15-hectare) North Housing
4 Parcel as well as the adjacent Alameda Landing property.

5
6 The amended Community Reuse Plan designated the North Housing Parcel for
7 residential and associated use and that designation has not changed. In the amended
8 Community Reuse Plan, the North Housing Parcel is located within the Main Street
9 Neighborhoods planning district, which is designed to continue the existing residential
10 uses of the area. The predominant use is designated as housing and related uses with
11 a major emphasis on residential use. Residential, parks and recreation, school, and
12 local serving office, civic, and retail uses are allowed within the district (City of Alameda
13 1996).

14
15 On March 4, 2009, ARRA Board adopted the amended Community Reuse Plan
16 (outlined in Section 1.1). The planning guidelines are based on the planning and design
17 principles for the Main Street Neighborhoods as defined in the amended Community
18 Reuse Plan. The amended Community Reuse Plan aims to connect the street system
19 to both existing and planned streets, focus higher density development along a transit
20 corridor, provide joint use recreation facilities between parks and schools, create a
21 central neighborhood park fronted by residential use, connect the area to the waterfront,
22 and connect residential uses to open space, parks, and trails.

23
24 All of the City rezoning and General Plan amendments actions were consistent with the
25 amended Community Reuse Plan.

26
27 The November 2007 surplus declaration of the North Housing Parcel triggered the
28 federally prescribed screening process to be conducted by the ARRA, as the LRA. The
29 screening process requires the ARRA to balance the needs of the homeless and
30 requests for PBCs against other community needs and interests such as economic
31 development and provision of a range of housing for all segments of the population. As
32 required, the ARRA published a NOA of Surplus Property on November 16, 2007. On
33 October 1, 2008, the ARRA recommended that staff continue to pursue two PBCs and
34 one homeless housing accommodation for the North Housing Parcel.

1 **3.2 VISUAL RESOURCES**

2

3 This section describes the existing visual character of the site and the surrounding
4 visual environment including views towards the site and views from the site.

5

6 **3.2.1 Landscape Character and Region of Influence**

7

8 **Landscape Character of the Region**

9

10 The general Region of Influence (ROI) for the North Housing Parcel would be similar to
11 that identified in the FEIS as the regional characteristics of the area remain the same.
12 However, many regional areas that have views of a portion of NAS Alameda do not
13 have views of the North Housing Parcel. The North Housing Parcel is located along the
14 northern shore of the middle portion of the island of Alameda on the eastern shore of
15 San Francisco Bay. In a regional context, the area is bordered by the Oakland Inner
16 Harbor and the Port of Oakland to the north, San Francisco Bay to the west and south,
17 and the City of Alameda to the east. The topography of the area is generally flat and
18 does not allow for long-distance views, thus minimizing the ROI and views of the
19 property beyond the immediate surrounding area.

20

21 **Landscape Character of the North Housing Parcel**

22

23 The 42-acre (15 hectares) North Housing Parcel is mainly developed with residential
24 uses and the necessary supporting infrastructure. The residential development includes
25 51 buildings, comprised of 39 six-plexes and 12 four-plexes for a total of 282 typical
26 military family housing units. The two-story wood-framed housing structures are laid out
27 along curvilinear paved roadways and look nearly identical with alternating paint
28 schemes of tan and gray, see Figure 3.2-1. Landscaping is minimal, consisting mainly
29 of grass, small shrubs, and trees. Also located on the property is 8 acres of open space
30 park area that is generally undeveloped and consists of mostly grassy turf areas. The
31 property is generally flat with no significant topographic features. The level characteristic
32 of the property limits the views to and from the project site to surrounding areas.

33

34



View of Existing Residential Units and Roadway



View of Existing Residential Units

**Figure 3.2-1
Existing Site Photographs**

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1 **Landscape Character of Adjacent Off-site Areas**

2

3 To the north of the North Housing Parcel is the Oakland Inland Harbor. Intervening
4 between the project property and the harbor are large warehouse-type structures
5 associated with marine and harbor operations. To the northwest of the property is the
6 Alameda Gateway that consists of the Alameda Ferry terminal and parking lot,
7 warehouses, commercial self-storage facility, offices, and ship repair facilities, including
8 some tall cranes, which give an overall industrial look to the waterfront area.

9

10 East of the project site is part of the former FISC Alameda property. Some structures in
11 the area have been demolished and the area graded clean. Other large warehouse
12 structures and an office-type building still exist on the site and dominate the visual
13 character of this area. The large warehouses block views to and from the North Housing
14 Parcel.

15

16 Southeast of the project site is the College of Alameda. The campus includes
17 educational and administrative buildings as well as parking lots and landscaping. A
18 large portion of the campus is dedicated to sports facilities such as a baseball diamond,
19 track and field facilities, and tennis courts.

20

21 Immediately to the south of the North Housing Parcel are occupied older multi-family
22 residential units known as Marina Village. This housing area includes landscaping
23 consisting of grass, shrubs, and mature trees. This area's structures are associated with
24 a school facility including education buildings and outside play areas, which are vacant.
25 Further south is the recently redeveloped Bayport area, which consists mainly of single-
26 family residential homes with some multi-family units. The area also includes a new
27 school facility and a community park. This area has a very structured and organized
28 visual character due to the newly planned and constructed development.

29

30 West of the North Housing Parcel is the USCG housing office and a paved parking lot.
31 A personal goods storage facility is located just west of the USCG office. Continuing
32 east are industrial uses including warehouse facilities, a small power generation facility,
33 and other similar uses associated with marine activities such as boat repair. The visual
34 character of this area is dominated by these old industrial facilities and uses. West of
35 Main Street is an older residential neighborhood, developed with mostly single-family
36 units.

37

3.2.2 Sensitive Views of the North Housing Parcel

The North Housing Parcel is located within the former NAS Alameda and is generally surrounded by previous base facilities and uses, thus limiting the number of sensitive viewers of the project site. There are sensitive residential viewers with foreground views located south of the property in the occupied residential area as well as continuing south to the recently redeveloped Bayport area. Immediately to the east and west are industrialized areas that are not considered to be sensitive viewers. Viewers traveling by boat along the Oakland Inland Harbor have intermittent foreground and middle ground views of the North Housing Parcel; specifically, views of the site from the water are available near the northwest corner of the property. However, the majority of the site is blocked from view by the large warehouses between the water and the property. Views from the water include the open grassy area along the northern boundary of the property as well as views of the existing housing structures and landscaping. Because the area is generally topographically flat, the presence of large industrial buildings around the property limits views of the North Housing Parcel from more distant locations.

3.2.3 Regulatory Considerations

Regulatory considerations regarding aesthetics and visual resources remain the same as identified in the FEIS. These policies include NEPA's requirement that all practicable measures to be taken to "... assure for all Americans ... aesthetically pleasing surroundings" (42 U.S.C. § 4331(b)).

The City of Alameda General Plan has multiple elements that address visual resources. Specifically important to the North Housing Parcel are the goals to maintain and maximize views of waterfront and shoreline areas.

In addition, the Urban Design and Neighborhood Character element of the amended Community Reuse Plan includes aesthetic objectives to expand visual access to the water; create new venues with sight lines to water views; provide, frame, and accent views of the surrounding Bay environment; and emphasize public views throughout development in the former NAS site.

1 **3.3 SOCIOECONOMICS**

2
3 Under NEPA, “economic” and “social” effects are specific environmental consequences
4 to be examined (40 C.F.R. § 1508.8(b)). The term socioeconomics typically describes
5 the basic attributes and resources associated with the human environment with
6 particular emphasis on population, housing, employment, and personal income.
7 Indicators of these conditions for the greater project area are discussed in turn in this
8 section. Substantial changes in the fundamental indicators of these community or
9 regional attributes and resources may in turn influence a number of other social or
10 economic variables such as the provision of services and utilities, and the cost and
11 availability of housing, among others. Further, other types of environmental impacts
12 may also be experienced as socioeconomic impacts, such as where positive or negative
13 project-related attributes could influence various aspects of community character.

14
15 Due to the relatively small scale of the proposed action, socioeconomic impacts would
16 likely be felt most intensely at the local level. Thus, the City of Alameda would be the
17 main area affected, with Alameda and Contra Costa counties, which together make up
18 the Oakland Primary Metropolitan Statistical Area (PMSA), included in the overall ROI
19 as points of comparison and reference for the analysis of socioeconomic impacts. This
20 general socioeconomic ROI was selected because it is expected that most future
21 workers at the project site would reside within this area. For schools, the ROI is the
22 Alameda Unified School District (AUSD) since students associated with housing units
23 proposed on the NAS Alameda site would be enrolled in the local school district whose
24 boundaries coincide with those of the City of Alameda. The ROI for recreation is
25 considered the City of Alameda as well because of the proximity of the City to the
26 project site, although it is recognized that other Bay Area residents would likely take
27 advantage of the regional recreation facilities proposed under the proposed action.

28
29 The baseline year for the socioeconomics is 2007, the most recent available data from
30 the U.S. Census Bureau 2005-2007 American Community Survey. Historical
31 socioeconomic information and future projections are 2006 data derived from the
32 Association of Bay Area Governments (ABAG).

33
34 **3.3.1 Population**

35
36 According to the FEIS, the Oakland PMSA has grown a yearly average rate of 1.4
37 percent since 1980. The Oakland PMSA grew at a slightly faster rate between 1980 and

1 1995 than did the Bay Area as a whole, largely because of new development in the
 2 suburban eastern half of the PMSA. By 1990, the PMSA was home to more than two
 3 million residents. Growth continued through the late 1990s and in the 2000s reaching
 4 nearly 2.5 million residents by 2007. Growth of the PMSA is expected to slow to a
 5 projected annual rate of 1.2 percent from 2007 to 2030.

6
 7 Alameda County itself was among the fastest-growing areas in the Bay Region in the
 8 1980s, trailing only the boom areas of Solano, Sonoma, and Contra Costa counties.
 9 More recently, however, slower growth was seen in the 1990s and up to 2007.
 10 Contemporary growth has largely been fueled by new development in the eastern half
 11 of the county, rather than in the established population centers along the shore of the
 12 bay. Judging from historic and projected growth data, Alameda County has experienced
 13 slow, steady growth from 1980 to 2007 and this slow rate of growth is expected through
 14 2030 (1.2 percent).

15
 16 ABAG expects very little change in the total population between 2007 and 2030 in the
 17 City of Alameda, as shown in Table 3.3-1. The reasons for this are the City is nearly
 18 built-out and loss in population from the closure of NAS Alameda/FISC Alameda is
 19 generally offset by the growth in the household population. In fact, from 1990 to 2000,
 20 the population of the City actually dropped, before rebounding in 2007. Yearly
 21 anticipated growth in the City between 2007 and 2030 is approximately 0.8 percent,
 22 which is slightly higher than historic yearly averages from 1980 to 2007.

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 26
Table 3.3-1
City of Alameda Population

Area	1980	1990	2000	2007	2020	2030	Annual Average Growth	
							Historic (1980-2007)	Projected (2007-2030)
Oakland PMSA*	1,761,710	2,080,434	2,392,557	2,449,131	2,857,700	3,114,100	1.4%	1.2%
Alameda County	1,105,379	1,276,702	1,443,741	1,454,159	1,700,700	1,858,800	1.2%	1.2%
City of Alameda	63,852	73,979	72,259	74,142	82,200	88,200	0.6%	0.8%

*Alameda and Contra Costa Counties
 Source: ABAG 2006; U.S. Census Bureau 2007

27
 28

3.3.2 Household Characteristics

As discussed in the FEIS, the Oakland PMSA, like most of the country, experienced an increase in birth rates in the 1980s and early 1990s as the post-World War II “Baby Boomer” generation had children of its own. The growth in the number of households from 1980 to 2007 has been approximately 32.0 percent, with a growth rate of 5.8 percent in the average number of persons per household. Projections from 2007 to 2030 estimate that the total number of households will grow approximately 29.1 percent over this time span, although the average number of persons per household is expected to decrease slightly (-1.6 percent) from 2.74 in 2007 to 2.70 in 2030 (Table 3.3-2).

**Table 3.3-2
Housing Characteristics**

Location	1980	1990	2000	2007	2020	2030	Percent Change	
							1980-2007	2007-2030
Persons per Household								
Oakland PMSA*	2.59	2.61	1.09	2.74	0.52	0.00	5.8%	-100.0%
Alameda County	2.53	2.59	2.71	2.73	2.71	2.72	7.9%	-0.4%
City of Alameda	2.28	2.36	2.35	2.49	2.38	2.39	9.2%	-4.0%
Number of Households								
Oakland PMSA*	667627	779806	867495	881418	1068510	1138130	32.0%	29.1%
Alameda County	426093	479518	523366	519056	643030	671700	21.8%	29.4%
City of Alameda	26517	29078	30226	29287	34040	36400	10.4%	24.3%

*Alameda and Contra Costa Counties
Source: ABAG 2006; U.S. Census Bureau 2007

The City of Alameda reflects the regional trends described above, although growth from 1980 to 2007 has been slower than both Alameda County and the Oakland PMSA. Conversely, the percent change in the average number of people per household was larger between 1980 and 2007. Growth in the number of households from 2007 to 2030 (24.3 percent) is anticipated to be slower than the Oakland PMSA as a whole (29.1 percent), and the average number of persons per household is expected to drop 4.0 percent from 2.49 to 2.39 between 2007 and 2030.

3.3.3 Housing

As discussed in the FEIS, vacancy rates in the PMSA and in Alameda County are typically lower than in the whole of the Bay Area. According to the U.S. Census Bureau (2007), the City of Alameda has a vacancy rate of 7.9 percent, which is much higher than the vacancy rates in the 1990s and mid-1980s, which typically ranged from 3.8 to 4.9 percent. As discussed in the FEIS, prices in the City of Alameda typically tend to be above average for the county due to the relatively high quality of the housing stock.

Table 3.3-3 shows the distribution of the type of housing found in the PMSA, Alameda County, and the City of Alameda. As is characteristic of the more urban parts of the region, the city of Alameda has a larger proportion of multi-family dwellings than does the PMSA overall.

**Table 3.3-3
Housing Units By Type**

Type of Housing	San Francisco Bay Area ^a		Oakland PMSA ^b		Alameda County		City of Alameda	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
One Unit Detached	1,459,542	54.3%	562,874	60.5%	304,732	54.4%	13,513	42.5%
One Unit Attached	246,501	9.2%	71,472	7.6%	40,750	7.3%	3,520	11.1%
Two to Four Units	264,550	9.8%	91,088	9.2%	63,719	11.4%	5,867	18.4%
Five or More Units	655,998	24.4%	209,023	21.2%	143,629	25.6%	8,679	27.4%
Mobile Home	59,557	2.2%	14,230	1.6%	7,481	1.3%	222	0.7%
Total Units	2,686,148	100.0%	948,687	100.1%	560,311	100.0%	31,801	100.1%

^a Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma Counties

^b Alameda and Contra Costa Counties

Source: U.S. Census Bureau (2007)

The housing units to be potentially disposed/remodeled under Alternative A include 282 three- and four-bedroom military housing units. These units were identified in 1995 as being "in fair to good condition" by the FEIS.

3.3.4 Schools

AUSD currently has the capacity for 12,384 students in its ten elementary schools, three middle schools, and three high schools. As displayed in Table 3.3-4, enrollment in the 2008 school year is 9,963, for an overall utilization rate of 80.5 percent. Since 1995, the overcrowding cited in the FEIS has been somewhat alleviated by the addition of extra

1 classroom trailers, a new elementary school (Ruby Bridges), the reconfiguration of day
 2 care facilities, and a slow growth in population within the City of Alameda since 1990
 3 (cited above). At this time, Edison Elementary School is the only facility operating over
 4 capacity with a 106 percentage.

5
 6 **Table 3.3-4**
 7 **School Capacity**

School	2008 School Capacity	Actual 2007-2008 Enrollment	Percentage of Capacity	2008 State Capacity
Elementary Schools	5,059	4,366	86.3%	5,345
Bay Farm	584	552	94.5%	630
Earhart	711	582	81.9%	728
Edison	368	389	105.7%	385
Franklin	296	284	95.9%	325
Haight	573	427	74.5%	590
Lum	535	503	94.0%	552
Otis	446	399	89.5%	463
Paden	484	362	74.8%	501
Ruby Bridges	549	519	94.5%	612
Washington	513	349	68.0%	559
Middle Schools	3,016	2,216	73.5%	3,016
Chipman	957	587	61.3%	957
Lincoln	1,131	926	81.9%	1,131
Wood	928	703	75.8%	928
High Schools	4,309	3,381	78.5%	4,901
Alameda (inc. ASTI)	2,115	2,060	97.4%	2,581
Encinal	1,759	1,131	64.3%	1,885
Island	435	190	43.7%	435
Other	NA	352	NA	NA
Total	12,384	9,963	80.5%	13,262

Source: AUSD 2009

8
 9
 10 Recent changes for the AUSD include the transition of Woodstock and Longfellow
 11 elementary schools into charter schools, which has effectively removed them from
 12 capacity planning. There is some concern among AUSD administrators that nationwide
 13 economic troubles, which emerged in late 2008, may increase the need for public
 14 education in the AUSD as more and more residents opt out of paying for private
 15 education. As characterized by AUSD administration, the school district is meeting
 16 current demand but may not be able to accommodate a large influx of new students.

17
 18 According to recent nationwide research by the Russell Sage Foundation, the average
 19 number of children per household varies depending on household income, with the
 20 most affluent households having fewer children, and those households with lower
 21 income having more children. In 2003, the average number of children for the least

1 affluent households in the study was approximately 1.92, while the most affluent
 2 households had an average of approximately 1.82 children per household. In 2000,
 3 these rates were slightly higher, at approximately 1.99 and 1.85, respectively (Russell
 4 Sage Foundation 2009). According to U.S. Department of Agriculture (USDA) statistics
 5 from 2005 regarding the household composition of low-income households,
 6 approximately 38 percent of all households have a child present (USDA 2007). Student
 7 generation rates in the FEIS estimated that each single-family household in Alameda
 8 generated 0.436 students, although the ratio ultimately used was 0.484 students per
 9 household due to similarities with homes construction in Bay Farm Island. Due to the
 10 documented higher rate of children for low-income households (Russell Sage
 11 Foundation 2009), and the likelihood that all new residents seeking housing within the
 12 project area would be of relatively low-income, it is conservatively estimated that a
 13 student generation rate of 0.730 should be applied to this project.¹ The grade-level-
 14 specific student generation ratios in the FEIS have been applied to this higher rate, as
 15 displayed in Table 3.3-5. These student generation rates will be applied in estimating
 16 the student enrollment associated with residential housing in Chapter 4.

17
 18
 19
 20
Table 3.3-5
Student Generation

Grade Range	No. of Students per Household
K-5th	0.377
6th-8th	0.170
9th-12th	0.183
Total	0.730

21
 22
 23 **3.3.5 Recreation**
 24

25 As of 2001, the City of Alameda owns and maintains 1,094 acres of developed parks
 26 and recreation areas, beaches, and open spaces. Within this area are 13 neighborhood
 27 parks, 4 community parks, approximately 45 acres of community open space, and 889
 28 acres of undeveloped park lands. The City of Alameda also includes 440 acres of
 29 limited access lands, including AUSD facilities and a 328-acre (133.7-hectare) municipal
 30 golf course on Bay Farm Island, among other spaces. Facilities and amenities within the

¹ This rate is derived from multiplying the proportion of low-income households with children in 2005 (38.0 percent) by the average children per household in 2003 (1.92).

Alameda Park and Recreation Department include boat launches, a soccer field, a model airplane field, and shoreline trails (City of Alameda 2006b).

3.3.6 Employment

In the Oakland PMSA, the employed labor force increased more quickly from 1980 to 2005 (40.5 percent) than for Alameda County (35.2 percent) and the City of Alameda (12.7 percent). The increase in the regional labor force is due both to increased population (discussed previously) and increased employment opportunities (discussed below); as was the case in 1995, there were not as many new jobs in Alameda County as there were in Contra Costa County. Projections suggest, however, that an increase in employed residents will be similar from 2005 to 2030 for the County of Alameda, with the projected growth for Alameda County during this range anticipated to exceed the growth projected for the Oakland PMSA (Table 3.3-6).

**Table 3.3-6
Employed Residents in the Region of Influence (1980-2030)**

Area	1980	1990	2000	2005 ^a	2020	2030	Percent Change	
							1980-2005	2005-2030
Oakland PMSA ^b	829,545	1,057,812	1,171,549	1,165,500	1,464,000	1,701,200	40.5%	46.0%
Alameda County	522,069	648,461	709,557	705,900	883,900	1,038,800	35.2%	47.2%
City of Alameda	33,885	44,553	38,948	38,190	46,810	54,100	12.7%	41.7%

^a Due to statistical differences between the U.S. Census Bureau and ABAG for this dataset, ABAG data has been used exclusively. Thus, 2005 data has been provided in the table as the most recent figure available.

^b Alameda and Contra Costa Counties
Source: ABAG 2006

According to the FEIS, growth in the City of Alameda during the 1980s is largely attributable to a large increase in jobs associated with homeported Navy ships and military-related employment. City employment declined, however, in 2000 and 2005, once the military employment had largely left the immediate area. Job growth is anticipated to occur in the future; however, with growth (41.7 percent) slightly less than what is expected for the region as a whole (46.0 percent).

3.3.7 Unemployment Rates

In 2007, the unemployment rate for the Oakland PMSA was approximately 6.7 percent, which is slightly higher than the unemployment figure cited in the FEIS for the region. The City of Alameda's unemployment figure in 2007 was slightly less than the county as a whole (7.2 percent), at 6.1 percent. This figure is substantially higher than the unemployment figure for the City in 1995, however, which was 3.4 percent.

3.3.8 Employment

As discussed above, jobs in the Oakland PMSA grew faster from 1980 to 2005 than in Alameda County due primarily to substantial employment opportunities in Contra Costa County. The City of Alameda job base grew between 1980 and 1990 due to a newly homeported ship. In the years following 1990, however, jobs in the City of Alameda declined and are not projected to rise above 1990 levels until 2020. Between 1990 and 2005, job growth in the City of Alameda declined, due primarily to the base closure. However, projected job base numbers anticipate a 3.1 percent growth between 2005 and 2030, which exceeds the growth anticipated for the county as a whole and for the Oakland PMSA (Table 3.3-7).

**Table 3.3-7
Employment in the Region of Influence (1980-2020)**

Area	1980	1990	2000	2005 ^a	2020	2030	Annual Average Growth	
							Historic 1980-2005	Projected 2005-2030
Oakland PMSA ^b	715,034	924,810	1,121,470	1,109,300	1,375,090	1,589,260	2.2%	1.7%
Alameda County	513,797	620,980	750,160	730,270	902,180	1,037,730	1.7%	1.7%
City of Alameda	34,048	37,450	27,380	27,400	38,230	48,520	-0.8%	3.1%

^a Due to statistical differences between the U.S. Census Bureau and ABAG for this dataset, ABAG data has been used exclusively. Thus, 2005 data has been provided in the table as the most recent figure available.

^b Alameda and Contra Costa Counties

Source: ABAG 2006; U.S. Census Bureau 2007

3.3.9 Environmental Justice

Executive Order (EO) 12898, 59 Federal Register 7629, Federal Action to Address Environmental Justice in Minority Population and Low-Income Populations, signed in February 1994, directs federal agencies "... to make achieving environmental justice part of its mission by identifying and addressing ... disproportionately high and adverse

1 human health or environmental effects of its programs, policies, and activities on
2 minority population and low-income population in the [U.S.].” The first step in an
3 environmental justice analysis is to identify minority populations and low-income
4 populations, if any, within the socioeconomic ROI. Following CEQ guidance, presence
5 or absence of minority populations or low-income populations for the purposes of
6 environmental justice analysis is determined by assessing whether minority populations
7 or low-income populations are present in the ROI in proportions meaningfully greater
8 than in the general population. The general population is typically defined as being that
9 of relevant larger governmental jurisdictions, such as an adjacent larger municipality or
10 the county as a whole. In this instance, population proportions within the City of
11 Alameda and census tracts neighboring the project area that are in whole or in part 0.5
12 miles (0.8 kilometers), are compared against those of Alameda County, Contra Costa
13 County, and the greater PMSA area.²

14

15 **3.3.10 Minority Populations**

16

17 Table 3.3-8 provides information on total population, minority population, and
18 percentages of minority population within the ROI. Total minority populations, for the
19 purpose of this analysis, represent all individuals in the population except white, non-
20 Hispanic persons. As shown, four of the six census tracts within 0.5 miles (0.8
21 kilometers) of the project area exhibit total minority percentages in excess of 50 percent,
22 as does Alameda County as a whole, but only two census tracts exceed the county
23 average.

24

25 **3.3.11 Low-Income Populations**

26

27 Low income populations are typically described in terms of median household income or
28 in terms of the persons living below poverty level. The estimated median household
29 income and the proportion of those living in poverty are shown in Table 3.3-9. As
30 illustrated in the table, the City of Alameda has a slightly higher median household
31 income than the County, although the median household income for Contra Costa
32 County is higher than that of either the City or the County of Alameda. Of the census
33

33

² It should be noted that two census tracts (CT) included in the analysis, CT 4020 and CT 4032, have relatively low population density with total populations of 28 and 63 persons, respectively. This low density can have the affect of skewing proportions of certain demographic and socioeconomic characteristics.

Table 3.3-8
Race and Ethnicity in the Region of Influence, 2000

Area	White	Black	American Indian or Alaska Native	Asian	Native Hawaiian or Other Pacific Islander	Some Other Race	Two or More Races	Hispanic	Total Minority
Oakland PMSA ^a	55.4%	12.7%	0.6%	16.7%	0.5%	8.6%	5.4%	18.5%	52.3%
Alameda County	48.8%	14.9%	0.6%	20.4%	0.6%	8.9%	5.6%	19.0%	59.1%
Contra Costa County	65.5%	9.4%	0.6%	11.0%	0.4%	8.1%	5.1%	17.7%	42.1%
Alameda	56.9%	6.2%	0.7%	26.1%	0.6%	3.3%	6.1%	9.3%	47.5%
Census Tract 4020	25.0%	25.0%	14.3%	3.6%	0.0%	28.6%	3.6%	35.7%	82.1%
Census Tract 4032	47.6%	15.9%	3.2%	19.0%	0.0%	9.5%	4.8%	12.7%	54.0%
Census Tract 4273	52.1%	7.6%	0.8%	27.6%	1.2%	3.3%	7.4%	10.4%	52.6%
Census Tract 4274	66.8%	10.1%	1.2%	5.7%	2.5%	6.4%	7.4%	14.2%	38.7%
Census Tract 4275	67.5%	4.8%	16.3%	2.0%	0.0%	3.3%	6.1%	12.3%	38.0%
Census Tract 4276	20.9%	30.6%	0.6%	33.5%	0.7%	5.1%	8.6%	12.1%	83.7%

^a Alameda and Contra Costa Counties
Source: U.S. Census Bureau 2000

1 **Table 3.3-9**
 2 **Median Household Income and Percent of**
 3 **Population Living in Poverty in the Region of Influence, 1999**

Area	Median Household Income	Proportion of Population Living in Poverty
Oakland PMSA ^a	\$63,675–\$55,946	9.7%
Alameda County	\$55,946	11.0%
Contra Costa County	\$63,675	7.6%
Alameda	\$56,285	8.2%
Census Tract 4020	\$61,250	20.0%
Census Tract 4032	\$104,385	0.0%
Census Tract 4273	\$52,183	9.7%
Census Tract 4274	\$45,588	2.4%
Census Tract 4275	\$72,321	7.9%
Census Tract 4276	\$37,585	15.9%

^a Alameda and Contra Costa Counties
 Source: U.S. Census Bureau 2000

4
 5
 6 tracts within 0.5 miles (0.8 kilometers) of the project area, only Census Tracts 4020 and
 7 4276 have poverty percentages that exceed that of Alameda County as a whole.

8 **3.3.12 Protection of Children from Environmental Health Risks and Safety Risks**

9
 10
 11 EO 13045, Protection of Children from Environmental Health Risks and Safety Risks,
 12 was signed by President Clinton on April 21, 1997, directing federal agencies to
 13 "...make it a high priority to identify and assess environmental health risks and safety
 14 risks that may disproportionately affect children, and to ensure that its policies,
 15 programs, activities, and standards address disproportionate risks to children that result
 16 from environmental health risks or safety risks." Under the definitions provided in EO
 17 13045, covered regulatory actions include those that may be "economically significant"
 18 (under EO 12866) and "concern an environmental health risk or safety risk that an
 19 agency has reason to believe may disproportionately affect children." Further, EO
 20 13045 defines "environmental health risks and safety risks" [to] "mean risks to health or
 21 to safety that are attributable to products or substances that the child is likely to come in
 22 contact with or ingest (such as the air we breathe, the food we eat, the water we drink or
 23 use for recreation, the soil we live on, and the products we use or are exposed to)."

24
 25 For the purposes of this analysis, children are considered those individuals who are
 26 under 18 years of age. Table 3.3-10 presents information on the total population of the

1 ROI and census tracts within 0.5 miles (0.8 kilometers) of the project area under the age
 2 of 18, along with information for the greater Oakland PMSA for comparison. As shown,
 3 the proportion of children living within the City of Alameda is slightly lower than that of
 4 the Alameda County as a whole. Census tracts within 0.5 miles (0.8 kilometers) of the
 5 project area range from 1.6 percent to 34.7 percent. There are two schools in proximity
 6 to the southern end of the project area: Island High School and Woodstock Early
 7 Development Center. Both schools are adjacent to the site, across Singleton Avenue.
 8 Other nearby schools to the project area include the Alternatives in Action Charter
 9 School (approximately 0.5 miles [0.8 kilometers]), Ruby Bridges Elementary
 10 (approximately 0.3 miles [0.4 kilometers]), Peter Pan School (0.4 miles [0.6 kilometers]),
 11 and the Alameda Science and Technology Institute (0.4 miles [0.6 kilometers]).

12
 13
 14
 15

Table 3.3-10
Population and Proportion of Children, 2000

Area	Total Population	Total Population Under Age 18	Proportion of Children
Oakland PMSA ^a	2,392,557	606,366	25.3%
Alameda County	1,443,741	354,572	24.6%
Contra Costa County	948,816	251,794	26.5%
Alameda	72,259	15,534	21.5%
Census Tract 4020	28	3	10.7%
Census Tract 4032	63	1	1.6%
Census Tract 4273	4,760	928	19.5%
Census Tract 4274	1,252	435	34.7%
Census Tract 4275	545	114	20.9%
Census Tract 4276	5,079	1,656	32.6%

^a Alameda and Contra Costa Counties
 Source: U.S. Census Bureau 2000

16
 17

1 **3.4 PUBLIC SERVICES**

2

3 This section provides information on public services currently being provided to the
4 project area. These services include fire protection, emergency medical services, and
5 police services.

6

7 Prior to 1997, public services for the entire NAS Alameda were provided exclusively by
8 Navy personnel. Following the closure of the majority of NAS Alameda in 1997, the City
9 of Alameda began providing law enforcement, fire protection, and emergency medical
10 services to the areas adjacent to the project area as well as to other unoccupied areas
11 of NAS Alameda. The project area is not subject to the LIFOC, a lease that has been
12 executed between the Navy and ARRA. Therefore, the ARRA is not required to provide
13 security services or exercise any efforts to properly layaway and secure the former
14 housing units at the project area. However, due to the concurrent jurisdiction at NAS
15 Alameda, City of Alameda public services agencies are authorized to respond to all
16 incidents at the project area.

17

18 **3.4.1 Fire Protection and Emergency Medical Services**

19

20 The City of Alameda Fire Department (Fire Department), under contract to the Navy,
21 provides fire protection and emergency medical services to the project area. The Fire
22 Department employs 102 personnel that staff five fire stations. This includes the former
23 Navy fire station within NAS Alameda that is now staffed by Fire Department personnel.
24 The Fire Department maintains five engine companies, two aerial ladder companies,
25 and three ambulance companies. All fire personnel are certified Emergency Medical
26 Technicians or Paramedics. The ambulance personnel also are trained for fire fighting,
27 and, when needed, provide support using the Fire Department's reserve engines (Johe
28 2009).

29

30 **3.4.2 Police Services**

31

32 The City of Alameda Police Department (Police Department) provides law enforcement
33 services to the project area and adjacent lands within the former NAS Alameda. The
34 Police Department provides services that include law enforcement, criminal
35 investigations, and parking enforcement. The Police Department also operates an
36 animal shelter and provides animal control devices.

37

1 **3.4.3 Regulatory Considerations**

2
3 **City of Alameda General Plan**

4
5 The City of Alameda General Plan (City of Alameda 1991) outlines a number of fire and
6 emergency hazard policies, including the following:

- 7
8 • 8.2.a Maintain and expand the City’s fire prevention and fire-fighting capability;
- 9 • 8.2.b Maintain current level of emergency medical service;
- 10 • 8.2.c Update the City’s list of “critical facilities”;
- 11 • 8.2.d Assure new structures comply with the City’s fire, seismic, and sprinkler
12 codes; existing structures shall be required to comply with the intent of the codes
13 in a cost-effective manner; and
- 14 • 8.2.e Require developers to plan underground utilities so disruption by
15 earthshaking or other natural disasters is diminished.
16

1 **3.5 UTILITIES**

2

3 This section presents an overview of the utility systems at the project area, including
4 those for water distribution, sanitary wastewater, storm drainage, solid waste
5 management, telephone, electricity, natural gas, and cable television. The utilities
6 system for the North Housing Parcel also serves the separately USCG-owned Marina
7 Village housing area and a separate Alameda Unified School district public school and
8 accompanying day care center.

9

10 The following utility providers currently provide services to the project area (U.S. Navy
11 1999):

12

- 13 • East Bay Municipal Utility District (EBMUD) – Water Supply and Distribution
- 14 • EBMUD – Sanitary Wastewater
- 15 • EBMUD – Storm Drainage
- 16 • Alameda County Industries (ACI) – Solid Waste
- 17 • AT&T – Telephone
- 18 • Alameda Power and Telecom (AP&T) – Electricity
- 19 • Pacific Gas and Electric Company – Natural Gas
- 20 • COMCAST – Cable Television

21

22 **3.5.1 Water Supply and Distribution**

23

24 The primary source of water for the project site is the Pardee Reservoir in the
25 Mokelumne River in the Sierra Nevada Mountains. The water is treated and stored at
26 the Orinda Filter Plant and is conveyed to the project area via a pipeline beneath the
27 Oakland Inner Harbor. Under a joint powers agreement with the City of Alameda, the
28 EBMUD is responsible for operating the water distribution system to the project site and
29 the surrounding community (U.S. Navy 1999). Since the utility systems are on federal
30 property, EBMUD does not service the lines. Currently, an Interim Utility Use Agreement
31 between the Navy, the City of Alameda, and USCG, makes USCG the immediate
32 manager of the lines. This will remain in effect until the transfer is complete. As the
33 existing housing units in the project area are currently unoccupied, the water demand to
34 the area is low.

35

1 **3.5.2 Sanitary Wastewater**

2
3 The sanitary wastewater collection and treatment system at the project area is operated
4 by the EBMUD. As stated above, the USCG is responsible for maintaining the lines and
5 lift station. A lift station is located on the northeast portion of the site, between the
6 residence at 401 Mosley Avenue and the basketball court. This lift station requires
7 maintenance three times per week. The main EBMUD wastewater treatment plant at the
8 foot of the San Francisco-Oakland Bay Bridge has a dry weather treatment capacity of
9 454 million liters per day and a wet weather treatment capacity of 1,211 million liters per
10 day; however, the plant can receive a maximum of 1,571 million liters per day by using
11 a wet weather storage basin. The wet weather capacity is greater than the dry weather
12 capacity due to the presence of storm water in the sewer lines that dilutes the
13 wastewater, thus requiring less treatment (U.S. Navy 1999). As the existing housing
14 units in the project area are currently unoccupied, sanitary wastewater service needs of
15 the project area are low.

16 17 **3.5.3 Storm Drainage**

18
19 The storm drainage collection systems at the project area are operated and maintained
20 by the EBMUD. The storm drainage collection system in the project area consists of
21 drains, catch basins, and discharge outfalls to the Oakland Inner Harbor and San
22 Francisco Bay (U.S. Navy 1999).

23 24 **3.5.4 Solid Waste Management**

25
26 Solid waste is collected and disposed of by ACI, which serves the City of Alameda, and
27 is taken to Altamont Landfill & Resource Recovery facility. As the existing housing units
28 in the project area are currently unoccupied, the solid waste disposal needs of the
29 project area are low.

30 31 **3.5.5 Telephone**

32
33 The current telephone system serving the project area is owned and operated by AT&T.
34 This service, however, is market driven and the provider may change in the future per
35 market conditions. As the existing housing units in the project area are currently
36 unoccupied, the telephone service needs of the project area are low.

1 **3.5.6 Electricity**

2

3 AP&T provides electrical service to the project area. As the existing housing units in the
4 project area are currently unoccupied, the electricity needs of the project area are low.

5

6 **3.5.7 Natural Gas**

7

8 The natural gas distribution system to the project area is operated and maintained by
9 Pacific Gas and Electric (Cook 2009). As the existing housing units in the project area
10 are currently unoccupied, the natural gas needs of the project area are low.

11

12 **3.5.8 Cable Television**

13

14 COMCAST provides cable television services to the project area (Cook 2009). As the
15 existing housing units in the project area are currently unoccupied, there are no cable
16 television services being provided to the area.

17

18 **3.5.9 Regulatory Setting**

19

20 The Safe Drinking Water Act – The USEPA administers the Safe Drinking Water Act. It
21 is the primary federal law that regulates the quality of drinking water and establishes
22 standards to protect public health and safety. The Department of Health Services (DHS)
23 oversees public water system quality statewide. DHS establishes legal drinking water
24 standards for contaminants that could threaten public health (City of Alameda 2006b).

25

26 City of Alameda General Plan – The City of Alameda General Plan contains the
27 following policies regarding public utilities that may be applicable to the proposed
28 project.

29

30 **Open Space and Conservation Element**

31

32 Policy 5.1.h: Continue to support EBMUD in its efforts to promote and implement
33 water conservation measures.

34

35 Policy 5.1.i: Encourage the use of drought-resistant landscaping.

36

1 Policy 5.1.aa: Review proposed development projects for both water and energy
2 efficiency, and integrate plans for the use of reclaimed wastewater for
3 landscaping as a condition of approval.
4

5 **Health and Safety Element**
6

7 Policy 8.2e: Require new development to plan underground utilities so disruption
8 by earthshaking or other natural disasters is diminished.
9

10 Policy 8.4.a: Continue to identify and assess the risks associated with various
11 hazardous materials transported in Alameda.
12

13 Policy 8.4.b: Clarify responsibilities for resolving incidents of hazardous materials
14 release.
15

16 Policy 8.4.c: Apply the Emergency Operations Plan, if necessary, in response to
17 a hazardous materials release disaster.
18

19 Policy 8.4.d: Continue to support the resource recovery measures specified in
20 the Alameda County Solid Waste Management Plan, July 1987.
21

22 Policy 8.4.e: Continue to support implementation of the Alameda County
23 Hazardous Waste Management Plan.
24

25 Policy 8.4.j: Implement the residential area curbside recycling program.
26

1 **3.6 CULTURAL RESOURCES**

2
3 **3.6.1 Cultural Resources Summary**

4
5 This section summarizes the cultural resources investigations and documentation
6 conducted to date for the project area and including areas of NAS Alameda and FISC
7 Facility which is described below.

8
9 The Native American Heritage Commission (NAHC) was contacted in 2006 (Alameda
10 2006b) to solicit information regarding sacred lands. No sacred lands were identified by
11 the NAHC. The NAHC provided a list of seven Native American organizations or
12 individuals that should be contacted to solicit their input regarding the project. Letters
13 were sent to each contact, with a description of the proposed project and location of the
14 project on April 26, 2006. To date, no responses have been received. Additionally, to
15 fulfill its statutory obligations under Section 106 of the National Historic Preservation
16 Act, on February 5, 2009, the Navy initiated consultation with the State Historic
17 Preservation Officer (SHPO), the Advisory Council on Historic Preservation (ACHP), the
18 Alameda Naval Air Museum (ANAM), the Alameda Architectural Preservation Society
19 (AAPS), the Alameda Reuse and Redevelopment Authority, the Muwekma Ohlone Tribe
20 of the San Francisco Bay Area, and Mr. Aidan Barry. This initiation of consultation letter
21 included a description of the undertaking, the Area of Potential Effect (APE), and the
22 plan for future consultation with the same parties on the identification of historic
23 properties and the finding of effect. The Navy received responses from AAPS, ANAM,
24 and ACHP. In a February 17, 2009 telephone call from Marilyn York of ANAM and a
25 February 24, 2009 email from Elizabeth Krase of AAPS, ANAM and AAPS indicated no
26 concerns on their part as interested parties regarding the proposed transfer,
27 demolitions, and reuse in the proposed undertaking. In a February 23, 2009 letter to
28 Base Closure Manager Alan K. Lee and a February 18, 2009 email to Senior Historian
29 Erica Spinelli, the ACHP indicated a desire for the Navy to consider potential cumulative
30 effects arising from the proposed undertaking and other undertakings at NAS Alameda.
31 The ACHP did not indicate any specific concerns regarding the current undertaking and
32 encouraged the Navy to continue its consultation efforts with SHPO and other
33 consulting parties. On April 2, 2009, the Navy received a response from SHPO
34 regarding the initiation of consultation letter (USN090209A). In this letter, the SHPO
35 concurred with the Area of Potential Effects (APE) and the plan for continued
36 consultation.

1 In 1996, the Navy investigated the potential presence of archaeological resources
2 located on the project area. Thorough background research was conducted under a
3 Navy contract by PAR Environmental Services in the report titled "Fleet Industrial
4 Supply Center – Alameda Annex/Facility and Naval Air Station Alameda Family
5 Housing" (Maniery et al.1996). This report provided a summary of the records search,
6 an analysis of historic land use, and the results of a pedestrian archaeological survey.
7 According to an 1857 historic map of the area, all of the Navy's property at former NAS
8 Alameda (including the project area) is located on former marshland located on the
9 northwestern portion of Alameda Island, on the east side of Oakland Bay. Imported fill
10 was brought into the area during the late 1800s and early 1900s from early railroad
11 construction in the area, infilling the marshland around Alameda Island. A 1918 historic
12 map of the area, which was formerly Fleet Industrial Supply Center (FISC Facility),
13 Alameda Annex/Facility and NAS Alameda Family Housing, indicates that it was being
14 filled. This area was surveyed during Maniery et al. 1996 report and no archaeological
15 resources were identified. As the project area is located on former marshland and has
16 been built on fill, the likelihood of encountering intact archaeological sites within the
17 former NAS Alameda area is very low.

18
19 Development in the project area in the 1920s and 1930s was limited to three small
20 airports with several support buildings. In 1931, the United States Army established a
21 presence on the western end of Alameda Island. Between 1936 and 1940, additional
22 land was reclaimed from the marshland and NAS Alameda was created from land
23 previously held by the US Army Corps, the City of Alameda and newly reclaimed
24 marshland. During World War II, structures were constructed at the FISC Facility,
25 located east of and adjacent to NAS Alameda (Alameda 2006b).

26
27 As part of base closure and property transfers during the 1990s, an architectural survey
28 (JRP 1996) were conducted for the FISC Facility (City of Alameda 1999). The
29 architectural survey evaluated all buildings at the FISC Facility for eligibility for the
30 National Register of Historic Places (NRHP). Their report concluded that none of the
31 properties located on FISC were eligible for the NRHP. A concurrence letter from the
32 California State Historic Preservation Office was received by the Navy in 1997 (Widell
33 1997).

34
35 Following the certification of a 2000 Environmental Impact Report (Alameda 2000) and
36 the supplemental EIR to that report (Alameda 2006b); several buildings have been
37 demolished adjacent to the project area. Additionally, a new development has also been

1 constructed adjacent to the project area. There have been no alterations to, or
2 construction in the project area.

3

4 In March 2009, the Navy evaluated the project area with consideration of Cold War-era
5 significance. The Navy completed a Department of Parks and Recreation (DPR 523)
6 site form to evaluate all of the buildings, structures, and open space areas within the
7 North Housing Area under the standard National Register of Historic Places criteria for
8 eligibility and under Criterion Consideration G for properties less than 50 years of age.
9 None of the buildings or structures located in the project area appeared to meet the
10 criteria for listing in the National Register of Historic Places. In a letter dated April 23,
11 2009, the Navy sought concurrence from the SHPO on this finding of “not eligible” for
12 the buildings and structures located in the project area.

13

14 Per 36 C.F.R. § 800.4 (d)(1), the Navy’s reached a finding of effect for this proposed
15 undertaking of “no historic properties affected.” No archaeological properties were
16 identified through archaeological survey of the project area. None of the buildings,
17 structures, and open space areas located in the project area met the criteria for listing in
18 the National Register. The Navy determined that there was no potential for indirect
19 effects on the NAS Alameda Historic District because the historic district and the project
20 area are visually separated by housing (not contributing to the district), a road, and a
21 private storage company. The project area is well removed from any of the significant
22 viewsheds in the NAS Alameda Historic District and reuse of this area will not have
23 visual effects on the Historic District. Therefore, the Navy found that the project area
24 undertaking would not affect historic properties either directly, indirectly, or cumulatively.
25 Consistent with 36 C.F.R. § 800.4(d)(1)(i), the Navy found that no historic properties
26 would be affected by the proposed undertaking.

27

3.7 BIOLOGICAL RESOURCES

This section describes biological resources at and near NAS Alameda North Housing Area, including vegetation, wildlife, sensitive species, and sensitive habitats. Vegetation and wildlife are described in terms of habitat types present within the 42-acre (15-hectare) North Housing Area. A discussion of applicable laws and regulations governing these resources is provided at the end of this section.

The ROI for biological resources includes the NAS Alameda North Housing Area, NAS Alameda/FISC Alameda, and surrounding native habitats within a 1-mile (1.6-kilometer) radius. This 1-mile (1.6-kilometer) radius was selected because this area includes sensitive species and habitats that could be affected by reuse activities. Sensitive species observed off-site within the ROI may also use habitat at the NAS Alameda North Housing Area and NAS Alameda/FISC Alameda. The environmental baseline for biological resources is representative of operational conditions at NAS Alameda North Housing Area and the greater NAS Alameda/FISC Alameda, updated by more current surveys where applicable. This section supplements the Biological Resources section of the 1999 FEIS for the Disposal and Reuse of NAS Alameda (U.S. Navy 1999) to address biological resources at NAS Alameda North Housing Area.

Of particular note and importance to the 1999 analysis was the southwest portion of Alameda Island, approximately 1 mile (1.6-kilometer) west of the North Housing Area, which served as runways and taxiways for the NAS. The central portion of the deteriorating tarmac supports one of the largest and most successful breeding colonies of the endangered California least tern (*Sternula antillarum browni*) in the state and nearly the entire least tern breeding population in the Bay Area. This area was identified in the FEIS as the “U.S. Fish and Wildlife Service (USFWS) Wildlife Refuge” planning area as the intent was to transfer the land to the USFWS to be maintained and managed as a refuge. The tern colony was one of the major reasons for the USFWS’s request for the property; however, the USFWS did not exercise its option to take the land. The approximate 550-acre property is currently under consideration by another federal entity. For simplicity it is referred to as the former USFWS Wildlife Refuge planning area in this document. Since there have been no significant changes in the environmental condition or proposed use of other remaining surplus property at NAS Alameda, the biological resources specific to that land may be referred to for contextual purposes but will not be analyzed in this EA. Where appropriate, reference will be made to the 1999 FEIS.

1 **Methodology**

2

3 The environmental baseline for biological resources is representative of Navy
4 operations at NAS Alameda North Housing Area and the greater NAS Alameda/FISC
5 Alameda, as updated by recent biological resources surveys. A site visit to review
6 current biological conditions for the NAS Alameda North Housing Area was conducted
7 on February 11, 2009 by EDAW biologist Jason Phillips. Results of the site visit were
8 utilized to describe vegetation and wildlife conditions on site in the sections below. No
9 protocol surveys were conducted and no formal report was prepared. Biological
10 resource data were collected from the California Natural Diversity Data Base (CNDDDB)
11 (California Department of Fish and Game [CDFG] 2009), a species list from the USFWS
12 (USFWS 2009), the California Native Plant Society (CNPS) inventory of rare and
13 endangered plants (CNPS 2008), a report of existing conditions at the site (City of
14 Alameda 1996), the amended Community Reuse Plan (City of Alameda 1996), the NAS
15 Alameda Master Plan and Natural Resource Management Plan, the 1995 Base
16 Realignment and Closure Cleanup Plan, proceedings from a symposium on natural
17 resources at NAS Alameda, and a Wetland Evaluation Technique report of NAS
18 Alameda (U.S. Navy 1999).

19

20 The FEIS has an extensive review of the literature regarding the California least tern at
21 NAS Alameda included nesting reports from 1983 to 2008, foraging reports from 1984
22 to 2007, and nesting site characteristics (U.S. Navy 1999). The ARRA conceptual
23 management plans for the California least tern at NAS Alameda (City of Alameda 1996)
24 and USFWS Draft Comprehensive Conservation Plan (USFWS 2000) provided
25 background information and the basis for some of the mitigation measures. Letters and
26 background information from previous Section 7 endangered species consultations with
27 the USFWS that were in the FEIS were reviewed, as well as technical biological
28 resource reports prepared for current USFWS consultations (EDAW 2008, 2009).

29

30 **3.7.1 Vegetation**

31

32 Vegetation is described in terms of habitat types rather than natural vegetation
33 communities because NAS Alameda North Housing Area is located primarily on bay fill
34 land and most of the site is developed. Habitat types identified at NAS Alameda North
35 Housing Area include ruderal, landscaped, or developed areas. The locations of these
36 habitat types are shown in Figure 3.7-1. The site consists of residential housing,

37

38



LEGEND

- Project Boundary
- Vegetation Type**
- Ruderal/Landscaped
- Urban/Landscaped

Source: Tetra Tech 2009, ESRI 2009

200 100 0 200 Feet

Scale: 1 = 130,213; 1 inch = 10,851 feet

Figure 3.7-1
Vegetation Type

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1 associated lawns, streets, parking areas, and playfields. The entire 42-acre (15-hectare)
2 site is developed or maintained as landscaping, therefore it is lacking in natural habitats.
3 Sensitive natural communities such as aquatic features are absent. Natural vegetation
4 communities such as grassland and wetlands including saltmarsh and seasonal
5 wetlands were not found on the project area, but do exist east of Main Street at the
6 most western portions of the former NAS. Open waters of the San Francisco Bay and
7 the Oakland Inner Harbor are located in the immediate vicinity although they do not
8 directly border the site. Waters of the Oakland Inner Harbor are located 120 feet (36.5
9 meters) to the north. Plant species observed on the subject property are primarily
10 ornamental trees and ruderal or landscaped grasses and forbs.

11

12 **Ruderal/Landscaped**

13

14 The northern quarter of the site is characterized by grassy playfields and scattered
15 trees. A parking area bisects baseball and soccer fields to the west from a manicured
16 lawn and basketball court to the east, encircled by a paved walking path. At the time of
17 the site visit, the grass had been recently mowed. Ornamental tree species present
18 include Monterey pine (*Pinus radiata*), blackwood acacia (*Acacia melanoxylon*), and
19 Brazilian peppertree (*Schinus terebinthifolius*). Nonnative herbaceous species typically
20 found in ruderal and landscaped areas of the region including ox tongue (*Picris*
21 *echioides*), burclover (*Medicago polymorpha*), cudweed (*Gnaphalium luteum-album*),
22 English plantain (*Plantago lanceolata*), and Bermuda grass (*Cynodon dactylon*)
23 predominate the playfields and surrounding open grassy areas.

24

25 **Developed/Landscaped**

26

27 The southern three quarters of the NAS Alameda North Housing Area is more
28 intensively developed with roads, residential buildings, and parking areas. A gravel
29 playground and large grassy area is present in the central portion of this area.
30 Landscaping consisting of lawns and patchy ornamental trees is interspersed between
31 the buildings and roadways. Landscaped vegetation in the more developed area
32 consists of the same ornamental species and other nonnative species as described
33 above.

34

3.7.2 Wildlife

Wildlife utilizes all of the habitat types at NAS Alameda/FISC Alameda. As identified in the 1999 FEIS (Navy 1999), the primary wildlife habitats are the grasslands and wetlands near the airfield, the airfield itself, and the rock breakwaters. Most of this wildlife habitat is within the former USFWS Wildlife Refuge planning area. Grasslands within the Northwest Territories planning area also are used by wildlife. These areas provide nesting, roosting, foraging, and haul-out sites for birds and marine mammals. The Bay Area is a crucial nesting and foraging area and wintering ground for thousands of birds in the Pacific Flyway, which extends from South America to the Arctic Circle (U.S. Navy 1999). Appendix D and Table 3-15 in the 1999 FEIS includes a list of animal species observed at or that have the potential to inhabit habitats present within NAS Alameda/FISC Alameda. Based on the absence of suitable habitats within the NAS Alameda North Housing Area, most of these species are not expected to occur and therefore are not discussed in detail in this section. Wildlife in the developed areas on NAS Alameda/FISC Alameda, such as NAS Alameda North Housing Area, is typical of that found in disturbed urban areas of the region and includes common invertebrates, amphibians, reptiles, birds, and mammals. Given its intensively developed nature, NAS Alameda North Housing Area provides limited wildlife habitat. Those species that are adapted to disturbed habitats and human activity are most likely to be present as discussed below.

Ruderal/Landscaped Areas

Landscaped areas around buildings, residences, and parks are used primarily by typical urban wildlife, such as western scrub jays (*Aphelocoma californica*), red-winged blackbirds (*Agelaius phoeniceus*), house finches (*Carpodacus mexicanus*), American robins (*Turdus migratorius*), Beechey ground squirrels (*Spermophilus beecheyi*), and various species of squirrels. Raptors and other predators may use these areas for foraging. Grasslands at NAS Alameda provide nesting sites and foraging areas for a variety of wildlife. Northern harriers (*Circus cyaneus*) nest in the upland areas adjacent to the wetlands and forage in a variety of habitats. Killdeer (*Charadrius vociferus*), horned larks (*Eremophila alpestris*), and burrowing owls (*Athene cunicularia*) have been observed nesting in the grasslands at NAS Alameda. Red-tailed hawks (*Buteo jamaicensis*), northern harriers, peregrine falcons (*Falco peregrinus*), white-tailed kites (*Elanus leucurus*), American kestrels (*Falco sparverius*), and other avian predators prey on the doves (*Columba livia* and *Zenaida macroura*), black-tailed jackrabbits (*Lepus*

1 *californicus*), and Beechey ground squirrels in the grasslands (Feeney 1994). Although
2 the open grassy area on the northern portion of NAS Alameda North Housing Area is
3 landscaped and more influenced by human activity than grassland areas to the west,
4 there is potential for these avian species to forage within this area and nest within the
5 scattered ornamental trees. The following birds were observed during the recent site
6 visit: red-tailed hawk, American robin, American crow (*Corvus brachyrhynchos*),
7 western gull (*Larus occidentalis*), black phoebe (*Sayornis nigricans*), red-winged
8 blackbirds, rock dove, and western meadowlark (*Sturnella neglecta*).

9
10 As discussed in the FEIS, bats use buildings at NAS Alameda/FISC Alameda for
11 shelter, resting, and foraging (U.S. Navy 1999). In the landscaped or developed and
12 intensively developed areas, more than 330 buildings within the Civic Core, Main Street
13 Neighborhoods, North Waterfront, Marina, and Inner Harbor planning areas of NAS
14 Alameda/FISC Alameda were surveyed for bats between December 6, 1995, and
15 January 2, 1996. Evidence, such as fecal pellets and squeaking, of the common
16 Mexican free-tailed bat (*Tadarida brasiliensis*) were observed in warehouses 2, 3, and
17 4, in an intensively developed area of the North Waterfront planning area. At the time,
18 the study concluded that there was no evidence of any sensitive bat species in the area
19 (U.S. Navy 1999).

20 21 **Developed/Landscaped Areas**

22
23 Typical urban wildlife, such as California ground squirrels, scrub jays, and American
24 robins, occur in the more intensively developed area given the presence of landscaping
25 interspersed throughout. Feral cats (*Felis catus*) are also found in the developed areas
26 and all other terrestrial habitats at Alameda NAS (U.S. Navy 1999).

27 28 **3.7.3 Sensitive Species**

29
30 Sensitive species include those that are listed or proposed for listing by the USFWS or
31 the CDFG as endangered, threatened, or rare; candidate species for listing; species of
32 concern; and species of special concern. Also included as sensitive species are plants
33 that are listed by the CNPS as rare or endangered. Sensitive species are provided
34 varying levels of legal protection under the Federal Endangered Species Act, 16 U.S.C.
35 § 1531-1544 (West 1985 & Supp. 1998), and California Endangered Species Act
36 (CESA), Cal. Fish and Game Code 5§ 2050-2116 (U.S. Navy 1999), depending on their
37 classification, and are considered under NEPA and California Environmental Quality Act

1 (CEQA). Additional species receive federal protection under the Bald and Golden Eagle
2 Protection Act (e.g., bald eagle, golden eagle) and the MBTA. All birds, except European
3 starlings, English house sparrows, rock doves (pigeons), and non-migratory game birds
4 such as quail, pheasant, and grouse, are protected under the MBTA. Table 3-15 of the
5 1999 FEIS lists sensitive plant and animal species that have been or may be found
6 within the ROI for NAS Alameda/FISC Alameda (U.S. Navy 1999). Most of the potential
7 habitat for sensitive species is on the former USFWS Wildlife Refuge planning area.
8 None of these sensitive species were considered likely to be found at FISC Alameda.
9 With the exception of some special-status birds that are more adapted to disturbed
10 habitats and potentially roosting bats, sensitive species are not expected to occur within
11 NAS Alameda North Housing Area due to the developed nature and lack of suitable
12 habitat. Sensitive birds and bats that have potential to occur onsite are summarized in
13 Table 3.7-1 and are discussed below.

14

15 **Sensitive Plants**

16

17 No sensitive plants are known to occur at NAS Alameda/FISC Alameda, and none have
18 been found in previous surveys of the site. NAS Alameda/FISC Alameda is highly
19 urbanized, and there is only a minimal amount of natural vegetation on the site. The
20 1999 FEIS identified seven sensitive plants with the potential to be found at NAS
21 Alameda/FISC Alameda because they have been observed within the ROI. Of these
22 seven species, five were unlikely to grow there because there are no suitable habitats,
23 such as chaparral, coastal prairies, vernal pools, or coniferous forests. The two
24 remaining species, Point Reyes bird's beak (*Cordylanthus maritimus* ssp. *palustris*), a
25 CNPS List 1B species, and marsh gumplant (*Grindelia hirsutula* var. *maritima*), a CNPS
26 List 1B species, may grow in the salt marshes at the former USFWS Wildlife Refuge
27 planning area but were considered unlikely due to its developed nature (U.S. Navy
28 1999). A more recent assessment of the former USFWS wildlife refuge planning area
29 identified three federally-listed endangered plant species as having some potential to
30 occur within habitats on that site: robust spineflower (*Chorizanthe robusta* var. *robusta*),
31 California seablite (*Suaeda californica*), and beach layia (*Layia carnosa*). Recent
32 botanical surveys for the entire NAS Alameda west of Main Street conducted during the
33 target species blooming periods did not detect any presence of sensitive plant species
34 (EDAW 2009, in prep.). Sensitive plant species are not expected to occur at NAS
35 Alameda North Housing Area based on a lack of suitable habitat and the negative
36 results of recent survey efforts for the greater NAS Alameda/FISC Alameda.

37

1
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**Table 3.7-1
Sensitive Species Potentially Inhabiting the NAS Alameda North Housing Area**

Common Name	Scientific Name	Status	Habitat	Occurrence NAS Alameda (Navy 1999)	Occurrence North Housing Area
Birds					
Cooper's hawk (nesting site only)	<i>Accipiter cooperii</i>	WL	Nests primarily in deciduous riparian forests. May also occupy dense canopied forests from gray pine-oak woodland to ponderosa pine. Forages in open woodlands. Occurs throughout the Bay Area.	N/A	P – nesting and foraging
Burrowing owl	<i>Athene cunicularia hypugea</i>	CSC	Open, dry grasslands, deserts, prairies, farmland and scrublands with abundant active and abandoned mammal burrows. Occurs in lowlands throughout California.	C	P – foraging and potential for burrow habitat
Northern harrier	<i>Circus cyaneus</i>	CSC	Nests and forages in grasslands and agricultural fields. Nests on ground in shrubby vegetation, dense grass, or crops such as wheat and barley, often at the edge of marshes.	C	P – foraging only
White-tailed kite (nesting sites)	<i>Elanus leucurus</i>	FP	Inhabits agricultural areas, low rolling foothills, valley margins with scattered oaks and river bottomlands, or marshes adjacent to deciduous woodlands. Prefers open grasslands, meadows, marshes, and agricultural fields for foraging. Occurs throughout the Bay Area.	N/A	P – nesting and foraging
California horned lark	<i>Eremophila alpestris actia</i>	WL	Nests and forages on ground in open grassland. Often found in agricultural areas. Will nest on bare ground or among sparse vegetation. Known from regions throughout the Bay Area.	C	P – foraging only
Saltmarsh common yellowthroat	<i>Geothlypis trichas sinuosa</i>	CSC	Known throughout the Bay Area from Napa to Santa Cruz Counties. Nests in freshwater marshes in the spring and summer and moves into tidal sloughs and channels during the winter. Requires contiguous freshwater and salt water marsh habitats.	P	U – no suitable nesting habitat

3.7 Biological Resources

Common Name	Scientific Name	Status	Habitat	Occurrence NAS Alameda (Navy 1999)	Occurrence North Housing Area
Merlin	<i>Falco columbarius</i>	WL	Winters throughout the western United States in open grasslands and woodlands, often along coasts near concentrations of shorebirds, which it feeds on in addition to small mammals and insects. Does not breed in California.	CO	P – foraging only
American peregrine falcon (nesting)	<i>Falco peregrinus anatum</i>	SE; FP	Nests and roosts on protected ledges of high cliffs and bridges, usually adjacent to lakes, rivers, or marshes. Permanent resident in the North and South Coast Ranges. Winters in the Central Valley southward through the Transverse and Peninsular Ranges. Feeds almost exclusively on birds. Known to breed under bridges and on tall buildings in urban locations – San Francisco, San Jose, and Redwood Shores.	CO	P – dispersal and low potential for foraging
Loggerhead shrike	<i>Lanius ludovicianus</i>	CSC	Nests in woodland and scrub habitats at margins of open grasslands. Often uses lookout perches such as fence posts. Resident and winter visitor in lowlands and foothills throughout California.	C	P – nesting and foraging
Western gull (nesting colonies)	<i>Larus occidentalis</i>	S*	California coastal; casual inland	C	P – foraging only
Alameda song sparrow	<i>Melospiza melodia pusillula</i>	CSC	Occurs only along the southern and eastern fringes of the San Francisco Bay. Inhabits salt marsh habitats with dense vegetation, and upland habitats for refugia. Known from suitable salt marsh habitats on Alameda Island.	C	U – no suitable nesting habitat
Allen's hummingbird	<i>Selasphorus sasin</i>	CNDDB	Breeds throughout coastal California south to Santa Barbara. Chaparral, thickets, brushy hillsides, open coniferous woodlands, and gardens near the coast, often in ravines and canyons. Nests on twigs or forks of trees or shrubs, sometimes on stalks of plants, among vines, or occasionally in buildings.	N/A	P – nesting and foraging

Common Name	Scientific Name	Status	Habitat	Occurrence NAS Alameda (Navy 1999)	Occurrence North Housing Area
Mammals					
Greater western mastiff bat	<i>Eumops perotis</i>	CSC	Roosts on or in buildings, crevices in cliffs, in trees, and in tunnels.	U	P
Western red bat	<i>Lasiurus blossevillii</i>	CSC	From Shasta County south to the Mexico, west of the Sierra Nevada/Cascade crest and deserts. The winter range includes western lowlands and coastal regions south of San Francisco Bay. Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests.	N/A	P
Hoary bat	<i>Lasiurus cinereus</i>	CNDDDB	Found throughout California. Habitats suitable for bearing young include all woodlands and forests with medium to large-size trees and dense foliage.	N/A	P
Long-eared myotis bat	<i>Myotis evotis</i>	CNDDDB	Inhabits thinly forested areas around buildings or trees. Occasionally found in caves. Does not occur in large colonies. Distributed throughout the western U.S.	N/A	P
Fringed myotis bat	<i>Myotis thysanodes</i>	CNDDDB	Roosts in colonies in caves and attics of old buildings. Distributed throughout the western U.S. and into Mexico. Most frequent in coastal and montane forests and around mountain meadows.	N/A	P
Long-legged myotis bat	<i>Myotis volans</i>	CNDDDB	Roosts colonially in buildings, small pockets and crevices in rock ledges, and exfoliating tree bark and hollows within snags. Distributed throughout the western U.S., Mexico, and Canada.	N/A	P
Townsend's western big-eared bat	<i>Corynorhinus (Plecotus) townsendii townsendii</i>	CNDDDB	Caves, mine tunnels, and buildings for roosts.	U	P
Alameda island mole	<i>Scapanus latimanus parvus</i>	CSC	Only known from Alameda Island. Found in a variety of habitats, especially annual and perennial grasslands. Prefers moist, friable soils. Avoids flooded soils.	N/A	P

1
2 Status: State Endangered (SE); Fully Protected (FP); California Species of Special Concern (CSC); CDFG Watch List (WL); Tracked by the CNDDDB; CEQA consideration (S*). Occurrence at NAS Alameda or NAS North Housing Area: Confirmed (C); Confirmed Occasional (CO); Possible (P); Unlikely (U).

1 **Sensitive Animals**

2

3 The 1999 FEIS identified 14 sensitive animal species as occurring at NAS
4 Alameda/FISC Alameda and 13 additional species as having potential to occur at NAS
5 Alameda/FISC Alameda (U.S. Navy 1999, Table 3-15). Most of the habitat for these
6 species is within the former USFWS Wildlife Refuge planning area.

7

8 The California least tern and California brown pelican (*Pelecanus occidentalis*
9 *californicus*), federally- and state-listed endangered species; and western snowy plover
10 (*Charadrius alexandrinus nivosus*), federally-listed threatened and a California Species
11 of Special Concern have been observed at NAS Alameda/FISC Alameda. A Steller sea
12 lion (*Eumetopias jubatus*), a federally-listed threatened species, was seen once at NAS
13 Alameda but has not been seen since. Several federally-listed fish, including delta smelt
14 (*Hypomesus transpacificus*), green sturgeon (*Acipenser medirostris*), and various
15 species of salmonids (*Oncorhynchus* sp.), have potential to occur in waters of the bay
16 located in the vicinity of the site.

17

18 Although the marsh areas on other portions of the NAS are potentially suitable for the
19 salt marsh harvest mouse (*Reithrodontomys raviventris*), federally- and state-listed
20 endangered, and the salt marsh wandering shrew (*Sorex vagrans halicoetes*), a
21 California Species of Special Concern, these species are unlikely to be present because
22 the marsh is relatively small and isolated (U.S. Navy 1999). An eight-day trapping
23 survey conducted in 1995 concluded that there were no salt marsh harvest mice in
24 these wetlands (Navy 1995g). California clapper rail (*Rallus longirostris obsoletus*), a
25 federally- and state-listed endangered species, has some potential to occur within salt
26 marshes of the former USFWS Wildlife Refuge planning area. Because the saltmarsh
27 habitat within the site is limited in area, isolated from other clapper rail occupied
28 wetlands, and of low quality, potential for occurrence of breeding clapper rails is very
29 low, although proximity to other known occurrences indicates a low potential for
30 dispersing and foraging clapper rails (EDAW 2008).

31

32 San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), a California
33 Species of Special Concern, was considered in the 1999 FEIS but found to be unlikely
34 to occur due to a lack of suitable habitat and connectivity to known populations.
35 Although the Caspian tern (*Sterna caspia*) and the western gull have no federal or state
36 sensitive designations, they are considered to be sensitive species because of the size
37 of the populations that nest within the ROI. The nesting colonies of Caspian terns and

1 Western gulls in the West Beach Landfill Wetland are the largest such colonies in the
2 Bay Area.

3
4 None of these species, with the exception of foraging gulls, are expected to occur at
5 NAS Alameda North Housing Area due to a lack of suitable habitat and therefore they
6 are not addressed further in this section. Those sensitive species with some potential to
7 occur at NAS Alameda North Housing Area or those that were not addressed in the
8 1999 FEIS but are within the ROI are outlined in Table 3.7-1 and discussed below.

9
10 American Peregrine Falcon. The American peregrine falcon, a state-listed endangered
11 species, uses NAS Alameda to forage in the grasslands and ruderal areas between the
12 runways but nests offsite at the Bay Bridge (City of Alameda 1996) and other urban
13 locations within the Bay Area. They utilize tall buildings for nesting such as the San
14 Jose City Hall building, the Oracle building in Redwood Shores, and Pacific Gas and
15 Electric building in downtown San Francisco. The falcon occasionally visits NAS
16 Alameda (U.S. Navy 1999). Buildings on NAS North Housing Area are not tall enough to
17 provide suitable nest sites. Peregrine falcons may occasionally disperse through the
18 NAS North Housing Area although it is not considered high quality foraging habitat due
19 to a lack of shorebirds and waterfowl, which are present in aquatic habitats to the west.

20
21 Burrowing Owl. Burrowing owls, California Species of Special Concern, nest in the
22 grasslands adjacent to the West Beach Landfill Wetland. This species nests and
23 shelters in ground squirrel burrows, and forages in grasslands as well as ruderal and
24 disturbed habitats. They prefer short vegetation such as that found within the ruderal
25 and landscaped portions of the property. Ground squirrels were observed at NAS North
26 Housing Area during the site visit; although no burrows were documented, the open
27 grassy areas provide potential foraging opportunities.

28
29 Other Birds. Northern harrier, a California Species of Special Concern, nests in the
30 West Beach Landfill Wetland and forages in both salt marsh areas and the adjacent
31 grasslands. This species is not expected to nest on the NAS North Housing Area,
32 although it may forage onsite. Other birds that are considered California Species of
33 Special Concern or CDFG Watch List Species that have been observed foraging within
34 the ROI of NAS Alameda/FISC Alameda (U.S. Navy 1999), and may forage at NAS
35 North Housing Area, include merlin (*Falco columbarius*), California horned lark
36 (*Eremophila alpestris*), and loggerhead shrike (*Lanius ludovicianus*).

1 Large ornamental trees, grassy areas, and buildings onsite provide potential nesting
2 opportunities for several common (although protected under the MBTA) and some
3 sensitive avian species, including loggerhead shrike. Raptors such as Cooper's hawk
4 (*Accipiter cooperii*), a CDFG Watch List species, and white-tailed kite, a California Fully
5 Protected Species, commonly nest in suburban parts of the Bay Area. Pine and acacia
6 trees onsite are well developed with adequate limbs and canopy for nesting. Common
7 rodent's present onsite provide an adequate prey base.

8
9 Allen's hummingbird (*Selasphorus sasin*), a species tracked by the CNDDDB, has
10 potential to nest within landscaped vegetation found throughout the site. Alameda song
11 sparrow (*Melospiza melodia pusillula*) and saltmarsh common yellowthroat (*Geothlypis*
12 *trichas sinuosa*), both California Species of Special Concern, are songbirds that have
13 been documented nesting in marshes in the vicinity of the site (CDFG 2007). However,
14 they are not expected to nest at NAS North Housing Area due to a lack of dense marsh
15 or riparian vegetation.

16
17 Roosting Bats. The 1999 FEIS found no suitable habitat for the Townsend's western
18 big-eared bat (*Corynorhinus [Plecotus] townsendii townsendii*), a species tracked by the
19 CNDDDB, and greater western mastiff bat (*Eumops perotis*), a California Species of
20 Special Concern, within the NAS Alameda/FISC Alameda based on bat surveys
21 conducted in late 1995 to early 1996. Given the time that has passed since the previous
22 surveys and the presence of potential habitat for these species, as well as five other
23 sensitive bats (Table 3.7-1); they have some potential to occur onsite. There are several
24 uninhabited buildings within NAS North Housing Area that could provide adequate day
25 and night roosting habitat in gaps beneath roof tiles or exterior trim, or within the
26 structures themselves. The site also contains scattered mature trees, which could
27 provide roosting habitat within the canopy, cavities in the trees, or beneath loose bark.
28 Foraging habitat is available throughout the area, wherever insects may congregate,
29 such as near nighttime light sources.

30
31 Alameda Island Mole. The Alameda Island mole, (*Scapanus latimanus parvus*), a
32 California Species of Special Concern, is only known from Alameda Island. It is found in
33 a variety of habitats, especially annual and perennial grasslands. This species prefers
34 moist, friable soils and avoids flooded soils. There are several occurrences on the island
35 including one that is located approximately 0.25 mile (0.4 kilometer) to the southwest
36 (CDFG 2007). The most recent occurrence is from the late 1950s, although the

1 population is presumed to be extant. The open grassy areas at NAS North Housing
2 Area may provide habitat for this species.

3 4 **3.7.4 Sensitive Habitats**

5
6 Wetlands are important because they perform significant biological functions, such as
7 providing nesting, breeding, foraging, and spawning habitat for a variety of resident and
8 migratory animal species (U.S. Navy 1999). Wetlands are defined by the COE
9 regulations as “those areas that are inundated or saturated by surface or ground water
10 at a frequency and duration sufficient to support, and that under normal circumstances
11 do support, a prevalence of vegetation typically adapted for life in saturated soil
12 conditions. Wetlands generally include swamps, marshes, bogs, and similar areas” (33
13 C.F.R. 328.3[b]).

14
15 There are no wetland areas or other sensitive habitats present on NAS Alameda North
16 Housing Area. All lands are either developed or landscaped and no indication of
17 wetland hydrology, soils, or vegetation was found during the recent site survey.
18 Approximately 40 feet (12 meters) from the northern boundary, a narrow drainage
19 characterized by marsh vegetation runs parallel to the site. This feature is located within
20 a disturbed industrial area and is not within the limits of the subject property.

21 22 **3.7.5 Regulatory Considerations**

23 24 **Federal Endangered Species Act**

25
26 Federal law directs that all federal agencies and departments use their authority to
27 preserve endangered and threatened species under the guidance of the Endangered
28 Species Act, 16 U.S.C. § 55 1531-1544 (U.S. Navy 1999). The Federal Endangered
29 Species Act requires that the USFWS issue a permit prior to actions that would result in
30 killing, harming, or harassing a federally-listed endangered or threatened species. The
31 process under Section 7 of the Endangered Species Act is for actions in which a federal
32 agency is involved and is a permit process under Section 10a for state and local
33 agencies and individuals. Federal agencies are required to consult with the USFWS (or
34 National Marine Fisheries Service for marine species) prior to undertaking actions that
35 may affect endangered or threatened species. A federal agency is required to obtain a
36 Biological Opinion (BO) from the USFWS on whether its actions may jeopardize the
37 continued existence of any threatened or endangered species.

1 The Navy has determined that redevelopment actions within the North Housing Parcel
2 would not affect federally listed species. In a letter dated June 8, 2009, the Navy
3 requested initiation of formal Section 7 consultation and submitted a programmatic
4 biological assessment (BA) pursuant to the Federal Endangered Species Act for the
5 proposed Department of Veterans Affairs (VA) project-specific action, and the proposed
6 Navy programmatic action in order to facilitate the disposal and redevelopment of the
7 former NAS Alameda. The BA provided a description of the actions being taken and a
8 description of the specific areas that may be affected. Reuse within the programmatic
9 action area is described by the Alameda Point Specific Plan (March 2009). The BA
10 focuses on the California least tern, California brown pelican, and the western snowy
11 plover. Land-based activities, such as housing development, would primarily have an
12 impact on the California least tern. The BA also addresses various marine and
13 anadromous species (salmonids and green sturgeon). The BA did not include the North
14 Housing Parcel because it is part of a reuse planning process that is separate from the
15 efforts conducted under the Alameda Point Specific Plan.

16
17 Previous consultations and current analysis indicate that the North Housing Parcel is
18 far-removed from the California least tern nesting colony at NAS Alameda. For example,
19 in the 1999 BO, predator management was the primary issue addressed by the U.S.
20 Fish and Wildlife Service activities. In that BO, predator management is required in
21 areas west of Main Street. Proposed reuse activities east of Main Street would not have
22 an effect on the California least tern or other listed species.

23
24 The ongoing Section 7 consultations being conducted for reuse activities for the rest of
25 the surplus property provide a means for the conservation of listed species for reuse
26 activities related to land-based construction west of Main Street and in-water
27 construction/dredging.

28
29 **Clean Water Act (CWA)**

30
31 The COE regulates discharges of dredged or fill material into wetlands under Section
32 404 of the CWA, 33 U.S.C. § 1344 (U.S. Navy 1999). Projects that include potential
33 dredge or fill impacts to wetlands must be reviewed by the COE and USEPA under the
34 CWA. Any filling of wetlands, such as the drainage north of the NAS Alameda Housing
35 Area, would require a permit from the COE. COE jurisdictional wetlands are absent from
36 lands within the NAS Alameda North Housing Area.

37

1 **Executive Order 11990**

2
3 Executive Order 11990 on Protection of Wetlands, EO No. 11990, 3 C.F.R. 121 (1978),
4 reprinted in 42 U.S.C. § 4321 note at 466-68 (West 1994) requires that federal
5 agencies, to the extent permitted by law, avoid construction in wetlands unless no
6 practicable alternative to the construction exists and that all practicable measures to
7 minimize harm to wetlands, including opportunities for public review of plans or
8 proposals are provided. It further requires that any disposal to non-federal public or
9 private parties of properties containing wetlands shall reference, in the conveyance,
10 uses that are restricted under identified federal, state, or local wetland regulations.
11

12 **Marine Mammal Protection Act**

13
14 The Marine Mammal Protection Act of 1972, 16 U.S.C. § 1361-1421h (West 1985 &
15 Supp. 1998) protects marine mammals and establishes a commission. Under this Act a
16 moratorium was imposed on the taking and importing of marine mammals, except for
17 scientific research and display, taking incidental to commercial fishing operations, and
18 taking covered by international agreement. Given that the site is approximately 120 feet
19 (12 meters) from the waters of the Oakland Inner Harbor, the Act would apply to
20 activities that affect marine mammals at NAS Alameda North Housing Area, such as
21 increased human presence.
22

23 **California Endangered Species Act (CESA)**

24
25 California provides procedures similar to the Federal Endangered Species Act for non-
26 federal projects under the CESA, Cal. Fish and Game Code § 2050-2116 (1998). For
27 example, the CDFG can adopt a Federal Biological Opinion as a State Biological
28 Opinion under Cal. Fish and Game Code 2095. Upon conveyance of NAS
29 Alameda/FISC Alameda and NAS Alameda North Housing Area, property out of federal
30 ownership, it would be subject to these state regulations. Peregrine falcons, which have
31 some potential to disperse through the NAS Alameda Housing Area, are protected
32 under CESA.
33

34 **CDFG Wetlands Policies**

35
36 The CDFG has the authority to reach an agreement with an individual proposing to
37 affect intermittent or permanent streams and other wetlands, pursuant to Section 1603

1 of the California Fish and Game Code. The CDFG generally evaluates the information
2 gathered during preparation of an EA document and attempts to satisfy its concerns
3 during the CEQA process. In accordance with its policy of no net loss of wetland habitat,
4 the CDFG encourages completion of a streambed alteration agreement, which includes
5 a mitigation program for impacts to all wetlands, regardless of acreage. Aquatic features
6 are absent from the NAS Alameda Housing Area, however the drainage to the north of
7 the property boundary may be subject to CDFG regulation.
8

3.8 GEOLOGY AND SOILS

This section describes the overall geological resources and soils within the project boundary and surrounding areas within NAS Alameda/FISC Alameda. Surrounding geologic features are described to provide a context for the discussion of geology at the project site because some geologic conditions and processes (such as movement along faults) may occur outside project boundary but may impact the site.

3.8.1 Geology and Faults

NAS Alameda/FISC Alameda

NAS Alameda/FISC Alameda is constructed on fill on tidelands west of Alameda Island in the eastern region of the San Francisco Bay basin. The land surface is low lying and nearly flat. Elevations are less than 15 feet (5 meters) above mean sea level (AMSL). The dominant geological processes that have shaped the landscape in the vicinity of NAS Alameda/FISC Alameda are uplift and erosion of the East Bay hills, subsidence of the San Francisco Bay basin, and faulting associated with the Hayward Fault and other active faults of the San Andreas Fault system.

North Housing Parcel

The site is located along the eastern San Francisco Bay (East Bay Margin), which occupies a depression between two uplifted areas: the Berkeley Hills, located approximately 10 miles (16 kilometers) east of the site, and the Montara Mountains (and others) located to the west. The depression and uplifted areas were formed by two sub-parallel, active faults: the San Andreas Fault west of San Francisco Bay and the Hayward Fault east of San Francisco Bay. The San Andreas Fault is located approximately 12 miles (19 kilometers) west of the site, and the Hayward Fault is located approximately 5 miles (8 kilometers) east of the site (Figure 3.8-1). Two geological units are present within the shallow water-bearing zone: shallow fill found in the uppermost 10 to 20 feet (3 to 6 meters) below ground surface (bgs) and the underlying native sediment material that includes the Bay Mud and Merritt Sand Formation (U.S. Navy 2007b).

1 **3.8.2 Soils**

2
3 **NAS Alameda/FISC Alameda**

4
5 Soils at NAS Alameda/FISC Alameda consist mainly of nonnative soils developed on fill
6 materials. These soils include Urban Land, Xerorthents, and Xeropsamments (Welch
7 1981). These are all disturbed, mixed soils with variable properties. Xerorthents, which
8 are found in a small area north of Atlantic Avenue, have the most severe limitations for
9 development, due to their high shrink-swell potential, low strength, and poor drainage.
10 Urban Land refers to fill material that is covered by buildings or roads. The fill can have
11 a wide range of characteristics, depending on its origin. Most of the land east of the
12 Northwest Territories planning area is classified as Urban Land. The western part of the
13 installation is underlain by Xeropsamments, which consists of sandy material that was
14 dredged from old beach areas. These soils are very permeable. The shallow water table
15 is the primary limiting factor for development on these soils (U.S. Navy 2007b).

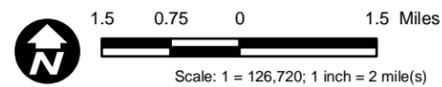
16
17 **North Housing Parcel**

18
19 Surface and near-surface soil at the site consists of artificial fill placed during the
20 historical filling of the tidal marshlands, which occurred from approximately 1900 to
21 1930. The fill is present in the northern portion of the site from land surface to
22 approximately 10 feet (3 meters) bgs and in the southern portion from land surface to
23 approximately 20 feet (6 meters) bgs. The site was formerly marshland and San
24 Francisco Bay intertidal area (the northern portion of the site previously contained an
25 outcropping of land). Affected groundwater is located primarily within the artificial fill. No
26 archaeological or historical resources are associated with the artificial fill (U.S. Navy
27 2008).

28
29 Fill material at the site is a heterogeneous, laterally discontinuous mixture of poorly
30 graded, fine- to medium-grained sand, clay, and silt mixed with some construction
31 debris and organic material. The artificial fill materials are believed to be dredged spoils
32 from the tidal flats in the surrounding San Francisco Bay and the Oakland Inner Harbor.
33 The thickness of the fill is probably most influenced by the presence of historical tidal
34 channels that once transected the tidal flats. A layer with high organic content, called
35 the "Marsh Crust," typically marks the top of the Bay Mud throughout the site, and is
36 typically encountered between 18 and 20 feet (5 and 6 meters) bgs (U.S. Navy 2007b).
37 The Marsh Crust is a layer of contaminated sediment that was formed by the discharge



Source: Tetra Tech 2009, ESRI 2009



Faults	
	Hayward fault zone, Northern Hayward section
	San Andreas fault zone, Peninsula section
	County Boundaries

Figure 3.8-1
Faults

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1 of gas plant and refinery waste from two gas plants and an oil refinery. This waste
2 migrated over much of the surface of the surrounding marshlands and was deposited
3 through tidal actions under what would later become FISC Alameda Annex (FISCA) and
4 the eastern portion of Alameda Point.

5
6 The Bay Mud layer underlying the site fill material ranges in thickness from 25 to 100
7 feet (8 to 30 meters) (U.S. Navy 2007b) and consists of recent sediment deposited in an
8 estuarine environment. The Bay Mud is thickest at the west side of the site and thins to
9 approximately 25 feet (8 meters) at the northeastern and southeastern regions of the
10 site (PRC 1993). The Bay Mud generally consists of gray to black, medium- to high-
11 plasticity silty clay with laterally discontinuous, poorly graded silty and clayey sand
12 layers. Though thin lenses of fine sand have also been observed, no extensive sand
13 layers have been observed within the Bay Mud.

14
15 The Merritt Sand Formation underlies the Bay Mud throughout the site. The Merritt
16 Sand Formation is composed of brown, fine- to medium-grained, poorly graded sand
17 and is generally laterally continuous throughout the site, except where it is bisected by a
18 major paleochannel filled with thicker deposits of the Bay Mud. The Merritt Sand
19 Formation is found below the Bay Mud at depths as great as 135 feet (41 meters) bgs
20 across Alameda Point; however, the thickness of the formation is unknown beneath the
21 site (Figure 3.8-2).

22 23 **3.8.3 Regulatory Considerations**

24 25 **State of California**

26
27 The California Building Code (CBC) (U.S. Navy 1999), contains the enforceable state
28 building standards. The City of Alameda Department of Public Works is responsible for
29 enforcing these standards within the City. The CBC (§ 1629A.2) requires that every
30 structure have sufficient ductility and strength to undergo the displacement caused by
31 the “upper bound earthquake” motion without collapse. The upper bound earthquake
32 ground motion is defined as the motion having a 10 percent probability of being
33 exceeded in a 100-year period or maximum level of motion that may ever be expected
34 at the building site within the known geological framework. The CBC standards would
35 be required to be met after the transfer is complete.

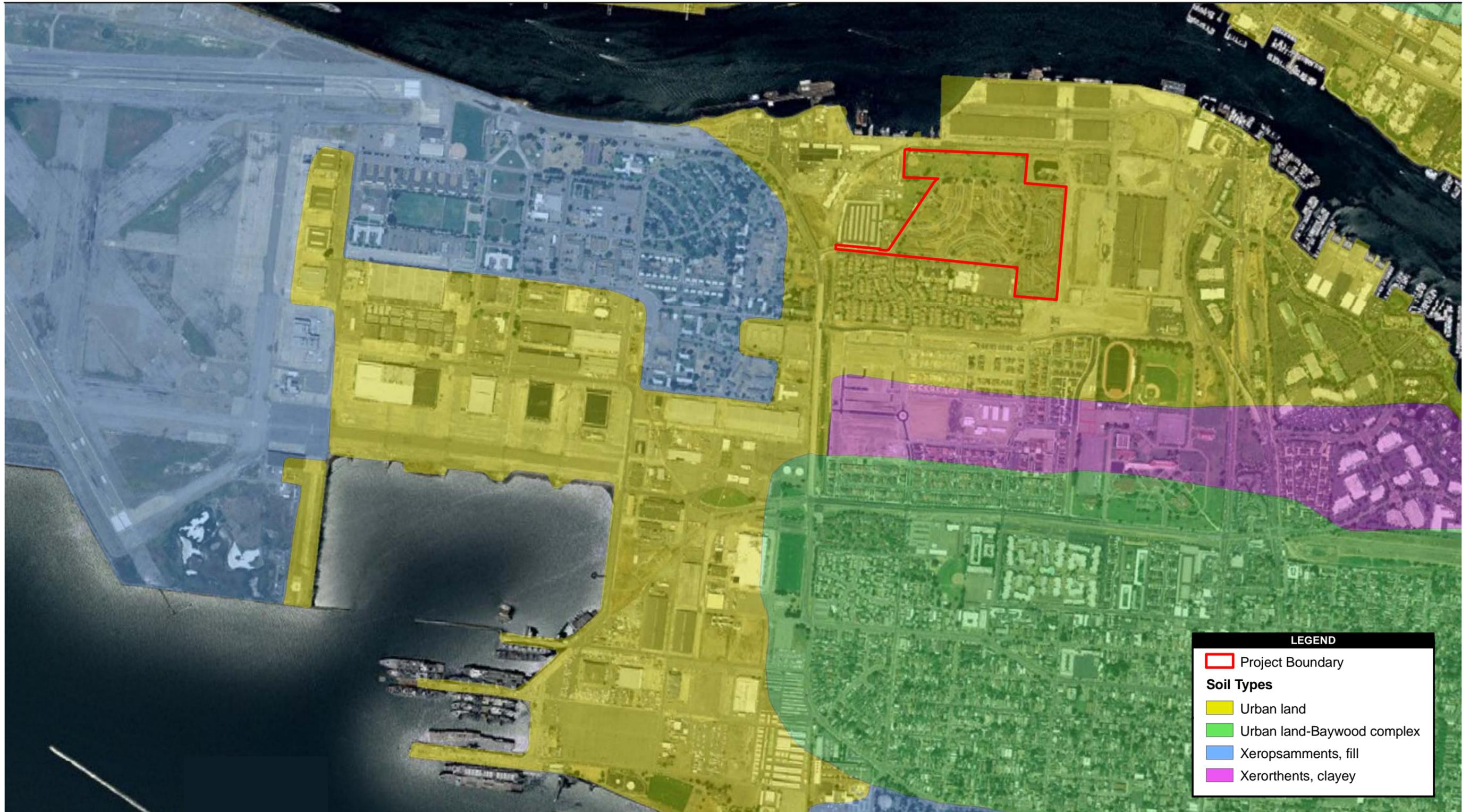
1 Under Alquist-Priolo Earthquake Fault Zoning Act, Cal. Pub. Res. Code § 2622, the
2 California Division of Mines and Geology has delineated seismic zones that are deemed
3 to be “sufficiently active and well-defined as to constitute a potential hazard to structures
4 from surface faulting or fault creep.” The state geologist is also required to continually
5 review new geologic and seismic data and to revise the earthquake fault zones or to
6 delineate new zones based on new information.

7
8 The Seismic Hazards Mapping Act (SHMA) of 1990 directs the Department of
9 Conservation, California Geological Survey to identify and map areas prone to
10 liquefaction, earthquake-induced landslides and amplified ground shaking. The purpose
11 of the SHMA is to minimize loss of life and property through the identification,
12 evaluation, and mitigation of seismic hazards. The Seismic Hazards Mapping Act
13 requires that site-specific geotechnical investigations be conducted within the Zones of
14 Required Investigation to identify and evaluate seismic hazards and formulate mitigation
15 measures prior to permitting most developments designed for human occupancy.

16 17 **City of Alameda**

18
19 The City of Alameda has adopted provisions in Chapter 33 of the Uniform Building Code
20 (UBC) (City of Alameda 1996) for grading and excavation activities where the existing or
21 resulting slope will exceed 20 percent or where more than 5 cubic yards (4 cubic meters)
22 of soil are to be disturbed. The grading permit application requires a site map and grading
23 plan, including a drainage plan, a soils report prepared by a registered civil engineer, and
24 mitigation measures to prevent structural expansive soils. The grading plan must also
25 include damage that may be caused by an action. The Health and Safety Element of the
26 City of Alameda General Plan (City of Alameda 1991) requires that a soils and geologic
27 report be submitted to the Department of Public Works prior to issuing all grading and
28 building permits to evaluate the potential for lateral spreading, liquefaction, differential
29 settlement, and other types of ground failures. It requires all structures of three or more
30 stories to be supported on pile foundations that penetrate Bay Mud deposits and are
31 anchored in firm noncompressible materials, unless geotechnical findings indicate a more
32 appropriate design. It also provides for the identification and evaluation of existing
33 structural hazards and abatement of those hazards to acceptable levels of risk.

34
35 The City of Alameda excavation ordinance No. 2824 (Marsh Crust Ordinance) establishes
36 a permitting process to help ensure that any excavation deep enough to potentially
37 encounter Marsh Crust is conducted so as to protect public health and the environment.



Source: Tetra Tech 2009, ESRI 2009

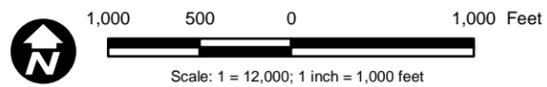


Figure 3.8-2
Soil Types

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3.9 WATER RESOURCES

This section describes water resources issues at the NAS Alameda North Housing Area; including surface and ground water quality, drainage issues, and flood hazards. Water quality issues can result from polluted runoff, poorly managed construction practices, exposure to hazardous substances, inadequate management of contaminated ground water, and the cumulative effects caused by the discharge of these types of pollutants into surrounding water bodies.

Drainage is addressed in this section as it affects flood hazards associated with high tides, inadequate drainage, tsunami runup, and rising sea levels.

Areas immediately adjacent to the project, underlying ground water supplies, and the Oakland Inner Harbor to the north are potentially affected by development activities at the project site.

3.9.1 Surface Water

The northern boundary of the North Housing Area lies just south of the Oakland Inner Harbor Channel, at a distance ranging from 130 feet (40 meters) to 750 feet (230 meters) from the waterfront. The site topography is flat, and the shorelines are protected in most areas by breakwaters or other shoreline protection, such as dikes or seawalls. Drainage from the site is via a stormwater drainage system consisting of drains, catch basins, and discharge outfalls to the Oakland Inner Harbor and San Francisco Bay (U.S. Navy 1999; Cook 2009). Average annual precipitation in the project area is about 23 inches (58 centimeters), most of which falls from October through April (City of Alameda 2006b). There are no natural channels within the site boundaries.

Since 1999, new drainage infrastructure has been constructed to address flooding that would occur within the low-lying area north of Singleton Avenue and east of Main Street. This infrastructure includes a pump station located approximately 400 feet (120 meters) west of the Tinker Avenue/5th Street intersection, a water quality treatment basin located just outside the northwest corner of the North Housing Parcel boundary, and a 72-inch storm main trunk line and stormwater outfall (City of Alameda 2006b).

The area within the North Housing Parcel boundary is not included in the Federal Emergency Management Agency's (FEMA) regional flooding hazard mapping program,

1 so site-specific flood data is not available for the site. However, the FEMA Flood
2 Insurance Rate Map (FIRM) was recently revised to include the area surrounding the
3 project by a Letter of Map Revision in December 2005. The recently-delineated FEMA
4 flood hazard zones reflect updated topographic information and the effects of the new
5 pump station and treatment basin. The FIRM shows that the area immediately north
6 (Mitchell Avenue extension corridor) and west (northern Main Street and area north of
7 the intersection of Main Street and Singleton Avenue) of the project site are within the
8 100- year flood hazard zone. The base flood elevation in these areas was determined to
9 be 7 feet (2.1 meters) AMSL (U.S. Navy 1999).

10
11 Floods caused by waves, tides, and tsunami runup would be exacerbated by rising sea
12 levels. Flood data adjusted for sea level rise is unavailable for the North Housing Parcel,
13 as the area within the project boundary is not included in the FEMA's regional flooding
14 hazard mapping program. At this time, the City of Alameda has no adopted, official
15 policy concerning sea rise from global warming.

16 17 **3.9.2 Groundwater**

18
19 Geotechnical investigations of the area surrounding the project indicate shallow
20 groundwater ranging from 4 to 8 feet (1.2 to 2.4 meters) bgs, approximately between
21 mean sea level and mean high tide. Shallow groundwater in this upper zone is brackish
22 (City of Alameda 2006b).

23
24 In September 2008, the Navy began a two-year groundwater treatment program at three
25 locations within NAS Alameda. A Final ROD documents the remedy for OU-5/IR-02
26 groundwater and summarizes results of the remedial investigation/feasibility study. One of
27 these areas is within the North Housing Parcel—in the southeast, beneath Kollmann
28 Circle. Lower-level contamination will be monitored and is expected to biodegrade
29 naturally within about 10 years. Until then, land use restrictions forbid both use of
30 groundwater and interference with cleanup operations. Vapor intrusion into indoor air has
31 been shown not to be a problem at the North Housing Parcel. The Navy's groundwater
32 cleanup efforts are compatible with residential use of the property and should be
33 minimally disruptive. For more information regarding groundwater contamination, see the
34 Hazardous Materials and Waste sections (3.13 and 4.13).

35
36 The primary drinking water aquifer underlying the project site is the Alameda Formation.
37 The top of the aquifer is found at depths of 100 to 200 feet (30 to 60 meters) bgs.

1 Although local groundwater supplies were used for municipal drinking and industrial
2 supply prior to the 1920s, the groundwater from the Alameda Formation is not now
3 considered suitable for drinking due to its vulnerability to contaminants, low yields, and
4 high total dissolved solids levels (City of Alameda 2006b).

6 **3.9.3 Regulatory Considerations**

8 The CWA (33 U.S.C. § 1251-1387) is implemented locally by the San Francisco Bay
9 Regional Water Quality Control Board (RWQCB), in part through its National Pollutant
10 Discharge Elimination System (NPDES) permits. The NPDES permit process allows the
11 RWQCB to establish requirements for discharges of potential water pollutants from
12 point sources, such as “end of pipe” discharges, and from nonpoint sources, such as
13 stormwater runoff (U.S. Navy 1999).

15 The CWA is the primary federal law regulating water quality in the U.S. and forms the
16 basis for several state and local laws throughout the country. Section 303(d) of the
17 federal CWA requires states to identify waterbodies that do not meet water quality
18 standards and are not supporting their beneficial uses (City of Alameda 2006b). Two
19 segments of the Oakland Inner Harbor are listed on the Section 303(d) List of Impaired
20 Waterbodies, the Oakland Inner Harbor Pacific Dry-dock Yard I Site and the Oakland
21 Inner Harbor Fruitvale Site. Stormwater runoff from the NAS Alameda North Housing
22 Parcel does not drain to either segment, and no tributaries run through the project.

24 The Phase I NPDES stormwater program regulated stormwater discharges from
25 industrial facilities, large and medium-sized municipal separate storm sewer systems
26 (those serving more than 100,000 persons), and construction sites that disturb five or
27 more acres of land. Pursuant to the Phase II NPDES Final Rule in December 1999,
28 discharges of stormwater associated with construction activities that result in the
29 disturbance of equal to or greater than one acre of land must also apply for coverage
30 under the State Water Resources Control Board’s statewide General Construction
31 Activities Stormwater Permit (General Construction Permit). Effective August 15, 2006,
32 the disturbance area changed from 1 acre (0.4 hectares) to 10,000 square feet (3,048
33 square meters). NPDES General Construction Permit Requirements require that the
34 project sponsor submit a site-specific Stormwater Pollution Prevention Plan (SWPPP) to
35 minimize the discharge of pollutants from the site during construction.

1 The City of Alameda's Stormwater Management and Discharge Control Program
2 includes requirements set forth by the Alameda County Urban Runoff Clean Water
3 Program, which, in turn, is required to comply with the NPDES permit (No. CA
4 0029831). These programs address both construction and operational stormwater
5 quality impacts. Required measures include implementation of the City's best
6 management practices (BMPs) for both construction and post-construction stormwater
7 runoff consistent with the City's Stormwater Management and Discharge Control
8 Program. This includes applying the City's standard stormwater conditions of approval
9 as applicable to all proposed redevelopment at the site.

10
11 The San Francisco Bay Water Quality Control Plan (Basin Plan) is the master policy
12 document that contains descriptions of the legal, technical, and programmatic bases of
13 water quality regulation in the San Francisco Bay region. The Basin Plan identifies the
14 beneficial uses of surface water and groundwater within its region. Although the
15 beneficial uses of the Oakland Inner Harbor have not been specified, under the
16 "tributary rule," (which provides that water quality standards for specific waterbodies
17 apply upstream to tributaries for which no site-specific standards have been adopted)
18 the beneficial uses of the Lower San Francisco Bay can be applied to the Oakland Inner
19 Harbor. Thus, the beneficial uses of the Oakland Inner Harbor include: ocean,
20 commercial, and sport fishing; estuarine habitat; industrial service supply; fish migration;
21 navigation; preservation of rare and endangered species; water contact recreation;
22 noncontact water recreation; shell fish harvesting; and wildlife habitat (City of Alameda
23 2006b).

24
25 Flood protection for non-federal lands is administered by FEMA under the National
26 Flood Insurance Program (NFIP). Under this program, local communities must
27 implement floodplain management measures to reduce flood risks to new development.
28 These measures are developed on the basis of flood insurance studies (FIS) and
29 FIRMs. Because NAS Alameda and FISC Alameda are federal enclaves, subject to
30 federal and not state regulatory law, they were not covered under the NFIP. The sites
31 would be placed under the NFIP when the property is conveyed from federal ownership
32 (U.S. Navy 1999).

33
34 In addition, the Floodplain Management Executive Order, EO No. 11988, 3 C.F.R. 117
35 (1978), *reprinted in* 42 U.S.C. § 4321 note at 464-66 (U.S. Navy 1999), requires that,
36 when property is proposed for disposal to non-federal entities, the federal agency shall
37 reference in the conveyance those uses that are restricted under identified federal,

1 state, or local floodplain regulations; attach other appropriate restrictions to the uses of
2 properties by the grantee or purchaser and any successors, except where prohibited by
3 law; or withhold such properties from conveyance. The Navy will also evaluate whether
4 a proposed action would occur in a floodplain and consider alternatives to avoid
5 adverse effects and incompatible development in the floodplain (U.S. Navy 1999).

6
7 The most recent FIS and associated FIRMs prepared for the City do not include
8 analysis of flood hazards within the North Housing Parcel boundaries. The City's
9 General Plan provides guidance regarding floodplain protection, coordination with San
10 Francisco Bay Conservation and Development Commission on potential sea level rise,
11 flood proofing, runoff reduction, and maintaining drainage facilities (U.S. Navy 1999).

12

1 **3.10 TRAFFIC AND CIRCULATION**

2

3 The purpose of this study is to identify traffic impacts related to the construction of the
4 NAS Alameda North Housing Area. The proposed action would reuse an existing North
5 Housing Parcel site. Project features would include homeless accommodation,
6 affordable ownership housing, and a public park. Two alternatives have been analyzed
7 as part of this study:

8

9 *Alternative A: Reuse Plan Amendment:* Under this alternative, the impacts related to
10 reuse of the site for homeless accommodations and affordable housing have been
11 evaluated and would include construction or reconstruction of up to 437 housing units.

12

13 *Alternative B: No Action:* Under the No Action Alternative, no project would occur, and
14 the current site use and network conditions would remain the same as Existing
15 Conditions.

16

17 **3.10.1 Study Area**

18

19 The following study intersections were chosen for analysis based on their proximity to
20 the project site in Alameda and anticipated traffic routes:

21

- 22 • Singleton Avenue and Main Street
- 23 • Stargell Avenue and Main Street
- 24 • Stargell Avenue and Mosley Avenue
- 25 • Stargell Avenue and 5th Street
- 26 • Ralph Appezzato Memorial Parkway and Main Street
- 27 • Ralph Appezzato Memorial Parkway and Mosley Avenue/3rd Street
- 28 • Ralph Appezzato Memorial Parkway and Coral Sea Street
- 29 • Ralph Appezzato Memorial Parkway and 5th Street
- 30 • Ralph Appezzato Memorial Parkway and West Campus Drive
- 31 • Atlantic Avenue and Webster Street
- 32 • Atlantic Avenue and Constitution Way
- 33 • Pacific Avenue and Main Street
- 34 • Pacific Avenue and 3rd Street

35

1 In addition, the study area includes the Posey and Webster Tubes (State Route 260)
 2 that provide access across the estuary from downtown Oakland to the west end of the
 3 main island of Alameda. This analysis is conducted for Year 2030 conditions.

4 5 **3.10.2 Methodology**

6
7 The 2000 Highway Capacity Manual (HCM) published by the Transportation Research
 8 Board establishes a system whereby transportation facilities are rated for their ability to
 9 process traffic volumes. The terminology “level of service” (LOS) is used to provide a
 10 “qualitative” evaluation based on certain “quantitative” calculations, which are related to
 11 empirical values. Table 3.10-1 describes the different LOSs for transportation facilities.

12
13
14 **Table 3.10-1**
15 **LOS Criteria Based on the HCM**

LOS	Description
A	Free-flow operations. Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.
B	Reasonably free flow and free-flow speeds are maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high.
C	Speeds are at or near the free-flow speed for the segment. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.
D	Speeds begin to decline slightly with increase flows and density begins to increase somewhat more quickly. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experience reduced physical and psychological comfort levels.
E	Operations at capacity. Operations at this level are volatile, because there are virtually no usable gaps in the traffic stream. Vehicles are closely spaced, leaving little room to maneuver within the traffic stream. Maneuverability within the traffic stream is extremely limited, and the level of physical and psychological comfort afforded the driver is poor.
F	Breakdown in vehicular flow.

Notes: Based on the 2000 Highway Capacity Manual

16
17
18 The City of Alameda General Plan Transportation Element (City of Alameda 2008c)
 19 identified LOS C as desirable, but acknowledges that conditions of LOS D or worse may
 20 be experienced at intersections during the peak commute hours in metropolitan areas.

1 Traffic impacts are considered to be significant if the following could result from the
2 project implementation:

- 3
- 4 • Cause the LOS of a signalized intersection that is projected to operate at LOS D
5 or better to degrade to LOS E or F;
- 6 • Cause the total intersection average delay at a signalized intersection that is
7 projected to operate at LOS E or F to increase by four or more seconds;
- 8 • Contribute more than three percent to the cumulative growth in overall traffic
9 volume at an intersection that is projected to operate at LOS E or F under the
10 2030 Project Scenario;
- 11 • Disrupt or interfere with existing or planned transit, bicycle, or pedestrian services
12 and facilities or conflict with policies, plans, or programs of the City of Alameda
13 General Plan that support alternative transportation.
- 14

15 **3.10.3 Existing Conditions**

16 **Roadway Conditions**

17
18
19 Main Street is classified as a Minor Street and has four lanes. It would be part of the
20 primary access route to and from the project area. The posted speed limit along Main
21 Street varies from 25 miles per hour to 35 miles per hour.

22
23 Singleton Avenue is classified as a Minor Street and has two lanes. It has a dashed
24 centerline, and the posted speed limit is 25 miles per hour. Singleton Avenue provides
25 direct access to the project area.

26
27 Stargell Avenue is classified as a Minor Street. It has a double-yellow centerline and is a
28 designated Bike Route. Stargell Avenue would be one of the primary access routes to
29 the project area. The posted speed limit is 25 miles per hour.

30
31 Ralph Appezzato Memorial Parkway/Atlantic Avenue is classified as a Major Street and
32 has four lanes. Traffic is separated by a concrete median that houses the street lights.
33 Ralph Appezzato Memorial Parkway/Atlantic Avenue is the only East-West Major Street
34 within the project area. The posted speed limit is 35 miles per hour.

1 Pacific Avenue is classified as a Minor Street and has four lanes. The posted speed
2 limit is 25 miles per hour. Parking is permitted on both sides of the street.

3
4 Mosley Avenue/3rd Street is classified as a Minor Street and is two-lanes wide. Mosley
5 Avenue traverses through the Bayport development and provides project access from
6 the south. Parking is permitted on both sides of the street along 3rd Street. The speed
7 limit is 25 miles per hour.

8
9 5th Street is classified as a Minor Street and is four-lanes wide. It is separated by a
10 double-yellow centerline and has a posted speed limit of 25 miles per hour. There are
11 bike lanes on both sides of the street.

12
13 West Campus Drive is classified as a Minor Street and serves primarily as a driveway to
14 the College of Alameda. The posted speed limit is 15 miles per hour.

15
16 Webster Street operates as State Route 260 and is also a Proposed Light Rail Transit
17 Street. Webster Street is four-lanes wide and provides access to Oakland via the
18 Webster and Posey Tubes. The speed limit along Webster ranges from 30 to 45 miles
19 per hour.

20
21 Constitution Way is classified as a Major Street and has four lanes. Traffic is separated
22 by a landscaped median. Constitution Way also provides access to Oakland via the
23 Webster and Posey Tubes.

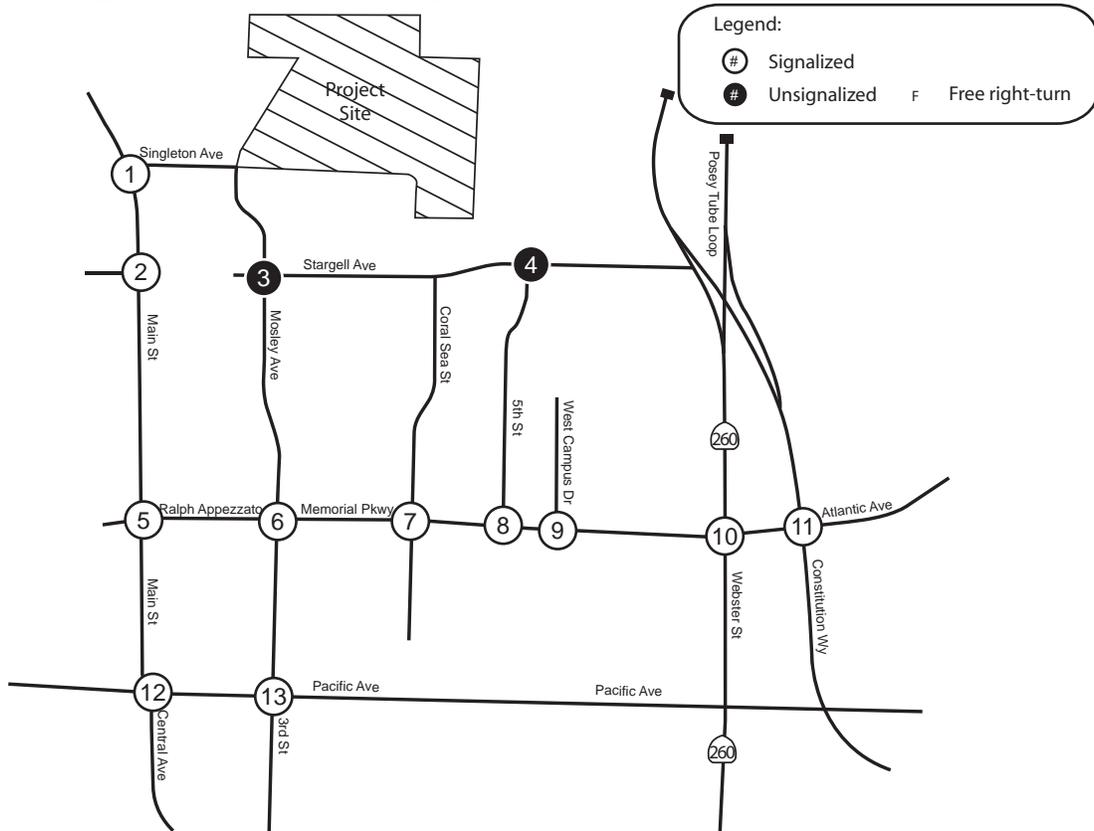
24 25 **Intersection Conditions**

26
27 The study area consists of two stop-controlled and eleven signalized intersections. Both
28 stop-controlled intersections are along Stargell Avenue. The existing intersection
29 geometrics are shown in Figures 3.10-1a and 3.10-1b.

30 31 **Mass Transit**

32
33 According to the 2000 Census, over 15 percent of Alameda residents currently use
34 mass transit to get to work. Mass transit options available to Alameda residents include
35 multiple bus routes, the Alameda/Oakland Ferry, and a shuttle service between the
36 Harbor Bay Business Park and the Coliseum Bay Area Rapid Transit (BART) station.

Singleton Ave/ Main St	Stargell Ave/ Main St	Stargell Ave/ Mosley Ave	Stargell Ave/ 5th St
Ralph Appezzato/ Main St	Ralph Appezzato/ Mosley Ave	Ralph Appezzato/ Coral Sea St	Ralph Appezzato/ 5th St



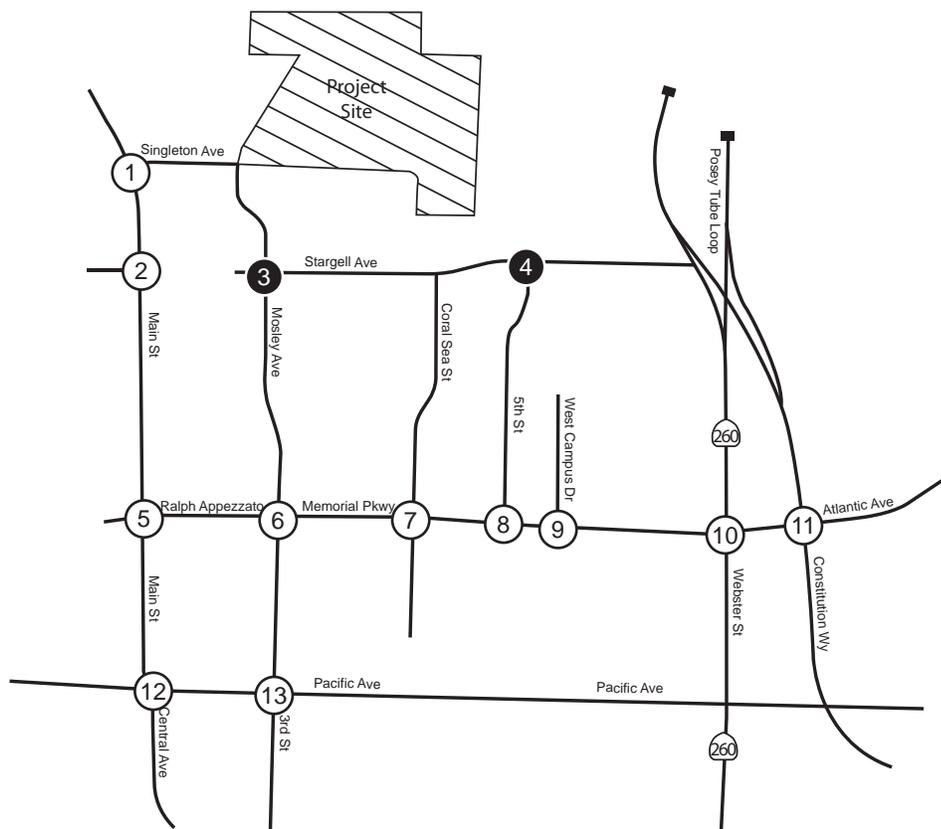
NOT TO SCALE

Figure 3.10-1a
Existing Intersection Geometrics

North Housing Disposal at Alameda EA

P:\2007\07080411 Alameda EA\6Graphics\Figures\Figure 3.10-1a traffic.ai (dbrady) 3/11/09

Ralph Appezzato/ W Campus Dr	Ralph Appezzato/ Webster St	Ralph Appezzato/ Constitution Wy	Pacific Ave/ Main St
Pacific Ave/ 3rd St	<p>Legend:</p> <ul style="list-style-type: none"> ⦿ Signalized ● Unsignalized ○ Overlap 		



NOT TO SCALE

Figure 3.10-1b
Existing Intersection Geometrics

1 The Alameda/Oakland Ferry provides service to Alameda, Oakland (Jack London
2 Square), AT&T Park, the San Francisco Ferry Building, and Angel Island. Ferry service
3 is provided seven days a week including special events ferries that operate during
4 events at AT&T Park. Weekday operation runs between 6:10 a.m. and 8:45 p.m. with 13
5 ferries departing for San Francisco and 12 ferries arriving from San Francisco every
6 weekday. The ferry is a viable transit option for the project, because the ferry docks
7 within 0.25-mile (0.4-kilometers) of the project area.

8
9 The nearest bus route, Bus Route 63, has a bus stop located within 0.25-mile (0.4-
10 kilometers) of the project area at the intersection of Main Street and Singleton Avenue.
11 Route 63 serves the Fruitvale BART station, the majority of Alameda Island, and
12 downtown Oakland. In serving these locations, Route 63 provides access to major
13 regional transit.

14
15 Other transit options include Bus routes 51, 63, 314, 851, O, and W, all of which can be
16 accessed within 1-mile (0.6-kilometer) of the project area at the intersection of Ralph
17 Appezato Memorial Parkway and Webster Street. These transit routes could be
18 accessed from the project area via Route 63 or by foot.

19
20 Figure 3.10-2 illustrates bus routes near the project site.

21
22 **Traffic Volumes**

23
24 Existing turning movement volumes at each of the study intersections were obtained
25 from the *City of Alameda General Plan Transportation Element* traffic studies (City of
26 Alameda 2008c). Existing peak-hour turning movement volumes are provided in Figure
27 3.10-3.

28
29 **Intersection Analysis**

30
31 An analysis of existing conditions at each of the study intersections indicates that all but
32 one of the study intersections currently function at LOS C or better. The one intersection
33 not at LOS C or better is at Ralph Appezato Memorial Parkway and Webster Street,
34 which operates at LOS D during the morning peak hour. The results of the intersection
35 analysis are contained in Table 3.10-2.

36
37



Source: Kimley Horn & Associates 2009



**Figure 3.10-2
Bus Routes**

<p>1</p> <p>99 / 211 ↕ 9 / 11 Main St</p> <p>↕ ↕ 4 / 3</p> <p>↕ ↕ 177 / 130 Singleton Ave</p> <p>↕ ↕ 190 / 118 152 / 150</p>	<p>2</p> <p>3 / 7 ↕ 303 / 341 Main St</p> <p>↕ ↕ 2 / 2 Midway Ave</p> <p>↕ ↕ 45 / 78</p> <p>↕ ↕ 122 / 71 344 / 257 Stargell Ave</p>	<p>3</p> <p>10 / 10 ↕ 10 / 10 ↕ 10 / 10 Mosley Ave</p> <p>↕ ↕ ↕ 10 / 10 253 / 201 10 / 10 Stargell Ave</p> <p>↕ ↕ ↕ 10 / 10 103 / 155 10 / 10 ↕ ↕ ↕ 10 / 10 10 / 10 10 / 10</p>	<p>4</p> <p>↕ ↕ 252 / 15 ↕ 2 / 201 Stargell Ave</p> <p>↕ ↕ 123 / 175 10 / 10 ↕ ↕ 5th St</p> <p>↕ ↕ 10 / 10 ↕ 12 / 2</p>
<p>5</p> <p>9 / 4 ↕ 111 / 141 ↕ 201 / 284 Main St</p> <p>↕ ↕ 249 / 236 ↕ 216 / 132 ↕ 133 / 59 Ralph Appezato Memorial Pkwy</p> <p>↕ ↕ 6 / 8 100 / 237 8 / 50 ↕ ↕ ↕</p> <p>↕ ↕ 48 / 30 183 / 76 86 / 42</p>	<p>6</p> <p>27 / 10 ↕ 53 / 18 ↕ 44 / 12 Mosley Ave</p> <p>↕ ↕ 4 / 24 ↕ 568 / 405 ↕ 181 / 161 Ralph Appezato Memorial Pkwy</p> <p>↕ ↕ 30 / 14 331 / 611 41 / 9 ↕ ↕ ↕ 3rd St</p> <p>↕ ↕ 23 / 6 33 / 29 193 / 98</p>	<p>7</p> <p>17 / 8 ↕ 49 / 15 ↕ 100 / 13 Coral Sea St</p> <p>↕ ↕ 101 / 78 ↕ 648 / 566 ↕ 44 / 89 Ralph Appezato Memorial Pkwy</p> <p>↕ ↕ 4 / 13 514 / 650 24 / 32 ↕ ↕ ↕ Poggi St</p> <p>↕ ↕ 68 / 5 67 / 19 60 / 46</p>	<p>8</p> <p>11 / 2 ↕ 56 / 27 5th St</p> <p>↕ ↕ 60 / 16 ↕ 734 / 712 Ralph Appezato Memorial Pkwy</p> <p>↕ ↕ 11 / 4 659 / 686 ↕ ↕</p>
<p>9</p> <p>21 / 11 ↕ 58 / 115 ↕ W Campus Dr</p> <p>↕ ↕ 195 / 125 ↕ 756 / 736 Ralph Appezato Memorial Pkwy</p> <p>↕ ↕ 73 / 18 662 / 704 ↕ ↕</p>	<p>10</p> <p>598 / 628 ↕ 439 / 844 ↕ 43 / 75 Webster St</p> <p>↕ ↕ 34 / 32 ↕ 338 / 136 ↕ 28 / 43 Ralph Appezato Memorial Pkwy</p> <p>↕ ↕ 496 / 526 218 / 166 23 / 75 ↕ ↕ ↕ 152 / 93 1013 / 478 42 / 65</p>	<p>11</p> <p>43 / 44 ↕ 299 / 964 ↕ 195 / 86 Constitution Wy</p> <p>↕ ↕ 121 / 127 ↕ 192 / 102 ↕ 27 / 46 Ralph Appezato Memorial Pkwy</p> <p>↕ ↕ 66 / 47 155 / 215 67 / 53 ↕ ↕ ↕ 138 / 57 911 / 470 41 / 18</p>	<p>12</p> <p>25 / 8 ↕ 152 / 170 ↕ 54 / 54 Main St</p> <p>↕ ↕ 70 / 28 ↕ 14 / 8 ↕ 63 / 21 Pacific Ave</p> <p>↕ ↕ 1 / 15 0 / 9 2 / 5 ↕ ↕ ↕ Central Ave</p> <p>↕ ↕ 2 / 1 232 / 124 72 / 27</p>
<p>13</p> <p>9 / 38 ↕ 99 / 129 ↕ 64 / 31 3rd St</p> <p>↕ ↕ 92 / 32 ↕ 127 / 62 ↕ 35 / 22 Pacific Ave</p> <p>↕ ↕ 14 / 12 97 / 66 36 / 19 ↕ ↕ ↕ 23 / 8 150 / 81 46 / 20</p>			

Legend

X / Y = AM / PM PEAK HOUR
TURNING VOLUMES



NOT TO SCALE

Figure 3.10-3
Existing Peak-Hour Traffic Volumes

1
2
3

Table 3.10-2
Existing Conditions
Peak-Hour Intersection Level of Service Summary

	Intersection	Traffic Control	Peak Hour	Existing	
				Delay ^a	LOS ^b
1	Singleton Ave & Main St	Actuated-Uncoordinated Signal	AM	8.6	A
			PM	7.7	A
2	W Midway Ave & Main St	Actuated-Uncoordinated Signal	AM	0.5	A
			PM	0.5	A
3	Stargell Ave & Mosley Ave	Two-Way Stop	AM	13.7	B
			PM	13.6	B
4	Stargell Ave & 5th St	One-Way Stop	AM	12.6	B
			PM	17.5	C
5	Ralph Appezzato Memorial Pkwy & Main St	Actuated-Uncoordinated Signal	AM	12.9	B
			PM	12.3	B
6	Ralph Appezzato Memoria Pkwy & Mosley Ave	Actuated-Uncoordinated Signal	AM	14.8	B
			PM	13.8	B
7	Ralph Appezzato Memorial Pkwy & Coral Sea St	Actuated-Uncoordinated Signal	AM	11.1	B
			PM	9.6	A
8	Ralph Appezzato Memorial Pkwy & 5th St	Actuated-Uncoordinated Signal	AM	4.7	A
			PM	2.9	A
9	Ralph Appezzato Memorial Pkwy & W Campus Dr	Actuated-Uncoordinated Signal	AM	13.0	B
			PM	11.8	B
10	Ralph Appezzato Memorial/ Pkwy & Webster St	Actuated-Uncoordinated Signal	AM	37.8	D
			PM	25.1	C
11	Ralph Appezzato Memorial Pkwy & Constitution Way	Actuated-Uncoordinated Signal	AM	22.5	C
			PM	19.1	B
12	Pacific Ave & Main St	Actuated-Uncoordinated Signal	AM	21.4	C
			PM	17.9	B
13	Pacific Ave & 3rd St	Actuated-Uncoordinated Signal	AM	11.0	B
			PM	12.3	B

^a Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

^b LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 6.0.

4

1 **3.10.4 Year 2030 No Action**

2
3 **Roadway Network**

4
5 The Year 2030 No Action roadway network and intersection geometrics include recent
6 improvements observed in the field that differ from the existing condition scenario that
7 was provided in the *City of Alameda General Plan Transportation Element*. Any further
8 improvements that would be anticipated before Year 2030 were not included. The
9 intersection geometric changes for Year 2030 are provided below and shown in Figure
10 3.10-4.

- 11
- 12 • At Stargell Avenue and Main Street, the east leg of the intersection was opened
13 to traffic resulting in the lane configuration shown in Figure 3.10-4.
 - 14 • At Ralph Appezzato Memorial Parkway and West Campus Drive, the southbound
15 approach of the intersection was restriped resulting in the lane geometry shown
16 in Figure 3.10-4.
 - 17 • At Ralph Appezzato Memorial Parkway and Webster Street, an eastbound lane
18 was added to the intersection which allowed for exclusive dual left-turn lanes and
19 removed the need for split-phase signal timing.
- 20

21 **Mass Transit**

22
23 Strategies have already been put in place to further develop mass transit options near
24 the west end of the City of Alameda. Both the *Alameda Point Master Plan* and the
25 *Alameda Point Transportation Strategy* introduce a multi-faceted strategy to expand
26 mass transit near the project area. Future mass transit improvements include a new
27 ferry station and transit hub near Seaplane Lagoon, a bus rapid transit line with
28 dedicated transit lanes and queue-jumping lanes, and an improved bicycle and
29 pedestrian network that would facilitate access to transit. With these improvements in
30 mind, mass transit participation should increase in the future.

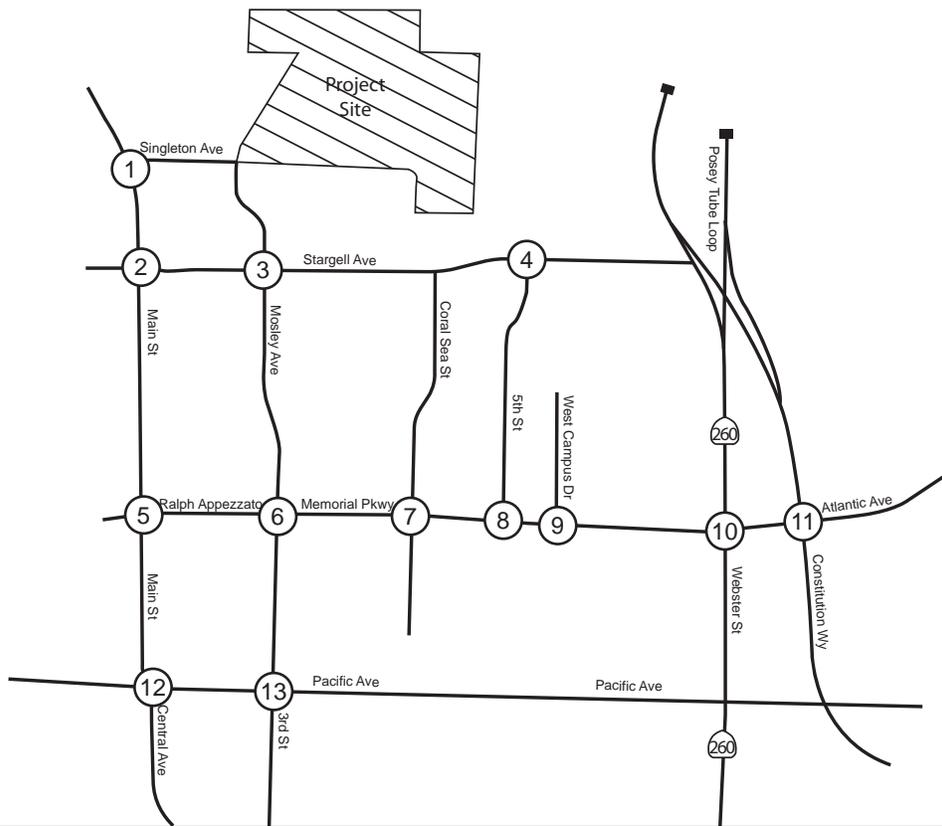
31
32 **Traffic Volumes**

33
34 Year 2030 No Action volumes were obtained from the *City of Alameda General Plan*
35 *Transportation Element* (City of Alameda 2008c). The intersection turning movement
36 volumes are provided in Figure 3.10-5.

Stargell Ave/ Main St	Ralph Appezzato/ W Campus Dr	Ralph Appezzato/ Webster St

Legend:

- Signalized
- Unsignalized F Free right-turn



NOT TO SCALE

Figure 3.10-4
Future Intersection Geometrics

<p>1</p> <p>↔ 112 / 230 ↔ 10 / 14 Main St</p> <p>↔ 9 / 4</p> <p>↔ 177 / 130 Singleton Ave</p> <p>↔ 217 / 129 ↔ 152 / 150</p>	<p>2</p> <p>↔ 45 / 9 ↔ 112 / 325 Main St</p> <p>↔ 13 / 107 ↔ 432 / 229 ↔ 159 / 101 Stargell Ave</p> <p>↔ 28 / 36 ↔ 173 / 320 ↔ 87 / 241</p> <p>↔ 275 / 100 ↔ 334 / 155 ↔ 75 / 110</p>	<p>3</p> <p>↔ 10 / 10 ↔ 10 / 10 ↔ 10 / 10 Mosley Ave</p> <p>↔ 10 / 10 ↔ 667 / 479 ↔ 10 / 10 Stargell Ave</p> <p>↔ 10 / 10 ↔ 365 / 484 ↔ 10 / 10</p> <p>↔ 10 / 10 ↔ 10 / 10 ↔ 10 / 10</p>	<p>4</p> <p>↔ 3 / 3 ↔ 8 / 7 ↔ 70 / 26</p> <p>↔ 44 / 79 ↔ 727 / 517 ↔ 52 / 48 Stargell Ave</p> <p>↔ 3 / 2 ↔ 394 / 518 ↔ 5th St</p> <p>↔ 8 / 6 ↔ 37 / 38</p>
<p>5</p> <p>↔ 10 / 5 ↔ 159 / 337 ↔ 201 / 353 5th St</p> <p>↔ 249 / 236 ↔ 347 / 336 ↔ 247 / 137 Ralph Appezato Memorial Pkwy</p> <p>↔ 8 / 10 ↔ 319 / 428 ↔ 88 / 127 Main St</p> <p>↔ 137 / 104 ↔ 417 / 142 ↔ 154 / 145</p>	<p>6</p> <p>↔ 29 / 13 ↔ 68 / 25 ↔ 113 / 55 Mosley Ave</p> <p>↔ 25 / 78 ↔ 779 / 503 ↔ 181 / 161 Ralph Appezato Memorial Pkwy</p> <p>↔ 32 / 16 ↔ 485 / 962 ↔ 45 / 19 3rd St</p> <p>↔ 34 / 10 ↔ 41 / 39 ↔ 193 / 98</p>	<p>7</p> <p>↔ 17 / 9 ↔ 49 / 16 ↔ 100 / 28 Coral Sea St</p> <p>↔ 101 / 78 ↔ 843 / 692 ↔ 72 / 104 Ralph Appezato Memorial Pkwy</p> <p>↔ 5 / 14 ↔ 719 / 997 ↔ 35 / 67 Poggi St</p> <p>↔ 111 / 19 ↔ 69 / 19 ↔ 80 / 48</p>	<p>8</p> <p>↔ 15 / 9 ↔ 56 / 41 5th St</p> <p>↔ 62 / 16 ↔ 902 / 810 Ralph Appezato Memorial Pkwy</p> <p>↔ 18 / 6 ↔ 851 / 1043 ↔ 5th St</p>
<p>9</p> <p>↔ 26 / 35 ↔ 75 / 153 W Campus Dr</p> <p>↔ 243 / 285 ↔ 920 / 775 Ralph Appezato Memorial Pkwy</p> <p>↔ 81 / 47 ↔ 824 / 1050</p>	<p>10</p> <p>↔ 444 / 457 ↔ 431 / 766 ↔ 50 / 67 Webster St</p> <p>↔ 27 / 180 ↔ 734 / 614 ↔ 33 / 64 Ralph Appezato Memorial Pkwy</p> <p>↔ 383 / 355 ↔ 527 / 871 ↔ 5 / 198</p> <p>↔ 123 / 30 ↔ 813 / 316 ↔ 62 / 187</p>	<p>11</p> <p>↔ 42 / 59 ↔ 248 / 844 ↔ 195 / 86 Constitution Wy</p> <p>↔ 121 / 127 ↔ 357 / 381 ↔ 36 / 110 Ralph Appezato Memorial Pkwy</p> <p>↔ 129 / 470 ↔ 240 / 383 ↔ 247 / 240</p> <p>↔ 319 / 304 ↔ 965 / 241 ↔ 108 / 28</p>	<p>12</p> <p>↔ 25 / 8 ↔ 266 / 432 ↔ 64 / 87 Main St</p> <p>↔ 107 / 40 ↔ 14 / 8 ↔ 63 / 21 Pacific Ave</p> <p>↔ 1 / 15 ↔ 0 / 9 ↔ 2 / 5 Central Ave</p> <p>↔ 2 / 1 ↔ 544 / 250 ↔ 72 / 27</p>
<p>13</p> <p>↔ 17 / 38 ↔ 99 / 129 ↔ 66 / 32 3rd St</p> <p>↔ 93 / 33 ↔ 187 / 92 ↔ 35 / 22 Pacific Ave</p> <p>↔ 14 / 19 ↔ 129 / 129 ↔ 47 / 22</p> <p>↔ 27 / 24 ↔ 150 / 81 ↔ 46 / 20</p>			

Legend
X / Y = AM / PM PEAK HOUR
TURNING VOLUMES



NOT TO SCALE

Figure 3.10-5
Year 2030 No Action Peak-Hour Traffic Volumes

1 Intersection Analysis

2
3 An analysis of Year 2030 No Action conditions at each of the study intersections
4 indicates that all but three of the study intersections would function at LOS C or better.
5 These three intersections are:

- 6
- 7 • Stargell Avenue and 5th Street (LOS D, a.m. peak hour)
- 8 • Ralph Appezzato Memorial Parkway and Constitution Way (LOS D, p.m. peak
- 9 hour)
- 10 • Pacific Avenue and Main Street (LOS D, a.m. peak hour)
- 11

12 The results of the intersection analysis are contained in Table 3.10-3. The City of
13 Alameda prefers LOS C or better at intersections during peak hour but understands that
14 certain intersections may see LOS D.

15
16
17 **Table 3.10-3**
18 **Year 2030 No Action Conditions**
19 **Peak-Hour Intersection Level of Service Summary**

Intersection		Traffic Control	Peak Hour	Year 2030 No Action	
				Delay ^a	LOS ^b
1	Singleton Ave & Main St	Actuated-Uncoordinated Signal	AM	8.4	A
			PM	7.5	A
2	W Midway Ave & Main St	Actuated-Uncoordinated Signal	AM	14.9	B
			PM	8.4	A
3	Stargell Ave & Mosley Ave	Two-Way Stop	AM	31.2	D
			PM	29.5	D
4	Stargell Ave & 5th St	One-Way Stop	AM	12.6	B
			PM	14.1	B
5	Ralph Appezzato Memorial Pkwy & Main St	Actuated-Uncoordinated Signal	AM	17.7	B
			PM	15.6	B
6	Ralph Appezzato Memoria Pkwy & Mosley Ave	Actuated-Uncoordinated Signal	AM	18.8	B
			PM	15.6	B
7	Ralph Appezzato Memorial Pkwy & Coral Sea St	Actuated-Uncoordinated Signal	AM	12.9	B
			PM	16.7	B
8	Ralph Appezzato Memorial Pkwy & 5th St	Actuated-Uncoordinated Signal	AM	4.9	A
			PM	3.3	A

Intersection	Traffic Control	Peak Hour	Year 2030 No Action	
			Delay ^a	LOS ^b
9 Ralph Appezzato Memorial Pkwy & W Campus Dr	Actuated-Uncoordinated Signal	AM	14.7	B
		PM	12.4	B
10 Ralph Appezzato Memorial Pkwy & Webster St	Actuated-Uncoordinated Signal	AM	36.8	D
		PM	44.0	D
11 Ralph Appezzato Memorial Pkwy & Constitution Way	Actuated-Uncoordinated Signal	AM	29.7	C
		PM	49.7	D
12 Pacific Ave & Main St	Actuated-Uncoordinated Signal	AM	35.7	D
		PM	26.4	C
13 Pacific Ave & 3rd St	Actuated-Uncoordinated Signal	AM	10.4	B
		PM	10.9	B

^a Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

^b LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 6.0.

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Roadway Segment Analysis

Table 3.10-4 displays the peak hour roadway segment analysis for the Posey and Webster tubes under Year 2030 No Action conditions. As shown in the table, both tubes would continue to function at LOS F during both peak hours.

**Table 3.10-4
Year 2030 No Action Conditions
Roadway Segment Level of Service Summary**

Roadway Segment	Roadway Classification ^a	LOS E Capacity	Peak-Hour Volume ^b	LOS
AM Peak				
Posey Tube (EB), south of 5th St	2 lane Regional Arterial (one-way)	1,600	3,130	F
Webster Tube (WB), south of 5th St	2 lane Regional Arterial (one-way)	1,600	3,364	F
PM Peak				
Posey Tube (EB), south of 5th St	2 lane Regional Arterial (one-way)	1,600	3,123	F
Webster Tube (WB), south of 5th St	2 lane Regional Arterial (one-way)	1,600	3,476	F

Note: **Bold** values indicate roadway segments operating at LOS E or F.

^a Existing roads street classification is based on the City of Alameda Transportation Element Update (2008).

^b Peak-hour roadway volumes for the roadway segments were based on the City of Alameda Transportation Element Update (2008).

12

1 3.11 AIR QUALITY

2 3 3.11.1 Regulatory Framework

4 5 **Federal**

6
7 The National Ambient Air Quality Standards (NAAQS) were established by the federal
8 Clean Air Act (CAA) of 1970 and amended in 1977 and 1990. The NAAQS represent
9 the maximum levels of pollution considered safe, with an adequate margin of safety, to
10 protect public health and welfare. The six primary air pollutants of concern for which the
11 NAAQS have been established are ozone (O₃), sulfur dioxide (SO₂), carbon monoxide
12 (CO), nitrogen dioxide (NO₂), lead (Pb), and particulate matter equal to or smaller than
13 10 microns in diameter (PM₁₀).

14
15 On July 18, 1997, the USEPA issued the national 8-hour O₃ and particulate matter
16 equal to or smaller than 2.5 microns in diameter (PM_{2.5}) standards. The 8-hour NAAQS
17 for O₃ was 0.08 parts per million (ppm). The PM_{2.5} standards are an annual average of
18 15 micrograms per cubic meter (µg/m³) and a 24-hour average of 65 µg/m³.

19
20 The federal 1-hour O₃ standard was revoked by the USEPA on June 15, 2005. On
21 October 17, 2006, the USEPA issued the “National Ambient Air Quality Standards for
22 Particulate Matter Final Rule” (40 C.F.R. Part 50). This final rule states that the USEPA
23 has reduced the level of the 24-hour PM_{2.5} standard from 65 µg/m³ to 35 µg/m³ and has
24 revoked the annual PM₁₀ standard.

25
26 On May 27, 2008, the USEPA implemented a more stringent national 8-hour O₃
27 standard of 0.075 ppm. The national Pb standard, rolling 3-month average was issued
28 on October 15, 2008.

29
30 Table 3.11-1 presents the updated NAAQS for the criteria air pollutants at different
31 averaging periods. A criteria pollutant is defined as any air pollutant for which there is an
32 established NAAQS. The NAAQS, other than the O₃ standard and the standards based
33 on annual averages or annual arithmetic means, are not to be exceeded more than
34 once per year. The annual standards should never be exceeded. When an area violates
35 a health-based standard, the CAA requires that the area be designated as
36

1
2

**Table 3.11-1
National and California Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards	National Standards	
			Primary	Secondary
Ozone (O ₃)	1-hour	0.09 ppm (180 µg/m ³)	---	---
	8-hour	0.070 ppm (137 µg/m ³)	0.075 ppm (147 µg/m ³)	0.075 ppm (147 µg/m ³)
Carbon monoxide (CO)	8-hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	---
	1-hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	---
Nitrogen dioxide (NO ₂)	Annual	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	0.053 ppm (100 µg/m ³)
	1-hour	0.18 ppm (339 µg/m ³)	---	---
Sulfur dioxide (SO ₂)	Annual	---	0.030 ppm (80 µg/m ³)	---
	24-hour	0.04 ppm (105 µg/m ³)	0.14 ppm (365 µg/m ³)	---
	3-hour	---	---	0.5 ppm (1,300 µg/m ³)
	1-hour	0.25 ppm (655 µg/m ³)	---	---
Respirable particulate matter (PM ₁₀)	Annual	20 µg/m ³	---	---
	24-hour	50 µg/m ³	150 µg/m ³	150 µg/m ³
Fine particulate matter (PM _{2.5})	Annual	12 µg/m ³	15.0 µg/m ³	15.0 µg/m ³
	24-hour	---	35 µg/m ³	35 µg/m ³
Sulfates	24-hour	25 µg/m ³	---	---
Lead (Pb)	30-day	1.5 µg/m ³	---	---
	Quarterly	---	1.5 µg/m ³	1.5 µg/m ³
	Rolling 3-month average	---	1.5 µg/m ³	1.5 µg/m ³
Hydrogen sulfide	1-hour	0.03 ppm (42 µg/m ³)	---	---
Vinyl chloride	24-hour	0.01 ppm (26 µg/m ³)	---	---
Visibility-reducing particles	8-hour	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more (0.07 – 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.	---	---

3
4

1 nonattainment for that pollutant. NAS Alameda is in Alameda County within the Bay
2 Area. The Bay Area is designated as a federal attainment/unclassified area for NO₂,
3 SO₂, PM₁₀, and Pb standards; a marginal nonattainment area for the O₃ standard; and a
4 maintenance area for the CO standard (BAAQMD 2009). The USEPA has designated
5 the Bay Area as nonattainment for the 35 µg/m³ PM_{2.5} standard to be effective in April
6 2009 (BAAQMD 2009).

7
8 The CAA requires each state to develop, adopt, and implement a State Implementation
9 Plan (SIP) to achieve, maintain, and enforce federal air quality standards throughout the
10 state. SIP documents are developed on a pollutant-by-pollutant basis whenever one or
11 more federal air quality standards are being violated. In California, local governments
12 and air pollution control districts have the primary responsibility for developing and
13 adopting the regional elements of the California SIP.

14
15 The 1990 Amendment to CAA Section 176 requires the USEPA to promulgate rules to
16 ensure that federal actions conform to the appropriate SIP. These rules, known as the
17 General Conformity Rule (40 C.F.R. Parts 51.850-51.860 and 93.150-93.160), require
18 any federal agency responsible for an action in a nonattainment/maintenance area to
19 determine whether that action conforms to the applicable SIP or whether the action is
20 exempt from the General Conformity Rule requirements. This means that federally
21 supported or funded activities would not (1) cause or contribute to any new air quality
22 standard violation, (2) increase the frequency or severity of any existing standard
23 violation, or (3) delay the timely attainment of any standard, interim emission reduction,
24 or other milestones.

25
26 An action would conform to a SIP and be exempt from a conformity determination if the
27 action is within one of the exemption categories specified by the General Conformity
28 Rule. An action would conform to a SIP and be exempt from a conformity determination
29 if an applicability analysis shows that the total direct and indirect emissions from the
30 action construction and operational activities would be less than specified emission rate
31 thresholds, known as federal *de minimis* levels, and that the emissions would be less
32 than 10 percent of the area emission budget. As stated previously, the Bay Area is
33 designated as a marginal nonattainment area for the federal O₃ standard, a
34 nonattainment area for the federal PM_{2.5} standard to be effective April 2009, and a
35 maintenance area for the federal CO standard. The corresponding *de minimis* level for
36 these pollutants and their precursors in the Bay Area is 100 tons per year (tons/year)
37 (91 tonnes per year [tonnes/year]).

1 **State**

2

3 The California Air Resources Board (CARB) has developed the California Ambient Air
4 Quality Standards (CAAQS) (Table 3.11-1). In the past, the CAAQS were set at levels
5 “not to be equaled or exceeded.” During a review of state regulations in 1982 pursuant
6 to Assembly Bill 1111, the CARB changed the basis for determining a violation of a
7 state standard to an “exceed only” policy. This change has been implemented for the
8 CAAQS for O₃, CO (except for the 8-hour standard for the Lake Tahoe Air Basin), NO₂,
9 SO₂, and PM₁₀. The remaining standards are not to be equaled or exceeded. The Bay
10 Area is designated as a state nonattainment area for O₃, PM₁₀, and PM_{2.5}.

11

12 On June 5, 2003, the Office of Administrative Law approved amendments to the
13 regulations for the CAAQS for particulate matter (PM) and sulfates. The amendments to
14 the CAAQS are as follows:

15

- 16 • The annual average standard for PM₁₀ was lowered from 30 to 20 µg/m³, not to be
17 exceeded;
- 18 • A new annual average standard of 12 µg/m³ was established for PM_{2.5}, not to be
19 exceeded;
- 20 • The 24-hour average standard of 50 µg/m³ for PM₁₀ was retained; and
- 21 • The 24-hour average standard of 25 µg/m³ for sulfates was retained.

22

23 The California 8-hour O₃ standard was approved by the CARB on April 28, 2005 and
24 became effective on May 17, 2006. The California 8-hour O₃ standard is 0.070 ppm.

25

26 **Local**

27

28 The Bay Area Air Quality Management District (BAAQMD) is the agency responsible for
29 protecting public health and welfare through the administration of federal and state air
30 quality laws and policies in the Bay Area. Included in the BAAQMD’s tasks are
31 monitoring ambient air pollution levels, preparing air quality attainment plans and the
32 Bay Area portion of the California SIP, and promulgating local air quality rules and
33 regulations.

34

1 The BAAQMD, Metropolitan Transportation Commission (MTC), and ABAG prepared
2 the “Revised San Francisco Bay Area Ozone Attainment Plan for the 1-hour National
3 Ozone Standard” in 2001. This plan is a revision to the Bay Area part of the California
4 SIP to achieve the federal O₃ standard. The plan was prepared in response to the
5 USEPA’s partial approval and partial disapproval of the Bay Area’s 1999 O₃ attainment
6 plan.

7
8 The BAAQMD, in cooperation with the MTC and ABAG, prepared the “Bay Area 2005
9 Ozone Strategy” in 2005. The Ozone Strategy is a roadmap showing how the Bay Area
10 will achieve compliance with the state 1-hour air quality standard for O₃ as expeditiously
11 as practicable and how the region will reduce transport of O₃ and O₃ precursors to
12 neighboring air basins.

13
14 The BAAQMD has begun the process to prepare the 2009 Bay Area Clean Air Plan
15 (BAAQMD 2009). The 2009 Bay Area Clean Air Plan will:

- 16
17 • Update the Bay Area 2005 Ozone Strategy in accordance with the requirements of
18 the California CAA to implement “all feasible measures” to reduce ozone;
- 19 • Consider the impacts of ozone control measures on particulate matter (PM), air
20 toxics, and greenhouse gases in a single, integrated plan;
- 21 • Review progress in improving air quality in recent years; and
- 22 • Establish emission-control measures to be adopted or implemented in the 2009-
23 2012 timeframe.

24
25 The BAAQMD developed the “CEQA Guidelines Assessing the Air Quality Impacts of
26 Project and Plans” (BAAQMD 1999). The purpose of the BAAQMD CEQA Guidelines is
27 to assist Lead Agencies, as well as consultants, project proponents, and other
28 interested parties, in evaluating potential air quality impacts of projects and plans
29 proposed in the Bay Area. The Guidelines established operational emission thresholds
30 for reactive organic gases (ROG), nitrogen oxides (NO_x), and PM₁₀ to evaluate impact
31 levels of these air pollutants. Table 3.11-2 presents the BAAQMD operational emission
32 thresholds. For purposes of this analysis, when the BAAQMD does not identify
33 quantifiable emission thresholds, the applicable federal *de minimis* levels are used as
34 impact thresholds. The applicable federal *de minimis* level for CO, PM_{2.5} and SO₂ is 100

1 tons/year (91 tonnes/year). Additionally, for consistency, daily equivalents have been
 2 developed as applicable.

3
 4 **Table 3.11-2**
 5 **BAAQMD Emission Thresholds**

Pollutant	tons/year (tonnes/year)	lbs/day (kgs/day)
ROG	15 (13.6)	80 (36)
NO _x	15 (13.6)	80 (36)
PM ₁₀	15 (13.6)	80 (36)

6
 7
 8 The BAAQMD CEQA Guidelines also established thresholds of significance for
 9 evaluating localized traffic-related CO concentrations impacts (BAAQMD 1999).
 10 According to the BAAQMD CEQA Guidelines, localized CO concentrations should be
 11 estimated for projects in which: (1) vehicle emissions of CO would exceed 550 pounds
 12 per day (lbs/day) (249 kilograms [kgs]/day), (2) project traffic would impact intersections
 13 or roadway links operating at LOS D, E, or F or would cause LOS to decline to D, E, or
 14 F, or (3) project traffic would increase traffic volumes on nearby roadways by 10 percent
 15 or more.

17 **3.11.2 Climate and Meteorology**

18
 19 Meteorological and climatological conditions influence ambient air quality. The climate
 20 of the Bay Area is characterized by warm, dry summers and mild winters, and is
 21 dominated by a semi-permanent high-pressure cell located over the Pacific Ocean. This
 22 high-pressure cell maintains clear skies for much of the year. It also drives the dominant
 23 onshore circulation and helps create two types of temperature inversions – subsidence
 24 and radiation – that contribute to local air quality degradation.

25
 26 Subsidence inversions occur during the warmer months, as descending air associated
 27 with the Pacific high-pressure cell comes into contact with cool marine air. The
 28 boundary between the two layers of air represents a temperature inversion that traps
 29 pollutants below it. Radiation inversions typically develop on winter nights with low wind
 30 speeds, when air near the ground cools by radiation and the air aloft remain warm. A
 31 shallow inversion layer that can trap pollutants is formed between the two layers.
 32

1 The Western Regional Climate Center has records of climate data for many stations in
 2 the United States. The nearest station to the site is the Oakland station. The average
 3 daily maximum temperature recorded at this station is 72.9 degrees Fahrenheit (°F) in
 4 September, and the average daily minimum temperature is 41.8°F in January,
 5 according to the “Climate Data Summary” compiled by the Western Regional Climate
 6 Center (WRCC 2009). The normal precipitation in this area is 22.61 inches (57.4
 7 centimeters) annually, occurring primarily from November through March. Climate
 8 summary data for the Oakland station are summarized in Table 3.11-3.

9
10
11 **Table 3.11-3**
12 **Climatological Data Summary**
13 **Oakland, California**

Month	Temperature (°F)		Precipitation (in)
	Average Maximum	Average Minimum	Average Total
Jan	54.2	41.8	4.57
Feb	57.9	44.3	4.31
Mar	61.1	45.5	3.20
Apr	64.7	47.7	1.44
May	68.0	50.1	0.79
Jun	72.0	53.0	0.22
Jul	72.7	54.4	0.01
Aug	72.0	54.5	0.05
Sep	72.9	54.8	0.34
Oct	69.1	52.0	1.20
Nov	62.4	47.5	2.30
Dec	55.5	43.0	4.19
Annual Mean	65.2	49.0	22.61

14
15
16 **3.11.3 Existing Ambient Air Quality**
17

18 The major pollutants of concern in the Bay Area include ozone, carbon monoxide, and
 19 particulate matter that are monitored at numerous locations. There are no monitoring
 20 stations in Alameda; the nearest monitoring stations to the site are San Leandro and
 21 San Francisco monitoring stations. According to the BAAQMD (2005), the Oakland
 22 station was closed on November 30, 2005. On November 1, 2007, an Oakland station
 23 was reestablished; however, because there is only a brief period of data available for
 24 this site in 2007, summary reporting will not begin until 2008 (BAAQMD 2007).
 25

1 Table 3.11-4, Ambient Air Quality Summary, presents a summary of the highest
2 pollutant concentrations monitored at the San Leandro and San Francisco air quality
3 monitoring stations during the three most recent years (2005-2007) for which the
4 BAAQMD has reported data (BAAQMD 2005-2007).

5
6 As illustrated in Table 3.11-4, no exceedances of the NAAQS for O₃, CO, NO₂, SO₂,
7 and PM₁₀ were recorded from 2005 through 2007 at these stations. The federal 24-hour
8 PM_{2.5} standard was exceeded several times in 2006 and 2007. There were no
9 exceedances of the CAAQS for CO, SO₂, PM_{2.5}, and NO₂ recorded at the San
10 Francisco monitoring station from 2005 through 2007. The monitoring data show that
11 the state standard for O₃ was exceeded one day in 2005 as recorded at the San
12 Leandro station. The state standards for PM₁₀ were exceeded several days in 2006 and
13 2007 as recorded at the San Francisco station.

14
15 In 1976, the USEPA established a nationally uniform air quality index (AQI), called the
16 Pollutant Standard Index (PSI). The PSI, commonly referred to as the AQI, includes
17 sub-indices for O₃, PM, CO, SO₂, and NO₂ that relate ambient pollutant concentrations
18 to index values on a scale from 0 to 500. This represents a very broad range of air
19 quality, from pristine air to air pollution levels that present imminent and substantial
20 endangerment to the public. The index is normalized across pollutants by defining an
21 index value of 100 as the numerical level of the primary NAAQS for each pollutant and
22 an index value of 500 as the significant harm level. Table 3.11-5 presents current
23 USEPA color-coded AQI ranges.

24
25 The BAAQMD prepares its daily AQI forecast by taking the anticipated concentration
26 measurements for each of the major pollutants, converting them into AQI numbers, and
27 posting the highest AQI number for each reporting zone. Although daily AQI values vary
28 day by day, according to the BAAQMD (2009), AQI levels above 300 rarely occur in the
29 United States, and AQI readings above 200 have not occurred in the Bay Area in
30 decades.

31

**Table 3.11-4
Ambient Air Quality Summary
San Leandro and San Francisco Air Monitoring Stations**

Pollutant	Monitoring Station	Average Time	CAAQS ^a	NAAQS ^a	Maximum Concentrations ^a			Number of Days Exceeding CAAQS			Number of Days Exceeding NAAQS		
					2005	2006	2007	2005	2006	2007	2005	2006	2007
O ₃	San Leandro	1-hour	0.09	-	0.099	0.088	0.071	1	0	0	-	-	-
		8-hour	0.070	0.075	0.061	0.066	0.054	0	0	0	0	0	0
O ₃	San Francisco	1-hour	0.09	-	0.058	0.053	0.060	0	0	0	-	-	-
		8-hour	0.070	0.075	0.054	0.046	0.049	0	0	0	0	0	0
CO	San Francisco	1-hour	20	35	2.5	2.7	2.5	0	0	0	0	0	0
		8-hour	9.0	9	2.1	2.1	1.6	0	0	0	0	0	0
NO ₂	San Francisco	1-hour	0.18	-	0.066	0.107	0.069	0	0	0	-	-	-
		Annual	0.030	0.053	0.016	0.016	0.016	0	0	0	0	0	0
SO ₂	San Francisco	24-hour	0.04	0.14	0.007	0.006	0.006	0	0	0	0	0	0
		Annual	-	0.030	0.0014	0.0013	0.0015	-	-	-	0	0	0
PM ₁₀ ^b	San Francisco	24-hour	50	150	46	61	70	0	3	2	0	0	0
		Annual (2)	20	-	20.1	22.9	21.9	1	1	1	-	-	-
PM _{2.5} ^c	San Francisco	24-hour (3)	-	35	43.6	54.3	45.2	-	-	-	0	3	5
		Annual	12	15.0	9.5	9.7	8.7	0	0	0	0	0	0

^a Maximum concentration units for O₃, CO, SO₂, and NO₂ are parts per million (ppm). Concentration units for PM₁₀ and PM_{2.5} (24-hour or annual) are micrograms per cubic meter (µg/m³).

^b The USEPA revoked the federal annual standard for PM₁₀ effective December 18, 2006.

^c The 24-hour federal standard for PM_{2.5} was reduced from 65 µg/m³ to 35 µg/m³ effective December 18, 2006.

Source: BAAQMD 2005-2007.

1
2

**Table 3.11-5
Current USEPA AQI and Health Advisory**

AQI Range	USEPA Color Scale	USEPA Descriptor	Health Advisory
0 to 50	Green	Good	The air quality is good and one can engage in outdoor physical activity without health concerns.
51 to 100	Yellow	Moderate	At this level, the air is probably safe for most people. However, some people are unusually sensitive and react to ozone in this range, especially at the higher levels (in the 80s and 90s). People with heart and lung diseases such as asthma, and children, are especially susceptible. People in these categories, or people who develop symptoms when they exercise at "yellow" ozone levels, should consider avoiding prolonged outdoor exertion during the late afternoon or early evening when the ozone is at its highest.
101 to 150	Orange	Unhealthy for sensitive groups	In this range, the outdoor air is more likely to be unhealthy for more people. Children, people who are sensitive to ozone, and people with heart or lung disease should limit prolonged outdoor exertion during the afternoon or early evening, when ozone levels are highest.
151 to 200	Red	Unhealthy	In this range, even more people will be affected by ozone. Most people should restrict their outdoor exertion to morning or late evening hours when the ozone is low, to avoid high ozone exposures.
201 to 300	Purple	Very unhealthy	Increasingly more people will be affected by ozone. Most people should restrict their outdoor exertion to morning or late evening hours when the ozone is low, to avoid high ozone exposures.
Over 300	Black	Hazardous	Everyone should avoid all outdoor exertion.

3
4
5
6
7

3.11.4 Existing Air Pollutant Emission Sources

8 The existing use of the NAS Alameda North Housing Parcel is in a caretaker status,
9 which would result in minimal traffic; therefore, air pollutant emissions associated with
10 the traffic would be minimal. No industrial sources are reported on the site.
11

1 3.12 NOISE

2 3 3.12.1 Noise Environment

4
5 The proposed project site is a 42-acre (15-hectare) parcel located in an urban area
6 within the City of Alameda. The site is developed with 51 residential structures of former
7 military housing units, which have been vacated and are not currently occupied by
8 military or other civilian residents. There are paved roads and parking lots that serve the
9 housing units. Along the northern boundary of the parcel is an undeveloped area that
10 was previously used as an open recreational park.

11
12 The area surrounding the project site is primarily developed with mixed use
13 (commercial, industrial, residential, recreational, and open space). There are active
14 residential areas located adjacent to south, and west of the project site. North of the
15 project site is the Oakland Inner Harbor with the operations of the Port of Oakland. East
16 of the project site is developed land formerly part of FISCA, which includes warehouses
17 and an administrative building, some currently occupied by local businesses. This area
18 is proposed for redevelopment, which would include a mix of residential, commercial,
19 office, and research and development. Southeast of the project site is the College of
20 Alameda campus. Immediately south of the USCG Housing area, and further south of
21 the project site, is the recently constructed Bayport master plan residential
22 development. To the west is an additional park area, which connects with the park
23 space in the northern portion of the parcel. Also west of the project site are industrial
24 marine facilities associated with the Inner Harbor. Further west and south is Alameda
25 Point, a redevelopment for the City of Alameda Reuse Plan, which includes residential
26 development, commercial and retail mixed uses, historic preservation areas, public
27 open space, and parks (including the Alameda Sports Complex).

28
29 The Health and Safety Element of the City of Alameda General Plan identifies aircraft
30 and local roadway traffic as the City's primary noise sources. The site is adjacent to
31 Singleton Avenue, a collector street to the south; and arterials of Stargell Avenue, 700
32 feet (213 meters) to the south; Main Street 800 feet (243 meters) to the west; and
33 Webster Street 1,300 feet (396 meters) to the east. Interstate 880 is 0.75 mile (1.2
34 kilometers) north of the site across the Inner Harbor in the City of Oakland. Port,
35 maritime, and train activities in the Inner Harbor and the City of Oakland generate
36 maximum noise levels from the sounding of whistles and horns. Aircraft noise in the City
37 results from flights from Metropolitan Oakland International Airport, approximately

1 7 miles (11 kilometers) southeast of the site, and from San Francisco International
2 Airport, approximately 12 miles (19 kilometers) southwest of the site.

3

4 **3.12.2 Noise Sensitive Receptors**

5

6 The project site has land uses that are sensitive to noise that may be significantly
7 affected by interference from noise. Noise sensitive land uses may be defined as
8 residences, schools, churches, hospitals, convalescent (nursing) homes, hotels, and
9 certain parks. Excessive exposure to noise can result in adverse physical and
10 psychological responses, in addition to interfering with speech and concentration, or
11 diminishing the quality of life.

12

13 The project site is currently vacant of noise sensitive receptors. Receptors of the
14 surrounding area include residential areas adjacent to and south of Singleton Avenue
15 and west of Main Street; the Woodstock Child Development Center and Island High
16 School adjacent to and south of Singleton Avenue; the College of Alameda at 5th Street
17 and Stargell Avenue.

18

19 In addition to human noise sensitive receptors, protected animal species and their
20 habitat may be considered sensitive noise receptors if located near construction and
21 operational noise sources, especially during the species' breeding seasons. The project
22 site and surrounding areas are fully developed, and are not located within an area
23 where there is potential for protected animal species and their habitat.

24

25 **3.12.3 Noise Terminology**

26

27 Noise is generally defined as unwanted or objectionable sound. The effects of noise on
28 people can include general annoyance, interference with speech communication, sleep
29 disturbance, and in the extreme, hearing impairment. Noise levels are measured as
30 decibels (dB) on a logarithmic scale that quantifies sound intensity in a manner similar
31 to the Richter scale used for earthquake magnitudes. Thus, doubling the energy of a
32 noise source (e.g., traffic volume) would not double the noise level. In addition, the
33 human ear is not equally sensitive to all frequencies within the sound spectrum. The
34 most common method to characterize sound heard by the human ear is the "A
35 weighted" sound level, or dB (A), which filters out noise frequencies not audible to the
36 human ear, thereby weighting the audible frequencies. Typical instantaneous noise

1 levels of common indoor and outdoor activities range from approximately 0 to 110 dBA
2 (Caltrans 1998).

3
4 In addition to instantaneous noise levels, noise levels measured over a period of time
5 are used to assess noise limits and impacts. Noise levels measured over 1 hour are
6 usually expressed as dBA L_{eq} , the equivalent 1-hour noise level. Time of day is also an
7 important factor for noise assessment; noise levels that may be acceptable during the
8 day may interfere with the ability to sleep during evening or nighttime hours. Therefore,
9 there are 24-hour noise levels. The community noise equivalent level (CNEL) is the
10 cumulative noise exposure in a community during a 24 hour period, which adds 5 dBA
11 to evening sound levels (between 7:00 p.m. and 10:00 p.m.), and 10 dBA to the
12 nighttime sound levels (between 10:00 p.m. and 7:00 a.m.). The day/night average
13 sound level (L_{dn}) is the same as the CNEL, except the 3-hour evening period is
14 considered part of the daytime period.

15 16 **3.12.4 Regulatory Setting**

17
18 Various state and local agencies have developed noise regulations including guidelines
19 for evaluating noise/land use compatibility. With the closure of NAS Alameda, no federal
20 noise regulations are applicable to the proposed project.

21
22 Land Use Compatibility Standards for Community Noise Environments, established by
23 the California Department of Health Services, were adopted by the City, as shown in
24 Table 3-29 in the FEIS. Noise levels of up to 60 dBA L_{dn} are considered “normally
25 acceptable” noise compatibility standards for residential areas, and 60 to 70 dBA L_{dn} as
26 “conditionally acceptable.” The California Department of Housing and Community
27 Development established noise insulation performance standards for dwellings other
28 than detached single-family structures such that exterior noise levels will not result in
29 noise levels exceeding and annual average CNEL value of 45 dBA with the windows
30 closed.

31
32 Noise regulations applicable to the proposed project are provided in the Health and
33 Safety Element of the City’s General Plan, and the City’s noise ordinance. The Health
34 and Safety Element includes policies requiring site and building design to achieve
35 noise/land use compatibility to the extent feasible, recognizing that noise sensitive land
36 uses in commercial areas will be subject to higher noise levels. Applicable implementing
37 policies include requiring acoustical analysis for new or replacement noise sensitive

1 land uses in areas with noise levels of 60 dBA or greater; requiring new or replacement
2 uses to meet noise guidelines; and enforcing the community noise ordinance.
3
4 The City's Municipal Code Section 4-10, Noise Control Ordinance, establishes
5 maximum exterior noise standards for noise sensitive receptors of 55 dBA during the
6 daytime (7 a.m. to 10 p.m.) and 50 dBA during the nighttime (10 p.m. to 7 a.m.). The
7 Noise Control Ordinance exempts construction activities from 7 a.m. to 7 p.m. Monday
8 through Fridays, and 8 a.m. to 5 p.m. on Saturdays; and does not set a construction
9 noise limit.
10

1 3.13 HAZARDOUS MATERIALS AND WASTE

2
3 This section describes the past use of hazardous materials, petroleum products and the
4 generation of hazardous waste during NAS Alameda operations, now commonly
5 referred to as Alameda Point. It also discusses the locations and environmental
6 condition of areas that have been affected by releases of hazardous materials,
7 hazardous wastes, and/or petroleum products. The ROI for hazardous materials and
8 hazardous wastes includes the North Housing Parcel (Parcels 181 and 182) at Alameda
9 Point and any adjacent area that may have been affected by hazardous materials and
10 wastes originating at Alameda Point, or areas from which hazardous materials and
11 wastes could migrate onto Alameda Point.

12
13 The North Housing Parcel is located on Alameda Point, within the former Navy
14 installation NAS Alameda in Alameda, California. Alameda Point, located adjacent to
15 the City of Oakland, in Alameda County, is roughly rectangular, about 2 miles (3.2
16 kilometers) long (east to west) and 1 mile (1.6 kilometers) wide (north to south), and
17 occupies 1,734 acres (701 hectares). Alameda Point is located at the western tip of
18 Alameda Island, which is surrounded by San Francisco Bay and the Oakland Inner
19 Harbor. The North Housing Parcel is located east of Main Street on the northeast side
20 of Alameda Point. The former Fleet Industrial Supply Center Annex, Alameda Annex
21 (FISCA) is located to the north and east of the North Housing Parcel (NAVFAC SW
22 2007a).

23
24 In the late 1800s, the nearest land to Alameda Point consisted of the "Alameda Mole," a
25 railroad embankment that ran through marshland and intertidal areas. From the late
26 1800s until the 1920s, two manufactured gas plants, an oil refinery (Pacific Coast Oil
27 Works), an asphalt pipe manufacturing plant, a soap company, a carriage factory, and
28 other manufacturing businesses were located near the present-day North Housing
29 Parcel. These facilities may have discharged hazardous materials and other wastes
30 along the sides of tidal channels and on the surface of marshlands near the North
31 Housing Parcel. As the marshlands and intertidal areas were filled in, these wastes
32 became entrapped in the subsurface soils, creating what is now referred to as the
33 Marsh Crust (NAVFAC SW 2007a).

34
35 Subsequent filling actions have buried the Marsh Crust at depths ranging from 8 to 20
36 feet (2.4 to 6 meters) below ground surface. The fill material itself (i.e., material that
37 overlies the Marsh Crust) consists mostly of dredged sediment from Oakland Inner

1 Harbor and San Francisco Bay. This sediment contains deposits of similar waste
2 materials to that forming the Marsh Crust, and these deposits appear to have originated
3 from coal gasification plants, several of which were historically located in what is now
4 Jack London Square located across the Bay in Oakland (NAVFAC SW 2007a).

5
6 The North Housing Parcel history shows that the fill was in place by 1930, and most of
7 the fill, particularly in the northern part of the site, was in place by 1919. Aerial
8 photographs show that the North Housing Parcel, which was not then part of NAS
9 Alameda, was developed as housing in the 1940s. These houses remained through the
10 mid-1960s (NAVFAC SW 2007a). The Navy acquired the North Housing Parcel in two
11 separate transactions in 1966 and 1968 for the purpose of housing military personnel.
12 The northern part of the site was acquired in April 1966 and the eastern part of the site
13 was acquired in March 1968. The Navy constructed housing at the North Housing
14 Parcel in 1969. Alameda Point was closed in April 1997, under the BRAC Act. In July
15 1999, the facility was designated as a National Priority List (NPL) site. The listing of
16 Alameda Point on the NPL invokes the applicable requirements of the National Oil and
17 Hazardous Substances Pollution Contingency Plan (NCP) (NAVFAC SW 2007a).

18
19 Although widely accepted at the time, procedures followed prior to the mid-1970s for
20 managing and disposing of many hazardous materials and wastes often resulted in soil
21 and groundwater contamination. Management of hazardous substances, including
22 hazardous materials and hazardous wastes, is now rigorously regulated by federal,
23 state, and local laws and regulations. Engineering Field Activity West (EFA West) at
24 San Bruno and the Navy Transition Office at Alameda Point were managing the
25 implementation of compliance programs and site assessments and subsequent site
26 restorations (EFA West 1999).

27 28 **3.13.1 Hazardous Materials Regulations**

29
30 Following is a brief discussion of the current major federal laws and regulations that
31 apply to hazardous materials and waste that are applicable to the North Housing Parcel
32 area.

33
34 Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6901 et seq. In
35 response to the need to more closely regulate the ongoing handling, storage,
36 transportation, and disposal of hazardous wastes, the U.S. Congress passed the
37 Resource Conservation Recovery Act (RCRA). RCRA presents the federal regulations

1 for operating hazardous waste storage, treatment, and disposal sites. Prior to RCRA,
2 the state of California had passed the Hazardous Waste Control Law of 1972, Cal.

3
4 Health and Safety Code § 25100 et seq. This law provides regulations that equal or
5 exceed the federal standards set by RCRA for hazardous waste management. The
6 state of California was given “interim authorization” to implement RCRA by enforcing the
7 State Hazardous Waste Control Law. Final authorization for the state to implement
8 RCRA was given in 1993. The responsible agency for enforcing RCRA and the
9 Hazardous Waste Control Law is the California Environmental Protection Agency
10 (Cal/EPA), Department of Toxic Substances Control (DTSC) (EFA West 1999).

11
12 Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42
13 U.S.C. § 9601 et seq. Originally passed in 1980, the CERCLA created national policies
14 and procedures to identify and remediate sites previously contaminated by the release
15 of hazardous substances. The CERCLA formalized the process for identifying sites and
16 prioritizing site cleanup. The CERCLA regulations contain criteria for evaluating sites
17 that provide the basis for Preliminary Assessment and Site Inspection. The evaluation
18 that results is a priority ranking of the site that determines whether it should be placed
19 on the NPL. Facilities placed on the NPL are commonly referred to as Superfund sites.
20 The USEPA is the lead regulatory authority for properties placed on the NPL (EFA West
21 1999).

22
23 Properties that contain or potentially contain contamination may be conveyed or
24 transferred prior to completion of environmental remediation only if the requirements of
25 § 96 (h) (3) (c) of CERCLA are met. These requirements include the following:

- 26
27
- 28 • Agreement by the USEPA and the state that the property is suitable for the
29 intended use and that the intended use will protect human health and the
environment.
 - 30 • Property use restrictions, if necessary, to ensure that human health and the
31 environment are protected and that the necessary remedial action can take place.
 - 32 • Assurances from the federal government that conveyance or transfer of the
33 property will not substantially delay response actions at the property and that the
34 federal government will continue any necessary response actions after
35 conveyance or transfer.

- A federal budget request for adequate funding to complete the remedial actions on schedule.

In all other circumstances, contaminated or potentially contaminated properties cannot be conveyed or transferred until remediation is complete; however, the Department of Defense (DoD) established a policy for leasing these properties. Prior to 2005, regulatory participation by the DoD provided for the development of a site-specific or environmental baseline survey (EBS), or in specific cases, use of the basewide EBS and a FOSL or Finding of Suitability to Transfer (FOST) the property. The EBS was a preliminary evaluation and summary of all known and suspected areas where hazardous materials or petroleum products have been handled, stored, disposed of, or released within the boundaries of the site and adjacent areas. It also identified properties that met the criteria for conveyance, transfer, or lease set forth in Community Environmental Response Facilitation Act (CERFA), see 42 U.S.C. § 9601 note. The FOSL may include specific land use restrictions to protect human health and the environment and to ensure government access for final investigations and remediation. This process has taken place for several parcels at NAS Alameda.

With the exception noted above, a FOST may be issued only for properties on which all remedial actions necessary to protect human health and the environment have been taken, pursuant to CERCLA § 9620 (h)(3).

City of Alameda Marsh Crust Ordinance No. 2824. The Alameda Marsh Crust Ordinance establishes a permitting process to help ensure that any excavation deep enough to potentially encounter Marsh Crust is conducted so as to protect public health and the environment.

3.13.2 Hazardous Materials Management

Prior to 2005, the BRAC process required the preparation of a BRAC Cleanup Plan (BCP) and an EBS for each facility scheduled for closure. The BCP provided a plan and schedule for investigating and remediating property that does not meet CERFA standards. The BCP was revised periodically to provide a status report of environmental restoration and associated compliance programs (EFA West 1999).

As mandated by BRAC, the Navy conducted a series of basewide investigations as part of the EBS. The objective of the EBS was to inventory the property, parcel by parcel,

1 and identify known or suspected releases associated with historical or recent uses. No
2 RCRA sites, underground storage tanks (USTs), or underground fuel lines were
3 identified in the EBS for the North Housing Parcel (Parcels 181 and 182) (International
4 Technology Corporation 1998).

6 **3.13.3 Hazardous Waste Management**

8 Hazardous waste management at Alameda Point is regulated under RCRA and the
9 California Hazardous Waste Control Act. No RCRA sites, USTs or underground fuel
10 lines were identified in the EBS for the North Housing Parcel (Parcels 181 and 182)
11 (International Technology Corporation 1998).

13 **3.13.4 Installation Restoration (IR) Program**

15 In 1981, the Navy initiated a program to evaluate potential health and environmental
16 hazards at all naval facilities where past hazardous material operations and waste
17 disposal activities had taken place (EFA West 1999). In 1982, the Navy began
18 evaluating Alameda Point under the Navy Assessment and Control of Installation
19 Pollutants (NACIP) Program. In 1988, the Navy converted its NACIP Program into the
20 Installation Restoration (IR) Program to be more consistent with CERCLA, or the
21 USEPA's Superfund Program (IT 2001). This direction resulted in the IR program as
22 currently defined by the Navy Environmental and Natural Resources Program Manual.
23 The purpose of the Navy's IR Program is to identify, assess, characterize, and cleanup
24 or control contamination from past hazardous waste disposal operations and hazardous
25 material spills at Navy Facilities. The Navy's IR Program for environmental investigation
26 and cleanup at Alameda Point is being conducted with cooperation and oversight from
27 Cal/EPA, DTSC and the RWQCB. The primary goal of the IR Program at Alameda Point
28 is to protect human health and the environment for all those who live, work, and visit
29 Alameda Point (EFA West 1999). IR Site 18, Storm Drains, was divided and became
30 part of the IR Sites where it is present.

32 **Federal Facility Agreement**

34 At the Former NAS Alameda, Federal Facility Agreement is a written agreement
35 between the Navy, USEPA, California Department of Toxic Substances Control and the
36 California Regional Water Quality Control Board. The agreement sets forth the roles
37 and responsibilities of the agencies for performing and overseeing the activities.

1 **Installation Restoration Program Status**

2
3 For better management of the cleanup process, 34 IR Sites have been segregated into
4 five operable units (OUs) at Alameda Point (IT 2001). IR Site 18, Storm Drains, was
5 divided and became a part of the IR Sites where it is present.

6
7 The OUs were organized by the Base Closure Team according to the following factors
8 in order of importance:

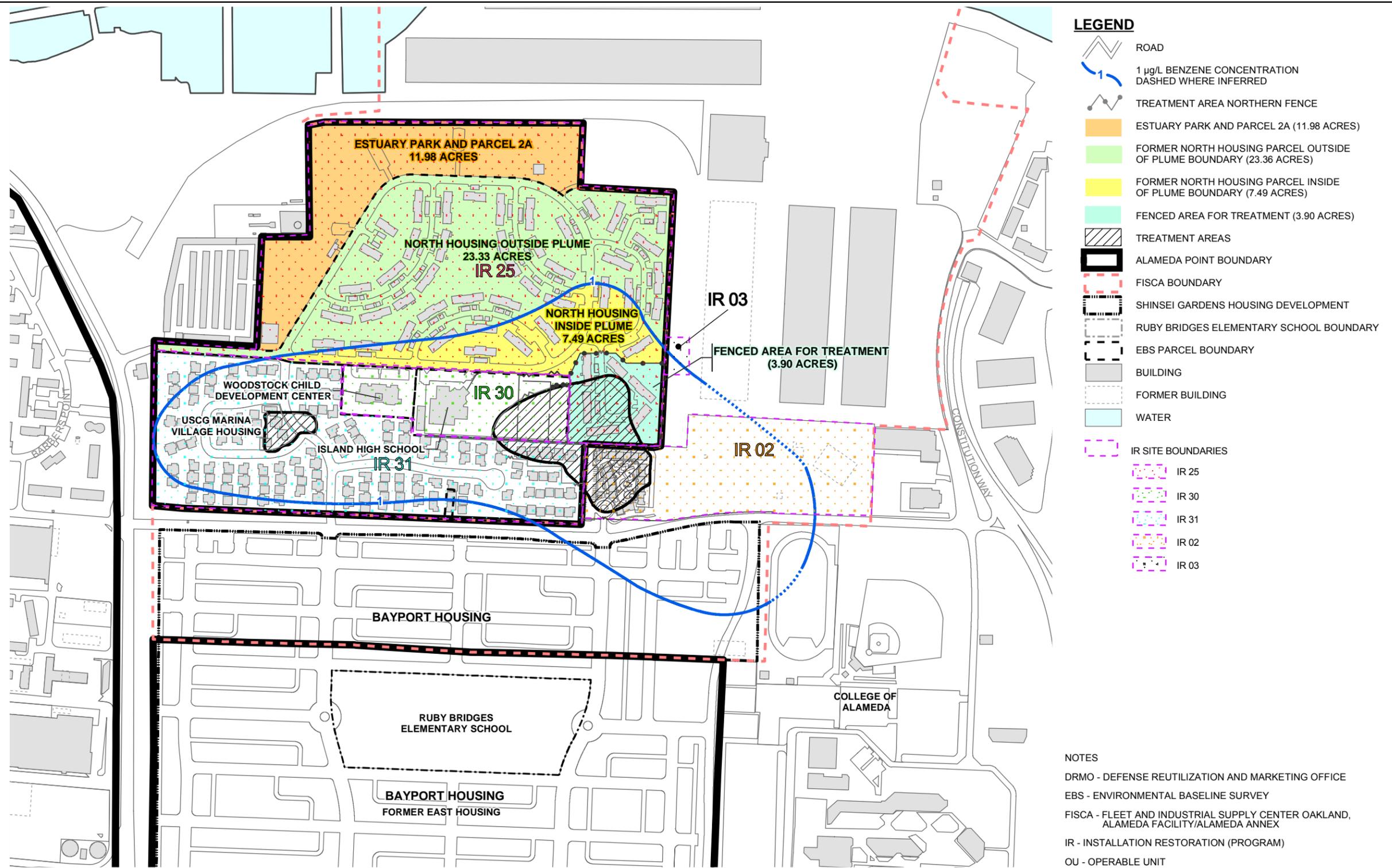
- 9
- 10 • Contaminant type, extent of contamination, and media
 - 11 • Remediation management
 - 12 • Reuse potential
 - 13 • Geographic location
 - 14 • Commingled plumes
 - 15 • Plumes of nonfast-track sites commingled with plumes of fast-track sites
- 16

17 Among the 34 sites, there are currently 31 active sites and three (3) sites that do not
18 require further action. There are three (3) IR Sites (i.e., IR Sites 25, 30, 31) on or
19 adjacent to the North Housing Parcel. IR Site 25 is located within the North Housing
20 Parcel but the entire parcel is not located within the plum boundary (Figure 3.13-1).
21 Both IR Site 30 and IR Site 31 are located south of the North Housing Parcel on the
22 south side of Singleton Avenue (Figure 3.13-1). In addition, there are seven (7) IR Sites
23 at FISCA property. Two of the seven IR Sites (i.e., IR Sites 02 and 03) in the FISCA are
24 located east of the North Housing Parcel boundary (Figure 3.13-1) (NAVFAC SW
25 2007b). Further details of these sites are provided below.

26
27 **North Housing Parcel IR Sites**

28
29 The following is a discussion of the five IR Sites that are located on and are adjacent to
30 the North Housing Parcel, which are identified as having the potential for impact to the
31 North Housing Parcel. Among them, IR Site 25 is located on the North Housing Parcel
32 (NAVFAC SW 2007a). FISCA IR Sites 02 and 03, and NAS Alameda IR Sites 30 and 31
33 are adjacent to the North Housing Parcel (NAVFAC SW 2007b). All five sites are
34 currently active IR Sites. Figure 3.13-1 shows the locations of the IR Site 25.

35



Source: Tetra Tech 2009



Figure 3.13-1
IR Site Locations and Treatment Areas

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1 Alameda Point IR Sites 25, 30, 31

2
3 A number of investigations, as well as two CERCLA soil removal actions, have been
4 conducted to address soil contamination at IR Site 25. Site 25 is located on Alameda
5 Point, within the former Navy installation NAS Alameda in Alameda, California. Site 25
6 is located east of Main Street on the northeast side of Alameda Point. The former
7 FISCA is located to the north and east of Site 25. Site 25 comprises approximately 42
8 acres (15 hectares). The historical land use at Site 25 has been housing. The following
9 three parcels, as described in the 1999 EIS and EBS, are present within Site 25:

- 10
11 • Parcel 181 contains USCG North Village multi-unit housing structures, which are
12 no longer occupied.
- 13 • Parcel 182 contains a park area.
- 14 • Parcel 183 contains Building 545, which is currently used by the USCG as a
15 Housing Maintenance Office.

16
17 Soil beneath Site 25 is contaminated with polycyclic aromatic hydrocarbons (PAHs).
18 The soil contamination is not related to Navy past operations at the site, but appears to
19 be associated with contaminated fill placed at the site prior to the Navy obtaining the
20 property. Soil contamination at Site 25 is located in the fill material above the Bay Mud,
21 which constitutes the shallow, unconfined first water-bearing zone (FWBZ) beneath the
22 site. The Bay Mud under the FWBZ form an aquitard between the shallow groundwater
23 and the Merritt Sand, which composes much of the deeper, confined aquifer beneath
24 the facility (NAVFAC SW 2007a).

25
26 The soil PAHs concentrations found at Site 25 increased with depth and were generally
27 distributed throughout the site. During various investigations conducted between 1994
28 and 2005, soil, soil gas and groundwater samples were collected at Site 25. In general,
29 concentrations of PAHs within the boundaries of the site decreased from north to
30 southeast and increased from the surface to about 25 feet (7.6 meters) bgs approaching
31 the surface of the historical Marsh Crust (NAVFAC SW 2007a). The Navy conducted
32 two time-critical removal actions (TCRAs) to remove soil from areas with the highest
33 concentrations of PAHs and the greatest likelihood from human exposure. In October
34 2000, the Navy removed PAH-impacted soil from the Clover Park Play Area to a depth
35 of 4 feet (1.2 meters) bgs. In 2001 and 2002, the Navy additionally removed PAH-

1 impacted soil from non-hardscaped areas to a depth of 2 feet (0.6 meter) bgs from
2 Estuary Park, Parcel 181 and Parcels 182 and 183 (NAVFAC SW 2007a). The Human
3 Health Risk Assessment (HHRA) was conducted as part of the 2005 Final Soil
4 Feasibility Study report prepared for Site 25 to identify the contaminants of potential
5 concerns (COPCs) in soil, soil gas and groundwater, for current and potential future
6 residents (children and adults) and construction workers (NAVFAC SW 2007a). The
7 HHRA evaluated the soil risks based on soil characteristics both prior to and after the
8 completion of the TCRA. Residential use of groundwater was not considered a
9 completed exposure pathway. Post-TCRA results of the HHRA indicated that Site 25
10 soils within 4 feet (1.2 meters) bgs were within the NCP Risk Management Range. Site
11 25 soils within 8 feet (2.4 meters) of ground surface are generally within the NCP Risk
12 Management Range, with the exception of DA-7 and Parcels 182 and 183. Additional
13 protectiveness will be achieved by reducing exposure through institutional controls (IC)
14 implementation. The selected remedy by the Navy in 2007 was to implement ICs for
15 Site 25 to limit human contact with PAH-containing soil that may be harmful to human
16 health. It also requires the future landowner to obtain written approval from regulatory
17 agencies and the Navy, and requires the landowner to comply with a soil management
18 plan for the excavation of soil from depths greater than 4 feet bgs and for the removal of
19 buildings and hardscape (NAVFAC SW 2007a).

20
21 The Ecological Risk Assessments (ERAs) have also been conducted qualitatively as
22 part of the 2005 Final Soil Feasibility Study report for Alameda Point for terrestrial
23 ecological receptors and the bay. Based on the results of the preliminary evaluation and
24 the marginal nature of the ecological habitat at Alameda Point OU-5, no further
25 ecological investigations of the terrestrial habitat have been conducted. No risks to
26 small mammals were identified (NAVFAC SW 2007a).

27
28 The groundwater contamination beneath the southern one-third of Site 25 is currently
29 being addressed under OU-5/IR-02 groundwater remediation for a benzene and
30 naphthalene plume that lies beneath portions of FISCA Sites IR-01, IR-02, and IR-03,
31 as well as Sites 25, 30, and 31 from OU-5 at Alameda Point. The saturated thickness of
32 the FWBZ averages approximately 10 feet (3 meters) beneath the site, and the depth to
33 groundwater ranges from approximately 2 to 10 feet (0.6 to 3 meters) bgs. The
34 elevation of the water table in the FWBZ ranges from 3 to 8 feet (0.9 to 2.4 meters)
35 AMSL. Groundwater flow direction in the FWBZ is highly variable beneath the site.
36 Groundwater generally has been reported to flow in the north to northwest direction,
37 toward the Oakland Inner Harbor (NAVFAC SW 2007a).

1 Besides Site 25, OU-5 groundwater includes portions of the following two sites that are
2 located on Alameda Point and adjacent to the North Housing Parcel:

- 3
4 • Site 30 is located south of Site 25 on Alameda Point. It is divided into two parcels
5 (179 and 180). Parcel 179 contains the Island High School (formerly called the
6 George Miller Elementary school) and Parcel 180 contains the Woodstock Child
7 Development Center. Both of these facilities are currently occupied. Site 30 is
8 approximately 6 acres (2.4 hectares) in size. Site 30 is located on the south and
9 adjacent to the North Housing Parcel.
- 10 • Site 31 is located south and west of Site 30 on Alameda Point. It is divided into
11 two parcels (178 and 184) and includes USCG Marina Village residential housing
12 (occupied). Site 31 is approximately 25 acres (10 hectares) in size. Site 31 is
13 located on the south-west side and adjacent to the proposed North Housing
14 Parcel.

15
16 The OU-5 property was acquired in various transactions between 1951 and 1968 for the
17 purposes of housing and storage. The OU-5 property is currently owned by the Navy.
18 Sites 30 and 31 have always been part of Alameda Point. Previously, Sites 30 and 31
19 areas were called Alameda Facility and were used by various Alameda Point
20 Squadrons (NAVFAC SW 2007b).

21
22 The OU-5 remedial investigation conducted during 2001 and 2005 reported that PAHs,
23 semi-volatile organic compounds, Benzene, toluene, ethylbenzene, and total xylenes,
24 Methyl tertiary-butyl ether, volatile organic compounds (VOCs), and total petroleum
25 hydrocarbons were previously detected in groundwater at OU-5 at Alameda Point IR
26 Sites 25, 30, and 31 (NAVFAC SW 2007b). Benzene and naphthalene have been
27 consistently detected above drinking water action levels (Maximum Containment Level
28 or Preliminary Remediation Goals [PRGs]). Generally, benzene concentrations have
29 been found to increase with depth to the top of the Marsh Crust, with the highest
30 concentrations detected in samples collected from approximately 16 to 20 feet (4.8 to 6
31 meters) bgs. Soils below approximately 20 feet (6 meters) bgs are predominantly Bay
32 Mud, which is present across the site at a thickness ranging from 25 to 100 feet (7.6 to
33 30 meters) and serves as an effective aquitard to limit downward migration of
34 contaminants. The naphthalene plume is generally co-located with the benzene plume
35 underneath OU-5 (NAVFAC SW 2007b).

1 Figure 3.13-1 shows the location of the groundwater plume at the North Housing site.
2 Approximately 7.48 acres of the plume are located on the North Housing site. The
3 Kollmann Circle area (3.90 acres) is the staging area for an aboveground remediation
4 system, for which fencing/security is required. This groundwater treatment system not
5 only remediates groundwater in the North Housing area, but also the City of Alameda
6 Shinsei Gardens property, USCG property, and property planned for transfer to the
7 school district. The Feasibility Study (ERRG 2004) estimates remediation to take 8
8 years, with only 2 years running the system. The 3.9-acre Kollmann Circle area of Site
9 25 will likely not be available for development for the next 5 to 10 years. Outside the
10 fenced remediation area, the monitoring and remediation efforts in the remainder of site
11 25 are expected to be minimally disruptive to residential use.

12

13 **FISCA IR Sites 02 and 03**

14

15 FISCA, comprising approximately 143 acres (57.8 hectares), is located along the
16 southern shore of the Oakland Inner Harbor. From approximately 1900 to 1936, fill
17 material obtained from unknown sources was used to create FISCA. Based on the
18 history of Alameda Point, it is likely that the source of the fill material for FISCA was
19 dredge spoils from the surrounding San Francisco Bay and the Oakland Inner Harbor.
20 In the mid-1920s, a commercial airport known as the San Francisco Bay Airdrome was
21 constructed in what is now the southern portion of FISCA. Maintenance of aircraft would
22 likely have involved the use and storage of hazardous materials and the generation of
23 associated wastes in the form of solvents, paints, and petroleum-based products such
24 as aircraft fuel and lubricating oil. In 1996, FISCA was designated for closure under the
25 BRAC Act of 1990. It was formally closed in September 1998. FISCA was transferred
26 under an early transfer conveyance to the City of Alameda in June 2000 and following
27 that conveyance, the Navy has continued to investigate and remediate FISCA sites
28 under a revised Federal Facility Site Remediation Agreement (FFSRA) entered into with
29 DTSC (NAVFAC SW 2007b).

30

31 IR-02 groundwater includes portions of the following two FISCA sites:

32

- 33 • IR-02 is located on the south central side of FISCA. The Defense Logistics
34 Agency Defense Reutilization and Marketing Office operated a screening lot and
35 scrap yard at IR-02 until 1997. The western portion of IR-02 was used as a
36 screening lot and for temporary equipment storage. The eastern portion of IR-02.

- 1 • was used as a scrap yard and for temporary storage of discarded automobiles,
2 stockpiled scrap metal, and surplus equipment. A multi-family residential project
3 is currently planned for the western portion of IR-02. IR-02 is located on the
4 south-east side and adjacent to the North Housing Parcel.
- 5 • IR-03 is located on the west central side of FISCA. It formerly consisted of an
6 automotive drive-up maintenance rack over an asphalt-paved area. IR-03 is
7 located on the east side and adjacent to the North Housing Parcel.

8
9 During the IR conducted in 2001, groundwater within the FWBZ beneath the site was
10 discovered to be contaminated with dissolved-phase benzene and naphthalene. The
11 sources of this contamination are believed to be primarily previous point-source
12 releases and contaminated fill used to create Alameda Point and FISCA. Contamination
13 entrapped in the Marsh Crust was found to likely contribute to the concentrations of
14 contaminants observed in groundwater. The saturated thickness of the FWBZ averages
15 approximately 10 feet (3 meters) beneath the site, and the depth to groundwater ranges
16 from approximately 2 to 10 feet (0.6 to 3 meters) bgs. The elevation of the water table in
17 the FWBZ ranges from 3 to 8 feet (0.9 to 2.4 meters) AMSL. Groundwater flow direction
18 in the FWBZ is highly variable beneath the site due to tidal influence (NAVFAC SW
19 2007b).

20
21 An HHRA was conducted as part of the 2004 Remedial Investigation/Feasibility Study
22 report for OU-5/IR-02 and identified COPCs in groundwater and soil gas. The HHRA
23 was focused on theoretical scenarios such as residents, students and school workers
24 exposed to vapor intrusion in indoor air; on-site workers exposed to contamination in
25 groundwater during the operation of a commercial car wash; and maintenance/
26 landscape workers exposed to contaminants in groundwater through irrigation activities.
27 The findings of the HHRA indicate that, under current land use scenarios, risk from non-
28 drinking water uses to residents, students, and workers at the site are within the
29 USEPA's risk management range. If groundwater wells were installed, use of
30 groundwater could potentially pose an unacceptable cancer risk to car wash and
31 landscape workers (NAVFAC SW 2007b).

32
33 Two ERAs were conducted. One was a screening level ERA, which is included in the
34 1999 Data Summary Report for Alameda Point; and one was a qualitative ERA of
35 FISCA terrestrial habitat, which was presented in the final FISCA IR in 1996. Results of
36 the previous ERAs conducted for both Alameda Point and FISCA concluded that there

1 is no significant risk to terrestrial ecological receptors, and there is no ecological risk to
2 the Bay due to lateral groundwater movement or storm sewer system discharge
3 (NAVFAC SW 2007b).

4
5 The remedy selected by the Navy in 2007, including following remedial technologies,
6 biosparging, soil vapor extraction, nutrient/microorganism enhancement, monitored
7 natural attenuation, and ICs will reach the site cleanup goals within eight years. This
8 remedy reduces the mobility, toxicity, and volume of VOCs in the groundwater by
9 implementing an expedient and proven treatment strategy (NAVFAC SW 2007b).

10
11 **3.13.5 Asbestos**

12
13 Asbestos is regulated by the USEPA with the authority promulgated by the
14 Occupational Safety and Health Act of 1970, 29 U.S.C. § 651 et seq. Emissions of
15 asbestos fibers to ambient air are regulated under Section 112 of the CAA. Asbestos
16 are mineral fibers that can cause cancer or asbestosis when inhaled, and has the
17 potential to pollute air and water. The USEPA has banned the use of asbestos in
18 manufacturing or construction since July 12, 1989.

19
20 The Navy will follow final DoD guidance (1995) for asbestos issues at Alameda Point. A
21 basewide asbestos-containing material (ACM) survey was completed at Alameda Point
22 in 1995. The information collected in the ACM survey was incorporated into the EBS
23 Qualitative Database. No asbestos issues were identified for Parcel 181. In Parcel 182
24 no ACM was confirmed by sample analysis in Building 534. However, non-friable grout,
25 mastic, adobe roofing tile, and a fire door in this building were assumed to contain
26 asbestos. It is noted that Building 534 is not part of this 42-acre (15-hectare) North
27 Housing Parcel project. The building has already been conveyed to USCG and they use
28 it as their housing facility office.

29
30 The Navy intended to handle asbestos issues as disclosure items upon property
31 transfer; therefore, the Navy did not recommend immediate renovation or removal of
32 ACM in this building. Operation and maintenance was recommended for the ACM
33 identified in this building (IT 2001).

1 **3.13.6 Polychlorinated Biphenyls**

2
3 Polychlorinated Biphenyls (PCBs) are a specialized class of manufactured chemicals
4 able to withstand high temperatures and insulate electrical currents. They were
5 traditionally used in electrical transformers, capacitors, lighting ballasts, and other
6 similar equipment. PCBs have been found to bioaccumulate in animal and human tissue
7 and produce highly toxic dioxin compounds in fires. Consequently, PCB use is
8 regulated. The following sections present the primary regulations for PCBs and the
9 status of PCB equipment at Alameda Point.

10
11 No PCB issues were identified in Parcels 181 and 182 (IT 2001).

12 13 **3.13.7 Storage Tanks**

14
15 Both USTs and aboveground storage tanks (ASTs) store hazardous substances and
16 petroleum products at locations throughout NAS Alameda (EFA West 1999).

17 18 **Underground Storage Tanks**

19
20 USTs in California are regulated under the California Code of Regulations, CAL. CODE
21 REGS. Tit. 23 (2009), which was established to protect waters of the state from
22 discharges of hazardous substances from USTs. These regulations establish
23 construction standards for new USTs; monitoring standards for new and existing USTs;
24 procedures for unauthorized release reporting; repair, upgrade, and closure
25 requirements for existing USTs; and remedial action requirements. There were no USTs
26 identified in Parcels 181 and 182 (IT 2001).

27 28 **Aboveground Storage Tanks and Fuel Lines**

29
30 ASTs are regulated under several state and federal mandates. The USEPA regulates
31 ASTs under the amended CWA of 1972, NCP, RCRA, and Superfund Amendments and
32 Reauthorization Act. In the state of California, the California Health and Safety Code,
33 Chapter 6.67, Division 20, § 25270, provides the regulatory framework for ASTs. In April
34 1991, Senate Bill 1050 was added to Section 25270 of the code. The Public Resource
35 Code, § 3106, also provides regulatory guidance for ASTs. There were no ASTs
36 identified in Parcels 181 and 182 (IT 2001).

1 Aviation support and jet engine test activity at Alameda Point were supported by a
2 network of fuel delivery lines. In 1998, approximately 30,000 feet (9,144 meters) of
3 abandoned fuel lines and 4,500 feet (13,716 meters) of active fuel lines were removed.
4 During removal of fuel lines, confirmation sampling was conducted and probes were
5 utilized to assess the extent of releases. Investigation and removal actions are pending
6 for contaminated areas under the basewide Petroleum Corrective Action Program.
7 There were no fuel lines identified in Parcels 181 and 182 (IT 2001).

8

9 **3.13.8 Pesticides**

10

11 The registration and use of pesticides are regulated under the Federal Insecticide,
12 Fungicide and Rodenticide Act of 1972, as amended, 7 U.S.C. § 136-136y (2009).
13 Pesticide management activities are subject to federal regulations contained in 40
14 C.F.R. Parts 162, 166, 170 and 171 (2009) and California regulations are contained in
15 cal. code regs. tit. 3, § 6000-6920 (2009) (EFA West 1999).

16

17 No evidence exists to suggest that pesticides and herbicides, other than those ordinarily
18 and routinely applied in a manner consistent with the standards for licensed application,
19 were ever used at former NAS Alameda, including the area known as North Housing.
20 Pesticides, herbicides, insecticides, termiticides, and rodenticides were applied
21 intermittently on an as-needed basis at former NAS Alameda, including the North
22 Housing area, either by personnel from the PWC Pest Control Department or by
23 contractor personnel. All personnel who routinely applied pesticides were trained and
24 licensed in the proper and legal application of pest control substances. Pesticides were
25 applied in accordance with the manufacturer's directions, state and federal EPA
26 registered pesticide label directions, and the former NAS Alameda's annually approved
27 pest management plan. Because the pesticides and herbicides were routinely applied
28 in a manner consistent with the standards for licensed application, they likely do not
29 pose a threat to human health or the environment. Pesticides used at former NAS
30 Alameda (and may have been used at the North Housing area) include, but are not
31 limited to chlordane, lindane, and dichlorodiphenyltrichloroethane (DDT), which are now
32 banned (EFA West 1999) (IT 2001).

33

1 **3.13.9 Lead (Pb)**

2
3 The following sections address the regulations and the status of lead-based paint (LBP)
4 and lead in drinking water at the North Housing Parcel (Parcel 181 and 182).

5
6 On October 28, 1992, Congress passed the Residential LBP Hazard Reduction Act of
7 1992, Subtitle B, Section 408 , commonly called Title X, codified primarily at 42 U.S.C.
8 § 4851 et seq. and at 15 U.S.C. § 2681 et seq. This Act regulates the use and disposal
9 of LBP at federal facilities. Federal agencies are required to comply with all applicable
10 federal, state, interstate, and local laws relating to LBP activities and hazards.

11
12 As defined in the reuse plan for Alameda Point (IT 2001), a basewide LBP survey was
13 performed at all residential structures at Alameda Point in 1995. Inspections followed
14 sampling and testing procedures identified in Housing and Urban Development interim
15 guidelines (1995) for LBP and Pb in dust. The presence of LBP was confirmed in
16 townhouses, apartments, and soil in Parcel 181. Forty-three surface soil samples were
17 collected from Parcel 181. The Pb concentration (1,158 milligrams per kilogram [mg/kg])
18 exceeded the 1998 PRG (400 mg/kg) in only one sample, all other samples had Pb
19 concentrations less than 100 mg/kg (IT 2001).

20
21 In Parcel 182 LBP is likely to be present in Building 534. Samples have not been
22 collected on this parcel. The Navy intended to handle the LBP issues as a disclosure
23 item upon property transfer (IT 2001). It shall be noted that Building 534 is not part of
24 this 42-acre (15-hectare) North Housing Parcel project.

25 26 **3.13.10 Radiological Activities**

27 28 **General Radioactive Material Program**

29
30 Potential residual radiological contamination was assessed and summarized in the Final
31 Historical Radiological Assessment, Volume II, for Alameda Naval Air Station (Weston
32 2007). The primary purpose of the document was to designate sites as impacted or
33 nonimpacted. An impacted site has or historically had a potential for general radioactive
34 material contamination based on the site operating history or known contamination
35 detected during previous radiation surveys. A nonimpacted site is one, based on
36 historical documentation or results of previous surveys, where there is no reasonable

1 possibility for residual radioactive contamination. The North Housing area was identified
2 as a nonimpacted.

3 4 **Naval Nuclear Propulsion Program**

5
6 Nuclear-powered ships have used Alameda Point docks and facilities. All facilities and
7 equipment necessary to service nuclear-powered warships are subject to the guidance
8 of the Naval Nuclear Propulsion Program. Facilities were surveyed to assess whether
9 nuclear-powered warships, during construction, maintenance, overhaul, or refueling,
10 had an adverse radiological impact on the environment (IT 2001).

11 12 **General Radioactive Material Program**

13
14 The General Radioactive Material Program includes radiological sources used for
15 testing and instrument calibration, electrical instruments containing radionuclides, and
16 radium illumination dials and gauges. The Radiological Affairs Support Office (RASO)
17 oversees low-level radiological work associated with this program. The RASO
18 conducted a historical use survey in January 1995 to determine the potential
19 radiological sources at Alameda Point. As a result of the record search, the RASO
20 identified Alameda Point IR Sites 01, 02, 05, and 10 as areas that needed additional
21 investigation (IT 2001).

22
23 Alameda Point IR Sites 5 and 10 are located approximately 4,000 feet (1,219 meters)
24 south-west of the North Housing Parcel, and Alameda Point IR Sites 01 and 02 are
25 located approximately 8,500 feet (2,591 meters) west of the North Housing Parcel.
26 Initial radiological surveys were conducted on IR Sites 01 and 02 in September 1995.
27 As a result of the 1995 surveys, more detailed survey work for Sites 1 and 2 was
28 scheduled to be conducted in the spring of 1996. The additional surveys for Sites 1 and
29 2 were performed between June and September 1996 and included complete coverage
30 of the northwest point and the jogging trails. None of the anomalous locations found
31 during the radiological surveys of Sites 1 and 2 were determined to present an
32 immediate health hazard to individuals. Surveys were also completed at Buildings 5 and
33 400, within IR Sites 05 and 10. Radium-paint was used in these buildings. Industrial
34 drains and storm sewer drains running from each building were included in the survey.
35 Removal of surface anomalies and contaminated storm drains was conducted in late
36 1998. The remaining contaminated storm drains would be removed and contaminated
37 piping identified inside Building 5 and 400 would be grouted (IT 2001).

3.13.11 Medical and Biohazardous Waste

NAS Alameda's Medical/Biological Waste Program is regulated under Cal. Code Regs. tit. 22, Article 13 (EFA West 1999).

The Medical/Dental Clinic (Building 16, Zone 12, and Parcel 83) provided outpatient consultation and general clinical services. The location of Building 16 is approximately 2,500 feet (762 meters) away and southwest of the North Housing Parcel. Small amounts of medical or biohazardous wastes were generated at this location during clinic operations. Wastes were removed and disposed of offsite (EFA West 1999).

Alameda Point IR Site 02 is located approximately 8,500 feet (2,591 meters) west of the North Housing Parcel. According to the NAS Alameda BCP, some medical wastes from the Naval Medical Center Oakland were deposited in the West Beach Landfill. The Navy remediated this site (EFA West 1999).

No medical or biohazardous wastes were identified in Parcels 181 and 182.

3.13.12 Ordnance

Ordnance has been stored and used at NAS Alameda throughout its history as a military facility. Ordnance storage includes ship and aircraft weapons systems, combat force weapons, and small arms and ammunition used by base security personnel. The Navy has removed all ordnance from NAS Alameda prior to 1999 (EFA West 1999). No ordnance was stored at the North Housing Parcel.

3.13.13 Radon

There are no laws that require testing and the remediation of radon, but the USEPA has made recommendations for both residential housing and schools. The USEPA-recommended action level for radon is 4 picocuries per liter of air (pCi/L) (EFA West 1999). DoD policy regarding radon on BRAC properties is to ensure that any available and relevant radon assessment data pertaining to the BRAC property be included in property conveyance or transfer documents (EFA West 1999).

- 1 An evaluation of the regional geological setting concluded that NAS Alameda is unlikely
- 2 to be subject to radon hazards as a result of low radioactive isotope concentrations
- 3 found in the rocks and sediments underlying the region. No further radon assessments
- 4 are planned at NAS Alameda (EFA West 1999).
- 5

CHAPTER 4.0 ENVIRONMENTAL CONSEQUENCES

4.1 LAND USE

This section describes impacts to land use that could occur under Alternative A: Reuse Plan Amendment (Preferred Alternative) and Alternative B: No Action. Impacts to on-site and surrounding land uses are evaluated for each alternative and are compared to baseline conditions as described in Section 3.1. Demolition and construction impacts also are considered when evaluating the potential land use impacts of each alternative. In addition, compatibility with existing plans and policies is analyzed.

4.1.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

As detailed in the project description, Alternative A would result in the reuse of the project area per amended Community Reuse Plan, adopted by the ARRA Board on March 4, 2009. The proposed reuse of the site would include up to 90 affordable rentals for homeless accommodation, 20 to 30 renovated or new duet style homes, an 8-acre (3-hectare) park, 315 two-unit medium-density housing units, and any infrastructure improvements required for the new developments. The reuse and redevelopment of the North Housing Parcel in adherence to the applicable planning policies and guidelines would not create a land use impact, but would further help to achieve the goals of the amended Community Reuse Plan and City of Alameda policies.

The proposed reuse of the site would allow for development and reuse per the amended Community Reuse Plan and City policies. Therefore, design of the proposed reuse development would increase public access to the waterfront, place higher density residential uses near transit corridors, as well as work towards achieving the other planning guidelines as adopted by the City and outlined in Section 1.1 of this document. It is anticipated that the reuse development would, in part, meet future low- and moderate-income housing needs as part of any future residential development consistent with the current R-4 zoning designation.

The proposed residential and park uses on this North Housing Parcel Site would be compatible with surrounding uses, both existing and proposed. Residential

1 redevelopment has already occurred in the Bayport area located to the south of the
2 project site while reuse plans for Alameda Point to the west and Alameda Landing to the
3 east include residential and mixed uses. The redevelopment of these former NAS
4 Alameda properties, including the North Housing Parcel are all closely guided by the
5 amended Community Reuse Plan and associated City policies with the intent to create
6 a comprehensive and cohesive community.

7

8 **4.1.2 Alternative B: No Action**

9

10 Under this alternative, no reuse of the site would occur. The property would be held in
11 an inactive or caretaker status and on-site activities would be limited to security,
12 maintenance, cleanup, and other actions associated with caretaker status. Site
13 environmental cleanup would continue until completed. Existing interim leases would be
14 allowed to expire and no new leases or subleases would be executed.

15

16 The lack of reuse of the site would not be consistent with applicable land use plans and
17 policies for the North Housing Parcel. The site would not be redeveloped and would not
18 meet and/or achieve the planning design principles of the Main Street Neighborhoods
19 as outlined in the amended Community Reuse Plan or the City's recently amended
20 General Plan policies. Specifically, no action on the site would eliminate the potential to
21 connect the North Housing Parcel to the waterfront with green streets and open space
22 corridors (planning design principle 5 as listed in Section 1.0 of this document).

23

4.2 VISUAL RESOURCES

This section describes impacts to visual resources that could occur under Alternative A: Reuse Plan Amendment (Preferred Alternative) and Alternative B: No Action. The analysis focuses on the physical changes associated with the reuse alternatives, as compared to existing baseline conditions described in Section 3.2.

4.2.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Alternative A would redevelop the site with approximately 437 housing units, although the exact development has not been determined at this time. An 8-acre (3-hectare) park would be included in the redevelopment and would likely include large grassy areas for athletic fields along with other typical park components such as playground equipment, picnic tables, etc. All development would be consistent with planning guidelines and zoning applicable to the site.

Because the proposed redevelopment plans include residential and park uses similar to what is currently on-site, the resulting visual impact would not create substantial changes for on- or off-site viewers. The redevelopment would not include structures taller than the existing two-story residential units, thus no additional new off-site views of the site would result and the site's visibility would continue to be those areas immediately adjacent. Sensitive residential viewers from the south and waterfront viewer from the north would continue to have views of the site. These areas would experience views similar to what currently exists as continued residential and park uses are planned for the site. The visual environment would be altered with new or refurbished residential and park elements introduced on the property; however, these changes would likely be visually positive as the redevelopment would provide a coordinated and cohesive community. The visual change would not create additional waterfront view blockages as structures already exist on the property. With proper planning and adherence to applicable policies, the redevelopment could enhance the views to and from the waterfront area through the creation of view corridors.

During the construction phase of Alternative A, the presence of clearing and grading equipment and vehicles may be evident to the area residents and off-site viewers. There could be storage of construction equipment and vehicles, and stockpiles of road materials. The combination of necessary construction activities, equipment storage, and stockpiled construction materials could create a short-term, negative visual

1 environment. However, construction-related impacts would be temporary and would
2 move throughout the project site based on where construction activities were ongoing.

3
4 In the long term, areas immediately surrounding the North Housing Parcel, including
5 Alameda Landing to the east, Bayport to the south, and Alameda Point to the west are
6 planned for redeveloped per the amended Community Reuse Plan. The redevelopment
7 of these areas, along with the North Housing Parcel would create a visually enhanced
8 community with a cohesive aesthetic of a mainly residential development with some
9 mixed uses. The visual environment of the area would be improved for residential
10 viewers located within the property as well as those viewers immediately surrounding
11 the site as the vicinity's unattractive mix of residential uses with old industrial facilities
12 would be replaced with a well-planned community, referred to as the Main Street
13 Neighborhoods in the amended Community Reuse Plan.

14
15 **4.2.2 Alternative B: No Action**

16
17 Under the No Action Alternative, the residential units on the North Housing Parcel would
18 remain as they currently are in their unoccupied state. The property would be
19 maintained by a caretaker with activities limited to security, maintenance, and general
20 cleanup. In the immediate term, there would be no visual change to the property. There
21 would be no sensitive viewers on the site as the residential units would be unoccupied.
22 No visual construction impacts would occur, as no construction activities would take
23 place.

24
25 Though the property would be minimally maintained by a caretaker if the No Action
26 Alternative was implemented, it can be reasonably assumed that the existing structures
27 on the North Housing Parcel would become dilapidated after years of standing vacant
28 and become a visual blight to the surrounding areas. This visual deterioration of the site
29 in the long term would become more distinct and be visually out of character as the
30 surrounding areas, including Alameda Landing to the east, Bayport to the south, and
31 Alameda Point to the west are redeveloped as planned in the amended Community
32 Reuse Plan.

4.3 SOCIOECONOMICS

This socioeconomic analysis describes impacts on population, housing, schools, recreation, and employment that could occur under the Preferred Alternative (Alternative A), and the No Action Alternative (Alternative B). Impacts are analyzed against the baseline conditions identified in Chapter 3. In addition, issues related to environmental justice and issues related to the protection of children are presented within each Alternative.

4.3.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Population and Housing

At buildout, Alternative A would add 437 homes to the available housing stock of 31,801 homes in the City of Alameda, which would be an increase of 1.4 percent within the City and an increase of 0.07 percent within Alameda County as a whole. Using the average number of persons per household for the Oakland PMSA, which would likely be the area from which new residents under Alternative A would be drawn, an estimated 1,197 new residents would be located in the housing proposed under Alternative A. Of course, not all new Alternative A residents would be immigrants to the City of Alameda; however, if 100 percent migration was the case, the addition of 437 new households would account for a 1.6 percent increase within the City of Alameda, which is markedly higher than the projected annual average growth for the City of Alameda from 2007 to 2020 (0.8 percent). Regional changes in population and housing are considered neither beneficial nor adverse.

Schools

Table 4.3-1 presents the projected growth in the number of students assuming 437 new low-income households are added to the community under Alternative A. Using approximate student generation rates (described above), it is estimated that 319 new students would be added to the AUSD. The addition of these new students raises the capacity percentage of the AUSD as a whole to 83.0 percent. However, the students who would live in the proposed Alternative A housing would likely only attend three AUSD schools: Ruby Bridges Elementary, Chipman Middle, and Encinal High. The statistics provided in Table 3.3-4 suggest that Chipman Middle School and Encinal High School have open capacity to meet the additional students anticipated under Alternative

1 A (Table 3.3-5). Ruby Bridges Elementary School, however, may experience slight
 2 capacity issues under Alternative A, with anticipated capacity nearing 125 percent with
 3 the addition of 165 more students. It should be noted Ruby Bridges Elementary recently
 4 added two additional classroom trailers to the site, potentially increasing capacity by 58
 5 students. These additional classrooms were added after the AUSD statistics presented
 6 in Table 3.3-4 were compiled. It is likely that the additional classroom space would help
 7 Ruby Bridges Elementary School accommodate some of the additional students under
 8 Alternative A, but not all. The implementation of Alternative A would likely result in the
 9 need to construct a new elementary school, or arrangements within the AUSD to allow
 10 students to attend school outside of their official school zone.

11
 12
 13
 14

**Table 4.3-1
 Alameda Unified School District Enrollment and Capacity, Alternative A**

AUSD Enrollment and Capacity	Alternative A
Total for Alameda Unified School District	
Total Increase in Enrollment Due to Alt. A	319
AUSD Enrollment Plus Increases Due to Alt. A	10,282
AUSD School Capacity	12,384
Enrollment and Alt. A as a Percentage of Capacity	83.0%
AUSD Local Schools in Area Near Alt. A	
Local Enrollment Plus Increases Due to Alt. A	2,467
Local School Capacity	3,265
Enrollment and Alt. A as a Percentage of Capacity	75.6%
At Elementary Schools	124.5%
At Middle Schools	69.1%
At High Schools	68.8%

Source: AUSD 2009

15
 16
 17
 18
 19
 20
 21
 22

The California State legislature has determined that fees paid by the developer in accordance with the School Facilities Mitigation Fee are considered complete mitigation for school capacity-related impacts and the provision of adequate educational facilities. The payment of this fee by the developer would reduce this impact to a less than significant level.

23 Recreation

24
 25
 26
 27

Alternative A would create a public park by converting 8 acres (3 hectares) of open space at the North Housing Parcel. This new park under Alternative A would host a variety of youth sports activities, and the existing baseball field would likely be

1 renovated. This would increase the existing number of public, non-limited access acres
2 in the City of Alameda from 205 to 213, which is an increase of 3.9 percent. This
3 additional acreage would increase the ratio of park uses to the local population to
4 slightly higher than the 2.1 acres (0.8 hectares) per 1,000 residents cited in the Northern
5 Waterfront General Plan Amendment (City of Alameda 2006). Impacts to recreation are
6 considered slight, but beneficial.

8 **Employment**

9
10 During the remodeling and construction phase of Alternative A, short-term economic
11 and employment benefits are likely, but these benefits are expected to be relatively
12 limited and not tightly concentrated in the immediate project area. Some local economic
13 activity would be generated through the local purchase of construction goods and
14 services. Further, construction activity would provide some additional employment in the
15 local area during this phase of the project. It is assumed, however, that the labor pool
16 within easy commuting distance of Alternative A is adequate to meet the requirements
17 for construction workers. As a result, no increased demand for housing or transient
18 labor associated with the remodeling and construction phases is anticipated, nor are
19 substantial numbers of new hire of local residents in the immediate vicinity likely, even
20 on a short-term basis.

21
22 Under the operational phases of Alternative A (post-construction), no other additional
23 direct or indirect employment is expected to be generated by Alternative A, as the
24 preferred alternative does not include new commercial or industrial uses. Impacts to
25 employment are considered slight and temporary, but beneficial.

27 **Environmental Justice**

28
29 Despite the presence of areas with high proportions of minority and low-income
30 residents in proximity to the proposed action location, no significant impacts are
31 anticipated to result from Alternative A. Thus, there is no indication that Alternative A
32 would disproportionately affect minority or low-income populations. To the contrary, the
33 development of the parcel will include the addition of low-income housing units into the
34 community and will include homeless accommodation consisting of approximately 90
35 units of permanent, service-enriched affordable rental housing. This redevelopment will
36 serve to benefit under-represented groups in the community.

1 **Protection of Children from Environmental Health Risks and Safety Risks**

2

3 Despite the North Housing Parcel being in proximity to two schools, no significant health
4 and safety risks are anticipated to result from Alternative A. Thus, there is no indication
5 that Alternative A would create new health or environmental impacts to children.

6

7 **4.3.2 Alternative B: No Action**

8

9 Under Alternative B, the Navy would retain ownership of the property and it would be
10 held in an inactive or caretaker status. No impacts to population, housing, schools,
11 recreation, or employment would occur. Minority and low-income populations would not
12 be disproportionately affected. No new health or environmental impacts to children
13 would occur.

14

1 4.4 PUBLIC SERVICES

2
3 This section identifies potential impacts to public services that may result from
4 Alternatives A and B. Police, fire, and emergency public services are evaluated. Impacts
5 are analyzed against baseline conditions as described in Section 3.4.
6

7 4.4.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

8 9 **Police Services**

10
11 Alternative A would slightly increase the need for police emergency services in the
12 project area as it is estimated that 1,197 new residents would be added to the local
13 population. The City of Alameda Police Department would continue to provide law
14 enforcement services to this area. At this time, it is assumed that the City would be able
15 to provide adequate police service to the parcel and there would be no significant
16 impacts. However, at the time of development, the City would need to confirm the
17 availability of adequate police service.
18

19 **Fire Protection**

20
21 The need for fire protection services in the project area would be slightly increased
22 under this alternative as it is estimated that 1,197 additional residents would be added
23 to the local population. The City of Alameda Fire Department would continue to provide
24 fire protection services to this area. As the Fire Department currently staffs the former
25 NAS Alameda fire station in the immediate vicinity of the project area, there would be
26 rapid-fire protection response time to the area. At this time, it is assumed that the City
27 would be able to provide adequate fire protection service to the parcel and there would
28 be no significant impacts. However, at the time of development the City would need to
29 confirm the availability of adequate fire protection service.
30

31 **Emergency Medical Services**

32
33 The need for emergency medical services in the project area would be slightly
34 increased under this alternative as it is estimated that 1,197 additional residents would
35 be added to the local population. Emergency medical services would continue to be
36 provided to the project area by the Fire Department. As the Fire Department currently
37 staffs the former NAS Alameda fire station in the immediate vicinity of the project area,

1 there would be rapid emergency medical services response time to the area. At this
2 time, it is assumed that the City would be able to provide adequate emergency medical
3 services to the parcel and there would be no significant impacts. However, at the time
4 of development, the City would need to confirm the availability of adequate emergency
5 medical services.

6

7 **4.4.2 Alternative B: No Action**

8

9 There would be no new impacts to public services under the No Action Alternative. The
10 City of Alameda police and fire departments would continue to provide police, fire, and
11 emergency medical services to the project area.

12

13 In the event the project area was held in caretaker status for an extended period of time
14 the structures and surrounding areas could deteriorate and become more susceptible to
15 break-ins and vandalism. This, in turn, could cause an anticipated increase in police, fire
16 and emergency services for responses to incidents (such as break-ins, theft, fire, etc.).

17

1 4.5 UTILITIES

2
3 This section identifies potential impacts to utilities that may result from Alternatives A
4 and B. The utility systems evaluated include those for water supply and distribution,
5 sanitary wastewater, storm water, solid waste, telephone, electricity, natural gas, and
6 cable television. Impacts are analyzed against baseline conditions as described in
7 Section 3.5.

8 9 **4.5.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)**

10 11 **Water Supply and Distribution**

12
13 Alternative A would result in an increase in the project area's demand for water supply
14 and distribution as the resident population is estimated to increase by 1,197 people in
15 437 housing units. The area's larger water supply and distribution infrastructure,
16 including the main water lines and the storage and distribution systems are already in
17 place. However, these systems are outdated and may not have the capacity or be
18 configured correctly to accommodate future development. As new housing units are
19 developed the individual entities would be required to ensure adequate water lines be
20 installed to the housing units and that the overall water supply and distribution system is
21 adequate for the new developments. The EBMUD would continue to be responsible for
22 the area's water supply and distribution needs (Cook 2009). Provided that adequate
23 service is provided for the new development, no significant impacts to water supply and
24 distribution would occur.

25 26 **Sanitary Wastewater**

27
28 As the number of residents in the project area is estimated to increase by 1,197 people
29 in 437 housing units under Alternative A, this would result in an increase in the project
30 area's demand for sanitary wastewater services. Currently wastewater facilities are in
31 place, but are outdated and may need to be reconfigured to accommodate future
32 development. As new housing units are developed, the individual entities would be
33 required to ensure adequate wastewater services are in place. The EBMUD would
34 continue to be responsible for sanitary wastewater services to the area (Cook 2009).
35 Provided that adequate service is provided for future development no significant
36 impacts to wastewater would occur.

1 **Storm Drainage**

2

3 There would be a slight impact from Alternative A on the project site's storm drainage
4 system. The existing system removes excess storm water from the project area's
5 existing housing development. Under this alternative, the housing development design
6 would be altered and new housing units constructed in an altered design on the 42-acre
7 (15-hectare) property. Prior to development, the storm drainage infrastructure would
8 need to be evaluated to determine if the current configuration is adequate. If it is
9 determined that changes to the storm drainage system are warranted, the individual
10 entities would make the appropriate changes to the system. EBMUD would continue to
11 be responsible for storm water services to the project area. Provided that an adequate
12 service storm drainage system is in place for future development, no significant impacts
13 would occur.

14

15 **Solid Waste**

16

17 Solid waste from the project area is collected and disposed of by ACI, which serves the
18 City of Alameda. These services would continue to be provided by U.S. Egel under this
19 alternative; however, the amount of solid waste generated would increase. This would
20 not be considered a significant impact.

21

22 **Telephone**

23

24 Under this alternative there would be minimal impact to telephone services as the
25 project area's telephone services would continue to be provided by a "market driven"
26 supplier (Cook 2009). Therefore no significant impacts would occur.

27

28 **Electricity**

29

30 Alternative A would result in an increase in the project area's demand for electricity as
31 the resident population is estimated to increase by 1,197 people in 437 housing units.
32 The general area's larger electrical supply and distribution infrastructure, including the
33 electrical distribution lines is already in place. However these systems are outdated and
34 may not have the capacity or be configured correctly to accommodate future
35 development. As the new housing units are developed, the individual entities would be
36 required to ensure adequate individual electrical distribution lines to the individual
37 housing units, as well as adequate capacity of the overall system. AP&T would continue

1 to be responsible for the area's electrical supply and distribution needs. Provided that
2 adequate electrical service is in place for future development, no significant impacts
3 would occur.

4 5 **Natural Gas**

6
7 There would be an increase in the project area's demand for natural gas under
8 Alternative A. This would be due to the proposed population increase of 1,197 people in
9 437 housing units on the 42-acre (15-hectare) site. The area's larger natural gas supply
10 and distribution infrastructure, including the main gas lines, is already in place.
11 However, these systems are outdated and may not have the capacity or be configured
12 correctly to accommodate future development. As the new housing units are developed,
13 the individual entities would be required to ensure adequate individual natural gas lines
14 to the individual housing units, as well as ensure adequate capacity of the overall
15 system. Pacific Gas and Electric would continue to be responsible for the project site's
16 natural gas supply and distribution needs (Cook 2009). Provided that adequate natural
17 gas service is in place for future development, no significant impacts would occur.

18 19 **Cable Television**

20
21 Under this alternative there would be no impact to cable television services to the
22 project area as cable television services would continue to be provided by COMCAST
23 (Cook 2009).

24 25 **4.5.2 Alternative B: No Action**

26
27 There would be no impacts to utilities under the No Action Alternative. The current utility
28 providers would continue to be responsible for providing adequate levels of water,
29 wastewater, storm water, solid waste, telephone, electricity, natural gas, and cable
30 television services to the project area.

1 **4.6 CULTURAL RESOURCES**

2
3 **4.6.1 Regulatory Considerations**

4
5 Federal, state and local laws and regulations, including the National Historic
6 Preservation Act (42 U.S.C. § 4332); the Archaeological Resources Protection Act (16
7 U.S.C. § 470aa); the National Register of Historic Places; the California Register of
8 Historical Resources; and the City of Alameda Historical Preservation Ordinance
9 identify the regulatory responsibilities concerning historical and cultural resources.
10 These include the need to produce an inventory of resources that are potentially eligible
11 for the NRHP, to evaluate these resources for eligibility, and to consider impacts federal
12 projects may have on eligible resources. In addressing impacts, an agency may decide
13 to avoid impacting a resource or mitigate adverse impacts through measures such as
14 data recovery. In addition, the Archaeological Resources Protection Act protects sites
15 through penalties for noncompliance with its provisions and provides for authorizing
16 archaeological investigations, on federal lands.

17
18 **4.6.2 Built Alternative (Preferred Alternative)**

19
20 **Impacts**

21
22 As detailed in the project description, the Built Alternative would result in the reuse of
23 the site per the amended Community Reuse Plan. The proposed reuse of the site would
24 include up to 90 affordable rentals for homeless accommodation, 20 to 30 renovated or
25 new duet style homes, an 8-acre (3-hectare) park, and associated infrastructure
26 improvements, with any remaining area utilized for market rate residential development.
27 Based on the 1996 PAR Environmental Services report titled “Fleet Industrial Supply
28 Center – Alameda Annex/Facility and Naval Air Station Alameda Family Housing.” and
29 the Navy’s March 2009 evaluation of the buildings, structures, and open spaces
30 (documented on a Department of Parks and Recreation (DPR 523) site form), the Navy
31 made a finding of effect of “no historic properties affected” in the project area. Further
32 the project area is located on fill and the potential for buried deposits is extremely low.
33 Therefore, no historical or cultural resources would be impacted.

1 **Mitigation Measures**

2

3 As no significant resources would be affected, no mitigation measures are proposed.
4 However, in the unlikely event that cultural resources are discovered during construction
5 activities, work would be halted in that area and redirected until the resources is
6 evaluated by a qualified archaeologist.

7

8 **4.6.3 No Built Alternative**

9

10 **Impacts**

11

12 Under this alternative, no reuse of the site would occur. The property would be held in
13 an inactive or caretaker status and on-site activities would be limited to security,
14 maintenance, cleanup, and other actions associated with caretaker status. As no action
15 would be undertaken under this alternative, no historical or cultural resources would be
16 impacted.

17

18 **Mitigation Measures**

19

20 As no significant resources would be affected, no mitigation measures are proposed.

21

1 **4.7 BIOLOGICAL RESOURCES**

2
3 This section describes impacts to biological resources that could occur under
4 Alternatives A or B at the 42-acre (15-hectare) NAS Alameda North Housing Area site.
5 Issues examined include sensitive species, sensitive habitats, and nonsensitive species
6 and habitats. Impacts are analyzed against operational baseline conditions, as
7 described in Section 3.7. Since there have been no significant changes in the
8 environmental condition or proposed use of other remaining surplus property at NAS
9 Alameda as addressed in the 1999 FEIS, the impacts to biological resources specific to
10 that land may be referred to for contextual purposes but are not addressed further in
11 this section.

12
13 **Region of Influence (ROI)**

14
15 The ROI for biological resources includes NAS North Housing Area, the greater NAS
16 Alameda/FISC Alameda, and surrounding habitats within a 1-mile (1.6-kilometer) radius.
17 This 1-mile (1.6-kilometer) radius was selected because this area includes sensitive
18 species and habitats that could be affected by reuse activities. As discussed in Section
19 3.7, some sensitive species observed offsite within the ROI may also use habitat at the
20 NAS Alameda North Housing Area.

21
22 **Planning Issues**

23
24 Sensitive Species

25
26 The Navy completed a Biological Assessment in compliance with the consultation
27 requirements of Section 7 of the Endangered Species Act, to address the impact of the
28 disposal and reuse of the NAS Alameda/FISC Alameda properties (U.S. Navy 1999).
29 The USFWS issued a Biological Opinion on March 22, 1999 (U.S. Navy 1999) indicating
30 that the Navy property disposal and subsequent community reuse of NAS
31 Alameda/FISC Alameda would not jeopardize the continued existence of federally
32 endangered or threatened species or result in adverse modification of critical habitat.
33 Measures included in the Biological Opinion to protect endangered species, particularly
34 the California least tern and the California brown pelican, are described in detail in the
35 1999 FEIS. Most of these measures apply to lands occupied by the tern colony and
36 those immediately adjacent, which are located approximately 1 mile (1.6 kilometers)
37 west of the NAS Alameda North Housing Area. The 42-acre (15-hectare) subject

1 property is separated from natural habitats and the tern colony by several blocks of
2 intensively developed area.

3
4 Because no critical habitat, as defined by the Endangered Species Act, has been
5 designated for endangered or threatened species occurring on property available for
6 conveyance to non-federal entities at NAS Alameda/FISC Alameda, or NAS Alameda
7 North Housing Area, none would be adversely modified or destroyed.

8 9 **4.7.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)**

10
11 Currently, the North Housing Parcel consists of approximately 282 three- and four-
12 bedroom military family housing units, a park, and roads and infrastructure that
13 supported the housing units. The proposed reuse of the site would include homeless
14 accommodation consisting of approximately 90 units of permanent, service-enriched
15 affordable rental housing. In addition, Habitat for Humanity East Bay would renovate 20
16 to 32 townhomes or build 20 to 30 new duet-style homes or some combination thereof,
17 and up to 317 new market rate housing units would be developed. The reuse plan also
18 includes a community center and property management offices.

19
20 The ARPD also has submitted a PBC proposal to utilize approximately 8 acres (3
21 hectares) of existing open space at the North Housing Parcel as a public park providing
22 a variety of youth sports activities. Therefore, the overall land use would remain similar
23 to the current conditions and there would not be substantial change to biological
24 resources onsite.

25 26 **Nonsignificant Impacts**

27 28 **Increased Predation of the California Least Tern**

29
30 The proposed reuse plan for the NAS Alameda North Housing Area is not expected to
31 impact the breeding success of the California least tern. Given the current developed/
32 landscaped state of the property and intense development in immediately surrounding
33 areas, the reuse plan will not introduce additional development that would decrease
34 open space buffers. Increased human activity and inhabitation on the site may
35 contribute to an increase in the predator population of the area (i.e., domestic pets,
36 attraction of crows, raccoons, etc. to garbage cans). However, as compared to baseline
37 conditions, this increase in people and animals is minimal.

1 The USFWS has identified in its Biological Opinion (USFWS 1999) measures it
2 considers necessary to avoid predatory taking of endangered or threatened species
3 during reuse of NAS Alameda/FISC Alameda under the Reuse Plan Alternative. These
4 measures include implementing predator management plans and prohibiting the feeding
5 of feral cats. Consultation with the USFWS has been reinitiated for the portion of the
6 NAS west of Main Street, excluding the project area. The 1999 Biological Opinion
7 established that predator management measures were not needed east of Main Street,
8 which is expected to be maintained in the current consultation.

9
10 The increased presence of people in the NAS Alameda North Housing Area is not
11 expected to result in a loss of individuals or disruption of breeding based on the
12 distance of the site from the tern colony (approximately 1 mile [1.6 kilometer]). As
13 compared to baseline conditions, this increase in people and animals is minimal.
14 Human and domestic or feral animal access into the USFWS Wildlife Refuge from the
15 NAS Alameda North Housing Area would not be a significant impact.

16 17 Pollutants in Stormwater Runoff

18
19 Use and maintenance of a new residential neighborhood and parks could introduce
20 pollutants, including oil and grease, herbicides, pesticides, and fertilizers into
21 stormwater runoff. Runoff could enter the nearby water body (Oakland Inner Harbor).

22
23 The acquiring entity would be required as part of the project design to develop and
24 implement stormwater management and monitoring plans. In addition, planting and
25 herbicide, pesticide, and fertilizer application plans, including a pesticide drift control
26 plan, for the park and public open space areas would be expected to be developed for
27 the project. These plans should emphasize the minimal use of herbicides, pesticides,
28 and fertilizers. The proposed park would be designed to minimize chemical inputs. The
29 development would be required to meet California RWQCB stormwater management
30 programs and requirements. The impact would be nonsignificant as a result of
31 development and implementation of project design plans to minimize the pollutant load
32 in stormwater runoff.

33 34 American Peregrine Falcon

35
36 American peregrine falcons forage in the central bay and nest on the Bay Bridge and
37 Golden Gate Bridge. The Reuse Plan Alternative would not substantially change the

1 habitat of the falcon's common prey (small birds); therefore, this species is unlikely to be
2 affected by development proposed under the Reuse Plan Alternative. Measures that
3 would enhance American peregrine falcon habitat, such as additional roosting sites at
4 NAS Alameda North Housing Area, would not be encouraged because of the potential
5 for falcons to take least terns.

6 7 **Nesting Birds and Roosting Bats**

8
9 Ornamental vegetation and existing structures provide potential nest or roost sites for
10 several bird and bat species that are considered sensitive as well as several common
11 bird species that are protected under the Migratory Bird Treaty Act. The proposed
12 reuse alternative will maintain a similar condition with residential structures,
13 interspersed with ornamental trees, lawns, and a park. Therefore, the site will continue
14 to provide potential habitat for nesting birds or roosting bats and these species are
15 unlikely to be affected by implementation of the plan. There is some potential for
16 disturbance of these species during construction. The acquiring entity would be
17 required to implement pre-construction surveys to avoid nest or roost sites and conduct
18 relocation if necessary in coordination with the CDFG. The impact would be
19 nonsignificant as a result of these minimization and avoidance measures.

20 21 Nonsensitive Species and Habitats

22
23 Development of the various project facilities under the Reuse Plan Alternative could
24 result in removal of nonsensitive species and habitat on the facility. Given its developed
25 nature, the North Housing Area does not support significant biological resources.
26 Landscaped areas are dominated by nonnative plants that provide limited habitat for
27 native wildlife, although nonsensitive species do use this remaining habitat. Much of this
28 habitat is nonnative vegetation and therefore does not provide the higher food, cover,
29 and nesting values associated with wetlands or habitats important for sensitive species.
30 Any nonnative vegetation removed would likely be replaced by additional landscaping
31 around the homes and park, allowing continued use of the site by common animal
32 species. Therefore, the potential removal of such habitat represents a nonsignificant
33 impact.

1 **4.7.2 Alternative B: No Action**

2

3 Maintaining NAS Alameda North Housing Area in caretaker status would not result in
4 significant impacts to biological resources. Public access to the site would be limited.

5

6 **Nonsignificant Impacts**

7

8 Existing trees, grassy vegetation and buildings would continue to provide foraging
9 habitat as well as potential nest and roost sites for birds and bats. Common wildlife
10 species would continue to utilize the site. Remediation activities would continue, and
11 USFWS would be consulted if impacts to listed species and their habitats would occur;
12 however, none are anticipated.

13

4.8 GEOLOGY AND SOILS

This section describes impacts to geology and soils that could occur under Alternatives A and B. Impacts are analyzed against baseline conditions as described in Section 3.8.

4.8.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Seismic Shaking

The Bay Area is a region of high seismic activity with numerous active and potentially active faults. Major earthquakes have affected the region in the past and are expected to occur in the near future on one of the principal active faults in the San Andreas Fault System. The U.S. Geological Survey (USGS) Working Group on California Earthquake Probabilities determined there is a 62 percent likelihood of one or more earthquakes of magnitude 6.7 or greater occurring in the Bay Area within the 30-year period from 2002 and 2032 (USGS 2003). Ground-shaking intensity is partly related to the size of an earthquake, the distance to the site, and the response of the geologic materials that underlie a site. As a rule, the greater the earthquake magnitude and the closer the fault rupture to a site, the greater the intensity of ground shaking. As stated in Section 3.8 the closest active faults to the project site are the Hayward fault, east of the site, and the San Andreas fault, west of the project site. No active faults have been mapped on the project site.

It is likely that if a seismic event were to occur along one of the above mentioned fault zones, the site would experience seismic movement. However, conditions specific to the North Housing Parcel do not create a greater earthquake hazard than other areas located throughout the seismically active Bay Area. Required compliance with the Uniform Building Code and the incorporation of appropriate design criteria would minimize impacts resulting from regional seismicity. With appropriate structure design and seismic measures, impacts from seismic activity would not be adverse.

Soils

Other geologic hazards at the project site include liquefaction, differential settlement, and expansive soils. Liquefaction is the temporary transformation of loose saturated cohesion-less soils from a solid state to a liquefied state as a result of seismic ground

1 shaking. Loose saturated sands with a high potential for liquefaction have been
2 identified at the project site.

3
4 Past damage as a result of liquefaction was experienced at the NAS Alameda during
5 the 1989 Loma Prieta earthquake. In addition, the California Geological Survey (CGS)
6 has identified Seismic Hazard Areas as part of the Seismic Hazard Mapping Act
7 (SHMA) that maps areas that have shown historical occurrences of liquefaction or
8 contain conditions for a high potential of liquefaction. In a map produced in 2003, the
9 entire Alameda Island was located in a Seismic Hazard Area for liquefaction (CGS
10 2003). Therefore, redevelopment of the site would be required to follow certain
11 requirements of the SHMA.

12
13 The subsurface materials at the project site are also poorly consolidated and can, upon
14 loading, undergo consolidation which leads to substantial settlement. Consolidation can
15 occur over a period of many years. Significant settlement has been observed in the
16 vicinity of the project site at the NAS Alameda. The Bay Mud underlying the site can, in
17 general, exhibit expansive properties. Expansive soils possess a “shrink-swell”
18 behavior, which is the cyclic change in volume (expansion and contraction) that occurs
19 in fine-grained clay sediments from the process of wetting and drying. Structural
20 damage may occur over a long period, usually the result of inadequate soil and
21 foundation engineering or the placement of structures directly on expansive soils.

22
23 Policies to minimize the potential effects of liquefaction are required as part of the reuse
24 plan. These policies include preparation of a soils and geologic report to evaluate the
25 risk from liquefaction. Following the required CBC and UBC as well as the requirements
26 of the SHMA as part of the building design, the site impacts from liquefaction,
27 differential settlement, and expansive soils would not be adverse.

28 29 **4.8.2 Alternative B: No Action**

30
31 The possible geology and soils impacts under this alternative would be similar to those
32 listed under Alternative A.

4.9 WATER RESOURCES

This section describes impacts to water resources that could occur under Alternatives A and B. Issues examined include stormwater runoff, surface water quality, flooding potential, and groundwater quality and quantity. Impacts are analyzed against the baseline conditions described in Section 3.9 for areas including the NAS Alameda North Housing Area project site, immediately adjacent areas, underlying groundwater basins, and surrounding water bodies (Oakland Inner Harbor, NAS Alameda Inner Harbor, Seaplane Lagoon, and eastern San Francisco Bay) that could be affected by the project action.

Planning Issues

Any new development at the North Housing Disposal project site would be required to comply with the City's Stormwater Management and Discharge Control Program performance standards and applicable parts of the Stormwater Management Plan for the Alameda County Urban Runoff Clean Water Program, which are intended to implement the County and City NPDES permit (No. CA 0029831). Those plans and the NPDES permit apply to stormwater generated during both construction and operation of the project facilities.

New development also would be required to comply with the City's General Plan policies regarding dredging and water quality protection policies enumerated in Sections 5.1 and 8.3 of the City's General Plan. Development on the site would be subject to flood protection policies contained in Section 8.3 of the City's General Plan, as well as FEMA flood insurance program policies (U.S. Navy 1999).

4.9.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Surface Water Quality

Demolition of existing structures and new building construction could result in soil disturbance and increased erosion and sedimentation into the Oakland Inner Harbor. Any hazardous soils encountered during demolition or construction will need to be identified and contained, and/or avoided.

1 Construction equipment and operations (such as storage of construction materials and
2 debris) may result in spills and other accidental emissions of pollutants, which could
3 enter and pollute the surrounding water bodies. In addition, increased use of the
4 currently unused project site, including roads, parking lots, and park turf areas, could
5 introduce pollutants, including oil and grease, herbicides, pesticides, and fertilizers, into
6 runoff. All of these potential impacts would be addressed through implementation of
7 standard regulatory requirements, including the development of a SWPPP that would
8 include construction and development BMPs, and City/County conditions of approval for
9 specific projects.

10
11 The Oakland Inner Harbor is listed on the 2006 CWA Section 303(d) List of Water
12 Quality Limited Segments as impaired for nonpoint source pollutants including
13 pesticides, PCBs, and metals. As a result, pollutant-specific BMPs may be mandated by
14 City/County stormwater requirements.

15 16 **Flood Hazards**

17
18 Redevelopment of the North Housing Area project site should consider the effects that
19 projected sea level rise could have on tidal and non-tidal flooding of low-lying areas of the
20 site. Parts of the site under an elevation of approximately 9.5 to 10 feet (2.9 to 3.0 meters)
21 AMSL could be flooded periodically should the sea level rise 0.5 foot (0.1 meter) or more,
22 if not adequately protected. The only areas of the project site that fit this criterion are north
23 of the northern-most section of the Mosley Avenue loop, in the northwest corner of the site
24 (U.S. Navy 1999). Before construction, individual entities should request a Letter of Map
25 Revision (LOMAR) from FEMA in order to delineate flood hazards associated with the
26 North Housing Parcel per the regional flooding hazard mapping program. If any portions of
27 the North Housing Parcel are found to be within the 100-year flood hazard zone, housing
28 and other activities susceptible to flooding should be placed outside of the flood hazard
29 zone. Additionally all new development would need to be constructed to account for an 18
30 inch (0.46 meter) rise in sea level. At this time the Alameda Point Reuse Development
31 project is proposing the construction of a levy. If the levy is constructed, this would
32 eliminate the need for future development to be elevated to account for sea level rise.

33 34 **Groundwater**

35
36 The proposed project would not result in any significant adverse effects related to the
37 groundwater supply, provided any stormwater detention systems are designed as lined

1 units that do not allow percolation to the earth. No extraction or injection is proposed as
2 part of the project and thus, no significant impacts to deep aquifers would result.

3

4 **4.9.2 Alternative B: No Action**

5

6 Maintaining the North Housing Area project site in caretaker status would result in few
7 impacts to water resources since there would be minimal use of the site. Although the
8 site would be the source of fewer pollutants due to its minimal use, BMPs implemented
9 under Alternative A to improve the quality of stormwater runoff from existing roads and
10 parking areas would not be constructed.

11

12 The No Action Alternative would present no impacts to flood hazards, stormwater
13 drainage, or groundwater.

14

1 **4.10 TRAFFIC AND CIRCULATION**

2
3 **4.10.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)**

4
5 Alternative A proposes a change in use of the project area that will have an effect on the
6 surrounding traffic network.

7
8 **Trip Generation**

9
10 Alternative A would include the construction (or reconstruction) of 437 housing units and
11 utilizing 8 acres (3 hectares) of open space as a public park. The project would replace
12 282 existing housing units that are currently vacant. Credits are not given to the existing
13 units, since they are not being actively used. Table 4.10-1 summarizes the trips that
14 would be generated by Alternative A.

15
16 A 15 percent transit reduction was applied to account for a higher use of mass transit.
17 This rate is consistent with other studies that have been done in the City of Alameda.
18 With the existing traffic congestion in the tubes and bridges that cross the estuary from
19 Alameda to Oakland and surrounding communities and the available mass transit within
20 the City of Alameda, this rate is reasonable. Discussion of available and planned mass
21 transit was provided in Section 3.10. Further, since the new units are for lower income
22 housing, it is assumed that mass transit will be used more frequently, and vehicular trips
23 would not be as high.

24
25 **Trip Distribution and Assignment**

26
27 Trip distribution patterns were created based on distribution patterns used in the *Final*
28 *Environmental Impact Statement for the Disposal and Reuse of Naval Air Station*
29 *Alameda and Fleet and Industrial Supply Center* (1999). Different trip distributions are
30 provided for the morning and afternoon peak hours. The general trip distributions are as
31 follows:

- 32
33 53 percent to/from Oakland via the Posey and Webster Tubes
34 18 percent to/from West Alameda
35 18 percent to/from East Alameda
36 9 percent to/from Oakland via the Park Street Bridge
37 2 percent to/from the Bay Farm Island Bridge

1
2
3
4
5

**Table 4.10-1
Trip Generation Summary**

Land Use	Land Use as Listed in ITE ^a	Units ^b	Trip Rate ^c	Daily Trips	AM Peak-Hour					PM Peak-Hour				
					% of ADT ^c	In:Out Ratio ^c	In	Out	Total	% of ADT ^c	In:Out Ratio ^c	In	Out	Total
Driveway Trips^e														
<i>Proposed</i>														
Build new	Homeless Shelter	90 du ^d	2 / bed	540	8%	0.20:0.80	8	33	41	9%	0.65:0.35	33	17	50
Renovate existing	Apartment	32 du	6.65 / du	213	8%	0.20:0.80	3	13	16	9%	0.65:0.35	13	7	20
	City Park	8 ac	1.59 / ac	13	10%	0.80:0.20	1	0	1	10%	0.41:0.59	1	0	1
Multi-Family Housing	Apartment	315 du	6.65 / du	2,095	8%	0.20:0.80	32	129	161	9%	0.65:0.35	127	68	195
Net Trip Generation				2,860			44	175	219			174	92	266
With Transit Reduction (15%)				2,431			37	149	186			148	78	226

^a ITE = Institute of Transportation Engineers

^b DU = Dwelling Unit; AC = acres

^c Apartment and City Park trip rates references from ITE Trip Generation, 8th Edition. Homeless Shelter daily trip rate referenced from the City of San Diego Land Development Code - Trip Generation Manual, May 2003.

^d It is assumed three beds are available per Homeless Shelter unit.

^e Driveway trips are the total number of trips generated by a site.

6

1 The trip generation was applied to the trip distribution to get trip assignments. Trips
2 generated from the project were then added to Year 2030 No Action traffic volumes to
3 obtain Year 2030 Alternative A volumes. Figures illustrating the Alternative A trip
4 distribution and assignment, and resulting Year 2030 Alternative A traffic volumes are
5 provided in Figures 4.10-1 to 4.10-4, respectively.

6
7 Intersection Analysis

8
9 An analysis of Year 2030 Alternative A conditions at each of the study intersections
10 indicates that each intersection would continue to operate at an acceptable LOS, with
11 the exception of one intersection. The unsignalized intersection of Stargell Avenue and
12 Mosley Avenue will operate at LOS E conditions for the southbound approach of Mosley
13 Avenue. This approach serves only 75 vehicles per hour in the morning peak hour and
14 53 vehicles per hour in the afternoon peak hour. This volume is not large enough to
15 warrant changes to an all-way stop or traffic signal operation. As such, no
16 improvements are needed and no traffic impacts to the intersections were identified.
17 The results of the intersection analysis for are contained in Table 4.10-2.

18
19 Roadway Segment Analysis

20
21 Table 4.10-3 displays the peak hour roadway segment analysis for the Posey and
22 Webster Tubes with the addition of the Alternative A traffic. As shown in the table, the
23 amount of traffic added to the tubes is less than three percent of the total traffic. The
24 tubes will continue to operate at LOS F conditions with and without Alternative A traffic.

25
26 Construction Traffic

27
28 The City of Alameda does not have specific significance criteria for construction period
29 impacts. However, developments are required by the City to prepare a Traffic Control
30 Plan (TCP) designed to address construction period effects. The TCP would include
31 features such as construction truck routes and access to the project site, addressing
32 lane closures if necessary, restoring affected street surfaces to pre-construction
33 conditions on roadways affected by construction vehicles, a signage program, and
34 restrictions on construction hours.

<p>1</p> <p>Main St</p> <p>↔ (70%) Singleton Ave</p> <p>↔ 47%</p>	<p>2</p> <p>↔ (70%) Main St</p> <p>Midway Ave ↔ Stargell Ave</p> <p>↔ 47%</p>	<p>3</p> <p>↔ (30%) Mosley Ave</p> <p>↔ 40%</p> <p>↔ 13%</p> <p>↔ 40%</p>	<p>4</p> <p>↔ 40%</p> <p>↔ 40%</p> <p>↔ 40%</p>
<p>5</p> <p>↔ (23%) Main St</p> <p>↔ (14%)</p> <p>↔ (33%)</p> <p>↔ 10%</p> <p>Ralph Appezato Memorial Pkwy</p> <p>↔ 23%</p> <p>↔ 14%</p>	<p>6</p> <p>↔ (5%) Mosley Ave</p> <p>↔ (25%)</p> <p>↔ 8%</p> <p>↔ 10%</p> <p>Ralph Appezato Memorial Pkwy</p> <p>↔ (33%) 3rd St</p> <p>↔ 5%</p>	<p>7</p> <p>↔ Coral Sea St</p> <p>↔ 18%</p> <p>Ralph Appezato Memorial Pkwy</p> <p>↔ (58%) Poggi St</p>	<p>8</p> <p>↔ 5th St</p> <p>↔ 18%</p> <p>Ralph Appezato Memorial Pkwy</p> <p>↔ (58%)</p>
<p>9</p> <p>↔ 18%</p> <p>W Campus Dr</p> <p>Ralph Appezato Memorial Pkwy</p> <p>↔ (58%)</p>	<p>10</p> <p>↔ 8%</p> <p>Webster St</p> <p>↔ 10%</p> <p>Ralph Appezato Memorial Pkwy</p> <p>↔ (43%)</p> <p>↔ (15%)</p>	<p>11</p> <p>↔ 5%</p> <p>Constitution Wy</p> <p>Ralph Appezato Memorial Pkwy</p> <p>↔ (5%)</p> <p>↔ (5%)</p> <p>↔ (5%)</p> <p>↔ 5%</p>	<p>12</p> <p>↔ (9%) Main St</p> <p>↔ (5%)</p> <p>↔ 5%</p> <p>Pacific Ave</p> <p>↔ 9%</p> <p>↔ 9%</p>
<p>13</p> <p>↔ (5%) 3rd St</p> <p>↔ 5%</p> <p>↔ 5%</p> <p>Pacific Ave</p> <p>↔ (5%)</p>			

Legend
 X% / (Y%) = IN / OUT PERCENT DISTRIBUTION



NOT TO SCALE

Figure 4.10-2
 PM Project Trip Distribution - Study Intersections

<p>1</p> <p>Main St</p> <p>↕ 104 / 55 Singleton Ave</p> <p>↕ 18 / 70</p>	<p>2</p> <p>↕ 104 / 55 Main St</p> <p>↕ 104 / 55 Midway Ave</p> <p>↕ 18 / 70 Stargell Ave</p>	<p>3</p> <p>↕ 45 / 23 Mosley Ave</p> <p>↕ 15 / 59 Stargell Ave</p> <p>↕ 4 / 19</p>	<p>4</p> <p>↕ 15 / 59 Stargell Ave</p> <p>↕ 5th St</p>
<p>5</p> <p>Main St</p> <p>↕ 21 / 18 ↕ 21 / 11 ↕ 62 / 26</p> <p>↕ 7 / 15 Ralph Appezato Memorial Pkwy</p> <p>↕ 5 / 34</p> <p>↕ 5 / 21</p>	<p>6</p> <p>Mosley Ave</p> <p>↕ 7 / 4 ↕ 37 / 20</p> <p>↕ 3 / 12 ↕ 7 / 15 Ralph Appezato Memorial Pkwy</p> <p>↕ 62 / 26 3rd St</p> <p>↕ 2 / 7</p>	<p>7</p> <p>Coral Sea St</p> <p>↕ 10 / 27 Ralph Appezato Memorial Pkwy</p> <p>↕ 100 / 45 Poggi St</p>	<p>8</p> <p>↕ 5th St</p> <p>↕ 10 / 27 Ralph Appezato Memorial Pkwy</p> <p>↕ 100 / 45</p>
<p>9</p> <p>W Campus Dr</p> <p>↕ 10 / 27 Ralph Appezato Memorial Pkwy</p> <p>↕ 100 / 45</p>	<p>10</p> <p>Webster St</p> <p>↕ 6 / 12</p> <p>↕ 4 / 15 Ralph Appezato Memorial Pkwy</p> <p>↕ 77 / 34 ↕ 22 / 12</p>	<p>11</p> <p>Constitution Wy</p> <p>↕ 2 / 7 Ralph Appezato Memorial Pkwy</p> <p>↕ 7 / 4 ↕ 7 / 4 ↕ 7 / 4</p> <p>↕ 2 / 7</p>	<p>12</p> <p>Main St</p> <p>↕ 13 / 7 ↕ 7 / 4</p> <p>↕ 2 / 7 Pacific Ave</p> <p>↕ 3 / 13 Central Ave</p>
<p>13</p> <p>3rd St</p> <p>↕ 7 / 4</p> <p>↕ 2 / 7 ↕ 2 / 7 Pacific Ave</p> <p>↕ 7 / 4</p>			

Legend
 X / Y = AM / PM PEAK HOUR
 TURNING VOLUMES



NOT TO SCALE

Figure 4.10-3
Project Trip Assignment - Study Intersections

<p>1</p> <p>↔ 112 / 230 ↔ 10 / 14 Main St</p> <p>↔ 9 / 4</p> <p>↔ 281 / 185 Singleton Ave</p> <p>↔ 217 / 129 ↔ 170 / 220</p>	<p>2</p> <p>↔ 45 / 9 ↔ 216 / 380 ↔ 88 / 20 Main St</p> <p>↔ 13 / 107 ↔ 432 / 229 ↔ 159 / 101 Stargell Ave</p> <p>↔ 28 / 36 ↔ 173 / 320 ↔ 87 / 241</p> <p>↔ 275 / 100 ↔ 352 / 225 ↔ 75 / 110</p>	<p>3</p> <p>↔ 10 / 10 ↔ 55 / 33 ↔ 10 / 10 Mosley Ave</p> <p>↔ 25 / 69 ↔ 667 / 479 ↔ 10 / 10 Stargell Ave</p> <p>↔ 10 / 10 ↔ 365 / 484 ↔ 10 / 10</p> <p>↔ 10 / 10 ↔ 14 / 29 ↔ 10 / 10</p>	<p>4</p> <p>↔ 3 / 3 ↔ 8 / 7 ↔ 70 / 26</p> <p>↔ 44 / 79 ↔ 742 / 576 ↔ 52 / 48 Stargell Ave</p> <p>↔ 3 / 2 ↔ 394 / 518</p> <p>↔ 5th St</p> <p>↔ 8 / 6 ↔ 37 / 38</p>
<p>5</p> <p>↔ 31 / 23 ↔ 180 / 348 ↔ 263 / 379 5th St</p> <p>↔ 256 / 251 ↔ 347 / 336 ↔ 247 / 137 Ralph Appezatto Memorial Pkwy</p> <p>↔ 13 / 44 ↔ 319 / 428 ↔ 88 / 127 Main St</p> <p>↔ 137 / 104 ↔ 422 / 163 ↔ 154 / 145</p>	<p>6</p> <p>↔ 28 / 13 ↔ 75 / 29 ↔ 150 / 75 Mosley Ave</p> <p>↔ 28 / 90 ↔ 786 / 518 ↔ 181 / 161 Ralph Appezatto Memorial Pkwy</p> <p>↔ 32 / 16 ↔ 547 / 988 ↔ 45 / 19</p> <p>↔ 3rd St</p> <p>↔ 34 / 10 ↔ 43 / 46 ↔ 193 / 98</p>	<p>7</p> <p>↔ 17 / 9 ↔ 49 / 16 ↔ 100 / 28 Coral Sea St</p> <p>↔ 101 / 78 ↔ 853 / 719 ↔ 72 / 104 Ralph Appezatto Memorial Pkwy</p> <p>↔ 5 / 14 ↔ 819 / 1042 ↔ 35 / 67 Poggi St</p> <p>↔ 111 / 19 ↔ 69 / 19 ↔ 80 / 48</p>	<p>8</p> <p>↔ 15 / 9 ↔ 56 / 41 5th St</p> <p>↔ 62 / 16 ↔ 912 / 837 Ralph Appezatto Memorial Pkwy</p> <p>↔ 18 / 6 ↔ 951 / 1088</p>
<p>9</p> <p>↔ 26 / 35 ↔ 75 / 153 W Campus Dr</p> <p>↔ 243 / 285 ↔ 930 / 802 Ralph Appezatto Memorial Pkwy</p> <p>↔ 81 / 47 ↔ 924 / 1095</p>	<p>10</p> <p>↔ 450 / 469 ↔ 431 / 766 ↔ 50 / 67 Webster St</p> <p>↔ 27 / 180 ↔ 738 / 629 ↔ 33 / 64 Ralph Appezatto Memorial Pkwy</p> <p>↔ 460 / 389 ↔ 549 / 883 ↔ 5 / 198</p> <p>↔ 123 / 30 ↔ 813 / 316 ↔ 62 / 187</p>	<p>11</p> <p>↔ 42 / 59 ↔ 248 / 844 ↔ 195 / 86 Constitution Wy</p> <p>↔ 121 / 127 ↔ 359 / 388 ↔ 36 / 110 Ralph Appezatto Memorial Pkwy</p> <p>↔ 136 / 474 ↔ 247 / 387 ↔ 254 / 244</p> <p>↔ 321 / 311 ↔ 965 / 241 ↔ 108 / 28</p>	<p>12</p> <p>↔ 25 / 8 ↔ 279 / 439 ↔ 71 / 91 Main St</p> <p>↔ 109 / 47 ↔ 14 / 8 ↔ 63 / 21 Pacific Ave</p> <p>↔ 1 / 15 ↔ 0 / 9 ↔ 2 / 5 Central Ave</p> <p>↔ 2 / 1 ↔ 547 / 263 ↔ 72 / 27</p>
<p>13</p> <p>↔ 17 / 38 ↔ 99 / 129 ↔ 73 / 36 3rd St</p> <p>↔ 95 / 40 ↔ 189 / 99 ↔ 35 / 22 Pacific Ave</p> <p>↔ 14 / 19 ↔ 136 / 133 ↔ 47 / 22</p> <p>↔ 27 / 24 ↔ 150 / 81 ↔ 46 / 20</p>			

Legend
X / Y = AM / PM PEAK HOUR
TURNING VOLUMES



NOT TO SCALE

Figure 4.10-4
Year 2030 Proposed Action Peak-Hour Traffic Volumes

Table 4.10-2
Year 2030 Proposed Action Conditions
Peak-Hour Intersection Level of Service Summary

	Intersection	Peak Hour	Traffic Control	2030 Baseline		2030 Baseline Plus Project		Δ^c
				Delay ^a	LOS ^b	Delay ^a	LOS ^b	
1	Singleton Ave. and Main St.	AM	Signal	8.4	A	10.1	B	1.7
		PM		7.5	A	7.9	A	0.4
2	W Midway Ave. and Main St.	AM	Signal	14.9	B	15.9	B	1.0
		PM		8.4	A	8.8	A	0.4
3	Stargell Ave. and Mosley Ave.	AM	Two-Way Stop	31.2	D	48.4	E	17.2
		PM		29.5	D	36.5	E	7.0
4	Stargell Ave. and 5th St.	AM	One-Way Stop	12.6	B	12.6	B	0.0
		PM		14.1	B	14.1	B	0.0
5	Ralph Appezzato Memorial Pkwy. and Main St.	AM	Signal	17.7	B	18.2	B	0.5
		PM		15.6	B	16.2	B	0.6
6	Ralph Appezzato Memorial Pkwy. and Mosley Ave.	AM	Signal	18.8	B	21.2	C	2.4
		PM		15.6	B	16.9	B	1.3
7	Ralph Appezzato Memorial Pkwy. and Coral Sea St.	AM	Signal	12.9	B	13.3	B	0.4
		PM		16.7	B	16.7	B	0.0
8	Ralph Appezzato Memorial Pkwy. and 5th St.	AM	Signal	4.9	A	4.8	A	-0.1
		PM		3.3	A	3.3	A	0.0
9	Ralph Appezzato Memorial Pkwy. and W Campus Dr.	AM	Signal	14.7	B	14.6	B	-0.1
		PM		12.4	B	12.6	B	0.2
10	Ralph Appezzato Memorial Pkwy. and Webster St.	AM	Signal	36.8	D	37.8	D	1.0
		PM		44.0	D	45.0	D	1.0
11	Ralph Appezzato Memorial Pkwy. and Constitution Way.	AM	Signal	29.7	C	29.9	C	0.2
		PM		49.7	D	50.6	D	0.9
12	Pacific Ave. and Main St.	AM	Signal	35.7	D	37.2	D	1.5
		PM		26.4	C	26.8	C	0.4
13	Pacific Ave. and 3rd St.	AM	Signal	10.4	B	10.5	B	0.1
		PM		10.9	B	10.8	B	-0.1

Note: **Bold** values indicate roadway segments operating at LOS E or F.

^a Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

^b LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 6.0.

^c Change in delay due to addition of project traffic.

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**Table 4.10-3
Year 2030 Alternative A Conditions Roadway Segment Level of Service Summary**

Roadway Segment	Roadway Classification	2030 No Action		2030 Proposed Action		Δ in Peak-Hour Traffic	% Volume Increase from Project Traffic
		Peak-Hour Volume ^a	LOS	Peak-Hour Volume ^a	LOS		
AM Peak							
Posey Tube (EB), south of 5th St.	2 lane Regional Arterial (one-way)	3,130	F	3,215	F	85	2.72%
Webster Tube (WB), south of 5th St.	2 lane Regional Arterial (one-way)	3,364	F	3,385	F	21	0.62%
PM Peak							
Posey Tube (EB), south of 5th St.	2 lane Regional Arterial (one-way)	3,123	F	3,161	F	38	1.20%
Webster Tube (WB), south of 5th St.	2 lane Regional Arterial (one-way)	3,476	F	3,547	F	71	2.00%

Note: **Bold** values indicate roadway segments operating at LOS E or F.

^a Peak-hour roadway volumes for the roadway segments were based on the *City of Alameda Transportation Element Update (2008)*.

5

Parking Supply and Demand

Alternative A would not have an impact on parking, because it would provide the appropriate amount of parking for the provided housing units. The City of Alameda should review Alternative A to ensure that adequate parking is provided for occupants and visitors but remain at a level that encourages non-auto modes of travel. Not having enough parking spaces available would result in air and noise pollution from vehicles looking for a place to park. However, with the available alternatives in mass transit (as well as biking and walking options), minimizing the amount of parking available may encourage travelers to shift away from using autos. Parking is a dynamic situation, especially in neighborhood areas, and the balance between those travelers using mass transit and those looking for parking spaces should offset one another. It is not anticipated that a shortfall of parking would be available under Alternative A.

Findings and Recommendations

- Alternative A would generate a total of 186 trips during the a.m. peak hour and 226 trips during the p.m. peak hour. This trip generation is conservatively based on existing transit usage in the City of Alameda (15-percent currently commute via mass transit). However, it is likely that homeless and low-income housing would produce mass transit participation in excess of 15 percent.
- Alternative A would increase peak-hour traffic along the Posey and Webster tubes by less than three percent.
- Alternative A would have no significant impact on the intersections within the project area.
- One intersection would function at LOS E with the addition of Alternative A traffic. However, this intersection is a two-way stop controlled intersection and the delay reflects the southbound movement, which serves a small volume of vehicles. The number of vehicles during each peak-hour does not warrant changes to an all-way stop or traffic signal at this location (Stargell Avenue and Mosley Avenue).

4.10.2 Alternative B: No Action Alternative

Alternative B proposes no change in land use in the project area. No new traffic would be generated from this alternative. The traffic network would operate similar to Year 2030 Conditions as described in Section 3.10.4. Alternative B would have no significant traffic impacts.

1 **4.11 AIR QUALITY**

2

3 This section describes impacts to air quality that could occur under Alternatives A and
4 B. The analysis addresses potential air quality impacts from both construction and
5 operational activities.

6

7 **Region of Influence**

8

9 As described in the FEIS (U.S. Navy 1999), the ROI for air quality varies according to
10 the type of air pollution being discussed. Primary pollutants are those that are directly
11 emitted, such as CO and PM, from construction activities. The ROI for primary
12 pollutants is generally restricted to the immediate vicinity of the emission sources,
13 usually within a few hundred feet of the emission sources. Secondary pollutants are
14 those that are formed by chemical reactions in the atmosphere, such as O₃ and some
15 PM. Secondary pollutants have a more regional ROI that includes the entire Bay Area
16 managed by the BAAQMD (U.S. Navy 1999).

17

18 **Methodology**

19

20 Construction Impacts

21

22 Construction activities would result in temporary (short-term) increases in air pollutant
23 emissions. These emissions would be generated in the forms of fugitive dust emissions
24 (PM₁₀ and PM_{2.5}) from earth-movement activities and exhaust emissions (NO_x, sulfur
25 oxides [SO_x], CO, ROG, PM_{2.5}, and PM₁₀) from construction equipment and vehicles.

26

27 Air pollutant emissions to be generated during construction phases were estimated
28 using the URBEMIS2007 model. URBEMIS2007 allows specifying information for three
29 construction phases typical for most projects: demolition, site grading, and
30 building/structure construction. URBEMIS2007 estimates maximum daily emissions in
31 pounds per day (lbs/day) for summer and winter seasons. It also estimates annual
32 emissions in tons/year.

33

34 Operational Impacts (Traffic-Related and Area Emission Sources)

35

36 Air pollutant emissions, including NO_x, ROG, CO, PM₁₀, PM_{2.5}, and SO_x, would be
37 generated from operational mobile and area sources. Mobile sources related to the

1 operations would consist of vehicular emissions resulting from vehicle trips to be
2 generated. Area sources would include fuel combustion emissions from water/space
3 heating of the residential houses. The URBEMIS2007 model was used to estimate air
4 pollutant emissions during operations. The worst-case land use information was used
5 as input to the model. The trip generation data as input to the model were based on the
6 traffic study for Alternative A. Model default data, including trip length, fleet mix, and
7 emission factor, was used. As stated previously, the BAAQMD established emission
8 thresholds of significance to evaluate impact levels associated with project operations
9 (see Table 3.11-2). The air quality analysis uses the BAAQMD emission thresholds to
10 evaluate impact levels associated with Alternative A. Where the BAAQMD does not
11 have quantifiable operational thresholds, federal *de minimis* levels are used in the
12 analysis.

13

14 Localized Carbon Monoxide Impacts

15

16 As stated previously, the BAAQMD CEQA Guidelines established thresholds of
17 significance for evaluating localized CO concentrations impacts (BAAQMD 1999).
18 According to the BAAQMD CEQA Guidelines, localized CO concentrations should be
19 estimated for projects in which: (1) vehicle emissions of CO would exceed 550 lbs/day
20 (249 kgs/day), (2) project traffic would impact intersections or roadway links operating at
21 LOS D, E, or F or would cause LOS to decline to D, E, or F, or (3) project traffic would
22 increase traffic volumes on nearby roadways by 10 percent or more. The localized CO
23 impact evaluation was conducted based on these thresholds.

24

25 **4.11.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)**

26

27 **Nonsignificant Impacts**

28

29 Construction Impacts

30

31 Construction of Alternative A was assumed to begin in 2010 and be completed in
32 approximately one year. The worst-case land use data were used and assumptions
33 were made for construction phases and old houses demolition as input to
34 URBEMIS2007. The remainder of the model input data was conservatively based on
35 model default data, including pieces of construction equipment and vehicles to be used
36 and emission factors.

37

1 Table 4.11-1 presents the estimated maximum daily air pollutant emissions. Estimated
 2 annual emissions are shown in Table 4.11-2. The model output files are included in
 3 Appendix A.

4
5
6
7 **Table 4.11-1**
Summary of Estimated Daily Air Pollutant Emissions Construction Impacts

Item	Estimated Daily Air Pollutant Emissions lbs/day (kgs/day)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	76.22 (34.57)	56.09 (25.44)	65.31 (29.62)	0.06 (0.03)	203.24 (92.19)	44.73 (20.29)
Maximum Daily Emissions (After Mitigation)	76.22 (34.57)	56.09 (25.44)	65.31 (29.62)	0.06 (0.03)	31.82 (14.43)	8.52 (3.86)
Significance Threshold	80 (36)	80 (36)	548 (249)	548 (249)	80 (36)	548 (249)
Exceeds Threshold?	No	No	No	No	Yes	No

8
9
10
11 **Table 4.11-2**
Summary of Estimated Annual Air Pollutant Emissions Construction Impacts

Item	Estimated Annual Air Pollutant Emissions tons/year (tonnes/year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Annual Emissions	5.95 (5.40)	3.94 (3.57)	4.72 (4.28)	<0.01 (<0.01)	3.36 (3.05)	0.85 (0.77)
Annual Emissions (After Mitigation)	5.95 (5.40)	3.94 (3.57)	4.72 (4.28)	<0.01 (<0.01)	1.40 (1.27)	0.44 (0.40)
Significance Threshold	15 (14)	15 (14)	100 (91)	100 (91)	15 (14)	100 (91)
Exceeds Threshold?	No	No	No	No	No	No

12
13
14 As shown in Tables 4.11-1 and 4.11-2, the maximum daily emissions for all the subject
15 air pollutants, except for PM₁₀, were estimated to be below the corresponding
16 thresholds. The maximum estimated daily PM₁₀ emissions would be above the
17 corresponding significance threshold (Table 4.11-1).

18
19 As shown in Table 4.11-2, emissions of the subject air pollutants were estimated to be
20 below the applicable federal de minimis levels and would be less than 10 percent of the
21 Bay Area emission budget. The actions to dispose of and reuse the NAS Alameda

1 North Housing Parcel are exempt from the requirements for a conformity determination
2 as stated in 40 C.F.R. 93.153.

3 4 *Mitigation Measures*

5
6 The following mitigation measures were identified to reduce PM emission impacts
7 associated with construction activities:

- 8
- 9 • Water all active construction areas at least twice daily;
 - 10 • Cover all trucks hauling soil, sand, and other loose materials or require all trucks
11 to maintain at least 2 feet (0.6 meters) of freeboard;
 - 12 • Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all
13 unpaved access roads, parking areas, and staging areas at construction sites;
 - 14 • Sweep daily (with water sweepers) all paved access roads, parking areas, and
15 staging areas at construction sites;
 - 16 • Sweep streets daily (with water sweepers) if visible soil material is carried onto
17 adjacent public streets; and
 - 18 • Limit traffic speeds on unpaved roads to 15 miles per hour.
- 19

20 After implementation of the identified mitigation measures, the PM₁₀ emissions would be
21 below the corresponding emission threshold. Alternative A would not result in adverse
22 impacts during construction phases after implementation of the identified mitigation
23 measures.

24 25 Operational Impacts (Traffic-Related and Area Emission Sources)

26
27 Air pollutant emissions would be expected with operations of Alternative A. The
28 URBEMIS2007 model was used to estimate operational emissions. The worst-case land
29 use information was used as input to the model. Transit data were derived from the
30 FEIS (U.S. Navy 1999) and area source hearth fuel use data were assumed based on
31 the "Spare the Air Tonight Study" developed by the BAAQMD (2007). The trip
32 generation data as input to the model were based on the traffic study for Alternative A.
33 Model default data, including trip length, fleet mix, and emission factor, was used. Table

4.11-3 presents estimated daily air pollutant emissions associated with Alternative A, along with the applicable emission thresholds. As stated previously, the modeling analysis estimates peak daily air pollutant emissions for both summer and winter seasons. Estimated annual emissions are shown in Table 4.11-4. The model output files are presented in Appendix A. The CARB publishes “the California Almanac of Emissions and Air Quality” each year, which estimates air pollutant emissions for each air basin in California (CARB 2008). The 2010 Bay Area air pollutant emissions forecasted by the CARB are listed in Table 4.11-4.

**Table 4.11-3
Summary of Estimated Daily Air Pollutant Emissions Operational Impacts**

Item	Estimated Daily Air Pollutant Emissions lbs/day (kgs/day)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Daily Area Source Emissions in Summer	25.05 (11.36)	3.38 (1.53)	7.58 (3.44)	<0.01 (<0.01)	0.03 (0.01)	0.03 (0.01)
Daily Mobile Source Emissions in Summer	18.96 (8.60)	27.84 (12.63)	211.36 (95.87)	0.19 (0.09)	39.02 (17.70)	7.53 (3.42)
Total Daily Operational Emissions in Summer	44.01 (19.96)	31.22 (14.16)	218.94 (99.31)	0.19 (0.09)	39.05 (17.71)	7.56 (3.43)
Daily Area Source Emissions in Winter	57.90 (26.26)	6.40 (2.90)	43.90 (19.91)	0.10 (0.05)	5.95 (2.70)	5.73 (2.60)
Daily Mobile Source Emissions in Winter	21.12 (9.58)	37.62 (17.06)	253.39 (114.94)	0.19 (0.09)	39.02 (17.70)	7.53 (3.42)
Total Daily Operational Emissions in Winter	79.02 (35.84)	44.02 (19.97)	297.29 (134.85)	0.29 (0.13)	44.97 (20.40)	13.26 (6.01)
Significance Threshold	80 (36)	80 (36)	548 (249)	548 (249)	80 (36)	548 (249)
Exceeds Threshold?	No	No	No	No	No	No

As shown in Tables 4.11-3 and 4.11-4, the air pollutant emissions were estimated to be below the thresholds, and Alternative A would not result in adverse air quality impacts during the operational phase. Compared to the Bay Area Air Basin emissions, the emissions estimated for Alternative A would be very small, and Alternative A would not result in adverse air quality impacts to the region.

As shown in Table 4.11–4, emissions of the subject air pollutants were estimated to be below the applicable federal de minimis levels and would be less than 10 percent of the Bay Area emission budget. The actions to dispose of and reuse the NAS Alameda

1 North Housing Parcel are exempt from the requirements for a conformity determination
2 as stated in 40 C.F.R. 93.153.

3
4 **Table 4.11-4**
5 **Summary of Estimated Annual Air Pollutant Emissions Operational Impacts**

Item	Estimated Annual Air Pollutant Emissions tons/year (tonnes/year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Annual Area Source Emissions	5.89 (5.34)	0.65 (0.59)	2.52 (2.29)	<0.01 (<0.01)	0.24 (0.22)	0.23 (0.21)
Annual Mobile Source Emissions	3.60 (3.27)	5.66 (5.13)	41.14 (37.31)	0.04 (0.04)	7.13 (6.47)	1.38 (1.25)
Total Annual Emissions	9.49 (8.61)	6.31 (5.72)	43.66 (39.60)	0.04 (0.04)	7.37 (6.68)	1.61 (1.46)
Significance Threshold	15 (14)	15 (14)	100 (91)	100 (91)	15 (14)	100 (91)
Exceeds Threshold?	No	No	No	No	No	No
Bay Area Air Basin Emissions	110,532 (100,253)	127,368 (115,523)	498,858 (452,464)	22,692 (20,582)	84,180 (76,351)	30,744 (27,885)

6
7
8 Localized Carbon Monoxide Impacts

9
10 As shown in Table 4.11-3, the maximum daily CO emissions estimated to be generated
11 from Alternative A during operations would be 297.29 lbs/day (134.85 kgs/day). The
12 maximum CO emissions estimated associated with this alternative would be below the
13 BAAQMD localized CO threshold of 550 lbs/day (249 kgs/day).

14
15 According to the traffic study, all the affected intersections, except for the intersection of
16 Stargell Avenue and Mosley Avenue, would not result in LOS to decline to D, E or F, as
17 compared to the No Action Alternative. Alternative A would affect LOS of the
18 intersection of Stargell Avenue and Mosley Avenue to decline to E, as compared to the
19 No Action Alternative. The intersection of Stargell Avenue and Mosley Avenue is a two-
20 way stop controlled intersection and the traffic delay reflects the southbound movement
21 which serves a small volume of vehicles (less than 10 percent of the total traffic volume
22 for all roadway links of this intersection). Consultation with the BAAQMD (2009)
23 indicated that CO modeling might not be warranted for this intersection.

24
25 Section 4.10 shows that the traffic volume increases associated with Alternative A
26 would be less than 10 percent of the traffic volumes under the No Action Alternative.

1 Therefore, no CO modeling analysis is required and Alternative A would not result in
2 adverse localized CO impacts.

3

4 Asbestos, Lead (Pb), and Diesel Exhaust Particulate Matter (PM)

5

6 The USEPA and CARB have ongoing programs to identify toxic air pollutants. Among
7 the many substances identified as toxic air pollutants are diesel exhaust PM, asbestos,
8 and Pb.

9

10 A principal toxic air pollutant of interest for Alternative A is diesel exhaust PM. On the
11 federal and state levels, diesel exhaust PM emission reduction efforts have
12 concentrated on the use of improved fuels, adding particulate filters to engines
13 exhausts, and requiring the production of new-technology engines that emit fewer
14 exhaust particulates.

15

16 Construction of Alternative A would use diesel equipment and vehicles. However,
17 substantial use of diesel equipment and vehicles would not be expected. Construction
18 of this alternative would be short term, and the diesel exhaust PM emission impacts
19 would cease after completion of action components.

20

21 Asbestos and LBP are toxic substances that may be present in older houses' demolition
22 and remodeling. As stated in the FEIS (U.S. Navy 1999), complying with federal, state,
23 and BAAQMD regulations during house demolition or remodeling would prevent
24 significant airborne releases of these materials. Alternative A would not cause adverse
25 toxic pollution impacts to the neighboring communities.

26

27 **4.11.2 Alternative B: No Action**

28

29 **Nonsignificant Impacts**

30

31 Under the No Action Alternative, the NAS Alameda North Housing Parcel would remain
32 under federal control in a caretaker status. Activities would be limited to maintenance
33 and security activities associated with the site. No new houses would be constructed
34 associated with the No Action Alternative. Therefore, no adverse air quality impacts
35 would be anticipated under this alternative.

36

1 4.12 NOISE

2
3 This section describes the noise impacts that could occur under Alternatives A and B.
4 The impact analysis identifies demolition and construction noise, and the compatibility of
5 projected noise levels with existing and proposed land uses.
6

7 Potential impacts to noise sensitive receptors are identified based on the proximity of
8 receptors to construction and operational noise. Human reaction to changes in noise
9 levels is both physiological and psychological. The nature of noise sources can affect
10 people's reaction to it. Construction noise typically can be unpredictable, intermittent
11 periods of high noise levels, while operational noise typically can be sustained or cycling
12 levels. Temporary noise, such as construction noise, is generally more tolerated than
13 permanent operational noise sources. Time of day or week can be a determining factor
14 of objectionable noise (e.g., nighttime vs. daytime, weekdays vs. weekends).
15

16 Noise impacts are primarily determined by the distance and barriers between noise
17 sources and receptors. Noise levels naturally attenuate logarithmically with distance at a
18 rate of approximately 6 dBA per doubling of distance; i.e., greater distance is required
19 from the noise source to achieve the same rate of reduction in noise level. This
20 logarithmic decrease in noise levels with distance results in a limited ROI. The ROI for
21 fixed noise sources is generally less than 0.5 mile (0.8 kilometers) from the site. The
22 ROI for traffic noise is generally less than 1,000 feet (305 meters) from the roadway.
23

24 4.12.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

25
26 As detailed in the project description, Alternative A would result in the reuse of the North
27 Housing Parcel as a residential area, which would generate noise from the demolition,
28 renovation, and construction of housing; and the operation and use of the proposed
29 housing.
30

31 **Construction**

32
33 Construction of the proposed facilities would generate temporary, short-term noise
34 levels associated with construction activities including housing demolition and
35 renovation, hauling of demolition materials off-site and construction materials on-site,
36 utility installation on-site and along roadways, roadway improvements, and the
37 construction of the new housing. Building demolition and construction, and roadway

1 improvements (all exterior sources) would be the primary construction noise sources.
2 Construction activities would generate construction traffic from construction worker trips
3 to and from the site, the delivery of construction equipment and vehicles, and building
4 materials. Construction staging areas would stockpile this equipment, materials, and
5 vehicles, and would be a source of localized noise.

6
7 Construction noise generated would potentially impact the sensitive noise receptors
8 (residences) located adjacent to the proposed construction activities on-site and along
9 the utility and construction transportation routes. The residences adjacent to the site,
10 south of Singleton Avenue, and west of Main Street would be subject to construction
11 noise from Alternative A. Construction activity would be limited to non-Sunday/holiday
12 daytime hours due to the City's noise ordinance. Implementation of this alternative
13 would result in construction during daytime hours, which would result in increased
14 ambient daytime noise levels in the vicinity of the project site.

15
16 Noise levels from the operation of construction equipment vary widely based on the
17 number and type of equipment operating, and the construction activity level or
18 equipment duty cycle. For a typical construction project, the loudest short-term
19 maximum noise levels (L_{max}) are 90 dBA L_{max} at a distance of approximately 50 feet (15
20 meters) for a few minutes during each cycle from earth-moving equipment under full
21 load. Construction equipment noise is usually considered as a noise point source, which
22 attenuates typically at a rate of 6 dBA per doubling of distance (e.g., 90 dBA at 50 feet
23 [15 meters] will attenuate to 84 dBA at 100 feet [30 meters]). The nature of construction
24 projects, with equipment moving from one point to another, work breaks, and idle time,
25 is that average long-term noise levels are less than short-term noise levels. For
26 purposes of this analysis, a maximum 1-hour average noise level of approximately 80
27 dBA L_{eq} at a distance of 50 feet (15 meters) from the centroid of a construction area is
28 assumed for the project site.

29
30 The noise sensitive receptors nearest to the proposed construction activities are the
31 residences and schools adjacent to and south of the project site. Construction activities
32 in the project's southernmost housing areas of the site could occur as close as
33 approximately 100 feet (30 meters) from the existing homes off-site. At this distance, the
34 assumed 1-hour average construction noise level of 80 dBA L_{eq} at 50 feet (15 meters)
35 would be approximately 74 dBA L_{eq} at 100 feet (30 meters) with short-term maximum
36 noise levels of 90 dBA L_{max} at 50 feet (15 meters) reducing to approximately 84 dBA

1 L_{max} . Noise sensitive receptors with 300 feet (91 meters) of the construction activity may
2 be temporarily impacted by the construction noise.

3
4 Since most of NAS Alameda was established on fill material, structural support piles
5 may be needed to be driven into the soil to provide adequate foundation support for
6 some structures. Pile driving (standard type) of bridge supports would generate short-
7 term maximum noise levels of up to 105 dBA L_{max} at 50 feet (15 meters) (USEPA) with
8 average noise levels of up to 95 dBA L_{eq} at 50 feet (15 meters). If pile driving were
9 required, these higher construction noise levels would be of concern in proximity to
10 sensitive receptors.

11
12 The City Noise Ordinance does not have construction noise level limits to define
13 significant construction noise impacts, nor do many cities and counties. Those
14 jurisdictions that do have construction limits generally select 75 or 80 dBA L_{eq} as the
15 limit, sometimes average over 8 hours. The Federal Transit Administration (FTA)
16 suggests a noise level of 90 dBA L_{eq} for a threshold of significance (FTA 2006). For
17 purposes of this EA, a 1-hour construction noise level of 80 dBA L_{eq} is selected as a
18 guideline to determine significant construction noise impacts.

19
20 Therefore, construction noise levels from the construction activities of Alternative A
21 would be less than the assumed limit of 80 dBA L_{eq} at the nearest receptor and would
22 not result in a significant impact.

23
24 Although noise levels would not exceed the 80 dBA L_{eq} guideline threshold, project
25 construction noise would be audible at the nearest existing homes and short-term noise
26 may cause intermittent interference with normal speech during outdoor activities, or
27 interference with sleep for those persons who would be sleeping during daytime hours.
28 Construction noise can be minimized by constructing a temporary noise barrier along
29 the perimeter of the site, and/or phasing construction activities in different areas of the
30 site.

31
32 Noise would be generated off-site by construction vehicle traffic, including the delivery
33 of equipment and materials, the removal of demolition materials, and the commuting of
34 the construction crew. The construction traffic would principally be to access the project
35 site via Singleton Avenue, which is accessed by residents adjacent to and south of
36 Singleton Avenue. The addition of the construction traffic along Singleton Avenue,

1 especially truck traffic, would noticeably increase noise levels at the adjacent
2 residences.

3

4 **Operation**

5

6 After the proposed facilities are constructed, potential operation noise impacts would
7 include the noise-land use compatibility and project-generated noise.

8

9 Alternative A does not include any significant areas of heavy industrial use.
10 Consequently, no significant noise-related land use conflicts are anticipated.

11

12 The increased traffic volumes generated under Alternative A, identified in the Traffic
13 Section 4.10, would primarily affect Singleton Avenue, Main Street, Stargell Avenue,
14 and Webster Street; however, there would be no significant operational traffic noise
15 impacts.

16

17 **Mitigation Measures**

18

19 No mitigation measures are required.

20

21 **4.12.2 Alternative B: No Action**

22

23 Maintaining the project area in caretaker status would result in no noise impacts.

24

4.13 HAZARDOUS MATERIALS AND WASTE

This section describes impacts related to hazardous materials and hazardous wastes that would be associated with Alternatives A and B. Impacts are analyzed against operational baseline conditions as described in Section 3.13. This section also details the Navy, regulatory, and public review processes established to protect human health and the environment.

The Navy is committed to complete all required remediation of contaminated sites resulting from Navy activities at NAS Alameda. Final cleanup remedies have been selected for OU-5/IR-2 groundwater and Site 25 soil. Delays or restrictions in disposal and reuse could occur, depending on the extent of contamination and the results of the risk assessment and remedial designs developed for contaminated sites (NAVFAC SW 2007a, b).

No Impacts were identified for RCRA sites, medical/biohazardous wastes, pesticides, PCB, ordnance, or radon. These subjects are not discussed further in this section.

Region of Influence (ROI)

The ROI for hazardous materials and wastes is the North Housing Parcel (Parcels 181 and 182).

4.13.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Impacts

Alternative A includes the reuse of the North Housing Parcel (approximately 42 acres [15 hectares]) at NAS Alameda. The proposed reuse of the site will adhere to the amended Community Reuse Plan.

There were no UST or AST sites, fuel lines, or hazardous waste storage areas identified in the North Housing Parcel. However, IR Site 25 soil and OU-5/IR-02 groundwater were identified in the North Housing Parcel.

IR Site 25 soil was identified in the North Housing Parcel and was investigated. A ROD was issued in 2007 for Site 25 soil and a remediation alternative was recommended.

1 The selected remedy by the Navy is to implement ICs for Site 25 to limit human contact
2 with PAH-containing soil that may be harmful to human health. ICs will require the future
3 landowner to obtain written approval from the regulatory agencies and the Navy and
4 requires the landowner to comply with a soil management plan for excavation of soil
5 from depths greater than 4 feet (1.2 meters) bgs and for major work related to the
6 removal of buildings and hardscape (NAVFAC SW 2007a).

7
8 OU-5/IR-02 groundwater was identified in the North Housing Parcel and is currently
9 being remediated. The shallow groundwater ranges from approximately 2 to 10 feet (0.6
10 to 3 meters) bgs. Groundwater generally flows in a north to northwest direction, toward
11 the Oakland Inner Harbor. A ROD was issued in 2007 for OU-5/IR-02 groundwater and
12 a remediation alternative was recommended. The Navy plans a 2-year groundwater
13 treatment program in the three areas of the plume that have higher contaminant levels
14 (“plume-centers”), beginning in September 2008. One of these areas is within the North
15 Housing Parcel—in the southeast, beneath Kollmann Circle. The 3.9-acre Kollmann
16 Circle area of Site 25 will likely not be available for development for the next 5 to 10
17 years. Lower-level contamination in the rest of the plume will be monitored and is
18 expected to biodegrade naturally within about 10 years. Until then, land use restrictions
19 forbid both the use of groundwater and interference with cleanup operations. Vapor
20 intrusion into indoor air has been shown not to be a problem at the North Housing
21 Parcel. The Navy’s groundwater cleanup efforts are compatible with residential use of
22 the property outside Kolmann Circle and should be minimally disruptive.

23
24 In addition, LBP is present in the buildings, apartments, and soil located in the North
25 Housing Parcel.

26
27 **Mitigation Measures**

28
29 Contaminated soil can be expected to be encountered at the shallow (i.e., 4 feet [1.2
30 meters] bgs) depth at North Housing Parcel area (see Section 3.13). Where Alternative
31 A involves construction and excavation activities, mitigation at these areas will be
32 conducted in accordance with the approved remedial actions and federal and state
33 regulations. Any contaminated soil encountered during the construction activities will be
34 properly disposed of at approved state licensed disposal facilities. If Marsh Crust is
35 encountered during excavation, Ordinance No. 2824 (Marsh Crust ordinance) will be
36 adhered to.

1 The groundwater depth for Alameda Point Site 25 and OU-5/IR-02 is relatively shallow
2 (i.e., 2 to 10 feet [0.6 to 3 meters] bgs); therefore, shallow excavation could potentially
3 encounter contaminated groundwater, exposing workers to potential contamination and
4 possibly result in unacceptable discharges of contaminated groundwater into drainage
5 systems if dewatering is conducted. Construction of project components that require
6 excavation, such as concrete slabs, parking surfaces and trenching for utilities may
7 have significant impacts. Groundwater treatment processes would be applied, as
8 necessary, if contaminated groundwater is encountered during construction activities.
9 Treatments could include: in-situ treatment; on-site pump treatment; and disposal of
10 encountered contaminated groundwater at approved state-licensed disposal facilities.

11
12 Demolition of existing facilities would require the preparation and implementation of an
13 abatement plan, which follows federal and state regulations for the removal of any LBP.
14 Proper and safe techniques need to be adopted throughout the entire abatement and
15 disposal process. Some soil excavation may be required to address contaminated
16 structure demolition/removal activities and/or to remove contaminated soil associated
17 with the demolition of existing facilities.

18
19 In addition, other undocumented contaminants residue in the soil from historical spills
20 that may be present underneath the site should be assessed during the North Housing
21 Parcel project. ICs will require the future landowner to obtain written approval from the
22 regulatory agencies and the Navy and requires the landowner to comply with a soil
23 management plan for excavation of soil from depths greater than 4 feet (1.2 meters) bgs
24 and for major work related to the removal of buildings and hardscape (NAVFAC SW
25 2007a).

26 27 **4.13.2 Alternative B: No Action**

28 29 **Impacts**

30
31 Under the No Action Alternative, no hazardous materials or waste impacts would occur.

32 33 **Mitigation Measures**

34
35 No public health and safety impacts will occur; therefore, no mitigation measures are
36 proposed.

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CHAPTER 5.0 OTHER NEPA CONSIDERATIONS

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2
3
4
5 This section summarizes the cumulative impacts associated with the proposed project
6 that are identified in environmental issue areas in Sections 4.1 through 4.13 of this EA.
7 Cumulative impacts are the result of combining the potential effects of the project with
8 existing, approved, proposed, and other reasonably foreseeable development projects.
9

10 5.1 CUMULATIVE IMPACTS

11
12 NEPA regulations require an EA to discuss cumulative impacts when they are
13 significant. If these impacts are nonsignificant, the document should explain the basis
14 for that conclusion. Cumulative impacts are two or more individual effects that, when
15 considered together, are considerable or that compound other environmental impacts.
16 Individual impacts may be changes resulting from a single project or a number of
17 separate projects. Cumulative impacts from several projects are the changes in the
18 environment that result from the incremental impact of the project when added to other
19 closely related past, present, and reasonably foreseeable future projects.
20

21 Cumulative impacts can result from individually minor but collectively significant projects
22 occurring over the lifetime of the project under consideration. An analysis of cumulative
23 impacts must consider both regional and local effects. The region considered in this
24 analysis is the surrounding area of NAS Alameda. For the purposes of analysis, it is
25 assumed that the reuse of the NAS Alameda/FISC Alameda property would be
26 implemented concurrently with other projects that could contribute to locally and
27 regionally cumulative impacts. Local projects include the proposed uses on property at
28 NAS Alameda/FISC Alameda that is already transferred.
29

30 The methodology used to develop the cumulative analysis included reviewing the
31 current General Plan for the City of Alameda and compiling a list of ongoing and
32 proposed specific projects near NAS Alameda/FISC Alameda that could reasonably
33 contribute to cumulative impacts. Additional sources were used to identify reasonably
34 foreseeable projects because the General Plan for the area does not include some of
35 the most recent land use proposals in the area and does not include proposals for
36 surrounding jurisdictions. A list of cumulative projects is presented in Table 5-1. The

1
2

**Table 5-1
Cumulative Projects**

Project	Project Size	Historical Uses	Project Description	Completion Date of Planning Document	Project Completion Date	Historical Population	Projected Future Population	Net Population Change
Alameda Landing Bayport	87 acres	Military	485 single-family home community, including a 11-acre centrally located park plus four mini-parks throughout the neighborhoods and an elementary school.	2000	2007	Unknown	Unknown	Unknown
Transit Nodes in West End Neighborhood	Development of 0.5 miles	Civilian	Develop corner transit nodes to integrate with NAS Alameda/ FISC Alameda transit.	January 1996	2020	N/A	N/A	N/A
Buildout of Alameda General Plan	Mostly small developments less than 100 acres, except for up to 5.2 million square feet for the Harbor Bay Business Park	Civilian urbanized; farming; fill area on Bay Farm Island	Development and infill of existing parcels and some redevelopment of existing urban area; Harbor Bay Business Park will be a major research and development center and includes a conference	1991	2010	74,139 in 1990	81,400 in 2010	7,261

Project	Project Size	Historical Uses	Project Description	Completion Date of Planning Document	Project Completion Date	Historical Population	Projected Future Population	Net Population Change
			hotel and retail development.					
	905 acre	Variable	Plan for future development along Oakland Estuary	1998	2015	457	1,857	1,400
Port of Oakland Airport Terminal Expansion Projects	2,662 acres	Airport	Construct air passenger terminals, air cargo facilities, airport facilities, and landslide access.		2000–2010	0	0	0
Naval Station Treasure Island	558.7 acres	Military	Reuse property for residential development, publicly-oriented uses (e.g., theme park, hotel), community services, and open space or recreation.	1999	2010–2020	4,509 in 1990	Unknown	Unknown

1

1 reuse of NAS Alameda/FISC Alameda, in conjunction with other major projects in the
2 region, would result in cumulative impacts to several resources. Some of these impacts,
3 such as job opportunities and housing supply, which are described in the
4 socioeconomics section, would be beneficial. Other impacts would be fully or potentially
5 offset through the planning process for the individual projects or by developing project-
6 specific mitigation measures. The cumulative impacts of the projects listed in Table 5-1
7 are discussed under the appropriate resource areas below.

8 9 **5.2 ENVIRONMENTAL ANALYSIS OF CUMULATIVE EFFECTS**

10
11 NEPA requires only a discussion of those cumulative impacts with the potential for
12 significance. Implementation of these projects would not conflict with the implementation
13 of the Preferred Alternative in terms of construction and operation. Potential impacts
14 associated with these projects would be, or have been, addressed on a project-specific
15 basis via the preparation of NEPA documentation.

16
17 Effects of the Preferred Alternative on land use, visual, socioeconomics, public services,
18 utilities, cultural resources, biological resources, geology and soils, traffic and
19 circulation, noise, and hazardous materials would not be significant. These effects
20 would not contribute to cumulative impacts associated with other planned projects in the
21 vicinity of the proposed multi-family housing sites. Cumulative effects of the Preferred
22 Alternative and these other projects could occur to air quality, and water resources.
23 Each of these resources is addressed in this section.

24 25 **5.2.1 Water Resources**

26
27 Implementation of the Preferred Alternative in combination with other proposed or
28 reasonably foreseeable development has the potential to cumulatively affect the quality
29 of local receiving waters. The Preferred Alternative would incorporate hydrology/water
30 quality measures such as compliance with the NPDES General Permit No. CAS000002
31 and the associated Order No. 92-08-DWQ, "Waste Discharge Requirements for
32 Discharges of Storm Water Runoff Associated with Construction Activity." A SWPPP,
33 along with applicable BMPs, would be implemented along with an erosion control plan,
34 which would include the use of hay bales, silt fences, siltation basins, or other devices
35 necessary to stabilize the soil in denuded or graded areas during the construction and
36 revegetation phases of the project. New drainage improvements would be installed to
37 properly collect and carry off-site surface runoff. The other cumulative projects in the

1 vicinity of the Preferred Alternative would be required to incorporate specific measures
2 and procedures into design, construction, and operational plans. Examples of such
3 measures and procedures include, but are not limited to, (1) ensuring that storm water
4 discharges are in compliance with all pertinent regulations such as the CWA and RCRA,
5 and (2) adherence to appropriate permits and plans such as the NPDES permit and
6 SWPPP and other spill contingency plans. In addition, all development activities would
7 be required to implement BMPs to avoid or minimize erosion, sedimentation, and water
8 quality degradation. Therefore, the Preferred Alternative, in conjunction with other
9 projects would not result in significant cumulative impacts to hydrology and water
10 quality.

11 12 **5.2.2 Air Quality**

13
14 Increased air pollutant emissions would be emitted during construction and operational
15 phases of the Preferred Alternative. As stated in Chapter 4.11, the Preferred Alternative
16 would not result in adverse impacts during construction and operational phases.

17
18 According to the FEIS (U.S. Navy 1999), implementing any of the NAS Alameda reuse
19 alternative, along with other major developments in the region, would contribute to
20 cumulative air pollutant emissions in the Bay Area. While the Preferred Alternative
21 would not individually result in adverse impacts, the Preferred Alternative along with the
22 actions under the NAS Alameda reuse alternative and other major developments in the
23 region would contribute to cumulative air quality impacts to the Bay Area. Cumulative air
24 quality issues in the Bay Area are being addressed through regional air quality plans
25 developed jointly by BAAQMD, ABAG, and MTC. These plans reflect anticipated
26 regional land use and transportation patterns. BAAQMD regulations require most new
27 industrial facilities to fully offset emissions that will be generated by their operations.
28 Compliance with the above agencies would reduce the impacts associated with the
29 Preferred Alternative and other projects for air quality.

30 31 **5.2.3 Global Climate Change**

32
33 This section includes a discussion of climate change and greenhouse gases (GHG); a
34 summary of applicable regulations; and a discussion of GHG emissions due to the
35 proposed action and potential impacts related to climate change.

1 **Greenhouse Gases**

2
3 Certain gases that occur in the atmosphere are classified as GHGs. Examples of GHGs
4 are water vapor, carbon dioxide, methane, ozone, nitrous oxide, and fluorinated
5 compounds. GHGs play a critical role in determining the Earth's surface temperature.
6 Solar radiation enters the atmosphere from space. A portion of the radiation is absorbed
7 by the Earth's surface, and a smaller portion of this radiation is reflected back toward
8 space. The radiation that is emitted from the Earth toward space is in the form of lower
9 frequency infrared radiation, as opposed to high-frequency solar radiation. Most solar
10 radiation passes through GHGs; however, GHGs have strong absorption properties in
11 the infrared wavelength, whereas the atmosphere, in its natural composition, does not.
12 Thus, infrared radiation is selectively absorbed by GHGs. As a result, radiation that
13 otherwise would have escaped back into space is instead "trapped," resulting in a
14 warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is
15 responsible for maintaining a habitable climate on Earth. Without the greenhouse effect,
16 Earth would not be able to support life as we know it (IPCC 2007a).

17
18 Aside from water vapor, a naturally occurring GHG that accounts for the largest
19 percentage of the greenhouse effect, other prominent GHGs that contribute to the
20 greenhouse effect are carbon dioxide (CO₂), methane (CH₄), ozone (O₃), nitrous oxide
21 (N₂O), and fluorinated compounds (hydrofluorocarbons [HFC], perfluorocarbons [PFC]
22 and sulfur hexafluoride [SF₆]) (USEPA 2008a). Carbon dioxide equivalent (CO₂e) is a
23 commonly used, single measurement for overall GHG emissions that facilitates analysis
24 and takes into account the fact that different GHGs have different potential to retain
25 infrared radiation in the atmosphere and contribute to the greenhouse effect. This
26 potential, known as the global warming potential (GWP) of a GHG, depends on the
27 lifetime, or persistence, of the gas molecule in the atmosphere. For example, as
28 described in Appendix C, "Calculation References," of the *General Reporting Protocol* of
29 the California Climate Action Registry (CCAR) (2009), 1 metric ton of CH₄ has the same
30 contribution to the greenhouse effect as approximately 23 metric tons of CO₂.
31 Therefore, CH₄ is a much more potent GHG than CO₂. Fluorinated compounds are
32 typically emitted in smaller quantities from industrial processes, but because they are
33 potent GHGs, they are sometimes referred to as High GWP gases. Expressing
34 emissions in CO₂e takes the contributions of all GHG emissions to the greenhouse
35 effect and converts them to a single unit equivalent to the effect that would occur if only
36 CO₂ were being emitted (USEPA 2008a).

1 **Impacts of Climate Change**

2
3 Global climate change is defined as a change in the climate that is attributed directly or
4 indirectly to human activity that alters the composition of the global atmosphere, and
5 that is in addition to natural climate variability observed over comparable time periods.
6 Human-caused emissions of GHGs exceeding natural ambient concentrations are
7 responsible for intensifying the greenhouse effect and have led to a trend of unnatural
8 warming of Earth's climate (UNFCCC 2008). It is extremely unlikely that global climate
9 change of the past 50 years can be explained without the contribution from human
10 activities (IPCC 2007a).

11
12 According to scientific consensus on the subject, global climate change is already under
13 way. The Working Group I's contribution to the Intergovernmental Panel on Climate
14 Change (IPCC) Fourth Assessment Report describes progress in understanding of the
15 human and natural drivers of climate change, observed climate change, climate
16 processes and attribution, and estimates of projected future climate change (IPCC
17 2007a). The Working Group II's contribution to the Fourth Assessment Report describes
18 the relationship between observed climate change and recent observed changes in the
19 natural and human environment (IPCC 2007b). GHGs are global pollutants, unlike
20 criteria air pollutants and hazardous air pollutants (discussed in Section 3.11, Air
21 Quality, of this EA), which are pollutants of regional and local concern. Whereas
22 pollutants with localized air quality effects have relatively short atmospheric lifetimes
23 (about 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand
24 years). GHGs persist in the atmosphere long enough to be dispersed around the globe
25 (IPCC 2007a).

26
27 Similarly, impacts of GHGs are borne globally, as opposed to localized air quality effects
28 of criteria air pollutants and hazardous air pollutants. The quantity of GHGs that it takes
29 to ultimately result in climate change is not precisely known, but it is clear that the
30 quantity is enormous and that no single project would be expected to measurably
31 contribute to a noticeable incremental change in the global average temperature, or to
32 global or local climate or microclimate change (CAPCOA 2008).

33
34 Global average ambient concentrations of CO₂ have demonstrably increased since
35 preindustrial times, from approximately 280 parts per million (ppm) to approximately 353
36 ppm in 1990 and approximately 380 ppm in 2000. Global average temperature has risen
37 approximately 0.76 degree Celsius (°C) since 1850. If global CO₂ emissions were to be

1 curbed today, global average temperature would continue to rise an additional 0.5°C by
2 the end of this century because of the inertia of the climate system and time scale of the
3 main sequestration mechanism in the carbon cycle—the ocean. As GHG emissions
4 associated with fossil fuel combustion, population growth, technological advances, and
5 current standards of living will likely continue to occur, a more likely range of scenarios for
6 global average temperature rise would be 1.8–4.0°C by the end of the century, depending
7 on the global emissions scenario that ultimately unfolds (IPCC 2007a). The IPCC has
8 developed several climate change scenarios to examine global average temperature
9 change. For example, the IPCC’s B1 scenario (low population growth, clean technologies,
10 and a low emissions future) is the best-case scenario; the A2 scenario (high population
11 growth, fossil-fuel dependence, and a high emissions future) is the worst-case scenario;
12 and its A1B scenario is a moderate scenario (IPCC 2007a).

13
14 Impacts associated with the incremental increase in global average temperature can
15 occur in numerous forms: sea level rise, reduction in the extent of polar and sea ice,
16 changes to ecosystems, changes in precipitation patterns, reduced snowpack,
17 agricultural disruption, increased intensity and frequency of storms and temperature
18 extremes, increased risk of floods and wildfires, increased frequency and severity of
19 drought, effects on human health from vectorborne disease, species extinction, and
20 acidification of the ocean (IPCC 2007a).

21

22 **Greenhouse Gas Emissions Sources**

23

24 Human-related emissions of GHGs contributing to global climate change are attributable
25 in large part to activities associated with the transportation, industrial/manufacturing,
26 utility, residential, commercial, and agricultural sectors (CARB 2009). In California, the
27 transportation sector is the largest emitter of GHGs, followed by electricity generation
28 (CARB 2009). Individual GHGs are associated with different types of activities. For
29 example, emissions of CO₂ are byproducts of fossil-fuel combustion, while CH₄ results
30 from off-gassing (the release of chemicals from nonmetallic substances under ambient
31 or greater pressure conditions) largely associated with agricultural practices and
32 landfills. CO₂ sinks, or reservoirs, include vegetation and the ocean, which respectively
33 absorb CO₂ through photosynthesis and dissolution, and are two of the most common
34 processes of CO₂ sequestration. CH₄ sinks include chemical reactions in the
35 atmosphere that convert CH₄ to other gaseous compounds, and woodland soils where
36 the CH₄ is used by bacteria in the soil as a source of carbon (USEPA 2008a).

37

1 California is the second largest emitter of CO₂ in the U.S. and the 12th to 16th largest
2 emitter of CO₂ in the world (CEC 2006a). Due to limited availability of data and a higher
3 level of uncertainty in quantification methods, similar information is not available for CH₄
4 emissions. California produced 484 million gross metric tons of CO₂e in 2004 (CARB
5 2009). Combustion of fossil fuel in the transportation sector was the single largest
6 source of California's GHG emissions in 2004, accounting for 38 percent of total GHG
7 emissions in the state (CARB 2009). This sector was followed by the electric power
8 sector (including both in-state and out-of-state sources) (19 percent) and the industrial
9 sector (23 percent) (CARB 2008a).

11 **Regulatory Background**

13 Federal Plans, Policies, Regulations, and Laws

15 As of this writing, there are no adopted federal plans, policies, regulations, or laws
16 mandating reductions in GHG emissions applicable to the proposed action (USEPA
17 2008a). According to the USEPA, "The United States government has established a
18 comprehensive policy to address climate change." This includes slowing the growth of
19 emissions; strengthening science, technology, and institutions; and enhancing
20 international cooperation. To implement this policy, "the Federal government is using
21 voluntary and incentive-based programs to reduce emissions and has established
22 programs to promote climate technology and science" (USEPA 2008b). The federal
23 government's goal is to reduce the GHG intensity (a measurement of GHG emissions
24 per unit of economic activity) of the American economy by 18 percent over the 10-year
25 period from 2002 to 2012. In addition, USEPA administers multiple programs that
26 encourage voluntary GHG reductions, including ENERGY STAR, Climate Leaders, and
27 Methane Voluntary Programs (USEPA 2007).

29 With respect to GHGs, the U.S. Supreme Court ruled on April 2, 2007 that CO₂ is an air
30 pollutant as defined under the CAA, and that USEPA has the authority to regulate
31 emissions of GHGs (*Massachusetts v. Environmental Protection Agency*, 549 U.S. 497
32 [2007]).

34 CEQ regulations recognize that many federal agencies confront limited information and
35 substantial uncertainties when analyzing the potential environmental impacts of their
36 actions under NEPA (40 C.F.R. § 1502.22).

1 This analysis acknowledges that there is incomplete or unavailable information
2 regarding GHG emissions such that a credible estimate of the potential environmental
3 impacts of the proposed action on global average temperature or on global or local
4 climate cannot be made.

5
6 State Plans, Policies, Regulations, and Laws
7

8 Although GHG emissions are not currently regulated at the federal level, various state
9 and local governments have adopted legislation and action plans to reduce GHG
10 emissions. For example, the State of California has passed several pieces of legislation
11 intended to reduce the rate of GHG emissions to a level that can help the state do what
12 is viewed as its fair share to slow or stop the human-caused increase in average global
13 temperatures, and associated changes in climatic conditions. In September 2006,
14 Governor Schwarzenegger signed Assembly Bill (AB) 32 (Chapter 488, Statutes of
15 2006), the Global Warming Solutions Act of 2006, which enacted Sections 38500–
16 38599 of the California Health and Safety Code. AB 32 establishes regulatory,
17 reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions
18 and a cap on statewide GHG emissions. In 2002, then-Governor Gray Davis signed AB
19 1493 (Chapter 200, Statutes of 2002), which amended Section 42823 of the California
20 Health and Safety Code and added Section 43018.5 to the code. AB 1493 required that
21 CARB, California Air Resource Board, develop and adopt, by January 1, 2005,
22 regulations that achieve “the maximum feasible reduction of greenhouse gases emitted
23 by passenger vehicles and light-duty trucks and other vehicles determined by CARB to
24 be vehicles whose primary use is noncommercial personal transportation in the state.”
25 The authorization to implement more stringent standards in California was requested in
26 the form of a CAA Section 209(b) waiver from USEPA in 2005. USEPA denied
27 California’s request for the waiver to implement AB 1493 in late December 2007. The
28 State of California has filed suit against USEPA for its decision to deny the CAA waiver.

29
30 SB 107 (Chapter 464, Statutes of 2006) requires investor-owned utilities such as
31 SDG&E to increase the percentage of renewable energy in the state’s electricity mix to
32 20 percent by 2010. California State Executive Order S-20-04 sets a goal of reducing
33 energy use in state-owned and private commercial buildings by 20 percent in 2015,
34 using non-residential Title 20 and Title 24 standards adopted in 2003 as the baseline.
35 CARB also approved a list of discrete early action measures to address climate change
36 as required by AB 32.

1 California law (SB 97, Chapter 185, 2007) states that GHG emissions and their effects
2 are subject to the California Environmental Quality Act (CEQA). Pursuant to SB 97, the
3 Governor's Office of Planning and Research (OPR) is in the process of developing
4 guidelines for the mitigation of GHG emissions or the effects of GHG emissions. As part
5 of this process, OPR has asked CARB technical staff to recommend statewide interim
6 thresholds of significance for GHGs. CARB released a preliminary draft proposal on
7 recommended approaches for setting interim significance thresholds for GHGs under
8 CEQA in October 2008. CARB is holding public workshops and soliciting comments
9 regarding these interim recommendations, and no statewide significance thresholds
10 have been adopted as of the writing of this document (CARB 2008b).

11 12 Regional and Local Plans, Policies, Regulations, and Ordinances

13
14 In April 2009, BAAQMD, Bay Area Air Quality Management District, released the draft
15 options report for CEQA thresholds of significance for evaluating the adverse
16 environmental effects that a proposed land development project may have on global
17 climate change due to its emissions of GHGs. These threshold options are in the
18 preliminary draft stage. BAAQMD has held public workshops to solicit input on the
19 threshold options, but the preliminary thresholds of significance have not been adopted
20 as of the writing of this document (BAAQMD 2009).

21 22 **Impact Analysis**

23
24 As stated above, no federal, state, or local agency has adopted a significance threshold
25 for analyzing project-generated GHG emissions or a methodology for analyzing air
26 quality impacts related to climate change as of the writing of this document.

27 28 Project Generated Greenhouse Gas Emissions

29
30 Short-term construction and long-term operation of the development contemplated
31 under the proposed action would generate emissions of GHGs. Construction-related
32 GHG emissions would be associated with vehicle engine exhaust from construction
33 equipment, vendor trips, and construction worker commuting trips. Operational
34 emissions would be associated with area, mobile, and stationary sources. Area-source
35 emissions would be associated with activities such as natural gas use and maintenance
36 of landscaping and grounds. Mobile-source emissions of GHGs would include vehicle
37 trips associated with employees, dependents, visitors, and deliveries to the proposed

1 site. In addition, increases in stationary-source emissions would occur at off-site utility
2 providers associated with electricity generation and water distribution that would supply
3 the proposed action. The proposed action would be supplied with electricity and water,
4 the delivery and/or generation of which would lead to indirect off-site emissions of
5 GHGs.

6
7 GHG emissions generated by the proposed action would predominantly consist of CO₂.
8 Although emissions of other GHGs such as CH₄ and N₂O also contribute to global
9 climate change, these GHGs are emitted in much smaller quantities than CO₂, from the
10 emissions-generating activities associated with the proposed action. This is because
11 mobile sources would be the primary source of GHG emissions associated with the
12 proposed action, and CH₄ and N₂O represent a negligible portion of the GHGs
13 associated with the burning of gasoline and diesel fuel in mobile sources (CCAR 2009).

14
15 **Alternative A: Reuse Plan Amendment (Preferred Alternative)**

16
17 Construction under Alternative A (Preferred Alternative) would generate a finite quantity
18 of approximately 603 metric tons of CO₂e over the duration of construction activities
19 (estimated to occur in 2010). Construction activity would contribute GHG emissions to a
20 much lesser extent than the long-term operation of Alternative A, for which emissions
21 would occur annually over the lifetime of the project. Buildout of Alternative A would add
22 approximately 2,431 vehicle trips per day to the area (see Section 4.10 Traffic and
23 Circulation). The trip generation accounts for the proposed action's proximity to transit
24 and the higher likelihood of transit use due to the low income nature of the housing
25 development. If the total vehicular trips, as well as area-source and offsite stationary-
26 source GHG emissions are considered, operation of Alternative A would generate total
27 GHG emissions of approximately 5,263 metric tons of CO₂e annually during the lifetime
28 of the proposed action. Table 5-2 shows the estimated GHG emissions due to
29 construction and operation of Alternative A, and their contribution to BAAQMD,
30 California, and U.S. inventories of CO₂e.

Table 5-2
Summary of Modeled Project-Generated, Construction- and Operation-Related Emissions of Greenhouse Gases (Carbon Dioxide Equivalent)

Source	Estimated Emissions (CO ₂ e) ¹
Construction-related emissions (to occur in 2010)	603 metric tons
Operational Emissions (2011)	
Area Sources	725 TPY
Mobile Sources ²	3,348 TPY
Electricity Consumption ³	1,118 TPY
Water Consumption (energy for conveyance, treatment, distribution, and wastewater treatment) ⁴	72 TPY
Total GHG emissions	5,263 TPY
Proposed Action's Contribution to Alameda County Inventory of CO ₂ e (2020) ⁵	0.004 %
Proposed Action's Contribution to California Inventory of CO ₂ e (2020) ⁶	0.0009 %
Proposed Action's Contribution to U.S. Inventory of CO ₂ e (2020) ⁷	0.0001 %

¹ Emissions were modeled using the URBEMIS 2007 (Version 9.2.4) computer model, based on trip generation rates obtained from Section 4.10, Traffic and Circulation, of this EA; proposed alternatives identified in Chapter 2, Alternatives, Including the Proposed Action; and default model assumptions where detailed information was not available. URBEMIS accounts for emissions from vehicles and natural gas use. URBEMIS output is in units of tons CO₂/year, whereas a standard unit for reporting GHG emissions is in metric tons CO₂e/year. URBEMIS does not include emission factors for CH₄ and N₂O. Tons were converted to metric tons using the factor of 0.907 metric tons per ton.

² Mobile-source emissions were calculated using the same assumptions as those used in the NEPA emissions analysis (Section 4.11, Air Quality).

³ Indirect operational emissions for electricity generation were calculated using GHG emission factors from the California Climate Action Registry (CCAR) General Reporting Protocol, Version 3.1 January 2009, Appendix C. Building electricity consumption was estimated based on California Energy Commission (CEC) energy use data (CEC 2006b).

⁴ Electricity consumption data for water supply was obtained from the CEC report on Energy – Water Relationship (CEC 2005). CCAR emission factors were used to calculate GHG emissions due to water consumption.

⁵ GHG emissions in the Bay Area Air Basin are forecast to be approximately 128 million metric tons (MMT) of CO₂e by 2020 under a business-as-usual scenario (BAAQMD 2008).

⁶ CARB estimates that 2020 business-as-usual GHG emissions in California will be 596 MMT CO₂e (CARB 2008c).

⁷ 2020 business-as-usual GHG emissions in the U.S. are forecast to be 9.2 billion MMT CO₂e.

GHG = greenhouse gas; CO₂e = carbon dioxide equivalent; TPY = tons (metric) per year

Notes: It is expected that the proposed action's operational GHG emissions would decrease in the subsequent years since reductions would be achieved through state regulatory measures such as the AB 32 Early Action Measures (adopted in July 2007). These emissions are conservatively compared to the county and state inventories for 2020.

The values presented in this table do not include the full life-cycle of GHG emissions that may occur over the production/transport of materials used during construction of the project or solid waste disposal over the life of the project, end-of-life of the materials, and processes that would contribute to GHG emissions that occur as an indirect result of the project, etc. Doing so would require analysis beyond the current capabilities in impact assessment, and would lead to a false and misleading level of precision in reporting of project-related GHG emissions. Further, indirect emissions associated with in-state energy production and solid waste disposal would be regulated under AB 32 at the source or facility that would handle these processes. The emissions associated with off-site facilities in California would be closely controlled, reported, capped, and traded under AB 32 and CARB programs. Therefore, this category of emissions would be consistent with AB 32 requirements.

Refer to Appendix A for detailed assumptions and modeling output files.

1 **Alternative B: No Action Alternative**

2
3 Under the No Action Alternative, the NAS Alameda North Housing Parcel would remain
4 under federal control in a caretaker status. Activities would be limited to maintenance
5 and security activities associated with the site. No new houses would be constructed
6 associated with the No Action Alternative. Therefore, no additional GHG emissions
7 would be anticipated under this alternative.

8
9 Emissions Reduction Measures

10
11 Implementation of future regulations for building energy efficiency, fuel efficiency for
12 vehicles, use of renewable fuels, and alternative forms of energy are expected to
13 reduce GHG emissions. Stationary- and mobile-source measures and regulations on
14 the horizon would assist in further lowering GHG emissions under the proposed action.
15 It is expected that GHG emissions reductions will be achieved through state regulatory
16 measures such as the AB 32 Early Action Measures (adopted in July 2007). Also,
17 additional GHG reductions for mobile sources may be available through legislation such
18 as AB 1493, which would create more stringent vehicle emission standards for GHGs.
19 Net GHG emissions under buildout assumptions under the proposed action would likely
20 be lower than those presented in Table 5-2, given the likelihood of future legislative and
21 regulatory actions. However, the anticipated amount of GHG reduction could not be
22 determined at this time.

23
24 Summary

25
26 Emissions of GHGs are dispersed worldwide throughout the atmosphere, and the
27 effects of climate change are borne globally, unlike emissions of criteria air pollutants,
28 which have regional and/or local impacts on air quality. It is uncertain to what extent
29 emissions of GHGs attributable to the proposed action can be treated as a net increase.

30
31 To date, research on how emissions of CO₂ and other GHGs influence global climate
32 change and associated effects has focused on the overall impact of emissions from
33 aggregate regional or global sources. This is primarily because GHG emissions from
34 single sources are small relative to aggregate emissions, and GHGs, once emitted from
35 a given source, become well mixed in the global atmosphere and have a long
36 atmospheric lifetime. Analyses of climate change impacts often focus on climate
37 scenarios, and the information to analyze small changes in climate variables is not

1 generally available in the research community (USCCSP 2008). Moreover, regional and
2 local climates will change as the global climate changes. Changes in global climate
3 variables will be reflected in regional and local changes in average climate variables,
4 and in the variability and patterns of climate, such as seasonal and annual variations,
5 the frequency and intensity of extreme events, and other physical changes, such as the
6 timing and amount of snowmelt. Impact assessments often rely on highly localized data
7 for both climate and other conditions and circumstances (USCCSP 2008).

8
9 The climate change research community has not yet developed tools specifically
10 intended for evaluating or quantifying end-point impacts attributable to the emissions of
11 GHGs from a single source. This analysis relies on the best available methodology and
12 science to estimate the amount of GHG emissions that would be associated with the
13 proposed action. In particular, because of the uncertainties involving the assessment of
14 such emissions regionally and globally, the incremental contribution of this proposed
15 action on global climate change cannot be accurately determined given the current state
16 of the science and assessment methodology.

17 18 **5.3 SHORT-TERM USES AND LONG-TERM PRODUCTIVITY**

19
20 NEPA requires an EA to address the relationship between short-term uses of the
21 environment and the impact that such uses may have on the maintenance and
22 enhancement of the long-term productivity of the environment. Of particular concern are
23 impacts that would narrow the range of beneficial uses of the environment. This refers
24 to the possibility that choosing one development option would reduce future flexibility in
25 pursuing other options or that committing a parcel of land or other resource to a certain
26 use would eliminate the possibility of other uses being performed at that site.

27
28 The Preferred Alternative would entail the disposal and reuse of the North Housing
29 Parcel at NAS Alameda. The action would commit the site to long-term residential use
30 and thereby preclude its use for alternate long-term or short-term purposes.

31
32 Development of the site would involve certain short-term activities that would provide
33 employment opportunities for persons involved in building construction. These short-
34 term construction activities may result in localized adverse environmental impacts such
35 as increased traffic, noise, and air quality. However, implementation of the construction,
36 design, and mitigation measures proposed to minimize these impacts would reduce
37 potential adverse impacts. The impacts that would result from construction-related

1 activity would cease upon the completion of this activity and would not have an adverse
2 impact on the maintenance and enhancement of long-term productivity.

3
4 Balanced against short-term negative impacts associated with construction activities is
5 the benefit that this action would provide by disposing of and redeveloping the parcel to
6 be consistent with the amended Community Reuse Plan identified in Section 1.1. As
7 well as meet future low- and moderate-income housing needs.

8 9 **5.4 COMMITMENT OF NONRENEWABLE RESOURCES**

10
11 NEPA requires an analysis of significant irreversible effects. Resources that are
12 irreversibly or irretrievably committed to an action are those that are utilized on a long-
13 term or permanent basis. This includes the use of nonrenewable resources such as
14 metal, wood, fuel, paper, and other natural or cultural resources. These resources are
15 considered nonretrievable in that they would be used for an action when they could
16 have been conserved or used for other purposes. Another impact that falls under the
17 category of irreversible and irretrievable commitment of resources is the unavoidable
18 destruction of natural resources that could limit the range of potential uses of that
19 particular environment.

20
21 Implementation of the Preferred Alternative would result in an irretrievable commitment
22 of building materials and fuel for construction vehicles and equipment. In addition, the
23 Preferred Alternative would commit workforce time for construction, engineering,
24 environmental review, and compliance, as well as maintenance after project completion.

25
26 A potential impact that could be considered an irreversible or irretrievable commitment
27 of environmental resources is the unavoidable destruction of biological and cultural
28 resources. The Preferred Alternative would not cause the irreversible commitment of
29 biological resources or an irretrievable commitment of cultural resources.

30
31 The Preferred Alternative would result in increased demand for energy, water, and
32 public services, and increased generation of wastewater. These commitments of
33 resources are neither unusual nor unexpected, given the nature of the action, and are
34 generally understood to be tradeoffs for the benefits of disposal and redevelopment
35 projects. The irreversible or irretrievable impacts associated with the Preferred
36 Alternative have been discussed in detail for each specific environmental resource in
37 previous sections of this EA.

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CHAPTER 6.0
CONSULTATION AND COORDINATION

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CHAPTER 7.0
LIST OF PREPARERS

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Navy Base Realignment and Closure Management Office
1455 Frazee Road, Suite 900
San Diego, CA 92108

Patrick McCay, Environmental Planner

EDAW, Inc.
1420 Kettner Boulevard, Suite 500
San Diego, CA 92101

Ray Hrenko, Principal in Charge
B.S., Environmental Sciences, Florida Institute of Technology
Years of Experience: 24

Valarie Yruretagoyena, Project Manager
B.A., Geography, San Diego State University
Years of Experience: 8

Connie Moen, Project Manager
B.A., Natural Resource Planning, Humboldt State University
Years of Experience: 21

Kara Friedman, Senior Environmental Analyst
B.A., 1999, Environmental Studies, University of Kansas
Years of Experience: 8

Stev Weidlich, Ethnographer
B.A., Anthropology, DePaul University
M.S., Anthropology, Florida State University
Years of Experience: 5

Jeff Goodson, Environmental Engineer
B.S., Civil Engineering, Clemson University

1 B.S., Geology, College of Charleston
2 Years of Experience: 20
3
4 Cheryl Bowden-Renna, Archaeologist
5 B.A., Anthropology, San Diego State University
6 Years of Experience: 13
7
8 Chris Lawrence, Environmental Planner
9 B.A., Political Science, University of California San Diego
10 Years of Experience: 3
11
12 Jason Phillips, Biologist
13 M.S., Environmental Management, University of San Francisco
14 Years of Experience: 6
15
16 Mike Ireland, GIS Specialist
17 B.A., Political Science, University of California Davis
18 M.A., Political Science, University of California Davis
19 Years of Experience: 6
20
21 Angie Harbin-Ireland, Biologist
22 B.S., Wildlife, Fish, and Conservation Biology, University of California Davis
23 M.S., Conservation Ecology, University of California Davis
24 Years of Experience: 10
25
26 Dan Brady, Graphics
27 B.A., Fine Art, San Diego State University
28 Years of Experience: 12
29
30 Justin Sorensen, GIS
31 B.A., Anthropology, San Diego State University
32 Years of GIS Experience: 1
33
34 Therese Tempereau, Technical Editor
35 B.A., English, University of Wisconsin-Madison
36 Years of Experience: 28

1 **Technical Experts Consulted**

2

3 TRAFFIC

4 Kimley-Horn and Associates, Inc.

5 517 Fourth Avenue, Suite 301

6 San Diego, CA 92101

7

8 HAZARDOUS MATERIALS

9 Yu Zeng, Ph.D.

10 RORE, Inc.

11 5151 Shoreham Place, Suite 260

12 San Diego, CA 92122

13

14 AIR QUALITY

15 Dana Byrne, REA

16 Senior Air Quality Consultant

17 Pan Environmental, Inc.

18 11551 Corte Playa Las Brisas, Suite 110

19 San Diego, CA 92124

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CHAPTER 8.0 REFERENCES

- 1
2
3
4
5 Association of Bay Area Governments (ABAG)
6 2006 Projections 2007. Dataset. December
7
8 Alameda Unified School District (AUSD)
9 2009 Personal communication with Leland Noll of the School District. February.
10
11 Bay Area Air Quality Management District (BAAQMD)
12 1999 BAAQMD CEQA Guidelines. December
13
14 2005-2007 Bay Area Pollution Summary
15
16 2007 Spare the Air Tonight Study. March
17
18 2008 *Source Inventory of Bay Area Greenhouse Gas Emissions*. Available at:
19 [http://www.baaqmd.gov/Divisions/Planning-and-Research/Emission-](http://www.baaqmd.gov/Divisions/Planning-and-Research/Emission-Inventory-and-Air-Quality-Related/Emission-Inventory/~/_media/64A8751292F44BEEAD56B7569B68DB27.ashx)
20 [Inventory-and-Air-Quality-Related/Emission-Inventory/~/_media/64A87](http://www.baaqmd.gov/Divisions/Planning-and-Research/Emission-Inventory-and-Air-Quality-Related/Emission-Inventory/~/_media/64A8751292F44BEEAD56B7569B68DB27.ashx)
21 [51292F44BEEAD56B7569B68DB27.ashx](http://www.baaqmd.gov/Divisions/Planning-and-Research/Emission-Inventory-and-Air-Quality-Related/Emission-Inventory/~/_media/64A8751292F44BEEAD56B7569B68DB27.ashx). Accessed June 2009.
22
23 2009 *Workshop Draft Options Report California Environmental Quality Act*
24 *Thresholds of Significance*. Available at: [http://hank.baaqmd.gov/](http://hank.baaqmd.gov/pln/ceqa/documents/workshopdraft-ceqathresholdsoptionsreport4-28-2009.pdf)
25 [pln/ceqa/documents/workshopdraft-ceqathresholdsoptionsreport4-28-](http://hank.baaqmd.gov/pln/ceqa/documents/workshopdraft-ceqathresholdsoptionsreport4-28-2009.pdf)
26 [2009.pdf](http://hank.baaqmd.gov/pln/ceqa/documents/workshopdraft-ceqathresholdsoptionsreport4-28-2009.pdf). Accessed June 2009.
27
28 California Air Pollution Control Officers Association (CAPCOA)
29 2008 *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas*
30 *Emissions from Projects Subject to the California Environmental Quality*
31 *Act*. January.
32
33 California Air Resources Board (CARB)
34 2007 The California Almanac of Emissions and Air Quality. August.
35

- 1 2008a *Climate Change Proposed Scoping Plan*. Sacramento, CA. Available at:
2 [http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.h](http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm)
3 tm. Last updated December 2008. Accessed May 2009.
4
- 5 2008b California Environmental Quality Act and Greenhouse Gases. Available
6 at: <http://www.arb.ca.gov/cc/localgov/ceqa/ceqa.htm>. Accessed June
7 2009.
8
- 9 2008c Greenhouse Gas Inventory Data - Draft 2020 Forecast. Available at:
10 <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>. Accessed June
11 2009.
12
- 13 2009 *Greenhouse Gas Emissions Inventory Summary for Years 1990-2004*.
14 Available at: [http://www.arb.ca.gov/cc/inventory/data/tables/rpt_l](http://www.arb.ca.gov/cc/inventory/data/tables/rpt_inventory_IPCC_Sum_2007-11-19.pdf)
15 nventory_IPCC_Sum_2007-11-19.pdf. Accessed May 2009.
16
- 17 California Climate Action Registry (CCAR)
18 2009 General Reporting Protocol *Reporting Entity-Wide Greenhouse Gas*
19 *Emissions*. Version 3.1. January.
20
- 21 California Department of Fish and Game (CDFG)
22 2007 California Natural Diversity Data Base. Database Query for the Oakland
23 West, Oakland East, Richmond, San Francisco North, San Leandro, and
24 San Francisco South 7½-minute Quads. February.
25
- 26 California Energy Commission (CEC)
27 2005 *California's Water-Energy Relationship*. Staff Final Report. Publication
28 CEC-700-2005-011-SF. Available at: [http://www.energy.ca.gov/2005](http://www.energy.ca.gov/2005publications/CEC-700-2005-011/CEC-700-2005-011-SF.PDF)
29 publications/CEC-700-2005-011/CEC-700-2005-011-SF.PDF. Accessed
30 June 2009.
31
- 32 2006a *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to*
33 *2004*. Staff Final Report. Publication CEC-600-2006-013-SF. Available
34 at: [http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-](http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF)
35 600-2006-013-SF.PDF. Accessed May 2009.
36

- 1 2006b *California Commercial End-Use Survey*. Consultant Report. Publication
2 CEC-400-2006-005. Available at: <http://www.energy.ca.gov/2006>
3 publications/CEC-400-2006-005/CEC-400-2006-005.PDF. Accessed
4 May 2009.
5
- 6 California Native Plant Society (CNPS)
7 2008 California Native Plant Society (CNPS). 2008. *Inventory of Rare and*
8 *Endangered Plants (Online Edition, v6-05c)*. California Native Plant
9 Society. Sacramento, California. Accessed on March 4, 2008.
10 <http://www.cnps.org/inventory>.
11
- 12 City of Alameda
13 1991 General Plan. Prepared by Blayney Dyett Greenberg for the City of
14 Alameda. February.
15
- 16 1996 Naval Air Station Alameda Community Reuse Plan. January.
17
- 18 1999 For the Reuse of Naval Air Station Alameda and the Fleet and Industrial
19 Supply Center, Alameda Annex and Facility, Alameda, California.
20
- 21 2000 Catellus Mixed Use Development Project Environmental Impact Report.
22
- 23 2006a Alameda Northern Waterfront General Plan Amendment. Prepared by
24 Lamphier-Gregory and DKS Associates. January.
25
- 26 2006b Alameda Landing Mixed Use Development Project, Draft Supplemental
27 Environmental Impact Report. Prepared by ESA, Inc. (San Francisco
28 Office) for the City of Alameda's Planning and Building Department.
29 May.
30
- 31 2008a City of Alameda Municipal Code, Section 4-10, Noise Control Ordinance.
32
- 33 2008b Alameda Naval Air Station Redevelopment website. Available at
34 <http://www.alameda-point.com>. Accessed in February.
35
- 36 2008c Transportation Element Update. March
37

- 1 Cook, Elizabeth
2 2009 Discussion with Elizabeth Cook, City of Alameda Housing Development
3 Manager. February 19.
4
- 5 EDAW, Inc. (EDAW)
6 2008 *Biological Resources Report – Proposed Department of Veterans Affairs*
7 *Facilities at Alameda Point Former NAS Alameda, Alameda County,*
8 *California.* Final report prepared for the Department of Veterans Affairs,
9 Washington, D.C. 51 pp. July 16.
10
- 11 2009 *(in preparation). Programmatic Biological Resources Report – Proposed*
12 *Department of Veterans Affairs Facilities at Alameda Point Former NAS*
13 *Alameda, Alameda County, California.* Unpublished draft report prepared
14 for the Department of Veterans Affairs, Washington, D.C. 51 pp.
15
- 16 Engineering Field Activity West (EFA West)
17 1999 Final Environmental Impact Statement for the Disposal and Reuse of
18 Naval Air Station Alameda and Fleet and Industrial Supply Center
19 Alameda Annex and Facility. October.
20
- 21 2001 Final Comprehensive Guide to the Environmental Baseline Survey
22 Alameda Point. June 29.
23
- 24 Elliot, M. L.
25 2008 Dropped Prey Results, Year 2007. Unpublished report prepared for
26 Susan Euing, U.S. Fish and Wildlife Service. January 23.
27
- 28 Engineering/Remediation Resource Group Inc. (ERRG)
29 2004 Final Groundwater Remedial Investigation/Feasibility Study. Alameda
30 Point, Site 25 and Alameda Annex IR-02. Alameda, California. October
31 2004.
32
- 33 Euing, Susan
34 2007 *Draft Breeding Status of the California Least Tern at Alameda Point,*
35 *Alameda, California, 2006.* Unpublished draft report prepared for the
36 U.S. Navy, U.S. Fish and Wildlife Service. Fremont, California.
37

- 1 2008 *Draft Breeding Status of the California Least Tern at Alameda Point,*
2 *Alameda, California, 2007.* Unpublished draft report prepared for the
3 U.S. Navy, U.S. Fish and Wildlife Service. Fremont, California.
4
- 5 Institute of Transportation Engineers (ITE)
6 2008 Trip Generation, 8th Edition. December.
7
- 8 International Technology (IT) Corporation
9 2001 Final Comprehensive Guide to the Environmental Baseline Survey
10 Alameda Point. June.
11
- 12 Intergovernmental Panel on Climate Change (IPCC)
13 2007a *Climate Change 2007: The Physical Science Basis.* Contribution of
14 Working Group I to the Fourth Assessment Report of the IPCC.
15 Geneva, Switzerland. Available at: [http://www.ipcc.ch/ipccreports/ar4-](http://www.ipcc.ch/ipccreports/ar4-wg1.htm)
16 [wg1.htm](http://www.ipcc.ch/ipccreports/ar4-wg1.htm). Accessed June 2009.
17
- 18 2007b *Climate Change 2007: Impacts, Adaptation, and Vulnerability.*
19 Contribution of Working Group II to the Fourth Assessment Report of the
20 IPCC. Geneva, Switzerland. Available at: [http://www.ipcc.ch/ipccreports/](http://www.ipcc.ch/ipccreports/ar4-wg2.htm)
21 [ar4-wg2.htm](http://www.ipcc.ch/ipccreports/ar4-wg2.htm). Accessed June 2009.
22
- 23 Johe, Deanna
24 2009 Discussion with Deanna Johe, City of Alameda Fire Department.
25 February 13.
26
- 27 JRP Historical Consulting Services
28 1996 Historical and Architectural Resources Evaluation Alameda Facility and
29 Alameda Annex.
30
- 31 Naval Facilities Engineering Command Southwest (NAVFAC SW)
32 2007a Final Record of Decision Site 25 Soil. September.
33
- 34 2007b Final Record of Decision operable Unit 5/IR-02 Groundwater. August.
35

- 1 PAR Environmental Services (PAR)
2 1996 An Archaeological Evaluation of the Fleet Industrial Supply Center and
3 Navy Alameda Family Housing.
4
- 5 Russell Sage Foundation
6 2010 Social Inequity Chartbook. Average Number of Children per Household
7 by Income Quintile. Online dataset. Available at <http://www.russellsage.org/chartbook/householdform/figure4.5/view>.
8
9
- 10 State of California, Department of Transportation (Caltrans)
11 1998 Technical Noise Supplement, Traffic Noise Analysis Protocol. October.
12
- 13 Transportation Research Board
14 2000 Highway Capacity Manual
15
- 16 United Nations Framework Convention on Climate Change (UNFCCC)
17 2008 Article 1 of the UNFCCC. Available at: [http://unfccc.int/essential_](http://unfccc.int/essential_background/convention/background/items/2536.php)
18 [background/convention/background/items/2536.php](http://unfccc.int/essential_background/convention/background/items/2536.php). Accessed May 2009.
19
- 20 U.S. Census Bureau
21 2000 Decennial Census. Online dataset. Available at http://factfinder.ensus.gov/servlet/DatasetMainPageServlet?_program=DEC&submenuld=datasets_2&lang=en&_ts=.
22
23
24
- 25 2007 American Community Survey. Online dataset. Available at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuld=datasets_2&_lang=en.
26
27
28
- 29 U.S. Climate Change Science Program (USCCSP)
30 2008 *Analyses of the Effects of Global Change on Human Health and Welfare and Human Systems, Final Report, Synthesis and Assessment Product*
31 *4.6*. July.
32
33

- 1 U.S. Department of Agriculture (USDA)
2 2007 Characteristics of Low-Income Households With Very Low Food
3 Security: An Analysis of the USDA GPRF Food Security Indicator.
4 Economic Information Bulletin Number 25. May
- 5 U.S. Department of the Navy (U.S. Navy)
6 1999 Final Environmental Impact Statement For the Disposal and Reuse of
7 Naval Air Station Alameda and the Fleet Industrial Supply Center
8 Alameda Annex and Facility. Alameda, California. May
9
- 10 2002 Clean Air Act General Conformity Guidance.
11
- 12 2007a Clean Air Act Conformity Guidance. OPNAVINST 5090.1C. October.
13
- 14 2007b Base Alignment and Closure, Final Record of Decision, Site 25 Soil,
15 Alameda Point, Alameda, California. September.
16
- 17 2008 Base Alignment and Closure, Draft Final Remedial Design/Remedial
18 Action Work Plan, Operable Unit 5/IR-02 Groundwater. August 22.
19
- 20 U.S. Environmental Protection Agency (USEPA)
21 2007 Current and Near-Term Greenhouse Gas Reduction Initiatives. Available
22 at: <http://www.epa.gov/climatechange/policy/neartermghgreduction.html>.
23 Accessed May 2009.
24
- 25 2008a Greenhouse Gas Emissions: Greenhouse Gas Overview. Available at
26 <http://www.epa.gov/climatechange/emissions/index.html>. Accessed May
27 2009.
28
- 29 2008b Climate Change Basic Information: U.S. Climate Policy. Available at:
30 <http://www.epa.gov/climatechange/basicinfo.html>. Accessed May 2009.
31
- 32 U.S. Fish and Wildlife Service (USFWS)
33 1999 Endangered Species Formal Consultation on the Proposed Naval Air
34 Station Alameda/Fleet and Industrial Supply Alameda Facility and
35 Annex, Alameda, California.
36

8.0 References

- 1 2000 Draft Comprehensive Conservation Plan Alameda National Wildlife
2 Refuge. USFWS Portland, Oregon and San Francisco Bay National
3 Wildlife Refuge Complex, Newark, California. September.
4
- 5 2008 Endangered and Threatened Species that Occur in or may be Affected
6 by Projects in the Oakland West U.S.G.S. 7½-Minute Quads. Database
7 last updated: January 29, 2009. Available at [http://www.fws.gov/
8 sacramento/es/spp_lists/auto_list_form.cfm](http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm).
9
- 10 Western Regional Climate Center (WRCC)
11 2009 Climate Data Summary, Oakland.
12
- 13 Weston Solutions, Inc. (Weston)
14 2007 Final Historical Radiological Assessment, Volume II, Alameda Naval Air
15 Station, Use of General Radioactive Materials, 1941-2005. June.
16
- 17 Widell, Cherilyn
18 1997 Written communications from the California Office of Historic
19 Preservation to Lois S. Wall, Department of the U.S. Navy, November 5.
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**CHAPTER 9.0
DISTRIBUTION LIST**

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CHAPTER 10.0
RESPONSES TO COMMENTS

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APPENDIX A

URBEMIS OUTPUT DATA AND GREENHOUSE GAS EMISSION DATA

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\URBEMISrun\NAS Alameda\NAS Alameda.urb924

Project Name: NAS Alameda Project

Project Location: Alameda County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

3/11/2009 8:55:47 PM

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
2010 TOTALS (lbs/day unmitigated)	76.22	56.09	65.31	0.06	200.02	3.22	203.24	41.78	2.96	44.73
2010 TOTALS (lbs/day mitigated)	76.22	56.09	65.31	0.06	29.17	3.22	31.82	6.09	2.96	8.52

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	25.05	3.38	7.58	0.00	0.03	0.03
TOTALS (lbs/day, mitigated)	25.05	3.38	7.58	0.00	0.03	0.03
Percent Reduction	0.00	0.00	0.00	NaN	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	20.25	30.07	228.24	0.21	42.14	8.14
TOTALS (lbs/day, mitigated)	18.96	27.84	211.36	0.19	39.02	7.53
Percent Reduction	6.37	7.42	7.40	9.52	7.40	7.49

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	45.30	33.45	235.82	0.21	42.17	8.17
TOTALS (lbs/day, mitigated)	44.01	31.22	218.94	0.19	39.05	7.56
Percent Reduction	2.85	6.67	7.16	9.52	7.40	7.47

Construction Unmitigated Detail Report:

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CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 1/1/2010-3/31/2010 Active Days: 64	5.26	56.09	25.43	0.04	29.17	2.65	31.82	6.09	2.44	8.52
Demolition 01/01/2010-03/31/2010	5.26	56.09	25.43	0.04	29.17	2.65	31.82	6.09	2.44	8.52
Fugitive Dust	0.00	0.00	0.00	0.00	29.03	0.00	29.03	6.04	0.00	6.04
Demo Off Road Diesel	3.50	26.25	15.30	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Demo On Road Diesel	1.71	29.75	8.85	0.04	0.14	1.02	1.15	0.04	0.94	0.98
Demo Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 4/1/2010-4/30/2010 Active Days: 22	7.21	50.71	30.24	0.00	200.02	3.22	203.24	41.78	2.96	44.73
Asphalt 04/01/2010-04/30/2010	3.00	16.95	11.48	0.00	0.01	1.42	1.43	0.00	1.31	1.31
Paving Off-Gas	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.64	15.97	9.18	0.00	0.00	1.39	1.39	0.00	1.27	1.27
Paving On Road Diesel	0.05	0.84	0.25	0.00	0.00	0.03	0.03	0.00	0.03	0.03
Paving Worker Trips	0.07	0.14	2.05	0.00	0.01	0.01	0.02	0.00	0.00	0.01
Fine Grading 04/01/2010-04/30/2010	4.21	33.76	18.77	0.00	200.01	1.80	201.80	41.77	1.65	43.42
Fine Grading Dust	0.00	0.00	0.00	0.00	200.00	0.00	200.00	41.77	0.00	41.77
Fine Grading Off Road Diesel	4.16	33.67	17.48	0.00	0.00	1.79	1.79	0.00	1.65	1.65
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01

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Time Slice 5/3/2010-5/31/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Active Days: 21										
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18
Time Slice 6/1/2010-9/30/2010	76.22	29.06	65.31	0.06	0.29	1.64	1.93	0.10	1.49	1.60
Active Days: 88										
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 10/1/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Active Days: 65										
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00

Phase Assumptions

Phase: Demolition 1/1/2010 - 3/31/2010 - Default Emission Factors

Building Volume Total (cubic feet): 3898368

Building Volume Daily (cubic feet): 69120

On Road Truck Travel (VMT): 960

Off-Road Equipment:

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- 1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Fine Grading 4/1/2010 - 4/30/2010 - Default Fine Site Grading Description

Total Acres Disturbed: 40

Maximum Daily Acreage Disturbed: 10

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

- 1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
- 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 4/1/2010 - 4/30/2010 - Default Paving Description

Acres to be Paved: 2

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
- 1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 5/3/2010 - 9/30/2010 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

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1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 6/1/2010 - 12/30/2010 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 1/1/2010-3/31/2010 Active Days: 64	5.26	56.09	25.43	0.04	<u>29.17</u>	2.65	<u>31.82</u>	<u>6.09</u>	2.44	<u>8.52</u>
Demolition 01/01/2010-03/31/2010	5.26	56.09	25.43	0.04	29.17	2.65	31.82	6.09	2.44	8.52
Fugitive Dust	0.00	0.00	0.00	0.00	29.03	0.00	29.03	6.04	0.00	6.04
Demo Off Road Diesel	3.50	26.25	15.30	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Demo On Road Diesel	1.71	29.75	8.85	0.04	0.14	1.02	1.15	0.04	0.94	0.98
Demo Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01

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Time Slice 4/1/2010-4/30/2010 Active Days: 22	7.21	50.71	30.24	0.00	21.98	<u>3.22</u>	25.20	4.59	<u>2.96</u>	7.55
Asphalt 04/01/2010-04/30/2010	3.00	16.95	11.48	0.00	0.01	1.42	1.43	0.00	1.31	1.31
Paving Off-Gas	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.64	15.97	9.18	0.00	0.00	1.39	1.39	0.00	1.27	1.27
Paving On Road Diesel	0.05	0.84	0.25	0.00	0.00	0.03	0.03	0.00	0.03	0.03
Paving Worker Trips	0.07	0.14	2.05	0.00	0.01	0.01	0.02	0.00	0.00	0.01
Fine Grading 04/01/2010-04/30/2010	4.21	33.76	18.77	0.00	21.97	1.80	23.76	4.59	1.65	6.24
Fine Grading Dust	0.00	0.00	0.00	0.00	21.96	0.00	21.96	4.59	0.00	4.59
Fine Grading Off Road Diesel	4.16	33.67	17.48	0.00	0.00	1.79	1.79	0.00	1.65	1.65
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 5/3/2010-5/31/2010 Active Days: 21	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18

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Time Slice 6/1/2010-9/30/2010	76.22	29.06	65.31	0.06	0.29	1.64	1.93	0.10	1.49	1.60
Active Days: 88										
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 10/1/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Active Days: 65										
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 4/1/2010 - 4/30/2010 - Default Fine Site Grading Description

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
Natural Gas	0.25	3.30	1.40	0.00	0.01	0.01
Hearth - No Summer Emissions						
Landscape	0.49	0.08	6.18	0.00	0.02	0.02
Consumer Products	21.38					
Architectural Coatings	2.93					
TOTALS (lbs/day, unmitigated)	25.05	3.38	7.58	0.00	0.03	0.03

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
Natural Gas	0.25	3.30	1.40	0.00	0.01	0.01
Hearth - No Summer Emissions						
Landscape	0.49	0.08	6.18	0.00	0.02	0.02
Consumer Products	21.38					
Architectural Coatings	2.93					
TOTALS (lbs/day, mitigated)	25.05	3.38	7.58	0.00	0.03	0.03

Area Source Mitigation Measures Selected

Mitigation Description

Percent Reduction

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 1.6%

Percentage of residences with wood fireplaces changed from 10% to 7.8%

Percentage of residences with natural gas fireplaces changed from 55% to 90.6%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25
Apartments low rise	14.77	22.03	167.28	0.15	30.88	5.96
Apartments mid rise	3.86	5.68	43.12	0.04	7.96	1.54
Apartments high rise	1.50	2.24	16.99	0.02	3.14	0.61
City park	0.12	0.12	0.85	0.00	0.16	0.03
TOTALS (lbs/day, unmitigated)	20.25	30.07	228.24	0.21	42.14	8.14

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25
Apartments low rise	13.84	20.43	155.13	0.14	28.63	5.53
Apartments mid rise	3.60	5.22	39.65	0.04	7.32	1.41
Apartments high rise	1.41	2.08	15.76	0.01	2.91	0.56
City park	0.11	0.11	0.82	0.00	0.16	0.03
TOTALS (lbs/day, mitigated)	18.96	27.84	211.36	0.19	39.02	7.53

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 3.93% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 210

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 13

The Number of Dedicated Daily Shuttle Trips is 0

Residential Affordable Housing Mitigation

Percent Reduction in Trips is 1.12% (calculated as a % of 9.57 trips/day)

Operational Mitigation Options Selected

Residential Mitigation Measures

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Percent of Housing Units that are Deed-Restricted Below Market Rate Housing is 27.9%

Nonresidential Mitigation Measures

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 3.93%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 210

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 13

The Number of Dedicated Daily Shuttle Trips is 0

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 75 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	21.00	6.65	dwelling units	315.00	2,094.75	17,909.48
Apartments mid rise	9.00	6.00	dwelling units	90.00	540.00	4,616.84
Apartments high rise	2.00	6.65	dwelling units	32.00	212.80	1,819.38
City park		1.59	acres	8.00	12.72	94.86
					2,860.27	24,440.56

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.3	0.9	98.7	0.4
Light Truck < 3750 lbs	12.4	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	62.1	37.9	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
City park				5.0	2.5	92.5

Operational Changes to Defaults

Ambient summer temperature changed from 85 degrees F to 75 degrees F

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\URBEMISrun\NAS Alameda\NAS Alameda.urb924

Project Name: NAS Alameda Project

Project Location: Alameda County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
2010 TOTALS (lbs/day unmitigated)	76.22	56.09	65.31	0.06	200.02	3.22	203.24	41.78	2.96	44.73
2010 TOTALS (lbs/day mitigated)	76.22	56.09	65.31	0.06	29.17	3.22	31.82	6.09	2.96	8.52

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	57.90	6.40	43.90	0.10	5.95	5.73
TOTALS (lbs/day, mitigated)	57.90	6.40	43.90	0.10	5.95	5.73
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	22.81	40.62	273.67	0.21	42.14	8.14
TOTALS (lbs/day, mitigated)	21.12	37.62	253.39	0.19	39.02	7.53
Percent Reduction	7.41	7.39	7.41	9.52	7.40	7.49

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	80.71	47.02	317.57	0.31	48.09	13.87
TOTALS (lbs/day, mitigated)	79.02	44.02	297.29	0.29	44.97	13.26
Percent Reduction	2.09	6.38	6.39	6.45	6.49	4.40

Construction Unmitigated Detail Report:

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CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 1/1/2010-3/31/2010 Active Days: 64	5.26	56.09	25.43	0.04	29.17	2.65	31.82	6.09	2.44	8.52
Demolition 01/01/2010-03/31/2010	5.26	56.09	25.43	0.04	29.17	2.65	31.82	6.09	2.44	8.52
Fugitive Dust	0.00	0.00	0.00	0.00	29.03	0.00	29.03	6.04	0.00	6.04
Demo Off Road Diesel	3.50	26.25	15.30	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Demo On Road Diesel	1.71	29.75	8.85	0.04	0.14	1.02	1.15	0.04	0.94	0.98
Demo Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 4/1/2010-4/30/2010 Active Days: 22	7.21	50.71	30.24	0.00	200.02	3.22	203.24	41.78	2.96	44.73
Asphalt 04/01/2010-04/30/2010	3.00	16.95	11.48	0.00	0.01	1.42	1.43	0.00	1.31	1.31
Paving Off-Gas	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.64	15.97	9.18	0.00	0.00	1.39	1.39	0.00	1.27	1.27
Paving On Road Diesel	0.05	0.84	0.25	0.00	0.00	0.03	0.03	0.00	0.03	0.03
Paving Worker Trips	0.07	0.14	2.05	0.00	0.01	0.01	0.02	0.00	0.00	0.01
Fine Grading 04/01/2010-04/30/2010	4.21	33.76	18.77	0.00	200.01	1.80	201.80	41.77	1.65	43.42
Fine Grading Dust	0.00	0.00	0.00	0.00	200.00	0.00	200.00	41.77	0.00	41.77
Fine Grading Off Road Diesel	4.16	33.67	17.48	0.00	0.00	1.79	1.79	0.00	1.65	1.65
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01

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Time Slice 5/3/2010-5/31/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Active Days: 21										
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18
Time Slice 6/1/2010-9/30/2010	76.22	29.06	65.31	0.06	0.29	1.64	1.93	0.10	1.49	1.60
Active Days: 88										
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 10/1/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Active Days: 65										
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00

Phase Assumptions

Phase: Demolition 1/1/2010 - 3/31/2010 - Default Emission Factors

Building Volume Total (cubic feet): 3898368

Building Volume Daily (cubic feet): 69120

On Road Truck Travel (VMT): 960

Off-Road Equipment:

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- 1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Fine Grading 4/1/2010 - 4/30/2010 - Default Fine Site Grading Description

Total Acres Disturbed: 40

Maximum Daily Acreage Disturbed: 10

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

- 1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
- 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 4/1/2010 - 4/30/2010 - Default Paving Description

Acres to be Paved: 2

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
- 1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 5/3/2010 - 9/30/2010 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

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1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 6/1/2010 - 12/30/2010 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 1/1/2010-3/31/2010 Active Days: 64	5.26	56.09	25.43	0.04	<u>29.17</u>	2.65	<u>31.82</u>	<u>6.09</u>	2.44	<u>8.52</u>
Demolition 01/01/2010-03/31/2010	5.26	56.09	25.43	0.04	29.17	2.65	31.82	6.09	2.44	8.52
Fugitive Dust	0.00	0.00	0.00	0.00	29.03	0.00	29.03	6.04	0.00	6.04
Demo Off Road Diesel	3.50	26.25	15.30	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Demo On Road Diesel	1.71	29.75	8.85	0.04	0.14	1.02	1.15	0.04	0.94	0.98
Demo Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01

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Time Slice 4/1/2010-4/30/2010 Active Days: 22	7.21	50.71	30.24	0.00	21.98	<u>3.22</u>	25.20	4.59	<u>2.96</u>	7.55
Asphalt 04/01/2010-04/30/2010	3.00	16.95	11.48	0.00	0.01	1.42	1.43	0.00	1.31	1.31
Paving Off-Gas	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.64	15.97	9.18	0.00	0.00	1.39	1.39	0.00	1.27	1.27
Paving On Road Diesel	0.05	0.84	0.25	0.00	0.00	0.03	0.03	0.00	0.03	0.03
Paving Worker Trips	0.07	0.14	2.05	0.00	0.01	0.01	0.02	0.00	0.00	0.01
Fine Grading 04/01/2010-04/30/2010	4.21	33.76	18.77	0.00	21.97	1.80	23.76	4.59	1.65	6.24
Fine Grading Dust	0.00	0.00	0.00	0.00	21.96	0.00	21.96	4.59	0.00	4.59
Fine Grading Off Road Diesel	4.16	33.67	17.48	0.00	0.00	1.79	1.79	0.00	1.65	1.65
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 5/3/2010-5/31/2010 Active Days: 21	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18

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Time Slice 6/1/2010-9/30/2010 Active Days: 88	76.22	29.06	65.31	0.06	0.29	1.64	1.93	0.10	1.49	1.60
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 10/1/2010-12/30/2010 Active Days: 65	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 4/1/2010 - 4/30/2010 - Default Fine Site Grading Description

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
Natural Gas	0.25	3.30	1.40	0.00	0.01	0.01
Hearth	33.34	3.10	42.50	0.10	5.94	5.72
Landscaping - No Winter Emissions						
Consumer Products	21.38					
Architectural Coatings	2.93					
TOTALS (lbs/day, unmitigated)	57.90	6.40	43.90	0.10	5.95	5.73

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
Natural Gas	0.25	3.30	1.40	0.00	0.01	0.01
Hearth	33.34	3.10	42.50	0.10	5.94	5.72
Landscaping - No Winter Emissions						
Consumer Products	21.38					
Architectural Coatings	2.93					
TOTALS (lbs/day, mitigated)	57.90	6.40	43.90	0.10	5.95	5.73

Area Source Mitigation Measures Selected

Mitigation Description

Percent Reduction

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 1.6%

Percentage of residences with wood fireplaces changed from 10% to 7.8%

Percentage of residences with natural gas fireplaces changed from 55% to 90.6%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25
Apartments low rise	16.71	29.77	200.55	0.15	30.88	5.96
Apartments mid rise	4.31	7.67	51.70	0.04	7.96	1.54
Apartments high rise	1.70	3.02	20.37	0.02	3.14	0.61
City park	0.09	0.16	1.05	0.00	0.16	0.03
TOTALS (lbs/day, unmitigated)	22.81	40.62	273.67	0.21	42.14	8.14

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25
Apartments low rise	15.50	27.61	185.97	0.14	28.63	5.53
Apartments mid rise	3.96	7.06	47.53	0.04	7.32	1.41
Apartments high rise	1.57	2.80	18.89	0.01	2.91	0.56
City park	0.09	0.15	1.00	0.00	0.16	0.03
TOTALS (lbs/day, mitigated)	21.12	37.62	253.39	0.19	39.02	7.53

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 3.93% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 210

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 13

The Number of Dedicated Daily Shuttle Trips is 0

Residential Affordable Housing Mitigation

Percent Reduction in Trips is 1.12% (calculated as a % of 9.57 trips/day)

Operational Mitigation Options Selected

Residential Mitigation Measures

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Percent of Housing Units that are Deed-Restricted Below Market Rate Housing is 27.9%

Nonresidential Mitigation Measures

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 3.93%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 210

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 13

The Number of Dedicated Daily Shuttle Trips is 0

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	21.00	6.65	dwelling units	315.00	2,094.75	17,909.48
Apartments mid rise	9.00	6.00	dwelling units	90.00	540.00	4,616.84
Apartments high rise	2.00	6.65	dwelling units	32.00	212.80	1,819.38
City park		1.59	acres	8.00	12.72	94.86
					2,860.27	24,440.56

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.3	0.9	98.7	0.4
Light Truck < 3750 lbs	12.4	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	62.1	37.9	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
City park				5.0	2.5	92.5

Operational Changes to Defaults

Ambient summer temperature changed from 85 degrees F to 75 degrees F

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Work\Projects\Alameda PPV Housing\Urbemis\NAS Alameda.urb924

Project Name: NAS Alameda Project

Project Location: Alameda County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2010 TOTALS (tons/year unmitigated)	5.95	3.94	4.72	0.00	3.15	0.21	3.36	0.66	0.19	0.85	665.01
2010 TOTALS (tons/year mitigated)	5.95	3.94	4.72	0.00	1.19	0.21	1.40	0.25	0.19	0.44	665.01
Percent Reduction	0.00	0.00	0.00	0.00	62.18	0.00	58.30	61.97	0.00	48.01	0.00

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	5.89	0.65	2.52	0.00	0.24	0.23	799.53
TOTALS (tons/year, mitigated)	5.89	0.65	2.52	0.00	0.24	0.23	799.53
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	3.85	6.13	44.42	0.04	7.68	1.49	3,985.74
TOTALS (tons/year, mitigated)	3.60	5.66	41.14	0.04	7.13	1.38	3,690.70
Percent Reduction	6.49	7.67	7.38	0.00	7.16	7.38	7.40

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	9.74	6.78	46.94	0.04	7.92	1.72	4,785.27

Coating Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.82
----------------------	------	------	------	------	------	------	------	------	------	------	------	------

Phase Assumptions

Phase: Demolition 1/1/2010 - 3/31/2010 - Default Emission Factors

Building Volume Total (cubic feet): 3898368

Building Volume Daily (cubic feet): 69120

On Road Truck Travel (VMT): 960

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Fine Grading 4/1/2010 - 4/30/2010 - Default Fine Site Grading Description

Total Acres Disturbed: 40

Maximum Daily Acreage Disturbed: 10

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 4/1/2010 - 4/30/2010 - Default Paving Description

Acres to be Paved: 2

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 5/3/2010 - 9/30/2010 - Default Building Construction Description

Off-Road Equipment:

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- 1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 6/1/2010 - 12/30/2010 - Default Architectural Coating Description
 Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
 Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
 Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
 Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2010	5.95	3.94	4.72	0.00	1.19	0.21	1.40	0.25	0.19	0.44	665.01
Demolition 01/01/2010-03/31/2010	0.17	1.79	0.81	0.00	0.93	0.08	1.02	0.19	0.08	0.27	200.39
Fugitive Dust	0.00	0.00	0.00	0.00	230.86	0.00	230.86	48.02	0.00	48.02	0.00
Demo Off Road Diesel	0.11	0.84	0.49	0.00	0.00	0.05	0.05	0.00	0.05	0.05	73.00
Demo On Road Diesel	0.05	0.95	0.28	0.00	0.00	0.03	0.04	0.00	0.03	0.03	123.68
Demo Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.71
Asphalt 04/01/2010-04/30/2010	0.03	0.19	0.13	0.00	0.00	0.02	0.02	0.00	0.01	0.01	17.23
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.03	0.18	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	13.99
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04
Fine Grading 04/01/2010-04/30/2010	0.05	0.37	0.21	0.00	0.24	0.02	0.26	0.05	0.02	0.07	34.36
Fine Grading Dust	0.00	0.00	0.00	0.00	0.24	0.00	0.24	0.05	0.00	0.05	0.00
Fine Grading Off Road Diesel	0.05	0.37	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	33.08

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Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28
Building 05/03/2010-09/30/2010	0.33	1.58	3.51	0.00	0.02	0.09	0.10	0.01	0.08	0.09	407.22
Building Off Road Diesel	0.20	0.90	0.61	0.00	0.00	0.06	0.06	0.00	0.06	0.06	88.36
Building Vendor Trips	0.03	0.50	0.33	0.00	0.00	0.02	0.02	0.00	0.02	0.02	85.73
Building Worker Trips	0.09	0.18	2.58	0.00	0.01	0.01	0.02	0.00	0.01	0.01	233.13
Coating 06/01/2010-12/30/2010	5.37	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.82
Architectural Coating	5.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.82

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 4/1/2010 - 4/30/2010 - Default Fine Site Grading Description

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.05	0.60	0.26	0.00	0.00	0.00	767.83
Hearth	1.36	0.04	1.70	0.00	0.24	0.23	30.69
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1.01
Consumer Products	3.90						
Architectural Coatings	0.54						
TOTALS (tons/year, unmitigated)	5.89	0.65	2.52	0.00	0.24	0.23	799.53

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Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.05	0.60	0.26	0.00	0.00	0.00	767.83
Hearth	1.36	0.04	1.70	0.00	0.24	0.23	30.69
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1.01
Consumer Products	3.90						
Architectural Coatings	0.54						
TOTALS (tons/year, mitigated)	5.89	0.65	2.52	0.00	0.24	0.23	799.53

Area Source Mitigation Measures Selected

Mitigation Description

Percent Reduction

Area Source Changes to Defaults

- Percentage of residences with wood stoves changed from 35% to 1.6%
- Percentage of residences with wood fireplaces changed from 10% to 7.8%
- Percentage of residences with natural gas fireplaces changed from 55% to 90.6%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Apartments low rise	2.81	4.49	32.55	0.03	5.63	1.09	2,920.78
Apartments mid rise	0.73	1.16	8.39	0.01	1.45	0.28	752.94
Apartments high rise	0.29	0.46	3.31	0.00	0.57	0.11	296.71
City park	0.02	0.02	0.17	0.00	0.03	0.01	15.31
TOTALS (tons/year, unmitigated)	3.85	6.13	44.42	0.04	7.68	1.49	3,985.74

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
---------------	------------	------------	-----------	------------	-------------	-------------	------------

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Apartments low rise	2.63	4.16	30.19	0.03	5.23	1.01	2,708.54
Apartments mid rise	0.68	1.06	7.72	0.01	1.34	0.26	692.30
Apartments high rise	0.27	0.42	3.07	0.00	0.53	0.10	275.15
City park	0.02	0.02	0.16	0.00	0.03	0.01	14.71
TOTALS (tons/year, mitigated)	3.60	5.66	41.14	0.04	7.13	1.38	3,690.70

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 3.93% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 210

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 13

The Number of Dedicated Daily Shuttle Trips is 0

Residential Affordable Housing Mitigation

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Percent Reduction in Trips is 1.12% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Percent of Housing Units that are Deed-Restricted Below Market Rate Housing is 27.9%

Nonresidential Mitigation Measures

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 3.93%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 210

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 13

The Number of Dedicated Daily Shuttle Trips is 0

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
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Apartments low rise	21.00	6.65	dwelling units	315.00	2,094.75	17,909.48
Apartments mid rise	9.00	6.00	dwelling units	90.00	540.00	4,616.84
Apartments high rise	2.00	6.65	dwelling units	32.00	212.80	1,819.38
City park		1.59	acres	8.00	12.72	94.86
					2,860.27	24,440.56

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.3	0.9	98.7	0.4
Light Truck < 3750 lbs	12.4	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	62.1	37.9	0.0
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commute	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

City park	5.0	2.5	92.5
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Operational Changes to Defaults

Ambient summer temperature changed from 85 degrees F to 75 degrees F

Appendix A Alameda PPV Housing Alternative A GHG Emissions

Air Quality Modeling Output **CO2 Estimates** **Conversion Factors** **Total CO2 Emissions**

Construction Emissions (Source: URBEMIS)

Season	CO2 Estimates	Conversion Factors	Total CO2 Emissions
2010	665.01 tons/year	0.907 MT/ton	603 MT/yr

Total Construction-Generated Emissions **603** MT

Area-Source Emissions (Source: URBEMIS)

Operational Year 2010	799.53 tons/year	0.907 MT/ton	725 MT/yr
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Mobile-Source Emissions (Source: URBEMIS)

Operational Year 2010	3,690.70 lb/day	0.907 MT/ton	3,348 MT/yr
-----------------------	-----------------	--------------	-------------

Total Direct Operational Emissions **4,073** MT/yr

Indirect Emissions from Energy Consumption ^{1,2}

KWh/du/year	# du	KWh/kst/y # ksf		Total KWh	MWh	Region	Emission Factor (lb CO2/MWh)		Emission Factor (lb CH4/MWh)		Emission Factor (lb N2O/MWh)		Total CO2e (Metric Tons/year)
		Commercial					GWP	GWP	GWP	GWP			
7000	437	16,000	0	3,059,000	3,059	CALI	804.54	1	0.0067	21	0.0037	310	1,118

Indirect Emissions from Municipal Water Use (includes conveyance, treatment, distribution, and wastewater treatment) ³

KWh/million gallons/year*	KWh/acre-ft/year	Million Gallons/Y		Total KWh	MWh	Region	Emission Factor (lb CO2/MWh)		Emission Factor (lb CH4/MWh)		Emission Factor (lb N2O/MWh)		Total CO2e (Metric Tons/year)
		ear					GWP	GWP	GWP	GWP			
12,700	4138	15	195,834	196	CALI	804.54	1	0.0067	23	0.0037	296	72	

*for Southern California

Total Indirect Emissions (MT CO2e/yr) **1,190**

Assumptions:

3.069 acre-ft = 1 Million gallon

0.135 acre-ft/yr

Total Direct & Indirect Emissions (MT CO2e/yr) **5,263**

Sources:

1 California Energy Commission [CEC] 2009. California Commercial End Use Survey. Available: <http://capabilities.itron.com/CeusWeb/Chart.aspx>; California Energy Commission [CEC] 2000. California Energy Demand Staff Report P200-00-002

2 California Climate Action Registry [CCAR] General Reporting Protocol v 3.1 January 2009

3 California Energy Commission [CEC] 2006. California Energy - Water Relationship Staff Report CEC-700-2005-011-SF. Available: <http://www.energy.ca.gov/2007publications/CEC-999-2007-008/CEC-999-2007-008.PDF>

APPENDIX B

RECORD OF NON-APPLICABILITY FOR CLEAN AIR ACT CONFORMITY

1 **NAVY RECORD OF NON-APPLICABILITY**
2 **FOR CLEAN AIR ACT CONFORMITY**

3
4
5 The Preferred Alternative falls under the Record of Non-Applicability (RONA) category
6 and is documented with this RONA.

7
8 **Preferred Alternative.**

9
10 **Action Proponent:** Department of the Navy, Naval Facilities Engineering Command
11 Southwest

12
13 **Location:** Naval Air Station Alameda, Alameda, California

14
15 **Preferred Alternative Name:** The Disposal and Reuse of the Naval Air Station
16 Alameda (NAS Alameda) North Housing Parcel

17
18 **Preferred Alternative and Emissions Summary:**

19
20 Preferred Alternative Summary: The Preferred Alternative includes the disposal and
21 reuse of the North Housing Parcel (approximately 42 acres [15 hectares]) at NAS
22 Alameda. The proposed reuse of the site will adhere to the amended Community
23 Reuse Plan adopted by the City of Alameda on March 4, 2009. The proposed reuse
24 of the site would include developing approximately 90 housing units of permanent,
25 service-enriched affordable rental housing, 32 Public Benefits Conveyance (PBC)
26 housing units, and 315 medium density residential units. The proposed reuse would
27 also include developing a public park on approximately 8 acres (3 hectares) of
28 existing open space.

29
30 Emissions Summary: Table 1 presents a summary of the estimated annual
31 construction and operational air pollutant emissions associated with the Preferred
32 Alternative, as well as applicable federal general conformity *de minimis* levels and
33 the San Francisco Bay Area emission budgets.

1
2

Table 1
Summary of Estimated Annual Air Pollutant Emissions

Item	Estimated Annual Air Pollutant Emissions tons/year (tonnes/year)				
	VOC	NO _x	CO	SO _x	PM _{2.5}
Total Annual Construction Emissions	5.95 (5.40)	3.94 (3.57)	4.72 (4.28)	<0.01 (<0.01)	0.44 (0.40)
Total Annual Operational Emissions	9.49 (8.61)	6.31 (5.72)	43.66 (39.60)	0.04 (0.04)	1.61 (1.46)
General Conformity de minimis Levels	100 (91)	100 (91)	100 (91)	100 (91)	100 (91)
Exceeds Threshold?	No	No	No	No	No
Bay Area Emission Budgets	110,532 (100,253)	127,368 (115,523)	498,858 (452,464)	22,692 (20,582)	30,744 (27,885)
Exceeds 10% of the Area Emission Budget?	No	No	No	No	No

3
4
5
6
7
8
9

As shown in Table 1, the air pollutant emissions were estimated to be below the thresholds and would be less than 10 percent of the Bay Area emission budgets. The Preferred Alternative would not result in adverse air quality impacts during the construction and operational phases.

10 **Affected Air Basin(s):** San Francisco Bay Area Air Basin (Bay Area)

11

12 **Date RONA prepared:** 12 March 2009

13

14 **RONA prepared by:** Pan Environmental, Inc.

15

16 **Preferred Alternative Exemption(s).**

17

18 Pursuant to the General Conformity Rule 40 C.F.R. Part 93.153 and the Chief of Navy
19 Operations Clean Air Act General Conformity Guidance, the Department of the Navy
20 has determined that the actions to dispose of and reuse the NAS Alameda North
21 Housing Parcel are exempt from the requirement for a conformity determination. This
22 finding is based on the following exemptions as stated in 40 C.F.R. Part 93.153:

23

24 “(xi) The granting of leases, licenses such as for exports and trade, permits, and
25 easements where activities conducted will be similar in scope and operation to
26 activities currently being conducted.

27

28 (xiv) Transfers of ownership, interests, and titles in land, facilities, and real and
29 personal properties, regardless of the form or method of the transfer.

30

1 (xix) Actions (or portions thereof) associated with transfers of land, facilities, title,
2 and real properties through an enforceable contract or lease agreement where the
3 delivery of the deed is required to occur promptly after a specific, reasonable
4 condition is met, such as promptly after the land is certified as meeting the
5 requirements of CERCLA, and where the federal agency does not retain continuing
6 authority to control emissions associated with the lands, facilities, title, or real
7 properties.”
8

9 **Attainment Area Status and Emissions Evaluation Conclusion.**

10
11 The Preferred Alternative is located within the San Francisco Bay Area. The
12 San Francisco Bay Area is designated by the USEPA as a marginal nonattainment area
13 for 8-hour O₃ standard, nonattainment for PM_{2.5} to be effective in April 2009, and a
14 maintenance area for CO. Emissions of these air pollutants and the precursors were
15 estimated using the URBEMIS2007 model.
16

17 As shown in Table 1, emissions of the subject air pollutants were estimated to be below
18 the applicable federal *de minimis* levels and would be less than 10 percent of the Bay
19 Area emission budgets. The Preferred Alternative would not result in adverse air quality
20 impacts during the construction and operational phases. As stated above, the actions to
21 dispose of and reuse the NAS Alameda North Housing Parcel are exempt from the
22 requirement for a conformity determination as stated in 40 C.F.R. Part 93.153.
23 Therefore, further formal conformity determination procedures are not required,
24 resulting in this RONA.
25

26
27 **RONA Approval:**

28
29 **Signature:** _____

30
31 **Name/Rank:** _____ **Date:** _____

32
33 **Position:** Commanding Officer: **Activity:** _____
34
35

1
2